

2019

GHS INDEX

GLOBAL HEALTH SECURITY INDEX

Building Collective Action and Accountability



Index developed with



We are grateful to the Open Philanthropy Project, the Bill & Melinda Gates Foundation, and the Robertson Foundation. The Global Health Security Index would not have been possible without their generous support.





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Building Collective Action and Accountability

October 2019



Center for Health Security

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The
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Members of the Global Health Security (GHS) Index International Panel of Experts provided advice over the course of the Index's development and participated in their personal capacities or in their capacities as representatives of advising organizations. The judgments and recommendations reflected in the GHS Index do not necessarily reflect the views of panel members, nor their respective employers, other affiliations, or governments.



Photographer: Samyukta Lakshmi/Bloomberg via Getty Images

Executive Summary

Biological threats—natural, intentional, or accidental—in any country can pose risks to global health, international security, and the worldwide economy. Because infectious diseases know no borders, all countries must prioritize and exercise the capabilities required to prevent, detect, and rapidly respond to public health emergencies. Every country also must be transparent about its capabilities to assure neighbors it can stop an outbreak from becoming an international catastrophe. In turn, global leaders and international organizations bear a collective responsibility for developing and maintaining robust global capability to counter infectious disease threats. This capability includes ensuring that financing is available to fill gaps in epidemic and pandemic preparedness. These steps will save lives and achieve a safer and more secure world.

The Global Health Security (GHS) Index is the first comprehensive assessment and benchmarking of health security and related capabilities across the 195 countries that make

up the States Parties¹ to the International Health Regulations (IHR [2005]).² The GHS Index is a project of the Nuclear Threat Initiative (NTI) and the Johns Hopkins Center for Health Security (JHU) and was developed with The Economist Intelligence Unit (EIU). These organizations believe that, over time, the GHS Index will spur measurable changes in national health security and improve international capability to address one of the world's most omnipresent risks: infectious disease outbreaks that can lead to international epidemics and pandemics.

The GHS Index is intended to be a key resource in the face of increasing risks of high-consequence³ and globally catastrophic⁴ biological events and in light of major gaps in international financing for preparedness. These risks are magnified by a rapidly changing and interconnected world; increasing political instability; urbanization; climate change; and rapid technology advances that make it easier, cheaper, and faster to create and engineer pathogens.

¹ As of April 16, 2013, there are 196 States Parties to the World Health Organization (WHO) 2005 International Health Regulations (IHR), including the Holy See. The Holy See is a sovereign juridical entity under international law, but it was not included in the country-specific research for this Index in light of the Holy See's lack of an independent health system. This report will refer to the assessed "States Parties" as "195 countries."

² The WHO IHR (2005) is the foundational international standards for health. The IHR (2005) is a binding legal instrument to address cross-border public health risks. The goal of the IHR (2005) is to prevent, protect, control, and respond without disrupting international trade and traffic. The IHR (2005) provided the guiding regulations behind many of the indicators included in the GHS Index.

³ High-consequence biological events are defined here as infectious disease outbreaks that could overwhelm national or international capacity to manage them. For example, although international health security has improved following the 2014–2016 Ebola epidemic in West Africa, countries and international responders are not prepared to quell outbreaks that occur in violent or insecure settings; deliberate biological events that require close coordination and investigative links between security, health, and humanitarian actors; and fast-moving respiratory diseases with high mortality that could spread rapidly to become global pandemics.

⁴ Global Catastrophic Biological Risks are biological risks of unprecedented scale that could cause severe damage to human civilization at a global level, potentially undermining its long-term potential. See Nick Alexopoulos, "Center for Health Security Publishes First Working Definition of Global Catastrophic Biological Risks," Johns Hopkins Center for Health Security, July 27, 2017, www.centerforhealthsecurity.org/about-the-center/newsroom/news_releases/2017-07-27_global-catastrophic-biological-risk-definition.html.

Developed with the guidance of an international expert advisory panel, the GHS Index data are drawn from publicly available data sources from individual countries and international organizations, as well as an array of additional sources including published governmental information, data from the World Health Organization (WHO), the World Organisation for Animal Health (OIE), the Food and Agriculture Organization of the United Nations (FAO), the World Bank, country legislation and regulations, and academic resources and publications. Unique in the field, the GHS Index provides a comprehensive assessment of countries' health security and considers the broader context for biological risks within each country, including a country's geopolitical considerations and health system and whether it has tested its capacities to contain outbreaks.

Knowing the risks, however, is not enough. Political will is needed to protect people from the consequences of epidemics, to take action to save lives, and to build a safer and more secure world.

WHY IS THE GHS INDEX NEEDED?

It is likely that the world will continue to face outbreaks that most countries are ill positioned to combat. In addition to climate change and urbanization, international mass displacement and migration—now happening in nearly every corner of the world—create ideal conditions for the emergence and spread of pathogens. Countries also face an increased potential threat of accidental or deliberate

release of a deadly engineered pathogen, which could cause even greater harm than a naturally occurring pandemic. The same scientific advances that help fight epidemic disease also have allowed pathogens to be engineered or recreated in laboratories. Meanwhile, disparities in capacity and inattention to biological threats among some leaders have exacerbated preparedness gaps. The GHS Index seeks to illuminate those gaps to increase both political will and financing to fill them at the national and international levels. Unfortunately, political will for accelerating health security is caught in a perpetual cycle of panic and neglect. Over the past two decades, decision makers have only sporadically focused on health security, despite concerns stemming from the 2001 anthrax attacks, the emergence of the Severe Acute Respiratory Syndrome and Middle East Respiratory Syndrome coronaviruses, and the looming threat of a pandemic caused by a novel strain of influenza.

In September 2015—nearly 10 years after the entry into force of the revised IHR (2005)—the United Nations (UN) Security Council met in crisis over the growing Ebola epidemic in West Africa. Massive global assistance was needed to stop the outbreak because of insufficient national capacities in Guinea, Liberia, and Sierra Leone to quickly detect and respond to the epidemic.

As a result, the West Africa Ebola epidemic killed at least 10,000 people and infected more than 28,000.⁵ The three affected countries lost \$2.8 billion in combined GDP, and a massive global response totaled billions of dollars before the outbreak was contained. The crisis awakened

⁵ Centers for Disease Control and Prevention, "2014–2016 Ebola Outbreak in West Africa," www.cdc.gov/vhf/ebola/history/2014-2016-outbreak/index.html.

the world to the reality that pathogens can emerge unexpectedly, and when outbreaks occur in countries that are unprepared, they can spill beyond borders, threatening the peace, health, and prosperity of all countries. However, despite newly available vaccines and therapies, response to the Ebola outbreak that began in 2018 in eastern Democratic Republic of Congo has been hampered by violence and instability, community resistance to outbreak mitigation measures, hospital transmission, delays in detection and isolation, and lack of funding and resources.

Delays in the global response to Ebola in 2014 led to a restructuring of the WHO and prompted calls for measurement and transparent reporting of countries' public health capacities, including the launch of the voluntary WHO IHR Joint External Evaluations (JEEs). Since then, health, policy, and security leaders have developed numerous high-level reviews and recommended ways to identify, finance, and fill major preparedness gaps. These recommendations are relevant for epidemic threats, such as Ebola, and high-consequence pandemic threats, such as a fast-spreading respiratory disease agent that could have a geographic scope, severity, or societal impact and could overwhelm national or international capacity to manage it.⁶ Some of those recommendations have been implemented, but many have been shelved owing in part to lack of financing. Nearly all recommendations pointed to a need to better understand and measure—on a transparent, global, and recurring basis—the state of international capability for preventing, detecting, and rapidly responding to epidemic and pandemic threats.

The GHS Index is designed to meet this need.

DEVELOPING THE GHS INDEX

The NTI, JHU, and EIU project team—with generous grants from the Open Philanthropy Project, the Bill & Melinda Gates Foundation, and the Robertson Foundation—worked with an international advisory panel of 21 experts from 13 countries to create a detailed and comprehensive framework of 140 questions, organized across 6 categories, 34 indicators, and 85 subindicators to assess a country's capability to prevent and mitigate epidemics and pandemics.

The GHS Index relies entirely on open-source information: data that a country has published on its own or has reported to or been reported by an international entity. The GHS Index was created in this way with a firm belief that all countries are safer and more secure when their populations are able to access information about their country's existing capacities and plans and when countries understand each other's gaps in epidemic and pandemic preparedness so they can take concrete steps to finance and fill them. The indicators and questions that compose the GHS Index framework also prioritize analysis of health security capacity in the context of a country's broader national health system and other national risk factors.

⁶ United Nations General Assembly, "Protecting humanity from future health crises: Report of the High-level Panel on the Global Response to Health Crises," https://www.un.org/ga/search/view_doc.asp?symbol=A/70/723.

The 140 GHS Index questions are organized across six categories:



1. PREVENTION

Prevention of the emergence or release of pathogens



4. HEALTH SYSTEM

Sufficient and robust health system to treat the sick and protect health workers



2. DETECTION AND REPORTING

Early detection and reporting for epidemics of potential international concern



5. COMPLIANCE WITH INTERNATIONAL NORMS

Commitments to improving national capacity, financing plans to address gaps, and adhering to global norms



3. RAPID RESPONSE

Rapid response to and mitigation of the spread of an epidemic



6. RISK ENVIRONMENT

Overall risk environment and country vulnerability to biological threats

Among its 140 questions, the GHS Index prioritizes not only countries' capacities, but also the existence of functional, tested, proven capabilities for stopping outbreaks at the source. Several questions in the GHS Index are designed to determine not only whether a capacity exists, but also whether that capacity is regularly—for example, annually—tested and shown to be functional in exercises or real-world events.

The GHS Index also includes indicators of nations' capacities and capabilities to reduce Global Catastrophic Biological Risks (GCBRs), which are biological risks of unprecedented scale that could cause severe damage to human civilization at a global level, potentially undermining civilization's long-term potential.⁷ These are events that could wipe out gains in sustainable development and global health because of their potential to cause national and regional instability, global economic consequences, and widespread morbidity and mortality.

FINDINGS AND RECOMMENDATIONS

This report summarizes the results of the first GHS Index, including overall findings about the state of national health security capacity across each of the six GHS Index categories, as well as additional findings specific to functional areas of epidemic and pandemic preparedness. The full report also offers 33 recommendations to address gaps identified by the GHS Index. All the findings and recommendations are summarized on pages 12–15 and described in detail throughout the full report, which begins on page 31.

⁷ Monica Schoch-Spana et al., "Global Catastrophic Biological Risks: Toward a Working Definition," *Health Security* 15, no. 4 (2017): 323–28, www.liebertpub.com/doi/full/10.1089/hs.2017.0038.

Whereas every country has a responsibility to understand, track, improve, and sustain national health security, new and increased global biological risks may require approaches that are beyond the control of individual governments and will necessitate international action. Therefore, the recommendations contained in this report are made with the understanding that health security is a collective responsibility, and a robust international health security architecture is required to support countries at

increased risk. As a result, in addition to the many recommendations intended for national leaders, the GHS Index also includes recommendations aimed at decision makers within the UN system, international organizations, donor governments, philanthropies, and the private sector. These are especially important in the case of fast-spreading, deliberately caused, or otherwise unusual outbreaks that could rapidly overwhelm the capability of national governments and international responders.

OVERALL FINDING

National health security is fundamentally weak around the world. No country is fully prepared for epidemics or pandemics, and every country has important gaps to address.

The GHS Index analysis finds no country is fully prepared for epidemics or pandemics. Collectively, international preparedness is weak. Many countries do not show evidence of the health security capacities and capabilities that are needed to prevent, detect, and respond to significant infectious disease outbreaks.

The average overall GHS Index score among all 195 countries assessed is 40.2 of a possible score of 100.

Among the 60 high-income countries, the average GHS Index score is 51.9. In addition, 116 high- and middle-income countries do not score above 50.

Overall, the GHS Index finds severe weaknesses in country abilities to prevent, detect, and respond to health emergencies; severe gaps in health systems; vulnerabilities to political, socioeconomic, and environmental risks that can confound outbreak preparedness and response; and a lack of adherence to international norms.

Specific scores for the GHS Index categories are as follows:

PREVENTION: Fewer than 7% of countries score in the highest tier⁸ for the ability to prevent the emergence or release of pathogens.

DETECTION AND REPORTING: Only 19% of countries receive top marks for detection and reporting.

RAPID RESPONSE: Fewer than 5% of countries scored in the highest tier for their ability to rapidly respond to and mitigate the spread of an epidemic.

HEALTH SYSTEM: The average score for health system indicators is 26.4 of 100, making it the lowest-scoring category.

COMPLIANCE WITH INTERNATIONAL NORMS:

Less than half of countries have submitted Confidence-Building Measures under the Biological Weapons Convention (BWC) in the past three years, an indication of their ability to adhere to important international norms and commitments related to biological threats.

RISK ENVIRONMENT: Only 23% of countries score in the top tier for indicators related to their political system and government effectiveness.

⁸ The GHS Index scoring system includes three tiers. Countries that score between 0 and 33.3 are in the bottom tier (also called "low scores"), countries that score between 33.4 and 66.6 are in the middle tier (also called "moderate scores"), and countries that score between 66.7 and 100 are in the upper or "top" tier (also called "high scores").



Members of the International Panel of Experts, London, 2019. L-R: Dr. Oyewale Tomori, Mr. Lawrence O. Gostin, and Dr. Issa Makumbi

This report offers 33 individual recommendations related to the data findings across its six categories. The following is a subset of high-level recommendations related to overarching findings. For a listing of full recommendations, see the summary on pages 12–15 and the full report starting on page 31.

- National governments should commit to take action to address health security risks. Leaders should closely coordinate and track in-country health security investments with an emphasis on coordinating them with improvements to routine public health and healthcare systems.
- Health security capacity in every country should be transparent and regularly measured. The results of those external evaluations and self-assessments should be published at least once every two years.
- National and international health, security, and humanitarian leaders should improve coordination among sectors, including operational links between

security and public health authorities, in response to high-consequence biological events, deliberate attacks, and events occurring in insecure environments. They also should work to reduce political and socioeconomic risk factors that can impede outbreak response, including in conflict zones.

- New financing mechanisms to fill epidemic and pandemic preparedness gaps are urgently needed and should be established. These could include a new multilateral global health security financing mechanism, such as a global health security matching fund; expansion of availability of the World Bank International Development Association (IDA) allocations to allow for preparedness financing; and/or development of other new ways—including through existing donor and multilateral financing programs for global health and disaster preparedness and response—to expand resources to incentivize countries to prioritize preparedness funding.

- The Office of the UN Secretary-General, working in concert with the WHO, the UN Office for the Coordination of Humanitarian Affairs, and the UN Office for Disarmament Affairs, should designate a permanent facilitator or unit for high-consequence biological events that could overwhelm the capacities of the current international epidemic response architecture and result in mass casualties. This function would not be operational in nature, but rather the facilitator or unit would convene the public health, security, and humanitarian sectors before and during crises to identify and fill gaps in global preparedness specific to rapidly spreading events with the potential for great loss of life.⁹ The person or unit with this responsibility also would spur simulation exercises in concert with the UN Operations and Crisis Centre to promote unity of effort across public health, humanitarian, and security-led responses.
- Countries should test their health security capacities and publish after-action reviews, at least annually. By holding annual simulation exercises, countries will show commitment to a functioning system. By publishing after-action reviews, countries can transparently demonstrate that their response capabilities will function in a crisis and can identify areas for improvement.
- National governments and donors should take into account countries' risk factors for significant disease outbreaks when making resources available to support health security capacity development. Countries with low scores related to risk environment should be identified as priority areas for capacity development and should receive prompt international assistance when infectious disease emergencies occur within their borders.
- Given the enormous national need, the UN Secretary-General should call a heads-of-state-level summit on biological threats by 2021 focused on creating sustainable health security financing and new international emergency response capabilities.

⁹ In February 2019, NTI, the Georgetown University Center for Global Health Science and Security, and the Center for Global Development convened a senior leaders' tabletop exercise in advance of the Munich Security Conference to determine gaps in the international system for responding to deliberate biological events. For the report containing findings and recommendations from this event, see Elizabeth Cameron et al., *A Spreading Plague: Lessons and Recommendations for Responding to a Deliberate Biological Event*, Nuclear Threat Initiative paper, June 2019, www.nti.org/analysis/reports/spreading-plague-lessons-and-recommendations-responding-deliberate-biological-event/.

FINDINGS AND RECOMMENDATIONS SUMMARY

See below for a summary of all the major findings and recommendations from the GHS Index. These are described in more detail beginning on page 39.

| FINDINGS | DATA HIGHLIGHTS |
|---|--|
| <p>OVERALL FINDING: National health security is fundamentally weak around the world. No country is fully prepared for epidemics or pandemics, and every country has important gaps to address.</p> | <ul style="list-style-type: none"> • The average overall Global Health Security Index score totals 40.2 out of a possible score of 100 • 116 high- and middle-income countries do not score above 50 |
| <p>Countries are not prepared for a globally catastrophic biological event, including those that could be caused by the international spread of a new or emerging pathogen or by the deliberate or accidental release of a dangerous or engineered agent or organism. Biosecurity and biosafety are under-prioritized areas of health security, and the connections between health and security-sector actors for outbreak response are weak.</p> | <ul style="list-style-type: none"> • 81% of countries score in the bottom tier for indicators related to deliberate risks (biosecurity) • 66% score in the bottom tier for indicators related to accidental risks (biosafety) • Fewer than 5% of countries provide oversight for dual-use research • No countries have legislation or regulations in place that require companies to screen DNA synthesis • 92% of countries do not show evidence of requiring security checks for personnel with access to dangerous biological materials or toxins |
| <p>There is little evidence that most countries have tested important health security capacities or shown that they would be functional in a crisis.</p> | <ul style="list-style-type: none"> • 85% show no evidence of having completed a biological threat-focused International Health Regulations (IHR) simulation exercise with the World Health Organization (WHO) in the past year • Fewer than 5% show a requirement to test their emergency operations center at least annually • 77% do not demonstrate a capability to collect ongoing or real-time laboratory data • 24% show evidence of a nationwide specimen transport system • 89% do not demonstrate a system for dispensing medical countermeasures during a public health emergency • 19% demonstrate at least one trained field epidemiologist per 200,000 people |

RECOMMENDATIONS

National governments should commit to take action to address health security risks.

Health security capacity in every country should be transparent and regularly measured, and results should be published at least once every two years.

Leaders should improve coordination, especially linkages between security and public health authorities, in insecure environments.

New financing mechanisms should be established to fill preparedness gaps, such as a new multilateral global health security matching fund and expansion of World Bank International Development Association (IDA) allocations to include preparedness.

The Office of the United Nations (UN) Secretary-General should designate a permanent facilitator or unit for high-consequence biological events.

Countries should test their health security capacities and publish after-action reviews, at least annually.

Governments and donors should take into account countries' political and security risk factors when supporting health security capacity development.

The UN Secretary-General should call a heads-of-state-level summit by 2021 on biological threats including a focus on financing and emergency response.

Governments and international organizations should develop the capabilities to address fast-moving pandemic threats.

Governments should include measurable biosecurity and biosafety benchmarks in national health security strategies and track progress on an annual basis.

A dedicated international normative body should be developed to promote the early identification and reduction of biological risks associated with advances in technology.

Public and private organizations should invest a percentage of their sustainable development and health security portfolios in the area of biosecurity.

Funders and researchers should provide incentives to identify and reduce biological risks associated with advances in technology and should invest in technical innovations that can improve biosecurity.

Leaders should prioritize the development of operational linkages between security and public health authorities for biological crises.

Countries and international organizations should prioritize the development of national biosurveillance capabilities and a global biosurveillance architecture.

Countries should test their health security capacities and publish after-action reviews, at least annually. By holding annual simulation exercises, countries will show commitment to a functioning system. By publishing after-action reviews, countries can transparently demonstrate that their response capabilities will function in a crisis and can identify areas for improvement.

Health security financing, evaluations, and planning should prioritize functional capability and regular exercises.

| FINDINGS | DATA HIGHLIGHTS |
|--|--|
| <p>Most countries have not allocated funding from national budgets to fill identified preparedness gaps.</p> | <ul style="list-style-type: none"> • 5% score in the top tier for financing • One country, Liberia, has published a description of specific funding from its national budget for gaps identified in existing assessments and/or national action plans • 10% show evidence of senior leaders' commitment to improve local or global health security capacity |
| <p>More than half of countries face major political and security risks that could undermine national capability to counter biological threats.</p> | <ul style="list-style-type: none"> • Higher overall score: Countries with effective governance and political systems • 55% score in the bottom and middle tiers for political and security risks indicators • 15% score in the highest tier for public confidence in government • 23% score in the top tier for political system and government effectiveness, representing approximately 14% of the global population |
| <p>Most countries lack foundational health systems capacities vital for epidemic and pandemic response.</p> | <ul style="list-style-type: none"> • Lowest scoring category: for health systems, average score of 26.4; 131 countries in the bottom tier; weaknesses among even high-income countries • 27% demonstrate the existence of an updated health workforce strategy • 3% show a public commitment to prioritizing healthcare services for healthcare workers who become sick as a result of participating in a public health response • Low scores: physician and nurse/midwife density per 100,000 population • 11% show plans to dispense medical countermeasures during health emergencies |
| <p>Coordination and training are inadequate among veterinary, wildlife, and public health professionals and policymakers.</p> | <ul style="list-style-type: none"> • 30% demonstrate existence of mechanisms for sharing data among relevant ministries for human, animal, and wildlife surveillance • 8% demonstrate a cross-ministerial unit dedicated to zoonotic disease • 51% offer field epidemiological training programs that explicitly include animal health professionals • 62% have not submitted a report to the World Organisation for Animal Health on the incidence of human cases of zoonotic diseases for the past calendar year |
| <p>Improving country compliance with international health and security norms is essential.</p> | <ul style="list-style-type: none"> • <50% have submitted Confidence-Building Measures for the Biological Weapons Convention (BWC) in the past three years • 30% score well for UN Security Council Resolution (UNSCR) 1540 implementation measures related to legal frameworks and enforcement for countering biological weapons • 5% have in place a publicly available plan or policy for sharing genetic data, clinical specimens, and/or isolated biological materials that extends beyond influenza • 31% do not show evidence of a cross-border agreement on public health emergency response • 45% have conducted and published a WHO Joint External Evaluation (JEE) or precursor evaluation |

RECOMMENDATIONS

Health security preparedness financing should be tracked by a specific, globally recognized entity and briefed annually to heads of state.

Domestic financing for health security should be urgently increased, made transparent, and tied to benchmarks within national action plans.

Decision makers should create new health security preparedness financing mechanisms that incentivize measurable improvements, such as a new multilateral global health security matching fund, and expansion of IDA allocations to include preparedness.

International leaders should examine the availability of financing to support rapid and complete outbreak response. The UN should track and publish outbreak-related costs and contributions.

Plans should be developed to assist countries with challenging risk environments and to bolster preparedness in countries bordering those at increased risk.

National governments and donors should assess political and security risk factors when making resources available to support capacity development.

The UN Security Council should urgently convene a series of meetings aimed at the development of rapid response capabilities, strategies, workforce, and protections necessary for outbreaks that originate in or spread to countries with high political or security risks.

Decision makers should measure and take into account health system capabilities as an integral part of all health security planning, investments, and financing strategies.

Leaders should take steps to build and maintain robust healthcare and public health workforces that play a major role in biological crises.

National Action Plans for Health Security (NAPHS) should take into account specific benchmarks to improve and finance the overall health system and its workforce.

National public and animal health authorities should coordinate during the development of NAPHS and should incorporate a One Health approach as part of pandemic planning and national disaster preparedness and response efforts.

Countries should identify an agency and grant it authority to coordinate training and information sharing among human, animal, and environmental health professionals for outbreak preparedness and response.

Decision makers should consider infectious disease risks when developing policies and plans related to climate change, land use, and urban planning.

Countries should regularly undergo and publish a WHO JEE to increase transparency around global health security capacities and capabilities.

Countries should establish national and regional protocols for rapidly sharing genetic materials and specimens during public health emergencies.

National health authorities should develop epidemic- and pandemic-specific preparedness and response strategies as part of routine disaster and broader national security planning efforts.



Photo by: Anna Schroll/Fotogloria/Universal Images Group via Getty Images

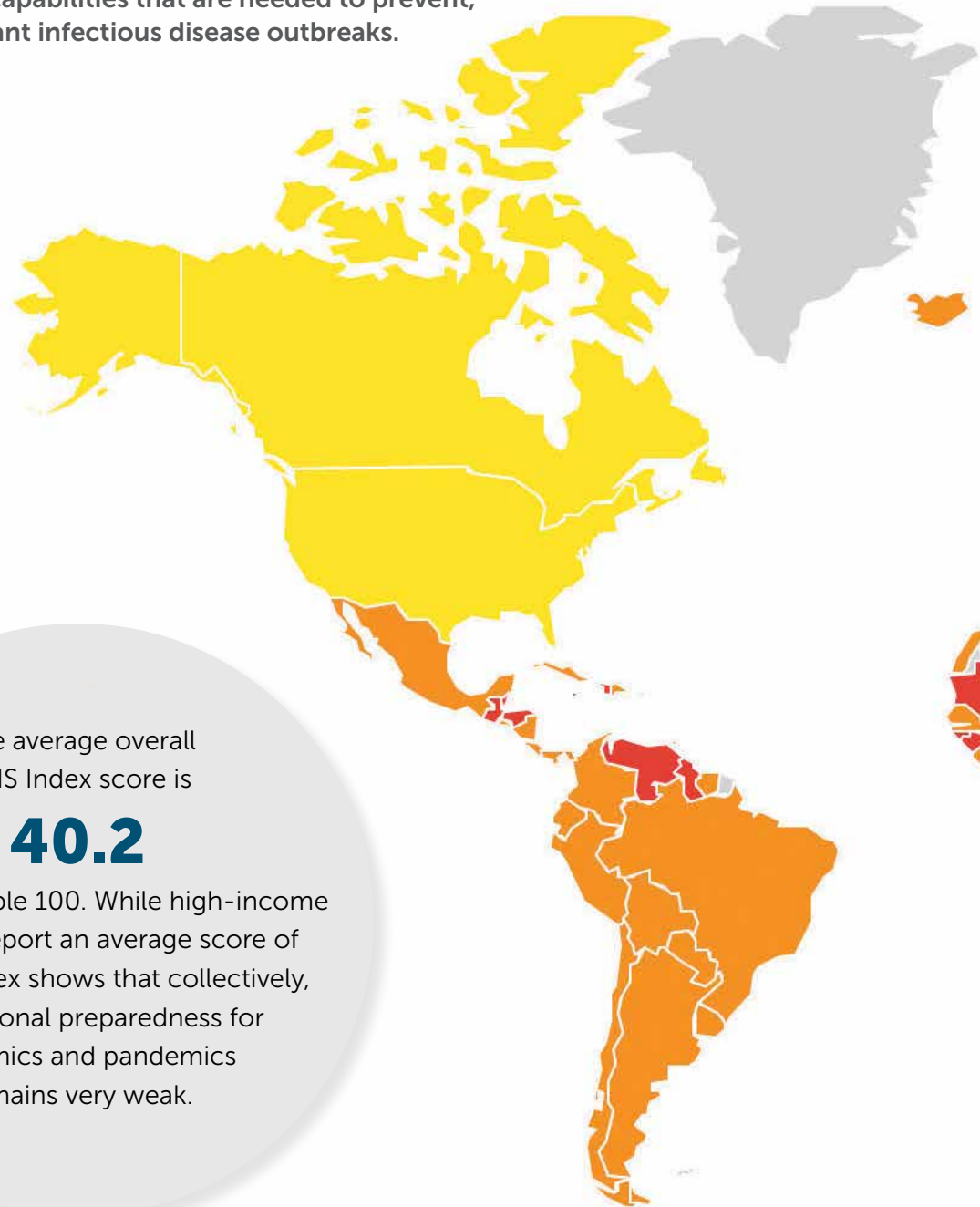
GHS Index Map and Results

Full rankings, overall results, and results by category are outlined on the following pages.

Visit www.ghsindex.org for full data sets, the complete list of scores, country pages summarizing results, data sources for each question by country, and justifications for the score for each question. The Excel spreadsheet data model is also available for download.

The website also features a score simulator with the ability to adjust scores, compare results, and view correlations between scores and other data sets and indices.

The Global Health Security (GHS) Index analysis finds no country is fully prepared for epidemics or pandemics. Collectively, international preparedness is weak. Many countries do not show evidence of the health security capacities and capabilities that are needed to prevent, detect, and respond to significant infectious disease outbreaks.



The average overall
GHS Index score is

40.2

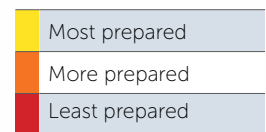
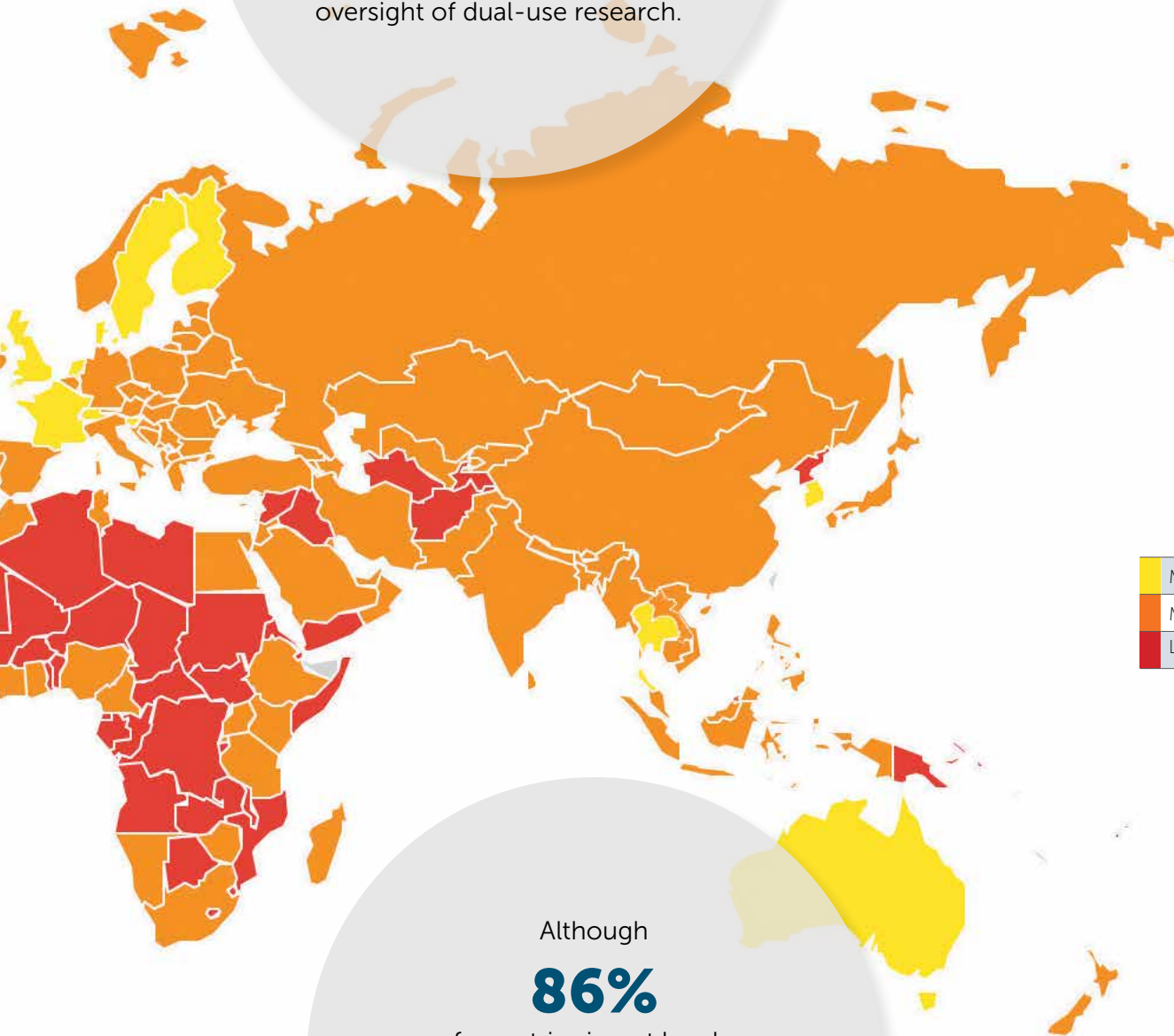
out of a possible 100. While high-income countries report an average score of 51.9, the Index shows that collectively, international preparedness for epidemics and pandemics remains very weak.

GHS INDEX MAP

At least

75%

of countries receive low scores on globally catastrophic biological risk-related indicators, the greatest vulnerability being oversight of dual-use research.



Although

86%

of countries invest local or donor funds in health security, few countries pay for health security gap assessments and action plans out of national budgets.

OVERALL SCORE

| Rank | | Score |
|------|----------------|-------|
| 1 | United States | 83.5 |
| 2 | United Kingdom | 77.9 |
| 3 | Netherlands | 75.6 |
| 4 | Australia | 75.5 |
| 5 | Canada | 75.3 |
| 6 | Thailand | 73.2 |
| 7 | Sweden | 72.1 |
| 8 | Denmark | 70.4 |
| 9 | South Korea | 70.2 |
| 10 | Finland | 68.7 |
| 11 | France | 68.2 |
| 12 | Slovenia | 67.2 |
| 13 | Switzerland | 67.0 |
| 14 | Germany | 66.0 |
| 15 | Spain | 65.9 |
| 16 | Norway | 64.6 |
| 17 | Latvia | 62.9 |
| 18 | Malaysia | 62.2 |
| 19 | Belgium | 61.0 |
| 20 | Portugal | 60.3 |
| 21 | Japan | 59.8 |
| 22 | Brazil | 59.7 |
| 23 | Ireland | 59.0 |
| 24 | Singapore | 58.7 |
| 25 | Argentina | 58.6 |
| 26 | Austria | 58.5 |
| 27 | Chile | 58.3 |
| 28 | Mexico | 57.6 |
| 29 | Estonia | 57.0 |
| 30 | Indonesia | 56.6 |
| 31 | Italy | 56.2 |
| 32 | Poland | 55.4 |
| 33 | Lithuania | 55.0 |
| 34 | South Africa | 54.8 |
| 35 | Hungary | 54.0 |
| 35 | New Zealand | 54.0 |
| 37 | Greece | 53.8 |
| 38 | Croatia | 53.3 |
| 39 | Albania | 52.9 |
| 40 | Turkey | 52.4 |

1. PREVENTION OF THE EMERGENCE OR RELEASE OF PATHOGENS

| Rank | | Score |
|------|----------------|-------|
| 1 | United States | 83.1 |
| 2 | Sweden | 81.1 |
| 3 | Thailand | 75.7 |
| 4 | Netherlands | 73.7 |
| 5 | Denmark | 72.9 |
| 6 | France | 71.2 |
| 7 | Canada | 70.0 |
| 8 | Australia | 68.9 |
| 9 | Finland | 68.5 |
| 10 | United Kingdom | 68.3 |
| 11 | Norway | 68.2 |
| 12 | Slovenia | 67.0 |
| 13 | Germany | 66.5 |
| 14 | Ireland | 63.9 |
| 15 | Belgium | 63.5 |
| 16 | Brazil | 59.2 |
| 17 | Kazakhstan | 58.8 |
| 18 | Austria | 57.4 |
| 19 | South Korea | 57.3 |
| 20 | Turkey | 56.9 |
| 21 | Armenia | 56.7 |
| 22 | Hungary | 56.4 |
| 23 | Chile | 56.2 |
| 23 | Singapore | 56.2 |
| 25 | Latvia | 56.0 |
| 26 | Croatia | 55.2 |
| 27 | New Zealand | 55.0 |
| 28 | Greece | 54.2 |
| 29 | Ecuador | 53.9 |
| 30 | Slovakia | 53.5 |
| 31 | Georgia | 53.2 |
| 32 | Spain | 52.9 |
| 33 | Portugal | 52.8 |
| 34 | Switzerland | 52.7 |
| 35 | Malaysia | 51.4 |
| 36 | Czech Republic | 51.1 |
| 37 | Poland | 50.9 |
| 38 | Indonesia | 50.2 |
| 39 | Vietnam | 49.5 |
| 40 | Japan | 49.3 |

2. EARLY DETECTION & REPORTING FOR EPIDEMICS OF POTENTIAL INTERNATIONAL CONCERN

| Rank | | Score |
|------|-----------------|-------|
| 1 | United States | 98.2 |
| 2 | Australia | 97.3 |
| 2 | Latvia | 97.3 |
| 4 | Canada | 96.4 |
| 5 | South Korea | 92.1 |
| 6 | United Kingdom | 87.3 |
| 7 | Denmark | 86.0 |
| 7 | Netherlands | 86.0 |
| 7 | Sweden | 86.0 |
| 10 | Germany | 84.6 |
| 11 | Spain | 83.0 |
| 12 | Brazil | 82.4 |
| 13 | Lithuania | 81.5 |
| 13 | South Africa | 81.5 |
| 15 | Thailand | 81.0 |
| 16 | Italy | 78.5 |
| 17 | Greece | 78.4 |
| 18 | Ireland | 78.0 |
| 19 | Estonia | 77.6 |
| 20 | Mongolia | 77.3 |
| 21 | France | 75.3 |
| 22 | Georgia | 75.0 |
| 23 | Argentina | 74.9 |
| 24 | Saudi Arabia | 74.4 |
| 25 | Albania | 74.3 |
| 26 | El Salvador | 73.9 |
| 27 | Slovenia | 73.7 |
| 28 | Austria | 73.2 |
| 28 | Malaysia | 73.2 |
| 30 | Chile | 72.7 |
| 31 | Croatia | 72.3 |
| 32 | Ecuador | 71.2 |
| 32 | Mexico | 71.2 |
| 34 | Laos | 70.4 |
| 35 | Japan | 70.1 |
| 36 | Kenya | 68.6 |
| 37 | Indonesia | 68.1 |
| 38 | Zimbabwe | 65.6 |
| 39 | Kyrgyz Republic | 64.7 |
| 40 | Singapore | 64.5 |

3. RAPID RESPONSE TO AND MITIGATION OF THE SPREAD OF AN EPIDEMIC

| Rank | | Score |
|------|------------------------|-------|
| 1 | United Kingdom | 91.9 |
| 2 | United States | 79.7 |
| 3 | Switzerland | 79.3 |
| 4 | Netherlands | 79.1 |
| 5 | Thailand | 78.6 |
| 6 | South Korea | 71.5 |
| 7 | Finland | 69.2 |
| 8 | Portugal | 67.7 |
| 9 | Brazil | 67.1 |
| 10 | Australia | 65.9 |
| 11 | Singapore | 64.6 |
| 12 | Slovenia | 63.3 |
| 13 | France | 62.9 |
| 14 | Sweden | 62.8 |
| 15 | Spain | 61.9 |
| 16 | Malaysia | 61.3 |
| 17 | Canada | 60.7 |
| 18 | Chile | 60.2 |
| 19 | Denmark | 58.4 |
| 20 | Norway | 58.2 |
| 21 | New Zealand | 58.1 |
| 22 | Madagascar | 57.8 |
| 23 | South Africa | 57.7 |
| 24 | Micronesia | 56.9 |
| 25 | Uganda | 56.5 |
| 26 | Armenia | 55.5 |
| 27 | Serbia | 55.1 |
| 28 | Germany | 54.8 |
| 29 | Latvia | 54.7 |
| 30 | Indonesia | 54.3 |
| 31 | Japan | 53.6 |
| 32 | India | 52.4 |
| 33 | Hungary | 52.2 |
| 34 | Albania | 52.0 |
| 34 | Laos | 52.0 |
| 36 | Bosnia and Herzegovina | 51.8 |
| 37 | Peru | 51.7 |
| 38 | Morocco | 51.5 |
| 39 | Mexico | 50.8 |
| 40 | Argentina | 50.6 |

4. SUFFICIENT & ROBUST HEALTH SYSTEM TO TREAT THE SICK & PROTECT HEALTH WORKERS

| Rank | Score |
|------|---------------------|
| 1 | United States 73.8 |
| 2 | Thailand 70.5 |
| 3 | Netherlands 70.2 |
| 4 | Canada 67.7 |
| 5 | Denmark 63.8 |
| 6 | Australia 63.5 |
| 7 | Switzerland 62.5 |
| 8 | France 60.9 |
| 9 | Finland 60.8 |
| 10 | Belgium 60.5 |
| 11 | United Kingdom 59.8 |
| 12 | Spain 59.6 |
| 13 | South Korea 58.7 |
| 14 | Norway 58.5 |
| 15 | Malaysia 57.1 |
| 16 | Serbia 56.6 |
| 17 | Portugal 55.0 |
| 18 | Argentina 54.9 |
| 18 | Slovenia 54.9 |
| 20 | Sweden 49.3 |
| 21 | Poland 48.9 |
| 22 | Germany 48.2 |
| 23 | Latvia 47.3 |
| 24 | Mexico 46.9 |
| 25 | Austria 46.6 |
| 25 | Japan 46.6 |
| 27 | Croatia 46.5 |
| 28 | Iceland 46.4 |
| 29 | Nicaragua 45.9 |
| 30 | China 45.7 |
| 30 | Turkey 45.7 |
| 32 | New Zealand 45.2 |
| 33 | Brazil 45.0 |
| 33 | Peru 45.0 |
| 35 | Saudi Arabia 44.8 |
| 36 | India 42.7 |
| 37 | Israel 42.2 |
| 38 | Singapore 41.4 |
| 39 | Bulgaria 41.0 |
| 40 | Belarus 40.6 |

5. COMMITMENTS TO IMPROVING NATIONAL CAPACITY, FINANCING AND ADHERENCE TO NORMS

| Rank | Score |
|------|---------------------------|
| 1 | United States 85.3 |
| 2 | United Kingdom 81.2 |
| 3 | Australia 77.0 |
| 4 | Finland 75.4 |
| 5 | Canada 74.7 |
| 6 | Mexico 73.9 |
| 7 | Indonesia 72.5 |
| 8 | Lithuania 72.1 |
| 8 | Slovenia 72.1 |
| 10 | Liberia 71.5 |
| 11 | Sweden 71.3 |
| 12 | Thailand 70.9 |
| 13 | Japan 70.0 |
| 14 | Argentina 68.8 |
| 15 | Estonia 67.6 |
| 16 | Kenya 67.1 |
| 17 | Ethiopia 65.8 |
| 18 | Switzerland 65.6 |
| 19 | Uganda 65.4 |
| 20 | Kyrgyz Republic 64.8 |
| 21 | Vietnam 64.6 |
| 22 | Norway 64.4 |
| 23 | South Korea 64.3 |
| 23 | Turkey 64.3 |
| 25 | United Arab Emirates 63.4 |
| 26 | Peru 63.0 |
| 26 | Portugal 63.0 |
| 28 | Denmark 62.6 |
| 29 | Germany 61.9 |
| 29 | Italy 61.9 |
| 31 | Bulgaria 61.5 |
| 32 | Netherlands 61.1 |
| 32 | Spain 61.1 |
| 34 | Uzbekistan 60.5 |
| 35 | Colombia 60.1 |
| 36 | Cambodia 60.0 |
| 37 | Cameroon 59.9 |
| 38 | Belgium 59.7 |
| 39 | New Zealand 59.4 |
| 40 | Myanmar 59.1 |

6. OVERALL RISK ENVIRONMENT AND COUNTRY VULNERABILITY TO BIOLOGICAL THREATS

| Rank | Score |
|------|---------------------------|
| 1 | Liechtenstein 87.9 |
| 2 | Norway 87.1 |
| 3 | Switzerland 86.2 |
| 4 | Luxembourg 84.7 |
| 5 | Austria 84.6 |
| 6 | Sweden 84.5 |
| 7 | Andorra 83.5 |
| 8 | Monaco 83.1 |
| 9 | France 83.0 |
| 10 | Canada 82.7 |
| 11 | Germany 82.3 |
| 12 | Netherlands 81.7 |
| 13 | Iceland 81.2 |
| 14 | Finland 81.1 |
| 15 | Singapore 80.9 |
| 16 | San Marino 80.5 |
| 17 | Denmark 80.3 |
| 18 | Australia 79.4 |
| 19 | Belgium 78.2 |
| 19 | United States 78.2 |
| 21 | Ireland 77.4 |
| 22 | Portugal 77.3 |
| 23 | New Zealand 77.2 |
| 24 | Spain 77.1 |
| 25 | Uruguay 74.8 |
| 26 | United Kingdom 74.7 |
| 27 | South Korea 74.1 |
| 28 | Czech Republic 74.0 |
| 29 | Slovenia 73.7 |
| 30 | Estonia 73.3 |
| 31 | United Arab Emirates 72.4 |
| 32 | Malta 72.3 |
| 33 | Malaysia 72.0 |
| 34 | Costa Rica 71.7 |
| 34 | Japan 71.7 |
| 36 | Slovakia 71.5 |
| 37 | Seychelles 71.1 |
| 38 | Chile 70.1 |
| 39 | Barbados 69.9 |
| 40 | Cyprus 69.6 |

GHS INDEX RESULTS

All data are normalized to a scale of 0 to 100, where 100 = best health security conditions.

| |
|----------------|
| Most prepared |
| More prepared |
| Least prepared |

OVERALL SCORE

| Rank | | Score |
|------|------------------------|-------|
| 41 | Serbia | 52.3 |
| 42 | Czech Republic | 52.0 |
| 42 | Georgia | 52.0 |
| 44 | Armenia | 50.2 |
| 45 | Ecuador | 50.1 |
| 46 | Mongolia | 49.5 |
| 47 | Kyrgyz Republic | 49.3 |
| 47 | Saudi Arabia | 49.3 |
| 49 | Peru | 49.2 |
| 50 | Vietnam | 49.1 |
| 51 | China | 48.2 |
| 52 | Slovakia | 47.9 |
| 53 | Philippines | 47.6 |
| 54 | Israel | 47.3 |
| 55 | Kenya | 47.1 |
| 56 | United Arab Emirates | 46.7 |
| 57 | India | 46.5 |
| 58 | Iceland | 46.3 |
| 59 | Kuwait | 46.1 |
| 60 | Romania | 45.8 |
| 61 | Bulgaria | 45.6 |
| 62 | Costa Rica | 45.1 |
| 63 | Russia | 44.3 |
| 63 | Uganda | 44.3 |
| 65 | Colombia | 44.2 |
| 65 | El Salvador | 44.2 |
| 67 | Luxembourg | 43.8 |
| 68 | Montenegro | 43.7 |
| 68 | Morocco | 43.7 |
| 68 | Panama | 43.7 |
| 71 | Liechtenstein | 43.5 |
| 72 | Myanmar | 43.4 |
| 73 | Laos | 43.1 |
| 73 | Lebanon | 43.1 |
| 73 | Nicaragua | 43.1 |
| 73 | Oman | 43.1 |
| 77 | Cyprus | 43.0 |
| 78 | Moldova | 42.9 |
| 79 | Bosnia and Herzegovina | 42.8 |
| 80 | Jordan | 42.1 |

1. PREVENTION OF THE EMERGENCE OR RELEASE OF PATHOGENS

| Rank | | Score |
|------|------------------------|-------|
| 40 | United Arab Emirates | 49.3 |
| 42 | Romania | 48.9 |
| 43 | Serbia | 48.8 |
| 44 | Estonia | 47.6 |
| 45 | Italy | 47.5 |
| 46 | Moldova | 46.5 |
| 47 | Cyprus | 46.4 |
| 48 | Kenya | 45.9 |
| 49 | Mexico | 45.5 |
| 50 | China | 45.0 |
| 51 | South Africa | 44.8 |
| 52 | Iran | 44.7 |
| 53 | Costa Rica | 44.2 |
| 54 | Bolivia | 44.0 |
| 54 | Israel | 44.0 |
| 54 | Uruguay | 44.0 |
| 57 | Albania | 43.8 |
| 58 | Nepal | 43.7 |
| 59 | Lithuania | 43.5 |
| 60 | Peru | 43.2 |
| 61 | Liechtenstein | 43.1 |
| 62 | Russia | 42.9 |
| 63 | Uganda | 42.7 |
| 64 | Uzbekistan | 42.6 |
| 65 | Nicaragua | 41.7 |
| 66 | Argentina | 41.4 |
| 66 | Cuba | 41.4 |
| 68 | Kuwait | 40.9 |
| 69 | Panama | 40.5 |
| 70 | Paraguay | 39.5 |
| 71 | Philippines | 38.5 |
| 72 | Ukraine | 38.1 |
| 73 | Bulgaria | 37.6 |
| 73 | Mongolia | 37.6 |
| 75 | Colombia | 37.2 |
| 76 | North Macedonia | 37.0 |
| 77 | Ethiopia | 36.8 |
| 78 | Bosnia and Herzegovina | 36.7 |
| 79 | Egypt | 36.5 |
| 79 | Montenegro | 36.5 |

2. EARLY DETECTION & REPORTING FOR EPIDEMICS OF POTENTIAL INTERNATIONAL CONCERN

| Rank | | Score |
|------|----------------|-------|
| 41 | Philippines | 63.6 |
| 42 | Belgium | 62.5 |
| 43 | Lebanon | 62.0 |
| 44 | Poland | 61.7 |
| 45 | Finland | 61.6 |
| 46 | Armenia | 60.8 |
| 47 | Myanmar | 59.2 |
| 48 | Switzerland | 59.1 |
| 49 | Norway | 58.6 |
| 50 | Cambodia | 57.7 |
| 51 | Vietnam | 57.4 |
| 52 | Guinea | 57.2 |
| 53 | Morocco | 56.8 |
| 54 | Costa Rica | 56.0 |
| 55 | Hungary | 55.5 |
| 56 | Montenegro | 55.4 |
| 57 | Bulgaria | 53.3 |
| 58 | Israel | 52.4 |
| 59 | Bangladesh | 50.9 |
| 60 | Czech Republic | 50.7 |
| 61 | Portugal | 50.5 |
| 62 | Uganda | 50.3 |
| 63 | Guatemala | 50.0 |
| 64 | China | 48.5 |
| 65 | Haiti | 48.3 |
| 66 | Kuwait | 47.5 |
| 67 | India | 47.4 |
| 68 | Togo | 46.8 |
| 69 | Serbia | 46.2 |
| 70 | Namibia | 46.0 |
| 70 | Slovakia | 46.0 |
| 72 | Bahrain | 45.8 |
| 72 | Sierra Leone | 45.8 |
| 74 | Turkey | 45.6 |
| 75 | Azerbaijan | 45.0 |
| 76 | Cyprus | 44.9 |
| 77 | Afghanistan | 44.8 |
| 78 | Nigeria | 44.6 |
| 78 | Panama | 44.6 |
| 80 | Côte d'Ivoire | 44.5 |

3. RAPID RESPONSE TO AND MITIGATION OF THE SPREAD OF AN EPIDEMIC

| Rank | | Score |
|------|--------------------------|-------|
| 41 | Myanmar | 50.4 |
| 42 | Kuwait | 50.2 |
| 43 | Russia | 50.1 |
| 44 | Kyrgyz Republic | 49.9 |
| 45 | United Arab Emirates | 49.7 |
| 46 | Turkey | 49.0 |
| 47 | China | 48.6 |
| 48 | Qatar | 48.0 |
| 49 | Lebanon | 47.9 |
| 50 | Jordan | 47.8 |
| 51 | Italy | 47.5 |
| 51 | Poland | 47.5 |
| 53 | Belgium | 47.3 |
| 53 | Dominican Republic | 47.3 |
| 53 | Suriname | 47.3 |
| 56 | Estonia | 47.0 |
| 57 | Belarus | 46.6 |
| 57 | Central African Republic | 46.6 |
| 57 | Czech Republic | 46.6 |
| 60 | Panama | 46.4 |
| 61 | Senegal | 45.4 |
| 62 | Ireland | 45.1 |
| 63 | Egypt | 45.0 |
| 64 | Sierra Leone | 44.8 |
| 65 | Ethiopia | 44.7 |
| 66 | Greece | 44.0 |
| 66 | Iceland | 44.0 |
| 68 | Nigeria | 43.8 |
| 68 | Philippines | 43.8 |
| 70 | Colombia | 43.5 |
| 71 | Bahrain | 43.2 |
| 71 | Trinidad and Tobago | 43.2 |
| 73 | Vietnam | 43.0 |
| 74 | Tajikistan | 42.9 |
| 75 | St. Lucia | 42.4 |
| 76 | Austria | 42.3 |
| 77 | El Salvador | 42.1 |
| 78 | Bhutan | 42.0 |
| 79 | Nepal | 41.9 |
| 80 | Oman | 41.6 |

4. SUFFICIENT & ROBUST HEALTH SYSTEM TO TREAT THE SICK & PROTECT HEALTH WORKERS

| Rank | Country | Score |
|------|------------------------|-------|
| 41 | Ireland | 40.2 |
| 42 | Indonesia | 39.4 |
| 43 | Chile | 39.3 |
| 44 | Qatar | 38.8 |
| 45 | Bosnia and Herzegovina | 38.3 |
| 45 | Georgia | 38.3 |
| 47 | Philippines | 38.2 |
| 48 | Luxembourg | 37.9 |
| 48 | Slovakia | 37.9 |
| 50 | Greece | 37.6 |
| 50 | Russia | 37.6 |
| 52 | Cuba | 37.4 |
| 52 | Czech Republic | 37.4 |
| 54 | Italy | 36.8 |
| 55 | Romania | 36.7 |
| 56 | Hungary | 36.6 |
| 57 | Kuwait | 36.5 |
| 58 | Moldova | 36.4 |
| 59 | Albania | 35.9 |
| 60 | Ecuador | 35.2 |
| 61 | Panama | 35.1 |
| 62 | Iran | 34.6 |
| 63 | Lithuania | 34.4 |
| 64 | Colombia | 34.3 |
| 65 | South Africa | 33.0 |
| 66 | Estonia | 31.6 |
| 67 | Liechtenstein | 31.1 |
| 68 | Monaco | 31.0 |
| 69 | Mongolia | 30.8 |
| 70 | Kyrgyz Republic | 29.8 |
| 71 | Montenegro | 29.5 |
| 71 | Morocco | 29.5 |
| 73 | Ethiopia | 29.0 |
| 74 | Vietnam | 28.3 |
| 75 | Paraguay | 28.2 |
| 76 | Nepal | 28.1 |
| 77 | Kazakhstan | 28.0 |
| 78 | Bhutan | 27.9 |
| 79 | Jordan | 27.8 |
| 80 | Bahrain | 27.7 |

5. COMMITMENTS TO IMPROVING NATIONAL CAPACITY, FINANCING AND ADHERENCE TO NORMS

| Rank | Country | Score |
|------|--------------------------------|-------|
| 41 | Czech Republic | 58.9 |
| 41 | Hungary | 58.9 |
| 41 | Poland | 58.9 |
| 44 | France | 58.6 |
| 45 | Malaysia | 58.5 |
| 46 | St. Vincent and The Grenadines | 58.0 |
| 47 | Senegal | 57.0 |
| 48 | Liechtenstein | 56.9 |
| 49 | Congo (Brazzaville) | 56.8 |
| 50 | Moldova | 56.7 |
| 50 | Nigeria | 56.7 |
| 52 | Afghanistan | 56.3 |
| 53 | Georgia | 56.0 |
| 53 | Oman | 56.0 |
| 55 | Madagascar | 55.4 |
| 55 | Tanzania | 55.4 |
| 57 | Antigua and Barbuda | 55.1 |
| 57 | Trinidad and Tobago | 55.1 |
| 57 | Ukraine | 55.1 |
| 60 | St. Lucia | 54.7 |
| 61 | Benin | 53.6 |
| 61 | Côte d'Ivoire | 53.6 |
| 63 | Montenegro | 53.5 |
| 64 | Mali | 53.2 |
| 65 | Albania | 53.0 |
| 66 | Austria | 52.8 |
| 66 | Ireland | 52.8 |
| 66 | Kazakhstan | 52.8 |
| 66 | Luxembourg | 52.8 |
| 66 | Sierra Leone | 52.8 |
| 66 | Slovakia | 52.8 |
| 72 | Mongolia | 52.6 |
| 72 | Russia | 52.6 |
| 74 | Bangladesh | 52.5 |
| 75 | Romania | 52.4 |
| 76 | Nicaragua | 51.8 |
| 77 | Comoros | 51.6 |
| 78 | Chile | 51.5 |
| 79 | Latvia | 51.1 |
| 80 | Malawi | 50.7 |

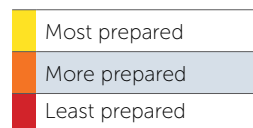
6. OVERALL RISK ENVIRONMENT AND COUNTRY VULNERABILITY TO BIOLOGICAL THREATS

| Rank | Country | Score |
|------|--------------------------------|-------|
| 41 | Israel | 68.8 |
| 42 | Croatia | 68.2 |
| 42 | Hungary | 68.2 |
| 44 | Qatar | 68.0 |
| 45 | Poland | 67.9 |
| 46 | Lithuania | 67.8 |
| 47 | Cabo Verde | 67.4 |
| 48 | Latvia | 67.2 |
| 49 | Brunei | 66.7 |
| 50 | Bulgaria | 66.3 |
| 51 | Mauritius | 66.2 |
| 52 | Samoa | 66.1 |
| 53 | Oman | 65.7 |
| 53 | Romania | 65.7 |
| 55 | Italy | 65.5 |
| 56 | Antigua and Barbuda | 65.2 |
| 57 | St. Kitts and Nevis | 64.8 |
| 58 | China | 64.4 |
| 58 | Trinidad and Tobago | 64.4 |
| 60 | Panama | 63.8 |
| 61 | Grenada | 62.9 |
| 62 | Botswana | 62.4 |
| 63 | St. Lucia | 62.1 |
| 64 | South Africa | 61.8 |
| 65 | St. Vincent and The Grenadines | 61.7 |
| 66 | Kuwait | 61.5 |
| 67 | Bahamas | 61.4 |
| 68 | Jamaica | 61.2 |
| 69 | Mongolia | 60.8 |
| 70 | Argentina | 60.0 |
| 71 | Saudi Arabia | 59.7 |
| 72 | Kazakhstan | 59.5 |
| 73 | Dominican Republic | 59.3 |
| 74 | Serbia | 59.2 |
| 75 | Fiji | 59.1 |
| 76 | Tonga | 59.0 |
| 77 | Montenegro | 58.8 |
| 78 | Tuvalu | 58.7 |
| 79 | Maldives | 58.3 |
| 80 | Greece | 58.2 |



GHS INDEX RESULTS

All data are normalized to a scale of 0 to 100, where 100 = best health security conditions.



OVERALL SCORE

| Rank | Score | |
|----------------|---------------------|-------------|
| 81 | Uruguay | 41.3 |
| 82 | Qatar | 41.2 |
| 83 | Kazakhstan | 40.7 |
| 84 | Ethiopia | 40.6 |
| 85 | Bhutan | 40.3 |
| AVERAGE | | 40.2 |
| 86 | Madagascar | 40.1 |
| 87 | Egypt | 39.9 |
| 88 | Bahrain | 39.4 |
| 89 | Cambodia | 39.2 |
| 90 | North Macedonia | 39.1 |
| 91 | Dominican Republic | 38.3 |
| 92 | Sierra Leone | 38.2 |
| 92 | Zimbabwe | 38.2 |
| 94 | Ukraine | 38.0 |
| 95 | Senegal | 37.9 |
| 96 | Nigeria | 37.8 |
| 97 | Iran | 37.7 |
| 98 | Malta | 37.3 |
| 99 | Trinidad and Tobago | 36.6 |
| 100 | Suriname | 36.5 |
| 101 | Tanzania | 36.4 |
| 102 | Bolivia | 35.8 |
| 103 | Paraguay | 35.7 |
| 104 | Namibia | 35.6 |
| 105 | Côte d'Ivoire | 35.5 |
| 105 | Ghana | 35.5 |
| 105 | Pakistan | 35.5 |
| 108 | Belarus | 35.3 |
| 108 | St. Lucia | 35.3 |
| 110 | Cuba | 35.2 |
| 111 | Liberia | 35.1 |
| 111 | Nepal | 35.1 |
| 113 | Bangladesh | 35.0 |
| 114 | Mauritius | 34.9 |
| 115 | Cameroon | 34.4 |
| 116 | Uzbekistan | 34.3 |
| 117 | Azerbaijan | 34.2 |

1. PREVENTION OF THE EMERGENCE OR RELEASE OF PATHOGENS

| Rank | Score | |
|----------------|----------------------|-------------|
| 81 | Bahrain | 36.0 |
| 82 | Eswatini (Swaziland) | 35.7 |
| 83 | Bhutan | 35.5 |
| 84 | Iceland | 35.3 |
| 84 | Oman | 35.3 |
| 86 | Malta | 35.0 |
| 87 | India | 34.9 |
| AVERAGE | | 34.8 |
| 88 | Morocco | 34.6 |
| 89 | Saudi Arabia | 34.3 |
| 90 | Rwanda | 33.8 |
| 91 | Tanzania | 33.5 |
| 92 | Barbados | 33.3 |
| 93 | Qatar | 33.1 |
| 94 | Niger | 32.5 |
| 95 | Ghana | 32.2 |
| 96 | Namibia | 32.0 |
| 97 | Jordan | 31.8 |
| 97 | Sudan | 31.8 |
| 99 | Tunisia | 31.7 |
| 100 | Haiti | 31.5 |
| 101 | Zimbabwe | 31.4 |
| 102 | Luxembourg | 31.0 |
| 102 | Turkmenistan | 31.0 |
| 104 | Azerbaijan | 30.8 |
| 105 | Dominican Republic | 30.5 |
| 106 | Myanmar | 30.3 |
| 107 | Madagascar | 30.1 |
| 108 | Belize | 30.0 |
| 109 | Kyrgyz Republic | 29.7 |
| 110 | Cambodia | 28.6 |
| 111 | Cameroon | 28.2 |
| 112 | Trinidad and Tobago | 28.1 |
| 113 | Andorra | 27.9 |
| 113 | Cabo Verde | 27.9 |
| 113 | Guyana | 27.9 |
| 116 | Bangladesh | 27.3 |
| 116 | Côte d'Ivoire | 27.3 |
| 116 | Lebanon | 27.3 |
| 116 | Mauritius | 27.3 |

2. EARLY DETECTION & REPORTING OF POTENTIAL INTERNATIONAL CONCERN

| Rank | Score | |
|----------------|------------------------|-------------|
| 81 | Niger | 44.4 |
| 82 | Sri Lanka | 43.0 |
| 83 | Jordan | 42.9 |
| 83 | Moldova | 42.9 |
| 85 | Bhutan | 42.8 |
| 85 | Romania | 42.8 |
| 87 | Mauritius | 42.3 |
| 88 | Iraq | 42.2 |
| 89 | Tanzania | 42.0 |
| 90 | Madagascar | 41.9 |
| AVERAGE | | 41.9 |
| 91 | Bosnia and Herzegovina | 41.7 |
| 91 | Colombia | 41.7 |
| 91 | Luxembourg | 41.7 |
| 91 | North Macedonia | 41.7 |
| 91 | Pakistan | 41.7 |
| 96 | Egypt | 41.5 |
| 97 | Oman | 41.1 |
| 98 | Ghana | 40.5 |
| 99 | Nicaragua | 39.9 |
| 100 | Mauritania | 39.5 |
| 101 | Turkmenistan | 38.6 |
| 102 | Peru | 38.3 |
| 103 | Iran | 37.7 |
| 104 | Iceland | 37.2 |
| 105 | Dominican Republic | 37.1 |
| 106 | Gambia | 36.9 |
| 107 | New Zealand | 36.7 |
| 107 | Suriname | 36.7 |
| 109 | Chad | 36.5 |
| 109 | Ukraine | 36.5 |
| 111 | Libya | 36.0 |
| 111 | Rwanda | 36.0 |
| 113 | Cameroon | 35.6 |
| 114 | Senegal | 35.1 |
| 115 | Paraguay | 34.6 |
| 116 | Russia | 34.1 |
| 117 | San Marino | 33.9 |

3. RAPID RESPONSE TO AND MITIGATION OF THE SPREAD OF AN EPIDEMIC

| Rank | Score | |
|----------------|------------------|-------------|
| 81 | Uruguay | 41.3 |
| 82 | Liberia | 40.5 |
| 83 | Maldives | 40.2 |
| 84 | Israel | 39.9 |
| 85 | Ecuador | 39.5 |
| 86 | Nicaragua | 39.2 |
| 87 | Tunisia | 39.1 |
| 88 | Pakistan | 38.7 |
| AVERAGE | | 38.4 |
| 89 | Burkina Faso | 38.0 |
| 90 | Mongolia | 37.8 |
| 91 | Sudan | 37.3 |
| 92 | Georgia | 37.1 |
| 92 | Kenya | 37.1 |
| 94 | Tanzania | 36.8 |
| 95 | Cambodia | 36.7 |
| 96 | Costa Rica | 36.6 |
| 97 | Guyana | 36.2 |
| 98 | Romania | 35.3 |
| 99 | Mauritius | 34.9 |
| 100 | Papua New Guinea | 34.8 |
| 100 | Ukraine | 34.8 |
| 102 | Liechtenstein | 34.6 |
| 103 | Chad | 34.5 |
| 104 | Gambia | 34.2 |
| 105 | Benin | 34.1 |
| 105 | Slovakia | 34.1 |
| 107 | Cyprus | 33.9 |
| 107 | Lithuania | 33.9 |
| 109 | Iran | 33.7 |
| 110 | Brunei | 33.4 |
| 111 | Lesotho | 33.2 |
| 112 | North Macedonia | 33.1 |
| 113 | Cabo Verde | 32.7 |
| 114 | Saudi Arabia | 32.6 |
| 115 | Croatia | 32.4 |
| 116 | Montenegro | 32.1 |
| 117 | Rwanda | 31.9 |

4. SUFFICIENT & ROBUST HEALTH SYSTEM TO TREAT THE SICK & PROTECT HEALTH WORKERS

| Rank | | Score |
|------|--------------------------------|-------------|
| | AVERAGE | 26.4 |
| 81 | Armenia | 25.7 |
| 82 | North Macedonia | 25.4 |
| 82 | Oman | 25.4 |
| 84 | Sierra Leone | 25.3 |
| 85 | El Salvador | 25.2 |
| 86 | Costa Rica | 24.8 |
| 87 | Syria | 24.4 |
| 88 | Brunei | 24.2 |
| 89 | Rwanda | 24.1 |
| 89 | Uruguay | 24.1 |
| 91 | Tunisia | 24.0 |
| 92 | Lebanon | 23.8 |
| 93 | Trinidad and Tobago | 23.7 |
| 94 | Malta | 23.6 |
| 95 | Gambia | 23.5 |
| 96 | Ghana | 23.4 |
| 97 | Ukraine | 23.0 |
| 98 | United Arab Emirates | 22.9 |
| 99 | Cyprus | 21.9 |
| 99 | Niger | 21.9 |
| 101 | Cameroon | 21.4 |
| 102 | Afghanistan | 21.0 |
| 103 | Kenya | 20.7 |
| 104 | Lesotho | 20.6 |
| 105 | Tajikistan | 20.5 |
| 106 | Zambia | 20.3 |
| 107 | Liberia | 19.9 |
| 107 | Nigeria | 19.9 |
| 107 | Pakistan | 19.9 |
| 107 | Seychelles | 19.9 |
| 111 | Myanmar | 19.5 |
| 112 | Laos | 19.4 |
| 113 | Madagascar | 19.2 |
| 114 | St. Vincent and The Grenadines | 19.0 |
| 115 | Micronesia | 18.8 |
| 116 | Senegal | 18.5 |
| 117 | Maldives | 18.1 |
| 118 | Azerbaijan | 17.9 |
| 119 | Côte d'Ivoire | 17.1 |

5. COMMITMENTS TO IMPROVING NATIONAL CAPACITY, FINANCING AND ADHERENCE TO NORMS

| Rank | | Score |
|------|-----------------------------|-------------|
| 81 | Saudi Arabia | 50.6 |
| 82 | El Salvador | 50.5 |
| 83 | Armenia | 50.1 |
| 84 | Cuba | 49.8 |
| 84 | Philippines | 49.8 |
| 86 | Pakistan | 49.7 |
| 86 | Serbia | 49.7 |
| 88 | Belize | 49.3 |
| 88 | Dominica | 49.3 |
| 88 | Guyana | 49.3 |
| 88 | Lebanon | 49.3 |
| 92 | Croatia | 49.1 |
| 92 | Cyprus | 49.1 |
| 92 | Greece | 49.1 |
| 92 | Malta | 49.1 |
| 96 | Jordan | 48.6 |
| 97 | Bolivia | 48.5 |
| | AVERAGE | 48.5 |
| 98 | Haiti | 48.4 |
| 99 | Guinea | 47.8 |
| 100 | India | 47.7 |
| 101 | Singapore | 47.3 |
| 102 | Seychelles | 47.1 |
| 103 | Eswatini (Swaziland) | 46.6 |
| 104 | Egypt | 46.4 |
| 104 | Grenada | 46.4 |
| 104 | St. Kitts and Nevis | 46.4 |
| 107 | Botswana | 46.3 |
| 107 | South Africa | 46.3 |
| 107 | Togo | 46.3 |
| 110 | Chad | 46.2 |
| 111 | Bahamas | 46.0 |
| 111 | Barbados | 46.0 |
| 113 | Congo (Democratic Republic) | 45.9 |
| 113 | Laos | 45.9 |
| 113 | Lesotho | 45.9 |
| 113 | Zimbabwe | 45.9 |
| 117 | Maldives | 45.5 |
| 117 | Niger | 45.5 |

6. OVERALL RISK ENVIRONMENT AND COUNTRY VULNERABILITY TO BIOLOGICAL THREATS

| Rank | | Score |
|------|------------------|-------------|
| 81 | Niue | 57.9 |
| 82 | Bahrain | 57.8 |
| 82 | Cuba | 57.8 |
| 84 | North Macedonia | 57.7 |
| 84 | Peru | 57.7 |
| 86 | Egypt | 57.5 |
| 87 | Vanuatu | 57.4 |
| 88 | Ecuador | 57.1 |
| 89 | Mexico | 57.0 |
| 90 | Bhutan | 56.9 |
| 91 | Sri Lanka | 56.7 |
| 92 | Turkey | 56.5 |
| 93 | Thailand | 56.4 |
| 94 | Brazil | 56.2 |
| 94 | Palau | 56.2 |
| 96 | Kyrgyz Republic | 56.1 |
| 97 | Morocco | 55.9 |
| 97 | Paraguay | 55.9 |
| 99 | Jordan | 55.8 |
| 100 | Albania | 55.7 |
| 100 | Tunisia | 55.7 |
| | AVERAGE | 55.0 |
| 102 | Namibia | 54.7 |
| 103 | India | 54.4 |
| 104 | Azerbaijan | 54.2 |
| 105 | Dominica | 54.0 |
| 106 | Indonesia | 53.7 |
| 107 | Vietnam | 53.4 |
| 108 | Micronesia | 53.1 |
| 109 | Belarus | 53.0 |
| 109 | Belize | 53.0 |
| 111 | Suriname | 52.7 |
| 112 | Marshall Islands | 52.3 |
| 113 | Algeria | 51.4 |
| 113 | Georgia | 51.4 |
| 113 | Russia | 51.4 |
| 116 | Colombia | 51.0 |
| 116 | Ghana | 51.0 |

GHS INDEX RESULTS

All data are normalized to a scale of 0 to 100, where 100 = best health security conditions.

| | |
|--|----------------|
| | Most prepared |
| | More prepared |
| | Least prepared |

OVERALL SCORE

| Rank | | Score |
|------|--------------------------------|-------|
| 117 | Gambia | 34.2 |
| 117 | Rwanda | 34.2 |
| 120 | Sri Lanka | 33.9 |
| 121 | Maldives | 33.8 |
| 122 | Tunisia | 33.7 |
| 123 | St. Vincent and The Grenadines | 33.0 |
| 124 | Micronesia | 32.8 |
| 125 | Guatemala | 32.7 |
| 125 | Guinea | 32.7 |
| 125 | Monaco | 32.7 |
| 128 | Brunei | 32.6 |
| 129 | Togo | 32.5 |
| 130 | Afghanistan | 32.3 |
| 130 | Tajikistan | 32.3 |
| 132 | Niger | 32.2 |
| 133 | Barbados | 31.9 |
| 133 | Seychelles | 31.9 |
| 135 | Belize | 31.8 |
| 135 | Türkmenistan | 31.8 |
| 137 | Guyana | 31.7 |
| 138 | Haiti | 31.5 |
| 139 | Botswana | 31.1 |
| 139 | San Marino | 31.1 |
| 139 | Eswatini (Swaziland) | 31.1 |
| 142 | Bahamas | 30.6 |
| 143 | Andorra | 30.5 |
| 144 | Lesotho | 30.2 |
| 145 | Burkina Faso | 30.1 |
| 146 | Cabo Verde | 29.3 |
| 147 | Antigua and Barbuda | 29.0 |
| 147 | Jamaica | 29.0 |
| 147 | Mali | 29.0 |
| 150 | Benin | 28.8 |
| 150 | Chad | 28.8 |
| 152 | Zambia | 28.7 |
| 153 | Mozambique | 28.1 |
| 154 | Malawi | 28.0 |
| 155 | Papua New Guinea | 27.8 |
| 156 | Honduras | 27.6 |

1. PREVENTION OF THE EMERGENCE OR RELEASE OF PATHOGENS

| Rank | | Score |
|------|-----------------------------|-------|
| 120 | Guinea | 27.0 |
| 121 | Tajikistan | 26.7 |
| 122 | Mozambique | 26.5 |
| 123 | Nigeria | 26.3 |
| 124 | Algeria | 25.7 |
| 125 | Malawi | 25.5 |
| 126 | Senegal | 25.4 |
| 127 | Burundi | 25.1 |
| 128 | Sierra Leone | 25.0 |
| 129 | Brunei | 24.8 |
| 130 | Bahamas | 24.7 |
| 131 | Fiji | 24.6 |
| 132 | Vanuatu | 24.5 |
| 132 | Zambia | 24.5 |
| 134 | Lesotho | 24.4 |
| 135 | Sri Lanka | 24.2 |
| 136 | Pakistan | 24.1 |
| 137 | Angola | 24.0 |
| 137 | Congo (Democratic Republic) | 24.0 |
| 139 | Togo | 23.7 |
| 140 | Afghanistan | 23.5 |
| 140 | Venezuela | 23.5 |
| 142 | Eritrea | 23.4 |
| 142 | Mali | 23.4 |
| 144 | Suriname | 23.3 |
| 145 | Chad | 23.2 |
| 145 | Libya | 23.2 |
| 147 | St. Lucia | 22.8 |
| 148 | South Sudan | 22.6 |
| 149 | San Marino | 22.3 |
| 150 | El Salvador | 22.1 |
| 150 | Iraq | 22.1 |
| 152 | Botswana | 22.0 |
| 152 | Gambia | 22.0 |
| 154 | Maldives | 21.8 |
| 155 | Honduras | 21.6 |
| 156 | Guatemala | 21.2 |
| 157 | Micronesia | 21.0 |

2. EARLY DETECTION & REPORTING FOR EPIDEMICS OF POTENTIAL INTERNATIONAL CONCERN

| Rank | | Score |
|------|--------------------------------|-------|
| 118 | Ethiopia | 33.7 |
| 119 | Uruguay | 33.5 |
| 120 | Seychelles | 33.4 |
| 121 | Burkina Faso | 33.3 |
| 122 | Bolivia | 33.1 |
| 123 | Malta | 32.9 |
| 124 | Qatar | 32.7 |
| 125 | Papua New Guinea | 31.8 |
| 126 | United Arab Emirates | 31.6 |
| 127 | Brunei | 30.5 |
| 128 | Belize | 30.4 |
| 129 | St. Lucia | 30.3 |
| 130 | Mozambique | 29.3 |
| 131 | Liberia | 29.1 |
| 132 | Belarus | 28.9 |
| 133 | Botswana | 28.2 |
| 133 | Kazakhstan | 28.2 |
| 135 | Honduras | 27.7 |
| 136 | Tunisia | 26.3 |
| 137 | Timor-Leste | 25.7 |
| 138 | Maldives | 25.5 |
| 138 | Mali | 25.5 |
| 138 | Eswatini (Swaziland) | 25.5 |
| 141 | Congo (Democratic Republic) | 25.1 |
| 142 | Jamaica | 24.3 |
| 143 | Benin | 24.2 |
| 144 | Tajikistan | 24.1 |
| 145 | Guinea-Bissau | 23.4 |
| 146 | Malawi | 23.3 |
| 146 | Monaco | 23.3 |
| 148 | Comoros | 23.2 |
| 149 | Liechtenstein | 22.9 |
| 150 | Nepal | 22.0 |
| 151 | Zambia | 21.9 |
| 152 | Bahamas | 21.8 |
| 153 | Somalia | 21.5 |
| 154 | St. Vincent and The Grenadines | 20.6 |
| 155 | Guyana | 20.3 |
| 156 | Uzbekistan | 19.4 |

3. RAPID RESPONSE TO AND MITIGATION OF THE SPREAD OF AN EPIDEMIC

| Rank | | Score |
|------|--------------------------------|-------|
| 118 | Ghana | 31.5 |
| 119 | Congo (Democratic Republic) | 31.3 |
| 120 | Moldova | 31.1 |
| 121 | Bahamas | 30.9 |
| 121 | Namibia | 30.9 |
| 123 | Andorra | 30.5 |
| 124 | Togo | 30.4 |
| 125 | Timor-Leste | 30.2 |
| 126 | Zimbabwe | 30.1 |
| 127 | Côte d'Ivoire | 29.7 |
| 128 | Cameroon | 29.5 |
| 128 | Mali | 29.5 |
| 130 | Eswatini (Swaziland) | 29.3 |
| 131 | Bolivia | 29.2 |
| 131 | St. Vincent and The Grenadines | 29.2 |
| 133 | Samoa | 28.9 |
| 134 | Zambia | 28.6 |
| 135 | Burundi | 28.4 |
| 135 | Grenada | 28.4 |
| 137 | Fiji | 28.3 |
| 138 | Uzbekistan | 27.8 |
| 139 | Luxembourg | 27.3 |
| 140 | Barbados | 27.2 |
| 141 | Comoros | 27.1 |
| 142 | Paraguay | 26.8 |
| 143 | Kazakhstan | 26.6 |
| 144 | Honduras | 26.5 |
| 145 | Sri Lanka | 26.4 |
| 146 | St. Kitts and Nevis | 26.2 |
| 147 | Monaco | 26.0 |
| 147 | Türkmenistan | 26.0 |
| 149 | Cuba | 25.9 |
| 149 | Nauru | 25.9 |
| 151 | Azerbaijan | 25.5 |
| 151 | Belize | 25.5 |
| 153 | Tonga | 25.1 |
| 154 | Guatemala | 25.0 |
| 155 | Vanuatu | 24.8 |
| 156 | Jamaica | 24.7 |

4. SUFFICIENT & ROBUST HEALTH SYSTEM TO TREAT THE SICK & PROTECT HEALTH WORKERS

| Rank | Score |
|------|----------------------------------|
| 120 | Mauritania 17.0 |
| 120 | Mozambique 17.0 |
| 122 | Sri Lanka 16.9 |
| 123 | Suriname 16.5 |
| 124 | San Marino 16.2 |
| 125 | Cabo Verde 16.1 |
| 125 | Dominican Republic 16.1 |
| 127 | Uzbekistan 16.0 |
| 128 | Egypt 15.7 |
| 129 | Malawi 15.3 |
| 130 | Mauritius 15.1 |
| 131 | Bolivia 14.9 |
| 132 | Bangladesh 14.7 |
| 132 | Zimbabwe 14.7 |
| 134 | Turkmenistan 14.4 |
| 135 | Cook Islands 14.3 |
| 135 | Sudan 14.3 |
| 137 | South Sudan 13.6 |
| 138 | Botswana 13.3 |
| 139 | Algeria 13.1 |
| 140 | Mali 13.0 |
| 141 | Venezuela 12.9 |
| 142 | Central African Republic 12.8 |
| 143 | Solomon Islands 12.4 |
| 144 | Guyana 12.3 |
| 145 | North Korea 12.2 |
| 146 | Cambodia 12.0 |
| 146 | Honduras 12.0 |
| 146 | Nauru 12.0 |
| 146 | Tuvalu 12.0 |
| 150 | Congo (Democratic Republic) 11.8 |
| 150 | Iraq 11.8 |
| 152 | Papua New Guinea 11.6 |
| 152 | Uganda 11.6 |
| 154 | Palau 11.5 |
| 155 | Guatemala 11.4 |
| 156 | Gabon 11.2 |

5. COMMITMENTS TO IMPROVING NATIONAL CAPACITY, FINANCING AND ADHERENCE TO NORMS

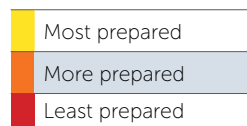
| Rank | Score |
|------|-------------------------------|
| 119 | Burkina Faso 44.8 |
| 119 | North Macedonia 44.8 |
| 119 | Suriname 44.8 |
| 122 | Central African Republic 44.2 |
| 122 | Gambia 44.2 |
| 122 | Namibia 44.2 |
| 125 | Mozambique 43.8 |
| 126 | Dominican Republic 43.5 |
| 126 | Ecuador 43.5 |
| 128 | Iceland 43.2 |
| 129 | Costa Rica 43.1 |
| 129 | Jamaica 43.1 |
| 131 | Tajikistan 42.6 |
| 132 | Guatemala 42.2 |
| 132 | Kuwait 42.2 |
| 132 | Venezuela 42.2 |
| 135 | Brazil 41.9 |
| 136 | Honduras 41.8 |
| 137 | Sri Lanka 41.7 |
| 138 | Israel 41.5 |
| 139 | Angola 41.4 |
| 139 | Papua New Guinea 41.4 |
| 141 | China 40.3 |
| 141 | Yemen 40.3 |
| 143 | Solomon Islands 40.1 |
| 144 | Eritrea 40.0 |
| 145 | Bhutan 39.7 |
| 146 | Turkmenistan 39.3 |
| 146 | Uruguay 39.3 |
| 148 | Ghana 38.0 |
| 148 | Rwanda 38.0 |
| 148 | Vanuatu 38.0 |
| 148 | Zambia 38.0 |
| 152 | Bosnia and Herzegovina 37.8 |
| 153 | Burundi 37.6 |
| 153 | Guinea-Bissau 37.6 |
| 153 | Sudan 37.6 |
| 156 | Gabon 36.5 |

6. OVERALL RISK ENVIRONMENT AND COUNTRY VULNERABILITY TO BIOLOGICAL THREATS

| Rank | Score |
|------|-----------------------------|
| 118 | Bolivia 50.9 |
| 119 | Bosnia and Herzegovina 50.8 |
| 120 | Nauru 50.6 |
| 121 | Cook Islands 50.5 |
| 121 | Guyana 50.5 |
| 123 | Armenia 50.4 |
| 124 | Iran 50.3 |
| 124 | Philippines 50.3 |
| 126 | Guatemala 49.1 |
| 127 | Eswatini (Swaziland) 48.9 |
| 128 | Senegal 48.2 |
| 129 | El Salvador 48.0 |
| 130 | Uzbekistan 47.8 |
| 131 | Gambia 47.3 |
| 132 | Moldova 47.1 |
| 133 | Laos 46.8 |
| 134 | Lebanon 45.5 |
| 135 | Turkmenistan 45.1 |
| 136 | Kiribati 45.0 |
| 137 | Nepal 44.7 |
| 137 | Tanzania 44.7 |
| 139 | São Tomé and Príncipe 44.6 |
| 140 | Lesotho 44.5 |
| 141 | Zambia 44.2 |
| 142 | Bangladesh 44.0 |
| 142 | Solomon Islands 44.0 |
| 144 | Equatorial Guinea 43.6 |
| 144 | Rwanda 43.6 |
| 146 | Ukraine 43.3 |
| 147 | Benin 42.8 |
| 147 | Gabon 42.8 |
| 149 | Côte d'Ivoire 42.7 |
| 149 | Djibouti 42.7 |
| 151 | Burkina Faso 42.6 |
| 152 | Angola 42.2 |
| 153 | Timor-Leste 41.5 |
| 154 | Nicaragua 41.0 |
| 155 | Kenya 40.7 |
| 156 | Honduras 39.5 |

GHS INDEX RESULTS

All data are normalized to a scale of 0 to 100, where 100 = best health security conditions.



OVERALL SCORE

| Rank | | Score |
|------|-----------------------------|-------|
| 157 | Grenada | 27.5 |
| 157 | Mauritania | 27.5 |
| 159 | Central African Republic | 27.3 |
| 160 | Comoros | 27.2 |
| 161 | Congo (Democratic Republic) | 26.5 |
| 162 | Samoa | 26.4 |
| 163 | St. Kitts and Nevis | 26.2 |
| 163 | Sudan | 26.2 |
| 165 | Vanuatu | 26.1 |
| 166 | Timor-Leste | 26.0 |
| 167 | Iraq | 25.8 |
| 168 | Fiji | 25.7 |
| 168 | Libya | 25.7 |
| 170 | Angola | 25.2 |
| 171 | Tonga | 25.1 |
| 172 | Dominica | 24.0 |
| 173 | Algeria | 23.6 |
| 173 | Congo (Brazzaville) | 23.6 |
| 175 | Djibouti | 23.2 |
| 176 | Venezuela | 23.0 |
| 177 | Burundi | 22.8 |
| 178 | Eritrea | 22.4 |
| 179 | Palau | 21.9 |
| 180 | South Sudan | 21.7 |
| 181 | Tuvalu | 21.6 |
| 182 | Nauru | 20.8 |
| 183 | Solomon Islands | 20.7 |
| 184 | Niue | 20.5 |
| 185 | Cook Islands | 20.4 |
| 186 | Gabon | 20.0 |
| 186 | Guinea-Bissau | 20.0 |
| 188 | Syria | 19.9 |
| 189 | Kiribati | 19.2 |
| 190 | Yemen | 18.5 |
| 191 | Marshall Islands | 18.2 |
| 192 | São Tomé and Príncipe | 17.7 |
| 193 | North Korea | 17.5 |
| 194 | Somalia | 16.6 |
| 195 | Equatorial Guinea | 16.2 |

1. PREVENTION OF THE EMERGENCE OR RELEASE OF PATHOGENS

| Rank | | Score |
|------|--------------------------------|-------|
| 158 | Samoa | 20.2 |
| 159 | Jamaica | 20.1 |
| 160 | St. Vincent and The Grenadines | 20.0 |
| 161 | Tonga | 19.8 |
| 162 | Belarus | 19.4 |
| 163 | Comoros | 19.2 |
| 164 | North Korea | 19.0 |
| 165 | Laos | 18.9 |
| 166 | Syria | 18.4 |
| 167 | Timor-Leste | 18.2 |
| 168 | Burkina Faso | 18.0 |
| 168 | Central African Republic | 18.0 |
| 170 | Antigua and Barbuda | 17.8 |
| 171 | Congo (Brazzaville) | 17.6 |
| 172 | Benin | 16.5 |
| 173 | Djibouti | 16.3 |
| 174 | Somalia | 15.8 |
| 175 | Yemen | 15.1 |
| 176 | Liberia | 14.3 |
| 177 | Guinea-Bissau | 14.0 |
| 178 | Tuvalu | 13.1 |
| 179 | Dominica | 11.2 |
| 180 | Monaco | 11.1 |
| 181 | Niue | 11.0 |
| 182 | Cook Islands | 10.9 |
| 183 | Gabon | 10.8 |
| 184 | Kiribati | 10.7 |
| 185 | Papua New Guinea | 10.0 |
| 186 | Mauritania | 9.9 |
| 187 | Seychelles | 9.8 |
| 188 | Nauru | 9.1 |
| 189 | St. Kitts and Nevis | 8.7 |
| 190 | Grenada | 8.6 |
| 191 | Solomon Islands | 8.4 |
| 192 | Palau | 8.2 |
| 192 | São Tomé and Príncipe | 8.2 |
| 194 | Marshall Islands | 7.0 |
| 195 | Equatorial Guinea | 1.9 |

2. EARLY DETECTION & REPORTING FOR EPIDEMICS OF POTENTIAL INTERNATIONAL CONCERN

| Rank | | Score |
|------|--------------------------|-------|
| 157 | Antigua and Barbuda | 19.1 |
| 157 | Barbados | 19.1 |
| 159 | Grenada | 18.6 |
| 160 | Lesotho | 18.0 |
| 161 | Angola | 17.9 |
| 162 | Central African Republic | 17.7 |
| 163 | Eritrea | 17.2 |
| 164 | Djibouti | 17.0 |
| 165 | Fiji | 16.4 |
| 166 | South Sudan | 15.9 |
| 167 | St. Kitts and Nevis | 15.0 |
| 167 | Tonga | 15.0 |
| 167 | Vanuatu | 15.0 |
| 170 | Trinidad and Tobago | 14.7 |
| 171 | Andorra | 14.2 |
| 171 | Micronesia | 14.2 |
| 173 | Samoa | 14.1 |
| 174 | Algeria | 12.0 |
| 175 | Burundi | 11.4 |
| 176 | Dominica | 10.7 |
| 177 | Cuba | 10.5 |
| 178 | Cabo Verde | 9.3 |
| 179 | Yemen | 9.0 |
| 180 | Cook Islands | 8.8 |
| 180 | Palau | 8.8 |
| 182 | Solomon Islands | 8.7 |
| 182 | Tuvalu | 8.7 |
| 182 | Venezuela | 8.7 |
| 185 | Congo (Brazzaville) | 7.0 |
| 185 | North Korea | 7.0 |
| 185 | Sudan | 7.0 |
| 188 | Gabon | 6.1 |
| 189 | Equatorial Guinea | 4.4 |
| 189 | Kiribati | 4.4 |
| 189 | Marshall Islands | 4.4 |
| 189 | Nauru | 4.4 |
| 189 | Niue | 4.4 |
| 194 | São Tomé and Príncipe | 2.7 |
| 194 | Syria | 2.7 |

3. RAPID RESPONSE TO AND MITIGATION OF THE SPREAD OF AN EPIDEMIC

| Rank | | Score |
|------|-----------------------|-------|
| 157 | Palau | 24.5 |
| 158 | South Sudan | 24.3 |
| 159 | Mauritania | 24.2 |
| 160 | Botswana | 23.9 |
| 161 | Afghanistan | 23.6 |
| 161 | Congo (Brazzaville) | 23.6 |
| 163 | Kiribati | 23.4 |
| 164 | Djibouti | 23.2 |
| 165 | Bangladesh | 23.1 |
| 166 | Guinea | 23.0 |
| 166 | Syria | 23.0 |
| 168 | Malta | 22.4 |
| 169 | Niue | 21.8 |
| 170 | Angola | 21.7 |
| 170 | Antigua and Barbuda | 21.7 |
| 170 | Bulgaria | 21.7 |
| 173 | Haiti | 21.1 |
| 174 | Dominica | 20.9 |
| 175 | San Marino | 20.8 |
| 176 | Malawi | 20.7 |
| 176 | Seychelles | 20.7 |
| 178 | Gabon | 20.6 |
| 179 | Niger | 20.1 |
| 180 | Venezuela | 19.7 |
| 181 | Algeria | 19.6 |
| 181 | Tuvalu | 19.6 |
| 183 | Iraq | 19.5 |
| 184 | Yemen | 19.0 |
| 185 | Libya | 18.9 |
| 186 | São Tomé and Príncipe | 18.7 |
| 186 | Solomon Islands | 18.7 |
| 188 | Mozambique | 18.2 |
| 189 | Marshall Islands | 18.1 |
| 190 | Guinea-Bissau | 17.8 |
| 191 | Equatorial Guinea | 17.6 |
| 192 | Cook Islands | 17.5 |
| 193 | Somalia | 17.4 |
| 194 | Eritrea | 16.0 |
| 195 | North Korea | 11.3 |

4. SUFFICIENT & ROBUST HEALTH SYSTEM TO TREAT THE SICK & PROTECT HEALTH WORKERS

| Rank | | Score |
|------|-----------------------|-------|
| 157 | Angola | 10.9 |
| 158 | Haiti | 10.6 |
| 159 | Grenada | 10.3 |
| 160 | Namibia | 10.1 |
| 161 | Jamaica | 10.0 |
| 161 | Togo | 10.0 |
| 163 | Belize | 9.7 |
| 163 | Eritrea | 9.7 |
| 163 | Timor-Leste | 9.7 |
| 166 | Comoros | 9.4 |
| 167 | Djibouti | 9.3 |
| 168 | Andorra | 9.2 |
| 168 | Samoa | 9.2 |
| 170 | Libya | 9.1 |
| 170 | Niue | 9.1 |
| 172 | Burundi | 8.9 |
| 173 | Barbados | 8.5 |
| 173 | Dominica | 8.5 |
| 175 | Tanzania | 8.2 |
| 176 | Guinea | 8.0 |
| 177 | Bahamas | 7.9 |
| 178 | Yemen | 7.6 |
| 179 | Fiji | 7.5 |
| 179 | Tonga | 7.5 |
| 181 | Antigua and Barbuda | 7.4 |
| 182 | Kiribati | 7.3 |
| 183 | Marshall Islands | 7.2 |
| 183 | São Tomé and Príncipe | 7.2 |
| 185 | St. Kitts and Nevis | 7.1 |
| 186 | Chad | 6.6 |
| 186 | Vanuatu | 6.6 |
| 188 | Eswatini (Swaziland) | 6.5 |
| 189 | Congo (Brazzaville) | 6.3 |
| 189 | St. Lucia | 6.3 |
| 191 | Benin | 5.6 |
| 191 | Burkina Faso | 5.6 |
| 193 | Equatorial Guinea | 5.0 |
| 194 | Guinea-Bissau | 4.6 |
| 195 | Somalia | 0.3 |

5. COMMITMENTS TO IMPROVING NATIONAL CAPACITY, FINANCING AND ADHERENCE TO NORMS

| Rank | | Score |
|------|-----------------------|-------|
| 157 | Djibouti | 36.3 |
| 157 | Mauritania | 36.3 |
| 157 | Micronesia | 36.3 |
| 160 | Azerbaijan | 36.2 |
| 161 | Monaco | 35.3 |
| 161 | Panama | 35.3 |
| 161 | Paraguay | 35.3 |
| 164 | Cabo Verde | 33.9 |
| 164 | Timor-Leste | 33.9 |
| 164 | Tonga | 33.9 |
| 167 | Equatorial Guinea | 33.5 |
| 167 | Nepal | 33.5 |
| 167 | São Tomé and Príncipe | 33.5 |
| 170 | Morocco | 32.7 |
| 170 | Qatar | 32.7 |
| 172 | South Sudan | 32.6 |
| 173 | Andorra | 32.4 |
| 174 | Kiribati | 32.3 |
| 175 | Nauru | 32.0 |
| 175 | Palau | 32.0 |
| 177 | Libya | 31.0 |
| 177 | Tunisia | 31.0 |
| 179 | Marshall Islands | 30.7 |
| 179 | Samoa | 30.7 |
| 181 | Cook Islands | 29.9 |
| 181 | Niue | 29.9 |
| 183 | Iraq | 29.5 |
| 184 | Algeria | 29.1 |
| 184 | Mauritius | 29.1 |
| 186 | Iran | 28.7 |
| 187 | Tuvalu | 28.6 |
| 188 | Somalia | 28.5 |
| 189 | Bahrain | 27.8 |
| 190 | Fiji | 27.4 |
| 191 | North Korea | 27.3 |
| 192 | Syria | 26.1 |
| 193 | Belarus | 25.8 |
| 194 | San Marino | 25.0 |
| 195 | Brunei | 23.3 |

6. OVERALL RISK ENVIRONMENT AND COUNTRY VULNERABILITY TO BIOLOGICAL THREATS

| Rank | | Score |
|------|-----------------------------|-------|
| 156 | Mauritania | 39.5 |
| 158 | Zimbabwe | 39.2 |
| 159 | Libya | 39.0 |
| 160 | Pakistan | 38.7 |
| 160 | Papua New Guinea | 38.7 |
| 162 | Cambodia | 38.5 |
| 163 | Mozambique | 38.4 |
| 164 | Myanmar | 38.2 |
| 164 | Tajikistan | 38.2 |
| 164 | Venezuela | 38.2 |
| 167 | Congo (Brazzaville) | 38.1 |
| 168 | Malawi | 37.6 |
| 168 | Togo | 37.6 |
| 170 | Liberia | 37.4 |
| 171 | Comoros | 36.5 |
| 172 | North Korea | 35.6 |
| 173 | Uganda | 35.5 |
| 174 | Nigeria | 33.7 |
| 175 | Cameroon | 33.6 |
| 175 | Ethiopia | 33.6 |
| 177 | Eritrea | 33.2 |
| 178 | Sudan | 33.0 |
| 179 | Sierra Leone | 32.8 |
| 180 | Madagascar | 32.4 |
| 181 | Mali | 32.1 |
| 182 | Guinea | 31.3 |
| 183 | Syria | 29.6 |
| 184 | Iraq | 29.2 |
| 185 | Haiti | 28.9 |
| 186 | Niger | 28.5 |
| 187 | Burundi | 28.3 |
| 188 | Guinea-Bissau | 24.1 |
| 189 | Chad | 23.7 |
| 190 | Yemen | 23.5 |
| 191 | Afghanistan | 23.3 |
| 192 | Central African Republic | 23.0 |
| 193 | South Sudan | 22.1 |
| 194 | Congo (Democratic Republic) | 20.1 |
| 195 | Somalia | 15.9 |

GHS INDEX RESULTS

All data are normalized to a scale of 0 to 100, where 100 = best health security conditions.

| | |
|--|----------------|
| | Most prepared |
| | More prepared |
| | Least prepared |



About the Global Health Security Index

Biological threats, whether naturally occurring, accidental, or deliberate, have the potential to kill millions, cost billions of dollars in economic losses, and create political and economic chaos and instability. Global travel, urbanization, advances in biotechnology, and terrorist and state interest in weapons of mass destruction magnify these risks, underscoring the urgent need to identify and fill gaps to measurably strengthen global health security capabilities.

The Global Health Security Index (GHS Index) is the first comprehensive benchmark of health security and related capabilities across 195 countries that make up the States Parties to the International Health Regulations (IHR 2005). The Nuclear Threat Initiative (NTI) and the Johns Hopkins Center for Health Security (JHU), working with The Economist Intelligence Unit (EIU), developed the GHS Index, which aims to set a high threshold for preparedness against epidemics that can lead to pandemics. NTI, JHU, and The EIU believe that, over time, the GHS Index will increase international capacity in health security to address one of the world's most omnipresent risks: infectious disease.

In gathering data for the GHS Index, the team, comprising nearly 110 researchers and reviewers, spent more than 15,000 hours over the course of one year exploring publicly available data via a rigorous and deliberate research methodology. Following data collection, the project team reviewed each score for accuracy, and the final data were calibrated to ensure consistency in scoring across countries.

The project team provided each country with an opportunity to validate its data. The team contacted officials at embassies in Washington, D.C., and missions at the United Nations (UN) in New York, providing them with the full set of scores for each of the 96 qualitative questions in the GHS Index. Government officials were asked specifically to consult with IHR focal points in reviewing the data. Sixteen countries provided feedback after reviewing their data.¹⁰

The GHS Index consists of the final data: (a) results and data sources for each question by country and (b) justifications for the score for each question. This report captures the data analysis performed by NTI, JHU, and The EIU against the full data set. The questions within the GHS Index prioritize epidemic and pandemic preparedness as a key component of international security and include elements regarding country context that could exacerbate epidemic or pandemic risks.

Knowing the risks and identifying the gaps, however, is not enough. Political will is needed to save lives and build a safer and more secure world. The GHS Index will help decision makers in individual countries, regional and international organizations, and philanthropies to more effectively identify and provide resources to fill capability gaps. Because measuring risk is difficult and states will not be held accountable without regular assessments, the GHS Index over time will measure progress against benchmarks, promote mutual accountability, encourage transparency, and spur incentives for improvements.

¹⁰ Of the 195 countries that were provided their scores for validation, 16 responded with additional data and references: Belgium, Canada, Finland, Italy, Kyrgyz Republic, Latvia, Liechtenstein, Lithuania, Peru, Philippines, Portugal, St. Kitts and Nevis, Sierra Leone, Slovenia, Spain, and Switzerland.

GHS INDEX THEORY OF CHANGE

The GHS Index seeks to spur decision makers to improve country preparedness for infectious disease outbreaks and high-consequence,¹¹ as well as globally catastrophic, biological events.¹²

Countries should understand where their own preparedness gaps lie and how prepared their neighbors are to gauge the likelihood that an outbreak could spread. At the same time, international organizations working to minimize the risk of epidemics and pandemics need to know where gaps in preparedness exist so they can target resources to help countries make improvements.

To identify these gaps, the GHS Index relied on open-source information—data that a country has published on its own or has reported to or been reported by an international entity which then made such data public. The GHS Index was predicated on data transparency out of a firm belief that all countries are safer and more secure if they understand each other's gaps in epidemic and pandemic preparedness so they can take concrete steps to finance and fill them. It is incumbent upon the health, financial, and security communities to leverage the capabilities of national, regional, and global public- and private-sector stakeholders to collectively—and openly—minimize gaps in data availability to build greater transparency.

The GHS Index also places a premium on the existence of functional systems to prevent, detect, and respond to infectious disease threats. Many questions in the GHS Index are designed to determine not only whether a capacity exists, but also whether that capacity is regularly tested and shown to be effective in planned exercises or real-world events. In addition, the GHS Index prioritizes national regulations and adherence to international norms, as well as the management of high-consequence biological threats, including accidental and deliberate releases of agents.

Finally, the Index prioritizes financing and serves as a tool for national governments, development banks, and philanthropic donors to more systematically prioritize resources to fill gaps most vital to preventing, detecting, and rapidly responding to biological events before they can spread or lead to cascading and destabilizing effects.

Gathering and displaying data on preparedness from countries around the world will lead to a sharper understanding of strengths and weaknesses, identification of funding needs, and increased political will for making necessary change.

¹¹ "High-consequence biological events" are defined here as infectious disease outbreaks that could overwhelm national or international capacity to manage them. For example, although international health security has improved following the 2014–2016 Ebola epidemic in West Africa, countries and international responders are not prepared to quell outbreaks that occur in violent or insecure settings; deliberate biological events that require close coordination and investigative links among security, health, and humanitarian actors; and fast-moving respiratory diseases with high mortality that could spread rapidly to become global pandemics.

¹² Global Catastrophic Biological Risks are biological risks of unprecedented scale that could cause severe damage to human civilization at a global level, potentially undermining its long-term potential. See Nick Alexopoulos, "Center for Health Security Publishes First Working Definition of Global Catastrophic Biological Risks," Johns Hopkins Center for Health Security, July 27, 2017, www.centerforhealthsecurity.org/about-the-center/newsroom/news_releases/2017-07-27_global-catastrophic-biological-risk-definition.html.

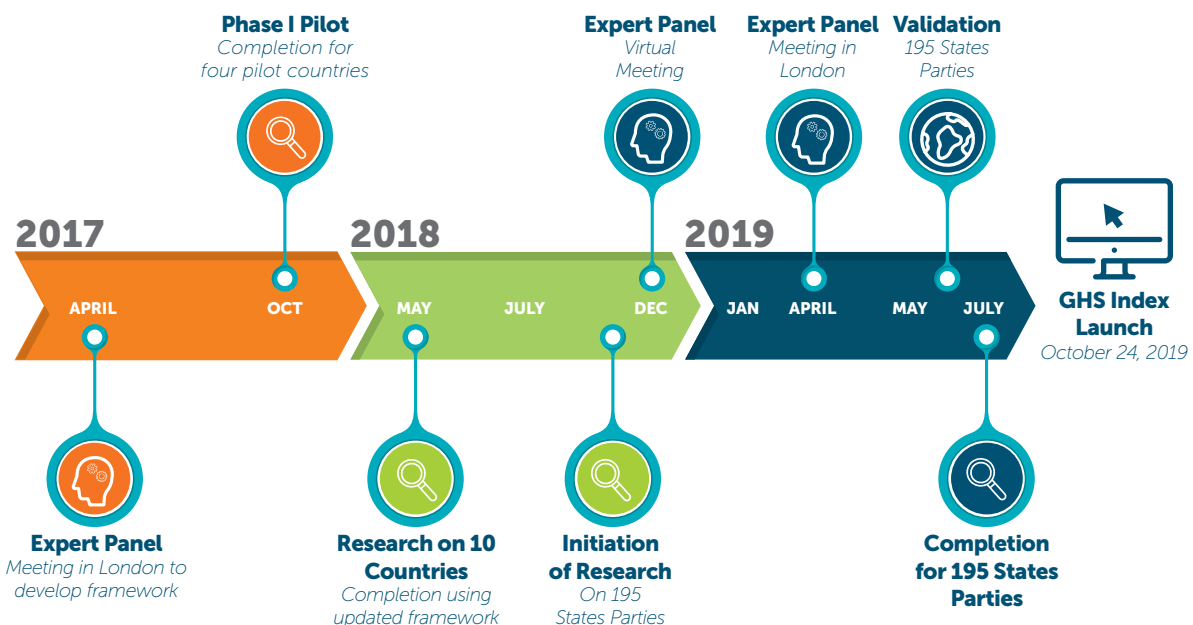
DEVELOPING THE GHS INDEX

The GHS Index has undergone a series of tests to ensure the rigor and credibility of the framework, availability of data, and reproducibility for the future. Most of the research for the GHS Index was conducted between August 2018 and May 2019, although data were updated as new information became available until July 22, 2019. Key steps over the two-and-half-year process to develop the Index included the following:

- A 20-person panel of experts from 13 countries was convened to shape underlying principles and help develop the GHS Index framework.
- A pilot project was undertaken by The EIU to test the availability of reliable data and provide feedback for the initial framework design.
- The pilot project was expanded to additional countries to assess the updated framework.
- Wherever possible, the framework employed binary, or dichotomous, indicators to minimize subjectivity in scoring among the researchers.
- The pilot project confirmed the availability of data in the GHS Index framework, and 110 EIU researchers and reviewers throughout the world initiated the year-long data collection and validation process.
- The expert panel was consulted at key points throughout the process.
- Following data collection, the project team conducted a quality control process, and the final data were calibrated to ensure consistency in scoring across countries.
- All countries were provided the opportunity to validate their data, through their embassies in Washington, D.C., or UN missions in New York. The project team provided each country with the scores for each of the 96 qualitative questions in the GHS Index. Sixteen countries provided feedback after reviewing their data.¹³

This careful research process allowed the project team to highlight and bring together for the first time in one place extensive publicly available data to assess global health security. The breadth of this research, the objective and transparent approach brought to the process, and the comprehensive view it offers sets the GHS Index apart from other health security assessments.

STEPS IN THE DEVELOPMENT OF THE GHS INDEX



¹³ Of the 195 countries that were provided their scores for validation, 16 responded with additional data and reference: Belgium, Canada, Finland, Italy, Kyrgyz Republic, Latvia, Liechtenstein, Lithuania, Peru, Philippines, Portugal, Saint Kitts and Nevis, Sierra Leone, Slovenia, Spain, and Switzerland.

UNDERLYING PRINCIPLES OF THE GHS INDEX

The following key underlying principles serve as the foundation for the GHS Index framework:

- **Capacities must be exercised to be effective in a crisis.** When it comes to global health security, possession of an untested capacity is not enough. To be truly prepared, a country should prove that it can marshal and effectively use capacities to prevent, detect, and respond to a high-consequence biological threat. Since the West Africa Ebola outbreak in 2014, countries have made progress in assessing health security gaps and have begun to build new capacities. However, the GHS Index results clearly show that few countries have exercised or tested these capacities in real-world events, which suggests there is a global lack of capabilities to stop outbreaks at the source.
- **Without a stable, peaceful society and access to healthcare, countries face an even greater challenge in stopping outbreaks at the source.** Global health security depends on the presence of a stable political, social, and economic environment; strong healthcare system; and robust health workforce. These underlying conditions have a major influence on a country's ability to prevent outbreaks from becoming epidemics. Health leaders face a world that is profoundly unprepared to effectively govern and coordinate a successful response to an epidemic, pandemic, or other risk.
- **Countries should get ahead of tomorrow's emerging biological risks even while addressing the risks of today.** There are serious risks associated with the coming advances in technology and the potential for accidents that could follow or its deliberate misuse. Preventing deliberate and accidental biological events has, unfortunately, remained a second-tier issue for both the global health and the international security sectors.
- **Global Catastrophic Biological Risks (GCBRs) should be urgently reduced.** GCBRs are biological risks of unprecedented scale that could cause damage to human civilization at a global scale, potentially undermining civilization's long-term potential. Left unchecked, pandemics can become GCBRs, leading to great suffering; loss of life; and sustained damage to national governments, international relationships, economies, societal stability, and global security. Global trends in technology, travel, trade, and terrorism are increasing the risk of a globally catastrophic biological event, but decision makers are not yet planning for the types of biological events—such as those that could be caused by novel or engineered biological agents—with the potential for lasting, population-wide damage. Similarly, GCBRs are not well-accounted for within current country-level assessments, including the World Health Organization (WHO) Joint External Evaluations (JEEs). See GCBRs sidebar on pages 42–43.
- **Transparency and trust are vital elements of pandemic preparedness.** Global health security is a shared responsibility—among countries, across sectors, and as a collective international security imperative. To achieve health security, countries should first and foremost understand their strengths and weaknesses—and those of their neighbors. Countries also must prioritize compliance with and adherence to international commitments and norms. Transparently shared, publicly available data are necessary to paint a comprehensive and reproducible picture of the global gaps in preparedness.



International Panel of Experts meeting, London, 2019. Center: Dr. Pretty Multihartina

THE FRAMEWORK

With these underlying principles in mind, the project team and panel of experts developed the framework, which includes 140 questions, organized across six categories, 34 indicators, and 85 subindicators. They were selected on the basis of project team analysis; a literature review; and input from the International Panel of Experts and additional expert advisors, practitioners, and scholars.

The framework consists of a series of qualitative and quantitative questions, the answers to which can be scored consistently and compared and assessed across countries. This reproducible methodology will allow the GHS Index to serve as a benchmark and measure improvements over time. Countries were assessed across the 140 questions, with scores aggregated at the subindicator, indicator,

category, and overall levels. The scale of the scoring is 0 to 100, where 100 = best. Aggregate scores are divided into three tiers, with countries scoring between 0 and 33.3 in the bottom tier (also called “low scores”), countries scoring between 33.4 and 66.6 in the middle tier (also called “moderate scores”), and countries scoring between 66.7 and 100 in the upper or “top” tier (also called “high scores”).

The categories and indicators included in the GHS Index assess country capability to prevent, detect, and respond to biological threats as well as factors that can hinder or enhance that capability. These factors include countries’ overarching national healthcare sectors, international commitments to norms and financing gaps, and political and economic risk factors. The following categories create the framework for the GHS Index and form a robust structure for research into gaps in health security.



1. PREVENTION: *Prevention of the emergence or release of pathogens*, including those constituting an extraordinary public health risk in keeping with the internationally recognized definition of a Public Health Emergency of International Concern.¹⁴ Indicators in this category assess antimicrobial resistance, zoonotic disease, biosecurity, biosafety, dual-use research and culture of responsible science, and immunization.



2. DETECTION AND REPORTING: *Early detection and reporting for epidemics of potential international concern*,¹⁵ which can spread beyond national or regional borders. Indicators in this category assess laboratory systems; real-time surveillance and reporting; epidemiology workforce; and data integration between the human, animal, and environmental health sectors.



3. RAPID RESPONSE: *Rapid response to and mitigation of the spread of an epidemic*. Indicators in this category assess emergency preparedness and response planning, exercising response plans, emergency response operation, linking public health and security authorities, risk communication, access to communications infrastructure, and trade and travel restrictions.



4. HEALTH SYSTEM: *Sufficient and robust health system to treat the sick and protect health workers*. Indicators in this category assess health capacity in clinics, hospitals, and community care centers; medical countermeasures and personnel deployment; healthcare access; communications with healthcare workers during a public health emergency; infection control practices and availability of equipment; and capacity to test and approve new countermeasures.



5. COMPLIANCE WITH INTERNATIONAL NORMS: *Commitments to improving national capacity, financing plans to address gaps, and adhering to global norms*. Indicators in this category assess IHR reporting compliance and disaster risk reduction; cross-border agreements on public health emergency response; international commitments; completion and publication of WHO JEE and the World Organisation for Animal Health (OIE) Performance of Veterinary Services (PVS) Pathway assessments; financing; and commitment to sharing of genetic and biological data and specimens.



6. RISK ENVIRONMENT: *Overall risk environment and country vulnerability to biological threats*. Indicators in this category assess political and security risk; socioeconomic resilience; infrastructure adequacy; environmental risks; and public health vulnerabilities that may affect the ability of a country to prevent, detect, or respond to an epidemic or pandemic and increase the likelihood that disease outbreaks will spill across national borders.

Complete information including indicators, subindicators, scores for each question, justifications for those scores, and the publicly available sources for those justifications are available in the GHS methodology on page 61 and on the website at www.ghsindex.org.

¹⁴ World Health Organization, "IHR Procedures Concerning Public Health Emergencies of International Concern (PHEIC)," www.who.int/ihr/procedures/pheic/en/.

¹⁵ *Ibid.*

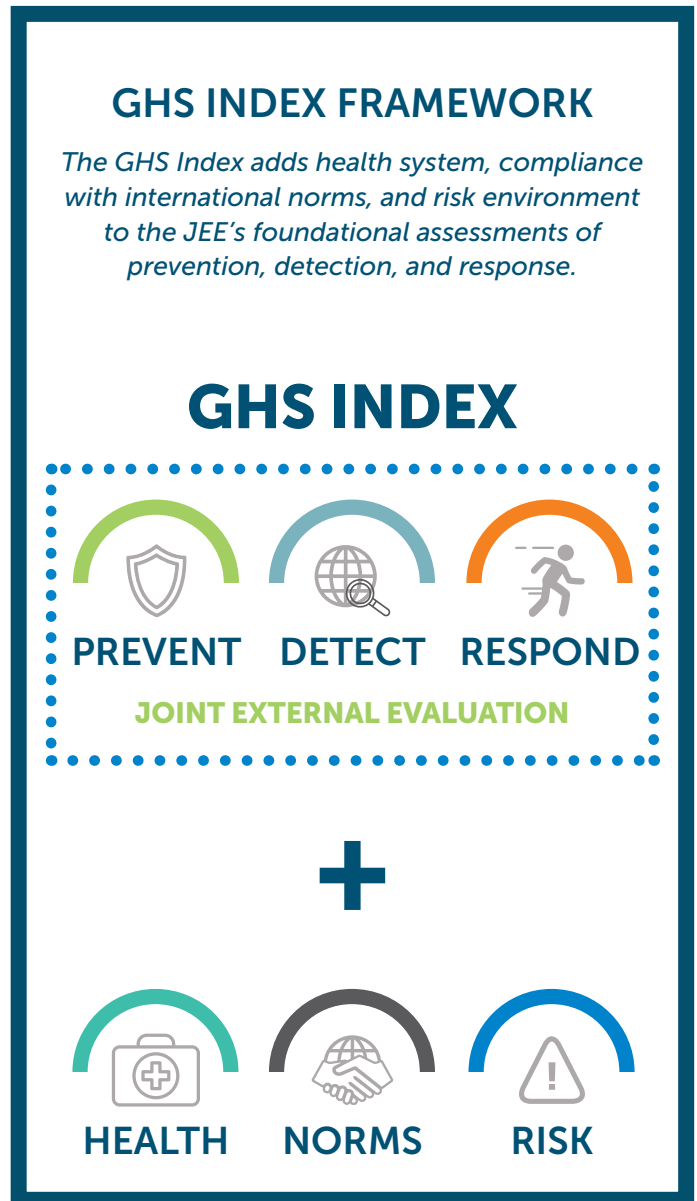
OUR APPROACH

Other valuable measures exist for assessing global health security, including the voluntary WHO JEE, the IHR State Party Self-Assessment Annual Reporting Tool, and the OIE PVS Pathway. Other tools that rely on consolidated international data sources are also available. The GHS Index complements and builds upon these existing tools by adding and integrating detailed information that allows for deeper assessments of country-level biosecurity and healthcare system capacities. In the GHS Index, this approach highlights the level at which a country is performing against specific indicators and sets a higher threshold to encourage progress toward alignment with international norms. The GHS framework also prioritizes analysis of health security capacity in the context of a country's broader national health system and other national risk factors, such as political, socioeconomic, and environmental risk factors, which may affect the emergence and spread of epidemics or pandemics.

The GHS Index framework is the first comprehensive assessment tool that evaluates national health security capacities and capabilities for 195 countries (see GHS Index Framework). The GHS Index considers countries' capacities to prevent, detect, and respond to public health emergencies, which are the focus of other national evaluation efforts. It also assesses the robustness of the broader healthcare system in each assessed country. In addition, the Index considers national political and socioeconomic risks, as well as adherence to international norms, which can influence countries' abilities to stop outbreaks.

The GHS Index compiles data on each of the 195 countries that are States Parties to the IHR (2005). The Index framework includes information available through the voluntary JEE process, as well additional questions and three more categories. By collecting data on nearly every country, the GHS Index markedly increases transparency about health security strengths and gaps around the world.

A regularly released GHS Index will provide additional impetus and political will for resources to fill identified gaps and, therefore, bolster the JEE process. To date, only approximately half of the IHR States Parties have conducted a JEE. By including, as a scoring element, countries' commitments to undergo and publish a JEE, the GHS Index seeks to provide increased global support for this important external evaluation process.



FEATURES OF THE GHS INDEX

The GHS Index framework includes indicators that help show preparedness for high-consequence biological events and their cascading effects, including global catastrophic risks. Throughout the categories on prevention, detection, and response, specific questions in the Index are designed to gather details regarding whether a country regularly exercises or has recently used specific capacities. Additional GHS Index features follow:

- **The GHS Index rewards country transparency.** The Index stands on the belief that no country is prepared unless those who would be called to respond in an infectious disease event have knowledge of that country's existing health security capacities, plans, and capabilities. Countries that publicly describe or display information on their capacities and capabilities receive higher scores than those that are not transparent. The GHS Index methodology relies entirely on publicly available sources for data collection.¹⁶ This research approach has two key benefits: (a) it reduces the reporting burden for countries by placing the full responsibility for data collection on the researchers, and (b) it creates a transparent and repeatable methodology, which can be vetted and understood by the global community.
- **The GHS Index shows its sources and provides justifications for all to examine and use.** The GHS Index publishes justifications and sources for each question it scores, adding to the literature and the understanding of national health security for each of the 195 assessed countries.
- **The GHS Index allows for regular tracking over time.** The 2019 edition of the GHS Index offers a baseline assessment of health security capacities and capabilities around the globe. This approach will allow countries to track their own progress in the future and provides a means of holding countries accountable for improvements.

¹⁶ See the GHS Index methodology on page 61.

Key Findings and Recommendations

Overall Finding

National health security is fundamentally weak around the world. No country is fully prepared for epidemics or pandemics, and every country has important gaps to address.

The GHS Index finds that no country is fully prepared for epidemics or pandemics and all countries have gaps to address. Collectively, international preparedness is quite weak. The average overall GHS Index score among all 195 countries assessed is 40.2 of a possible score of 100. Among the 60 high-income countries, the average GHS Index score is 51.9. Additionally, 116 high- and middle-income countries do not score above 50.

Broken down by category, fewer than 7% of countries scored in the highest tier¹⁷ for the ability to prevent the emergence or release of pathogens. Only 19% of countries scored in the highest tier for the ability to quickly detect and report epidemics of potential international concern, and fewer than 5% of countries scored in the top tier for their ability to rapidly respond to and mitigate the spread of an epidemic.

The GHS Index also analyzes a series of important factors that may be associated with country capability to curb outbreaks, such as the quality of a country's broader health system, political and socioeconomic risk factors, and adherence to international norms and commitments.

Most countries (67%) score in the bottom tier for health system indicators, including indicators related to healthcare workforce, access to healthcare, availability of equipment for healthcare workers, and capability to treat the sick. The average GHS Index score for the health systems category is 26.4. Similarly, only 23% of countries score in the top tier for indicators related to their political system and government effectiveness, which can have a major impact on national capability to address biological threats. Many countries are also lacking in their ability to adhere to important international norms and commitments related to biological threats—less than half of countries in the GHS Index have submitted Confidence-Building Measures under the Biological Weapons Convention (BWC) in the past three years.

¹⁷ See page 35 for a description of the GHS Index scoring system.

Although every country has a responsibility to understand, track, improve, and sustain national health security, new and increased global biological risks may require approaches that are beyond the control of individual governments and will necessitate international action. Health security is not solely the responsibility of national governments; international organizations, non-governmental global health and international security leaders, philanthropies, and private-sector partners share the responsibility to understand and act to fill these major health security gaps. Most WHO regions¹⁸ include at least some countries with overall scores below 25 of 100, and some WHO regions show major fluctuations in scores within that specific region. The Index finds, on the basis of public information, that only 11% of countries have in place specific ways to engage the private sector to assist with outbreak emergency preparedness and response.

It is also important to emphasize that national preparedness efforts are not strictly determined by a country's GDP per head, a widely used measure of national wealth. A number of middle- and low-income countries show GHS Index scores that are higher than those for some high-income countries. Thailand is an example—the only non-high-income country in the top tier for overall score.

Whereas many of the recommendations contained in this report are intended for national leaders, some recommendations are aimed at decision makers within the UN system, international organizations, donor governments, philanthropies, and the private sector. These recommendations are made with the understanding that health security is a collective responsibility and a robust international health security architecture is required to support countries at increased risk. These aspects of health security are especially important in the case of fast spreading, deliberately caused, or otherwise unusual outbreaks that could rapidly overwhelm the capability of national governments and international responders.

Recommendations

- National governments should commit to take action to address health security risks. Leaders should closely coordinate and track in-country health security investments with an emphasis on coordinating them with improvements to routine public health and healthcare systems.
- Health security capacity in every country should be transparent and regularly measured. The results of those external evaluations and self-assessments should be published at least once every two years.
- National and international health, security, and humanitarian leaders should improve coordination among sectors, including operational links between security and public health authorities, in response to high-consequence biological events, deliberate attacks, and events occurring in insecure environments. They also should work to reduce political and socioeconomic risk factors that can impede outbreak response, including in conflict zones.
- New financing mechanisms to fill epidemic and pandemic preparedness gaps are urgently needed and should be established. These could include a new multilateral global health security financing mechanism, such as a global health security matching fund; expansion of the availability of the World Bank International Development Association (IDA) allocations to allow for preparedness financing; and/or development of other new ways—including through existing donor and multilateral financing programs for global health and disaster preparedness and response—to expand resources to incentivize countries to prioritize preparedness funding.

¹⁸ WHO Member States are grouped into six WHO regions: African Region (AFRO), Region of the Americas (AMRO), South-East Asia Region (SEARO), European Region (EURO), Eastern Mediterranean Region (EMRO), and Western Pacific Region (WPRO). WHO, "Definition of Regional Groupings," 2019, www.who.int/healthinfo/global_burden_disease/definition_regions/en/.

- The Office of the UN Secretary-General, working in concert with the WHO, the UN Office for the Coordination of Humanitarian Affairs, and the UN Office for Disarmament Affairs, should designate a permanent facilitator or unit for high-consequence biological events that could overwhelm the capacities of the current international epidemic response architecture, resulting in mass casualties. This function would not be operational in nature, but rather the facilitator or unit would convene the public health, security, and humanitarian sectors before and during crises to identify and fill gaps in global preparedness specific to rapidly spreading events with the potential for great loss of life.¹⁹ The person or unit with this responsibility would also spur simulation exercises in concert with the UN Operations and Crisis Centre to promote unity of effort across public health, humanitarian, and security-led responses.
- Countries should test their health security capacities and publish after-action reviews, at least annually. By holding annual simulation exercises, countries will show commitment to a functioning system. By publishing after-action reviews, countries can transparently demonstrate that their response capabilities will function in a crisis and can identify areas for improvement.
- National governments and donors should take into account countries' risk factors for significant disease outbreaks when making resources available to support health security capacity development. Countries with low scores related to risk environment should be identified as priority areas for capacity development and should receive prompt international assistance when infectious disease emergencies occur within their borders.
- Given the enormous national need, the UN Secretary-General should call a heads-of-state-level summit on biological threats by 2021 that is focused on creating sustainable health security financing and new international emergency response capabilities.

¹⁹ In February 2019, NTI, the Georgetown University Center for Global Health Science and Security, and the Center for Global Development convened a senior leaders' tabletop exercise in advance of the Munich Security Conference to determine gaps in the international system for responding to deliberate biological events. For the report containing findings and recommendations from this event, see Elizabeth Cameron et al., "Lessons and Recommendations for Responding to a Deliberate Biological Event," Nuclear Threat Initiative paper, June 2019, www.nti.org/analysis/reports/spreading-plague-lessons-and-recommendations-responding-deliberate-biological-event/.

Global Catastrophic Biological Risks: Index Finds Weak Global Capacity

Global Catastrophic Biological Risks (GCBRs), a term of art for those who study and work to prevent worst-case scenarios, are biological risks of unprecedented scale that could cause such significant damage to human civilization that they undermine its long-term potential. Left unchecked, high-consequence biological events can become GCBRs, leading to enormous suffering; loss of life; and sustained damage to national governments, international relationships, economies, societal stability, and global security.^a

Global trends in technology, travel, trade, and terrorism are increasing the risk of a globally catastrophic biological event, but decision makers are not yet planning for the types of events—such as those that could be caused by novel or engineered biological agents—with the potential for lasting, population-wide damage.

The Global Health Security (GHS) Index includes a focus on GCBRs, including 21 subindicators that are particularly relevant to national capacity to prevent, detect, and respond to GCBRs.

The GHS Index finds that national capacity in the areas most relevant to preventing, detecting, and responding to global catastrophic risks is generally weak. At least 75% of countries receive a low score in biosecurity, oversight for dual-use research, emergency response operations, linking of public health and security authorities, and medical countermeasure dispensing.

The subindicators in the GHS Index that are particularly relevant for preventing and responding to GCBRs are outlined in Table A1, along with a summary of country scores in each of these areas.

An analysis of the GCBR-relevant indicators reveals the following trends:

- National-level capacity in the areas most relevant to reducing GCBRs is generally weak. For most of these GCBR-relevant subindicators, fewer than one-third of countries receive a high score.
- The weakest GCBR-relevant areas, where at least 75% of countries receive a low score, are biosecurity, capacity to conduct effective oversight over dual-use research, emergency response operations, linking public health and security authorities, and medical countermeasure dispensing. The weakest GCBR-relevant area is oversight of dual-use research, for which 95% of countries receive a zero score.
- Additional weak areas, where at least 50% of countries receive a low score, are biosafety, the existence of an interoperable electronic real-time reporting system, national emergency preparedness and response planning, risk communication, and the ability to acquire medical countermeasures.
- The GCBR-relevant areas where national capacity is relatively strong are participation in international agreements and emergency response financing. More than 60% of countries receive a moderate or high score for these two subindicators.
- At the same time, submission of Confidence-Building Measures (CBMs), required by the Biological Weapons Convention (BWC) is a weak point. Most countries (54%) have not submitted a CBM in the past three years. This is important for reduction of GCBRs because transparency is a potentially effective means of reducing suspicion and miscalculation in relation to compliance with the BWC.

Although the indicators highlighted in this section are important for preventing and mitigating GCBR-level events, they are not sufficient. This is due in part to the fact that the global health security community is still developing proposed actions and capabilities that will be needed to meaningfully reduce such profound risks, as well as effective ways to measure those actions and capabilities. A whole range of foundational capacities are also necessary for preventing, detecting, and responding to even small epidemics, and these would also be crucial for GCBR-scale events.

| INDICATORS | BRIEF DESCRIPTION | COUNTRIES WITH A LOW SCORE | COUNTRIES WITH A MEDIUM SCORE | COUNTRIES WITH A HIGH SCORE |
|-------------|--|----------------------------|-------------------------------|-----------------------------|
| 1.3.1–1.3.5 | Biosecurity | 81% | 15% | 4% |
| 1.4.1–1.4.2 | Biosafety | 66% | 24% | 10% |
| 1.5.1–1.5.2 | Dual-use research and culture of responsible science | 99% | 1% | – |
| 2.2.2 | Interoperable, interconnected, electronic real-time reporting systems | 68% | – | 32% |
| 3.1.1 | National public health emergency preparedness and response plan | 70% | 19% | 11% |
| 3.3.1 | Emergency response operation | 95% | – | 5% |
| 3.4.1 | Linking public health and security authorities | 77% | – | 23% |
| 3.5.1–3.5.2 | Risk communication | 62% | 6% | 33% |
| 4.2.1 | Capacity to acquire medical countermeasures | 50% | – | 50% |
| 4.2.2 | System for dispensing medical countermeasures during a public health emergency | 89% | – | 11% |
| 4.6.1–4.6.2 | Capacity to test and approve new medical countermeasures | 41% | 35% | 24% |
| 5.3.1 | Participation in international agreements | 11% | 42% | 47% |
| 5.5.2 | Financing for emergency response | 39% | – | 61% |

Note: Where percentages are not shown, the questions asked for each of these subindicators showed only a binary answer and therefore no medium scores were calculated, or no value high score was achieved.

^a Nick Alexopoulos, "Center for Health Security Publishes First Working Definition of Global Catastrophic Biological Risks," Johns Hopkins Center for Health Security, July 27, 2017, www.centerforhealthsecurity.org/about-the-center/newsroom/news_releases/2017-07-27_global-catastrophic-biological-risk-definition.html.

FINDING

Countries are not prepared for a globally catastrophic biological event, including those that could be caused by the international spread of a new or emerging pathogen or by the deliberate or accidental release of a dangerous or engineered agent or organism. Biosecurity and biosafety are under-prioritized areas of health security, and the connections between health and security-sector actors for outbreak response are weak.

Global preparedness for catastrophic biological threats is poor, and biosecurity and biosafety remain significantly under-prioritized areas of health security. Decision makers are not yet planning for the types of high-consequence biological events that have the potential for lasting, population-wide damage, including those that could be caused by the emergence and global spread of a novel or engineered biological agent.

The GHS Index finds that national capacity in the measured areas most relevant to preventing and responding to global catastrophic risks is generally weak. At least 75% of countries receive a low score for biosecurity, effective oversight for dual-use research, emergency response operations, linking public health and security authorities, and medical countermeasure dispensing. Additionally, most countries do not demonstrate the practice of linking public health and security authorities or show the existence of an interoperable electronic real-time reporting system.

In other assessments, including the WHO JEE, biosecurity and biosafety indicators are often reviewed together, resulting in potential confusion over specific needs in each area. The GHS Index emphasizes the need for explicit biosecurity and biosafety practices that meaningfully reduce the risks of accidental release and deliberate misuse.

Why it matters

High-consequence biological events have the potential to overwhelm national and international public health and humanitarian assistance systems, and they can cause national and regional instability, global economic damage, and widespread morbidity and mortality, thereby requiring additional attention and resources from regional and global leaders for successful containment. A Global Catastrophic Biological Risk (GCBR) is a type of high-consequence biological event characterized by an unprecedented scale that could cause severe damage to human civilization, potentially undermining civilization's long-term potential. GCBRs have been defined as follows:

Those events in which biological agents—whether naturally emerging or reemerging, deliberately created and released, or laboratory engineered and escaped—could lead to sudden, extraordinary, widespread disaster beyond the collective capability of national and international governments and the private sector to control. If unchecked, GCBRs would lead to great suffering, loss of life, and sustained damage to national governments, international relationships, economies, societal stability, or global security.²⁰

The GHS Index prioritizes national capacity to reduce the risk of biological events that have the potential to cause catastrophic damage on a global scale and lasting, population-wide harm. For example, the GHS Index

²⁰ Monica Schoch-Spana et al., "Global Catastrophic Biological Risks: Toward a Working Definition," *Health Security* 15, no. 4 (2017): 323–28, <https://www.liebertpub.com/doi/full/10.1089/hs.2017.0038>.

includes indicators related to prevention, detection, and response to biological events caused by the deliberate or accidental release of disease agents with enhanced virulence or transmissibility, diseases for which no current countermeasures exist, and those that can evade detection or treatment.

It is important that all countries, even those with limited capacity, prepare for high-consequence biological events because—if such an event were to occur—there would likely be limited international resources available to assist individual countries. Infectious disease events that affect a large part of the world are likely to disproportionately affect the countries that are least prepared. Donor countries and international responders facing a biological crisis at home may repurpose assets that are usually slated for assisting others.

The GHS Index also prioritizes capabilities that can reduce the potential risk of accidental or deliberate release of engineered agents. Although advances in genomics, synthetic biology, and microbiology are essential to achieving a safer, healthier, and more secure society, it is now possible for a broader array of actors to engineer biological agents and synthesize them from scratch in the laboratory. These scientific advances are outpacing the ability of national governments to provide effective oversight, which has left the technical community in many countries to govern itself, creating an inconsistent system of biosafety and biosecurity practices across institutions, countries, and regions. Although many assessed countries have likely not undertaken dual-use research with especially dangerous pathogens or pathogens that have pandemic potential, it is nonetheless important for countries to have systems in place to identify and mitigate the risks associated with such work should this work be proposed. Additionally, although many countries do not currently house companies that produce made-to-order deoxyribonucleic acid (DNA), the future potential for distributed, benchtop DNA synthesis makes it important for governments to attend to this risk.

The data

- 81% of countries score in the bottom tier for indicators related to deliberate risks (biosecurity), and 66% score in the bottom tier for indicators related to accidental risks (biosafety).
- National capacity in the measured areas most relevant to GCBR reduction is generally weak. At least 75% of countries receive a low score in biosecurity, capacity to conduct effective oversight over dual-use research, emergency response operations, linking public health and security authorities, and medical countermeasure dispensing.
- Fewer than 5% of countries provide oversight for dual-use research, including research with especially dangerous pathogens, toxins, and pathogens with pandemic potential.
- No countries have legislation or regulations in place that require companies to screen DNA synthesis orders to prevent the building blocks of dangerous pathogens from falling into the hands of malicious actors.
- 92% of countries do not show evidence of requiring security checks for personnel with access to dangerous biological materials or toxins, increasing the potential for insider threats.
- Only 16 countries show evidence of having in place an updated (in the past five years) record and inventory management system of facilities storing or processing dangerous pathogens and toxins.
- Only 2.5% of countries demonstrated that they have taken action to minimize the number of facilities housing especially dangerous pathogens.

- Fewer than 5% of countries score in the top tier for functional emergency response operations capability.
- 77% of countries received a low score for linking public health and security authorities.
- 72% of countries do not have available national regulations on the safe and secure transport of Category A and B²¹ infectious substances.
- Only 11% of countries have a plan in place for dispensing medical countermeasures during a public health emergency.
- Only 32% of countries received a high score for indicators related to the existence of an interoperable electronic real-time reporting system.

Recommendations

- Governments and international organizations should develop the capabilities required to prevent, detect, and respond to fast-moving pandemic threats, including risks stemming from engineered or newly emerging biological agents that are highly transmissible, virulent, and/or resistant to medical countermeasures.
- National governments should include specific, measurable biosecurity and biosafety benchmarks in all national health security strategies and track progress on an annual basis.
- A dedicated international normative body should be developed—either within an existing international organization or as a new entity—to promote the early identification and reduction of biological risks associated with advances in technology and to establish and share best-practice guidance related to dual-use research in the life sciences.
- Governments, philanthropies, and technology funders should invest a percentage of their sustainable development and global health security portfolios in research, development, and capacity building aimed at preventing epidemics and pandemics from causing catastrophic damage on a global scale. This approach should include investing in areas where the GHS Index shows weakness in countries' ability to prevent, detect, or respond to global catastrophic risks: biosecurity, effective oversight of dual-use research, emergency response operations, operational links between public health and security authorities, and medical countermeasure dispensing.
- Research funders, philanthropies, academic institutions, and technology investors should provide incentives to identify and reduce biological risks associated with advances in technology and should invest in technical innovations that can improve biosecurity.
- National leaders; UN officials; and international health, security, and law enforcement organizations should prioritize the development of operational links between security and public health authorities for biological crises. Countries should establish specific guidance and memoranda of understanding for linking security organizations, including law enforcement officials, to public health and veterinary agencies in the event of a suspected deliberate biological event.
- Countries and international organizations should prioritize the development of national biosurveillance capabilities and a global biosurveillance architecture that is capable of rapidly detecting emerging unknown, unusual, and/or engineered agents.

For a more thorough discussion of Global Catastrophic Biological Risks and how they are measured in the GHS Index, see page 42.

²¹ For Category A and B Infectious Substances, as defined by the World Health Organization and the International Air Transport Association, see World Health Organization, "Guidance on Regulations for the Transport of Infectious Substances 2015–2016," 2015, apps.who.int/iris/bitstream/handle/10665/149288/WHO_HSE_GCR_2015.2_eng.pdf?jsessionid=6E0D65FCB8941AEAA8B30B80FEBCA32D?sequence=1; International Air Transport Association, *Dangerous Goods Regulations, Section 3.6.2, Division 6.2, Infectious Substances*, 58th ed., January 2017, www.iata.org/whatwedo/cargo/dgr/Documents/infectious-substance-classification-DGR56-en.pdf.

FINDING

There is little evidence that most countries have tested important health security capacities or shown that they would be functional in a crisis.

The GHS Index demonstrates a lack of publicly available information about the operational readiness of existing health security systems. The majority of countries show no indication that key health security capacities have been—or are required to be—tested or that they are ready to become operational in a crisis. Tabletop simulations, functional exercises, and after-action reviews are vital components of epidemic and pandemic preparedness, but most countries do not have a requirement to test national public health emergency operations capability on an annual basis, calling into question whether such systems would be ready for immediate use in a crisis. In addition, health security systems must operate on a national scale and be ready for deployment wherever an outbreak strikes.

Most health security assessments, such as the WHO JEE, measure the existence of capacities on paper or rely on expert understanding of the current state of system readiness and may therefore overestimate a country's level of readiness. The WHO IHR Monitoring and Evaluation Framework recommends simulation exercises to regularly test health security capabilities, although a separate analysis recently conducted by the WHO concluded that awareness of the benefits of simulation exercises and after-action reviews for evaluating and strengthening IHR capacities needs to be increased.²² The GHS Index affirms this finding.

Why it matters

The GHS Index prioritizes the existence of real-world and turnkey capability to prevent, detect, and respond to outbreaks. This approach goes beyond plans. It means

a country regularly exercises its emergency operations plans and centers, has established a risk communication infrastructure, conducts ongoing or real-time analysis of disease data, and has access to a trained public health workforce for rapid response.

The data

- 85% of countries show no evidence of having completed a biological threat–focused IHR simulation exercise with the WHO in the past year.
- Whereas 66% of countries demonstrate the existence of an emergency operations center with public health functions, fewer than 5% of countries publicly demonstrate or show a requirement to test their emergency operations center at least once per year.
- Fewer than 1% of countries show evidence that their emergency operations center has conducted, within the past year, a coordinated emergency response or emergency response exercise activated within 120 minutes²³ of the identification of the public health emergency/scenario.
- 77% of all countries do not demonstrate a capability to collect ongoing or real-time laboratory data.
- Only 24% of countries scored positively for the existence of a nationwide specimen transport system.

²² World Health Organization, "Simulation Exercise and After-Action Review Analysis Shows Need to Increase Awareness of Benefits," 2019, extranet.who.int/sph/news/simulation-exercise-after-action-review-analysis-shows-need-increase-awareness-benefits.

²³ The period of 120 minutes is the WHO target outlined within "WHO Benchmarks for International Health Regulations (IHR) Capacities," February 2019, apps.who.int/iris/bitstream/handle/10665/311158/9789241515429-eng.pdf?sequence=1.

- Although 50% of countries demonstrate a level of access to medical countermeasures during a public health emergency, 89% of countries did not publicly demonstrate a system for dispensing them.
- Whereas 80% of countries have some access to an applied epidemiology training program, such as a Field Epidemiology Training Program, only 19% of countries could publicly demonstrate at least one trained field epidemiologist per 200,000 people—decreasing the likelihood of a rapid, turnkey public health response.

FINDING

Most countries have not allocated funding from national budgets to fill identified preparedness gaps.

Health security preparedness financing has been ad hoc and difficult to track. It is estimated to be low in many countries,²⁴ likely representing only a small fraction of the global budget for international health, defense, and peace-and-security spending.

Although the GHS Index finds that 86% of countries show evidence of investing local or donor resources to improve health security, almost no countries have tied national budgetary resources to health security gap assessments and action plans (WHO JEE or OIE PVS). Additionally, only 10% of countries show evidence of senior leaders' public commitment to provide financing for epidemic threats at home or abroad.

These findings underscore the need to improve tracking for health security preparedness financing, costing for national action plans for health security, and national budget allocations for specific planning benchmarks so that progress can be measured over time.

²⁴ Center for Strategic and International Studies (CSIS), "Harnessing Multilateral Financing for Health Security Preparedness," CSIS Briefs, April 2019, www.csis.org/analysis/harnessing-multilateral-financing-health-security-preparedness.

²⁵ *Ibid.*

Recommendations

- Countries should test their health security capacities and publish after-action reviews, at least annually. By holding annual simulation exercises, countries will show commitment to a functioning system. By publishing after-action reviews, countries can transparently demonstrate that their response capabilities will function in a crisis and can identify areas for improvement.
- Health security financing, evaluations, and planning should prioritize functional capability and regular exercises.

Why it matters

There is a significant mismatch between health security financing and the consequences of a pandemic or severe epidemic that would threaten global stability and result in extreme economic loss.²⁵ Proper financing means prioritizing the allocation of funds to address specific gaps identified in JEEs and resulting National Action Plans for Health Security (NAPHS). The readiness and responsiveness of a health system is related to the ability of countries to measure improvements in capacity, which, in turn, is related to the availability of financial resources to fill gaps and maintain health security capabilities over time.

Unfortunately, there is a lack of overall senior leaders' commitment to providing health security financing, as well as a lack of a systematic and sustainable approach toward that financing. The GHS Index provides an objective platform to stimulate discussions about priorities and funding and creates accountability for new and continued investment.

Small Island Nations Need Special Support and Resources

When a Zika virus outbreak initially isolated in Uganda's Zika Forest unexpectedly emerged across several Pacific island states in 2007, Yap Island was hit particularly hard. More than 70% of those living on the tiny Micronesia island—5,000 people—were infected. Several years later, a Zika outbreak in French Polynesia from 2013 to 2014 resulted in 30,000 infections before spreading to seven additional island states in the region.^a

The GHS Index underscores the tenet that no country is prepared unless all are prepared, but small island nations face unique challenges in preventing, detecting, and responding to infectious diseases. Public health spending as a percentage of overall government spending is typically low; healthcare infrastructure and technologies are frequently lacking; and health workforce capacities remain limited, despite a rapidly increasing need for resources due to growing populations, large burdens of both communicable and non-communicable diseases, and increasing vulnerability to severe weather and other consequences of climate change.^b

GHS Index findings highlight the vulnerability: apart from Iceland and Cyprus, every island country with a population below one million people scores well below the GHS Index global average. For the 40 Small Island Developing States (SIDS)^c included in the Index, the average overall score is 28.9. Of the SIDS, only Singapore scores above the global average of 40.2.

Developing workable solutions is challenging. Small island states tend to have smaller populations, with less specialized bureaucratic and health structures. Although many have formal or informal relationships with larger countries and agreements to share supplies, send samples for complex testing, and fulfill other critical needs, long distances between island countries and their neighbors make such arrangements difficult to effectively maintain.

Furthermore, in a pandemic, demand for resources likely would exceed available surge capacity, making it even more difficult for small nations to procure needed drugs, vaccines, therapeutics, or other resources. Larger countries might opt to first focus on meeting national rather than regional or global demands for health services and medical countermeasures—a phenomenon observed during the 2009 H1N1 influenza pandemic.^d

This is why the GHS Index takes a nation-by-nation look at the availability of resources. Although it may make sense for countries to form agreements and share resources, examining the potential limitations of this approach is also important. Countries should know that such agreements may not be operationally feasible during large public health emergencies.

^a World Health Organization, "One Year into the Zika Outbreak: How an Obscure Disease Became a Global Health Emergency," www.who.int/emergencies/zika-virus/articles/one-year-outbreak/en/index1.html.

^b World Health Organization, "Small Island Developing States: Health and WHO," Country Presence Profile no. WHO/CCU/17.08, 2017, apps.who.int/iris/bitstream/handle/10665/255804/WHO-CCU-17.08-eng.pdf?sequence=1; Eva Jarawan and Carmen Carpio, "Health Challenges in the Small Island Developing Countries of the Pacific and the Caribbean," PowerPoint presentation, www.worldbank.org/content/dam/Worldbank/Health%20challenges%20in%20SIDS%20of%20pacific%20and%20caribbean.pdf; Tedros Adhanom Ghebreyesus and Patricia Espinosa, "Health, Climate and Small Island States," Bulletin of the World Health Organization 96, no. 2 (2018): 77–144, www.who.int/bulletin/volumes/96/2/17-206474/en/.

^c The Small Island Developing States group includes 38 UN members and 20 non-UN members and associate members. For a full list, see United Nations, Sustainable Development Goals Knowledge Platform, <https://sustainabledevelopment.un.org/topics/sids/list>.

^d The National Academies, The Domestic and International Impacts of the 2009-H1N1 Influenza A Pandemic: Global Challenges, Global Solutions—Workshop Summary (Washington, D.C.: National Academies Press, 2010), www.ncbi.nlm.nih.gov/books/NBK52789/; David Fidler, "Negotiating Equitable Access to Influenza Vaccines: Global Health Diplomacy and the Controversies Surrounding Avian Influenza H5N1 and Pandemic Influenza H1N1," PLoS Medicine 7, no. 5 (2010): e1000247, <https://journals.plos.org/plosmedicine/article?id=10.1371/journal.pmed.1000247>.

Political will for health security preparedness financing is low. In 2017, the International Working Group on Financing Preparedness suggested that improved preparedness might cost less than \$1 per person per year in a number of middle- and low-income countries.²⁶ Achieving this goal will require not only political will and financial investment, but also rigorous tracking and budgeting against specific benchmarks for improvement.

The data

- Only 5% of countries score in the top tier for financing. These include a mixture of high- and middle-income countries (e.g., Denmark, Finland, Indonesia, Sweden, the United Kingdom, the United States) and low-income countries (Cambodia, Liberia, Sierra Leone).
- Although most countries have invested some financing in improving health security capacities—either at home or abroad—only one country, Liberia, has published a description of specific funding from its national budget to fill gaps identified within the WHO JEE, OIE PVS, or NAPHS.
- Only 10% of countries have shown evidence of senior leaders' commitment, for example, at the ministerial level, to improve local or global health security capacity.

Recommendations

- Health security preparedness financing should be treated as a top priority for global health and international defense, peace, and security. It should be tracked by a specific, globally recognized entity and briefed annually to heads of state. This could be achieved through the Global Preparedness Monitoring Board, the World Bank, the Global Health Security Agenda Steering Group, and/or the Office of the UN Secretary-General. Domestic financing for health security should be urgently increased. National leaders should prioritize domestic finances to invest in health security capacity development. Health security financing should be transparent and tied to benchmarks within national action plans to ensure that countries take measurable steps to build and sustain health security and determine whether specific assistance is improving functional capability.

Decision makers should immediately consider the creation of new mechanisms for health security preparedness financing that incentivize measurable improvements. These could include a multilateral global health security matching fund, expansion of availability of World Bank IDA allocations to allow for preparedness financing, and/or the development of other new ways to expand resources to incentivize countries to prioritize preparedness funding.

International leaders should examine the availability of financing to support rapid and complete response to outbreaks with the potential for international spread. The UN should track and publish outbreak-related costs and contributions so that there is a single, transparent assessment for donors and responders.

²⁶ International Working Group on Financing Preparedness, "From Panic and Neglect to Investing in Health Security: Financing Pandemic Preparedness at a National Level," December 2017, <http://documents.worldbank.org/curated/en/979591495652724770/pdf/115271-REVISED-FINAL-IWG-Report-3-5-18.pdf>.

Political Insecurity Drives Higher Epidemic and Pandemic Risks

Early-August 2019 reports on the Ebola outbreak in eastern Democratic Republic of Congo (DRC) were chilling. Amid increased violence in the affected region, the World Health Organization (WHO) reported interruptions in efforts to contain the outbreak. These interruptions coupled with concerns about high rates of population movement from outbreak-affected areas to other parts of the DRC and neighboring countries, increase the risk of geographical spread.^a

The situation in the DRC—a terrifying scenario for communities at risk, healthcare workers, and international aid organizations alike—illustrates why conflict settings are major flashpoints for epidemics and pandemics. In areas of violence and insecurity, rumors and miscommunication are rampant, people mistrust authority and are afraid to seek treatment, healthcare workers cannot access patients and become more vulnerable to disease themselves, and badly needed aid from outside the country or region is more difficult to bring.

Although DRC has had great success in containing outbreaks of Ebola within its borders, the outbreak that began in the east of the country in 2018 has now become the second-deadliest Ebola outbreak the world has ever seen.

The GHS Index highlights the risks posed by social unrest and political insecurity, as well as the importance of factoring in government effectiveness as part of epidemic and pandemic preparedness in countries around the world. On key indicators related to political and security risk, an alarming 55% of countries score in the bottom and middle tiers. Only approximately 15% of countries score in the highest tier for public confidence in government, and only 23% of countries score in the top tier for political system and government effectiveness.

^a World Health Organization, "Ebola Virus Disease—Democratic Republic of the Congo," 2019, www.who.int/csr/don/08-august-2019-ebola-drc/en/.

FINDING

More than half of countries face major political and security risks that could undermine national capability to counter biological threats.

Country abilities to effectively prevent, detect, and respond to disease outbreaks can be significantly impacted by the broader national risk environment. Countries experiencing localized or widespread armed conflict, regions experiencing social unrest, and countries with less effective territorial control may have greater difficulty containing outbreaks once they begin.

The GHS Index finds that 55% of countries score in the bottom and middle tiers for indicators relating to political and security risk, and nearly 61% of the global population lives in a country that scores in the bottom or middle tier. Importantly, the GHS Index highlights that countries with

effective governance and political systems have higher overall GHS Index scores, and few countries score in the top tier for political system and government effectiveness. In addition, public confidence in government is generally low, which could affect the ability of governments to relay effective messages during biological crises.

Why it matters

Conflict settings can exacerbate epidemic and pandemic risk. Countries in conflict may be at a heightened risk of uncontrolled disease spread due to the higher probability of weak health systems, interruptions to routine disease

surveillance and immunization programs, and societal mistrust of government-delivered health messages.²⁷ Therefore, when outbreaks occur in countries with high political and security risks, containing disease before it spreads across borders will likely require a swift, well-resourced, and highly coordinated global response.

The ongoing deadly outbreak of Ebola in the Democratic Republic of Congo (DRC) has demonstrated how difficult it is to contain the spread of disease in areas of violence and insecurity, increasing the likelihood of disease spreading to neighboring countries. Although DRC has had great success in containing prior incidences of Ebola within its borders, the outbreak that began in 2018 in Kivu has become the second-deadliest Ebola outbreak the world has ever seen—likely owing to security risks present in the affected region. Syria, which received the lowest possible score in measurements of political and security risks, experienced the reemergence of wild poliovirus and circulating vaccine-derived poliovirus following the start of its civil war. Although Syria's polio outbreaks were stopped through a concerted, internationally supported vaccination campaign, the risk of polio and other emerging infectious diseases remains high.

The data

- The GHS Index finds that 55% of countries score in the bottom and middle tiers for indicators relating to political and security risks, including political system and government effectiveness, orderly transfers of power, social unrest, terrorism, armed conflict, government territorial control, and international tensions.
- Only 15% of countries score in the highest tier for public confidence in government.
- Countries with effective governance and political systems have higher overall GHS Index scores. Yet, only 23% of countries—representing approximately 14% of the global population—score in the top tier for political system and government effectiveness, a troubling finding given that ineffective governance and other risk factors such as social unrest, armed conflict, and orderly transfers of power are likely to undermine the global response to a high-consequence biological threat.
- The 10 countries that scored the lowest for the GHS Index indicator relating to armed conflict also each scored below 50 on their overall GHS Index score.

Recommendations

- National governments, donors, and outbreak response organizations should develop plans for assisting countries with challenging risk environments when disease outbreaks occur and should bolster preparedness in countries bordering those at increased risk.
- National governments and donors should take into account countries' risk factors for significant disease outbreaks when making resources available to support health security capacity development. Countries with low scores related to their overall risk environment should be identified as priority areas for capacity development and should receive prompt international assistance when infectious disease emergencies occur within their borders.
- The UN Security Council should urgently convene a series of meetings aimed at the development of rapid response capabilities, strategies, workforce, and protections necessary for outbreaks that originate in or spread to countries with high political or security risks.

²⁷ World Health Organization, "WHO Report on Global Surveillance of Epidemic-Prone Infectious Diseases—Introduction," 2019, www.who.int/csr/resources/publications/introduction/en/index5.html; M. Gayer, D. Legros, P. Formenty, and M. A. Connolly, "Conflict and Emerging Infectious Diseases," *Emerging Infectious Diseases* 13, no. 11 (2007): 1625–1631. www.ncbi.nlm.nih.gov/pubmed/18217543?dopt=Abstract; Habida Elachola et al., "Implications of Converging Conflicts, Emergencies, and Mass Gatherings for Global Health Security," *Lancet* 6, no. 8 (2018): PE834–PE835, [www.thelancet.com/journals/langlo/article/PIIS2214-109X\(18\)30256-0/fulltext](http://www.thelancet.com/journals/langlo/article/PIIS2214-109X(18)30256-0/fulltext).

FINDING

Most countries lack foundational health systems capacities vital for epidemic and pandemic response.

Within the GHS Index, the average score is lowest for the set of indicators that relate to the robustness of the overall health system and health workforce—a troubling finding as recent outbreaks have shown that health system capacities are critical to stopping transmission.²⁸ For example, poor infection control practices within hospitals contributed to the nosocomial spread of both Severe Acute Respiratory Syndrome and Middle East Respiratory Syndrome.

During the West Africa Ebola outbreak, the lack of proper personal protective equipment and workforce training put healthcare workers and patients at risk for infection. Additionally, individuals were dissuaded from seeking care at healthcare facilities due to fear of contagion, further facilitating community-wide transmission.

The absence of a functioning health system and robust public health and healthcare workforces during an epidemic or pandemic would preclude a country's ability to detect emergent threats, identify and treat cases, and prevent further disease transmission. By treating health system capacities as critical determinants of global health security, the GHS Index highlights synergies between efforts aimed at enhancing health security and ongoing efforts to strengthen systems for delivering routine health services.

Why it matters

Recent disease outbreaks around the world have underscored the importance of building robust capacities for routine healthcare that communities could scale up during emergencies, when the demand for health services escalates. An individual's ability to access healthcare is

paramount for disease surveillance and detection, and to seek evaluation and treatment during an outbreak. Ensuring access to routine health services also can build trust in the healthcare system, making people more likely to seek care during outbreaks.²⁹ Efforts to promote the adoption of Universal Health Coverage (UHC) within countries could help increase health security by improving access and reducing barriers to healthcare and ensuring that there is sustainable financial support for health systems. However, it is important that in trying to implement UHC, national leaders ensure the inclusion of healthcare capacities and capabilities most needed to combat infectious diseases, such as training and access to infection prevention and control measures.

To measure healthcare access and capacities for delivering core health services, the GHS Index asks (a) whether a country has enacted legislation mandating provision of universal health coverage, (b) the percentage of the population with access to skilled birth attendants, and (c) the level of out-of-pocket health expenditures per capita. The GHS Index also assesses whether countries have committed to providing prioritized healthcare services to healthcare workers who become sick as a result of responding to a public health emergency, helping ensure the preservation and safety of the healthcare workforce.

A community's overall health is also highly dependent on the availability of skilled healthcare workers and public health practitioners. Without access to these professionals, the overall health of individuals and

²⁸ Eduardo A. Undurraga et al., "Potential for Broad-Scale Transmission of Ebola Virus Disease during the West Africa Crisis: Lessons for the Global Health Security Agenda," *Infectious Diseases of Poverty* 6, no. 1 (2017): 159, idpjournal.biomedcentral.com/articles/10.1186/s40249-017-0373-4; Sanjana J. Ravi et al., "Establishing a Theoretical Foundation for Measuring Global Health Security: A Scoping Review," *BMC Public Health* 19, no. 1 (2019), bmcpublichealth.biomedcentral.com/articles/10.1186/s12889-019-7216-0.

²⁹ David L. Heymann et al., "Global Health Security: The Wider Lessons from the West African Ebola Virus Disease Epidemic," *Lancet* 385, no. 9980 (2015): 1884–1901, www.ncbi.nlm.nih.gov/pmc/articles/PMC5856330/pdf/emss-76470.pdf (see UHC and global health security).

communities could decline, because there is no expertise available to treat the sick, provide preventive care, or respond to community-wide health emergencies. The GHS Index captures the importance of having a robust health workforce through indicators that measure available human resources, such as the number of physicians and nurses or midwives per 100,000 people, as well as the presence of a health workforce strategy. However, because the public health workforce incorporates a much larger purview than just those involved in direct patient care, the GHS Index must also account for other necessary roles, such as laboratory staff, epidemiologists, and veterinarians, as well as indicators that address and measure the animal health and epidemiological workforce.

The response to an epidemic or pandemic will also require additional capacities outside those needed for routine day-to-day healthcare delivery. For example, a country may need to acquire potentially life-saving medical countermeasures, such as vaccines and antibiotics, which will need to be dispensed quickly by the health workforce. Regulatory processes may need to be in place to allow for clinical trials or the use of unregistered medical countermeasures. Additional foreign health personnel may need to be brought in to support the response. Stockpiles of personal protective equipment and rooms or units capable of isolating patients with highly communicable diseases may be required. These capacities are each assessed in the GHS Index, helping identify health system gaps in preparedness that may hinder a quick and effective response.

The data

- The category on healthcare, which is not covered by other health security-focused external assessments such as the JEE, was the lowest-scoring category of the six categories in the GHS Index, with an average score of 26.4 and 131 countries scoring in the bottom tier. In addition, the highest score for this category was only 73.8, compared with high scores of more than 80 for all other categories.
- Only 27% of countries can demonstrate the existence of an updated health workforce strategy, and only 3% of countries have shown a public commitment to prioritizing healthcare services for healthcare workers who become sick as a result of participating in a public health response.
- Robust community healthcare capacities (i.e., in clinics and hospitals) showed strong association with the overall index score. But more than 71% and more than 79% of countries earned low scores for physician density and nurse/midwife density per 100,000 population, respectively.
- Even high-income countries have weaknesses in their health systems. For example, the United States scores in the bottom tier of countries for the access to healthcare subindicator owing to lack of governmentally guaranteed access to healthcare plus high out-of-pocket expenditures per capita.
- Whereas nearly 50% of countries publicly demonstrate that they have access to medical countermeasures either through their own stockpiles or through agreements with other countries, only a little more than 10% of countries show evidence of having developed plans to dispense medical countermeasures during an emergency.

Recommendations

- Government decision makers should explicitly measure and take into account health system capabilities as an integral part of all health security planning, investments, and financing strategies. National and global efforts to promote UHC have the potential to advance health security; however, in adopting these measures, leaders should ensure the inclusion of capabilities needed to prevent the emergence and spread of epidemics and pandemics.

Thailand: An Exemplar

From May to July 2015, public health experts and leaders in Asia and around the world anxiously watched an alarming and deadly outbreak of the Middle East Respiratory Syndrome (MERS) in South Korea, which sickened 186 and killed 38.^a On June 18 of that year, Thailand notified the World Health Organization (WHO) of its first confirmed case—a 75-year-old man who had traveled from Oman to Bangkok.^b

Despite concerns that the disease would start spreading, Thailand was able to stop its first MERS case—and each subsequent confirmed case—with no further spread.^c Thailand's success in identifying and stopping MERS is just one example of both the value of health security capacity building and the critical role that a strong healthcare system can play in stopping outbreaks at the source.

Thailand is the only middle-income country to score in the highest tier (i.e., an overall score between 66.7 and 100) of the Global Health Security Index, receiving the sixth-highest overall score (73.2). Thailand is also the only country from the WHO South-East Asia Region to rank in the top tier. What makes Thailand such a strong performer? The country shows robust healthcare capacities, ranking second across all nations for indicators relating to healthcare access. Relevant to its ability to identify and stop infectious diseases like MERS, Thailand also demonstrates an effective system for monitoring and tracking healthcare-associated infections. It is also one of only five countries demonstrating a public priority for providing healthcare services to healthcare workers who become sick while responding to public health emergencies.

Beyond its health system, Thailand has a strong field epidemiology training program and national laboratory system, scoring in the top tier for indicators of these capacities and demonstrating a robust electronic reporting surveillance system that functions at both national and subnational levels, rapidly collecting laboratory and epidemiological information. Thailand also demonstrates strength on prevention and response capability, scoring 75.7 and 78.8, respectively, in each of these categories and conducting regular event-based surveillance through a dedicated Situation Awareness Team embedded in the Ministry of Public Health's Emergency Operations Center.

The GHS Index shows that Thailand is, beyond a doubt, an international leader in health security.

^a Myoung-don Oh et al., "Middle East Respiratory Syndrome: What We Learned from the 2015 Outbreak in the Republic of Korea, *Korean Journal of Internal Medicine* 33, no. 2 (2018): 233–246, www.ncbi.nlm.nih.gov/pmc/articles/PMC5840604/; Jun Wang Park et al., "Hospital Outbreaks of Middle East Respiratory Syndrome, Daejeon, South Korea, 2015," *Emerging Infectious Diseases* 23, no. 6 (2017): 898–905, wwwnc.cdc.gov/eid/article/23/6/16-0120_article.

^b World Health Organization, "Middle East Respiratory Syndrome Coronavirus (MERS-CoV)—Thailand," June 2015, www.who.int/csr/don/20-june-2015-mers-thailand/en/.

^c Surasak Wiboonthukul, Weerawat Manosuthi, and Chariya Sangsajja, "Zero Transmission of Middle East Respiratory Syndrome: Lessons Learned from Thailand," *Clinical Infectious Diseases* 64, no. 2 (2017): S167–S170, academic.oup.com/cid/article/64/suppl_2/S167/3782670.

- Senior government officials should take steps to build and maintain robust healthcare and public health workforces, which include but are not limited to physicians, nurses, community health workers, epidemiologists, and other allied health professionals likely to play a major role in preventing, detecting, and responding to biological crises.
- NAPHS should take into account specific benchmarks to improve and finance the overall health system and its workforce.

FINDING

Coordination and training are inadequate among veterinary, wildlife, and public health professionals and policymakers.

One Health approaches are emphasized in health security conversations; however, significant gaps remain in operationalizing this concept. The GHS Index highlights that most countries show no evidence of capacity to integrate data and train professionals across the human, animal, and environmental health sectors.

Why it matters

One Health is the concept that human, animal, and environmental health are intertwined and should be addressed together to prevent the spread of infectious disease. Nearly two-thirds of known pathogens and three-quarters of newly emerging pathogens are zoonotic—spread from animals to humans.³⁰ Human encroachment on wildlife territory and land-use changes increase the rate of human-wildlife and wildlife-livestock interface, expanding the possibility of disease spillover to humans. In addition, increases in the ease and rate of global trade and travel could accelerate the likelihood of disease transmission. The GHS Index contains several indicators that when combined, demonstrate a country's commitment to addressing health threats in a comprehensive manner.

A One Health approach includes the ability to share information between ministries and between countries. Because animals and pathogens do not recognize national borders, addressing environmental risks necessitates strong cross-border collaboration between neighboring countries. One Health should also incorporate coordination among multiple ministries and sectors, because indicators

of animal disease outbreaks could herald a human outbreak risk. However, if there is no mechanism through which multisectoral communication can take place, countries will lack the ability to effectively prevent known risks from developing into outbreaks.

Another key component of the One Health approach is whether the ability of the workforce to provide care and improve a country's resilience to disease outbreaks is dependent on the availability of professionals in the community with access to specialized training. Traditional medical education does not include extensive training for health security topics such as biosecurity, biosafety, infectious disease prevention and control, or the One Health approach.

The availability of specialized training that covers these topics is vital if a country is to have a robust and diverse healthcare workforce. The GHS Index captures the extent to which this specialized training is offered to professionals in-country through questions spanning multiple key categories. Increasing opportunities for professionals to access specialized training will strengthen the public health workforce and cooperation between ministries, which, in turn, may improve a country's ability to prevent, detect, and respond to infectious disease outbreaks.

The data

- Only 30% of countries demonstrate the existence of mechanisms for sharing data among relevant ministries for human, animal, and wildlife surveillance.

³⁰ L. H. Taylor, S. M. Latham, and M. E. Woolhouse, "Risk Factors for Human Disease Emergence," *Philosophical Transactions of the Royal Society London B* 356, no. 1411 (2001): 983–989, www.ncbi.nlm.nih.gov/pmc/articles/PMC1088493/.

- Fewer than 8% of countries demonstrate a cross-ministerial department, agency, or similar unit dedicated to zoonotic disease.
- Only 51% of countries offer field epidemiological training programs that explicitly include animal health professionals, although a much larger number (80%) offer an applied epidemiological training program.
- 62% of countries have not submitted a report to OIE on the incidence of human cases of zoonotic diseases for the past calendar year.
- The majority of countries are facing land-use changes, measured by percentage change in forest area, which could affect the risk of emerging zoonotic disease.

Recommendations

- National public and animal health authorities should coordinate during the development of NAPHS and should incorporate a One Health approach as part of pandemic planning and national disaster preparedness and response efforts.
- Countries should identify an agency and grant it authority to coordinate training and information sharing among human, animal, and environmental health professionals for outbreak preparedness and response.
- Decision makers should consider infectious disease risks when developing policies and plans related to climate change, land use, and urban planning.

One Health Is Key to Preventing Pathogens from Spreading from Animals to Humans

Today, nearly two-thirds of known pathogens and three-quarters of newly emerging pathogens are zoonotic—meaning they spread from animals to humans.^a This dangerous trend toward disease spillover from animals to humans can be traced to a host of modern-day factors, including increased human encroachment on wildlife territory, land-use changes that increase the rate of human-wildlife and wildlife-livestock interface, and climate change.

Because human, animal, and environmental health are intertwined and must be effectively addressed together to prevent the spread of infectious disease, the Global Health Security Index assesses countries' adherence to a One Health approach. The results are not encouraging:

- Fewer than 30% of countries demonstrate the existence of mechanisms for sharing data among relevant ministries for human, animal, and wildlife surveillance.
- Fewer than 8% of countries demonstrate a cross-ministerial department, agency, or similar unit dedicated to zoonotic disease.
- Only 51% of countries offer field epidemiological training programs that explicitly include animal health professionals, although a much larger number (80%) offer an applied epidemiological training program.
- 62% of countries have not submitted a report to the World Organisation for Animal Health on the incidence of human cases of zoonotic diseases for the past calendar year.
- The majority of countries are facing land-use changes, measured by percentage change in forest area, which could affect the risk of emerging zoonotic disease.

As a way forward, countries must embrace a One Health approach as part of pandemic planning and national disaster preparedness and response efforts. Authorities should identify an agency and grant it authority to coordinate training and information sharing among human, animal, and environmental health professionals, and decision makers should consider infectious disease risks when developing policies and plans related to climate change, land use, and urban planning.

^a L. H. Taylor, S. M. Latham, and M. E. Woolhouse, "Risk Factors for Human Disease Emergence," *Philosophical Transactions of the Royal Society London B* 356, no. 1411 (2001): 983–989, www.ncbi.nlm.nih.gov/pmc/articles/PMC1088493/.

FINDING

Improving country compliance with international health and security norms is essential.

It is the responsibility of national governments to publicly demonstrate to their own populations, neighboring countries, and the international community that they have the necessary capacities to prevent, detect, and respond to epidemics and pandemics within their borders and to help the broader global community do the same.

In a positive recent trend, as of May 24, 2019, 83 countries—43% of the countries in the GHS Index—had published a WHO JEE, markedly increasing transparency of country preparedness for epidemics and pandemics. The GHS Index draws from those evaluations and also provides credit for countries that have conducted and published a WHO JEE because completing such an assessment is an important step toward promoting transparency and accountability.

However, despite this important progress, the GHS Index finds major gaps in country adherence to international norms and commitments. For example, although more than 90% of countries have signed and ratified the Biological Weapons Convention (BWC) and submitted reports under United Nations Security Council Resolution (UNSCR) 1540, less than half of the countries in the GHS Index score in the top tier for indicators related to transparency and implementation of these important international agreements. In addition, 31% of countries do not show evidence of a cross-border agreement on public health emergency response.

Why it matters

Strong ethical and normative frameworks are an important complement to existing legal and regulatory health security measures, including compliance with the IHR (2005),

as well as the BWC, a multilateral disarmament treaty banning the development, production, and stockpiling of biological weapons.

Efforts to promote globally recognized norms and to make international health security–related commitments start at the highest levels of national government and serve as a guide for internal policies and standards for accountability. The GHS Index highlights the importance of compliance with such norms and commitments in strengthening global health security.

The data

- Less than half of all countries have submitted Confidence-Building Measures for the BWC in the past three years.
- Fewer than 40% of countries participate in two or more important voluntary multilateral coalitions dedicated to preventing, detecting, and responding to biological threats and other weapons of mass destruction, such as the Global Health Security Agenda, Australia Group, and G-7 Global Partnership Against the Spread of Weapons and Materials of Mass Destruction.
- 93% of countries have submitted a UNSCR 1540 report, but only 30% of countries score “good” or “very good” on UNSCR 1540 implementation measures related to legal frameworks and enforcement for countering biological weapons.³¹
- Only 5% of countries have in place a publicly available plan or policy for sharing genetic data, clinical specimens, and/or isolated biological materials that extends beyond influenza.

³¹ Countries receive scores reflecting the extent of implementation of UNSCR 1540. Scoring is based on an evaluation of the total number of elements of UNSCR 1540 that have been implemented as reflected in the individual country matrices, including submission of data specific to biological threats. For more about the GHS Index methodology, see page 61.

- 31% of countries do not show evidence of a cross-border agreement on public health emergency response. More than 60% of countries lack evidence of a similar agreement on animal health emergency response.
- Only 28% of countries publicly show that they incorporate epidemics and pandemics in their national risk reduction strategy or have in place a stand-alone, national risk-reduction strategy for pandemics.
- The 45% of countries that have conducted and published a WHO JEE or precursor evaluation (e.g., Global Health Security Agenda pilot assessment)³² earned higher scores for this category because completing a JEE is an important step toward promoting transparency and accountability.

Recommendations

- Countries should regularly undergo and publish a WHO JEE to increase transparency around global health security capacities and capabilities. This, in turn, also would help promote increased availability and transparency for health security data in the public domain.
- Countries should establish national protocols, and work to negotiate regional and global protocols, for rapidly sharing genetic materials and specimens during public health emergencies.
- National health authorities should develop epidemic- and pandemic-specific preparedness and response strategies as part of routine disaster and broader national security planning efforts.

³² Countries with completed and published JEE scores were collected through May 24, 2019, for the purposes of printing this report.

Governments are Unable to Keep Up with Biological Risks and New Technologies

In 2018, scientists in Canada successfully synthesized horsepox—a virus related to smallpox, one of the greatest scourges the world has ever faced—demonstrating how viral synthesis could threaten global disease eradication efforts. The experiment illustrated a significant problem: no globally accepted mechanisms exist for identifying risks associated with experiments that synthesize new, dangerous, engineered, or eradicated agents—or those that could enhance transmissibility and virulence of pathogens with pandemic potential, like influenza.

There is no question that advances in genomics, synthetic biology, and microbiology are essential for a safer, healthier, and more secure society. New technologies are vital for achieving health security and sustainable development. At the same time, advances such as low-cost deoxyribonucleic acid (DNA) synthesis and widespread access to gene editing tools are making it easier, faster, and cheaper for a broader array of actors to create and engineer dangerous biological agents. Combined with global trends in trade, travel, and terrorism, the risk of a deliberate or accidental high-consequence biological event^a is increasing.

To keep up with the technological pace, governments—in cooperation with research funders, academic institutions, and investors—need to rapidly identify concerns and provide effective oversight to reduce the potential for accidental or deliberate release of engineered agents. Although many countries probably have not engaged in dual-use research with especially dangerous pathogens, it is important today that all countries have systems in place to oversee such work.

The GHS Index shows that countries are not prioritizing oversight of these types of emerging biological risks. No country requires providers of synthetic DNA to screen their orders to prevent sharing of materials with questionable parties. Fewer than 5% of countries demonstrate oversight for dual-use research, including for research with especially dangerous pathogens and toxins or pathogens with pandemic potential. Additionally, 92% of countries show no evidence of requiring security checks for personnel with access to dangerous biological materials or toxins, which increases the potential for insider threats. These gaps are dangerous and must be urgently addressed.

^a “High-consequence biological events” are defined here as infectious disease outbreaks that could overwhelm national or international capacity to manage them. For example, although international health security has improved following the 2014–2016 Ebola epidemic in West Africa, countries and international responders are not prepared to quell outbreaks that occur in violent or insecure settings; deliberate biological events that require close coordination and investigative links between security, health, and humanitarian actors; and fast-moving respiratory diseases with high mortality that could spread rapidly to become global pandemics.



Methodology

PREPARED BY THE ECONOMIST INTELLIGENCE UNIT

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EXECUTIVE SUMMARY

In support of global, regional, and domestic efforts to build country preparedness to face global health security risks, the Nuclear Threat Initiative (NTI) commissioned The Economist Intelligence Unit to construct the inaugural edition of the 2019 Global Health Security Index. Building on the knowledge of NTI, the Center for Health Security at the Johns Hopkins Bloomberg School of Public Health (JHU), and international experts, the Index assesses country capacity to address epidemic threats with the goal of highlighting areas in need of additional support and development.

As part of this assessment, the Index examines a range of contextual factors—in addition to country capacity—to prevent, detect, and respond to threats, taking into consideration the national health system, international commitments, and the overall risk environment. The Index is expected to promote dialogue and assist countries in determining the gaps in their preparedness measures through independent monitoring and oversight.

The 2019 Global Health Security Index includes research for 195 countries. The Economist Intelligence Unit conducted the research for this Index through a combination of qualitative assessments of publicly available country information and examinations of existing quantitative data sets. Given the complex nature of global health security, The Economist Intelligence Unit developed a multidimensional analytical framework, commonly known as a *benchmarking index*, in order to create an objective, country-level assessment tool. A multidimensional framework is a useful way of measuring performance that cannot be directly observed, such as a country's economic competitiveness or, in this case, a country's health security conditions. Indices, in such cases, have been shown to be effective in several ways: (a) they can aggregate a wide range of related data and evaluate it in a consistent manner; (b) they can track outcomes over time; and (c) they

can spur countries to improve performance, especially relative to other countries in the index. In this way, indices can be a useful tool for public policy reforms.

The Economist Intelligence Unit follows a defined process for the development of index frameworks, which is based on what is desirable to measure and not on which indicators are available. Transparency is essential in constructing credible indicators and entails the following:

- **Defining the concept:** The definition should give the reader a clear sense of what the composite index is measuring. It should refer to the theoretical framework, linking various subgroups and the underlying indicators.
- **Determining subgroups:** Multidimensional concepts can be divided into several subgroups (e.g., categories, indicators, subindicators). These subgroups need not be (statistically) independent of each other, and existing links should be described theoretically or empirically to the greatest extent possible.
- **Identifying the selection criteria for the underlying indicators and questions:** The selection criteria should work as a guide to determine whether an indicator should be included or not in the overall composite index.

Behind each index project is underlying data architecture, or an indicator framework, that supports the measurement of a certain topic. The indicator frameworks include a set of indicators, quantitative or qualitative in nature, divided into distinct categories. Quantitative indicators are those numeric data points collected by governments, international organizations, and other agencies that are usually downloadable from public sources (such as the number of doctors in country and immunization rates). Qualitative indicators are those measures that are more subjective in nature and evaluate concepts not easily captured in databases, such as the existence of particular policies or the extent of their implementation.

The framework for the Global Health Security Index was developed over an 18-month period, which included a pilot phase. In consultation with NTI and the JHU Center for Health Security, The Economist Intelligence Unit developed an initial pilot framework. This framework was based on project team analysis, literature review, and standard accepted measurements for global health security as captured in the International Health Regulations Joint External Evaluation tool and elsewhere.

Following this initial process, The Economist Intelligence Unit, NTI, and the JHU Center for Health Security convened an International Panel of Experts to provide insights and commentary on the proposed framework. The first International Panel of Experts meeting was held in April 2017 in London and included a diverse group of experts from a variety of nations and specialties within the field of global health security. During the meeting, experts offered insights and recommendations on the proposed structure, questions, and data sources for the Global Health Security Index. The panel insights were augmented by additional discussions with experts in the field, such as experts on One Health and epidemiology.

Following the expert panel meeting, the framework was updated and finalized for the pilot phase. The Economist Intelligence Unit undertook research for four countries representing different political, socioeconomic, and geographic identities to assess data availability for the proposed questions, as well as the value provided by the research insights. After the successful conclusion of the pilot phase, The Economist Intelligence Unit, NTI, and the JHU Center for Health Security further refined the framework (with additional expert consultations) to develop the final research framework.

To limit the degree of subjectivity in the qualitative indicators, The Economist Intelligence Unit created questions that are, whenever possible, framed as a binary choice (yes or no; or 1 or 0). For example, if a country meets a certain criteria, it is awarded one point; if it does not, it scores a zero. A binary approach limits the risk of subjectivity and increases the likelihood that the same scores for a particular indicator would be obtained by a different set of researchers, a key measure of objectivity and analytical rigor. If a binary approach was not appropriate, the research team provided specific scoring options and guidance on how to score each indicator. All qualitative indicators were designed so they could be answered using publicly available information.

The indicators in the 2019 Global Health Security Index are embedded in a model (available as an Excel workbook at www.ghsindex.org) that offers a wide range of analytical tools, thereby allowing a deeper investigation into measures of global health security. For example, users can filter countries by region, population, or income level, or directly compare any two countries. A user can also examine correlations between indicators. Individual country profiles, which include the consulted sources and scoring justifications, are also included in the 2019 Global Health Security Index model, thus permitting a deeper dive into the health security conditions in a given country.

Although the Global Health Security Index model relies on expert weights for analysis, the weights assigned to each indicator can be changed by the user to reflect different assumptions about the importance of categories and indicators.

Finally, the model allows the final scores to be benchmarked against external factors that may potentially influence global health security, such as GDP per capita and the United Nations Development Programme's (UNDP) Human Development Index.

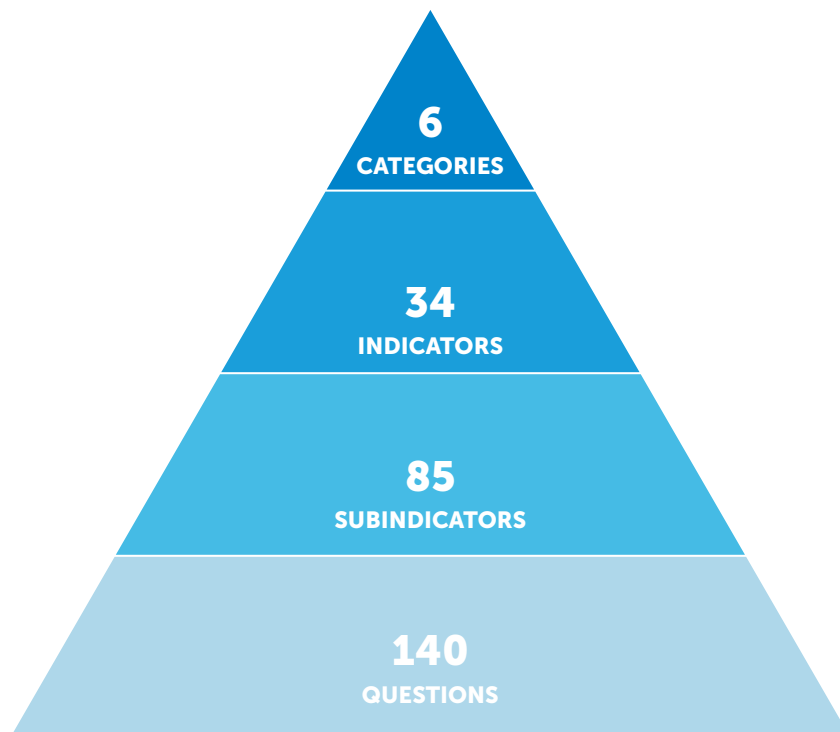
SCORING CRITERIA AND CATEGORIES

The 2019 Global Health Security Index consists of 140 questions grouped into 34 indicators across 6 overarching categories (see Figure A1). The Index includes research for 195 countries that compose the States Parties³³ to the International Health Regulations (IHR [2005]).³⁴

The overall score (0–100) for each country is a weighted sum of the six categories. Each category is scored on a scale of 0 to 100, in which 100 represents the most favor-

able health security conditions and 0 represents the least favorable conditions. A score of 100 does not indicate that a country has perfect national health security conditions; likewise, a score of 0 does not mean that a country has no capacity. Instead, the scores of 100 and 0 represent the highest or lowest possible score, respectively, as measured by the Global Health Security Index criteria. Each category is normalized on the basis of the sums of its underlying indicators and subindicators, and a weight is then applied. The default weights used in the ranking are based on input from the International Panel of Experts and reflect the relative importance and relevance of each indicator and category. The weights in the model, however, are dynamic and can be changed by users.

FIGURE A1. GLOBAL HEALTH SECURITY INDEX FRAMEWORK



³³ As of April 16, 2013, there are 196 States Parties to the International Health Regulations (IHR [2005]), including the Holy See. The Holy See, as the supreme body of government of the Roman Catholic Church, is a sovereign juridical entity under international law, but it was not included in the country-specific research for this Index in light of the Vatican Constitution's express provision of Italian laws on contagious diseases (see John R. Morss, "The International Legal Status of the Vatican/Holy See Complex," *European Journal of International Law* 26, no. 4 [2015]: 927–946, <https://academic.oup.com/ejil/article/26/4/927/2599610>). Therefore, for the purposes of this report, we will refer to the assessed "States Parties" as "195 countries."

³⁴ The World Health Organization International Health Regulations (IHR [2005]) are the foundational international standards for health. IHR is a binding legal instrument to address cross-border public health risks. The goal of IHR is to prevent, protect, control, and respond without disrupting international trade and traffic, and the contents of which were used as the guiding regulation behind many of the indicators included in the Global Health Security Index.

The six categories are as follows:



1. PREVENTION: *Prevention of the emergence or release of pathogens*, including those constituting an extraordinary public health risk in keeping with the internationally recognized definition of a Public Health Emergency of International Concern.³⁵ Indicators in this category assess antimicrobial resistance, zoonotic disease, biosecurity, biosafety, dual-use research and culture of responsible science, and immunization.



2. DETECTION AND REPORTING: *Early detection and reporting for epidemics of potential international concern*,³⁶ which can spread beyond national or regional borders. Indicators in this category assess laboratory systems; real-time surveillance and reporting; epidemiology workforce; and data integration between the human, animal, and environmental health sectors.



3. RAPID RESPONSE: *Rapid response to and mitigation of the spread of an epidemic*. Indicators in this category assess emergency preparedness and response planning, exercising response plans, emergency response operation, linking public health and security authorities, risk communication, access to communications infrastructure, and trade and travel restrictions.



4. HEALTH SYSTEM: *Sufficient and robust health system to treat the sick and protect health workers*. Indicators in this category assess health capacity in clinics, hospitals, and community care centers; medical countermeasures and personnel deployment; healthcare access; communications with healthcare workers during a public health emergency; infection control practices and availability of equipment; and capacity to test and approve new countermeasures.



5. COMPLIANCE WITH INTERNATIONAL NORMS: *Commitments to improving national capacity, financing plans to address gaps, and adhering to global norms*. Indicators in this category assess IHR reporting compliance and disaster risk reduction; cross-border agreements on public health emergency response; international commitments; completion and publication of WHO JEE and the World Organisation for Animal Health (OIE) Performance of Veterinary Services (PVS) Pathway assessments; financing; and commitment to sharing of genetic and biological data and specimens.



6. RISK ENVIRONMENT: *Overall risk environment and country vulnerability to biological threats*. Indicators in this category assess political and security risk; socioeconomic resilience; infrastructure adequacy; environmental risks; and public health vulnerabilities that may affect the ability of a country to prevent, detect, or respond to an epidemic or pandemic and increase the likelihood that disease outbreaks will spill across national borders.

Each indicator within the six categories contains up to seven underlying subindicators. Principal components analysis (PCA) was also conducted on the model to ensure the relevance and robustness of the chosen indicators and categories. The use of PCA is described on page 80.

The categories, indicators, and subindicators are shown in Table A1.

³⁵ World Health Organization, "IHR Procedures Concerning Public Health Emergencies of International Concern (PHEIC)," www.who.int/ihr/procedures/pheic/en/.

³⁶ *Ibid.*

TABLE A1. GLOBAL HEALTH SECURITY INDEX FRAMEWORK BY CATEGORIES, INDICATORS, AND SUBINDICATORS

| | |
|------------|---|
| 1 | PREVENTION OF THE EMERGENCE OR RELEASE OF PATHOGENS |
| 1.1 | Antimicrobial resistance (AMR) |
| 1.1.1 | AMR surveillance, detection, and reporting |
| 1.1.2 | Antimicrobial control |
| 1.2 | Zoonotic disease |
| 1.2.1 | National planning for zoonotic diseases/pathogens |
| 1.2.2 | Surveillance systems for zoonotic diseases/pathogens |
| 1.2.3 | International reporting of animal disease outbreaks |
| 1.2.4 | Animal health workforce |
| 1.2.5 | Private sector and zoonotic disease |
| 1.3 | Biosecurity |
| 1.3.1 | Whole-of-government biosecurity systems |
| 1.3.2 | Biosecurity training and practices |
| 1.3.3 | Personnel vetting: Regulating access to sensitive locations |
| 1.3.4 | Transportation security |
| 1.3.5 | Cross-border transfer and end-user screening |
| 1.4 | Biosafety |
| 1.4.1 | Whole-of-government biosafety systems |
| 1.4.2 | Biosafety training and practices |
| 1.5 | Dual-use research and culture of responsible science |
| 1.5.1 | Oversight of research with especially dangerous pathogens, toxins, pathogens with pandemic potential and/or other dual-use research |
| 1.5.2 | Screening requirements for providers of genetic material |
| 1.6 | Immunization |
| 1.6.1 | Vaccination rates |

| | |
|------------|---|
| 2 | EARLY DETECTION AND REPORTING EPIDEMICS OF POTENTIAL INTERNATIONAL CONCERN |
| 2.1 | Laboratory systems |
| 2.1.1 | Laboratory capacity for detecting priority diseases |
| 2.1.2 | Specimen referral and transport system |
| 2.1.3 | Laboratory quality systems |
| 2.2 | Real-time surveillance and reporting |
| 2.2.1 | Indicator and event-based surveillance and reporting systems |
| 2.2.2 | Interoperable, interconnected, electronic real-time reporting systems |
| 2.2.3 | Transparency of surveillance data |
| 2.2.4 | Ethical considerations during surveillance |
| 2.2.5 | Coverage and use of electronic health records |
| 2.3 | Epidemiology workforce |
| 2.3.1 | Applied epidemiology training program, such as the field epidemiology training program, for public health professionals and veterinarians (e.g., Field Epidemiology Training Program and Field Epidemiology Training Program for Veterinarians) |
| 2.3.2 | Epidemiology workforce capacity |
| 2.4 | Data integration between human, animal, and environmental health sectors |
| 2.4.1 | Data integration between human, animal, and environmental health sectors |

TABLE A1. GLOBAL HEALTH SECURITY INDEX FRAMEWORK BY CATEGORIES, INDICATORS, AND SUBINDICATORS *continued*

| | |
|------------|--|
| 3 | RAPID RESPONSE TO AND MITIGATION OF THE SPREAD OF AN EPIDEMIC |
| 3.1 | Emergency preparedness and response planning |
| 3.1.1 | National public health emergency preparedness and response plan |
| 3.1.2 | Private sector involvement in preparedness and response |
| 3.2 | Exercising response plans |
| 3.2.1 | International Health Regulations (IHR) simulation exercises |
| 3.3 | Emergency response operation |
| 3.3.1 | Emergency response operation |
| 3.4 | Linking public health and security authorities |
| 3.4.1 | Public health and security authorities are linked for rapid response during a biological event |
| 3.5 | Risk communication |
| 3.5.1 | Risk communication systems |
| 3.5.2 | Public communication |
| 3.6 | Access to communications infrastructure |
| 3.6.1 | Internet users |
| 3.6.2 | Mobile subscribers |
| 3.6.3 | Female access to a mobile phone |
| 3.6.4 | Female access to the Internet |
| 3.7 | Trade and travel restrictions |
| 3.7.1 | Government restriction of trade and travel |
| 3.7.2 | Non-government restriction of trade and travel |

| | |
|------------|---|
| 4 | SUFFICIENT AND ROBUST HEALTH SYSTEM TO TREAT THE SICK AND PROTECT HEALTH WORKERS |
| 4.1 | Health capacity in clinics, hospitals, and community care centers |
| 4.1.1 | Available human resources for the broader healthcare system |
| 4.1.2 | Facilities capacity |
| 4.2 | Medical countermeasures and personnel deployment |
| 4.2.1 | Capacity to acquire medical countermeasures |
| 4.2.2 | System for dispensing medical countermeasures (MCM) during a public health emergency |
| 4.2.3 | System for receiving foreign health personnel during a public health emergency |
| 4.3 | Healthcare access |
| 4.3.1 | Access to healthcare |
| 4.3.2 | Healthcare worker access to healthcare |
| 4.4 | Communications with healthcare workers during a public health emergency |
| 4.4.1 | Communication with healthcare workers |
| 4.5 | Infection control practices and availability of equipment |
| 4.5.1 | Infection control equipment availability |
| 4.5.2 | Healthcare-associated infection (HCAI) monitoring |
| 4.6 | Capacity to test and approve new medical countermeasures |
| 4.6.1 | Regulatory process for conducting clinical trials of unregistered interventions |
| 4.6.2 | Regulatory process for approving medical countermeasures |

TABLE A1. GLOBAL HEALTH SECURITY INDEX FRAMEWORK BY CATEGORIES, INDICATORS, AND SUBINDICATORS *continued*

| | |
|------------|--|
| 5 | COMMITMENTS TO IMPROVING NATIONAL CAPACITY, FINANCING PLANS TO ADDRESS GAPS, AND ADHERENCE TO GLOBAL NORMS |
| 5.1 | International Health Regulations (IHR) reporting compliance and disaster risk reduction |
| 5.1.1 | Official IHR reporting |
| 5.1.2 | Integration of health into disaster risk reduction |
| 5.2 | Cross-border agreements on public health and animal health emergency response |
| 5.2.1 | Cross-border agreements |
| 5.3 | International commitments |
| 5.3.1 | Participation in international agreements |
| 5.3.2 | Voluntary memberships |
| 5.4 | Joint External Evaluation (JEE) and Performance of Veterinary Services (PVS) Pathway |
| 5.4.1 | Completion and publication of a Joint External Evaluation (JEE) assessment and gap analysis |
| 5.4.2 | Completion and publication of a Performance of Veterinary Services (PVS) assessment and gap analysis |
| 5.5 | Financing |
| 5.5.1 | Financing under Joint External Evaluation (JEE) and Performance of Veterinary Services (PVS) reports and gap analyses |
| 5.5.2 | Financing for emergency response |
| 5.5.3 | Accountability for commitments made at the international stage for addressing epidemic threats |
| 5.6 | Commitment to sharing of genetic and biological data and specimens |
| 5.6.1 | Commitment to sharing genetic data, clinical specimens, and/or isolated specimens (biological materials) in both emergency and nonemergency research |

| 6 OVERALL RISK ENVIRONMENT AND COUNTRY VULNERABILITY TO BIOLOGICAL THREATS | |
|---|--|
| 6.1 | Political and security risk |
| 6.1.1 | Government effectiveness |
| 6.1.2 | Orderly transfers of power |
| 6.1.3 | Risk of social unrest |
| 6.1.4 | Risk of terrorism |
| 6.1.5 | Armed conflict |
| 6.1.6 | Government territorial control |
| 6.1.7 | International tensions |
| 6.2 | Socio-economic resilience |
| 6.2.1 | Literacy |
| 6.2.2 | Gender equality |
| 6.2.3 | Poverty levels |
| 6.2.4 | Public confidence in government |
| 6.2.5 | Local media and reporting |
| 6.3 | Infrastructure adequacy |
| 6.3.1 | Adequacy of road network |
| 6.3.2 | Adequacy of airports |
| 6.3.3 | Adequacy of power network |
| 6.4 | Environmental risks |
| 6.4.1 | Urbanization |
| 6.4.2 | Land use |
| 6.4.3 | Natural disaster risk |
| 6.5 | Public health vulnerabilities |
| 6.5.1 | Access to quality healthcare |
| 6.5.2 | Access to potable water and sanitation |
| 6.5.3 | Public healthcare spending levels per capita |

INDEX CONSTRAINTS AND OTHER IMPORTANT FACTORS

In researching the 2019 Global Health Security Index, The Economist Intelligence Unit relied solely on publicly available sources, such as laws, regulations, policy documents, and government websites. This research approach has the benefit of creating a fully transparent and repeatable methodology that does not create an additional reporting burden for country officials; however, it also presents some challenges. As a result, the 2019 Global Health Security Index may not capture certain preparations that countries have made to improve their health security status in certain domains. For example, some countries may not have strong e-government policies and may not have published existing laws and policies applicable to this research. Other countries may have elected not to publish certain material that they deem sensitive, such as regulations and policies related to biosecurity, which would then lead to an underestimation of scores in those areas.

Additionally, relying solely on publicly available data has limitations on the types of questions that can be credibly researched. For example, the Index cannot capture processes that are often not publicly documented or available, such as the level of activity of cross-ministerial working groups or the average response time between the identification of an emergency and the initiation of a response.

However, there is immense value in restricting the research scope to publicly available information for two principle reasons: (a) although these limitations could be addressed through an interview process, this approach would create an extra reporting burden for country officials, which can divert attention away from implementation, and (b) there is value in making this information available, both to the international community and to the health workforce within each country. As such, The Economist Intelligence Unit, in consultation with NTI and the JHU Center for Health Security, decided to pursue this approach.

METHODOLOGY

General

The 2019 Global Health Security Index comprises categories that are related to the health security conditions of each country. To score the indicators for the Index, the research team gathered data from the following sources:

- Primary legal texts and legal reports
- Government publications and reports
- Academic publications and reports
- Websites of government authorities, international organizations, and non-governmental organizations
- The Economist Intelligence Unit proprietary country data and reports (specifically Risk Briefing and the Democracy Index)
- Local and international news media reports

See the Selected Bibliography for more information about central sources.

The 2019 Global Health Security Index assessed the capacity of the following 195 countries (listed in alphabetical order) in Table A2.

TABLE A2: COUNTRIES ASSESSED FOR 2019 GLOBAL HEALTH SECURITY INDEX

| | | | |
|--------------------------|-----------------------------|-----------------|------------------|
| Afghanistan | China | Guatemala | Maldives |
| Albania | Colombia | Guinea | Mali |
| Algeria | Comoros | Guinea-Bissau | Malta |
| Andorra | Congo (Brazzaville) | Guyana | Marshall Islands |
| Angola | Congo (Democratic Republic) | Haiti | Mauritania |
| Antigua and Barbuda | Cook Islands | Honduras | Mauritius |
| Argentina | Costa Rica | Hungary | Mexico |
| Armenia | Côte d'Ivoire | Iceland | Micronesia |
| Australia | Croatia | India | Moldova |
| Austria | Cuba | Indonesia | Monaco |
| Azerbaijan | Cyprus | Iran | Mongolia |
| Bahamas | Czech Republic | Iraq | Montenegro |
| Bahrain | Denmark | Ireland | Morocco |
| Bangladesh | Djibouti | Israel | Mozambique |
| Barbados | Dominica | Italy | Myanmar |
| Belarus | Dominican Republic | Jamaica | Namibia |
| Belgium | Ecuador | Japan | Nauru |
| Belize | Egypt | Jordan | Nepal |
| Benin | El Salvador | Kazakhstan | Netherlands |
| Bhutan | Equatorial Guinea | Kenya | New Zealand |
| Bolivia | Eritrea | Kiribati | Nicaragua |
| Bosnia and Herzegovina | Estonia | Kuwait | Niger |
| Botswana | Eswatini (Swaziland) | Kyrgyz Republic | Nigeria |
| Brazil | Ethiopia | Laos | Niue |
| Brunei | Fiji | Latvia | North Korea |
| Bulgaria | Finland | Lebanon | North Macedonia |
| Burkina Faso | France | Lesotho | Norway |
| Burundi | Gabon | Liberia | Oman |
| Cabo Verde | Gambia | Libya | Pakistan |
| Cambodia | Georgia | Liechtenstein | Palau |
| Cameroon | Germany | Lithuania | Panama |
| Canada | Ghana | Luxembourg | Papua New Guinea |
| Central African Republic | Greece | Madagascar | Paraguay |
| Chad | Grenada | Malawi | Peru |
| Chile | | Malaysia | Philippines |

TABLE A2: COUNTRIES ASSESSED FOR 2019 GLOBAL HEALTH SECURITY INDEX *continued*

| | | | |
|-----------------------|-----------------------------------|---------------------|----------------------|
| Poland | Slovakia | Sweden | Uganda |
| Portugal | Slovenia | Switzerland | Ukraine |
| Qatar | Solomon Islands | Syria | United Arab Emirates |
| Romania | Somalia | Tajikistan | United Kingdom |
| Russia | South Africa | Tanzania | United States |
| Rwanda | South Korea | Thailand | Uruguay |
| Samoa | South Sudan | Timor-Leste | Uzbekistan |
| San Marino | Spain | Togo | Vanuatu |
| São Tomé and Príncipe | Sri Lanka | Tonga | Venezuela |
| Saudi Arabia | St. Kitts and Nevis | Trinidad and Tobago | Vietnam |
| Senegal | St. Lucia | Tunisia | Yemen |
| Serbia | St. Vincent and the Grenadines | Turkey | Zambia |
| Seychelles | Sudan | Turkmenistan | Zimbabwe |
| Sierra Leone | Suriname | Tuvalu | |

Data Review and Validation Process

After completing the research, The Economist Intelligence Unit provided the 195 countries included in the Index with an opportunity to review and comment on The Economist Intelligence Unit’s preliminary results. The purpose of this data review and validation process was to ensure the accuracy of the 2019 Global Health Security Index data. Score changes were considered only if there was publicly available evidence that had not been previously uncovered by the research team. Unpublished documents were not considered sufficient evidence, keeping in line with the Global Health Security Index’s tenet of the value of publicly available information.

The Economist Intelligence Unit developed country-specific documents that presented all qualitative data for the 2019 Global Health Security Index indicators. The Index research team prioritized qualitative questions over quantitative questions, because these had not been drawn from country-specific sources (e.g., drawn from centralized databases or proprietary Economist

Intelligence Unit databases assessing political stability, effective governance, and corruption). Instead, the questions shared for validation focused on verifying the publication of overarching plans and legislation (such as plans guiding response to public health emergencies or antimicrobial resistance).

The data review and validation form listed the range of possible answers for each subindicator and identified the answer The Economist Intelligence Unit assigned for the country. The forms allowed the reviewer to either agree or disagree with the answer and to provide an alternative answer with supporting evidence. The Economist Intelligence Unit used the submitted responses to reevaluate its scores. In some cases, respondents provided information that resulted in The Economist Intelligence Unit raising a country’s score, whereas in other cases, scores were lowered or kept the same. When the responses were unclear, The Economist Intelligence Unit contacted individuals for clarification. Country representatives had two months—May and June—to respond to the data review and validation request.

Of the 195 countries, 16 responded to the data review and validation request: Belgium, Canada, Finland, Italy, the Kyrgyz Republic, Latvia, Liechtenstein, Lithuania, Peru, Philippines, Portugal, Saint Kitts and Nevis, Sierra Leone, Slovenia, Spain, and Switzerland.

Data Modeling

Data were collected across 140 quantitative and qualitative questions. The majority of the qualitative questions are binary (yes or no) questions, although a select few are tiered to have 2 to 4 possible scoring options to capture more nuanced observations. Each question is constructed so that a higher value is associated with more favorable health security conditions.

For example, for the question on personnel vetting to regulate access to locations with sensitive biological materials (1.3.3a), a country that requires drug testing, background checks, and psychological or mental fitness tests is assigned a value of 3, whereas a country that requires only one of the three checks is assigned a value of 1.

Calculation of the 2019 Global Health Security Index

Modeling the subindicators, indicators, and categories in the Global Health Security Index results in overall scores of 0–100 for each country, in which 100 represents the most favorable health security conditions possible and 0 the least favorable. A score of 100 in the Index does not indicate that a country has perfect health security conditions, and a score of 0 does not mean that a country has no

health security capacity. Instead, scores of 100 and 0 represent the highest or lowest possible scores, respectively, as measured by the Index criteria. The questions listed are classified into subindicators, which, in turn, are grouped into indicators. Their values are summed to determine the value of the indicator:

$$\text{indicator score} = \sum \text{weighted individual subindicators}$$

For the Index, the indicators are classified into six categories. The category values are a weighted total of the indicators in the category:

$$\text{category score} = \sum \text{weighted individual indicators}$$

The category values have been normalized on the basis of the following equation:

$$x = (x - \text{Min}(x)) / (\text{Max}(x) - \text{Min}(x))$$

where $\text{Min}(x)$ and $\text{Max}(x)$ are the lowest and highest values, respectively, in the Global Health Security Index (of the 195 countries) for any given indicator. The normalized value (i.e., a score of 0–100) makes it directly comparable with other normalized indicator scores.

Table A3 shows the calculation of a category score for Prevention of the Emergence or Release of Pathogens:

TABLE A3. SAMPLE CATEGORY SCORE FOR A COUNTRY

| NUMBER | PREVENTION OF THE EMERGENCE OR RELEASE OF PATHOGENS | NORMALIZED SCORE (0–100) | WEIGHT | WEIGHTED SCORE | SCORE |
|--------|--|--------------------------|--------|----------------|-------|
| 1 | Category score | | | | 68.9 |
| 1.1 | Antimicrobial resistance (AMR) | 83.3 | 16.1% | 16.1% of 83.3 | 13.4 |
| 1.2 | Zoonotic disease | 76.9 | 17.8% | 17.8% of 76.9 | 13.7 |
| 1.3 | Biosecurity | 62.7 | 16.1% | 16.1% of 62.7 | 10.1 |
| 1.4 | Biosafety | 50.0 | 16.1% | 16.1% of 50.0 | 8.1 |
| 1.5 | Dual-use research and culture of responsible science | 33.3 | 14.4% | 14.4% of 33.3 | 4.8 |
| 1.6 | Immunization | 96.5 | 19.5% | 19.5% of 96.5 | 18.8 |

The overall score for each country is the weighted sum of the category scores, as determined by the weighting profile: Overall score = \sum weighted category scores

Table A4 shows the calculation of an overall score:

TABLE A4. SAMPLE OVERALL SCORE FOR A COUNTRY

| NUMBER | CATEGORY | NORMALIZED SCORE (0–100) | WEIGHT | WEIGHTED SCORE | SCORE |
|--------|---|--------------------------|--------|----------------|-------------|
| | OVERALL SCORE | | | | 75.6 |
| 1 | PREVENTION OF THE EMERGENCE OR RELEASE OF PATHOGENS | 68.9 | 16.3% | 16.3% of 68.9 | 11.2 |
| 2 | EARLY DETECTION AND REPORTING FOR EPIDEMICS OF POTENTIAL INTERNATIONAL CONCERN | 97.3 | 19.2% | 19.2% of 97.3 | 18.7 |
| 3 | RAPID RESPONSE TO AND MITIGATION OF THE SPREAD OF AN EPIDEMIC | 65.9 | 19.2% | 19.2% of 65.9 | 12.7 |
| 4 | SUFFICIENT AND ROBUST HEALTH SYSTEM TO TREAT THE SICK AND PROTECT HEALTH WORKERS | 63.5 | 16.7% | 16.7% of 63.5 | 10.6 |
| 5 | COMMITMENTS TO IMPROVING NATIONAL CAPACITY, FINANCING PLANS TO ADDRESS GAPS, AND ADHERING TO GLOBAL NORMS | 77.0 | 15.8% | 15.8% of 77.0 | 12.2 |
| 6 | OVERALL RISK ENVIRONMENT AND COUNTRY VULNERABILITY TO BIOLOGICAL THREATS | 79.8 | 12.8% | 12.8% of 79.8 | 10.2 |

Model Weights

The weights assigned to each category and indicator can be changed in the Global Health Security Index data model to reflect different assumptions about their relative importance.

Four sets of weights are provided in the model as follows:

- **Expert panel weights:** The first option, which is used for the default weights, uses expert judgment to assign weights to indicators and brings a real-world perspective to an index, which is important if an index is to guide policy actions. The weights were defined by the Global Health Security Index International Panel of Experts. They are based on input from and discussions among the International Panel of Experts at the April 2019 meeting on the relative value of each category and indicator.
- **Neutral weights:** The second weighting option, neutral weights, assumes equal importance of all categories and evenly distributes weights on that basis. This approach has the advantage of simplicity and does not involve subjective judgment. A disadvantage of this option is that it assumes that all categories are equally significant.

- **Equal weights:** The third option, equal weights, assigns an identical weight to each indicator, rather than to each category. As with neutral weights, the advantage of using equal weights is removing subjective judgment. A disadvantage of this option is that it assumes that all indicators are equally significant.
- **Principal Components Analysis:** A fourth weighting option is principal components analysis (PCA). PCA weights are derived through a mathematical process that accounts for the covariance between indicators and the importance of a particular element in maximizing the variation in the index scores. It aims to minimize redundancy between variables and to maximize the variance within the Index, but it does not consider indicators' perceived importance. See page 80 for additional information on the PCA methodology.

Table A5 shows the Global Health Security Index default weights by category as assigned by the International Panel of Experts.

TABLE A5. WEIGHT PROFILE BY CATEGORY AS DEFINED BY THE INTERNATIONAL PANEL OF EXPERTS

| WEIGHT PROFILE DEFINED BY THE INTERNATIONAL PANEL OF EXPERTS | | |
|--|---|--------|
| | CATEGORY | WEIGHT |
| 1 | PREVENTION OF THE EMERGENCE OR RELEASE OF PATHOGENS | 16.3% |
| 2 | EARLY DETECTION AND REPORTING FOR EPIDEMICS OF POTENTIAL INTERNATIONAL CONCERN | 19.2% |
| 3 | RAPID RESPONSE TO AND MITIGATION OF THE SPREAD OF AN EPIDEMIC | 19.2% |
| 4 | SUFFICIENT AND ROBUST HEALTH SYSTEM TO TREAT THE SICK AND PROTECT HEALTH WORKERS | 16.7% |
| 5 | COMMITMENTS TO IMPROVING NATIONAL CAPACITY, FINANCING PLANS TO ADDRESS GAPS, AND ADHERING TO GLOBAL NORMS | 15.8% |
| 6 | OVERALL RISK ENVIRONMENT AND COUNTRY VULNERABILITY TO BIOLOGICAL THREATS | 12.8% |

Table A6 shows the Global Health Security Index default weights by indicator as assigned by the International Panel of Experts.

TABLE A6. WEIGHT PROFILE BY INDICATOR AS DEFINED BY THE INTERNATIONAL PANEL OF EXPERTS

| CATEGORY | | WEIGHT |
|----------|---|--------|
| 1 | PREVENTING THE EMERGENCE OR RELEASE OF PATHOGENS | |
| 1.1 | Antimicrobial resistance (AMR) | 16.1% |
| 1.2 | Zoonotic disease | 17.8% |
| 1.3 | Biosecurity | 16.1% |
| 1.4 | Biosafety | 16.1% |
| 1.5 | Dual-use research and culture of responsible science | 14.4% |
| 1.6 | Immunization | 19.5% |
| 2 | EARLY DETECTION AND REPORTING FOR EPIDEMICS OF POTENTIAL INTERNATIONAL CONCERN | |
| 2.1 | Laboratory systems | 26.1% |
| 2.2 | Real-time surveillance and reporting | 26.9% |
| 2.3 | Epidemiology workforce | 25.4% |
| 2.4 | Data integration between human, animal, and environmental health sectors | 21.6% |
| 3 | RAPID RESPONSE TO AND MITIGATION OF THE SPREAD OF AN EPIDEMIC | |
| 3.1 | Emergency preparedness and response planning | 15.7% |
| 3.2 | Exercising response plans | 13.7% |
| 3.3 | Emergency response operation | 16.8% |
| 3.4 | Linking public health and security authorities | 12.7% |
| 3.5 | Risk communication | 17.8% |
| 3.6 | Access to communications infrastructure | 12.2% |
| 3.7 | Trade and travel restrictions | 11.2% |

| CATEGORY | | WEIGHT |
|----------|--|--------|
| 4 | SUFFICIENT AND ROBUST HEALTH SYSTEM TO TREAT THE SICK AND PROTECT HEALTH WORKERS | |
| 4.1 | Health capacity in clinics, hospitals, and community care centers | 17.3% |
| 4.2 | Medical countermeasures and personnel deployment | 16.8% |
| 4.3 | Healthcare access | 18.4% |
| 4.4 | Communications with healthcare workers during a public health emergency | 16.8% |
| 4.5 | Infection control practices and availability of equipment | 18.4% |
| 4.6 | Capacity to test and approve new medical countermeasures | 12.4% |
| 5 | COMMITMENTS TO IMPROVING NATIONAL CAPACITY, FINANCING PLANS TO ADDRESS GAPS, AND ADHERING TO GLOBAL NORMS | |
| 5.1 | International Health Regulations (IHR) reporting compliance and disaster risk reduction | 17.4% |
| 5.2 | Cross-border agreements on public health and animal health emergency response | 15.7% |
| 5.3 | International commitments | 13.5% |
| 5.4 | Joint External Evaluation (JEE) and Performance of Veterinary Services (PVS) Pathway | 16.3% |
| 5.5 | Financing | 19.7% |
| 5.6 | Commitment to sharing genetic and biological data and specimens | 17.4% |
| 6 | OVERALL RISK ENVIRONMENT AND COUNTRY VULNERABILITY TO BIOLOGICAL THREATS | |
| 6.1 | Political and security risk | 22.2% |
| 6.2 | Socio-economic resilience | 19.0% |
| 6.3 | Infrastructure adequacy | 20.3% |
| 6.4 | Environmental risks | 17.6% |
| 6.5 | Public health vulnerabilities | 20.9% |

Principal Components Analysis

The goal of principal components analysis (PCA) is to define quantitatively a weighting scheme for the indicators that are used to create a composite index or ranking. PCA is a method for removing redundant information shared across indicators by specifying a weighting that explains the most variance in the data.

The PCA weights featured within the 2019 Global Health Security Index model have been provided for those experts who may wish to explore the behavior of the model in more depth. However, because the weights do not consider the intrinsic significance of an indicator in the context of the 2019 Global Health Security Index, they should not be considered (a) as an alternative to the default weights or (b) as a means of understanding country rankings and scores.

PCA assigns each element in an index a weight that takes into account the covariance between indicators and the importance of a particular element in maximizing the variation in the Global Health Security Index outcome (health security conditions). It aims to minimize redundancy between variables and to maximize the variance with respect to the outcome. The weight is calculated by taking the principal component (eigenvector) associated with the highest explained variance (eigenvalue).

This approach is a way of decomposing the data into independent components ordered by informational content and, according to Ram (1982),³⁷ is a natural choice for an index weighting. Important assumptions for valid PCA are (a) that variance is meaningful and not the result of data with large measurement error and (b) that the dynamics of interest (health security conditions) are along the direction with the largest variance.

A one-stage PCA analysis solves for the weights that maximize the variance across all the indicators, irrespective of category membership:

1. Perform PCA analysis on all the indicators at once, ignoring category membership.
2. Use the principal component associated with the highest eigenvalue.
3. Set negative components to zero (if positive weights are required).
4. Normalize within indicator weights so that the sum of the weights is 1.
5. Normalize the category weights so that the sum across categories is 1.
 - Use the sum of the non-normalized subindicator weights and assign this as the indicator weight for that category.
 - Then renormalize top-level indicator weights across indicators so that those also sum to 1.

Variation within indicator weights is a sign that redundancy is occurring in the elements or that some elements are not as relevant in explaining the variation in the overall index once all the other variables are considered. Finding equal weights across indicators is a sign of very little redundancy across subgroups and similar relevance in explaining variation in the Global Health Security Index, which suggests that the Index was appropriately divided into subgroups.

³⁷ Rati Ram, "Composite Indices of Physical Quality of Life, Basic Needs Fulfillment, and Income: A 'Principal Component' Representation," *Journal of Development Economics* 11, no. 2 (October 1982): 227–47.

Model Correlations

Correlating the 2019 Global Health Security Index to other data sets reveals some potentially interesting associations. Correlations measure the strength of a relationship between two variables. Scatter plots, which can be found on the “Correlations” tab in the Index model, show the correlations between the 2019 Index and a number of variables. Correlation analysis for two of those variables is as follows:

- **Online Service Index:** The 2018 Online Service Index (OSI) is a subset of the United Nations’ annual E-Government Survey assessing a government’s capability and willingness to provide services and communicate with its citizens electronically. The OSI is scored on the basis of 140 binary questions. The OSI has the strongest correlation with the overall score of any of the background indicators (.78), suggesting a relationship between a country’s ability to provide online services and its performance on the Global Health Security Index. This result likely is a reflection of the fact that the Global Health Security Index is scored on the basis of publicly available information; the more committed a country government is to providing information online, the more likely evidence of policies and actions are captured in the index.
- **Human Capital Index:** The World Bank launched the Human Capital Index (HCI), and it was designed to assess the future potential human capital of children born today. The HCI has three components: child survival, expected years of learning-adjusted schooling, and health. The HCI also has a high correlation with the Global Health Security Index (.77). This correlation highlights the relationship between the factors that influence future human capital development and the various dimensions of global health security capacity, such as health systems, human resources, and the risk environment.

- **GDP and GDP per capita:** Two background indicators that do not have a strong positive correlation with the Global Health Security Index are GDP (.37) and GDP per capita (.44). Although this characteristic does indicate a somewhat positive relationship between scores, the low correlation indicates that health security capacity may not be determined entirely by country wealth.

RESEARCH BEHIND SELECTED INDICATORS

This section focuses on the research behind selected indicators, and it includes an explanation for the scoring framework behind several of the more complex variables created by The Economist Intelligence Unit. Scoring criteria for all of the indicators are included in the section titled “Sources and Definitions of Indicators.”

Approach

The Economist Intelligence Unit employed country experts and regional specialists with a wide variety of necessary linguistic skills to undertake the research from its global network of more than 900 analysts and researchers. Researchers were asked to gather data from primary legal texts; government and academic publications; and websites of government authorities, international organizations, and non-governmental organizations. Researchers also reviewed local and international news and media reports. The research process proved challenging, both because of the difficulty in sourcing data and official information related to health security and, in some cases, because of a lack of publicly available information.

Challenging Indicators

2.1.1a Laboratory testing for detection of priority diseases

Does the national laboratory system have the capacity to conduct diagnostic tests for at least five of the 10 WHO-defined core tests?

This question assesses a country's capacity to conduct the 10 core tests. Per the Joint External Evaluation Tool (updated in January 2018), the 10 core tests consist of "six testing methods selected according to the IHR's immediately notifiable list and the WHO top 10 causes of death in low-income countries" and four country-defined tests.³⁸ These tests are included as indications of the capacity of a country's laboratory system to conduct complex tests and are a common, accepted global measure that has been integrated within the Joint External Evaluation as a metric for evaluation.

The answers to this question highlight the difference between examining publicly available information versus capturing the "known" capacity of each country. The purpose of capturing publicly stated testing capabilities is the critical need for researchers, laboratory workers, and other health workers within the country to understand which tests the national laboratory system can perform. As a result, some countries in this Index that likely are able to conduct at least six of the 10 core tests are scored as a "No," given that the countries do not make this information publicly available.

This question captures an important dimension of laboratory capacity, but it remains a difficult one to capture. The Joint External Evaluation reports include assessments on whether a country can conduct at least five of the 10 core tests, but they may not indicate how many tests or which tests can be performed by which laboratories. Furthermore, both countries that publish information on laboratory capacity on their national websites and those that have published information via a Joint External Evaluation report rarely identify the four country-defined tests. As a result, scoring is often based on whether the countries are able to conduct five of the six centrally defined tests, rather than if they can conduct five of the 10 overall core tests.

2.2.2b Interoperable, interconnected, electronic real-time reporting systems

Does the electronic reporting surveillance system collect ongoing or real-time laboratory data?

This question assesses whether the electronic surveillance system also collects laboratory data in real time. Real-time electronic surveillance systems serve to more rapidly identify potential public health emergencies when and where they emerge. Although "real time" is recognized as a standard, there is no easy definition for what constitutes real time for an electronic surveillance system (e.g., if updates need to be made on an hourly, daily, or weekly basis). As a result, the research team needed to determine what could be assessed as ongoing or "real time" and which systems did not demonstrate this capacity.

³⁸ The six commonly defined core tests are polymerase chain reaction testing for influenza virus, virus culture for poliovirus, serology for human immunodeficiency virus (HIV), microscopy for *Mycobacterium tuberculosis*, rapid diagnostic testing for *Plasmodium* spp., and bacterial culture for *Salmonella enteritidis* serotype typhi. The remaining four tests "should be selected by the country on the basis of major national public health concerns." World Health Organization (WHO), Joint External Evaluation Tool, Second ed. (Geneva: WHO; 2018), 49, <https://extranet.who.int/sph/sites/default/files/document-library/document/9789241550222-eng.pdf>.

3.3.1 Emergency response operation

Is there public evidence to show that the Emergency Operations Center (EOC) has conducted, within the last year, a coordinated emergency response or emergency response exercise activated within 120 minutes of the identification of the public health emergency/scenario?

Activation of response within 120 minutes of the identification of a public health emergency is considered a benchmark for measuring the capacity and agility of a country's emergency operations system. However, few countries share information publicly on whether they can achieve this metric.

Most countries for which there is available information on this capability share this only within the text of a Joint External Evaluation report. However, country capacities can change over time, and the findings of a Joint External Evaluation assessment in previous years may not reflect current capacity. For example, a country that indicated it can activate response within two hours in a report published in 2016 may no longer be able to meet this standard. This question, therefore, looks for public evidence demonstrating this capacity in the past year.

Challenging Countries

Although each country has unique research challenges, certain countries and contexts presented particular research challenges. Venezuela and Syria were particular cases, because these countries' political and health systems are in turmoil owing to ongoing conflict. The United Kingdom was another country that presented as a challenge, given its pending transition out of the European Union (at the time of research). Other countries were also challenging because of a lack of publicly available information, either due to security concerns (e.g., Israel) or due to a lack of resources or investment in e-government (e.g., small and low-income countries).

Sources and Definitions of Indicators

Table A7 provides the sources and definitions of indicators of the 2019 Global Health Security Index.

TABLE A7. SOURCES AND DEFINITIONS OF INDICATORS

| QUESTION NUMBER | SOURCES | QUESTION AND SCORING |
|--|--|---|
| CATEGORY 1: PREVENTION OF THE EMERGENCE OR RELEASE OF PATHOGENS | | |
| 1.1 Antimicrobial resistance (AMR) | | |
| 1.1.1 AMR surveillance, detection, and reporting | | |
| 1.1.1a | World Health Organization (WHO) Library of national action plans on AMR; completed Joint External Evaluation (JEE) assessments; The Economist Intelligence Unit analyst qualitative assessment based on official national sources, which vary by country | <p>Is there a national AMR plan for the surveillance, detection, and reporting of priority AMR pathogens?</p> <p>Yes, there is evidence of an AMR plan, and it covers surveillance, detection, and reporting = 2</p> <p>Yes, there is evidence of an AMR plan, but there is insufficient evidence that it covers surveillance, detection, and reporting = 1</p> <p>No evidence of an AMR plan = 0</p> |
| 1.1.1b | WHO Library of national action plans on AMR; completed JEE assessments; The Economist Intelligence Unit analyst qualitative assessment based on official national sources, which vary by country | <p>Is there a national laboratory/laboratory system which tests for priority AMR pathogens?</p> <p>All 7 + 1 priority pathogens = 2</p> <p>Yes, but not all 7+1 pathogens = 1</p> <p>No = 0</p> |
| 1.1.1c | WHO Library of national action plans on AMR; completed JEE assessments; The Economist Intelligence Unit analyst qualitative assessment based on official national sources, which vary by country | <p>Does the government conduct environmental detection or surveillance activities (e.g., in soil, waterways) for antimicrobial residues or AMR organisms?</p> <p>Yes = 1</p> <p>No = 0</p> |
| 1.1.2 Antimicrobial control | | |
| 1.1.2a | WHO Library of national action plans on AMR; completed JEE assessments; The Economist Intelligence Unit analyst qualitative assessment based on official national sources, which vary by country | <p>Is there national legislation or regulation in place requiring prescriptions for antibiotic use for humans?</p> <p>Yes = 1</p> <p>No = 0</p> |
| 1.1.2b | WHO Library of national action plans on AMR; completed JEE assessments; The Economist Intelligence Unit analyst qualitative assessment based on official national sources, which vary by country | <p>Is there national legislation or regulation in place requiring prescriptions for antibiotic use for animals?</p> <p>Yes = 1</p> <p>No = 0</p> |

| QUESTION NUMBER | SOURCES | QUESTION AND SCORING |
|---|---|---|
| 1.2 Zoonotic disease | | |
| 1.2.1 National planning for zoonotic diseases/pathogens | | |
| 1.2.1a | Completed JEE assessments; completed Performance of Veterinary Services (PVS) assessments; The Economist Intelligence Unit analyst qualitative assessment based on official national sources, which vary by country | Is there national legislation, plans, or equivalent strategy documents on zoonotic disease? Yes = 1 No = 0 |
| 1.2.1b | Completed JEE assessments; completed PVS assessments; The Economist Intelligence Unit analyst qualitative assessment based on official national sources, which vary by country | Is there national legislation, plans, or guidelines that account for the surveillance and control of multiple zoonotic pathogens of public health concern? Yes = 1 No = 0 |
| 1.2.1c | Completed JEE assessments; completed PVS assessments; The Economist Intelligence Unit analyst qualitative assessment based on official national sources, which vary by country | Is there a department, agency, or similar unit dedicated to zoonotic disease that functions across ministries? Yes = 1 No = 0 |
| 1.2.2 Surveillance systems for zoonotic diseases/pathogens | | |
| 1.2.2a | Completed JEE assessments; completed PVS assessments; The Economist Intelligence Unit analyst qualitative assessment based on official national sources, which vary by country | Does the country have a national mechanism (either voluntary or mandatory) for owners of livestock to conduct and report on disease surveillance to a central government agency? Yes = 1 No = 0 |
| 1.2.2b | Completed JEE assessments; completed PVS assessments; The Economist Intelligence Unit analyst qualitative assessment based on official national sources, which vary by country | Is there legislation and/or regulations that safeguard the confidentiality of information generated through surveillance activities for animals (for owners)? Yes = 1 No = 0 |
| 1.2.2c | Completed JEE assessments; completed PVS assessments; The Economist Intelligence Unit analyst qualitative assessment based on official national sources, which vary by country | Does the country conduct surveillance of zoonotic disease in wildlife (e.g., wild animals, insects, other disease vectors)? Yes = 1 No = 0 |

TABLE A7. SOURCES AND DEFINITIONS OF INDICATORS *continued*

| QUESTION NUMBER | SOURCES | QUESTION AND SCORING |
|--|---|---|
| 1.2.3 International reporting of animal disease outbreaks | | |
| 1.2.3a | World Organisation for Animal Health (OIE) World Animal Health Information System (WAHIS) | Has the country submitted a report to OIE on the incidence of human cases of zoonotic disease for the last calendar year? Yes = 1 No = 0 |
| 1.2.4 Animal health workforce | | |
| 1.2.4a | OIE WAHIS | Number of veterinarians per 100,000 people |
| 1.2.4b | OIE WAHIS | Number of veterinary para-professionals per 100,000 people |
| 1.2.5 Private sector and zoonotic disease | | |
| 1.2.5a | Completed JEE assessments; completed PVS assessments; The Economist Intelligence Unit analyst qualitative assessment based on official national sources, which vary by country | Does the national plan on zoonotic disease or other legislation, regulations, or plans include mechanisms for working with the private sector in controlling or responding to zoonoses? Yes = 1 No = 0 |
| 1.3 Biosecurity | | |
| 1.3.1 Whole-of-government biosecurity systems | | |
| 1.3.1a | Completed JEE assessments; Verification Research, Training and Information Centre (VERTIC) database; Biological Weapons Convention (BWC) Confidence-Building Measures; The Economist Intelligence Unit analyst qualitative assessment based on official national sources, which vary by country | Does the country have in place a record, updated within the past five years, of the facilities in which especially dangerous pathogens and toxins are stored or processed, including details on inventories and inventory management systems of those facilities? Yes = 1 No = 0 |
| 1.3.1b | Completed JEE assessments; VERTIC database; BWC Confidence-Building Measures; The Economist Intelligence Unit analyst qualitative assessment based on official national sources, which vary by country | Does the country have in place legislation and/or regulations related to biosecurity which address requirements such as physical containment, operation practices, failure reporting systems, and/or cybersecurity of facilities in which especially dangerous pathogens and toxins are stored or processed? Yes = 1 No = 0 |

| QUESTION NUMBER | SOURCES | QUESTION AND SCORING |
|--|--|---|
| 1.3.1c | Completed JEE assessments; VERTIC database; BWC Confidence-Building Measures; The Economist Intelligence Unit analyst qualitative assessment based on official national sources, which vary by country | <p>Is there an established agency (or agencies) responsible for the enforcement of biosecurity legislation and regulations?</p> <p>Yes = 1 No = 0</p> |
| 1.3.1d | Completed JEE assessments; VERTIC database; BWC Confidence-Building Measures; The Economist Intelligence Unit analyst qualitative assessment based on official national sources, which vary by country | <p>Is there public evidence that shows that the country has taken action to consolidate its inventories of especially dangerous pathogens and toxins into a minimum number of facilities?</p> <p>Yes = 1 No = 0</p> |
| 1.3.1e | Completed JEE assessments; The Economist Intelligence Unit analyst qualitative assessment based on official national sources, which vary by country | <p>Is there public evidence of in-country capacity to conduct Polymerase Chain Reaction (PCR)-based diagnostic testing for anthrax and/or Ebola, which would preclude culturing a live pathogen?</p> <p>Yes = 1 No = 0</p> |
| 1.3.2 Biosecurity training and practices | | |
| 1.3.2a | Completed JEE assessments; VERTIC database; BWC Confidence-Building Measures; The Economist Intelligence Unit analyst qualitative assessment based on official national sources, which vary by country | <p>Does the country require biosecurity training, using a standardized, required approach, such as through a common curriculum or a train-the-trainer program, for personnel working in facilities housing or working with especially dangerous pathogens, toxins, or biological materials with pandemic potential?</p> <p>Yes = 1 No = 0</p> |
| 1.3.3 Personnel vetting: Regulating access to sensitive locations | | |
| 1.3.3a | Completed JEE assessments; VERTIC database; BWC Confidence-Building Measures; The Economist Intelligence Unit analyst qualitative assessment based on official national sources, which vary by country | <p>Do regulations or licensing conditions specify that security and other personnel with access to especially dangerous pathogens, toxins, or biological materials with pandemic potential are subject to the following checks: drug testing, background checks, and psychological or mental fitness checks?</p> <p>Personnel are subject to all three of these checks = 3 Personnel are subject to two of these checks = 2 Personnel are subject to one of these checks = 1 Personnel are not subject to any of these checks = 0</p> |

TABLE A7. SOURCES AND DEFINITIONS OF INDICATORS *continued*

| QUESTION NUMBER | SOURCES | QUESTION AND SCORING |
|---|--|---|
| 1.3.4 Transportation security | | |
| 1.3.4a | Completed JEE assessments; VERTIC database; BWC Confidence-Building Measures; Economist Intelligence Unit analyst qualitative assessment based on official national sources, which vary by country | Does the country have publicly available information on national regulations on the safe and secure transport of infectious substances (specifically including Categories A and B ³⁹)? Yes = 1 No = 0 |
| 1.3.5 Cross-border transfer and end-user screening | | |
| 1.3.5a | Completed JEE assessments; VERTIC database; BWC Confidence-Building Measures; The Economist Intelligence Unit analyst qualitative assessment based on official national sources, which vary by country | Is there legislation and/or regulations in place to oversee the cross-border transfer and end-user screening of especially dangerous pathogens, toxins, and pathogens with pandemic potential? Yes = 1 No = 0 |
| 1.4 Biosafety | | |
| 1.4.1 Whole-of-government biosafety systems | | |
| 1.4.1a | Completed JEE assessments; VERTIC database; BWC Confidence-Building Measures; The Economist Intelligence Unit analyst qualitative assessment based on official national sources, which vary by country | Does the country have in place national biosafety legislation and/or regulations? Yes = 1 No = 0 |
| 1.4.1b | Completed JEE assessments; VERTIC database; BWC Confidence-Building Measures; The Economist Intelligence Unit analyst qualitative assessment based on official national sources, which vary by country | Is there an established agency responsible for the enforcement of biosafety legislation and regulations? Yes = 1 No = 0 |
| 1.4.2 Biosafety training and practices | | |
| 1.4.2a | Completed JEE assessments; VERTIC database; BWC Confidence-Building Measures; The Economist Intelligence Unit analyst qualitative assessment based on official national sources, which vary by country | Does the country require biosafety training, using a standardized, required approach, such as through a common curriculum or a train-the-trainer program, for personnel working in facilities housing or working with especially dangerous pathogens, toxins, or biological materials with pandemic potential? Yes = 1 No = 0 |

³⁹ The World Health Organization defines a Category A substance as "an infectious substance which is transported in a form that, when exposure to it occurs, is capable of causing permanent disability, life-threatening or fatal disease in otherwise healthy humans or animals." Category B substances are all other infectious substances which do not meet the criteria of Category A.

| QUESTION NUMBER | SOURCES | QUESTION AND SCORING |
|--|--|--|
| 1.5 Dual-use research and culture of responsible science | | |
| 1.5.1 Oversight of research with especially dangerous pathogens, toxins, pathogens with pandemic potential and/or other dual-use research | | |
| 1.5.1a | Completed JEE assessments; VERTIC database; BWC Confidence-Building Measures; The Economist Intelligence Unit analyst qualitative assessment based on official national sources, which vary by country | Is there publicly available evidence that the country has conducted an assessment to determine whether ongoing research is occurring on especially dangerous pathogens, toxins, pathogens with pandemic potential and/or other dual-use research? Yes = 1 No = 0 |
| 1.5.1b | Completed JEE assessments; VERTIC database; BWC Confidence-Building Measures; The Economist Intelligence Unit analyst qualitative assessment based on official national sources, which vary by country | Is there legislation and/or regulation requiring oversight of research with especially dangerous pathogens, toxins, pathogens with pandemic potential and/or other dual-use research? Yes = 1 No = 0 |
| 1.5.1c | Completed JEE assessments; VERTIC database; BWC Confidence-Building Measures; The Economist Intelligence Unit analyst qualitative assessment based on official national sources, which vary by country | Is there an agency responsible for oversight of research with especially dangerous pathogens, toxins, pathogens with pandemic potential and/or other dual-use research? Yes = 1 No = 0 |
| 1.5.2 Screening requirements for providers of genetic material | | |
| 1.5.2a | Completed JEE assessments; VERTIC database; BWC Confidence-Building Measures; The Economist Intelligence Unit analyst qualitative assessment based on official national sources, which vary by country | Is there legislation and/or regulation requiring the screening of synthesized DNA (deoxyribonucleic acid) against lists of known pathogens and toxins before it is sold? Yes = 1 No = 0 |
| 1.6 Immunization | | |
| 1.6.1 Vaccination rates | | |
| 1.6.1a | WHO | Immunization rate (measles/MCV1) |
| 1.6.1b | OIE WAHIS | Are official foot-and-mouth disease (FMD) vaccination figures for livestock publicly available through the OIE database? Yes = 1 No = 0 |

TABLE A7. SOURCES AND DEFINITIONS OF INDICATORS *continued*

| QUESTION NUMBER | SOURCES | QUESTION AND SCORING |
|---|---|--|
| CATEGORY 2: EARLY DETECTION AND REPORTING FOR EPIDEMICS OF POTENTIAL INTERNATIONAL CONCERN | | |
| 2.1 Laboratory systems | | |
| 2.1.1 Laboratory capacity for detecting of priority diseases | | |
| 2.1.1a | Completed JEE assessments; The Economist Intelligence Unit analyst qualitative assessment based on official national sources, which vary by country | <p>Does the national laboratory system have the capacity to conduct diagnostic tests for at least 5 of the 10 WHO-defined core tests?</p> <p>Evidence they can conduct 5 of the 10 core tests and these tests are named = 2 Evidence they can conduct 5 of the 10 core tests and the tests are not named = 1 No evidence they can conduct 5 of the 10 core tests = 0</p> |
| 2.1.1b | Completed JEE assessments; The Economist Intelligence Unit analyst qualitative assessment based on official national sources, which vary by country | <p>Is there a national procurement protocol in place which can be utilized by the Ministries of Health and Agriculture for the acquisition of laboratory needs (such as equipment, reagents, and media)?</p> <p>Yes = 1 No = 0</p> |
| 2.1.2 Specimen referral and transport system | | |
| 2.1.2a | Completed JEE assessments; The Economist Intelligence Unit analyst qualitative assessment based on official national sources, which vary by country | <p>Does the country participate in a regional or international laboratory network?</p> <p>Yes = 1 No = 0</p> |
| 2.1.2b | Completed JEE assessments; The Economist Intelligence Unit analyst qualitative assessment based on official national sources, which vary by country | <p>Is there a nationwide specimen transport system?⁴⁰</p> <p>Yes = 1 No = 0</p> |
| 2.1.3 Laboratory quality systems | | |
| 2.1.3a | Completed JEE assessments; The Economist Intelligence Unit analyst qualitative assessment based on official national sources, which vary by country | <p>Is there a national laboratory that serves as a reference facility which is accredited (e.g., International Organization for Standardization [ISO] 15189:2003, U.S. Clinical Laboratory Improvement Amendments [CLIA])?</p> <p>Yes = 1 No = 0</p> |

⁴⁰ "Nationwide" is defined as evidence of at least 80% of districts covered by specimen transport systems.

| QUESTION NUMBER | SOURCES | QUESTION AND SCORING |
|--|---|---|
| 2.1.3b | Completed JEE assessments; The Economist Intelligence Unit analyst qualitative assessment based on official national sources, which vary by country | Is there a national laboratory that serves as a reference facility which is subject to external quality assurance review? Yes = 1 No = 0 |
| 2.2 Real-time surveillance and reporting | | |
| 2.2.1 Indicator and event-based surveillance and reporting systems | | |
| 2.2.1a | Completed JEE assessments; The Economist Intelligence Unit analyst qualitative assessment based on official national sources, which vary by country | Is there evidence that the country is conducting ongoing event-based surveillance and analysis for infectious disease? Yes, there is evidence of ongoing event-based surveillance and evidence that the data is being analyzed on a daily basis = 2 Yes, there is evidence of ongoing event-based surveillance, but no evidence that the data are being analyzed on a daily basis = 1 No = 0 |
| 2.2.1b | WHO Disease Outbreak News; The Economist Intelligence Unit analyst qualitative assessment based on official national sources, which vary by country | Is there publicly available evidence that the country reported a potential public health emergency of international concern (PHEIC) to the WHO within the last two years? Yes = 1 No = 0 |
| 2.2.2 Interoperable, interconnected, electronic real-time reporting systems | | |
| 2.2.2a | Completed JEE assessments; The Economist Intelligence Unit analyst qualitative assessment based on official national sources, which vary by country | Does the government operate an electronic reporting surveillance system at both the national and the sub-national level? Yes = 1 No = 0 |
| 2.2.2b | Completed JEE assessments; The Economist Intelligence Unit analyst qualitative assessment based on official national sources, which vary by country | Does the electronic reporting surveillance system collect ongoing or real-time laboratory data? Yes = 1 No = 0 |
| 2.2.2c | Completed JEE assessments; The Economist Intelligence Unit analyst qualitative assessment based on official national sources, which vary by country | Has the government made a commitment via public statements, legislation, and/or a cooperative agreement to share surveillance data during a public health emergency with other countries in the region? Yes = 1 No = 0 |

TABLE A7. SOURCES AND DEFINITIONS OF INDICATORS *continued*

| QUESTION NUMBER | SOURCES | QUESTION AND SCORING |
|--|---|--|
| 2.2.3 Transparency of surveillance data | | |
| 2.2.3a | The Economist Intelligence Unit analyst qualitative assessment based on official national sources, which vary by country | Does the country make de-identified health surveillance data on disease outbreaks publicly available via reports (or other format) on government websites (such as the Ministry of Health, Ministry of Agriculture, or similar)? Yes = 1 No = 0 |
| 2.2.4 Ethical considerations during surveillance | | |
| 2.2.4a | The Economist Intelligence Unit analyst qualitative assessment based on official national sources, which vary by country | Is there legislation and/or regulations that safeguard the confidentiality of identifiable health information for individuals, such as that generated through health surveillance activities? Yes = 1 No = 0 |
| 2.2.4b | The Economist Intelligence Unit analyst qualitative assessment based on official national sources, which vary by country | Is there legislation and/or regulations safeguarding the confidentiality of identifiable health information for individuals, such as that generated through health surveillance activities, include mention of protections from cyber attacks (e.g., ransomware)? Yes = 1 No = 0 |
| 2.2.5 Coverage and use of electronic health records | | |
| 2.2.5a | WHO eHealth Atlas; Economist Intelligence Unit analyst qualitative assessment based on official national sources, which vary by country | Are electronic health records commonly in use? ⁴¹ Electronic health records are commonly in use = 2 Electronic health records are not commonly in use, but there is evidence they are used = 1 No evidence electronic health records are in use = 0 |
| 2.2.5b | The Economist Intelligence Unit analyst qualitative assessment based on official national sources, which vary by country | Does the national public health system have access to electronic health records of individuals in their country? Yes = 1 No = 0 |
| 2.2.5c | The Economist Intelligence Unit analyst qualitative assessment based on official national sources, which vary by country | Are there data standards to ensure data is comparable (e.g., ISO standards)? Yes = 1 No = 0 |

⁴¹ "Commonly in use" is defined as being used in 75% or more of the country's health facilities.

| QUESTION NUMBER | SOURCES | QUESTION AND SCORING |
|---|--|--|
| 2.3 Epidemiology workforce | | |
| 2.3.1 Applied epidemiology training program, such as the field epidemiology training program, for public health professionals and veterinarians (e.g., Field Epidemiology Training Program [FETP] and Field Epidemiology Training Program for Veterinarians [FETPV]) | | |
| 2.3.1a | Completed JEE assessments; The Economist Intelligence Unit analyst qualitative assessment based on official national sources, which vary by country | <p>Does the country meet one of the following criteria?</p> <ul style="list-style-type: none"> • Applied epidemiology training program (such as FETP) is available in country • Resources are provided by the government to send citizens to another country to participate in applied epidemiology training programs (such as FETP) <p>Needs to meet at least one of the criteria to be scored a 1 on this measure.</p> <p>Yes for both = 1 Yes for one = 1 No for both = 0</p> |
| 2.3.1b | Completed JEE assessments; OIE PVS assessments; The Economist Intelligence Unit analyst qualitative assessment based on official national sources, which vary by country | <p>Are the available field epidemiology training programs explicitly inclusive of animal health professionals or is there a specific animal health field epidemiology training program offered (such as FETPV)?</p> <p>Yes = 1 No = 0</p> |
| 2.3.2 Epidemiology workforce capacity | | |
| 2.3.2a | Completed JEE assessments; The Economist Intelligence Unit analyst qualitative assessment based on official national sources, which vary by country | <p>Is there public evidence that the country has at least 1 trained field epidemiologist per 200,000 people?</p> <p>Yes = 1 No = 0</p> |
| 2.4 Data integration between human, animal, and environmental health sectors | | |
| 2.4.1 Data integration between human, animal, and environmental health sectors | | |
| 2.4.1a | Completed JEE assessments; OIE PVS assessments; The Economist Intelligence Unit analyst qualitative assessment based on official national sources, which vary by country | <p>Is there evidence of established mechanisms at the relevant ministries responsible for animal, human, and wildlife surveillance to share data (e.g., through mosquito surveillance, brucellosis surveillance)?</p> <p>Yes = 1 No = 0</p> |

TABLE A7. SOURCES AND DEFINITIONS OF INDICATORS *continued*

| QUESTION NUMBER | SOURCES | QUESTION AND SCORING |
|--|---|---|
| CATEGORY 3: RAPID RESPONSE TO AND MITIGATION OF THE SPREAD OF AN EPIDEMIC | | |
| 3.1 Emergency preparedness and response planning | | |
| 3.1.1 National public health emergency preparedness and response plan | | |
| 3.1.1a | Completed JEE assessments; The Economist Intelligence Unit analyst qualitative assessment based on official national sources, which vary by country | <p>Does the country have a national public health emergency response plan in place which addresses planning for multiple communicable diseases with epidemic or pandemic potential?</p> <p>Evidence that there are plans in place, and the plans are publicly available = 2 Evidence that there are plans in place, but the plans are not publicly available = 1 No evidence that such a plan or plans are in place = 0</p> |
| 3.1.1b | Completed JEE assessments; The Economist Intelligence Unit analyst qualitative assessment based on official national sources, which vary by country | <p>If this plan is in place, has it been updated in the last 3 years?</p> <p>Yes = 1 No/no plan in place = 0</p> |
| 3.1.1c | Completed JEE assessments; The Economist Intelligence Unit analyst qualitative assessment based on official national sources, which vary by country | <p>If this plan is in place, does it include considerations for pediatric and/or other vulnerable populations?</p> <p>Yes = 1 No/no plan in place = 0</p> |
| 3.1.1d | WHO Strategic Partnership for IHR and Health Security (SPH) | <p>Does the country have a publicly available plan in place specifically for pandemic influenza preparedness that has been updated since 2009?</p> <p>Yes = 1 No = 0</p> |
| 3.1.2 Private sector involvement in preparedness and response | | |
| 3.1.2a | Completed JEE assessments; The Economist Intelligence Unit analyst qualitative assessment based on official national sources, which vary by country | <p>Does the country have a specific mechanism(s) for engaging with the private sector to assist with outbreak emergency preparedness and response?</p> <p>Yes = 1 No = 0</p> |

| QUESTION NUMBER | SOURCES | QUESTION AND SCORING |
|--|---|--|
| 3.2 Exercising response plans | | |
| 3.2.1 International Health Regulations (IHR) simulation exercises | | |
| 3.2.1a | WHO Strategic Partnership for IHR and Health Security (SPH) | <p>Has the country completed a biological threat-focused IHR exercise with the WHO in the past year (excluding chemical and radiological exercises)?</p> <p>Yes = 1 No = 0</p> |
| 3.2.1b | WHO Strategic Partnership for IHR and Health Security (SPH); The Economist Intelligence Unit analyst qualitative assessment based on official national sources, which vary by country | <p>Is there evidence that the country in the past year has undergone an exercise to identify a list of gaps and best practices through either an after action review (post emergency response) or a biological threat-focused IHR exercise with the WHO?</p> <p>Yes = 1 No = 0</p> |
| 3.3 Emergency response operation | | |
| 3.3.1 Emergency response operation | | |
| 3.3.1a | Completed JEE assessments; The Economist Intelligence Unit analyst qualitative assessment based on official national sources, which vary by country | <p>Does the country have in place an Emergency Operations Center (EOC)?</p> <p>Yes = 1 No = 0</p> |
| 3.3.1b | Completed JEE assessments; The Economist Intelligence Unit analyst qualitative assessment based on official national sources, which vary by country | <p>Is the Emergency Operations Center (EOC) required to conduct a drill at least once per year, or is there evidence that they conduct a drill at least once per year?</p> <p>Yes = 1 No = 0</p> |
| 3.3.1c | Completed JEE assessments; The Economist Intelligence Unit analyst qualitative assessment based on official national sources, which vary by country | <p>Is there public evidence to show that the Emergency Operations Center (EOC) has conducted within the last year a coordinated emergency response or emergency response exercise activated within 120 minutes of the identification of the public health emergency/ scenario?</p> <p>Yes = 1 No = 0</p> |

TABLE A7. SOURCES AND DEFINITIONS OF INDICATORS *continued*

| QUESTION NUMBER | SOURCES | QUESTION AND SCORING |
|---|---|---|
| 3.4 Linking public health and security authorities | | |
| 3.4.1 Public health and security authorities are linked for rapid response during a biological event | | |
| 3.4.1a | Completed JEE assessments; The Economist Intelligence Unit analyst qualitative assessment based on official national sources, which vary by country | <p>Does the country meet one of the following criteria?</p> <ul style="list-style-type: none"> • Is there public evidence that public health and national security authorities have carried out an exercise to respond to a potential deliberate biological event (i.e., bioterrorism attack)? • Are there publicly available standard operating procedures, guidelines, memorandums of understanding (MOUs), or other agreements between the public health and security authorities to respond to a potential deliberate biological event (i.e., bioterrorism attack)? <p>Needs to meet at least one of the criteria to be scored a 1 on this measure.</p> <p>Yes for both = 1 Yes for one = 1 No for both = 0</p> |
| 3.5 Risk communication | | |
| 3.5.1 Risk communication systems | | |
| 3.5.1a | Completed JEE assessments; The Economist Intelligence Unit analyst qualitative assessment based on official national sources, which vary by country | <p>Does the country have in place, either in the national public health emergency response plan or in other legislation, regulation, or strategy documents, a section detailing a risk communication plan that is specifically intended for use during a public health emergency?</p> <p>Yes = 1 No = 0</p> |
| 3.5.2 Public communication | | |
| 3.5.2a | The Economist Intelligence Unit analyst qualitative assessment based on official national sources, which vary by country | <p>Is there evidence that the government utilizes media platforms (e.g., social media, website updates) to inform the public about public health emergencies?</p> <p>Yes = 1 No = 0</p> |

| QUESTION NUMBER | SOURCES | QUESTION AND SCORING |
|---|---|---|
| 3.5.2b | Completed JEE assessments; The Economist Intelligence Unit analyst qualitative assessment based on official national sources, which vary by country | <p>Does the risk communication plan (or other legislation, regulation, or strategy document used to guide national public health response) outline how messages will reach populations and sectors with different communications needs (e.g., different languages, location within the country, media reach)?</p> <p>Yes = 1 No = 0</p> |
| 3.6 Access to communications infrastructure | | |
| 3.6.1 Internet users | | |
| 3.6.1a | International Telecommunication Union (ITU) | Percentage of households with Internet |
| 3.6.2 Mobile subscribers | | |
| 3.6.2a | ITU | Mobile-cellular telephone subscriptions per 100 inhabitants |
| 3.6.3 Female access to a mobile phone | | |
| 3.6.3a | Gallup; The Economist Intelligence Unit | Percentage point gap between males and females whose home has access to a mobile phone |
| 3.6.4 Female access to the Internet | | |
| 3.6.4a | Gallup; The Economist Intelligence Unit | Percentage point gap between males and females whose home has access to the Internet |
| 3.7 Trade and travel restrictions | | |
| 3.7.1 Government restriction of trade and travel | | |
| 3.7.1a | The Economist Intelligence Unit analyst qualitative assessment based on official national sources, which vary by country | <p>In the past year, has the country issued a restriction on either the movement of people or the export/import of goods from another country, stating that it was due to the risk posed by an infectious disease outbreak?</p> <p>Yes = 0 No = 1</p> |

TABLE A7. SOURCES AND DEFINITIONS OF INDICATORS *continued*

| QUESTION NUMBER | SOURCES | QUESTION AND SCORING |
|---|--|---|
| 3.7.1b | The Economist Intelligence Unit analyst qualitative assessment based on official national sources, which vary by country | <p>If there were restrictions, were these considered in accord with the WHO International Health Regulations/OIE regulations and recommendations?</p> <p>Yes/no restrictions = 1 No = 0</p> |
| 3.7.2 Non-government restriction of trade and travel | | |
| 3.7.2a | The Economist Intelligence Unit analyst qualitative assessment based on official national sources, which vary by country | <p>In the past year, has an airline headquartered in the country issued a restriction on either the movement of people or the export/import of goods from another country, stating that it was due to the risk posed by an infectious disease outbreak?</p> <p>Yes = 0 No = 1</p> |
| 3.7.2b | The Economist Intelligence Unit analyst qualitative assessment based on official national sources, which vary by country | <p>If there were restrictions, were these considered in accord with the WHO International Health Regulations/OIE regulations and recommendations?</p> <p>Yes/no restrictions = 1 No = 0</p> |

| QUESTION NUMBER | SOURCES | QUESTION AND SCORING |
|---|---|---|
| CATEGORY 4: SUFFICIENT AND ROBUST HEALTH SYSTEM TO TREAT THE SICK AND PROTECT HEALTH WORKERS | | |
| 4.1 Health capacity in clinics, hospitals, and community care centers | | |
| 4.1.1 Available human resources for the broader healthcare system | | |
| 4.1.1a | WHO; national sources. | Doctors per 100,000 people |
| 4.1.1b | WHO; national sources. | Nurses and midwives per 100,000 people |
| 4.1.1c | Completed JEE assessments; The Economist Intelligence Unit analyst qualitative assessment based on official national sources, which vary by country | <p>Does the country have a health workforce strategy in place (which has been updated in the past five years) to identify fields where there is an insufficient workforce and strategies to address these shortcomings?</p> <p>Yes = 1 No = 0</p> |
| 4.1.2 Facilities capacity | | |
| 4.1.2a | WHO/World Bank; national sources. | Hospital beds per 100,000 people |
| 4.1.2b | Completed JEE assessments; The Economist Intelligence Unit analyst qualitative assessment based on official national sources, which vary by country | <p>Does the country have the capacity to isolate patients with highly communicable diseases in a biocontainment patient care unit and/or patient isolation room/unit located within the country?</p> <p>Yes = 1 No = 0</p> |

TABLE A7. SOURCES AND DEFINITIONS OF INDICATORS *continued*

| QUESTION NUMBER | SOURCES | QUESTION AND SCORING |
|---|---|---|
| 4.2 Medical countermeasures and personnel deployment | | |
| 4.2.1 Capacity to acquire medical countermeasures | | |
| 4.2.1a | Completed JEE assessments; The Economist Intelligence Unit analyst qualitative assessment based on official national sources, which vary by country | <p>Does the country meet one of the following criteria:</p> <ul style="list-style-type: none"> • Does the country maintain a stockpile of medical countermeasures (MCM) for national use during a public health emergency (i.e., vaccines, therapeutics, and diagnostics)? • Does the country have an agreement in place with manufacturers or distributors to procure medical countermeasures (MCM) for national use during a public health emergency (i.e., vaccines, therapeutics, and diagnostics)? <p>Needs to meet at least one of the criteria to be scored a 1 on this measure.</p> <p>Yes for both = 1 Yes for one = 1 No for both = 0</p> |
| 4.2.2 System for dispensing medical countermeasures (MCM) during a public health emergency | | |
| 4.2.2a | Completed JEE assessments; The Economist Intelligence Unit analyst qualitative assessment based on official national sources, which vary by country | <p>Does the country have a plan, program, or guidelines in place for dispensing medical countermeasures (MCM) for national use during a public health emergency (i.e., antibiotics, vaccines, therapeutics and diagnostics)?</p> <p>Yes = 1 No = 0</p> |
| 4.2.3 System for receiving foreign health personnel during a public health emergency | | |
| 4.2.3a | Completed JEE assessments; The Economist Intelligence Unit analyst qualitative assessment based on official national sources, which vary by country | <p>Is there a public plan in place to receive health personnel from other countries to respond to a public health emergency?</p> <p>Yes = 1 No = 0</p> |
| 4.3 Healthcare access | | |
| 4.3.1 Access to healthcare | | |
| 4.3.1a | The Economist Intelligence Unit analyst qualitative assessment based on official national sources, which vary by country | <p>Has the country enacted legislation mandating universal healthcare coverage?</p> <p>Yes = 1 No = 0</p> |

| QUESTION NUMBER | SOURCES | QUESTION AND SCORING |
|--|---|---|
| 4.3.1b | WHO/World Bank/United Nations Children’s Fund (UNICEF) | Access to skilled birth attendants (% of population) |
| 4.3.1c | WHO Global Health Expenditure database | Out-of-pocket health expenditures per capita, purchasing power parity (PPP; current international \$) |
| 4.3.2 Healthcare worker access to healthcare | | |
| 4.3.2a | The Economist Intelligence Unit analyst qualitative assessment based on official national sources, which vary by country | <p>Has the government issued legislation, a policy, or a public statement committing to provide prioritized healthcare services to healthcare workers who become sick as a result of responding to a public health emergency?</p> <p>Yes = 1 No = 0</p> |
| 4.4 Communications with healthcare workers during a public health emergency | | |
| 4.4.1 Communication with healthcare workers | | |
| 4.4.1a | Completed JEE assessments; The Economist Intelligence Unit analyst qualitative assessment based on official national sources, which vary by country | <p>Is there a system in place for public health officials and healthcare workers to communicate during a public health emergency?</p> <p>Yes = 1 No = 0</p> |
| 4.4.1b | Completed JEE assessments; The Economist Intelligence Unit analyst qualitative assessment based on official national sources, which vary by country | <p>Does the system for public health officials and healthcare workers to communicate during an emergency encompass healthcare workers in both the public and private sector?</p> <p>Yes = 1 No = 0</p> |
| 4.5 Infection control practices and availability of equipment | | |
| 4.5.1 Infection control equipment availability | | |
| 4.5.1a | Completed JEE assessments; The Economist Intelligence Unit analyst qualitative assessment based on official national sources, which vary by country | <p>Has the country published a publicly available plan, strategy, or similar document to address personal protective equipment (PPE) supply issues for both routine national use and during a public health emergency?</p> <p>Yes = 1 No = 0</p> |

TABLE A7. SOURCES AND DEFINITIONS OF INDICATORS *continued*

| QUESTION NUMBER | SOURCES | QUESTION AND SCORING |
|--|--|--|
| 4.5.2 Healthcare associated infection (HCAI) monitoring | | |
| 4.5.2a | WHO Library of national action plans on AMR; Completed JEE assessments; The Economist Intelligence Unit analyst qualitative assessment based on official national sources, which vary by country | Is there evidence that the national public health system is monitoring for and tracking the number of healthcare associated infections (HCAI) that take place in healthcare facilities? Yes = 1 No = 0 |
| 4.6 Capacity to test and approve new medical countermeasures | | |
| 4.6.1 Regulatory process for conducting clinical trials of unregistered interventions | | |
| 4.6.1a | The Economist Intelligence Unit analyst qualitative assessment based on official national sources, which vary by country | Is there a national requirement for ethical review (e.g., from an ethics committee or via Institutional Review Board approval) before beginning a clinical trial? Yes = 1 No = 0 |
| 4.6.1b | The Economist Intelligence Unit analyst qualitative assessment based on official national sources, which vary by country | Is there an expedited process for approving clinical trials for unregistered medical countermeasures (MCM) to treat ongoing epidemics? Yes = 1 No = 0 |
| 4.6.2 Regulatory process for approving medical countermeasures | | |
| 4.6.2a | The Economist Intelligence Unit analyst qualitative assessment based on official national sources, which vary by country | Is there a government agency responsible for approving new medical countermeasures (MCM) for humans? Yes = 1 No = 0 |
| 4.6.2b | The Economist Intelligence Unit analyst qualitative assessment based on official national sources, which vary by country | Is there an expedited process for approving medical countermeasures (MCM) for human use during public health emergencies? Yes = 1 No = 0 |

| QUESTION NUMBER | SOURCES | QUESTION AND SCORING |
|--|---|---|
| CATEGORY 5: COMMITMENTS TO IMPROVING NATIONAL CAPACITY, FINANCING PLANS TO ADDRESS GAPS, AND ADHERING TO GLOBAL NORMS | | |
| 5.1 International Health Regulations (IHR) reporting compliance and disaster risk reduction | | |
| 5.1.1 Official IHR reporting | | |
| 5.1.1a | WHO | <p>Has the country submitted IHR reports to the WHO for the previous calendar year?</p> <p>Yes = 1 No = 0</p> |
| 5.1.2 Integration of health into disaster risk reduction | | |
| 5.1.2a | Completed JEE assessments; The Economist Intelligence Unit analyst qualitative assessment based on official national sources, which vary by country | <p>Are epidemics and pandemics integrated into the national risk reduction strategy or is there a standalone national disaster risk reduction strategy for epidemics and pandemics?</p> <p>Yes = 1 No = 0</p> |
| 5.2 Cross-border agreements on public health and animal health emergency response | | |
| 5.2.1 Cross-border agreements | | |
| 5.2.1a | Completed JEE assessments; The Economist Intelligence Unit analyst qualitative assessment based on official national sources, which vary by country | <p>Does the country have cross-border agreements, protocols, or MOUs with neighboring countries, or as part of a regional group, with regards to public health emergencies?</p> <p>Yes = 1 No = 0</p> |
| 5.2.1b | Completed JEE assessments; The Economist Intelligence Unit analyst qualitative assessment based on official national sources, which vary by country | <p>Does the country have cross-border agreements, protocols, or MOUs with neighboring countries, or as part of a regional group, with regards to animal health emergencies?</p> <p>Yes = 1 No = 0</p> |

TABLE A7. SOURCES AND DEFINITIONS OF INDICATORS *continued*

| QUESTION NUMBER | SOURCES | QUESTION AND SCORING |
|--|-------------------------------|---|
| 5.3 International commitments | | |
| 5.3.1 Participation in international agreements | | |
| 5.3.1a | Biological Weapons Convention | Does the county have signatory and ratification (or same legal effect) status to the Biological Weapons Convention? Signed and ratified (or action having the same legal effect) = 2 Signed = 1 Non-compliant or not a member = 0 |
| 5.3.1b | Biological Weapons Convention | Has the country submitted confidence building measures for the Biological Weapons Convention in the past three years? Yes = 1 No = 0 |
| 5.3.1c | Biological Weapons Convention | Has the state provided the required United Nations Security Council Resolution (UNSCR) 1540 report to the Security Council Committee established pursuant to resolution 1540 (1540 Committee)? Yes = 1 No = 0 |
| 5.3.1d | Biological Weapons Convention | Extent of United Nations Security Council Resolution (UNSCR) 1540 implementation related to legal frameworks and enforcement for countering biological weapons: Very good (100+ points) = 4 Good (75–99 points) = 3 Moderate (50–74 points) = 2 Weak (25–49 points) = 1 Very weak (0–24 points) or no matrix exists/ country is not party to the BWC = 0 |

| QUESTION NUMBER | SOURCES | QUESTION AND SCORING |
|--|---|---|
| 5.3.2 Voluntary memberships | | |
| 5.3.2a | Global Health Security Agenda; JEE Alliance; Global Partnership Against the Spread of Weapons and Materials of Mass Destruction; Australia Group; Proliferation Security Initiative (PSI) | <p>Does the country meet at least 2 of the following criteria?</p> <ul style="list-style-type: none"> • Membership in Global Health Security Agenda (GHSa) • Membership in the Alliance for Country Assessments for Global Health Security and IHR Implementation (JEE Alliance) • Membership in the Global Partnership Against the Spread of Weapons and Materials of Mass Destruction (GP) • Membership in the Australia Group (AG) • Membership in the Proliferation Security Initiative (PSI) <p>Needs to meet at least two of the criteria to be scored a 1 on this measure.</p> <p>Yes for five = 1 Yes for four = 1 Yes for three = 1 Yes for two = 1 Yes for one = 0 No for all = 0</p> |
| 5.4 Joint External Evaluation (JEE) and Performance of Veterinary Services (PVS) Pathway | | |
| 5.4.1 Completion and publication of a Joint External Evaluation (JEE) assessment and gap analysis | | |
| 5.4.1a | WHO Strategic Partnership for IHR and Health Security (SPH); Global Health Security Agenda | <p>Has the country completed a Joint External Evaluation (JEE) or precursor external evaluation (e.g., GHSa pilot external assessment) and published a full public report in the last five years?</p> <p>Yes = 1 No = 0</p> |
| 5.4.1b | WHO Strategic Partnership for IHR and Health Security (SPH); Global Health Security Agenda | <p>Has the country completed and published, within the last five years, either a National Action Plan for Health Security (NAPHS) to address gaps identified through the Joint External Evaluation (JEE) assessment or a national GHSa roadmap that sets milestones for achieving each of the GHSa targets?</p> <p>Yes = 1 No = 0</p> |

TABLE A7. SOURCES AND DEFINITIONS OF INDICATORS *continued*

| QUESTION NUMBER | SOURCES | QUESTION AND SCORING |
|--|--|---|
| 5.4.2 Completion and publication of a Performance of Veterinary Services (PVS) assessment and gap analysis | | |
| 5.4.2a | OIE PVS assessments | Has the country completed and published a Performance of Veterinary Services (PVS) assessment in the last five years? Yes = 1 No = 0 |
| 5.4.2b | OIE PVS assessments | Has the country completed and published a Performance of Veterinary Services (PVS) gap analysis in the last five years? Yes = 1 No = 0 |
| 5.5 Financing | | |
| 5.5.1 Financing under Joint External Evaluation (JEE) and Performance of Veterinary Services (PVS) reports and gap analyses | | |
| 5.5.1a | WHO Strategic Partnership for IHR and Health Security (SPH); Global Health Security Agenda | Does the Joint External Evaluation (JEE) report, National Action Plan for Health Security (NAPHS), and/or national GHSA roadmap allocate or describe specific funding from the national budget (covering a time-period either in the future or within the past five years) to address the identified gaps? Yes = 1 No/country has not conducted a JEE = 0 |
| 5.5.1b | OIE PVS assessments | Does the Performance of Veterinary Services (PVS) gap analysis and/or PVS assessment allocate or describe specific funding from the national budget (covering a time-period either in the future or within the past five years) to address the identified gaps? Yes = 1 No/country has not conducted a PVS = 0 |
| 5.5.2 Financing for emergency response | | |
| 5.5.2a | The Economist Intelligence Unit analyst qualitative assessment based on official national sources, which vary by country | Is there a publicly identified special emergency public financing mechanism and funds which the country can access in the face of a public health emergency (such as through a dedicated national reserve fund, an established agreement with the World Bank pandemic financing facility/other multilateral emergency funding mechanism, or other pathway identified through a public health or state of emergency act)? Yes = 1 No = 0 |

| QUESTION NUMBER | SOURCES | QUESTION AND SCORING |
|---|--|--|
| 5.5.3 Accountability for commitments made at the international stage for addressing epidemic threats | | |
| 5.5.3a | The Economist Intelligence Unit analyst qualitative assessment based on official national sources, which vary by country | <p>Is there evidence that senior leaders (president or ministers), in the past three years, have made a public commitment either to:</p> <ul style="list-style-type: none"> • Support other countries to improve capacity to address epidemic threats by providing financing or support? • Improve the country's domestic capacity to address epidemic threats by expanding financing or requesting support to improve capacity? <p>Needs to meet at least one of the criteria to be scored a 1 on this measure.</p> <p>Yes for both = 1 Yes for one = 1 No for both = 0</p> |
| 5.5.3b | Georgetown Infectious Disease Atlas (GIDA); The Economist Intelligence Unit analyst qualitative assessment based on official national sources, which vary by country | <p>Is there evidence that the country has, in the past three years, either invested finances (from donors or national budget) or provided technical support either to:</p> <ul style="list-style-type: none"> • Support other countries to improve capacity to address epidemic threats? • Improve the country's domestic capacity to address epidemic threats? <p>Needs to meet at least one of the criteria to be scored a 1 on this measure.</p> <p>Yes for both = 1 Yes for one = 1 No for both = 0</p> |
| 5.6 Commitment to sharing of genetic and biological data and specimens | | |
| 5.6.1 Commitment to sharing genetic data, clinical specimens, and/or isolated specimens (biological materials) in both emergency and nonemergency research | | |
| 5.6.1a | The Economist Intelligence Unit analyst qualitative assessment based on official national sources, which vary by country | <p>Is there a publicly available plan or policy for sharing genetic data, clinical specimens, and/or isolated specimens (biological materials) along with the associated epidemiological data with international organizations and/or other countries that goes beyond influenza?</p> <p>Yes = 1 No = 0</p> |

TABLE A7. SOURCES AND DEFINITIONS OF INDICATORS *continued*

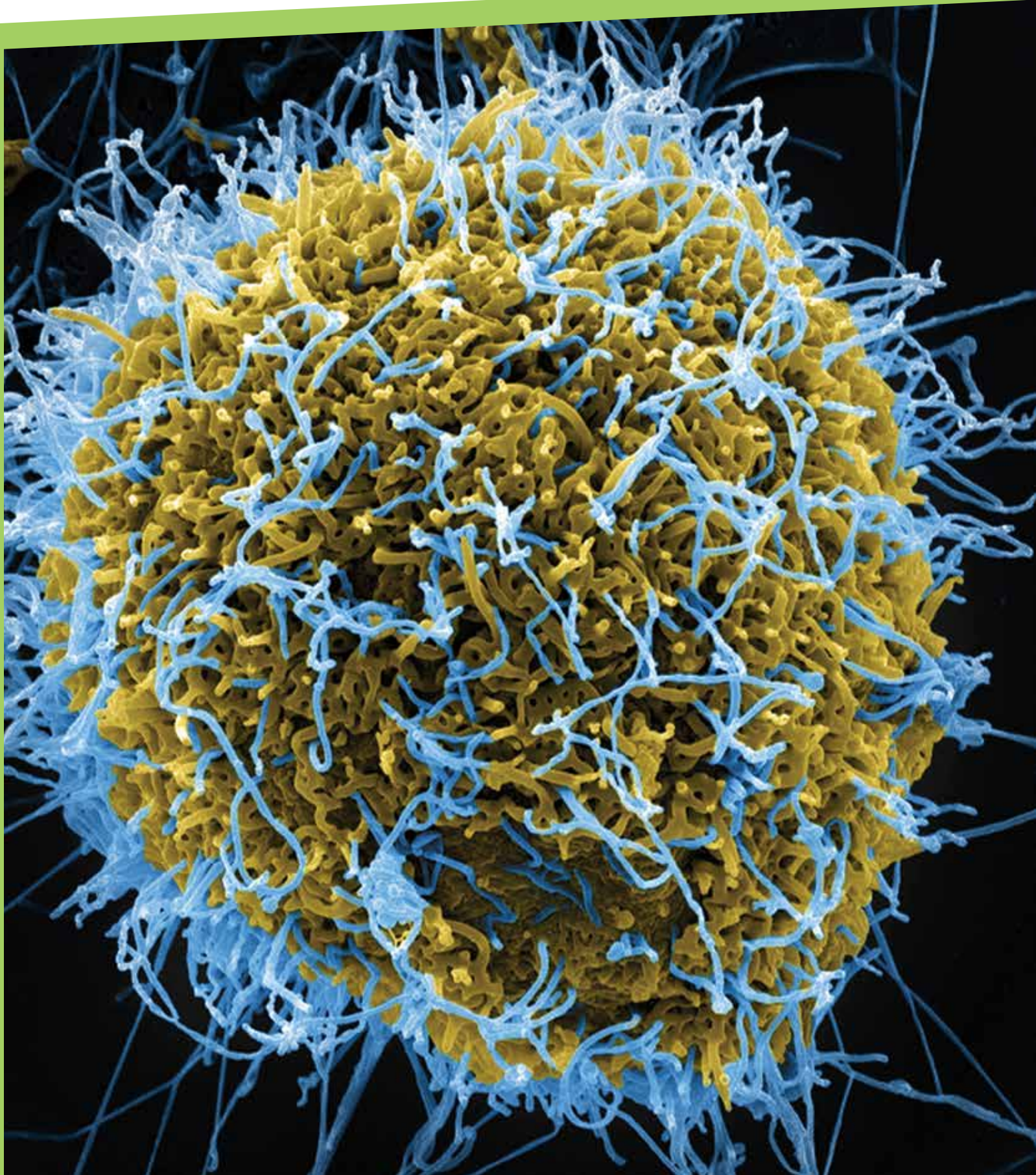
| QUESTION NUMBER | SOURCES | QUESTION AND SCORING |
|-----------------|---|---|
| 5.6.1b | WHO; The Economist Intelligence Unit analyst qualitative assessment based on official national sources, which vary by country | <p>Is there public evidence that the country has not shared samples in accordance with the Pandemic Influenza Preparedness (PIP) framework in the past two years?</p> <p>Yes = 0 No = 1</p> |
| 5.6.1c | WHO; The Economist Intelligence Unit analyst qualitative assessment based on official national sources, which vary by country | <p>Is there public evidence that the country has not shared pandemic pathogen samples during an outbreak in the past two years?</p> <p>Yes = 0 No = 1</p> |

| QUESTION NUMBER | SOURCES | QUESTION AND SCORING |
|---|---|--|
| CATEGORY 6: OVERALL RISK ENVIRONMENT AND COUNTRY VULNERABILITY TO BIOLOGICAL THREATS | | |
| 6.1 Political and security risk | | |
| 6.1.1 Government effectiveness | | |
| 6.1.1a | The Economist Intelligence Unit (EIU) | Government effectiveness (EIU score) |
| 6.1.2 Orderly transfers of power | | |
| 6.1.2a | The Economist Intelligence Unit | How clear, established, and accepted are constitutional mechanisms for the orderly transfer of power from one government to another? |
| 6.1.3 Risk of social unrest | | |
| 6.1.3a | The Economist Intelligence Unit | What is the risk of disruptive social unrest? |
| 6.1.4 Risk of terrorism | | |
| 6.1.4a | The Economist Intelligence Unit | How likely is it that domestic or foreign terrorists will attack with a frequency or severity that causes substantial disruption? |
| 6.1.5 Armed conflict | | |
| 6.1.5a | The Economist Intelligence Unit | Is this country presently subject to an armed conflict, or is there at least a moderate risk of such conflict in the future? |
| 6.1.6 Government territorial control | | |
| 6.1.6a | The Economist Intelligence Unit Democracy Index | Does the government's authority extend over the full territory of the country? |
| 6.1.7 International tensions | | |
| 6.1.7a | The Economist Intelligence Unit | Is there a threat that international disputes/tensions could have a negative effect? |
| 6.2 Socio-economic resilience | | |
| 6.2.1 Literacy | | |
| 6.2.1a | United Nations Development Programme (UNDP); United Nations Educational, Scientific and Cultural Organization (UNESCO); The Economist Intelligence Unit | Adult literacy rate, population 15+ years, both sexes (%) |

TABLE A7. SOURCES AND DEFINITIONS OF INDICATORS *continued*

| QUESTION NUMBER | SOURCES | QUESTION AND SCORING |
|--|---|--|
| 6.2.2 Gender equality | | |
| 6.2.2a | United Nations Development Programme (UNDP); The Economist Intelligence Unit | United Nations Development Programme (UNDP) Gender Inequality Index score |
| 6.2.3 Poverty levels | | |
| 6.2.3a | World Bank; The Economist Intelligence Unit | Poverty headcount ratio at \$1.90 a day (2011 PPP) (% of population) |
| 6.2.4 Public confidence in government | | |
| 6.2.4a | The Economist Intelligence Unit Democracy Index | Level of confidence in public institutions |
| 6.2.5 Local media and reporting | | |
| 6.2.5a | The Economist Intelligence Unit Democracy Index | Is media coverage robust? Is there open and free discussion of public issues, with a reasonable diversity of opinions? |
| 6.3 Infrastructure adequacy | | |
| 6.3.1 Adequacy of road network | | |
| 6.3.1a | The Economist Intelligence Unit | What is the risk that the road network will prove inadequate to meet needs? |
| 6.3.2 Adequacy of airports | | |
| 6.3.2a | The Economist Intelligence Unit | What is the risk that air transport will prove inadequate to meet needs? |
| 6.3.3 Adequacy of power network | | |
| 6.3.3a | The Economist Intelligence Unit | What is the risk that power shortages could be disruptive? |
| 6.4 Environmental risks | | |
| 6.4.1 Urbanization | | |
| 6.4.1a | World Bank | Urban population (% of total population) |
| 6.4.2 Land use | | |
| 6.4.2a | World Bank; The Economist Intelligence Unit | Percentage point change in forest area between 2006–2016 |
| 6.4.3 Natural disaster risk | | |
| 6.4.3a | The Economist Intelligence Unit | What is the risk that the economy will suffer a major disruption owing to a natural disaster? |

| QUESTION NUMBER | SOURCES | QUESTION AND SCORING |
|---|--|---|
| 6.5 Public health vulnerabilities | | |
| 6.5.1 Access to quality healthcare | | |
| 6.5.1a | United Nations; World Bank, UNICEF; Institute for Health Metrics and Evaluation (IHME); Central Intelligence Agency (CIA) World Factbook | Total life expectancy (years) |
| 6.5.1b | Global Burden of Disease; The Economist Intelligence Unit | Healthcare Access and Quality (HAQ) Index frontier score |
| 6.5.2 Access to potable water and sanitation | | |
| 6.5.2a | UNICEF; The Economist Intelligence Unit | Percentage of homes with access to at least basic water infrastructure |
| 6.5.2b | UNICEF; The Economist Intelligence Unit | Percentage of homes with access to at least basic sanitation facilities |
| 6.5.3 Public healthcare spending levels per capita | | |
| 6.5.3a | WHO Global Health Expenditure database | Domestic general government health expenditure per capita, PPP (current international \$) |



Ebola virus particles emerging from infected cell

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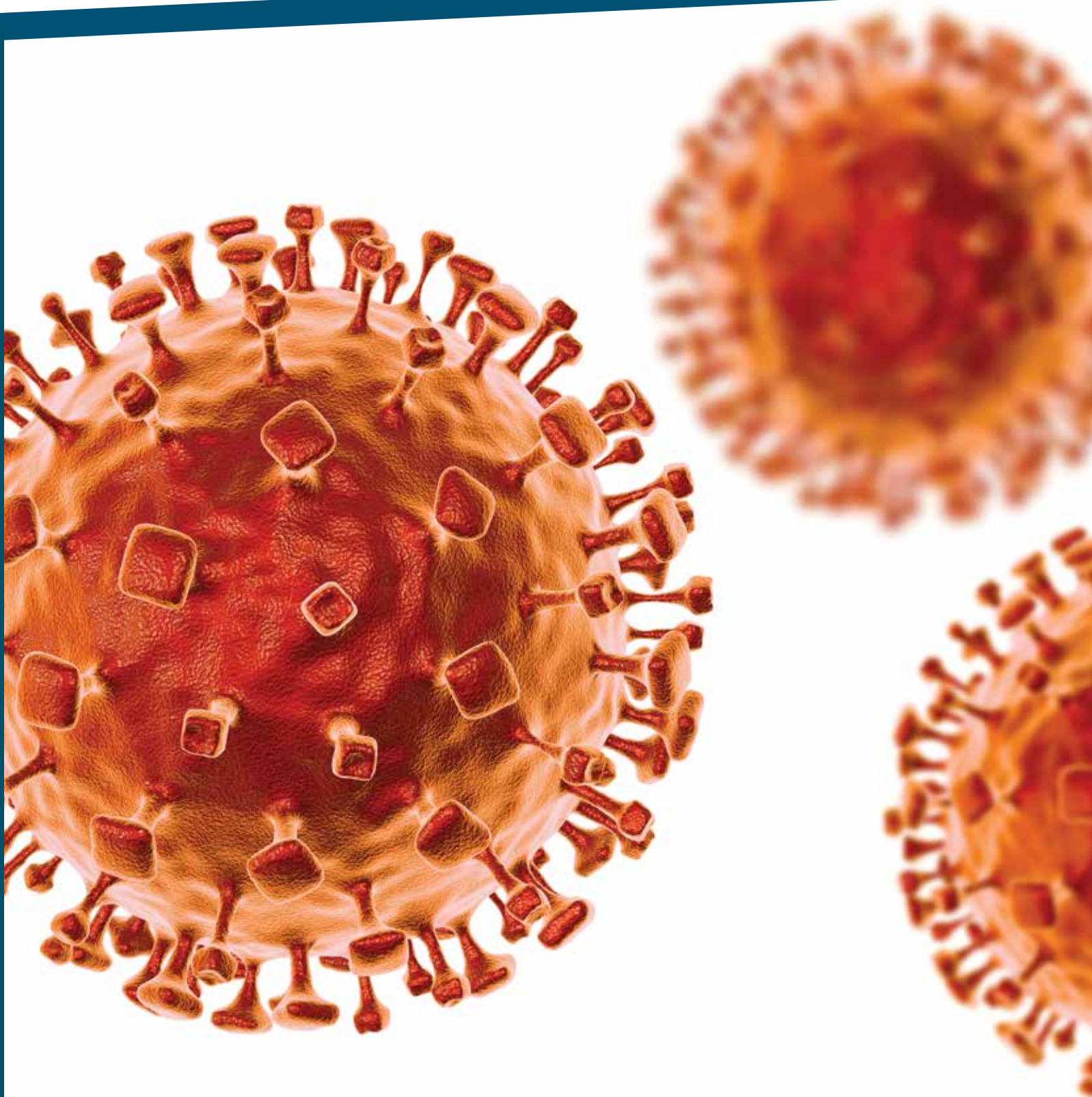
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Note: The Economist Intelligence Unit qualitative assessments are based on official national sources, which vary by country.



Nipah virus

Country Profiles

Individual country profiles on the following pages include scores across the six categories of the GHS Index and compare those scores to the average.

Visit www.ghsindex.org for more information on each country, to download individual country profiles, to use the score simulator, to download the data model, and more.



Afghanistan

32.3 Index Score

130/195



PREVENT



DETECT



RESPOND



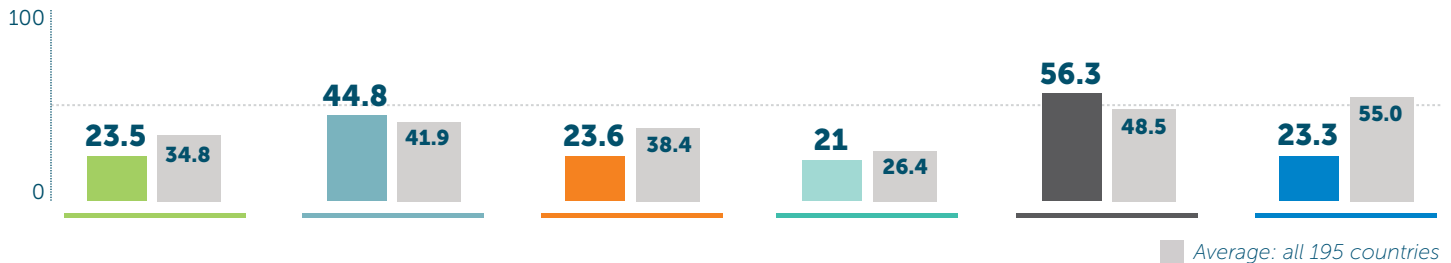
HEALTH



NORMS



RISK



■ Average: all 195 countries

| | COUNTRY SCORE | AVERAGE SCORE* | | COUNTRY SCORE | AVERAGE SCORE* |
|--|---------------|----------------|---|---------------|----------------|
| PREVENTION | 23.5 | 34.8 | HEALTH SYSTEM | 21.0 | 26.4 |
| Antimicrobial resistance (AMR) | 16.7 | 42.4 | Health capacity in clinics, hospitals and community care centers | 43.2 | 24.4 |
| Zoonotic disease | 27.2 | 27.1 | Medical countermeasures and personnel deployment | 0 | 21.2 |
| Biosecurity | 0 | 16.0 | Healthcare access | 40 | 38.4 |
| Biosafety | 0 | 22.8 | Communications with healthcare workers during a public health emergency | 0 | 15.1 |
| Dual-use research and culture of responsible science | 0 | 1.7 | Infection control practices and availability of equipment | 0 | 20.8 |
| Immunization | 81.6 | 85.0 | Capacity to test and approve new medical countermeasures | 50 | 42.2 |
| DETECTION AND REPORTING | 44.8 | 41.9 | COMPLIANCE WITH INTERNATIONAL NORMS | 56.3 | 48.5 |
| Laboratory systems | 33.3 | 54.4 | IHR reporting compliance and disaster risk reduction | 50 | 62.3 |
| Real-time surveillance and reporting | 6.7 | 39.1 | Cross-border agreements on public and animal health emergency response | 50 | 54.4 |
| Epidemiology workforce | 50 | 42.3 | International commitments | 75 | 53.4 |
| Data integration between human/animal/environmental health sectors | 100 | 29.7 | JEE and PVS | 50 | 17.7 |
| RAPID RESPONSE | 23.6 | 38.4 | Financing | 50 | 36.4 |
| Emergency preparedness and response planning | 18.8 | 16.9 | Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| Exercising response plans | 0 | 16.2 | RISK ENVIRONMENT | 23.3 | 55.0 |
| Emergency response operation | 33.3 | 23.6 | Political and security risks | 3.6 | 60.4 |
| Linking public health and security authorities | 0 | 22.6 | Socio-economic resilience | 45.4 | 66.1 |
| Risk communication | 0 | 39.4 | Infrastructure adequacy | 0 | 49.0 |
| Access to communications infrastructure | 31.9 | 72.7 | Environmental risks | 55.7 | 52.9 |
| Trade and travel restrictions | 100 | 97.4 | Public health vulnerabilities | 19.5 | 46.9 |

*Average: all 195 countries

Scores are normalized (0–100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



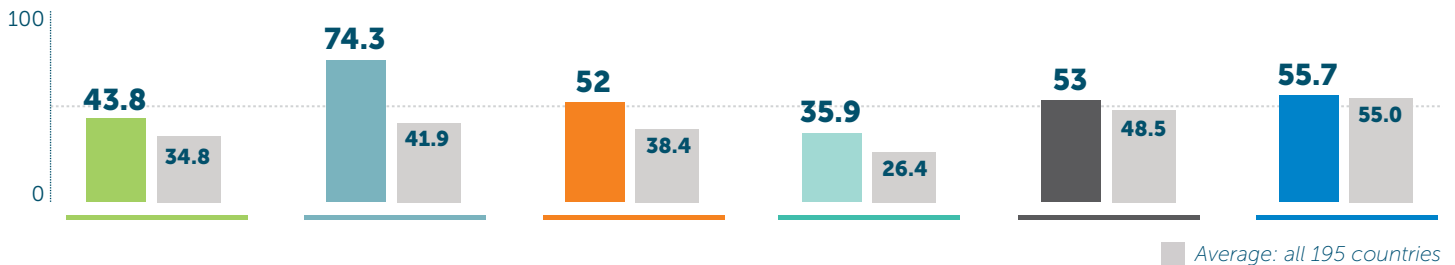
HEALTH



NORMS



RISK



| | COUNTRY SCORE | AVERAGE SCORE* |
|---|---------------|----------------|
| PREVENTION | 43.8 | 34.8 |
| Antimicrobial resistance (AMR) | 33.3 | 42.4 |
| Zoonotic disease | 27.8 | 27.1 |
| Biosecurity | 40 | 16.0 |
| Biosafety | 50 | 22.8 |
| Dual-use research and culture of responsible science | 0 | 1.7 |
| Immunization | 97.4 | 85.0 |
| DETECTION AND REPORTING | 74.3 | 41.9 |
| Laboratory systems | 58.3 | 54.4 |
| Real-time surveillance and reporting | 45 | 39.1 |
| Epidemiology workforce | 100 | 42.3 |
| Data integration between human/ animal/environmental health sectors | 100 | 29.7 |
| RAPID RESPONSE | 52.0 | 38.4 |
| Emergency preparedness and response planning | 50 | 16.9 |
| Exercising response plans | 0 | 16.2 |
| Emergency response operation | 33.3 | 23.6 |
| Linking public health and security authorities | 0 | 22.6 |
| Risk communication | 100 | 39.4 |
| Access to communications infrastructure | 78.8 | 72.7 |
| Trade and travel restrictions | 100 | 97.4 |

| | COUNTRY SCORE | AVERAGE SCORE* |
|---|---------------|----------------|
| HEALTH SYSTEM | 35.9 | 26.4 |
| Health capacity in clinics, hospitals and community care centers | 10.8 | 24.4 |
| Medical countermeasures and personnel deployment | 33.3 | 21.2 |
| Healthcare access | 30 | 38.4 |
| Communications with healthcare workers during a public health emergency | 100 | 15.1 |
| Infection control practices and availability of equipment | 0 | 20.8 |
| Capacity to test and approve new medical countermeasures | 50 | 42.2 |
| COMPLIANCE WITH INTERNATIONAL NORMS | 53.0 | 48.5 |
| IHR reporting compliance and disaster risk reduction | 50 | 62.3 |
| Cross-border agreements on public and animal health emergency response | 100 | 54.4 |
| International commitments | 46.9 | 53.4 |
| JEE and PVS | 25 | 17.7 |
| Financing | 33.3 | 36.4 |
| Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| RISK ENVIRONMENT | 55.7 | 55.0 |
| Political and security risks | 64.3 | 60.4 |
| Socio-economic resilience | 74.2 | 66.1 |
| Infrastructure adequacy | 33.3 | 49.0 |
| Environmental risks | 50.4 | 52.9 |
| Public health vulnerabilities | 55.8 | 46.9 |

*Average: all 195 countries

Scores are normalized (0–100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



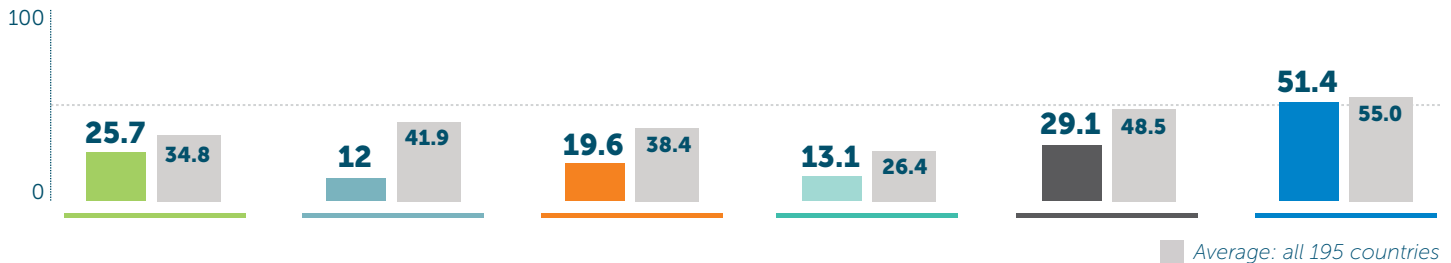
HEALTH



NORMS



RISK



■ Average: all 195 countries

| | COUNTRY SCORE | AVERAGE SCORE* | | COUNTRY SCORE | AVERAGE SCORE* |
|--|---------------|----------------|---|---------------|----------------|
| PREVENTION | 25.7 | 34.8 | HEALTH SYSTEM | 13.1 | 26.4 |
| Antimicrobial resistance (AMR) | 33.3 | 42.4 | Health capacity in clinics, hospitals and community care centers | 7.5 | 24.4 |
| Zoonotic disease | 8.2 | 27.1 | Medical countermeasures and personnel deployment | 0 | 21.2 |
| Biosecurity | 0 | 16.0 | Healthcare access | 47.2 | 38.4 |
| Biosafety | 0 | 22.8 | Communications with healthcare workers during a public health emergency | 0 | 15.1 |
| Dual-use research and culture of responsible science | 0 | 1.7 | Infection control practices and availability of equipment | 0 | 20.8 |
| Immunization | 96.5 | 85.0 | Capacity to test and approve new medical countermeasures | 25 | 42.2 |
| DETECTION AND REPORTING | 12.0 | 41.9 | COMPLIANCE WITH INTERNATIONAL NORMS | 29.1 | 48.5 |
| Laboratory systems | 16.7 | 54.4 | IHR reporting compliance and disaster risk reduction | 50 | 62.3 |
| Real-time surveillance and reporting | 28.3 | 39.1 | Cross-border agreements on public and animal health emergency response | 0 | 54.4 |
| Epidemiology workforce | 0 | 42.3 | International commitments | 40.6 | 53.4 |
| Data integration between human/animal/environmental health sectors | 0 | 29.7 | JEE and PVS | 0 | 17.7 |
| RAPID RESPONSE | 19.6 | 38.4 | Financing | 16.7 | 36.4 |
| Emergency preparedness and response planning | 0 | 16.9 | Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| Exercising response plans | 0 | 16.2 | RISK ENVIRONMENT | 51.4 | 55.0 |
| Emergency response operation | 0 | 23.6 | Political and security risks | 46.4 | 60.4 |
| Linking public health and security authorities | 0 | 22.6 | Socio-economic resilience | 63.4 | 66.1 |
| Risk communication | 0 | 39.4 | Infrastructure adequacy | 41.7 | 49.0 |
| Access to communications infrastructure | 69.4 | 72.7 | Environmental risks | 54.8 | 52.9 |
| Trade and travel restrictions | 100 | 97.4 | Public health vulnerabilities | 52.4 | 46.9 |

*Average: all 195 countries

Scores are normalized (0–100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



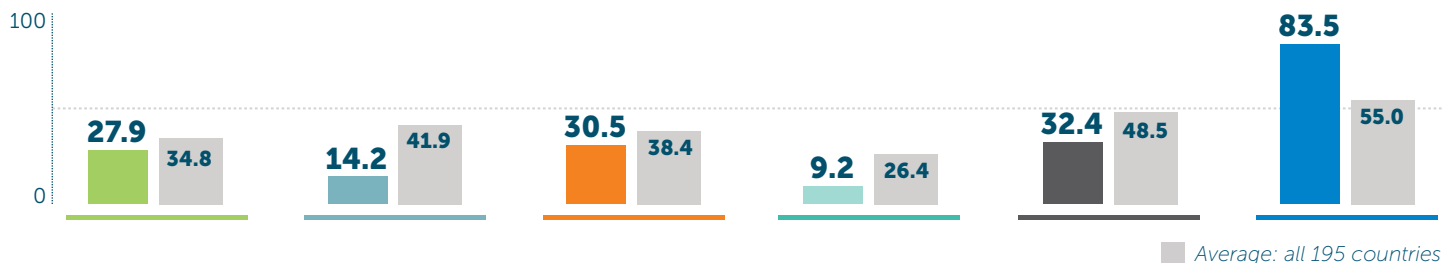
HEALTH



NORMS



RISK



■ Average: all 195 countries

| | COUNTRY SCORE | AVERAGE SCORE* |
|--|---------------|----------------|
| PREVENTION | 27.9 | 34.8 |
| Antimicrobial resistance (AMR) | 0 | 42.4 |
| Zoonotic disease | 28.8 | 27.1 |
| Biosecurity | 20 | 16.0 |
| Biosafety | 0 | 22.8 |
| Dual-use research and culture of responsible science | 0 | 1.7 |
| Immunization | 100 | 85.0 |
| DETECTION AND REPORTING | 14.2 | 41.9 |
| Laboratory systems | 16.7 | 54.4 |
| Real-time surveillance and reporting | 36.7 | 39.1 |
| Epidemiology workforce | 0 | 42.3 |
| Data integration between human/animal/environmental health sectors | 0 | 29.7 |
| RAPID RESPONSE | 30.5 | 38.4 |
| Emergency preparedness and response planning | 25 | 16.9 |
| Exercising response plans | 0 | 16.2 |
| Emergency response operation | 0 | 23.6 |
| Linking public health and security authorities | 0 | 22.6 |
| Risk communication | 25 | 39.4 |
| Access to communications infrastructure | 89.6 | 72.7 |
| Trade and travel restrictions | 100 | 97.4 |

| | COUNTRY SCORE | AVERAGE SCORE* |
|---|---------------|----------------|
| HEALTH SYSTEM | 9.2 | 26.4 |
| Health capacity in clinics, hospitals and community care centers | 16.1 | 24.4 |
| Medical countermeasures and personnel deployment | 0 | 21.2 |
| Healthcare access | 35 | 38.4 |
| Communications with healthcare workers during a public health emergency | 0 | 15.1 |
| Infection control practices and availability of equipment | 0 | 20.8 |
| Capacity to test and approve new medical countermeasures | 0 | 42.2 |
| COMPLIANCE WITH INTERNATIONAL NORMS | 32.4 | 48.5 |
| IHR reporting compliance and disaster risk reduction | 50 | 62.3 |
| Cross-border agreements on public and animal health emergency response | 50 | 54.4 |
| International commitments | 31.3 | 53.4 |
| JEE and PVS | 0 | 17.7 |
| Financing | 0 | 36.4 |
| Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| RISK ENVIRONMENT | 83.5 | 55.0 |
| Political and security risks | 96.4 | 60.4 |
| Socio-economic resilience | 87.1 | 66.1 |
| Infrastructure adequacy | 100 | 49.0 |
| Environmental risks | 56.7 | 52.9 |
| Public health vulnerabilities | 73.4 | 46.9 |

*Average: all 195 countries

Scores are normalized (0–100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



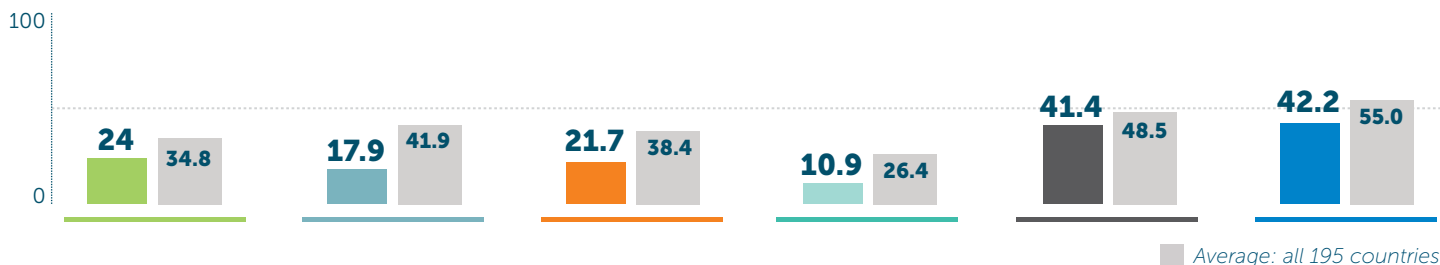
HEALTH



NORMS



RISK



■ Average: all 195 countries

| | COUNTRY SCORE | AVERAGE SCORE* | | COUNTRY SCORE | AVERAGE SCORE* |
|--|---------------|----------------|---|---------------|----------------|
| PREVENTION | 24.0 | 34.8 | HEALTH SYSTEM | 10.9 | 26.4 |
| Antimicrobial resistance (AMR) | 0 | 42.4 | Health capacity in clinics, hospitals and community care centers | 2.7 | 24.4 |
| Zoonotic disease | 6.8 | 27.1 | Medical countermeasures and personnel deployment | 0 | 21.2 |
| Biosecurity | 0 | 16.0 | Healthcare access | 39.8 | 38.4 |
| Biosafety | 50 | 22.8 | Communications with healthcare workers during a public health emergency | 0 | 15.1 |
| Dual-use research and culture of responsible science | 0 | 1.7 | Infection control practices and availability of equipment | 0 | 20.8 |
| Immunization | 75.4 | 85.0 | Capacity to test and approve new medical countermeasures | 25 | 42.2 |
| DETECTION AND REPORTING | 17.9 | 41.9 | COMPLIANCE WITH INTERNATIONAL NORMS | 41.4 | 48.5 |
| Laboratory systems | 16.7 | 54.4 | IHR reporting compliance and disaster risk reduction | 50 | 62.3 |
| Real-time surveillance and reporting | 26.7 | 39.1 | Cross-border agreements on public and animal health emergency response | 50 | 54.4 |
| Epidemiology workforce | 25 | 42.3 | International commitments | 25 | 53.4 |
| Data integration between human/animal/environmental health sectors | 0 | 29.7 | JEE and PVS | 0 | 17.7 |
| RAPID RESPONSE | 21.7 | 38.4 | Financing | 50 | 36.4 |
| Emergency preparedness and response planning | 0 | 16.9 | Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| Exercising response plans | 0 | 16.2 | RISK ENVIRONMENT | 42.2 | 55.0 |
| Emergency response operation | 0 | 23.6 | Political and security risks | 60.7 | 60.4 |
| Linking public health and security authorities | 0 | 22.6 | Socio-economic resilience | 55.4 | 66.1 |
| Risk communication | 25 | 39.4 | Infrastructure adequacy | 33.3 | 49.0 |
| Access to communications infrastructure | 49.7 | 72.7 | Environmental risks | 47.2 | 52.9 |
| Trade and travel restrictions | 100 | 97.4 | Public health vulnerabilities | 14.7 | 46.9 |

*Average: all 195 countries

Scores are normalized (0–100, where 100 = most favorable)

Antigua and Barbuda

29.0 Index Score

147/195



PREVENT



DETECT



RESPOND



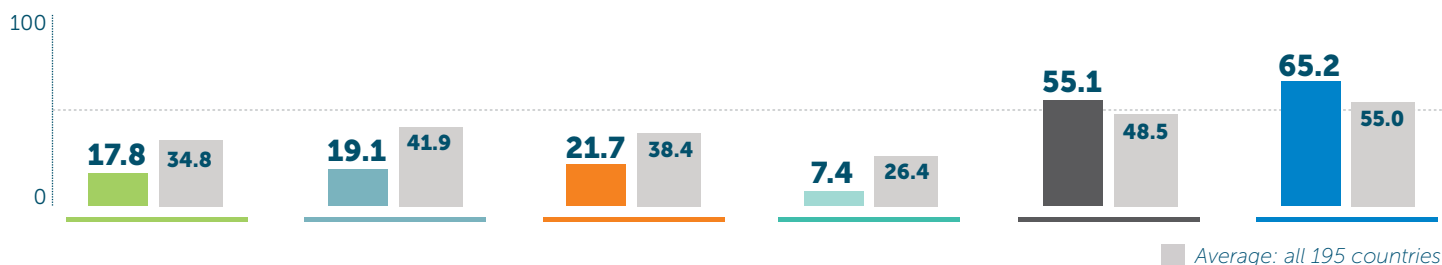
HEALTH



NORMS



RISK



■ Average: all 195 countries

| | COUNTRY SCORE | AVERAGE SCORE* | | COUNTRY SCORE | AVERAGE SCORE* |
|--|---------------|----------------|---|---------------|----------------|
| PREVENTION | 17.8 | 34.8 | HEALTH SYSTEM | 7.4 | 26.4 |
| Antimicrobial resistance (AMR) | 50 | 42.4 | Health capacity in clinics, hospitals and community care centers | 9.5 | 24.4 |
| Zoonotic disease | 0 | 27.1 | Medical countermeasures and personnel deployment | 0 | 21.2 |
| Biosecurity | 0 | 16.0 | Healthcare access | 31.1 | 38.4 |
| Biosafety | 0 | 22.8 | Communications with healthcare workers during a public health emergency | 0 | 15.1 |
| Dual-use research and culture of responsible science | 0 | 1.7 | Infection control practices and availability of equipment | 0 | 20.8 |
| Immunization | 50 | 85.0 | Capacity to test and approve new medical countermeasures | 0 | 42.2 |
| DETECTION AND REPORTING | 19.1 | 41.9 | COMPLIANCE WITH INTERNATIONAL NORMS | 55.1 | 48.5 |
| Laboratory systems | 33.3 | 54.4 | IHR reporting compliance and disaster risk reduction | 100 | 62.3 |
| Real-time surveillance and reporting | 15 | 39.1 | Cross-border agreements on public and animal health emergency response | 100 | 54.4 |
| Epidemiology workforce | 25 | 42.3 | International commitments | 28.1 | 53.4 |
| Data integration between human/animal/environmental health sectors | 0 | 29.7 | JEE and PVS | 0 | 17.7 |
| RAPID RESPONSE | 21.7 | 38.4 | Financing | 33.3 | 36.4 |
| Emergency preparedness and response planning | 0 | 16.9 | Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| Exercising response plans | 0 | 16.2 | RISK ENVIRONMENT | 65.2 | 55.0 |
| Emergency response operation | 0 | 23.6 | Political and security risks | 82.1 | 60.4 |
| Linking public health and security authorities | 0 | 22.6 | Socio-economic resilience | 71.8 | 66.1 |
| Risk communication | 0 | 39.4 | Infrastructure adequacy | 66.7 | 49.0 |
| Access to communications infrastructure | 86.3 | 72.7 | Environmental risks | 47.6 | 52.9 |
| Trade and travel restrictions | 100 | 97.4 | Public health vulnerabilities | 54.4 | 46.9 |

*Average: all 195 countries

Scores are normalized (0–100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



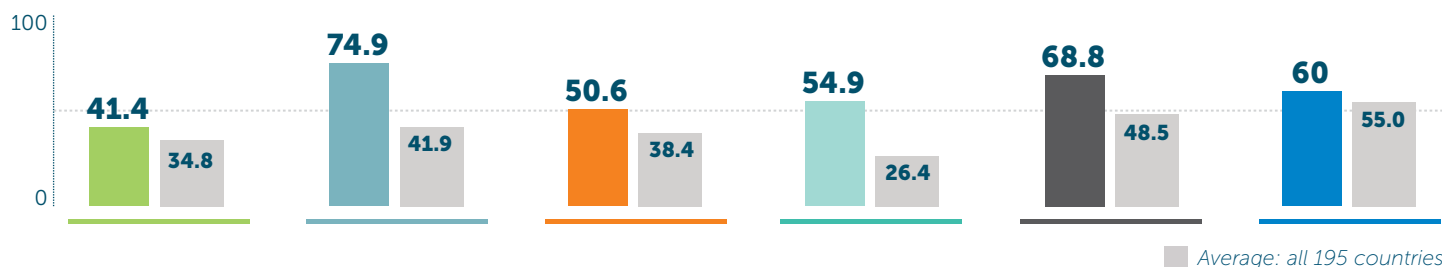
HEALTH



NORMS



RISK



■ Average: all 195 countries

| | COUNTRY SCORE | AVERAGE SCORE* | | COUNTRY SCORE | AVERAGE SCORE* |
|--|---------------|----------------|---|---------------|----------------|
| PREVENTION | 41.4 | 34.8 | HEALTH SYSTEM | 54.9 | 26.4 |
| Antimicrobial resistance (AMR) | 83.3 | 42.4 | Health capacity in clinics, hospitals and community care centers | 46 | 24.4 |
| Zoonotic disease | 49.8 | 27.1 | Medical countermeasures and personnel deployment | 66.7 | 21.2 |
| Biosecurity | 8 | 16.0 | Healthcare access | 48.2 | 38.4 |
| Biosafety | 0 | 22.8 | Communications with healthcare workers during a public health emergency | 50 | 15.1 |
| Dual-use research and culture of responsible science | 0 | 1.7 | Infection control practices and availability of equipment | 50 | 20.8 |
| Immunization | 91.2 | 85.0 | Capacity to test and approve new medical countermeasures | 75 | 42.2 |
| DETECTION AND REPORTING | 74.9 | 41.9 | COMPLIANCE WITH INTERNATIONAL NORMS | 68.8 | 48.5 |
| Laboratory systems | 83.3 | 54.4 | IHR reporting compliance and disaster risk reduction | 50 | 62.3 |
| Real-time surveillance and reporting | 70 | 39.1 | Cross-border agreements on public and animal health emergency response | 100 | 54.4 |
| Epidemiology workforce | 50 | 42.3 | International commitments | 96.9 | 53.4 |
| Data integration between human/animal/environmental health sectors | 100 | 29.7 | JEE and PVS | 25 | 17.7 |
| RAPID RESPONSE | 50.6 | 38.4 | Financing | 50 | 36.4 |
| Emergency preparedness and response planning | 50 | 16.9 | Commitment to sharing of genetic & biological data & specimens | 100 | 68.1 |
| Exercising response plans | 50 | 16.2 | RISK ENVIRONMENT | 60.0 | 55.0 |
| Emergency response operation | 0 | 23.6 | Political and security risks | 71.4 | 60.4 |
| Linking public health and security authorities | 0 | 22.6 | Socio-economic resilience | 81.6 | 66.1 |
| Risk communication | 75 | 39.4 | Infrastructure adequacy | 41.7 | 49.0 |
| Access to communications infrastructure | 93.1 | 72.7 | Environmental risks | 45.1 | 52.9 |
| Trade and travel restrictions | 100 | 97.4 | Public health vulnerabilities | 58.5 | 46.9 |

*Average: all 195 countries

Scores are normalized (0-100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



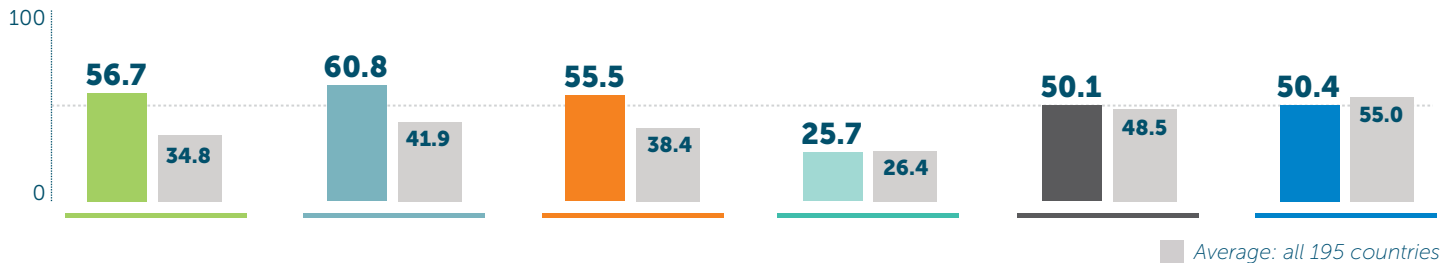
HEALTH



NORMS



RISK



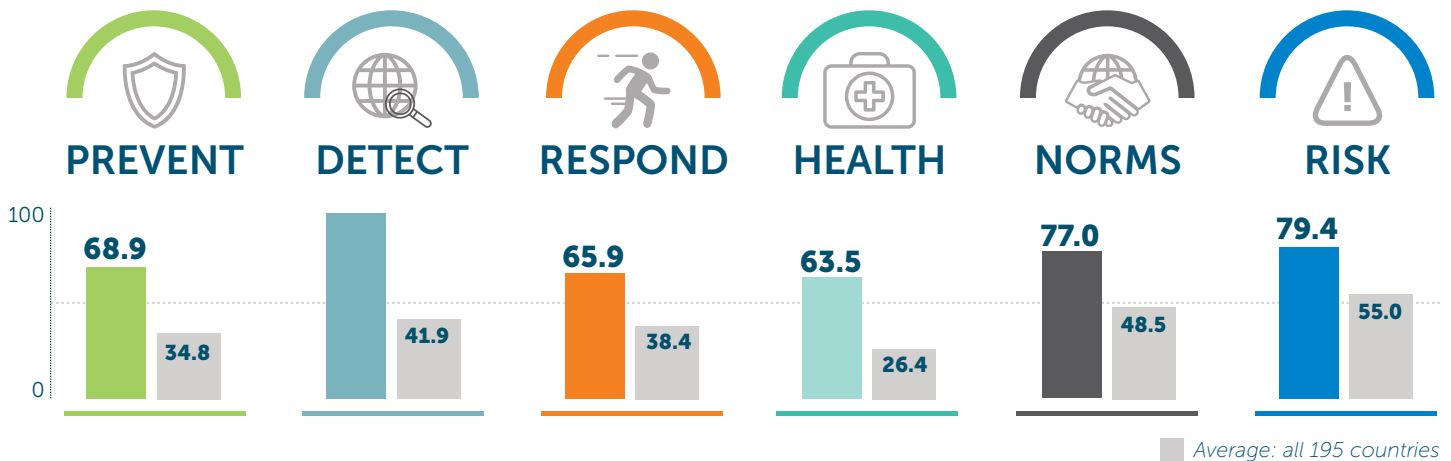
■ Average: all 195 countries

| | COUNTRY SCORE | AVERAGE SCORE* |
|---|---------------|----------------|
| PREVENTION | 56.7 | 34.8 |
| Antimicrobial resistance (AMR) | 41.7 | 42.4 |
| Zoonotic disease | 30.4 | 27.1 |
| Biosecurity | 58.7 | 16.0 |
| Biosafety | 100 | 22.8 |
| Dual-use research and culture of responsible science | 0 | 1.7 |
| Immunization | 97.4 | 85.0 |
| DETECTION AND REPORTING | 60.8 | 41.9 |
| Laboratory systems | 58.3 | 54.4 |
| Real-time surveillance and reporting | 41.7 | 39.1 |
| Epidemiology workforce | 50 | 42.3 |
| Data integration between human/ animal/environmental health sectors | 100 | 29.7 |
| RAPID RESPONSE | 55.5 | 38.4 |
| Emergency preparedness and response planning | 12.5 | 16.9 |
| Exercising response plans | 0 | 16.2 |
| Emergency response operation | 33.3 | 23.6 |
| Linking public health and security authorities | 100 | 22.6 |
| Risk communication | 75 | 39.4 |
| Access to communications infrastructure | 88.6 | 72.7 |
| Trade and travel restrictions | 100 | 97.4 |

| | COUNTRY SCORE | AVERAGE SCORE* |
|---|---------------|----------------|
| HEALTH SYSTEM | 25.7 | 26.4 |
| Health capacity in clinics, hospitals and community care centers | 18 | 24.4 |
| Medical countermeasures and personnel deployment | 66.7 | 21.2 |
| Healthcare access | 28.2 | 38.4 |
| Communications with healthcare workers during a public health emergency | 0 | 15.1 |
| Infection control practices and availability of equipment | 0 | 20.8 |
| Capacity to test and approve new medical countermeasures | 50 | 42.2 |
| COMPLIANCE WITH INTERNATIONAL NORMS | 50.1 | 48.5 |
| IHR reporting compliance and disaster risk reduction | 100 | 62.3 |
| Cross-border agreements on public and animal health emergency response | 50 | 54.4 |
| International commitments | 43.8 | 53.4 |
| JEE and PVS | 25 | 17.7 |
| Financing | 16.7 | 36.4 |
| Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| RISK ENVIRONMENT | 50.4 | 55.0 |
| Political and security risks | 50 | 60.4 |
| Socio-economic resilience | 74.2 | 66.1 |
| Infrastructure adequacy | 33.3 | 49.0 |
| Environmental risks | 41.3 | 52.9 |
| Public health vulnerabilities | 53.3 | 46.9 |

*Average: all 195 countries

Scores are normalized (0–100, where 100 = most favorable)



| | COUNTRY SCORE | AVERAGE SCORE* | | COUNTRY SCORE | AVERAGE SCORE* |
|--|---------------|----------------|---|---------------|----------------|
| PREVENTION | 68.9 | 34.8 | HEALTH SYSTEM | 63.5 | 26.4 |
| Antimicrobial resistance (AMR) | 83.3 | 42.4 | Health capacity in clinics, hospitals and community care centers | 66.3 | 24.4 |
| Zoonotic disease | 76.9 | 27.1 | Medical countermeasures and personnel deployment | 33.3 | 21.2 |
| Biosecurity | 62.7 | 16.0 | Healthcare access | 43.8 | 38.4 |
| Biosafety | 50 | 22.8 | Communications with healthcare workers during a public health emergency | 100 | 15.1 |
| Dual-use research and culture of responsible science | 33.3 | 1.7 | Infection control practices and availability of equipment | 50 | 20.8 |
| Immunization | 96.5 | 85.0 | Capacity to test and approve new medical countermeasures | 100 | 42.2 |
| DETECTION AND REPORTING | 97.3 | 41.9 | COMPLIANCE WITH INTERNATIONAL NORMS | 77.0 | 48.5 |
| Laboratory systems | 100 | 54.4 | IHR reporting compliance and disaster risk reduction | 100 | 62.3 |
| Real-time surveillance and reporting | 90 | 39.1 | Cross-border agreements on public and animal health emergency response | 100 | 54.4 |
| Epidemiology workforce | 100 | 42.3 | International commitments | 100 | 53.4 |
| Data integration between human/animal/environmental health sectors | 100 | 29.7 | JEE and PVS | 75 | 17.7 |
| RAPID RESPONSE | 65.9 | 38.4 | Financing | 33.3 | 36.4 |
| Emergency preparedness and response planning | 50 | 16.9 | Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| Exercising response plans | 0 | 16.2 | RISK ENVIRONMENT | 79.4 | 55.0 |
| Emergency response operation | 33.3 | 23.6 | Political and security risks | 89.3 | 60.4 |
| Linking public health and security authorities | 100 | 22.6 | Socio-economic resilience | 88.1 | 66.1 |
| Risk communication | 100 | 39.4 | Infrastructure adequacy | 83.3 | 49.0 |
| Access to communications infrastructure | 88.8 | 72.7 | Environmental risks | 57.2 | 52.9 |
| Trade and travel restrictions | 100 | 97.4 | Public health vulnerabilities | 76.1 | 46.9 |

*Average: all 195 countries

Scores are normalized (0-100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



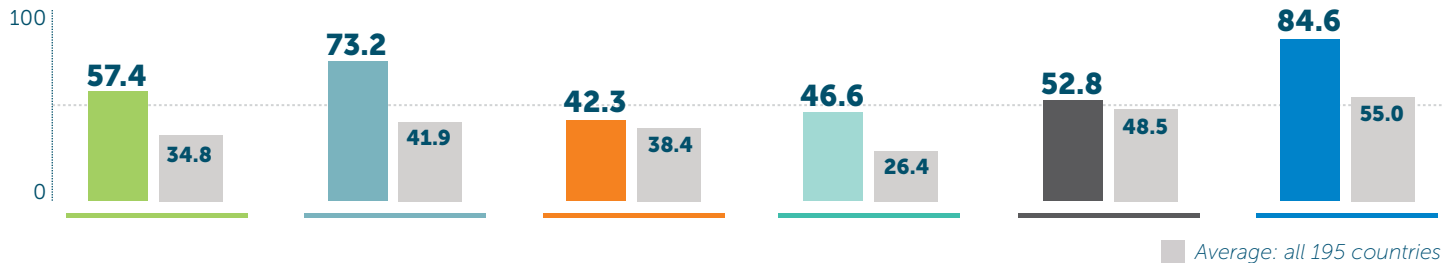
HEALTH



NORMS



RISK



■ Average: all 195 countries

| | COUNTRY SCORE | AVERAGE SCORE* | | COUNTRY SCORE | AVERAGE SCORE* |
|---|---------------|----------------|---|---------------|----------------|
| PREVENTION | 57.4 | 34.8 | HEALTH SYSTEM | 46.6 | 26.4 |
| Antimicrobial resistance (AMR) | 75 | 42.4 | Health capacity in clinics, hospitals and community care centers | 32 | 24.4 |
| Zoonotic disease | 62.5 | 27.1 | Medical countermeasures and personnel deployment | 33.3 | 21.2 |
| Biosecurity | 44 | 16.0 | Healthcare access | 42.5 | 38.4 |
| Biosafety | 50 | 22.8 | Communications with healthcare workers during a public health emergency | 0 | 15.1 |
| Dual-use research and culture of responsible science | 0 | 1.7 | Infection control practices and availability of equipment | 100 | 20.8 |
| Immunization | 97.4 | 85.0 | Capacity to test and approve new medical countermeasures | 75 | 42.2 |
| DETECTION AND REPORTING | 73.2 | 41.9 | COMPLIANCE WITH INTERNATIONAL NORMS | 52.8 | 48.5 |
| Laboratory systems | 66.7 | 54.4 | IHR reporting compliance and disaster risk reduction | 50 | 62.3 |
| Real-time surveillance and reporting | 80 | 39.1 | Cross-border agreements on public and animal health emergency response | 100 | 54.4 |
| Epidemiology workforce | 50 | 42.3 | International commitments | 100 | 53.4 |
| Data integration between human/ animal/environmental health sectors | 100 | 29.7 | JEE and PVS | 0 | 17.7 |
| RAPID RESPONSE | 42.3 | 38.4 | Financing | 16.7 | 36.4 |
| Emergency preparedness and response planning | 37.5 | 16.9 | Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| Exercising response plans | 0 | 16.2 | RISK ENVIRONMENT | 84.6 | 55.0 |
| Emergency response operation | 33.3 | 23.6 | Political and security risks | 85.7 | 60.4 |
| Linking public health and security authorities | 0 | 22.6 | Socio-economic resilience | 88.9 | 66.1 |
| Risk communication | 50 | 39.4 | Infrastructure adequacy | 100 | 49.0 |
| Access to communications infrastructure | 88.1 | 72.7 | Environmental risks | 68.7 | 52.9 |
| Trade and travel restrictions | 100 | 97.4 | Public health vulnerabilities | 78 | 46.9 |

*Average: all 195 countries

Scores are normalized (0–100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



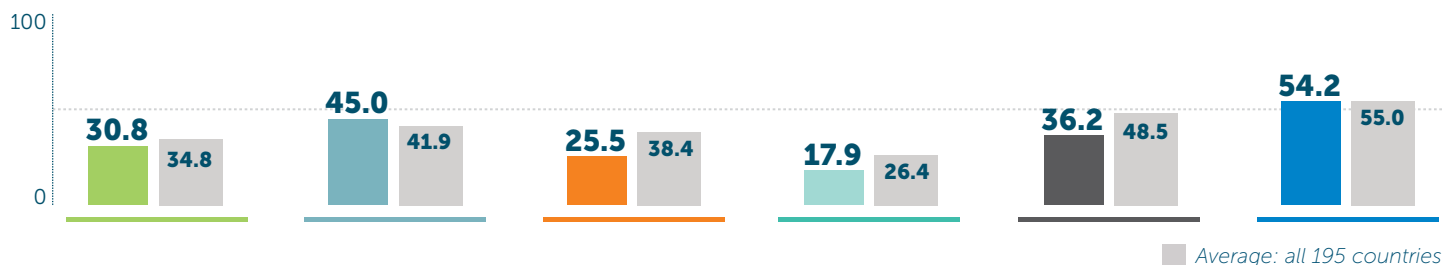
HEALTH



NORMS



RISK



■ Average: all 195 countries

| | COUNTRY SCORE | AVERAGE SCORE* | | COUNTRY SCORE | AVERAGE SCORE* |
|--|---------------|----------------|---|---------------|----------------|
| PREVENTION | 30.8 | 34.8 | HEALTH SYSTEM | 17.9 | 26.4 |
| Antimicrobial resistance (AMR) | 8.3 | 42.4 | Health capacity in clinics, hospitals and community care centers | 21.5 | 24.4 |
| Zoonotic disease | 35.1 | 27.1 | Medical countermeasures and personnel deployment | 0 | 21.2 |
| Biosecurity | 24 | 16.0 | Healthcare access | 26.6 | 38.4 |
| Biosafety | 0 | 22.8 | Communications with healthcare workers during a public health emergency | 0 | 15.1 |
| Dual-use research and culture of responsible science | 0 | 1.7 | Infection control practices and availability of equipment | 0 | 20.8 |
| Immunization | 99.1 | 85.0 | Capacity to test and approve new medical countermeasures | 75 | 42.2 |
| DETECTION AND REPORTING | 45.0 | 41.9 | COMPLIANCE WITH INTERNATIONAL NORMS | 36.2 | 48.5 |
| Laboratory systems | 16.7 | 54.4 | IHR reporting compliance and disaster risk reduction | 50 | 62.3 |
| Real-time surveillance and reporting | 23.3 | 39.1 | Cross-border agreements on public and animal health emergency response | 0 | 54.4 |
| Epidemiology workforce | 50 | 42.3 | International commitments | 93.8 | 53.4 |
| Data integration between human/animal/environmental health sectors | 100 | 29.7 | JEE and PVS | 0 | 17.7 |
| RAPID RESPONSE | 25.5 | 38.4 | Financing | 16.7 | 36.4 |
| Emergency preparedness and response planning | 0 | 16.9 | Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| Exercising response plans | 0 | 16.2 | RISK ENVIRONMENT | 54.2 | 55.0 |
| Emergency response operation | 33.3 | 23.6 | Political and security risks | 32.1 | 60.4 |
| Linking public health and security authorities | 0 | 22.6 | Socio-economic resilience | 62.9 | 66.1 |
| Risk communication | 0 | 39.4 | Infrastructure adequacy | 66.7 | 49.0 |
| Access to communications infrastructure | 71.6 | 72.7 | Environmental risks | 66.5 | 52.9 |
| Trade and travel restrictions | 100 | 97.4 | Public health vulnerabilities | 47.2 | 46.9 |

*Average: all 195 countries

Scores are normalized (0–100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



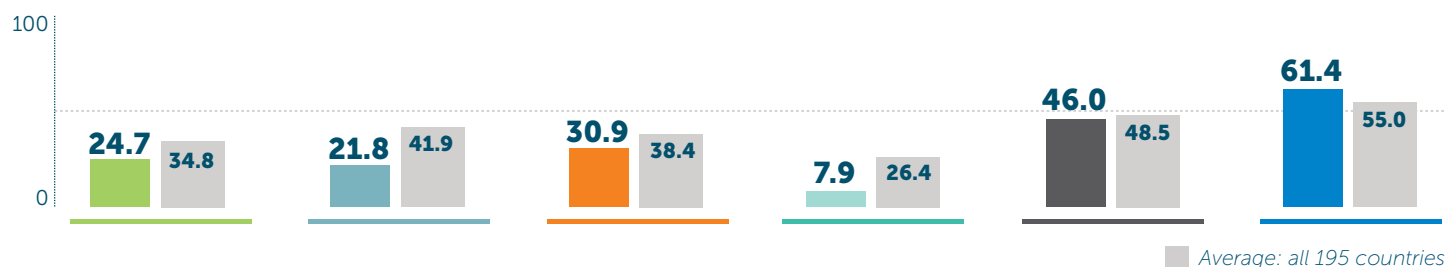
HEALTH



NORMS



RISK



■ Average: all 195 countries

| | COUNTRY SCORE | AVERAGE SCORE* | | COUNTRY SCORE | AVERAGE SCORE* |
|--|---------------|----------------|---|---------------|----------------|
| PREVENTION | 24.7 | 34.8 | HEALTH SYSTEM | 7.9 | 26.4 |
| Antimicrobial resistance (AMR) | 25 | 42.4 | Health capacity in clinics, hospitals and community care centers | 13.3 | 24.4 |
| Zoonotic disease | 14.8 | 27.1 | Medical countermeasures and personnel deployment | 0 | 21.2 |
| Biosecurity | 0 | 16.0 | Healthcare access | 30.4 | 38.4 |
| Biosafety | 0 | 22.8 | Communications with healthcare workers during a public health emergency | 0 | 15.1 |
| Dual-use research and culture of responsible science | 0 | 1.7 | Infection control practices and availability of equipment | 0 | 20.8 |
| Immunization | 92.1 | 85.0 | Capacity to test and approve new medical countermeasures | 0 | 42.2 |
| DETECTION AND REPORTING | 21.8 | 41.9 | COMPLIANCE WITH INTERNATIONAL NORMS | 46.0 | 48.5 |
| Laboratory systems | 33.3 | 54.4 | IHR reporting compliance and disaster risk reduction | 50 | 62.3 |
| Real-time surveillance and reporting | 25 | 39.1 | Cross-border agreements on public and animal health emergency response | 100 | 54.4 |
| Epidemiology workforce | 25 | 42.3 | International commitments | 25 | 53.4 |
| Data integration between human/animal/environmental health sectors | 0 | 29.7 | JEE and PVS | 0 | 17.7 |
| RAPID RESPONSE | 30.9 | 38.4 | Financing | 33.3 | 36.4 |
| Emergency preparedness and response planning | 0 | 16.9 | Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| Exercising response plans | 0 | 16.2 | RISK ENVIRONMENT | 61.4 | 55.0 |
| Emergency response operation | 33.3 | 23.6 | Political and security risks | 82.1 | 60.4 |
| Linking public health and security authorities | 0 | 22.6 | Socio-economic resilience | 72.2 | 66.1 |
| Risk communication | 25 | 39.4 | Infrastructure adequacy | 66.7 | 49.0 |
| Access to communications infrastructure | 79.6 | 72.7 | Environmental risks | 25.4 | 52.9 |
| Trade and travel restrictions | 100 | 97.4 | Public health vulnerabilities | 55 | 46.9 |

*Average: all 195 countries

Scores are normalized (0–100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



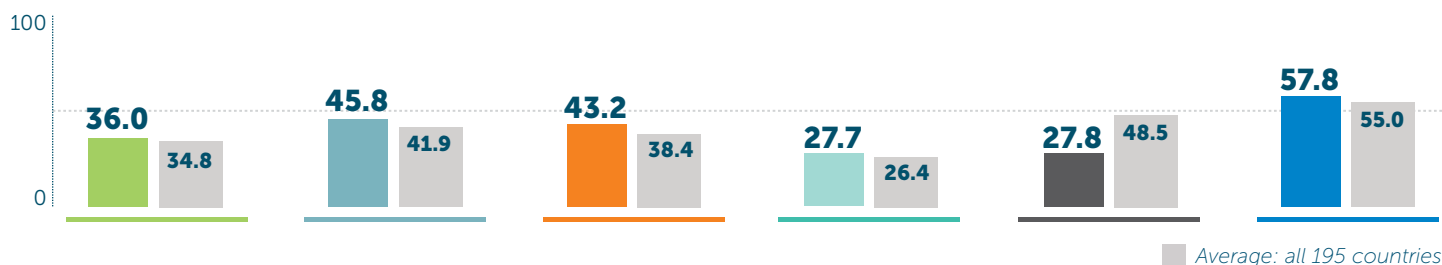
HEALTH



NORMS



RISK



■ Average: all 195 countries

| | COUNTRY SCORE | AVERAGE SCORE* | | COUNTRY SCORE | AVERAGE SCORE* |
|--|---------------|----------------|---|---------------|----------------|
| PREVENTION | 36.0 | 34.8 | HEALTH SYSTEM | 27.7 | 26.4 |
| Antimicrobial resistance (AMR) | 75 | 42.4 | Health capacity in clinics, hospitals and community care centers | 7.4 | 24.4 |
| Zoonotic disease | 21 | 27.1 | Medical countermeasures and personnel deployment | 33.3 | 21.2 |
| Biosecurity | 4 | 16.0 | Healthcare access | 29.5 | 38.4 |
| Biosafety | 0 | 22.8 | Communications with healthcare workers during a public health emergency | 0 | 15.1 |
| Dual-use research and culture of responsible science | 0 | 1.7 | Infection control practices and availability of equipment | 50 | 20.8 |
| Immunization | 100 | 85.0 | Capacity to test and approve new medical countermeasures | 50 | 42.2 |
| DETECTION AND REPORTING | 45.8 | 41.9 | COMPLIANCE WITH INTERNATIONAL NORMS | 27.8 | 48.5 |
| Laboratory systems | 75 | 54.4 | IHR reporting compliance and disaster risk reduction | 50 | 62.3 |
| Real-time surveillance and reporting | 26.7 | 39.1 | Cross-border agreements on public and animal health emergency response | 0 | 54.4 |
| Epidemiology workforce | 75 | 42.3 | International commitments | 25 | 53.4 |
| Data integration between human/animal/environmental health sectors | 0 | 29.7 | JEE and PVS | 25 | 17.7 |
| RAPID RESPONSE | 43.2 | 38.4 | Financing | 0 | 36.4 |
| Emergency preparedness and response planning | 6.3 | 16.9 | Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| Exercising response plans | 0 | 16.2 | RISK ENVIRONMENT | 57.8 | 55.0 |
| Emergency response operation | 33.3 | 23.6 | Political and security risks | 42.9 | 60.4 |
| Linking public health and security authorities | 0 | 22.6 | Socio-economic resilience | 64 | 66.1 |
| Risk communication | 75 | 39.4 | Infrastructure adequacy | 66.7 | 49.0 |
| Access to communications infrastructure | 99.4 | 72.7 | Environmental risks | 56.6 | 52.9 |
| Trade and travel restrictions | 100 | 97.4 | Public health vulnerabilities | 60.5 | 46.9 |

*Average: all 195 countries

Scores are normalized (0–100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



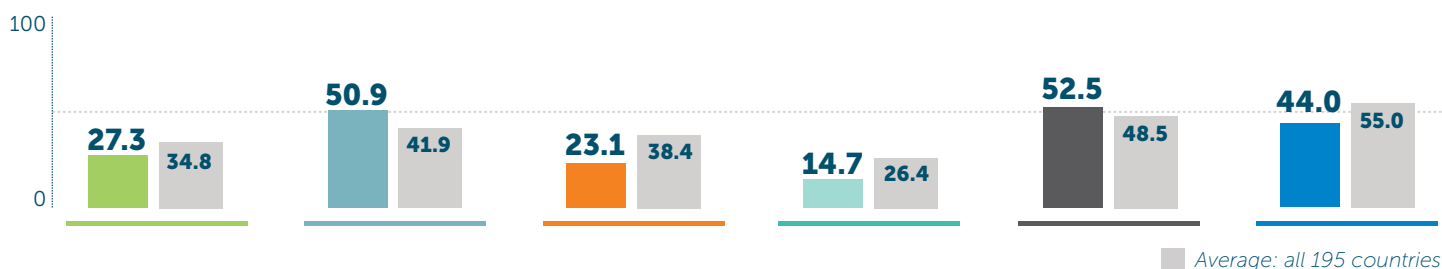
HEALTH



NORMS



RISK



■ Average: all 195 countries

| | COUNTRY SCORE | AVERAGE SCORE* |
|--|---------------|----------------|
| PREVENTION | 27.3 | 34.8 |
| Antimicrobial resistance (AMR) | 16.7 | 42.4 |
| Zoonotic disease | 35.4 | 27.1 |
| Biosecurity | 0 | 16.0 |
| Biosafety | 0 | 22.8 |
| Dual-use research and culture of responsible science | 0 | 1.7 |
| Immunization | 93.9 | 85.0 |
| DETECTION AND REPORTING | 50.9 | 41.9 |
| Laboratory systems | 100 | 54.4 |
| Real-time surveillance and reporting | 45 | 39.1 |
| Epidemiology workforce | 50 | 42.3 |
| Data integration between human/animal/environmental health sectors | 0 | 29.7 |
| RAPID RESPONSE | 23.1 | 38.4 |
| Emergency preparedness and response planning | 12.5 | 16.9 |
| Exercising response plans | 0 | 16.2 |
| Emergency response operation | 0 | 23.6 |
| Linking public health and security authorities | 0 | 22.6 |
| Risk communication | 25 | 39.4 |
| Access to communications infrastructure | 45 | 72.7 |
| Trade and travel restrictions | 100 | 97.4 |

| | COUNTRY SCORE | AVERAGE SCORE* |
|---|---------------|----------------|
| HEALTH SYSTEM | 14.7 | 26.4 |
| Health capacity in clinics, hospitals and community care centers | 27.4 | 24.4 |
| Medical countermeasures and personnel deployment | 33.3 | 21.2 |
| Healthcare access | 23.6 | 38.4 |
| Communications with healthcare workers during a public health emergency | 0 | 15.1 |
| Infection control practices and availability of equipment | 0 | 20.8 |
| Capacity to test and approve new medical countermeasures | 0 | 42.2 |
| COMPLIANCE WITH INTERNATIONAL NORMS | 52.5 | 48.5 |
| IHR reporting compliance and disaster risk reduction | 50 | 62.3 |
| Cross-border agreements on public and animal health emergency response | 0 | 54.4 |
| International commitments | 75 | 53.4 |
| JEE and PVS | 75 | 17.7 |
| Financing | 50 | 36.4 |
| Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| RISK ENVIRONMENT | 44.0 | 55.0 |
| Political and security risks | 53.6 | 60.4 |
| Socio-economic resilience | 69 | 66.1 |
| Infrastructure adequacy | 16.7 | 49.0 |
| Environmental risks | 43 | 52.9 |
| Public health vulnerabilities | 38.5 | 46.9 |

*Average: all 195 countries

Scores are normalized (0–100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



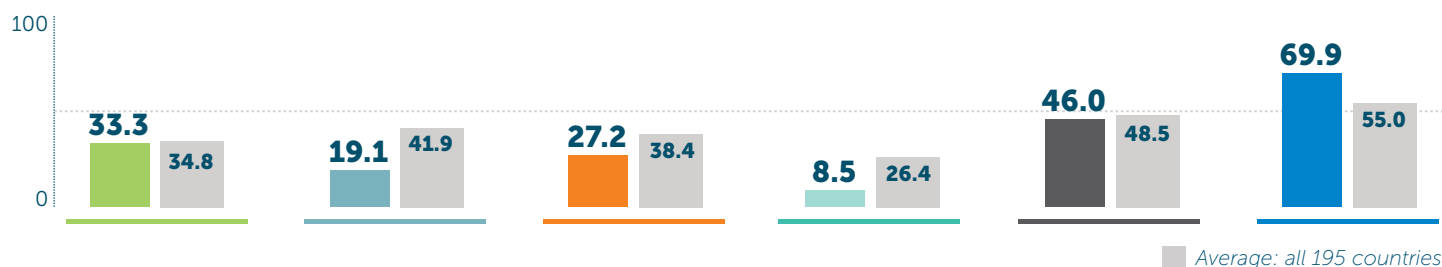
HEALTH



NORMS



RISK



Average: all 195 countries

| | COUNTRY SCORE | AVERAGE SCORE* | | COUNTRY SCORE | AVERAGE SCORE* |
|--|---------------|----------------|---|---------------|----------------|
| PREVENTION | 33.3 | 34.8 | HEALTH SYSTEM | 8.5 | 26.4 |
| Antimicrobial resistance (AMR) | 66.7 | 42.4 | Health capacity in clinics, hospitals and community care centers | 18.3 | 24.4 |
| Zoonotic disease | 1.1 | 27.1 | Medical countermeasures and personnel deployment | 0 | 21.2 |
| Biosecurity | 0 | 16.0 | Healthcare access | 28.9 | 38.4 |
| Biosafety | 25 | 22.8 | Communications with healthcare workers during a public health emergency | 0 | 15.1 |
| Dual-use research and culture of responsible science | 0 | 1.7 | Infection control practices and availability of equipment | 0 | 20.8 |
| Immunization | 93.9 | 85.0 | Capacity to test and approve new medical countermeasures | 0 | 42.2 |
| DETECTION AND REPORTING | 19.1 | 41.9 | COMPLIANCE WITH INTERNATIONAL NORMS | 46.0 | 48.5 |
| Laboratory systems | 33.3 | 54.4 | IHR reporting compliance and disaster risk reduction | 50 | 62.3 |
| Real-time surveillance and reporting | 15 | 39.1 | Cross-border agreements on public and animal health emergency response | 100 | 54.4 |
| Epidemiology workforce | 25 | 42.3 | International commitments | 25 | 53.4 |
| Data integration between human/animal/environmental health sectors | 0 | 29.7 | JEE and PVS | 0 | 17.7 |
| RAPID RESPONSE | 27.2 | 38.4 | Financing | 33.3 | 36.4 |
| Emergency preparedness and response planning | 0 | 16.9 | Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| Exercising response plans | 0 | 16.2 | RISK ENVIRONMENT | 69.9 | 55.0 |
| Emergency response operation | 33.3 | 23.6 | Political and security risks | 85.7 | 60.4 |
| Linking public health and security authorities | 0 | 22.6 | Socio-economic resilience | 83.5 | 66.1 |
| Risk communication | 0 | 39.4 | Infrastructure adequacy | 75 | 49.0 |
| Access to communications infrastructure | 85.5 | 72.7 | Environmental risks | 45.2 | 52.9 |
| Trade and travel restrictions | 100 | 97.4 | Public health vulnerabilities | 56.5 | 46.9 |

*Average: all 195 countries

Scores are normalized (0-100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



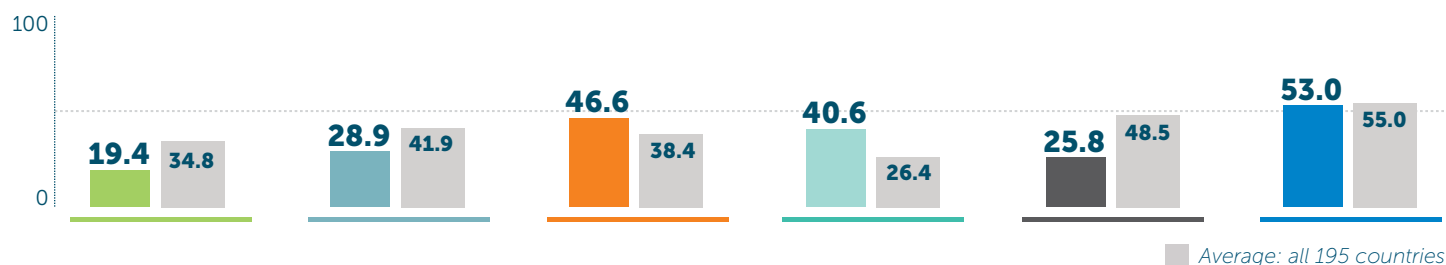
HEALTH



NORMS



RISK



| | COUNTRY SCORE | AVERAGE SCORE* |
|--|---------------|----------------|
| PREVENTION | 19.4 | 34.8 |
| Antimicrobial resistance (AMR) | 8.3 | 42.4 |
| Zoonotic disease | 26.7 | 27.1 |
| Biosecurity | 24 | 16.0 |
| Biosafety | 0 | 22.8 |
| Dual-use research and culture of responsible science | 0 | 1.7 |
| Immunization | 48.2 | 85.0 |
| DETECTION AND REPORTING | 28.9 | 41.9 |
| Laboratory systems | 83.3 | 54.4 |
| Real-time surveillance and reporting | 26.7 | 39.1 |
| Epidemiology workforce | 0 | 42.3 |
| Data integration between human/animal/environmental health sectors | 0 | 29.7 |
| RAPID RESPONSE | 46.6 | 38.4 |
| Emergency preparedness and response planning | 0 | 16.9 |
| Exercising response plans | 50 | 16.2 |
| Emergency response operation | 0 | 23.6 |
| Linking public health and security authorities | 0 | 22.6 |
| Risk communication | 100 | 39.4 |
| Access to communications infrastructure | 88.8 | 72.7 |
| Trade and travel restrictions | 100 | 97.4 |

| | COUNTRY SCORE | AVERAGE SCORE* |
|---|---------------|----------------|
| HEALTH SYSTEM | 40.6 | 26.4 |
| Health capacity in clinics, hospitals and community care centers | 63.1 | 24.4 |
| Medical countermeasures and personnel deployment | 33.3 | 21.2 |
| Healthcare access | 47 | 38.4 |
| Communications with healthcare workers during a public health emergency | 0 | 15.1 |
| Infection control practices and availability of equipment | 50 | 20.8 |
| Capacity to test and approve new medical countermeasures | 50 | 42.2 |
| COMPLIANCE WITH INTERNATIONAL NORMS | 25.8 | 48.5 |
| IHR reporting compliance and disaster risk reduction | 0 | 62.3 |
| Cross-border agreements on public and animal health emergency response | 50 | 54.4 |
| International commitments | 46.9 | 53.4 |
| JEE and PVS | 0 | 17.7 |
| Financing | 0 | 36.4 |
| Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| RISK ENVIRONMENT | 53.0 | 55.0 |
| Political and security risks | 53.6 | 60.4 |
| Socio-economic resilience | 67.6 | 66.1 |
| Infrastructure adequacy | 33.3 | 49.0 |
| Environmental risks | 53.9 | 52.9 |
| Public health vulnerabilities | 57.3 | 46.9 |

*Average: all 195 countries

Scores are normalized (0–100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



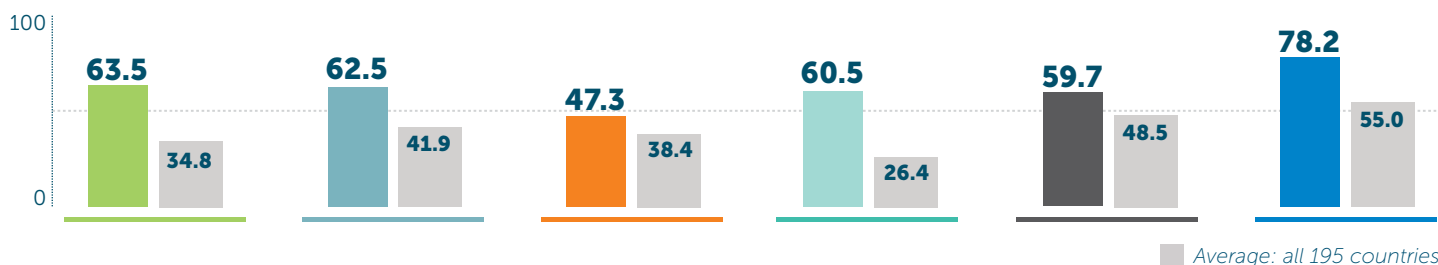
HEALTH



NORMS



RISK



| | COUNTRY SCORE | AVERAGE SCORE* |
|---|---------------|----------------|
| PREVENTION | 63.5 | 34.8 |
| Antimicrobial resistance (AMR) | 83.3 | 42.4 |
| Zoonotic disease | 44.1 | 27.1 |
| Biosecurity | 44 | 16.0 |
| Biosafety | 100 | 22.8 |
| Dual-use research and culture of responsible science | 0 | 1.7 |
| Immunization | 97.4 | 85.0 |
| DETECTION AND REPORTING | 62.5 | 41.9 |
| Laboratory systems | 100 | 54.4 |
| Real-time surveillance and reporting | 88.3 | 39.1 |
| Epidemiology workforce | 50 | 42.3 |
| Data integration between human/ animal/environmental health sectors | 0 | 29.7 |
| RAPID RESPONSE | 47.3 | 38.4 |
| Emergency preparedness and response planning | 0 | 16.9 |
| Exercising response plans | 50 | 16.2 |
| Emergency response operation | 33.3 | 23.6 |
| Linking public health and security authorities | 100 | 22.6 |
| Risk communication | 0 | 39.4 |
| Access to communications infrastructure | 90.2 | 72.7 |
| Trade and travel restrictions | 100 | 97.4 |

| | COUNTRY SCORE | AVERAGE SCORE* |
|---|---------------|----------------|
| HEALTH SYSTEM | 60.5 | 26.4 |
| Health capacity in clinics, hospitals and community care centers | 51.8 | 24.4 |
| Medical countermeasures and personnel deployment | 66.7 | 21.2 |
| Healthcare access | 44.6 | 38.4 |
| Communications with healthcare workers during a public health emergency | 100 | 15.1 |
| Infection control practices and availability of equipment | 50 | 20.8 |
| Capacity to test and approve new medical countermeasures | 50 | 42.2 |
| COMPLIANCE WITH INTERNATIONAL NORMS | 59.7 | 48.5 |
| IHR reporting compliance and disaster risk reduction | 50 | 62.3 |
| Cross-border agreements on public and animal health emergency response | 100 | 54.4 |
| International commitments | 96.9 | 53.4 |
| JEE and PVS | 25 | 17.7 |
| Financing | 33.3 | 36.4 |
| Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| RISK ENVIRONMENT | 78.2 | 55.0 |
| Political and security risks | 75 | 60.4 |
| Socio-economic resilience | 99.8 | 66.1 |
| Infrastructure adequacy | 83.3 | 49.0 |
| Environmental risks | 53.5 | 52.9 |
| Public health vulnerabilities | 78.1 | 46.9 |

*Average: all 195 countries

Scores are normalized (0-100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



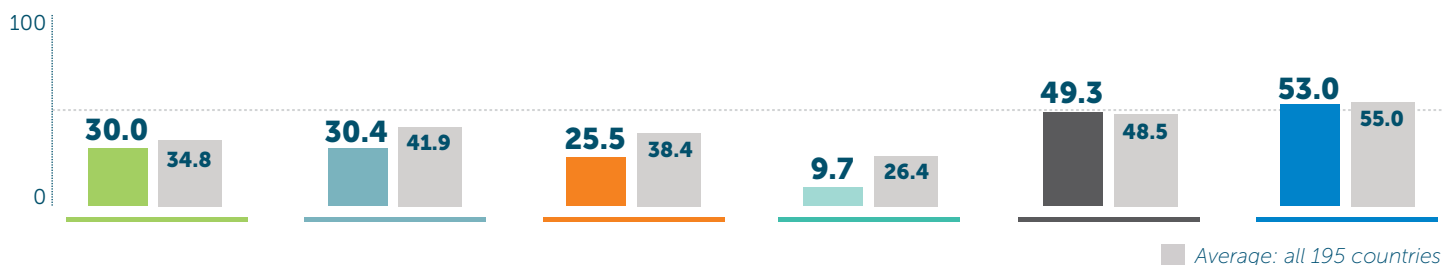
HEALTH



NORMS



RISK



■ Average: all 195 countries

| | COUNTRY SCORE | AVERAGE SCORE* |
|---|---------------|----------------|
| PREVENTION | 30.0 | 34.8 |
| Antimicrobial resistance (AMR) | 66.7 | 42.4 |
| Zoonotic disease | 7.1 | 27.1 |
| Biosecurity | 0 | 16.0 |
| Biosafety | 0 | 22.8 |
| Dual-use research and culture of responsible science | 0 | 1.7 |
| Immunization | 92.1 | 85.0 |
| DETECTION AND REPORTING | 30.4 | 41.9 |
| Laboratory systems | 33.3 | 54.4 |
| Real-time surveillance and reporting | 10 | 39.1 |
| Epidemiology workforce | 75 | 42.3 |
| Data integration between human/ animal/environmental health sectors | 0 | 29.7 |
| RAPID RESPONSE | 25.5 | 38.4 |
| Emergency preparedness and response planning | 12.5 | 16.9 |
| Exercising response plans | 0 | 16.2 |
| Emergency response operation | 0 | 23.6 |
| Linking public health and security authorities | 0 | 22.6 |
| Risk communication | 25 | 39.4 |
| Access to communications infrastructure | 64.9 | 72.7 |
| Trade and travel restrictions | 100 | 97.4 |

| | COUNTRY SCORE | AVERAGE SCORE* |
|---|---------------|----------------|
| HEALTH SYSTEM | 9.7 | 26.4 |
| Health capacity in clinics, hospitals and community care centers | 22.2 | 24.4 |
| Medical countermeasures and personnel deployment | 0 | 21.2 |
| Healthcare access | 31.9 | 38.4 |
| Communications with healthcare workers during a public health emergency | 0 | 15.1 |
| Infection control practices and availability of equipment | 0 | 20.8 |
| Capacity to test and approve new medical countermeasures | 0 | 42.2 |
| COMPLIANCE WITH INTERNATIONAL NORMS | 49.3 | 48.5 |
| IHR reporting compliance and disaster risk reduction | 50 | 62.3 |
| Cross-border agreements on public and animal health emergency response | 100 | 54.4 |
| International commitments | 25 | 53.4 |
| JEE and PVS | 0 | 17.7 |
| Financing | 50 | 36.4 |
| Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| RISK ENVIRONMENT | 53.0 | 55.0 |
| Political and security risks | 67.9 | 60.4 |
| Socio-economic resilience | 69.3 | 66.1 |
| Infrastructure adequacy | 41.7 | 49.0 |
| Environmental risks | 35.8 | 52.9 |
| Public health vulnerabilities | 47.8 | 46.9 |

*Average: all 195 countries

Scores are normalized (0–100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



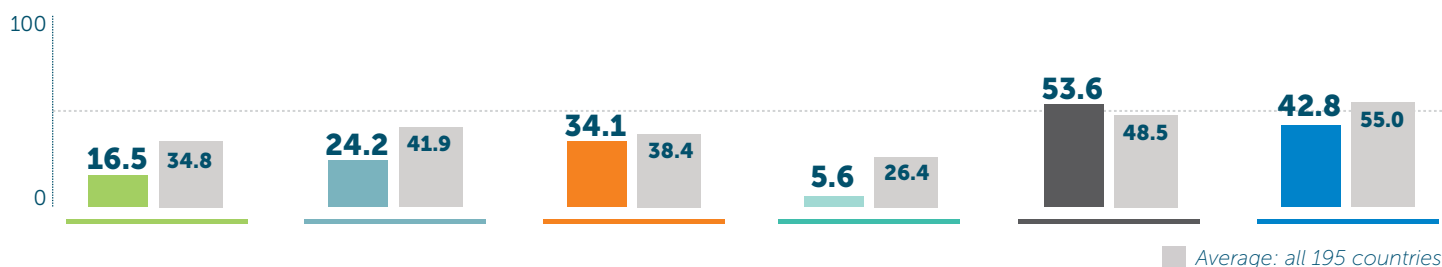
HEALTH



NORMS



RISK



■ Average: all 195 countries

| | COUNTRY SCORE | AVERAGE SCORE* | | COUNTRY SCORE | AVERAGE SCORE* |
|--|---------------|----------------|---|---------------|----------------|
| PREVENTION | 16.5 | 34.8 | HEALTH SYSTEM | 5.6 | 26.4 |
| Antimicrobial resistance (AMR) | 0 | 42.4 | Health capacity in clinics, hospitals and community care centers | 1.5 | 24.4 |
| Zoonotic disease | 7.1 | 27.1 | Medical countermeasures and personnel deployment | 0 | 21.2 |
| Biosecurity | 0 | 16.0 | Healthcare access | 28.9 | 38.4 |
| Biosafety | 0 | 22.8 | Communications with healthcare workers during a public health emergency | 0 | 15.1 |
| Dual-use research and culture of responsible science | 0 | 1.7 | Infection control practices and availability of equipment | 0 | 20.8 |
| Immunization | 78.1 | 85.0 | Capacity to test and approve new medical countermeasures | 0 | 42.2 |
| DETECTION AND REPORTING | 24.2 | 41.9 | COMPLIANCE WITH INTERNATIONAL NORMS | 53.6 | 48.5 |
| Laboratory systems | 16.7 | 54.4 | IHR reporting compliance and disaster risk reduction | 50 | 62.3 |
| Real-time surveillance and reporting | 26.7 | 39.1 | Cross-border agreements on public and animal health emergency response | 50 | 54.4 |
| Epidemiology workforce | 50 | 42.3 | International commitments | 25 | 53.4 |
| Data integration between human/animal/environmental health sectors | 0 | 29.7 | JEE and PVS | 75 | 17.7 |
| RAPID RESPONSE | 34.1 | 38.4 | Financing | 50 | 36.4 |
| Emergency preparedness and response planning | 0 | 16.9 | Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| Exercising response plans | 50 | 16.2 | RISK ENVIRONMENT | 42.8 | 55.0 |
| Emergency response operation | 33.3 | 23.6 | Political and security risks | 64.3 | 60.4 |
| Linking public health and security authorities | 0 | 22.6 | Socio-economic resilience | 36.9 | 66.1 |
| Risk communication | 25 | 39.4 | Infrastructure adequacy | 33.3 | 49.0 |
| Access to communications infrastructure | 50 | 72.7 | Environmental risks | 64.7 | 52.9 |
| Trade and travel restrictions | 100 | 97.4 | Public health vulnerabilities | 15.9 | 46.9 |

*Average: all 195 countries

Scores are normalized (0–100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



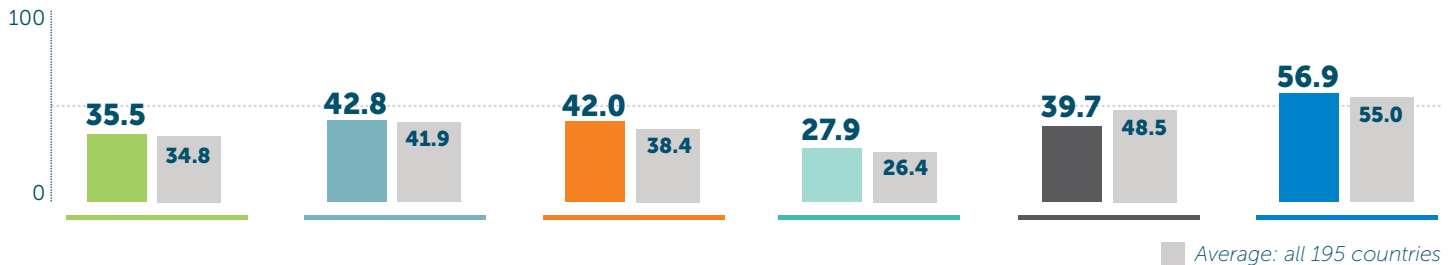
HEALTH



NORMS



RISK



■ Average: all 195 countries

| | COUNTRY SCORE | AVERAGE SCORE* |
|---|---------------|----------------|
| PREVENTION | 35.5 | 34.8 |
| Antimicrobial resistance (AMR) | 41.7 | 42.4 |
| Zoonotic disease | 50.4 | 27.1 |
| Biosecurity | 4 | 16.0 |
| Biosafety | 0 | 22.8 |
| Dual-use research and culture of responsible science | 0 | 1.7 |
| Immunization | 98.2 | 85.0 |
| DETECTION AND REPORTING | 42.8 | 41.9 |
| Laboratory systems | 58.3 | 54.4 |
| Real-time surveillance and reporting | 31.7 | 39.1 |
| Epidemiology workforce | 75 | 42.3 |
| Data integration between human/ animal/environmental health sectors | 0 | 29.7 |
| RAPID RESPONSE | 42.0 | 38.4 |
| Emergency preparedness and response planning | 37.5 | 16.9 |
| Exercising response plans | 0 | 16.2 |
| Emergency response operation | 66.7 | 23.6 |
| Linking public health and security authorities | 0 | 22.6 |
| Risk communication | 25 | 39.4 |
| Access to communications infrastructure | 76.5 | 72.7 |
| Trade and travel restrictions | 100 | 97.4 |

| | COUNTRY SCORE | AVERAGE SCORE* |
|---|---------------|----------------|
| HEALTH SYSTEM | 27.9 | 26.4 |
| Health capacity in clinics, hospitals and community care centers | 21.6 | 24.4 |
| Medical countermeasures and personnel deployment | 0 | 21.2 |
| Healthcare access | 47.6 | 38.4 |
| Communications with healthcare workers during a public health emergency | 0 | 15.1 |
| Infection control practices and availability of equipment | 50 | 20.8 |
| Capacity to test and approve new medical countermeasures | 50 | 42.2 |
| COMPLIANCE WITH INTERNATIONAL NORMS | 39.7 | 48.5 |
| IHR reporting compliance and disaster risk reduction | 50 | 62.3 |
| Cross-border agreements on public and animal health emergency response | 0 | 54.4 |
| International commitments | 40.6 | 53.4 |
| JEE and PVS | 25 | 17.7 |
| Financing | 50 | 36.4 |
| Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| RISK ENVIRONMENT | 56.9 | 55.0 |
| Political and security risks | 85.7 | 60.4 |
| Socio-economic resilience | 57.8 | 66.1 |
| Infrastructure adequacy | 50 | 49.0 |
| Environmental risks | 46.2 | 52.9 |
| Public health vulnerabilities | 41.2 | 46.9 |

*Average: all 195 countries

Scores are normalized (0–100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



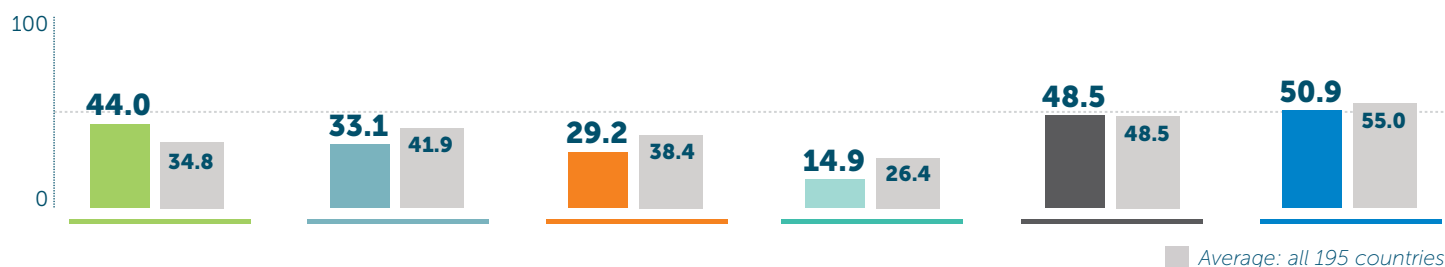
HEALTH



NORMS



RISK



■ Average: all 195 countries

| | COUNTRY SCORE | AVERAGE SCORE* | | COUNTRY SCORE | AVERAGE SCORE* |
|--|---------------|----------------|---|---------------|----------------|
| PREVENTION | 44.0 | 34.8 | HEALTH SYSTEM | 14.9 | 26.4 |
| Antimicrobial resistance (AMR) | 58.3 | 42.4 | Health capacity in clinics, hospitals and community care centers | 3.6 | 24.4 |
| Zoonotic disease | 55.1 | 27.1 | Medical countermeasures and personnel deployment | 33.3 | 21.2 |
| Biosecurity | 0 | 16.0 | Healthcare access | 47.1 | 38.4 |
| Biosafety | 50 | 22.8 | Communications with healthcare workers during a public health emergency | 0 | 15.1 |
| Dual-use research and culture of responsible science | 0 | 1.7 | Infection control practices and availability of equipment | 0 | 20.8 |
| Immunization | 86 | 85.0 | Capacity to test and approve new medical countermeasures | 0 | 42.2 |
| DETECTION AND REPORTING | 33.1 | 41.9 | COMPLIANCE WITH INTERNATIONAL NORMS | 48.5 | 48.5 |
| Laboratory systems | 66.7 | 54.4 | IHR reporting compliance and disaster risk reduction | 100 | 62.3 |
| Real-time surveillance and reporting | 58.3 | 39.1 | Cross-border agreements on public and animal health emergency response | 50 | 54.4 |
| Epidemiology workforce | 0 | 42.3 | International commitments | 31.3 | 53.4 |
| Data integration between human/animal/environmental health sectors | 0 | 29.7 | JEE and PVS | 25 | 17.7 |
| RAPID RESPONSE | 29.2 | 38.4 | Financing | 16.7 | 36.4 |
| Emergency preparedness and response planning | 0 | 16.9 | Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| Exercising response plans | 0 | 16.2 | RISK ENVIRONMENT | 50.9 | 55.0 |
| Emergency response operation | 33.3 | 23.6 | Political and security risks | 57.1 | 60.4 |
| Linking public health and security authorities | 0 | 22.6 | Socio-economic resilience | 76.2 | 66.1 |
| Risk communication | 25 | 39.4 | Infrastructure adequacy | 41.7 | 49.0 |
| Access to communications infrastructure | 66 | 72.7 | Environmental risks | 41.2 | 52.9 |
| Trade and travel restrictions | 100 | 97.4 | Public health vulnerabilities | 38.4 | 46.9 |

*Average: all 195 countries

Scores are normalized (0–100, where 100 = most favorable)

Bosnia and Herzegovina

42.8 Index Score

79/195



PREVENT



DETECT



RESPOND



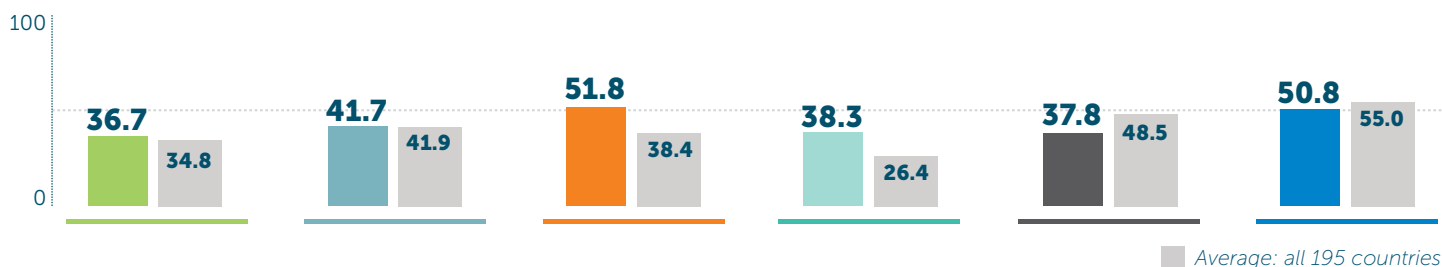
HEALTH



NORMS



RISK



■ Average: all 195 countries

| | COUNTRY SCORE | AVERAGE SCORE* | | COUNTRY SCORE | AVERAGE SCORE* |
|--|---------------|----------------|---|---------------|----------------|
| PREVENTION | 36.7 | 34.8 | HEALTH SYSTEM | 38.3 | 26.4 |
| Antimicrobial resistance (AMR) | 58.3 | 42.4 | Health capacity in clinics, hospitals and community care centers | 15.1 | 24.4 |
| Zoonotic disease | 27.5 | 27.1 | Medical countermeasures and personnel deployment | 0 | 21.2 |
| Biosecurity | 0 | 16.0 | Healthcare access | 47.7 | 38.4 |
| Biosafety | 50 | 22.8 | Communications with healthcare workers during a public health emergency | 50 | 15.1 |
| Dual-use research and culture of responsible science | 0 | 1.7 | Infection control practices and availability of equipment | 50 | 20.8 |
| Immunization | 73.7 | 85.0 | Capacity to test and approve new medical countermeasures | 75 | 42.2 |
| DETECTION AND REPORTING | 41.7 | 41.9 | COMPLIANCE WITH INTERNATIONAL NORMS | 37.8 | 48.5 |
| Laboratory systems | 66.7 | 54.4 | IHR reporting compliance and disaster risk reduction | 50 | 62.3 |
| Real-time surveillance and reporting | 10 | 39.1 | Cross-border agreements on public and animal health emergency response | 50 | 54.4 |
| Epidemiology workforce | 0 | 42.3 | International commitments | 46.9 | 53.4 |
| Data integration between human/animal/environmental health sectors | 100 | 29.7 | JEE and PVS | 0 | 17.7 |
| RAPID RESPONSE | 51.8 | 38.4 | Financing | 16.7 | 36.4 |
| Emergency preparedness and response planning | 0 | 16.9 | Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| Exercising response plans | 50 | 16.2 | RISK ENVIRONMENT | 50.8 | 55.0 |
| Emergency response operation | 33.3 | 23.6 | Political and security risks | 42.9 | 60.4 |
| Linking public health and security authorities | 0 | 22.6 | Socio-economic resilience | 66 | 66.1 |
| Risk communication | 100 | 39.4 | Infrastructure adequacy | 41.7 | 49.0 |
| Access to communications infrastructure | 85.6 | 72.7 | Environmental risks | 47.1 | 52.9 |
| Trade and travel restrictions | 100 | 97.4 | Public health vulnerabilities | 57.6 | 46.9 |

*Average: all 195 countries

Scores are normalized (0–100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



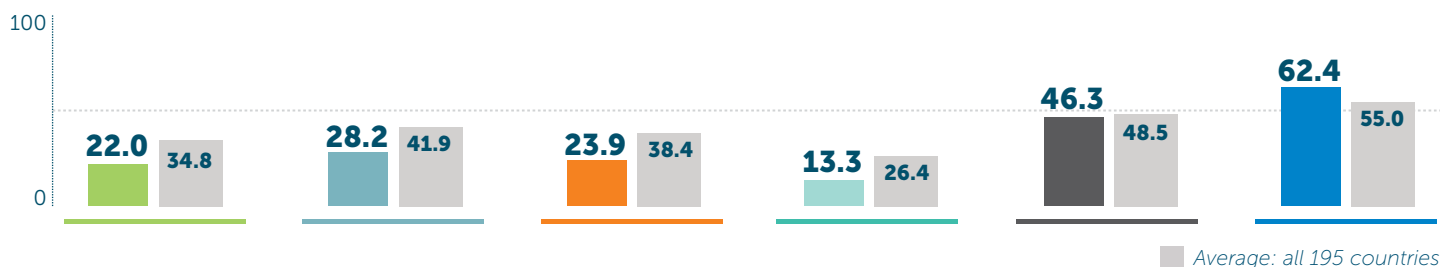
HEALTH



NORMS



RISK



■ Average: all 195 countries

| | COUNTRY SCORE | AVERAGE SCORE* | | COUNTRY SCORE | AVERAGE SCORE* |
|--|---------------|----------------|---|---------------|----------------|
| PREVENTION | 22.0 | 34.8 | HEALTH SYSTEM | 13.3 | 26.4 |
| Antimicrobial resistance (AMR) | 25 | 42.4 | Health capacity in clinics, hospitals and community care centers | 6.1 | 24.4 |
| Zoonotic disease | 16.3 | 27.1 | Medical countermeasures and personnel deployment | 0 | 21.2 |
| Biosecurity | 0 | 16.0 | Healthcare access | 32.9 | 38.4 |
| Biosafety | 0 | 22.8 | Communications with healthcare workers during a public health emergency | 0 | 15.1 |
| Dual-use research and culture of responsible science | 0 | 1.7 | Infection control practices and availability of equipment | 0 | 20.8 |
| Immunization | 77.2 | 85.0 | Capacity to test and approve new medical countermeasures | 50 | 42.2 |
| DETECTION AND REPORTING | 28.2 | 41.9 | COMPLIANCE WITH INTERNATIONAL NORMS | 46.3 | 48.5 |
| Laboratory systems | 66.7 | 54.4 | IHR reporting compliance and disaster risk reduction | 100 | 62.3 |
| Real-time surveillance and reporting | 40 | 39.1 | Cross-border agreements on public and animal health emergency response | 0 | 54.4 |
| Epidemiology workforce | 0 | 42.3 | International commitments | 25 | 53.4 |
| Data integration between human/animal/environmental health sectors | 0 | 29.7 | JEE and PVS | 25 | 17.7 |
| RAPID RESPONSE | 23.9 | 38.4 | Financing | 50 | 36.4 |
| Emergency preparedness and response planning | 0 | 16.9 | Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| Exercising response plans | 0 | 16.2 | RISK ENVIRONMENT | 62.4 | 55.0 |
| Emergency response operation | 0 | 23.6 | Political and security risks | 82.1 | 60.4 |
| Linking public health and security authorities | 0 | 22.6 | Socio-economic resilience | 73.9 | 66.1 |
| Risk communication | 25 | 39.4 | Infrastructure adequacy | 58.3 | 49.0 |
| Access to communications infrastructure | 68.4 | 72.7 | Environmental risks | 60.8 | 52.9 |
| Trade and travel restrictions | 100 | 97.4 | Public health vulnerabilities | 36.4 | 46.9 |

*Average: all 195 countries

Scores are normalized (0–100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



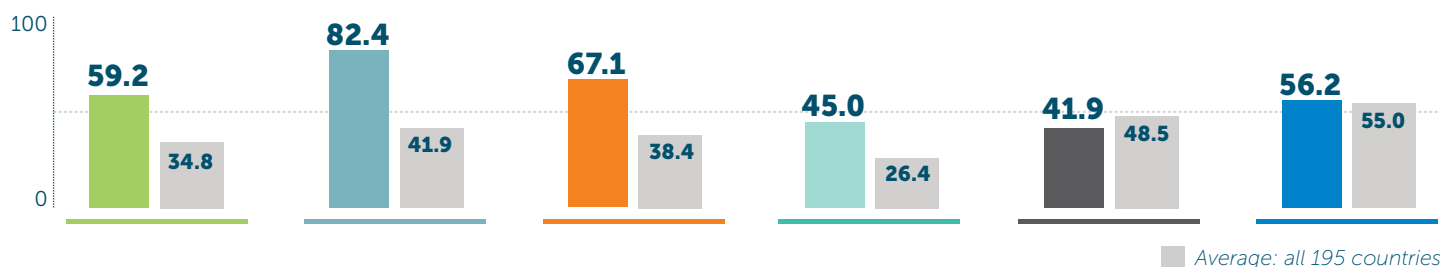
HEALTH



NORMS



RISK



■ Average: all 195 countries

| | COUNTRY SCORE | AVERAGE SCORE* |
|--|---------------|----------------|
| PREVENTION | 59.2 | 34.8 |
| Antimicrobial resistance (AMR) | 83.3 | 42.4 |
| Zoonotic disease | 56.3 | 27.1 |
| Biosecurity | 48 | 16.0 |
| Biosafety | 25 | 22.8 |
| Dual-use research and culture of responsible science | 33.3 | 1.7 |
| Immunization | 98.2 | 85.0 |
| DETECTION AND REPORTING | 82.4 | 41.9 |
| Laboratory systems | 100 | 54.4 |
| Real-time surveillance and reporting | 81.7 | 39.1 |
| Epidemiology workforce | 50 | 42.3 |
| Data integration between human/animal/environmental health sectors | 100 | 29.7 |
| RAPID RESPONSE | 67.1 | 38.4 |
| Emergency preparedness and response planning | 87.5 | 16.9 |
| Exercising response plans | 0 | 16.2 |
| Emergency response operation | 33.3 | 23.6 |
| Linking public health and security authorities | 100 | 22.6 |
| Risk communication | 75 | 39.4 |
| Access to communications infrastructure | 87 | 72.7 |
| Trade and travel restrictions | 100 | 97.4 |

| | COUNTRY SCORE | AVERAGE SCORE* |
|---|---------------|----------------|
| HEALTH SYSTEM | 45.0 | 26.4 |
| Health capacity in clinics, hospitals and community care centers | 55.6 | 24.4 |
| Medical countermeasures and personnel deployment | 33.3 | 21.2 |
| Healthcare access | 44.3 | 38.4 |
| Communications with healthcare workers during a public health emergency | 0 | 15.1 |
| Infection control practices and availability of equipment | 50 | 20.8 |
| Capacity to test and approve new medical countermeasures | 100 | 42.2 |
| COMPLIANCE WITH INTERNATIONAL NORMS | 41.9 | 48.5 |
| IHR reporting compliance and disaster risk reduction | 50 | 62.3 |
| Cross-border agreements on public and animal health emergency response | 50 | 54.4 |
| International commitments | 46.9 | 53.4 |
| JEE and PVS | 25 | 17.7 |
| Financing | 16.7 | 36.4 |
| Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| RISK ENVIRONMENT | 56.2 | 55.0 |
| Political and security risks | 71.4 | 60.4 |
| Socio-economic resilience | 68.1 | 66.1 |
| Infrastructure adequacy | 33.3 | 49.0 |
| Environmental risks | 54.8 | 52.9 |
| Public health vulnerabilities | 52.7 | 46.9 |

*Average: all 195 countries

Scores are normalized (0–100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



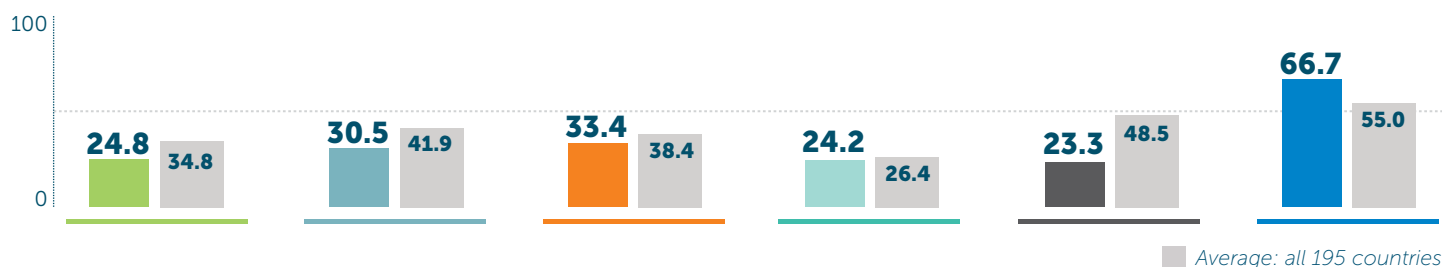
HEALTH



NORMS



RISK



■ Average: all 195 countries

| | COUNTRY SCORE | AVERAGE SCORE* | | COUNTRY SCORE | AVERAGE SCORE* |
|--|---------------|----------------|---|---------------|----------------|
| PREVENTION | 24.8 | 34.8 | HEALTH SYSTEM | 24.2 | 26.4 |
| Antimicrobial resistance (AMR) | 25 | 42.4 | Health capacity in clinics, hospitals and community care centers | 38.8 | 24.4 |
| Zoonotic disease | 8.7 | 27.1 | Medical countermeasures and personnel deployment | 0 | 21.2 |
| Biosecurity | 0 | 16.0 | Healthcare access | 32.7 | 38.4 |
| Biosafety | 0 | 22.8 | Communications with healthcare workers during a public health emergency | 50 | 15.1 |
| Dual-use research and culture of responsible science | 0 | 1.7 | Infection control practices and availability of equipment | 0 | 20.8 |
| Immunization | 98.2 | 85.0 | Capacity to test and approve new medical countermeasures | 25 | 42.2 |
| DETECTION AND REPORTING | 30.5 | 41.9 | COMPLIANCE WITH INTERNATIONAL NORMS | 23.3 | 48.5 |
| Laboratory systems | 66.7 | 54.4 | IHR reporting compliance and disaster risk reduction | 0 | 62.3 |
| Real-time surveillance and reporting | 25 | 39.1 | Cross-border agreements on public and animal health emergency response | 50 | 54.4 |
| Epidemiology workforce | 25 | 42.3 | International commitments | 28.1 | 53.4 |
| Data integration between human/animal/environmental health sectors | 0 | 29.7 | JEE and PVS | 0 | 17.7 |
| RAPID RESPONSE | 33.4 | 38.4 | Financing | 0 | 36.4 |
| Emergency preparedness and response planning | 6.3 | 16.9 | Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| Exercising response plans | 0 | 16.2 | RISK ENVIRONMENT | 66.7 | 55.0 |
| Emergency response operation | 33.3 | 23.6 | Political and security risks | 71.4 | 60.4 |
| Linking public health and security authorities | 0 | 22.6 | Socio-economic resilience | 64 | 66.1 |
| Risk communication | 25 | 39.4 | Infrastructure adequacy | 75 | 49.0 |
| Access to communications infrastructure | 92.3 | 72.7 | Environmental risks | 58.5 | 52.9 |
| Trade and travel restrictions | 100 | 97.4 | Public health vulnerabilities | 63.1 | 46.9 |

*Average: all 195 countries

Scores are normalized (0-100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



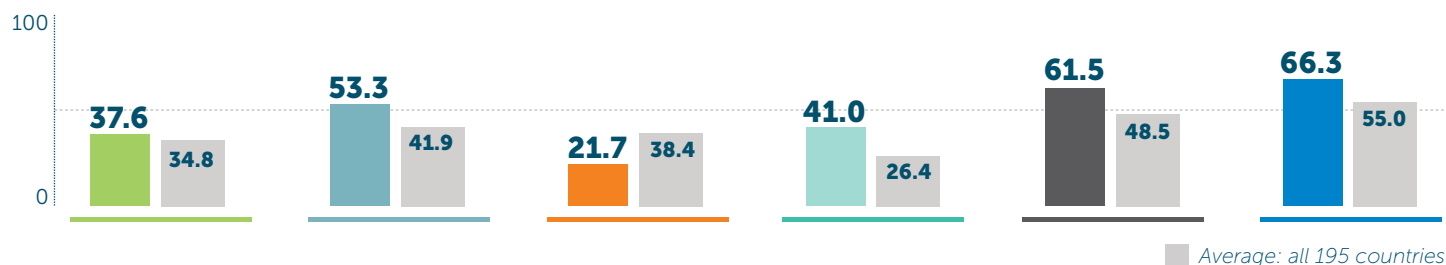
HEALTH



NORMS



RISK



■ Average: all 195 countries

| | COUNTRY SCORE | AVERAGE SCORE* |
|---|---------------|----------------|
| PREVENTION | 37.6 | 34.8 |
| Antimicrobial resistance (AMR) | 8.3 | 42.4 |
| Zoonotic disease | 24.3 | 27.1 |
| Biosecurity | 32 | 16.0 |
| Biosafety | 50 | 22.8 |
| Dual-use research and culture of responsible science | 0 | 1.7 |
| Immunization | 95.6 | 85.0 |
| DETECTION AND REPORTING | 53.3 | 41.9 |
| Laboratory systems | 83.3 | 54.4 |
| Real-time surveillance and reporting | 70 | 39.1 |
| Epidemiology workforce | 50 | 42.3 |
| Data integration between human/ animal/environmental health sectors | 0 | 29.7 |
| RAPID RESPONSE | 21.7 | 38.4 |
| Emergency preparedness and response planning | 0 | 16.9 |
| Exercising response plans | 0 | 16.2 |
| Emergency response operation | 0 | 23.6 |
| Linking public health and security authorities | 0 | 22.6 |
| Risk communication | 0 | 39.4 |
| Access to communications infrastructure | 86.4 | 72.7 |
| Trade and travel restrictions | 100 | 97.4 |

| | COUNTRY SCORE | AVERAGE SCORE* |
|---|---------------|----------------|
| HEALTH SYSTEM | 41.0 | 26.4 |
| Health capacity in clinics, hospitals and community care centers | 50.3 | 24.4 |
| Medical countermeasures and personnel deployment | 33.3 | 21.2 |
| Healthcare access | 44.5 | 38.4 |
| Communications with healthcare workers during a public health emergency | 0 | 15.1 |
| Infection control practices and availability of equipment | 50 | 20.8 |
| Capacity to test and approve new medical countermeasures | 75 | 42.2 |
| COMPLIANCE WITH INTERNATIONAL NORMS | 61.5 | 48.5 |
| IHR reporting compliance and disaster risk reduction | 100 | 62.3 |
| Cross-border agreements on public and animal health emergency response | 100 | 54.4 |
| International commitments | 100 | 53.4 |
| JEE and PVS | 0 | 17.7 |
| Financing | 16.7 | 36.4 |
| Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| RISK ENVIRONMENT | 66.3 | 55.0 |
| Political and security risks | 75 | 60.4 |
| Socio-economic resilience | 84.9 | 66.1 |
| Infrastructure adequacy | 58.3 | 49.0 |
| Environmental risks | 56.4 | 52.9 |
| Public health vulnerabilities | 56.5 | 46.9 |

*Average: all 195 countries

Scores are normalized (0–100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



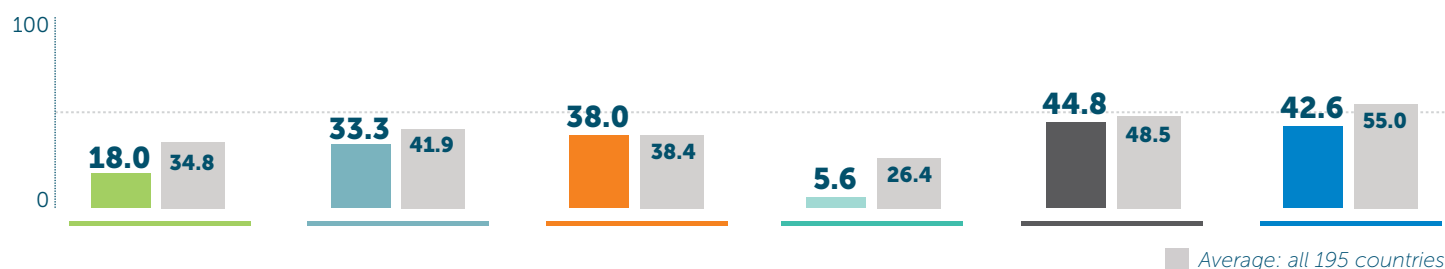
HEALTH



NORMS



RISK



■ Average: all 195 countries

| | COUNTRY SCORE | AVERAGE SCORE* | | COUNTRY SCORE | AVERAGE SCORE* |
|--|---------------|----------------|---|---------------|----------------|
| PREVENTION | 18.0 | 34.8 | HEALTH SYSTEM | 5.6 | 26.4 |
| Antimicrobial resistance (AMR) | 0 | 42.4 | Health capacity in clinics, hospitals and community care centers | 1.1 | 24.4 |
| Zoonotic disease | 1.8 | 27.1 | Medical countermeasures and personnel deployment | 0 | 21.2 |
| Biosecurity | 0 | 16.0 | Healthcare access | 29.4 | 38.4 |
| Biosafety | 0 | 22.8 | Communications with healthcare workers during a public health emergency | 0 | 15.1 |
| Dual-use research and culture of responsible science | 0 | 1.7 | Infection control practices and availability of equipment | 0 | 20.8 |
| Immunization | 90.4 | 85.0 | Capacity to test and approve new medical countermeasures | 0 | 42.2 |
| DETECTION AND REPORTING | 33.3 | 41.9 | COMPLIANCE WITH INTERNATIONAL NORMS | 44.8 | 48.5 |
| Laboratory systems | 58.3 | 54.4 | IHR reporting compliance and disaster risk reduction | 50 | 62.3 |
| Real-time surveillance and reporting | 20 | 39.1 | Cross-border agreements on public and animal health emergency response | 0 | 54.4 |
| Epidemiology workforce | 50 | 42.3 | International commitments | 78.1 | 53.4 |
| Data integration between human/animal/environmental health sectors | 0 | 29.7 | JEE and PVS | 25 | 17.7 |
| RAPID RESPONSE | 38.0 | 38.4 | Financing | 50 | 36.4 |
| Emergency preparedness and response planning | 12.5 | 16.9 | Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| Exercising response plans | 50 | 16.2 | RISK ENVIRONMENT | 42.6 | 55.0 |
| Emergency response operation | 33.3 | 23.6 | Political and security risks | 42.9 | 60.4 |
| Linking public health and security authorities | 0 | 22.6 | Socio-economic resilience | 53.1 | 66.1 |
| Risk communication | 25 | 39.4 | Infrastructure adequacy | 33.3 | 49.0 |
| Access to communications infrastructure | 65.6 | 72.7 | Environmental risks | 75.6 | 52.9 |
| Trade and travel restrictions | 100 | 97.4 | Public health vulnerabilities | 13.7 | 46.9 |

*Average: all 195 countries

Scores are normalized (0–100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



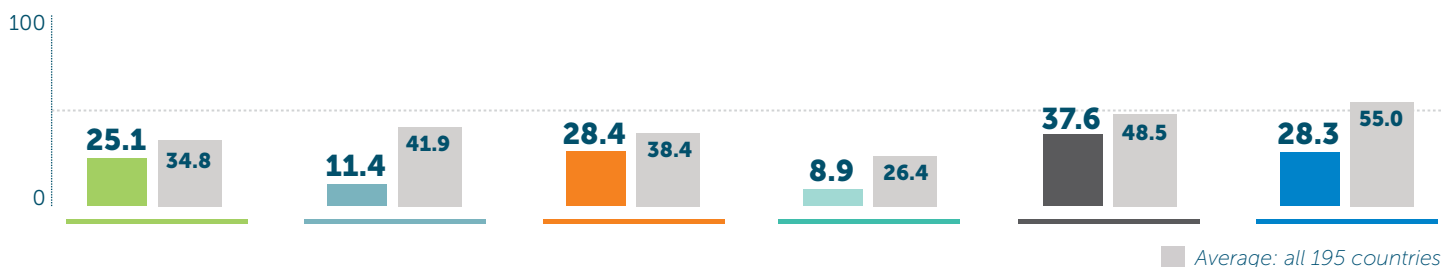
HEALTH



NORMS



RISK



■ Average: all 195 countries

| | COUNTRY SCORE | AVERAGE SCORE* |
|--|---------------|----------------|
| PREVENTION | 25.1 | 34.8 |
| Antimicrobial resistance (AMR) | 33.3 | 42.4 |
| Zoonotic disease | 9.9 | 27.1 |
| Biosecurity | 0 | 16.0 |
| Biosafety | 0 | 22.8 |
| Dual-use research and culture of responsible science | 0 | 1.7 |
| Immunization | 92.1 | 85.0 |
| DETECTION AND REPORTING | 11.4 | 41.9 |
| Laboratory systems | 33.3 | 54.4 |
| Real-time surveillance and reporting | 10 | 39.1 |
| Epidemiology workforce | 0 | 42.3 |
| Data integration between human/animal/environmental health sectors | 0 | 29.7 |
| RAPID RESPONSE | 28.4 | 38.4 |
| Emergency preparedness and response planning | 0 | 16.9 |
| Exercising response plans | 50 | 16.2 |
| Emergency response operation | 0 | 23.6 |
| Linking public health and security authorities | 0 | 22.6 |
| Risk communication | 25 | 39.4 |
| Access to communications infrastructure | 48.4 | 72.7 |
| Trade and travel restrictions | 100 | 97.4 |

| | COUNTRY SCORE | AVERAGE SCORE* |
|---|---------------|----------------|
| HEALTH SYSTEM | 8.9 | 26.4 |
| Health capacity in clinics, hospitals and community care centers | 1.4 | 24.4 |
| Medical countermeasures and personnel deployment | 0 | 21.2 |
| Healthcare access | 30.5 | 38.4 |
| Communications with healthcare workers during a public health emergency | 0 | 15.1 |
| Infection control practices and availability of equipment | 0 | 20.8 |
| Capacity to test and approve new medical countermeasures | 25 | 42.2 |
| COMPLIANCE WITH INTERNATIONAL NORMS | 37.6 | 48.5 |
| IHR reporting compliance and disaster risk reduction | 50 | 62.3 |
| Cross-border agreements on public and animal health emergency response | 0 | 54.4 |
| International commitments | 25 | 53.4 |
| JEE and PVS | 25 | 17.7 |
| Financing | 50 | 36.4 |
| Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| RISK ENVIRONMENT | 28.3 | 55.0 |
| Political and security risks | 14.3 | 60.4 |
| Socio-economic resilience | 33.8 | 66.1 |
| Infrastructure adequacy | 16.7 | 49.0 |
| Environmental risks | 66.4 | 52.9 |
| Public health vulnerabilities | 17.3 | 46.9 |

*Average: all 195 countries

Scores are normalized (0–100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



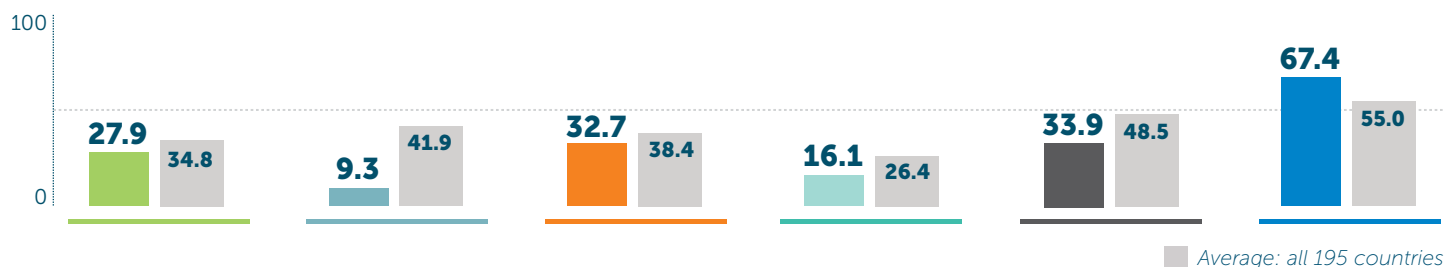
HEALTH



NORMS



RISK



■ Average: all 195 countries

| | COUNTRY SCORE | AVERAGE SCORE* | | COUNTRY SCORE | AVERAGE SCORE* |
|--|---------------|----------------|---|---------------|----------------|
| PREVENTION | 27.9 | 34.8 | HEALTH SYSTEM | 16.1 | 26.4 |
| Antimicrobial resistance (AMR) | 25 | 42.4 | Health capacity in clinics, hospitals and community care centers | 6.3 | 24.4 |
| Zoonotic disease | 27.4 | 27.1 | Medical countermeasures and personnel deployment | 0 | 21.2 |
| Biosecurity | 0 | 16.0 | Healthcare access | 47.8 | 38.4 |
| Biosafety | 0 | 22.8 | Communications with healthcare workers during a public health emergency | 0 | 15.1 |
| Dual-use research and culture of responsible science | 0 | 1.7 | Infection control practices and availability of equipment | 0 | 20.8 |
| Immunization | 97.4 | 85.0 | Capacity to test and approve new medical countermeasures | 50 | 42.2 |
| DETECTION AND REPORTING | 9.3 | 41.9 | COMPLIANCE WITH INTERNATIONAL NORMS | 33.9 | 48.5 |
| Laboratory systems | 16.7 | 54.4 | IHR reporting compliance and disaster risk reduction | 50 | 62.3 |
| Real-time surveillance and reporting | 18.3 | 39.1 | Cross-border agreements on public and animal health emergency response | 0 | 54.4 |
| Epidemiology workforce | 0 | 42.3 | International commitments | 28.1 | 53.4 |
| Data integration between human/animal/environmental health sectors | 0 | 29.7 | JEE and PVS | 0 | 17.7 |
| RAPID RESPONSE | 32.7 | 38.4 | Financing | 50 | 36.4 |
| Emergency preparedness and response planning | 0 | 16.9 | Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| Exercising response plans | 50 | 16.2 | RISK ENVIRONMENT | 67.4 | 55.0 |
| Emergency response operation | 33.3 | 23.6 | Political and security risks | 85.7 | 60.4 |
| Linking public health and security authorities | 0 | 22.6 | Socio-economic resilience | 74.7 | 66.1 |
| Risk communication | 0 | 39.4 | Infrastructure adequacy | 66.7 | 49.0 |
| Access to communications infrastructure | 75 | 72.7 | Environmental risks | 68.5 | 52.9 |
| Trade and travel restrictions | 100 | 97.4 | Public health vulnerabilities | 41.3 | 46.9 |

*Average: all 195 countries

Scores are normalized (0–100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



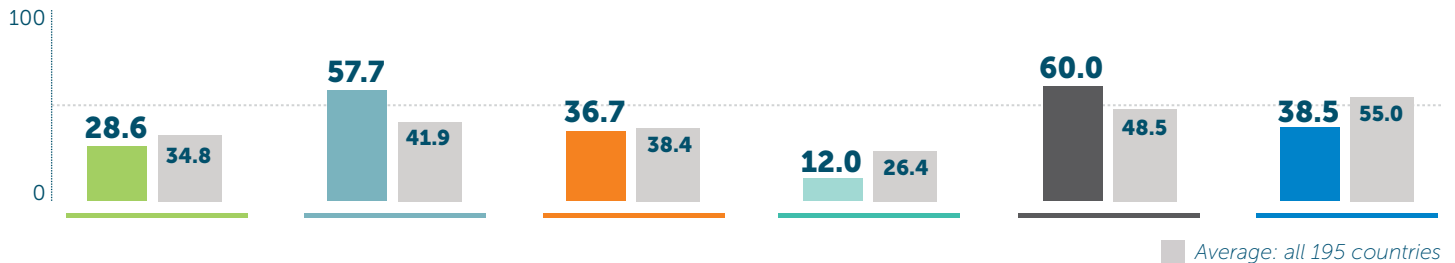
HEALTH



NORMS



RISK



■ Average: all 195 countries

| | COUNTRY SCORE | AVERAGE SCORE* |
|--|---------------|----------------|
| PREVENTION | 28.6 | 34.8 |
| Antimicrobial resistance (AMR) | 25 | 42.4 |
| Zoonotic disease | 28.2 | 27.1 |
| Biosecurity | 0 | 16.0 |
| Biosafety | 0 | 22.8 |
| Dual-use research and culture of responsible science | 0 | 1.7 |
| Immunization | 100 | 85.0 |
| DETECTION AND REPORTING | 57.7 | 41.9 |
| Laboratory systems | 50 | 54.4 |
| Real-time surveillance and reporting | 38.3 | 39.1 |
| Epidemiology workforce | 50 | 42.3 |
| Data integration between human/animal/environmental health sectors | 100 | 29.7 |
| RAPID RESPONSE | 36.7 | 38.4 |
| Emergency preparedness and response planning | 0 | 16.9 |
| Exercising response plans | 100 | 16.2 |
| Emergency response operation | 0 | 23.6 |
| Linking public health and security authorities | 0 | 22.6 |
| Risk communication | 25 | 39.4 |
| Access to communications infrastructure | 60.7 | 72.7 |
| Trade and travel restrictions | 100 | 97.4 |

| | COUNTRY SCORE | AVERAGE SCORE* |
|---|---------------|----------------|
| HEALTH SYSTEM | 12.0 | 26.4 |
| Health capacity in clinics, hospitals and community care centers | 18.9 | 24.4 |
| Medical countermeasures and personnel deployment | 0 | 21.2 |
| Healthcare access | 30.4 | 38.4 |
| Communications with healthcare workers during a public health emergency | 0 | 15.1 |
| Infection control practices and availability of equipment | 0 | 20.8 |
| Capacity to test and approve new medical countermeasures | 25 | 42.2 |
| COMPLIANCE WITH INTERNATIONAL NORMS | 60.0 | 48.5 |
| IHR reporting compliance and disaster risk reduction | 50 | 62.3 |
| Cross-border agreements on public and animal health emergency response | 50 | 54.4 |
| International commitments | 78.1 | 53.4 |
| JEE and PVS | 50 | 17.7 |
| Financing | 66.7 | 36.4 |
| Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| RISK ENVIRONMENT | 38.5 | 55.0 |
| Political and security risks | 50 | 60.4 |
| Socio-economic resilience | 51.8 | 66.1 |
| Infrastructure adequacy | 25 | 49.0 |
| Environmental risks | 35.6 | 52.9 |
| Public health vulnerabilities | 29.8 | 46.9 |

*Average: all 195 countries

Scores are normalized (0–100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



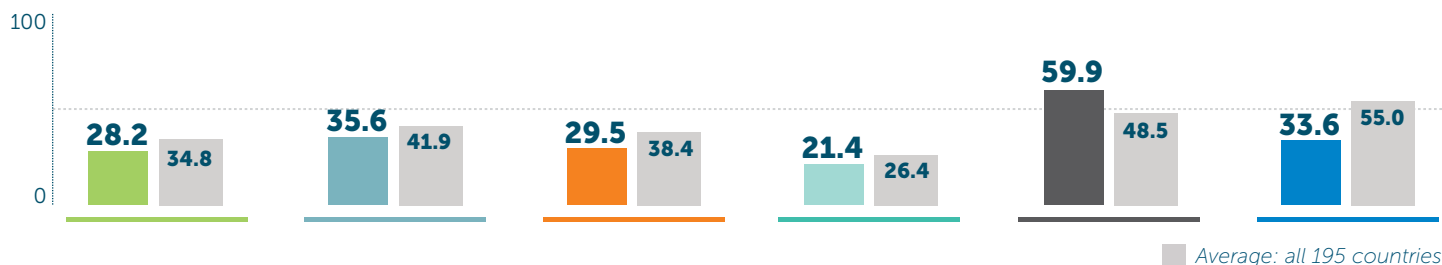
HEALTH



NORMS



RISK

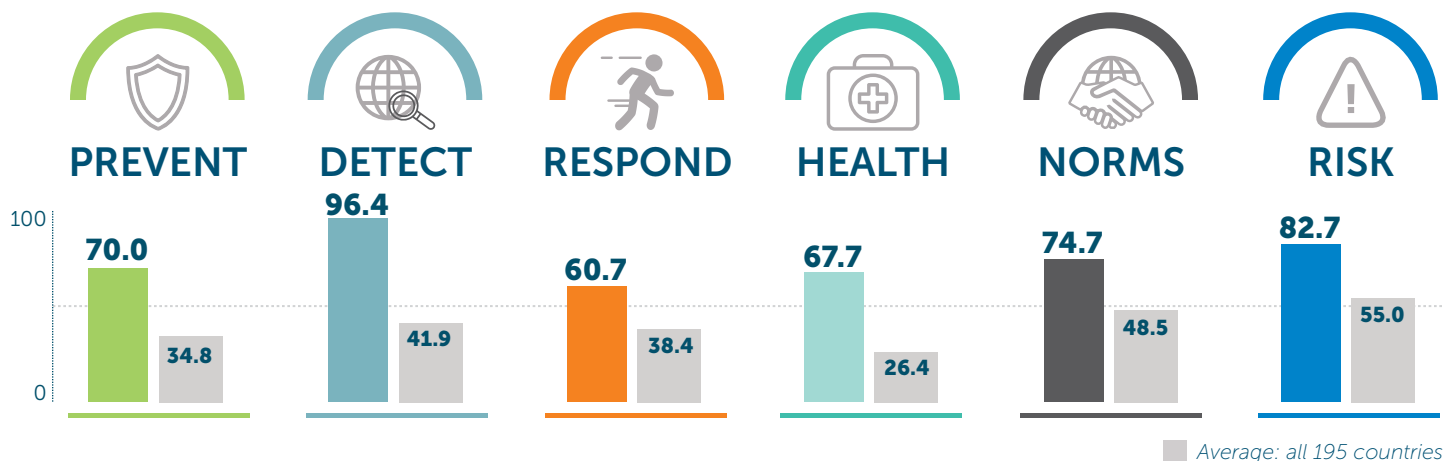


■ Average: all 195 countries

| | COUNTRY SCORE | AVERAGE SCORE* | | COUNTRY SCORE | AVERAGE SCORE* |
|--|---------------|----------------|---|---------------|----------------|
| PREVENTION | 28.2 | 34.8 | HEALTH SYSTEM | 21.4 | 26.4 |
| Antimicrobial resistance (AMR) | 41.7 | 42.4 | Health capacity in clinics, hospitals and community care centers | 27.7 | 24.4 |
| Zoonotic disease | 28.7 | 27.1 | Medical countermeasures and personnel deployment | 33.3 | 21.2 |
| Biosecurity | 4 | 16.0 | Healthcare access | 26 | 38.4 |
| Biosafety | 0 | 22.8 | Communications with healthcare workers during a public health emergency | 0 | 15.1 |
| Dual-use research and culture of responsible science | 0 | 1.7 | Infection control practices and availability of equipment | 0 | 20.8 |
| Immunization | 80.7 | 85.0 | Capacity to test and approve new medical countermeasures | 50 | 42.2 |
| DETECTION AND REPORTING | 35.6 | 41.9 | COMPLIANCE WITH INTERNATIONAL NORMS | 59.9 | 48.5 |
| Laboratory systems | 50 | 54.4 | IHR reporting compliance and disaster risk reduction | 100 | 62.3 |
| Real-time surveillance and reporting | 36.7 | 39.1 | Cross-border agreements on public and animal health emergency response | 50 | 54.4 |
| Epidemiology workforce | 50 | 42.3 | International commitments | 37.5 | 53.4 |
| Data integration between human/animal/environmental health sectors | 0 | 29.7 | JEE and PVS | 50 | 17.7 |
| RAPID RESPONSE | 29.5 | 38.4 | Financing | 50 | 36.4 |
| Emergency preparedness and response planning | 0 | 16.9 | Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| Exercising response plans | 0 | 16.2 | RISK ENVIRONMENT | 33.6 | 55.0 |
| Emergency response operation | 33.3 | 23.6 | Political and security risks | 21.4 | 60.4 |
| Linking public health and security authorities | 0 | 22.6 | Socio-economic resilience | 55.4 | 66.1 |
| Risk communication | 25 | 39.4 | Infrastructure adequacy | 25 | 49.0 |
| Access to communications infrastructure | 68.1 | 72.7 | Environmental risks | 52.6 | 52.9 |
| Trade and travel restrictions | 100 | 97.4 | Public health vulnerabilities | 18.9 | 46.9 |

*Average: all 195 countries

Scores are normalized (0–100, where 100 = most favorable)



| | COUNTRY SCORE | AVERAGE SCORE* |
|--|---------------|----------------|
| PREVENTION | 70.0 | 34.8 |
| Antimicrobial resistance (AMR) | 75 | 42.4 |
| Zoonotic disease | 33 | 27.1 |
| Biosecurity | 82.7 | 16.0 |
| Biosafety | 100 | 22.8 |
| Dual-use research and culture of responsible science | 33.3 | 1.7 |
| Immunization | 91.2 | 85.0 |
| DETECTION AND REPORTING | 96.4 | 41.9 |
| Laboratory systems | 100 | 54.4 |
| Real-time surveillance and reporting | 86.7 | 39.1 |
| Epidemiology workforce | 100 | 42.3 |
| Data integration between human/animal/environmental health sectors | 100 | 29.7 |
| RAPID RESPONSE | 60.7 | 38.4 |
| Emergency preparedness and response planning | 50 | 16.9 |
| Exercising response plans | 0 | 16.2 |
| Emergency response operation | 33.3 | 23.6 |
| Linking public health and security authorities | 100 | 22.6 |
| Risk communication | 75 | 39.4 |
| Access to communications infrastructure | 82.3 | 72.7 |
| Trade and travel restrictions | 100 | 97.4 |

| | COUNTRY SCORE | AVERAGE SCORE* |
|---|---------------|----------------|
| HEALTH SYSTEM | 67.7 | 26.4 |
| Health capacity in clinics, hospitals and community care centers | 43.3 | 24.4 |
| Medical countermeasures and personnel deployment | 100 | 21.2 |
| Healthcare access | 44.7 | 38.4 |
| Communications with healthcare workers during a public health emergency | 100 | 15.1 |
| Infection control practices and availability of equipment | 50 | 20.8 |
| Capacity to test and approve new medical countermeasures | 75 | 42.2 |
| COMPLIANCE WITH INTERNATIONAL NORMS | 74.7 | 48.5 |
| IHR reporting compliance and disaster risk reduction | 100 | 62.3 |
| Cross-border agreements on public and animal health emergency response | 100 | 54.4 |
| International commitments | 100 | 53.4 |
| JEE and PVS | 25 | 17.7 |
| Financing | 33.3 | 36.4 |
| Commitment to sharing of genetic & biological data & specimens | 100 | 68.1 |
| RISK ENVIRONMENT | 82.7 | 55.0 |
| Political and security risks | 92.9 | 60.4 |
| Socio-economic resilience | 98.5 | 66.1 |
| Infrastructure adequacy | 83.3 | 49.0 |
| Environmental risks | 59.2 | 52.9 |
| Public health vulnerabilities | 76.5 | 46.9 |

*Average: all 195 countries
Scores are normalized (0-100, where 100 = most favorable)

Central African Republic

27.3 Index Score

159/195



PREVENT



DETECT



RESPOND



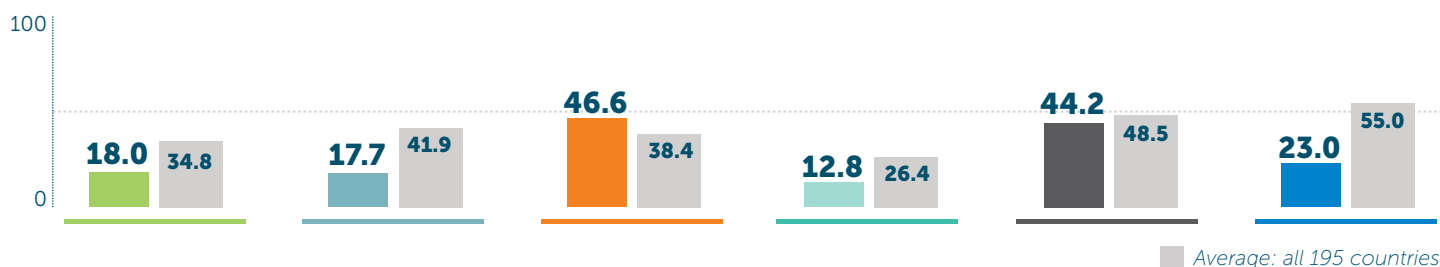
HEALTH



NORMS



RISK



Average: all 195 countries

| | COUNTRY SCORE | AVERAGE SCORE* | | COUNTRY SCORE | AVERAGE SCORE* |
|--|---------------|----------------|---|---------------|----------------|
| PREVENTION | 18.0 | 34.8 | HEALTH SYSTEM | 12.8 | 26.4 |
| Antimicrobial resistance (AMR) | 8.3 | 42.4 | Health capacity in clinics, hospitals and community care centers | 1.9 | 24.4 |
| Zoonotic disease | 27.3 | 27.1 | Medical countermeasures and personnel deployment | 0 | 21.2 |
| Biosecurity | 4 | 16.0 | Healthcare access | 22.2 | 38.4 |
| Biosafety | 0 | 22.8 | Communications with healthcare workers during a public health emergency | 50 | 15.1 |
| Dual-use research and culture of responsible science | 0 | 1.7 | Infection control practices and availability of equipment | 0 | 20.8 |
| Immunization | 57 | 85.0 | Capacity to test and approve new medical countermeasures | 0 | 42.2 |
| DETECTION AND REPORTING | 17.7 | 41.9 | COMPLIANCE WITH INTERNATIONAL NORMS | 44.2 | 48.5 |
| Laboratory systems | 33.3 | 54.4 | IHR reporting compliance and disaster risk reduction | 50 | 62.3 |
| Real-time surveillance and reporting | 10 | 39.1 | Cross-border agreements on public and animal health emergency response | 50 | 54.4 |
| Epidemiology workforce | 25 | 42.3 | International commitments | 15.6 | 53.4 |
| Data integration between human/animal/environmental health sectors | 0 | 29.7 | JEE and PVS | 25 | 17.7 |
| RAPID RESPONSE | 46.6 | 38.4 | Financing | 50 | 36.4 |
| Emergency preparedness and response planning | 25 | 16.9 | Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| Exercising response plans | 50 | 16.2 | RISK ENVIRONMENT | 23.0 | 55.0 |
| Emergency response operation | 33.3 | 23.6 | Political and security risks | 10.7 | 60.4 |
| Linking public health and security authorities | 0 | 22.6 | Socio-economic resilience | 20.9 | 66.1 |
| Risk communication | 75 | 39.4 | Infrastructure adequacy | 16.7 | 49.0 |
| Access to communications infrastructure | 46.9 | 72.7 | Environmental risks | 66 | 52.9 |
| Trade and travel restrictions | 100 | 97.4 | Public health vulnerabilities | 8 | 46.9 |

*Average: all 195 countries

Scores are normalized (0–100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



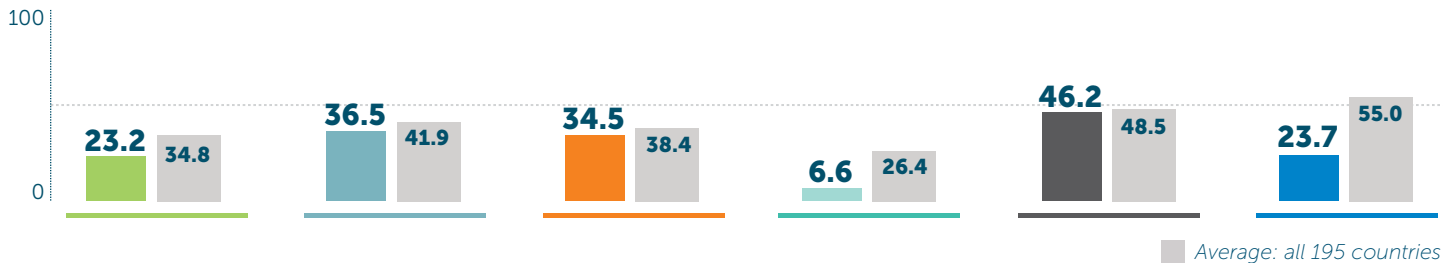
HEALTH



NORMS



RISK



| | COUNTRY SCORE | AVERAGE SCORE* |
|--|---------------|----------------|
| PREVENTION | 23.2 | 34.8 |
| Antimicrobial resistance (AMR) | 58.3 | 42.4 |
| Zoonotic disease | 0.5 | 27.1 |
| Biosecurity | 0 | 16.0 |
| Biosafety | 0 | 22.8 |
| Dual-use research and culture of responsible science | 0 | 1.7 |
| Immunization | 70.2 | 85.0 |
| DETECTION AND REPORTING | 36.5 | 41.9 |
| Laboratory systems | 50 | 54.4 |
| Real-time surveillance and reporting | 40 | 39.1 |
| Epidemiology workforce | 50 | 42.3 |
| Data integration between human/animal/environmental health sectors | 0 | 29.7 |
| RAPID RESPONSE | 34.5 | 38.4 |
| Emergency preparedness and response planning | 0 | 16.9 |
| Exercising response plans | 100 | 16.2 |
| Emergency response operation | 0 | 23.6 |
| Linking public health and security authorities | 0 | 22.6 |
| Risk communication | 25 | 39.4 |
| Access to communications infrastructure | 42.7 | 72.7 |
| Trade and travel restrictions | 100 | 97.4 |

| | COUNTRY SCORE | AVERAGE SCORE* |
|---|---------------|----------------|
| HEALTH SYSTEM | 6.6 | 26.4 |
| Health capacity in clinics, hospitals and community care centers | 0.8 | 24.4 |
| Medical countermeasures and personnel deployment | 0 | 21.2 |
| Healthcare access | 18.2 | 38.4 |
| Communications with healthcare workers during a public health emergency | 0 | 15.1 |
| Infection control practices and availability of equipment | 0 | 20.8 |
| Capacity to test and approve new medical countermeasures | 25 | 42.2 |
| COMPLIANCE WITH INTERNATIONAL NORMS | 46.2 | 48.5 |
| IHR reporting compliance and disaster risk reduction | 50 | 62.3 |
| Cross-border agreements on public and animal health emergency response | 50 | 54.4 |
| International commitments | 0 | 53.4 |
| JEE and PVS | 50 | 17.7 |
| Financing | 50 | 36.4 |
| Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| RISK ENVIRONMENT | 23.7 | 55.0 |
| Political and security risks | 17.9 | 60.4 |
| Socio-economic resilience | 15.4 | 66.1 |
| Infrastructure adequacy | 16.7 | 49.0 |
| Environmental risks | 71.5 | 52.9 |
| Public health vulnerabilities | 4 | 46.9 |

*Average: all 195 countries

Scores are normalized (0–100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



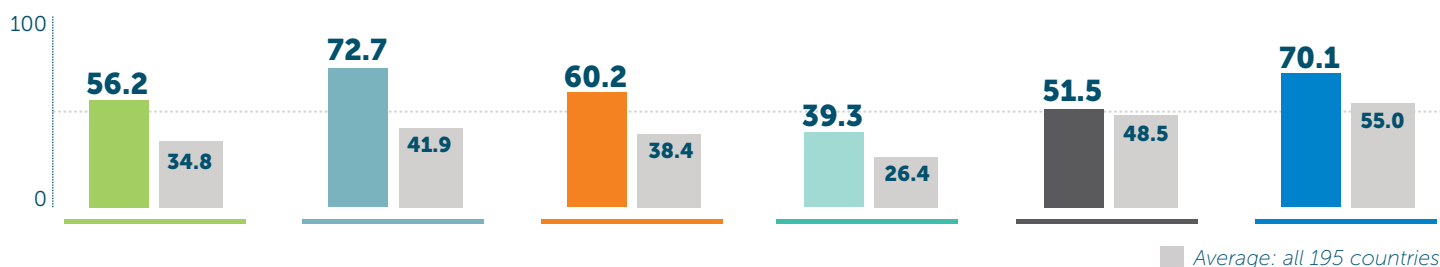
HEALTH



NORMS



RISK



■ Average: all 195 countries

| | COUNTRY SCORE | AVERAGE SCORE* | | COUNTRY SCORE | AVERAGE SCORE* |
|--|---------------|----------------|---|---------------|----------------|
| PREVENTION | 56.2 | 34.8 | HEALTH SYSTEM | 39.3 | 26.4 |
| Antimicrobial resistance (AMR) | 83.3 | 42.4 | Health capacity in clinics, hospitals and community care centers | 6.1 | 24.4 |
| Zoonotic disease | 20.7 | 27.1 | Medical countermeasures and personnel deployment | 0 | 21.2 |
| Biosecurity | 28 | 16.0 | Healthcare access | 45 | 38.4 |
| Biosafety | 100 | 22.8 | Communications with healthcare workers during a public health emergency | 50 | 15.1 |
| Dual-use research and culture of responsible science | 0 | 1.7 | Infection control practices and availability of equipment | 50 | 20.8 |
| Immunization | 94.7 | 85.0 | Capacity to test and approve new medical countermeasures | 100 | 42.2 |
| DETECTION AND REPORTING | 72.7 | 41.9 | COMPLIANCE WITH INTERNATIONAL NORMS | 51.5 | 48.5 |
| Laboratory systems | 83.3 | 54.4 | IHR reporting compliance and disaster risk reduction | 50 | 62.3 |
| Real-time surveillance and reporting | 61.7 | 39.1 | Cross-border agreements on public and animal health emergency response | 100 | 54.4 |
| Epidemiology workforce | 50 | 42.3 | International commitments | 90.6 | 53.4 |
| Data integration between human/animal/environmental health sectors | 100 | 29.7 | JEE and PVS | 0 | 17.7 |
| RAPID RESPONSE | 60.2 | 38.4 | Financing | 16.7 | 36.4 |
| Emergency preparedness and response planning | 37.5 | 16.9 | Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| Exercising response plans | 0 | 16.2 | RISK ENVIRONMENT | 70.1 | 55.0 |
| Emergency response operation | 33.3 | 23.6 | Political and security risks | 82.1 | 60.4 |
| Linking public health and security authorities | 100 | 22.6 | Socio-economic resilience | 81.8 | 66.1 |
| Risk communication | 75 | 39.4 | Infrastructure adequacy | 75 | 49.0 |
| Access to communications infrastructure | 94.5 | 72.7 | Environmental risks | 45 | 52.9 |
| Trade and travel restrictions | 100 | 97.4 | Public health vulnerabilities | 63 | 46.9 |

*Average: all 195 countries

Scores are normalized (0-100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



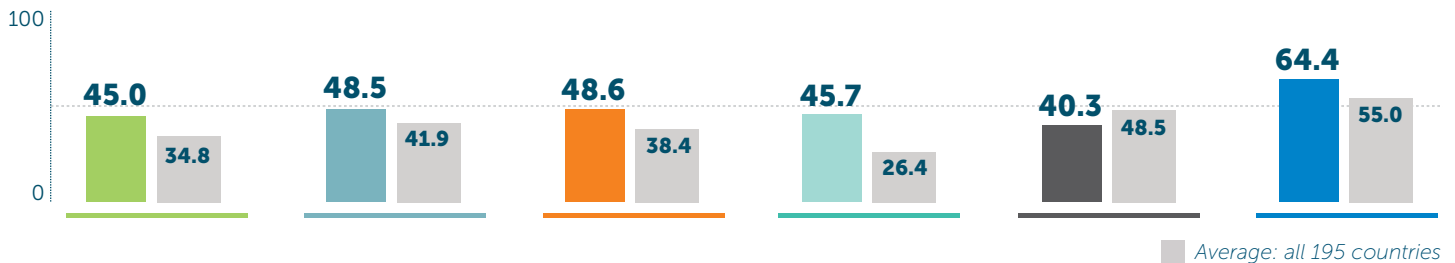
HEALTH



NORMS



RISK



| | COUNTRY SCORE | AVERAGE SCORE* |
|--|---------------|----------------|
| PREVENTION | 45.0 | 34.8 |
| Antimicrobial resistance (AMR) | 83.3 | 42.4 |
| Zoonotic disease | 26.7 | 27.1 |
| Biosecurity | 56 | 16.0 |
| Biosafety | 50 | 22.8 |
| Dual-use research and culture of responsible science | 0 | 1.7 |
| Immunization | 50 | 85.0 |
| DETECTION AND REPORTING | 48.5 | 41.9 |
| Laboratory systems | 66.7 | 54.4 |
| Real-time surveillance and reporting | 68.3 | 39.1 |
| Epidemiology workforce | 50 | 42.3 |
| Data integration between human/animal/environmental health sectors | 0 | 29.7 |
| RAPID RESPONSE | 48.6 | 38.4 |
| Emergency preparedness and response planning | 25 | 16.9 |
| Exercising response plans | 0 | 16.2 |
| Emergency response operation | 33.3 | 23.6 |
| Linking public health and security authorities | 0 | 22.6 |
| Risk communication | 100 | 39.4 |
| Access to communications infrastructure | 83.5 | 72.7 |
| Trade and travel restrictions | 100 | 97.4 |

| | COUNTRY SCORE | AVERAGE SCORE* |
|---|---------------|----------------|
| HEALTH SYSTEM | 45.7 | 26.4 |
| Health capacity in clinics, hospitals and community care centers | 38.3 | 24.4 |
| Medical countermeasures and personnel deployment | 33.3 | 21.2 |
| Healthcare access | 31.4 | 38.4 |
| Communications with healthcare workers during a public health emergency | 0 | 15.1 |
| Infection control practices and availability of equipment | 100 | 20.8 |
| Capacity to test and approve new medical countermeasures | 75 | 42.2 |
| COMPLIANCE WITH INTERNATIONAL NORMS | 40.3 | 48.5 |
| IHR reporting compliance and disaster risk reduction | 50 | 62.3 |
| Cross-border agreements on public and animal health emergency response | 100 | 54.4 |
| International commitments | 50 | 53.4 |
| JEE and PVS | 0 | 17.7 |
| Financing | 16.7 | 36.4 |
| Commitment to sharing of genetic & biological data & specimens | 33.3 | 68.1 |
| RISK ENVIRONMENT | 64.4 | 55.0 |
| Political and security risks | 57.1 | 60.4 |
| Socio-economic resilience | 75.8 | 66.1 |
| Infrastructure adequacy | 75 | 49.0 |
| Environmental risks | 62.8 | 52.9 |
| Public health vulnerabilities | 53 | 46.9 |

*Average: all 195 countries
Scores are normalized (0-100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



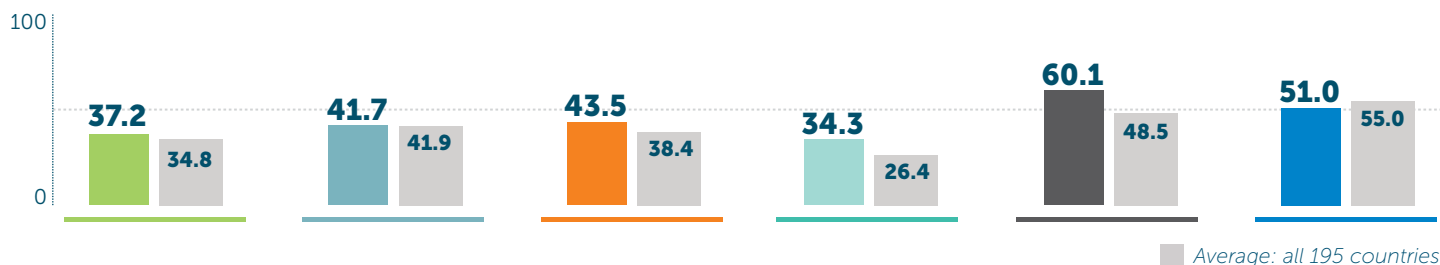
HEALTH



NORMS



RISK



■ Average: all 195 countries

| | COUNTRY SCORE | AVERAGE SCORE* | | COUNTRY SCORE | AVERAGE SCORE* |
|--|---------------|----------------|---|---------------|----------------|
| PREVENTION | 37.2 | 34.8 | HEALTH SYSTEM | 34.3 | 26.4 |
| Antimicrobial resistance (AMR) | 66.7 | 42.4 | Health capacity in clinics, hospitals and community care centers | 7.4 | 24.4 |
| Zoonotic disease | 44.8 | 27.1 | Medical countermeasures and personnel deployment | 33.3 | 21.2 |
| Biosecurity | 0 | 16.0 | Healthcare access | 48.7 | 38.4 |
| Biosafety | 0 | 22.8 | Communications with healthcare workers during a public health emergency | 0 | 15.1 |
| Dual-use research and culture of responsible science | 0 | 1.7 | Infection control practices and availability of equipment | 50 | 20.8 |
| Immunization | 94.7 | 85.0 | Capacity to test and approve new medical countermeasures | 75 | 42.2 |
| DETECTION AND REPORTING | 41.7 | 41.9 | COMPLIANCE WITH INTERNATIONAL NORMS | 60.1 | 48.5 |
| Laboratory systems | 66.7 | 54.4 | IHR reporting compliance and disaster risk reduction | 50 | 62.3 |
| Real-time surveillance and reporting | 43.3 | 39.1 | Cross-border agreements on public and animal health emergency response | 100 | 54.4 |
| Epidemiology workforce | 50 | 42.3 | International commitments | 93.8 | 53.4 |
| Data integration between human/animal/environmental health sectors | 0 | 29.7 | JEE and PVS | 50 | 17.7 |
| RAPID RESPONSE | 43.5 | 38.4 | Financing | 16.7 | 36.4 |
| Emergency preparedness and response planning | 0 | 16.9 | Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| Exercising response plans | 0 | 16.2 | RISK ENVIRONMENT | 51.0 | 55.0 |
| Emergency response operation | 33.3 | 23.6 | Political and security risks | 50 | 60.4 |
| Linking public health and security authorities | 100 | 22.6 | Socio-economic resilience | 69.1 | 66.1 |
| Risk communication | 25 | 39.4 | Infrastructure adequacy | 50 | 49.0 |
| Access to communications infrastructure | 79.1 | 72.7 | Environmental risks | 32.5 | 52.9 |
| Trade and travel restrictions | 100 | 97.4 | Public health vulnerabilities | 52.4 | 46.9 |

*Average: all 195 countries

Scores are normalized (0–100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



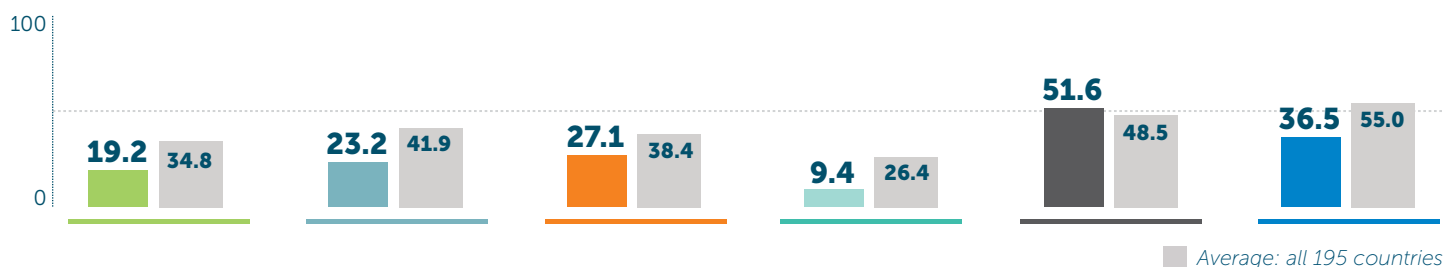
HEALTH



NORMS



RISK



■ Average: all 195 countries

| | COUNTRY SCORE | AVERAGE SCORE* | | COUNTRY SCORE | AVERAGE SCORE* |
|--|---------------|----------------|---|---------------|----------------|
| PREVENTION | 19.2 | 34.8 | HEALTH SYSTEM | 9.4 | 26.4 |
| Antimicrobial resistance (AMR) | 0 | 42.4 | Health capacity in clinics, hospitals and community care centers | 5 | 24.4 |
| Zoonotic disease | 7 | 27.1 | Medical countermeasures and personnel deployment | 0 | 21.2 |
| Biosecurity | 0 | 16.0 | Healthcare access | 29.5 | 38.4 |
| Biosafety | 0 | 22.8 | Communications with healthcare workers during a public health emergency | 0 | 15.1 |
| Dual-use research and culture of responsible science | 0 | 1.7 | Infection control practices and availability of equipment | 0 | 20.8 |
| Immunization | 92.1 | 85.0 | Capacity to test and approve new medical countermeasures | 25 | 42.2 |
| DETECTION AND REPORTING | 23.2 | 41.9 | COMPLIANCE WITH INTERNATIONAL NORMS | 51.6 | 48.5 |
| Laboratory systems | 33.3 | 54.4 | IHR reporting compliance and disaster risk reduction | 50 | 62.3 |
| Real-time surveillance and reporting | 6.7 | 39.1 | Cross-border agreements on public and animal health emergency response | 100 | 54.4 |
| Epidemiology workforce | 50 | 42.3 | International commitments | 12.5 | 53.4 |
| Data integration between human/animal/environmental health sectors | 0 | 29.7 | JEE and PVS | 25 | 17.7 |
| RAPID RESPONSE | 27.1 | 38.4 | Financing | 50 | 36.4 |
| Emergency preparedness and response planning | 6.3 | 16.9 | Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| Exercising response plans | 0 | 16.2 | RISK ENVIRONMENT | 36.5 | 55.0 |
| Emergency response operation | 33.3 | 23.6 | Political and security risks | 57.1 | 60.4 |
| Linking public health and security authorities | 0 | 22.6 | Socio-economic resilience | 49.5 | 66.1 |
| Risk communication | 25 | 39.4 | Infrastructure adequacy | 8.3 | 49.0 |
| Access to communications infrastructure | 40.1 | 72.7 | Environmental risks | 41.5 | 52.9 |
| Trade and travel restrictions | 100 | 97.4 | Public health vulnerabilities | 25.6 | 46.9 |

*Average: all 195 countries

Scores are normalized (0–100, where 100 = most favorable)

Congo (Brazzaville)

23.6 Index Score

173/195



PREVENT



DETECT



RESPOND



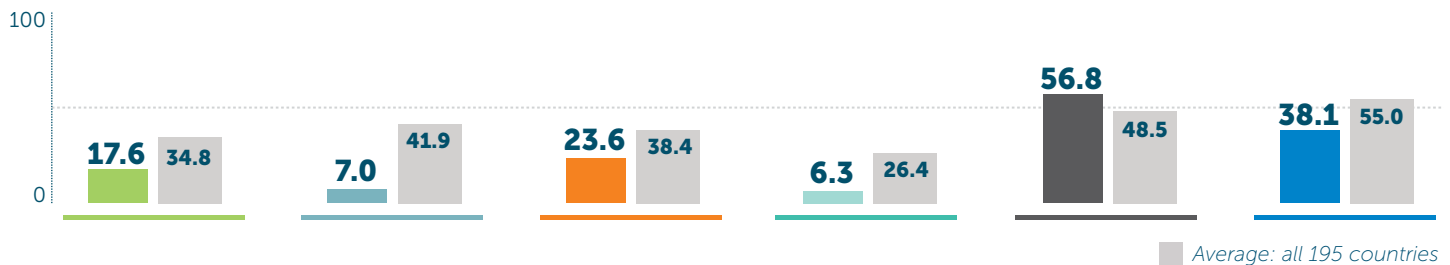
HEALTH



NORMS



RISK



| | COUNTRY SCORE | AVERAGE SCORE* |
|--|---------------|----------------|
| PREVENTION | 17.6 | 34.8 |
| Antimicrobial resistance (AMR) | 0 | 42.4 |
| Zoonotic disease | 7.1 | 27.1 |
| Biosecurity | 0 | 16.0 |
| Biosafety | 0 | 22.8 |
| Dual-use research and culture of responsible science | 0 | 1.7 |
| Immunization | 83.3 | 85.0 |
| DETECTION AND REPORTING | 7.0 | 41.9 |
| Laboratory systems | 16.7 | 54.4 |
| Real-time surveillance and reporting | 10 | 39.1 |
| Epidemiology workforce | 0 | 42.3 |
| Data integration between human/animal/environmental health sectors | 0 | 29.7 |
| RAPID RESPONSE | 23.6 | 38.4 |
| Emergency preparedness and response planning | 0 | 16.9 |
| Exercising response plans | 0 | 16.2 |
| Emergency response operation | 0 | 23.6 |
| Linking public health and security authorities | 0 | 22.6 |
| Risk communication | 25 | 39.4 |
| Access to communications infrastructure | 65.5 | 72.7 |
| Trade and travel restrictions | 100 | 97.4 |

| | COUNTRY SCORE | AVERAGE SCORE* |
|---|---------------|----------------|
| HEALTH SYSTEM | 6.3 | 26.4 |
| Health capacity in clinics, hospitals and community care centers | 3.5 | 24.4 |
| Medical countermeasures and personnel deployment | 0 | 21.2 |
| Healthcare access | 30.8 | 38.4 |
| Communications with healthcare workers during a public health emergency | 0 | 15.1 |
| Infection control practices and availability of equipment | 0 | 20.8 |
| Capacity to test and approve new medical countermeasures | 0 | 42.2 |
| COMPLIANCE WITH INTERNATIONAL NORMS | 56.8 | 48.5 |
| IHR reporting compliance and disaster risk reduction | 100 | 62.3 |
| Cross-border agreements on public and animal health emergency response | 50 | 54.4 |
| International commitments | 75 | 53.4 |
| JEE and PVS | 0 | 17.7 |
| Financing | 50 | 36.4 |
| Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| RISK ENVIRONMENT | 38.1 | 55.0 |
| Political and security risks | 32.1 | 60.4 |
| Socio-economic resilience | 53.5 | 66.1 |
| Infrastructure adequacy | 41.7 | 49.0 |
| Environmental risks | 47.6 | 52.9 |
| Public health vulnerabilities | 19.2 | 46.9 |

*Average: all 195 countries

Scores are normalized (0–100, where 100 = most favorable)

Congo (Democratic Republic)

26.5 Index Score

161/195



PREVENT



DETECT



RESPOND



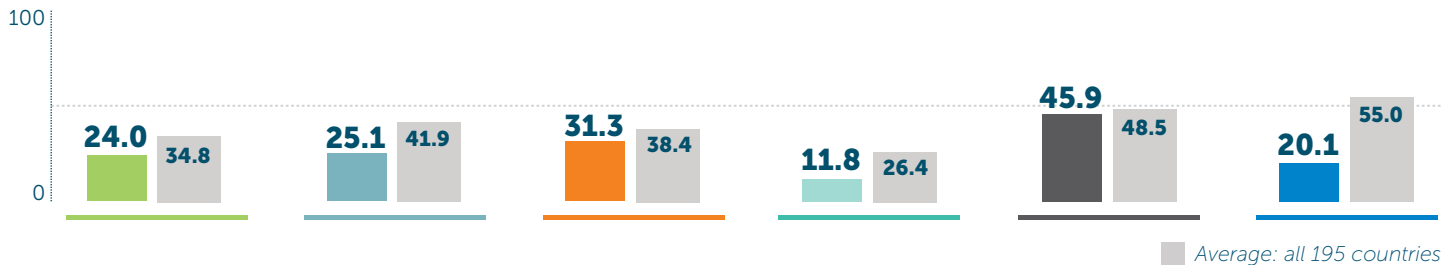
HEALTH



NORMS



RISK



Average: all 195 countries

| | COUNTRY SCORE | AVERAGE SCORE* | | COUNTRY SCORE | AVERAGE SCORE* |
|--|---------------|----------------|---|---------------|----------------|
| PREVENTION | 24.0 | 34.8 | HEALTH SYSTEM | 11.8 | 26.4 |
| Antimicrobial resistance (AMR) | 8.3 | 42.4 | Health capacity in clinics, hospitals and community care centers | 18.8 | 24.4 |
| Zoonotic disease | 20.4 | 27.1 | Medical countermeasures and personnel deployment | 0 | 21.2 |
| Biosecurity | 4 | 16.0 | Healthcare access | 29.6 | 38.4 |
| Biosafety | 0 | 22.8 | Communications with healthcare workers during a public health emergency | 0 | 15.1 |
| Dual-use research and culture of responsible science | 0 | 1.7 | Infection control practices and availability of equipment | 0 | 20.8 |
| Immunization | 93.9 | 85.0 | Capacity to test and approve new medical countermeasures | 25 | 42.2 |
| DETECTION AND REPORTING | 25.1 | 41.9 | COMPLIANCE WITH INTERNATIONAL NORMS | 45.9 | 48.5 |
| Laboratory systems | 16.7 | 54.4 | IHR reporting compliance and disaster risk reduction | 50 | 62.3 |
| Real-time surveillance and reporting | 30 | 39.1 | Cross-border agreements on public and animal health emergency response | 50 | 54.4 |
| Epidemiology workforce | 50 | 42.3 | International commitments | 28.1 | 53.4 |
| Data integration between human/animal/environmental health sectors | 0 | 29.7 | JEE and PVS | 25 | 17.7 |
| RAPID RESPONSE | 31.3 | 38.4 | Financing | 50 | 36.4 |
| Emergency preparedness and response planning | 25 | 16.9 | Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| Exercising response plans | 50 | 16.2 | RISK ENVIRONMENT | 20.1 | 55.0 |
| Emergency response operation | 0 | 23.6 | Political and security risks | 7.1 | 60.4 |
| Linking public health and security authorities | 0 | 22.6 | Socio-economic resilience | 28.7 | 66.1 |
| Risk communication | 25 | 39.4 | Infrastructure adequacy | 0 | 49.0 |
| Access to communications infrastructure | 40.1 | 72.7 | Environmental risks | 62.9 | 52.9 |
| Trade and travel restrictions | 100 | 97.4 | Public health vulnerabilities | 9.4 | 46.9 |

*Average: all 195 countries

Scores are normalized (0–100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



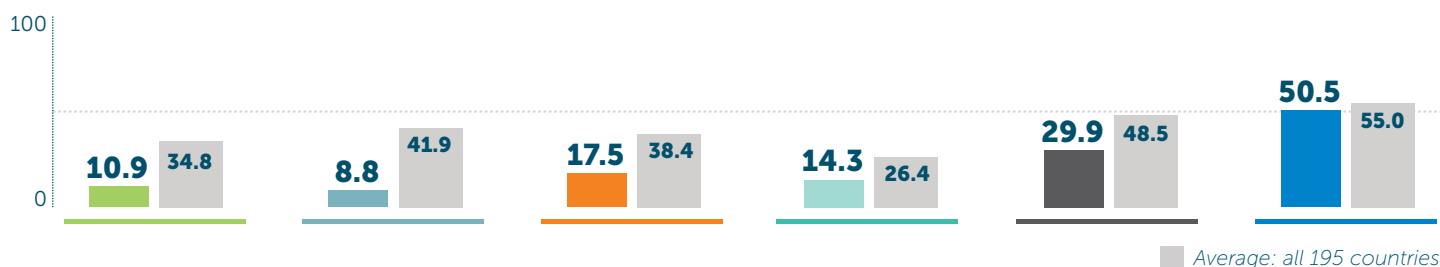
HEALTH



NORMS



RISK



■ Average: all 195 countries

| | COUNTRY SCORE | AVERAGE SCORE* | | COUNTRY SCORE | AVERAGE SCORE* |
|--|---------------|----------------|---|---------------|----------------|
| PREVENTION | 10.9 | 34.8 | HEALTH SYSTEM | 14.3 | 26.4 |
| Antimicrobial resistance (AMR) | 8.3 | 42.4 | Health capacity in clinics, hospitals and community care centers | 29.5 | 24.4 |
| Zoonotic disease | 0 | 27.1 | Medical countermeasures and personnel deployment | 0 | 21.2 |
| Biosecurity | 0 | 16.0 | Healthcare access | 33 | 38.4 |
| Biosafety | 0 | 22.8 | Communications with healthcare workers during a public health emergency | 0 | 15.1 |
| Dual-use research and culture of responsible science | 0 | 1.7 | Infection control practices and availability of equipment | 0 | 20.8 |
| Immunization | 49.1 | 85.0 | Capacity to test and approve new medical countermeasures | 25 | 42.2 |
| DETECTION AND REPORTING | 8.8 | 41.9 | COMPLIANCE WITH INTERNATIONAL NORMS | 29.9 | 48.5 |
| Laboratory systems | 16.7 | 54.4 | IHR reporting compliance and disaster risk reduction | 50 | 62.3 |
| Real-time surveillance and reporting | 16.7 | 39.1 | Cross-border agreements on public and animal health emergency response | 50 | 54.4 |
| Epidemiology workforce | 0 | 42.3 | International commitments | 12.5 | 53.4 |
| Data integration between human/animal/environmental health sectors | 0 | 29.7 | JEE and PVS | 0 | 17.7 |
| RAPID RESPONSE | 17.5 | 38.4 | Financing | 0 | 36.4 |
| Emergency preparedness and response planning | 0 | 16.9 | Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| Exercising response plans | 0 | 16.2 | RISK ENVIRONMENT | 50.5 | 55.0 |
| Emergency response operation | 0 | 23.6 | Political and security risks | 67.9 | 60.4 |
| Linking public health and security authorities | 0 | 22.6 | Socio-economic resilience | 66.6 | 66.1 |
| Risk communication | 0 | 39.4 | Infrastructure adequacy | 16.7 | 49.0 |
| Access to communications infrastructure | 52 | 72.7 | Environmental risks | 36.7 | 52.9 |
| Trade and travel restrictions | 100 | 97.4 | Public health vulnerabilities | 62 | 46.9 |

*Average: all 195 countries

Scores are normalized (0–100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



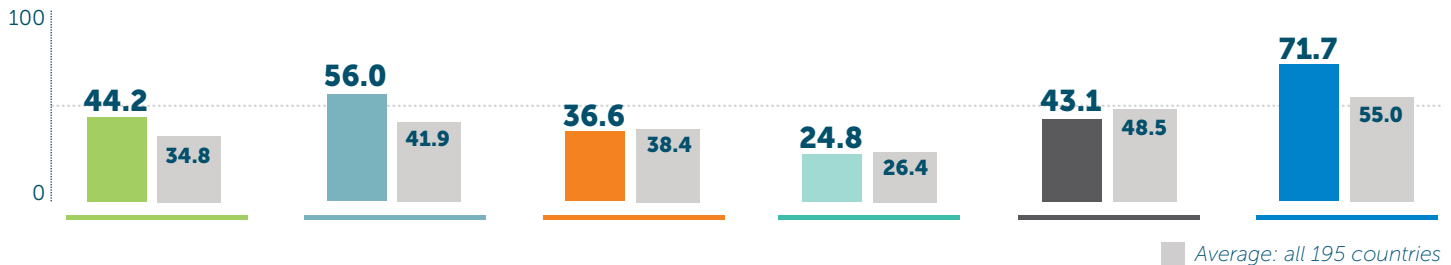
HEALTH



NORMS



RISK



■ Average: all 195 countries

| | COUNTRY SCORE | AVERAGE SCORE* |
|--|---------------|----------------|
| PREVENTION | 44.2 | 34.8 |
| Antimicrobial resistance (AMR) | 75 | 42.4 |
| Zoonotic disease | 28.3 | 27.1 |
| Biosecurity | 0 | 16.0 |
| Biosafety | 50 | 22.8 |
| Dual-use research and culture of responsible science | 0 | 1.7 |
| Immunization | 97.4 | 85.0 |
| DETECTION AND REPORTING | 56.0 | 41.9 |
| Laboratory systems | 83.3 | 54.4 |
| Real-time surveillance and reporting | 56.7 | 39.1 |
| Epidemiology workforce | 75 | 42.3 |
| Data integration between human/animal/environmental health sectors | 0 | 29.7 |
| RAPID RESPONSE | 36.6 | 38.4 |
| Emergency preparedness and response planning | 0 | 16.9 |
| Exercising response plans | 0 | 16.2 |
| Emergency response operation | 33.3 | 23.6 |
| Linking public health and security authorities | 0 | 22.6 |
| Risk communication | 50 | 39.4 |
| Access to communications infrastructure | 90 | 72.7 |
| Trade and travel restrictions | 100 | 97.4 |

| | COUNTRY SCORE | AVERAGE SCORE* |
|---|---------------|----------------|
| HEALTH SYSTEM | 24.8 | 26.4 |
| Health capacity in clinics, hospitals and community care centers | 5.1 | 24.4 |
| Medical countermeasures and personnel deployment | 0 | 21.2 |
| Healthcare access | 46.2 | 38.4 |
| Communications with healthcare workers during a public health emergency | 0 | 15.1 |
| Infection control practices and availability of equipment | 50 | 20.8 |
| Capacity to test and approve new medical countermeasures | 50 | 42.2 |
| COMPLIANCE WITH INTERNATIONAL NORMS | 43.1 | 48.5 |
| IHR reporting compliance and disaster risk reduction | 50 | 62.3 |
| Cross-border agreements on public and animal health emergency response | 100 | 54.4 |
| International commitments | 28.1 | 53.4 |
| JEE and PVS | 0 | 17.7 |
| Financing | 16.7 | 36.4 |
| Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| RISK ENVIRONMENT | 71.7 | 55.0 |
| Political and security risks | 85.7 | 60.4 |
| Socio-economic resilience | 92.5 | 66.1 |
| Infrastructure adequacy | 50 | 49.0 |
| Environmental risks | 69.8 | 52.9 |
| Public health vulnerabilities | 60.7 | 46.9 |

*Average: all 195 countries

Scores are normalized (0–100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



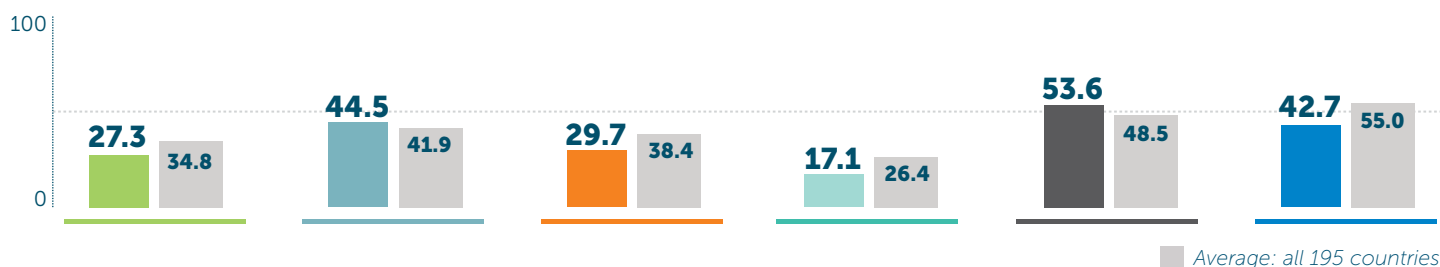
HEALTH



NORMS



RISK



■ Average: all 195 countries

| | COUNTRY SCORE | AVERAGE SCORE* | | COUNTRY SCORE | AVERAGE SCORE* |
|--|---------------|----------------|---|---------------|----------------|
| PREVENTION | 27.3 | 34.8 | HEALTH SYSTEM | 17.1 | 26.4 |
| Antimicrobial resistance (AMR) | 8.3 | 42.4 | Health capacity in clinics, hospitals and community care centers | 1.2 | 24.4 |
| Zoonotic disease | 40.4 | 27.1 | Medical countermeasures and personnel deployment | 33.3 | 21.2 |
| Biosecurity | 4 | 16.0 | Healthcare access | 44.7 | 38.4 |
| Biosafety | 0 | 22.8 | Communications with healthcare workers during a public health emergency | 0 | 15.1 |
| Dual-use research and culture of responsible science | 0 | 1.7 | Infection control practices and availability of equipment | 0 | 20.8 |
| Immunization | 93 | 85.0 | Capacity to test and approve new medical countermeasures | 25 | 42.2 |
| DETECTION AND REPORTING | 44.5 | 41.9 | COMPLIANCE WITH INTERNATIONAL NORMS | 53.6 | 48.5 |
| Laboratory systems | 58.3 | 54.4 | IHR reporting compliance and disaster risk reduction | 50 | 62.3 |
| Real-time surveillance and reporting | 61.7 | 39.1 | Cross-border agreements on public and animal health emergency response | 50 | 54.4 |
| Epidemiology workforce | 50 | 42.3 | International commitments | 25 | 53.4 |
| Data integration between human/animal/environmental health sectors | 0 | 29.7 | JEE and PVS | 75 | 17.7 |
| RAPID RESPONSE | 29.7 | 38.4 | Financing | 50 | 36.4 |
| Emergency preparedness and response planning | 0 | 16.9 | Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| Exercising response plans | 0 | 16.2 | RISK ENVIRONMENT | 42.7 | 55.0 |
| Emergency response operation | 33.3 | 23.6 | Political and security risks | 50 | 60.4 |
| Linking public health and security authorities | 0 | 22.6 | Socio-economic resilience | 45.2 | 66.1 |
| Risk communication | 25 | 39.4 | Infrastructure adequacy | 41.7 | 49.0 |
| Access to communications infrastructure | 69.7 | 72.7 | Environmental risks | 62.8 | 52.9 |
| Trade and travel restrictions | 100 | 97.4 | Public health vulnerabilities | 16.5 | 46.9 |

*Average: all 195 countries

Scores are normalized (0-100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



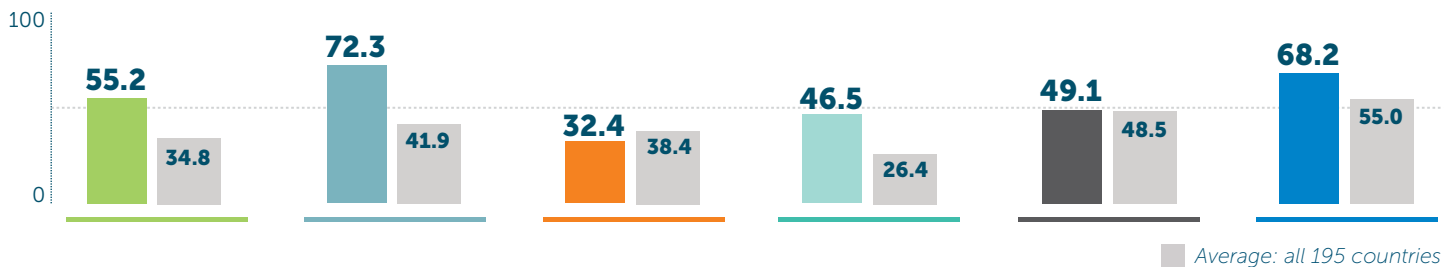
HEALTH



NORMS



RISK



■ Average: all 195 countries

| | COUNTRY SCORE | AVERAGE SCORE* |
|--|---------------|----------------|
| PREVENTION | 55.2 | 34.8 |
| Antimicrobial resistance (AMR) | 75 | 42.4 |
| Zoonotic disease | 57.1 | 27.1 |
| Biosecurity | 44 | 16.0 |
| Biosafety | 50 | 22.8 |
| Dual-use research and culture of responsible science | 0 | 1.7 |
| Immunization | 91.2 | 85.0 |
| DETECTION AND REPORTING | 72.3 | 41.9 |
| Laboratory systems | 66.7 | 54.4 |
| Real-time surveillance and reporting | 76.7 | 39.1 |
| Epidemiology workforce | 50 | 42.3 |
| Data integration between human/animal/environmental health sectors | 100 | 29.7 |
| RAPID RESPONSE | 32.4 | 38.4 |
| Emergency preparedness and response planning | 12.5 | 16.9 |
| Exercising response plans | 0 | 16.2 |
| Emergency response operation | 33.3 | 23.6 |
| Linking public health and security authorities | 0 | 22.6 |
| Risk communication | 25 | 39.4 |
| Access to communications infrastructure | 75.7 | 72.7 |
| Trade and travel restrictions | 100 | 97.4 |

| | COUNTRY SCORE | AVERAGE SCORE* |
|---|---------------|----------------|
| HEALTH SYSTEM | 46.5 | 26.4 |
| Health capacity in clinics, hospitals and community care centers | 63.9 | 24.4 |
| Medical countermeasures and personnel deployment | 66.7 | 21.2 |
| Healthcare access | 48.1 | 38.4 |
| Communications with healthcare workers during a public health emergency | 0 | 15.1 |
| Infection control practices and availability of equipment | 50 | 20.8 |
| Capacity to test and approve new medical countermeasures | 50 | 42.2 |
| COMPLIANCE WITH INTERNATIONAL NORMS | 49.1 | 48.5 |
| IHR reporting compliance and disaster risk reduction | 50 | 62.3 |
| Cross-border agreements on public and animal health emergency response | 100 | 54.4 |
| International commitments | 96.9 | 53.4 |
| JEE and PVS | 0 | 17.7 |
| Financing | 0 | 36.4 |
| Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| RISK ENVIRONMENT | 68.2 | 55.0 |
| Political and security risks | 78.6 | 60.4 |
| Socio-economic resilience | 67.5 | 66.1 |
| Infrastructure adequacy | 75 | 49.0 |
| Environmental risks | 52.6 | 52.9 |
| Public health vulnerabilities | 64.4 | 46.9 |

*Average: all 195 countries

Scores are normalized (0–100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



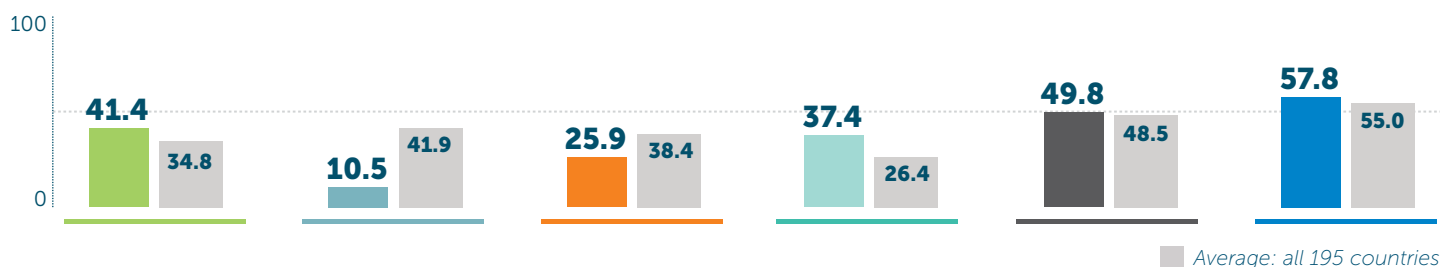
HEALTH



NORMS



RISK



■ Average: all 195 countries

| | COUNTRY SCORE | AVERAGE SCORE* | | COUNTRY SCORE | AVERAGE SCORE* |
|--|---------------|----------------|---|---------------|----------------|
| PREVENTION | 41.4 | 34.8 | HEALTH SYSTEM | 37.4 | 26.4 |
| Antimicrobial resistance (AMR) | 8.3 | 42.4 | Health capacity in clinics, hospitals and community care centers | 32.4 | 24.4 |
| Zoonotic disease | 62.6 | 27.1 | Medical countermeasures and personnel deployment | 0 | 21.2 |
| Biosecurity | 8 | 16.0 | Healthcare access | 48.2 | 38.4 |
| Biosafety | 50 | 22.8 | Communications with healthcare workers during a public health emergency | 100 | 15.1 |
| Dual-use research and culture of responsible science | 0 | 1.7 | Infection control practices and availability of equipment | 0 | 20.8 |
| Immunization | 100 | 85.0 | Capacity to test and approve new medical countermeasures | 50 | 42.2 |
| DETECTION AND REPORTING | 10.5 | 41.9 | COMPLIANCE WITH INTERNATIONAL NORMS | 49.8 | 48.5 |
| Laboratory systems | 33.3 | 54.4 | IHR reporting compliance and disaster risk reduction | 100 | 62.3 |
| Real-time surveillance and reporting | 6.7 | 39.1 | Cross-border agreements on public and animal health emergency response | 50 | 54.4 |
| Epidemiology workforce | 0 | 42.3 | International commitments | 46.9 | 53.4 |
| Data integration between human/animal/environmental health sectors | 0 | 29.7 | JEE and PVS | 0 | 17.7 |
| RAPID RESPONSE | 25.9 | 38.4 | Financing | 33.3 | 36.4 |
| Emergency preparedness and response planning | 18.8 | 16.9 | Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| Exercising response plans | 0 | 16.2 | RISK ENVIRONMENT | 57.8 | 55.0 |
| Emergency response operation | 0 | 23.6 | Political and security risks | 64.3 | 60.4 |
| Linking public health and security authorities | 0 | 22.6 | Socio-economic resilience | 72.9 | 66.1 |
| Risk communication | 25 | 39.4 | Infrastructure adequacy | 33.3 | 49.0 |
| Access to communications infrastructure | 59.9 | 72.7 | Environmental risks | 54 | 52.9 |
| Trade and travel restrictions | 100 | 97.4 | Public health vulnerabilities | 64 | 46.9 |

*Average: all 195 countries

Scores are normalized (0–100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



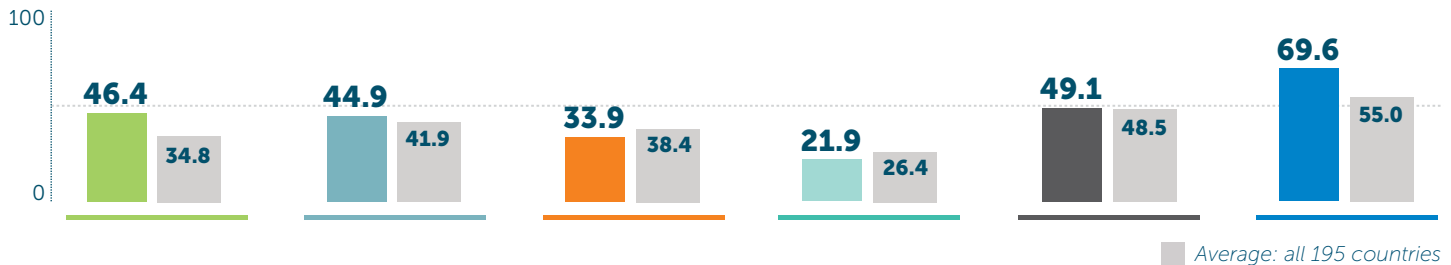
HEALTH



NORMS



RISK



| | COUNTRY SCORE | AVERAGE SCORE* |
|---|---------------|----------------|
| PREVENTION | 46.4 | 34.8 |
| Antimicrobial resistance (AMR) | 25 | 42.4 |
| Zoonotic disease | 55.5 | 27.1 |
| Biosecurity | 40 | 16.0 |
| Biosafety | 50 | 22.8 |
| Dual-use research and culture of responsible science | 0 | 1.7 |
| Immunization | 92.1 | 85.0 |
| DETECTION AND REPORTING | 44.9 | 41.9 |
| Laboratory systems | 66.7 | 54.4 |
| Real-time surveillance and reporting | 55 | 39.1 |
| Epidemiology workforce | 50 | 42.3 |
| Data integration between human/ animal/environmental health sectors | 0 | 29.7 |
| RAPID RESPONSE | 33.9 | 38.4 |
| Emergency preparedness and response planning | 12.5 | 16.9 |
| Exercising response plans | 0 | 16.2 |
| Emergency response operation | 33.3 | 23.6 |
| Linking public health and security authorities | 0 | 22.6 |
| Risk communication | 25 | 39.4 |
| Access to communications infrastructure | 87.9 | 72.7 |
| Trade and travel restrictions | 100 | 97.4 |

| | COUNTRY SCORE | AVERAGE SCORE* |
|---|---------------|----------------|
| HEALTH SYSTEM | 21.9 | 26.4 |
| Health capacity in clinics, hospitals and community care centers | 31.5 | 24.4 |
| Medical countermeasures and personnel deployment | 33.3 | 21.2 |
| Healthcare access | 25.5 | 38.4 |
| Communications with healthcare workers during a public health emergency | 0 | 15.1 |
| Infection control practices and availability of equipment | 0 | 20.8 |
| Capacity to test and approve new medical countermeasures | 50 | 42.2 |
| COMPLIANCE WITH INTERNATIONAL NORMS | 49.1 | 48.5 |
| IHR reporting compliance and disaster risk reduction | 50 | 62.3 |
| Cross-border agreements on public and animal health emergency response | 100 | 54.4 |
| International commitments | 96.9 | 53.4 |
| JEE and PVS | 0 | 17.7 |
| Financing | 0 | 36.4 |
| Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| RISK ENVIRONMENT | 69.6 | 55.0 |
| Political and security risks | 64.3 | 60.4 |
| Socio-economic resilience | 88.5 | 66.1 |
| Infrastructure adequacy | 66.7 | 49.0 |
| Environmental risks | 64.9 | 52.9 |
| Public health vulnerabilities | 65.1 | 46.9 |

*Average: all 195 countries
Scores are normalized (0–100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



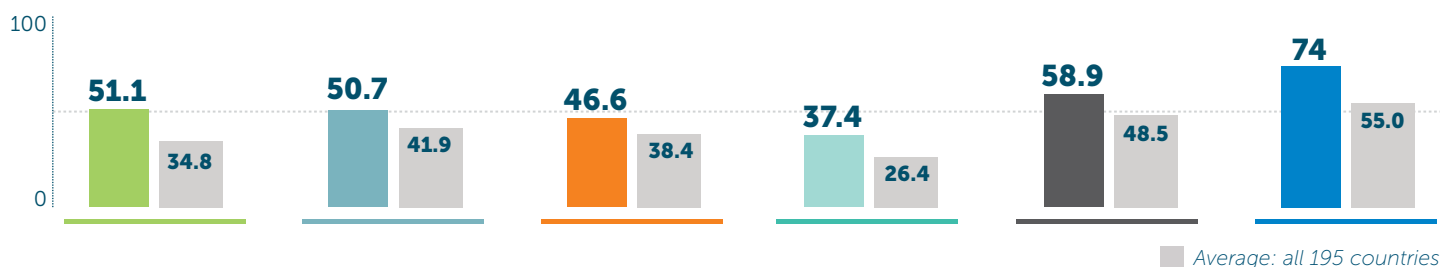
HEALTH



NORMS



RISK

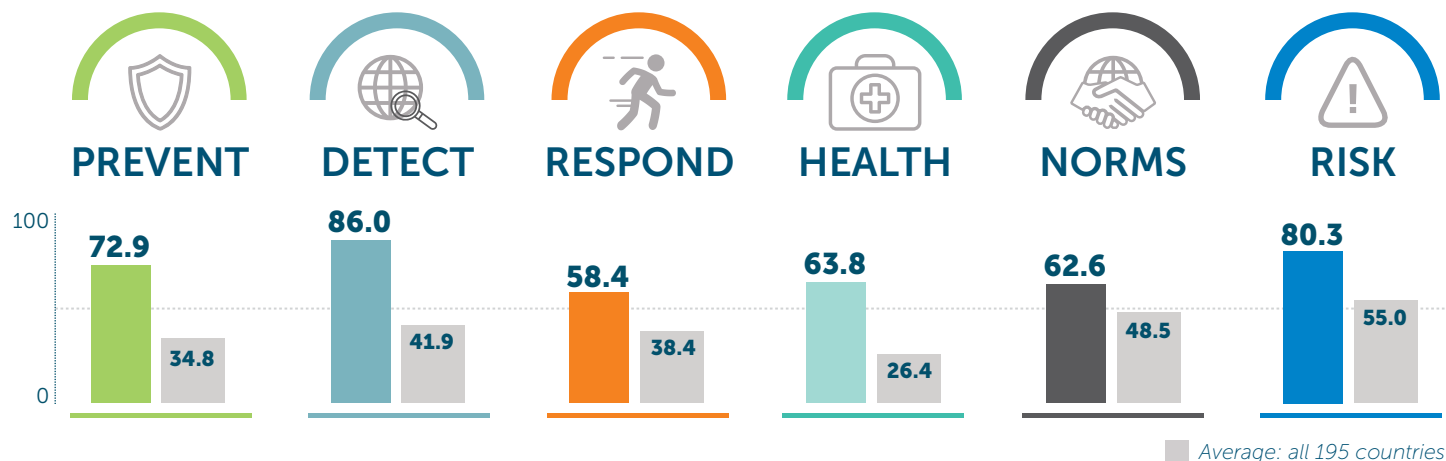


■ Average: all 195 countries

| | COUNTRY SCORE | AVERAGE SCORE* | | COUNTRY SCORE | AVERAGE SCORE* |
|--|---------------|----------------|---|---------------|----------------|
| PREVENTION | 51.1 | 34.8 | HEALTH SYSTEM | 37.4 | 26.4 |
| Antimicrobial resistance (AMR) | 50 | 42.4 | Health capacity in clinics, hospitals and community care centers | 26.6 | 24.4 |
| Zoonotic disease | 53.9 | 27.1 | Medical countermeasures and personnel deployment | 33.3 | 21.2 |
| Biosecurity | 38.7 | 16.0 | Healthcare access | 47.3 | 38.4 |
| Biosafety | 50 | 22.8 | Communications with healthcare workers during a public health emergency | 0 | 15.1 |
| Dual-use research and culture of responsible science | 0 | 1.7 | Infection control practices and availability of equipment | 50 | 20.8 |
| Immunization | 98.2 | 85.0 | Capacity to test and approve new medical countermeasures | 75 | 42.2 |
| DETECTION AND REPORTING | 50.7 | 41.9 | COMPLIANCE WITH INTERNATIONAL NORMS | 58.9 | 48.5 |
| Laboratory systems | 66.7 | 54.4 | IHR reporting compliance and disaster risk reduction | 50 | 62.3 |
| Real-time surveillance and reporting | 76.7 | 39.1 | Cross-border agreements on public and animal health emergency response | 100 | 54.4 |
| Epidemiology workforce | 50 | 42.3 | International commitments | 96.9 | 53.4 |
| Data integration between human/animal/environmental health sectors | 0 | 29.7 | JEE and PVS | 0 | 17.7 |
| RAPID RESPONSE | 46.6 | 38.4 | Financing | 50 | 36.4 |
| Emergency preparedness and response planning | 12.5 | 16.9 | Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| Exercising response plans | 0 | 16.2 | RISK ENVIRONMENT | 74.0 | 55.0 |
| Emergency response operation | 33.3 | 23.6 | Political and security risks | 82.1 | 60.4 |
| Linking public health and security authorities | 100 | 22.6 | Socio-economic resilience | 87.8 | 66.1 |
| Risk communication | 25 | 39.4 | Infrastructure adequacy | 75 | 49.0 |
| Access to communications infrastructure | 88.2 | 72.7 | Environmental risks | 54.4 | 52.9 |
| Trade and travel restrictions | 100 | 97.4 | Public health vulnerabilities | 68.2 | 46.9 |

*Average: all 195 countries

Scores are normalized (0-100, where 100 = most favorable)



| | COUNTRY SCORE | AVERAGE SCORE* |
|--|---------------|----------------|
| PREVENTION | 72.9 | 34.8 |
| Antimicrobial resistance (AMR) | 83.3 | 42.4 |
| Zoonotic disease | 55 | 27.1 |
| Biosecurity | 89.3 | 16.0 |
| Biosafety | 100 | 22.8 |
| Dual-use research and culture of responsible science | 0 | 1.7 |
| Immunization | 98.2 | 85.0 |
| DETECTION AND REPORTING | 86.0 | 41.9 |
| Laboratory systems | 100 | 54.4 |
| Real-time surveillance and reporting | 95 | 39.1 |
| Epidemiology workforce | 50 | 42.3 |
| Data integration between human/animal/environmental health sectors | 100 | 29.7 |
| RAPID RESPONSE | 58.4 | 38.4 |
| Emergency preparedness and response planning | 31.3 | 16.9 |
| Exercising response plans | 100 | 16.2 |
| Emergency response operation | 33.3 | 23.6 |
| Linking public health and security authorities | 100 | 22.6 |
| Risk communication | 25 | 39.4 |
| Access to communications infrastructure | 93.9 | 72.7 |
| Trade and travel restrictions | 50 | 97.4 |

| | COUNTRY SCORE | AVERAGE SCORE* |
|---|---------------|----------------|
| HEALTH SYSTEM | 63.8 | 26.4 |
| Health capacity in clinics, hospitals and community care centers | 67.9 | 24.4 |
| Medical countermeasures and personnel deployment | 33.3 | 21.2 |
| Healthcare access | 44 | 38.4 |
| Communications with healthcare workers during a public health emergency | 100 | 15.1 |
| Infection control practices and availability of equipment | 50 | 20.8 |
| Capacity to test and approve new medical countermeasures | 100 | 42.2 |
| COMPLIANCE WITH INTERNATIONAL NORMS | 62.6 | 48.5 |
| IHR reporting compliance and disaster risk reduction | 50 | 62.3 |
| Cross-border agreements on public and animal health emergency response | 100 | 54.4 |
| International commitments | 100 | 53.4 |
| JEE and PVS | 0 | 17.7 |
| Financing | 66.7 | 36.4 |
| Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| RISK ENVIRONMENT | 80.3 | 55.0 |
| Political and security risks | 85.7 | 60.4 |
| Socio-economic resilience | 99.9 | 66.1 |
| Infrastructure adequacy | 75 | 49.0 |
| Environmental risks | 59.4 | 52.9 |
| Public health vulnerabilities | 79.3 | 46.9 |

*Average: all 195 countries

Scores are normalized (0–100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



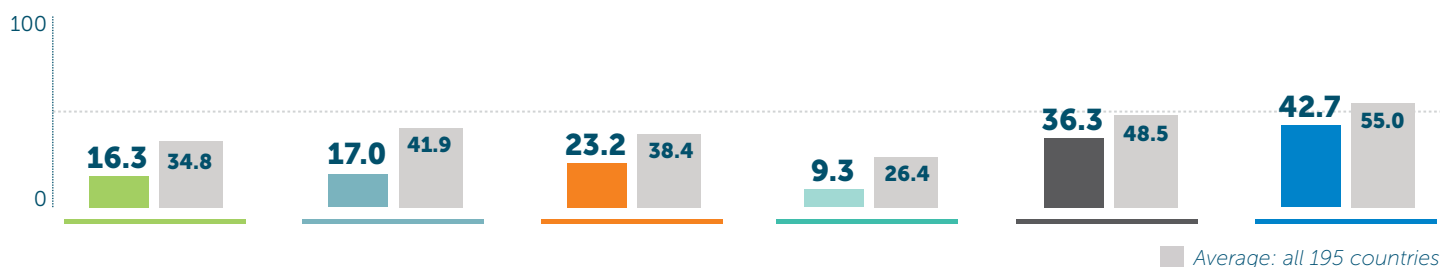
HEALTH



NORMS



RISK



■ Average: all 195 countries

| | COUNTRY SCORE | AVERAGE SCORE* | | COUNTRY SCORE | AVERAGE SCORE* |
|--|---------------|----------------|---|---------------|----------------|
| PREVENTION | 16.3 | 34.8 | HEALTH SYSTEM | 9.3 | 26.4 |
| Antimicrobial resistance (AMR) | 0 | 42.4 | Health capacity in clinics, hospitals and community care centers | 3.2 | 24.4 |
| Zoonotic disease | 1.3 | 27.1 | Medical countermeasures and personnel deployment | 0 | 21.2 |
| Biosecurity | 0 | 16.0 | Healthcare access | 30.8 | 38.4 |
| Biosafety | 0 | 22.8 | Communications with healthcare workers during a public health emergency | 0 | 15.1 |
| Dual-use research and culture of responsible science | 0 | 1.7 | Infection control practices and availability of equipment | 0 | 20.8 |
| Immunization | 82.5 | 85.0 | Capacity to test and approve new medical countermeasures | 25 | 42.2 |
| DETECTION AND REPORTING | 17.0 | 41.9 | COMPLIANCE WITH INTERNATIONAL NORMS | 36.3 | 48.5 |
| Laboratory systems | 16.7 | 54.4 | IHR reporting compliance and disaster risk reduction | 50 | 62.3 |
| Real-time surveillance and reporting | 0 | 39.1 | Cross-border agreements on public and animal health emergency response | 0 | 54.4 |
| Epidemiology workforce | 50 | 42.3 | International commitments | 15.6 | 53.4 |
| Data integration between human/animal/environmental health sectors | 0 | 29.7 | JEE and PVS | 25 | 17.7 |
| RAPID RESPONSE | 23.2 | 38.4 | Financing | 50 | 36.4 |
| Emergency preparedness and response planning | 0 | 16.9 | Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| Exercising response plans | 0 | 16.2 | RISK ENVIRONMENT | 42.7 | 55.0 |
| Emergency response operation | 0 | 23.6 | Political and security risks | 28.6 | 60.4 |
| Linking public health and security authorities | 0 | 22.6 | Socio-economic resilience | 49.8 | 66.1 |
| Risk communication | 25 | 39.4 | Infrastructure adequacy | 66.7 | 49.0 |
| Access to communications infrastructure | 62.5 | 72.7 | Environmental risks | 44.1 | 52.9 |
| Trade and travel restrictions | 100 | 97.4 | Public health vulnerabilities | 27 | 46.9 |

*Average: all 195 countries

Scores are normalized (0–100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



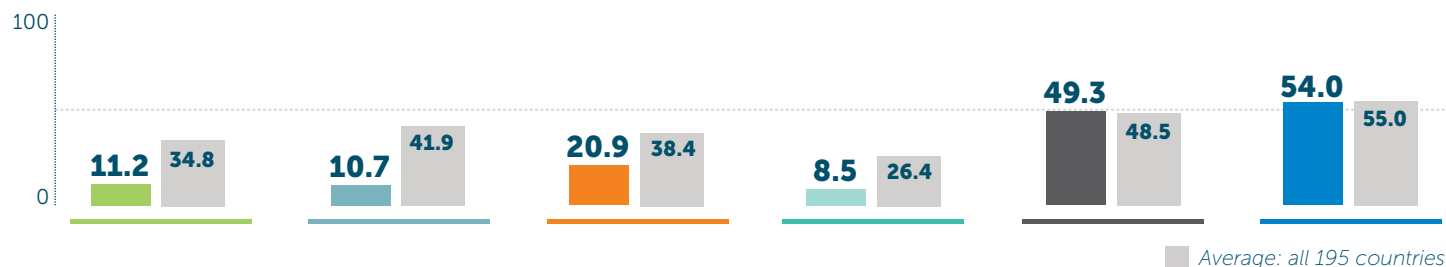
HEALTH



NORMS



RISK



■ Average: all 195 countries

| | COUNTRY SCORE | AVERAGE SCORE* | | COUNTRY SCORE | AVERAGE SCORE* |
|---|---------------|----------------|---|---------------|----------------|
| PREVENTION | 11.2 | 34.8 | HEALTH SYSTEM | 8.5 | 26.4 |
| Antimicrobial resistance (AMR) | 25 | 42.4 | Health capacity in clinics, hospitals and community care centers | 15.7 | 24.4 |
| Zoonotic disease | 6.7 | 27.1 | Medical countermeasures and personnel deployment | 0 | 21.2 |
| Biosecurity | 0 | 16.0 | Healthcare access | 31.4 | 38.4 |
| Biosafety | 0 | 22.8 | Communications with healthcare workers during a public health emergency | 0 | 15.1 |
| Dual-use research and culture of responsible science | 0 | 1.7 | Infection control practices and availability of equipment | 0 | 20.8 |
| Immunization | 30.7 | 85.0 | Capacity to test and approve new medical countermeasures | 0 | 42.2 |
| DETECTION AND REPORTING | 10.7 | 41.9 | COMPLIANCE WITH INTERNATIONAL NORMS | 49.3 | 48.5 |
| Laboratory systems | 16.7 | 54.4 | IHR reporting compliance and disaster risk reduction | 50 | 62.3 |
| Real-time surveillance and reporting | 0 | 39.1 | Cross-border agreements on public and animal health emergency response | 100 | 54.4 |
| Epidemiology workforce | 25 | 42.3 | International commitments | 25 | 53.4 |
| Data integration between human/ animal/environmental health sectors | 0 | 29.7 | JEE and PVS | 0 | 17.7 |
| RAPID RESPONSE | 20.9 | 38.4 | Financing | 50 | 36.4 |
| Emergency preparedness and response planning | 0 | 16.9 | Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| Exercising response plans | 0 | 16.2 | RISK ENVIRONMENT | 54.0 | 55.0 |
| Emergency response operation | 0 | 23.6 | Political and security risks | 78.6 | 60.4 |
| Linking public health and security authorities | 0 | 22.6 | Socio-economic resilience | 70.3 | 66.1 |
| Risk communication | 0 | 39.4 | Infrastructure adequacy | 41.7 | 49.0 |
| Access to communications infrastructure | 79.9 | 72.7 | Environmental risks | 24 | 52.9 |
| Trade and travel restrictions | 100 | 97.4 | Public health vulnerabilities | 50.5 | 46.9 |

*Average: all 195 countries

Scores are normalized (0–100, where 100 = most favorable)

Dominican Republic

38.3 Index Score

91/195



PREVENT



DETECT



RESPOND



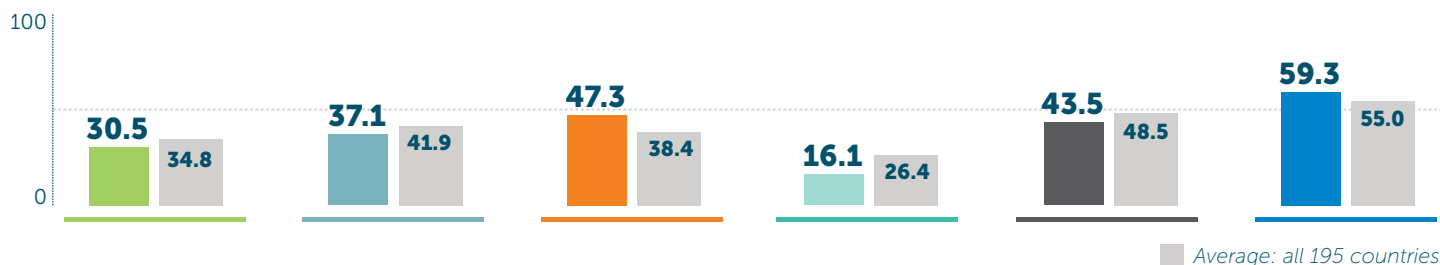
HEALTH



NORMS



RISK



■ Average: all 195 countries

| | COUNTRY SCORE | AVERAGE SCORE* | | COUNTRY SCORE | AVERAGE SCORE* |
|--|---------------|----------------|---|---------------|----------------|
| PREVENTION | 30.5 | 34.8 | HEALTH SYSTEM | 16.1 | 26.4 |
| Antimicrobial resistance (AMR) | 8.3 | 42.4 | Health capacity in clinics, hospitals and community care centers | 7 | 24.4 |
| Zoonotic disease | 21.1 | 27.1 | Medical countermeasures and personnel deployment | 0 | 21.2 |
| Biosecurity | 0 | 16.0 | Healthcare access | 46.9 | 38.4 |
| Biosafety | 50 | 22.8 | Communications with healthcare workers during a public health emergency | 0 | 15.1 |
| Dual-use research and culture of responsible science | 0 | 1.7 | Infection control practices and availability of equipment | 0 | 20.8 |
| Immunization | 88.6 | 85.0 | Capacity to test and approve new medical countermeasures | 50 | 42.2 |
| DETECTION AND REPORTING | 37.1 | 41.9 | COMPLIANCE WITH INTERNATIONAL NORMS | 43.5 | 48.5 |
| Laboratory systems | 33.3 | 54.4 | IHR reporting compliance and disaster risk reduction | 50 | 62.3 |
| Real-time surveillance and reporting | 35 | 39.1 | Cross-border agreements on public and animal health emergency response | 50 | 54.4 |
| Epidemiology workforce | 75 | 42.3 | International commitments | 40.6 | 53.4 |
| Data integration between human/animal/environmental health sectors | 0 | 29.7 | JEE and PVS | 0 | 17.7 |
| RAPID RESPONSE | 47.3 | 38.4 | Financing | 50 | 36.4 |
| Emergency preparedness and response planning | 50 | 16.9 | Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| Exercising response plans | 0 | 16.2 | RISK ENVIRONMENT | 59.3 | 55.0 |
| Emergency response operation | 33.3 | 23.6 | Political and security risks | 71.4 | 60.4 |
| Linking public health and security authorities | 0 | 22.6 | Socio-economic resilience | 77.9 | 66.1 |
| Risk communication | 75 | 39.4 | Infrastructure adequacy | 50 | 49.0 |
| Access to communications infrastructure | 76.6 | 72.7 | Environmental risks | 46.8 | 52.9 |
| Trade and travel restrictions | 100 | 97.4 | Public health vulnerabilities | 49.3 | 46.9 |

*Average: all 195 countries

Scores are normalized (0–100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



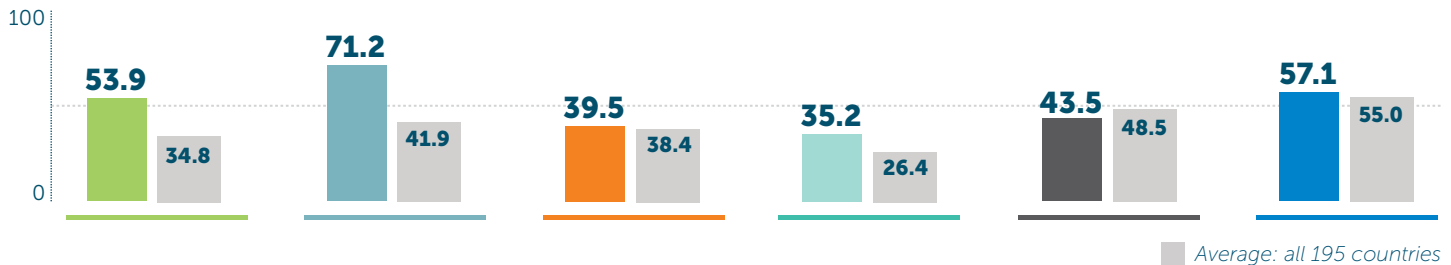
HEALTH



NORMS



RISK



| | COUNTRY SCORE | AVERAGE SCORE* |
|--|---------------|----------------|
| PREVENTION | 53.9 | 34.8 |
| Antimicrobial resistance (AMR) | 66.7 | 42.4 |
| Zoonotic disease | 55.8 | 27.1 |
| Biosecurity | 4 | 16.0 |
| Biosafety | 100 | 22.8 |
| Dual-use research and culture of responsible science | 0 | 1.7 |
| Immunization | 84.2 | 85.0 |
| DETECTION AND REPORTING | 71.2 | 41.9 |
| Laboratory systems | 83.3 | 54.4 |
| Real-time surveillance and reporting | 80 | 39.1 |
| Epidemiology workforce | 25 | 42.3 |
| Data integration between human/animal/environmental health sectors | 100 | 29.7 |
| RAPID RESPONSE | 39.5 | 38.4 |
| Emergency preparedness and response planning | 37.5 | 16.9 |
| Exercising response plans | 0 | 16.2 |
| Emergency response operation | 33.3 | 23.6 |
| Linking public health and security authorities | 0 | 22.6 |
| Risk communication | 50 | 39.4 |
| Access to communications infrastructure | 65.3 | 72.7 |
| Trade and travel restrictions | 100 | 97.4 |

| | COUNTRY SCORE | AVERAGE SCORE* |
|---|---------------|----------------|
| HEALTH SYSTEM | 35.2 | 26.4 |
| Health capacity in clinics, hospitals and community care centers | 32.9 | 24.4 |
| Medical countermeasures and personnel deployment | 33.3 | 21.2 |
| Healthcare access | 46.7 | 38.4 |
| Communications with healthcare workers during a public health emergency | 0 | 15.1 |
| Infection control practices and availability of equipment | 50 | 20.8 |
| Capacity to test and approve new medical countermeasures | 50 | 42.2 |
| COMPLIANCE WITH INTERNATIONAL NORMS | 43.5 | 48.5 |
| IHR reporting compliance and disaster risk reduction | 50 | 62.3 |
| Cross-border agreements on public and animal health emergency response | 50 | 54.4 |
| International commitments | 40.6 | 53.4 |
| JEE and PVS | 0 | 17.7 |
| Financing | 50 | 36.4 |
| Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| RISK ENVIRONMENT | 57.1 | 55.0 |
| Political and security risks | 60.7 | 60.4 |
| Socio-economic resilience | 69.3 | 66.1 |
| Infrastructure adequacy | 66.7 | 49.0 |
| Environmental risks | 35.5 | 52.9 |
| Public health vulnerabilities | 51 | 46.9 |

*Average: all 195 countries

Scores are normalized (0–100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



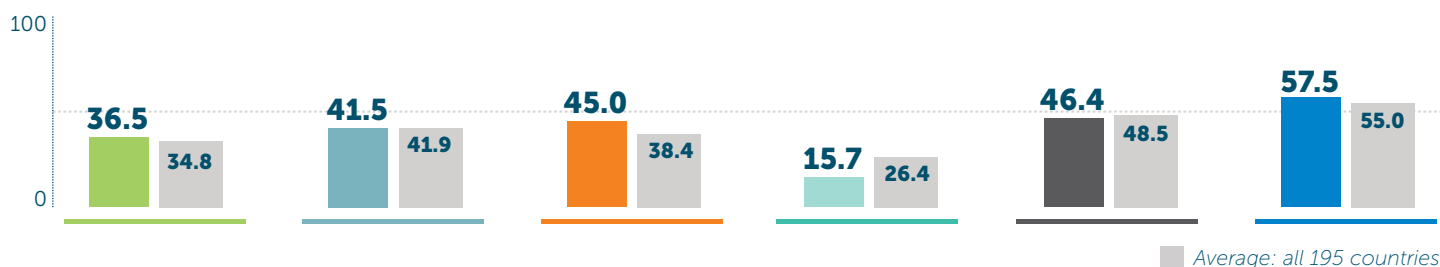
HEALTH



NORMS



RISK



■ Average: all 195 countries

| | COUNTRY SCORE | AVERAGE SCORE* | | COUNTRY SCORE | AVERAGE SCORE* |
|--|---------------|----------------|---|---------------|----------------|
| PREVENTION | 36.5 | 34.8 | HEALTH SYSTEM | 15.7 | 26.4 |
| Antimicrobial resistance (AMR) | 66.7 | 42.4 | Health capacity in clinics, hospitals and community care centers | 5.6 | 24.4 |
| Zoonotic disease | 36.2 | 27.1 | Medical countermeasures and personnel deployment | 0 | 21.2 |
| Biosecurity | 4 | 16.0 | Healthcare access | 46.1 | 38.4 |
| Biosafety | 0 | 22.8 | Communications with healthcare workers during a public health emergency | 0 | 15.1 |
| Dual-use research and culture of responsible science | 0 | 1.7 | Infection control practices and availability of equipment | 0 | 20.8 |
| Immunization | 95.6 | 85.0 | Capacity to test and approve new medical countermeasures | 50 | 42.2 |
| DETECTION AND REPORTING | 41.5 | 41.9 | COMPLIANCE WITH INTERNATIONAL NORMS | 46.4 | 48.5 |
| Laboratory systems | 83.3 | 54.4 | IHR reporting compliance and disaster risk reduction | 100 | 62.3 |
| Real-time surveillance and reporting | 50 | 39.1 | Cross-border agreements on public and animal health emergency response | 50 | 54.4 |
| Epidemiology workforce | 25 | 42.3 | International commitments | 21.9 | 53.4 |
| Data integration between human/animal/environmental health sectors | 0 | 29.7 | JEE and PVS | 0 | 17.7 |
| RAPID RESPONSE | 45.0 | 38.4 | Financing | 33.3 | 36.4 |
| Emergency preparedness and response planning | 0 | 16.9 | Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| Exercising response plans | 50 | 16.2 | RISK ENVIRONMENT | 57.5 | 55.0 |
| Emergency response operation | 33.3 | 23.6 | Political and security risks | 60.7 | 60.4 |
| Linking public health and security authorities | 0 | 22.6 | Socio-economic resilience | 53.2 | 66.1 |
| Risk communication | 75 | 39.4 | Infrastructure adequacy | 66.7 | 49.0 |
| Access to communications infrastructure | 66 | 72.7 | Environmental risks | 57.4 | 52.9 |
| Trade and travel restrictions | 100 | 97.4 | Public health vulnerabilities | 49.4 | 46.9 |

*Average: all 195 countries

Scores are normalized (0–100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



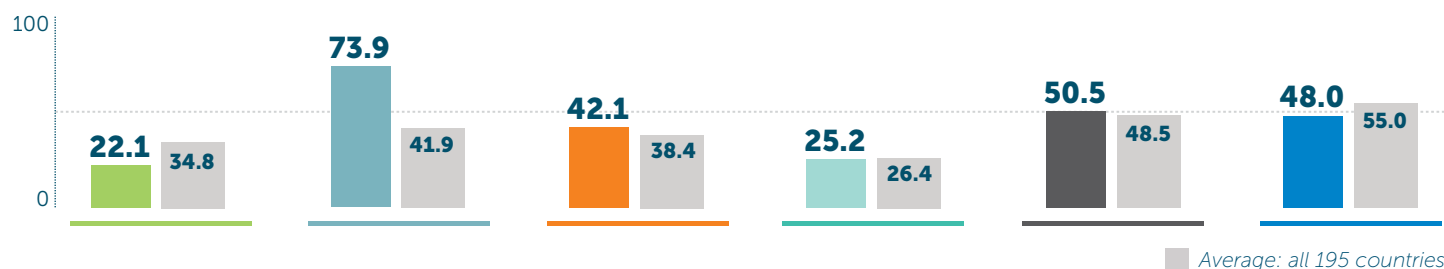
HEALTH



NORMS



RISK



■ Average: all 195 countries

| | COUNTRY SCORE | AVERAGE SCORE* |
|--|---------------|----------------|
| PREVENTION | 22.1 | 34.8 |
| Antimicrobial resistance (AMR) | 8.3 | 42.4 |
| Zoonotic disease | 20.6 | 27.1 |
| Biosecurity | 0 | 16.0 |
| Biosafety | 0 | 22.8 |
| Dual-use research and culture of responsible science | 0 | 1.7 |
| Immunization | 87.7 | 85.0 |
| DETECTION AND REPORTING | 73.9 | 41.9 |
| Laboratory systems | 50 | 54.4 |
| Real-time surveillance and reporting | 75 | 39.1 |
| Epidemiology workforce | 75 | 42.3 |
| Data integration between human/animal/environmental health sectors | 100 | 29.7 |
| RAPID RESPONSE | 42.1 | 38.4 |
| Emergency preparedness and response planning | 25 | 16.9 |
| Exercising response plans | 0 | 16.2 |
| Emergency response operation | 33.3 | 23.6 |
| Linking public health and security authorities | 0 | 22.6 |
| Risk communication | 75 | 39.4 |
| Access to communications infrastructure | 66 | 72.7 |
| Trade and travel restrictions | 100 | 97.4 |

| | COUNTRY SCORE | AVERAGE SCORE* |
|---|---------------|----------------|
| HEALTH SYSTEM | 25.2 | 26.4 |
| Health capacity in clinics, hospitals and community care centers | 22.6 | 24.4 |
| Medical countermeasures and personnel deployment | 0 | 21.2 |
| Healthcare access | 32.1 | 38.4 |
| Communications with healthcare workers during a public health emergency | 0 | 15.1 |
| Infection control practices and availability of equipment | 50 | 20.8 |
| Capacity to test and approve new medical countermeasures | 50 | 42.2 |
| COMPLIANCE WITH INTERNATIONAL NORMS | 50.5 | 48.5 |
| IHR reporting compliance and disaster risk reduction | 100 | 62.3 |
| Cross-border agreements on public and animal health emergency response | 50 | 54.4 |
| International commitments | 28.1 | 53.4 |
| JEE and PVS | 0 | 17.7 |
| Financing | 50 | 36.4 |
| Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| RISK ENVIRONMENT | 48.0 | 55.0 |
| Political and security risks | 53.6 | 60.4 |
| Socio-economic resilience | 57.9 | 66.1 |
| Infrastructure adequacy | 41.7 | 49.0 |
| Environmental risks | 34.4 | 52.9 |
| Public health vulnerabilities | 50.6 | 46.9 |

*Average: all 195 countries

Scores are normalized (0–100, where 100 = most favorable)

Equatorial Guinea

16.2 Index Score

195/195



PREVENT



DETECT



RESPOND



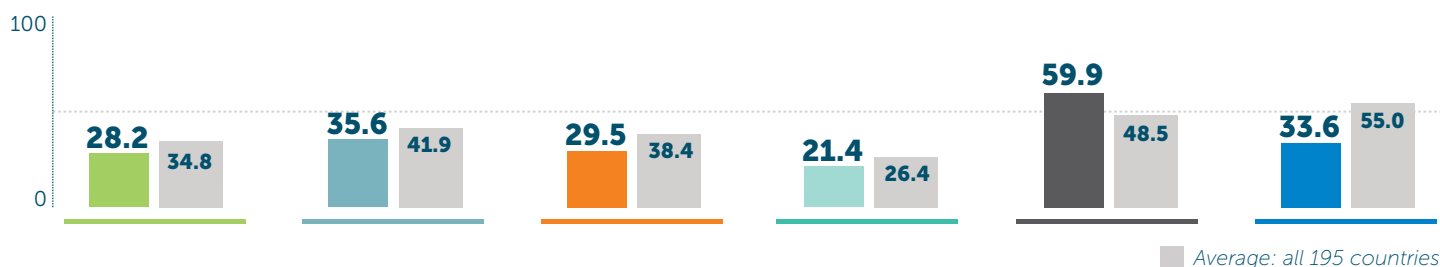
HEALTH



NORMS



RISK



■ Average: all 195 countries

| | COUNTRY SCORE | AVERAGE SCORE* | | COUNTRY SCORE | AVERAGE SCORE* |
|--|---------------|----------------|---|---------------|----------------|
| PREVENTION | 1.9 | 34.8 | HEALTH SYSTEM | 5.0 | 26.4 |
| Antimicrobial resistance (AMR) | 0 | 42.4 | Health capacity in clinics, hospitals and community care centers | 4.5 | 24.4 |
| Zoonotic disease | 0 | 27.1 | Medical countermeasures and personnel deployment | 0 | 21.2 |
| Biosecurity | 0 | 16.0 | Healthcare access | 23.1 | 38.4 |
| Biosafety | 0 | 22.8 | Communications with healthcare workers during a public health emergency | 0 | 15.1 |
| Dual-use research and culture of responsible science | 0 | 1.7 | Infection control practices and availability of equipment | 0 | 20.8 |
| Immunization | 9.6 | 85.0 | Capacity to test and approve new medical countermeasures | 0 | 42.2 |
| DETECTION AND REPORTING | 4.4 | 41.9 | COMPLIANCE WITH INTERNATIONAL NORMS | 33.5 | 48.5 |
| Laboratory systems | 16.7 | 54.4 | IHR reporting compliance and disaster risk reduction | 50 | 62.3 |
| Real-time surveillance and reporting | 0 | 39.1 | Cross-border agreements on public and animal health emergency response | 0 | 54.4 |
| Epidemiology workforce | 0 | 42.3 | International commitments | 25 | 53.4 |
| Data integration between human/animal/environmental health sectors | 0 | 29.7 | JEE and PVS | 0 | 17.7 |
| RAPID RESPONSE | 17.6 | 38.4 | Financing | 50 | 36.4 |
| Emergency preparedness and response planning | 0 | 16.9 | Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| Exercising response plans | 0 | 16.2 | RISK ENVIRONMENT | 43.6 | 55.0 |
| Emergency response operation | 0 | 23.6 | Political and security risks | 50 | 60.4 |
| Linking public health and security authorities | 0 | 22.6 | Socio-economic resilience | 45.9 | 66.1 |
| Risk communication | 0 | 39.4 | Infrastructure adequacy | 50 | 49.0 |
| Access to communications infrastructure | 52.9 | 72.7 | Environmental risks | 47.4 | 52.9 |
| Trade and travel restrictions | 100 | 97.4 | Public health vulnerabilities | 25.4 | 46.9 |

*Average: all 195 countries

Scores are normalized (0–100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



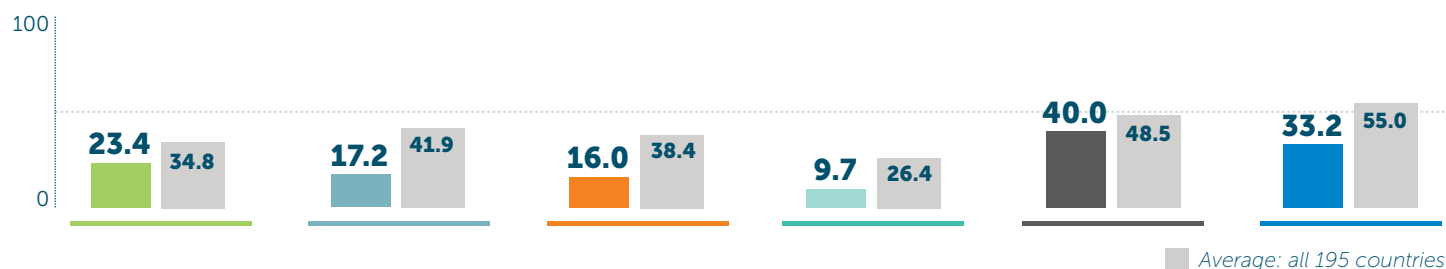
HEALTH



NORMS



RISK



■ Average: all 195 countries

| | COUNTRY SCORE | AVERAGE SCORE* | | COUNTRY SCORE | AVERAGE SCORE* |
|--|---------------|----------------|---|---------------|----------------|
| PREVENTION | 23.4 | 34.8 | HEALTH SYSTEM | 9.7 | 26.4 |
| Antimicrobial resistance (AMR) | 0 | 42.4 | Health capacity in clinics, hospitals and community care centers | 1.6 | 24.4 |
| Zoonotic disease | 27.5 | 27.1 | Medical countermeasures and personnel deployment | 33.3 | 21.2 |
| Biosecurity | 0 | 16.0 | Healthcare access | 21 | 38.4 |
| Biosafety | 0 | 22.8 | Communications with healthcare workers during a public health emergency | 0 | 15.1 |
| Dual-use research and culture of responsible science | 0 | 1.7 | Infection control practices and availability of equipment | 0 | 20.8 |
| Immunization | 94.7 | 85.0 | Capacity to test and approve new medical countermeasures | 0 | 42.2 |
| DETECTION AND REPORTING | 17.2 | 41.9 | COMPLIANCE WITH INTERNATIONAL NORMS | 40.0 | 48.5 |
| Laboratory systems | 41.7 | 54.4 | IHR reporting compliance and disaster risk reduction | 50 | 62.3 |
| Real-time surveillance and reporting | 0 | 39.1 | Cross-border agreements on public and animal health emergency response | 0 | 54.4 |
| Epidemiology workforce | 25 | 42.3 | International commitments | 12.5 | 53.4 |
| Data integration between human/animal/environmental health sectors | 0 | 29.7 | JEE and PVS | 50 | 17.7 |
| RAPID RESPONSE | 16.0 | 38.4 | Financing | 50 | 36.4 |
| Emergency preparedness and response planning | 0 | 16.9 | Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| Exercising response plans | 0 | 16.2 | RISK ENVIRONMENT | 33.2 | 55.0 |
| Emergency response operation | 0 | 23.6 | Political and security risks | 39.3 | 60.4 |
| Linking public health and security authorities | 0 | 22.6 | Socio-economic resilience | 27.1 | 66.1 |
| Risk communication | 0 | 39.4 | Infrastructure adequacy | 25 | 49.0 |
| Access to communications infrastructure | 39.4 | 72.7 | Environmental risks | 67.6 | 52.9 |
| Trade and travel restrictions | 100 | 97.4 | Public health vulnerabilities | 11.3 | 46.9 |

*Average: all 195 countries

Scores are normalized (0–100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



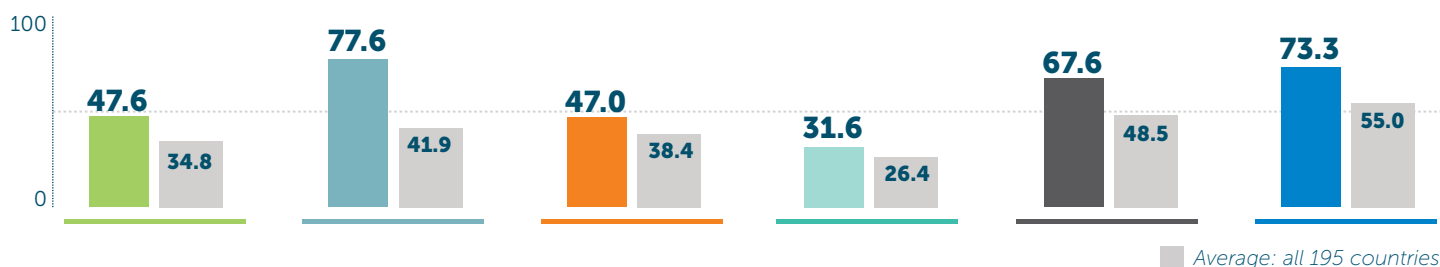
HEALTH



NORMS



RISK



■ Average: all 195 countries

| | COUNTRY SCORE | AVERAGE SCORE* | | COUNTRY SCORE | AVERAGE SCORE* |
|--|---------------|----------------|---|---------------|----------------|
| PREVENTION | 47.6 | 34.8 | HEALTH SYSTEM | 31.6 | 26.4 |
| Antimicrobial resistance (AMR) | 41.7 | 42.4 | Health capacity in clinics, hospitals and community care centers | 46.7 | 24.4 |
| Zoonotic disease | 37 | 27.1 | Medical countermeasures and personnel deployment | 33.3 | 21.2 |
| Biosecurity | 48 | 16.0 | Healthcare access | 46.7 | 38.4 |
| Biosafety | 50 | 22.8 | Communications with healthcare workers during a public health emergency | 0 | 15.1 |
| Dual-use research and culture of responsible science | 0 | 1.7 | Infection control practices and availability of equipment | 0 | 20.8 |
| Immunization | 94.7 | 85.0 | Capacity to test and approve new medical countermeasures | 75 | 42.2 |
| DETECTION AND REPORTING | 77.6 | 41.9 | COMPLIANCE WITH INTERNATIONAL NORMS | 67.6 | 48.5 |
| Laboratory systems | 83.3 | 54.4 | IHR reporting compliance and disaster risk reduction | 100 | 62.3 |
| Real-time surveillance and reporting | 80 | 39.1 | Cross-border agreements on public and animal health emergency response | 100 | 54.4 |
| Epidemiology workforce | 50 | 42.3 | International commitments | 96.9 | 53.4 |
| Data integration between human/animal/environmental health sectors | 100 | 29.7 | JEE and PVS | 0 | 17.7 |
| RAPID RESPONSE | 47.0 | 38.4 | Financing | 50 | 36.4 |
| Emergency preparedness and response planning | 37.5 | 16.9 | Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| Exercising response plans | 0 | 16.2 | RISK ENVIRONMENT | 73.3 | 55.0 |
| Emergency response operation | 33.3 | 23.6 | Political and security risks | 75 | 60.4 |
| Linking public health and security authorities | 0 | 22.6 | Socio-economic resilience | 97.7 | 66.1 |
| Risk communication | 75 | 39.4 | Infrastructure adequacy | 75 | 49.0 |
| Access to communications infrastructure | 90.5 | 72.7 | Environmental risks | 52.8 | 52.9 |
| Trade and travel restrictions | 100 | 97.4 | Public health vulnerabilities | 65.1 | 46.9 |

*Average: all 195 countries

Scores are normalized (0-100, where 100 = most favorable)

Eswatini (Swaziland)

31.1 Index Score

139/195



PREVENT



DETECT



RESPOND



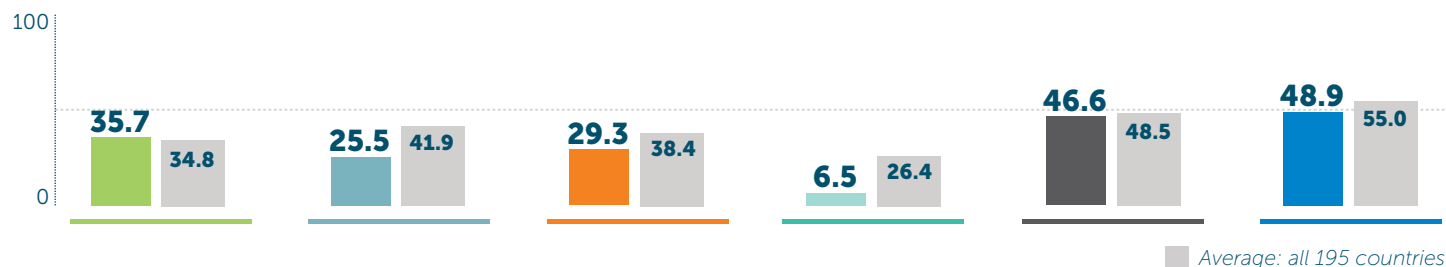
HEALTH



NORMS



RISK



■ Average: all 195 countries

| | COUNTRY SCORE | AVERAGE SCORE* | | COUNTRY SCORE | AVERAGE SCORE* |
|--|---------------|----------------|---|---------------|----------------|
| PREVENTION | 35.7 | 34.8 | HEALTH SYSTEM | 6.5 | 26.4 |
| Antimicrobial resistance (AMR) | 75 | 42.4 | Health capacity in clinics, hospitals and community care centers | 5 | 24.4 |
| Zoonotic disease | 14.6 | 27.1 | Medical countermeasures and personnel deployment | 0 | 21.2 |
| Biosecurity | 20 | 16.0 | Healthcare access | 30.7 | 38.4 |
| Biosafety | 0 | 22.8 | Communications with healthcare workers during a public health emergency | 0 | 15.1 |
| Dual-use research and culture of responsible science | 0 | 1.7 | Infection control practices and availability of equipment | 0 | 20.8 |
| Immunization | 91.2 | 85.0 | Capacity to test and approve new medical countermeasures | 0 | 42.2 |
| DETECTION AND REPORTING | 25.5 | 41.9 | COMPLIANCE WITH INTERNATIONAL NORMS | 46.6 | 48.5 |
| Laboratory systems | 58.3 | 54.4 | IHR reporting compliance and disaster risk reduction | 100 | 62.3 |
| Real-time surveillance and reporting | 38.3 | 39.1 | Cross-border agreements on public and animal health emergency response | 0 | 54.4 |
| Epidemiology workforce | 0 | 42.3 | International commitments | 15.6 | 53.4 |
| Data integration between human/animal/environmental health sectors | 0 | 29.7 | JEE and PVS | 75 | 17.7 |
| RAPID RESPONSE | 29.3 | 38.4 | Financing | 16.7 | 36.4 |
| Emergency preparedness and response planning | 6.3 | 16.9 | Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| Exercising response plans | 0 | 16.2 | RISK ENVIRONMENT | 48.9 | 55.0 |
| Emergency response operation | 33.3 | 23.6 | Political and security risks | 57.1 | 60.4 |
| Linking public health and security authorities | 0 | 22.6 | Socio-economic resilience | 43.9 | 66.1 |
| Risk communication | 25 | 39.4 | Infrastructure adequacy | 50 | 49.0 |
| Access to communications infrastructure | 58.7 | 72.7 | Environmental risks | 69.4 | 52.9 |
| Trade and travel restrictions | 100 | 97.4 | Public health vulnerabilities | 26.4 | 46.9 |

*Average: all 195 countries

Scores are normalized (0–100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



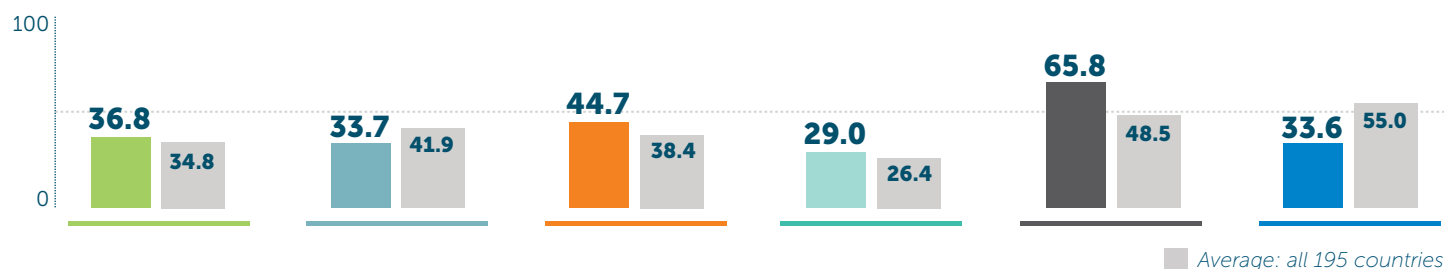
HEALTH



NORMS



RISK



■ Average: all 195 countries

| | COUNTRY SCORE | AVERAGE SCORE* | | COUNTRY SCORE | AVERAGE SCORE* |
|---|---------------|----------------|---|---------------|----------------|
| PREVENTION | 36.8 | 34.8 | HEALTH SYSTEM | 29.0 | 26.4 |
| Antimicrobial resistance (AMR) | 50 | 42.4 | Health capacity in clinics, hospitals and community care centers | 42.2 | 24.4 |
| Zoonotic disease | 14.5 | 27.1 | Medical countermeasures and personnel deployment | 33.3 | 21.2 |
| Biosecurity | 24 | 16.0 | Healthcare access | 19.8 | 38.4 |
| Biosafety | 25 | 22.8 | Communications with healthcare workers during a public health emergency | 0 | 15.1 |
| Dual-use research and culture of responsible science | 0 | 1.7 | Infection control practices and availability of equipment | 0 | 20.8 |
| Immunization | 93.9 | 85.0 | Capacity to test and approve new medical countermeasures | 100 | 42.2 |
| DETECTION AND REPORTING | 33.7 | 41.9 | COMPLIANCE WITH INTERNATIONAL NORMS | 65.8 | 48.5 |
| Laboratory systems | 66.7 | 54.4 | IHR reporting compliance and disaster risk reduction | 100 | 62.3 |
| Real-time surveillance and reporting | 13.3 | 39.1 | Cross-border agreements on public and animal health emergency response | 50 | 54.4 |
| Epidemiology workforce | 50 | 42.3 | International commitments | 81.3 | 53.4 |
| Data integration between human/ animal/environmental health sectors | 0 | 29.7 | JEE and PVS | 50 | 17.7 |
| RAPID RESPONSE | 44.7 | 38.4 | Financing | 50 | 36.4 |
| Emergency preparedness and response planning | 25 | 16.9 | Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| Exercising response plans | 0 | 16.2 | RISK ENVIRONMENT | 33.6 | 55.0 |
| Emergency response operation | 33.3 | 23.6 | Political and security risks | 28.6 | 60.4 |
| Linking public health and security authorities | 0 | 22.6 | Socio-economic resilience | 36.4 | 66.1 |
| Risk communication | 100 | 39.4 | Infrastructure adequacy | 41.7 | 49.0 |
| Access to communications infrastructure | 51 | 72.7 | Environmental risks | 57.1 | 52.9 |
| Trade and travel restrictions | 100 | 97.4 | Public health vulnerabilities | 8.8 | 46.9 |

*Average: all 195 countries

Scores are normalized (0-100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



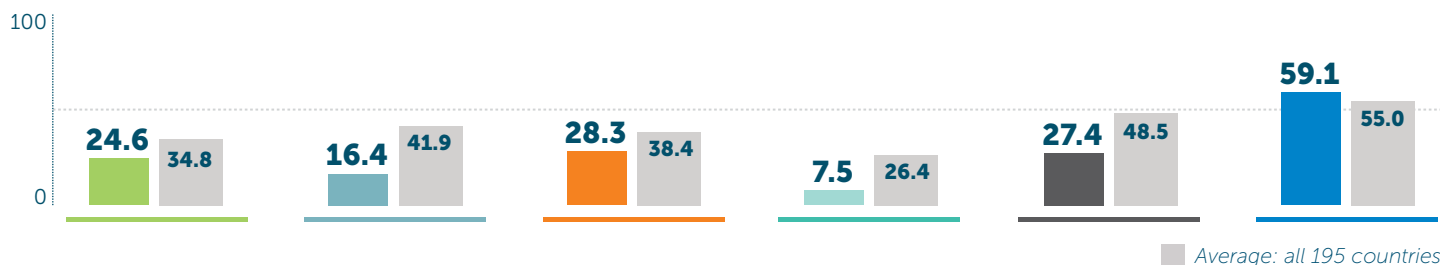
HEALTH



NORMS



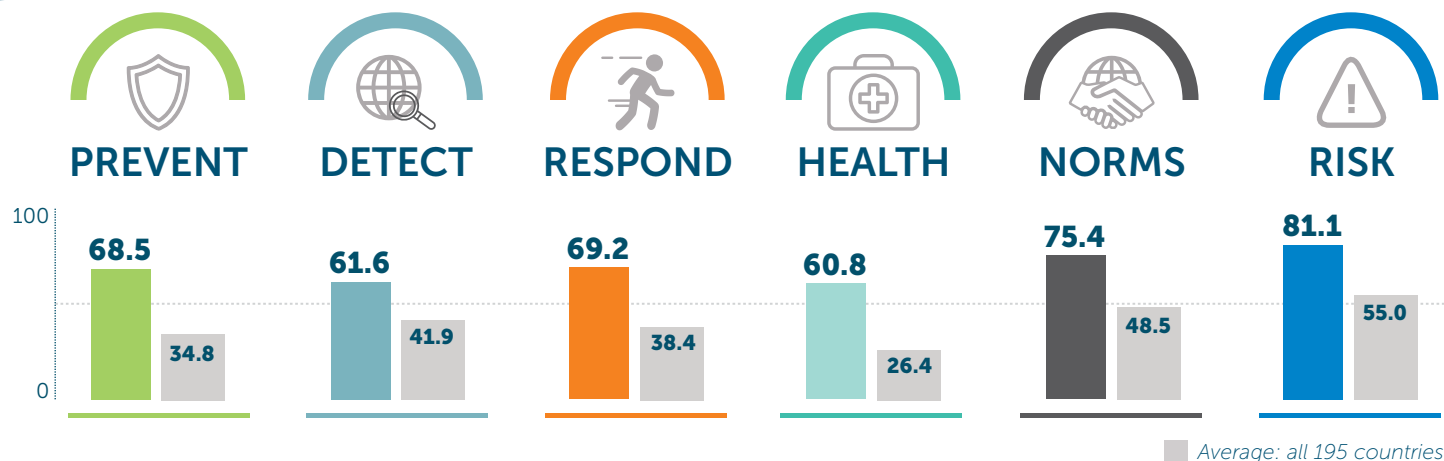
RISK



| | COUNTRY SCORE | AVERAGE SCORE* |
|---|---------------|----------------|
| PREVENTION | 24.6 | 34.8 |
| Antimicrobial resistance (AMR) | 16.7 | 42.4 |
| Zoonotic disease | 16.2 | 27.1 |
| Biosecurity | 0 | 16.0 |
| Biosafety | 0 | 22.8 |
| Dual-use research and culture of responsible science | 0 | 1.7 |
| Immunization | 97.4 | 85.0 |
| DETECTION AND REPORTING | 16.4 | 41.9 |
| Laboratory systems | 33.3 | 54.4 |
| Real-time surveillance and reporting | 5 | 39.1 |
| Epidemiology workforce | 25 | 42.3 |
| Data integration between human/ animal/environmental health sectors | 0 | 29.7 |
| RAPID RESPONSE | 28.3 | 38.4 |
| Emergency preparedness and response planning | 12.5 | 16.9 |
| Exercising response plans | 0 | 16.2 |
| Emergency response operation | 33.3 | 23.6 |
| Linking public health and security authorities | 0 | 22.6 |
| Risk communication | 0 | 39.4 |
| Access to communications infrastructure | 78.5 | 72.7 |
| Trade and travel restrictions | 100 | 97.4 |

| | COUNTRY SCORE | AVERAGE SCORE* |
|---|---------------|----------------|
| HEALTH SYSTEM | 7.5 | 26.4 |
| Health capacity in clinics, hospitals and community care centers | 8.2 | 24.4 |
| Medical countermeasures and personnel deployment | 0 | 21.2 |
| Healthcare access | 32.9 | 38.4 |
| Communications with healthcare workers during a public health emergency | 0 | 15.1 |
| Infection control practices and availability of equipment | 0 | 20.8 |
| Capacity to test and approve new medical countermeasures | 0 | 42.2 |
| COMPLIANCE WITH INTERNATIONAL NORMS | 27.4 | 48.5 |
| IHR reporting compliance and disaster risk reduction | 50 | 62.3 |
| Cross-border agreements on public and animal health emergency response | 0 | 54.4 |
| International commitments | 28.1 | 53.4 |
| JEE and PVS | 0 | 17.7 |
| Financing | 16.7 | 36.4 |
| Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| RISK ENVIRONMENT | 59.1 | 55.0 |
| Political and security risks | 82.1 | 60.4 |
| Socio-economic resilience | 67.7 | 66.1 |
| Infrastructure adequacy | 50 | 49.0 |
| Environmental risks | 46.6 | 52.9 |
| Public health vulnerabilities | 46.1 | 46.9 |

*Average: all 195 countries
Scores are normalized (0–100, where 100 = most favorable)



■ Average: all 195 countries

| | COUNTRY SCORE | AVERAGE SCORE* | | COUNTRY SCORE | AVERAGE SCORE* |
|--|---------------|----------------|---|---------------|----------------|
| PREVENTION | 68.5 | 34.8 | HEALTH SYSTEM | 60.8 | 26.4 |
| Antimicrobial resistance (AMR) | 75 | 42.4 | Health capacity in clinics, hospitals and community care centers | 68.8 | 24.4 |
| Zoonotic disease | 82 | 27.1 | Medical countermeasures and personnel deployment | 33.3 | 21.2 |
| Biosecurity | 44 | 16.0 | Healthcare access | 44 | 38.4 |
| Biosafety | 100 | 22.8 | Communications with healthcare workers during a public health emergency | 100 | 15.1 |
| Dual-use research and culture of responsible science | 0 | 1.7 | Infection control practices and availability of equipment | 50 | 20.8 |
| Immunization | 95.6 | 85.0 | Capacity to test and approve new medical countermeasures | 75 | 42.2 |
| DETECTION AND REPORTING | 61.6 | 41.9 | COMPLIANCE WITH INTERNATIONAL NORMS | 75.4 | 48.5 |
| Laboratory systems | 100 | 54.4 | IHR reporting compliance and disaster risk reduction | 100 | 62.3 |
| Real-time surveillance and reporting | 85 | 39.1 | Cross-border agreements on public and animal health emergency response | 100 | 54.4 |
| Epidemiology workforce | 50 | 42.3 | International commitments | 100 | 53.4 |
| Data integration between human/animal/environmental health sectors | 0 | 29.7 | JEE and PVS | 25 | 17.7 |
| RAPID RESPONSE | 69.2 | 38.4 | Financing | 66.7 | 36.4 |
| Emergency preparedness and response planning | 100 | 16.9 | Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| Exercising response plans | 0 | 16.2 | RISK ENVIRONMENT | 81.1 | 55.0 |
| Emergency response operation | 33.3 | 23.6 | Political and security risks | 78.6 | 60.4 |
| Linking public health and security authorities | 100 | 22.6 | Socio-economic resilience | 99.5 | 66.1 |
| Risk communication | 100 | 39.4 | Infrastructure adequacy | 91.7 | 49.0 |
| Access to communications infrastructure | 97.3 | 72.7 | Environmental risks | 58.3 | 52.9 |
| Trade and travel restrictions | 50 | 97.4 | Public health vulnerabilities | 76 | 46.9 |

*Average: all 195 countries

Scores are normalized (0-100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



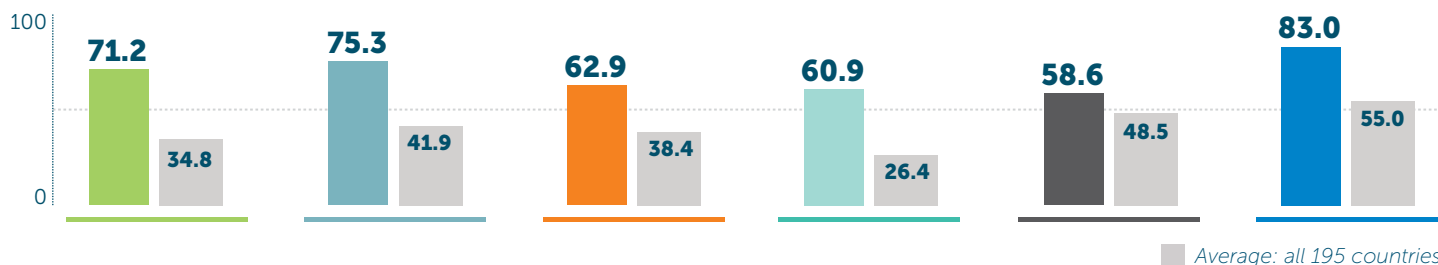
HEALTH



NORMS



RISK



■ Average: all 195 countries

| | COUNTRY SCORE | AVERAGE SCORE* | | COUNTRY SCORE | AVERAGE SCORE* |
|--|---------------|----------------|---|---------------|----------------|
| PREVENTION | 71.2 | 34.8 | HEALTH SYSTEM | 60.9 | 26.4 |
| Antimicrobial resistance (AMR) | 100 | 42.4 | Health capacity in clinics, hospitals and community care centers | 52.4 | 24.4 |
| Zoonotic disease | 71 | 27.1 | Medical countermeasures and personnel deployment | 66.7 | 21.2 |
| Biosecurity | 52 | 16.0 | Healthcare access | 46.2 | 38.4 |
| Biosafety | 100 | 22.8 | Communications with healthcare workers during a public health emergency | 100 | 15.1 |
| Dual-use research and culture of responsible science | 0 | 1.7 | Infection control practices and availability of equipment | 50 | 20.8 |
| Immunization | 92.1 | 85.0 | Capacity to test and approve new medical countermeasures | 50 | 42.2 |
| DETECTION AND REPORTING | 75.3 | 41.9 | COMPLIANCE WITH INTERNATIONAL NORMS | 58.6 | 48.5 |
| Laboratory systems | 83.3 | 54.4 | IHR reporting compliance and disaster risk reduction | 50 | 62.3 |
| Real-time surveillance and reporting | 71.7 | 39.1 | Cross-border agreements on public and animal health emergency response | 100 | 54.4 |
| Epidemiology workforce | 50 | 42.3 | International commitments | 100 | 53.4 |
| Data integration between human/animal/environmental health sectors | 100 | 29.7 | JEE and PVS | 0 | 17.7 |
| RAPID RESPONSE | 62.9 | 38.4 | Financing | 16.7 | 36.4 |
| Emergency preparedness and response planning | 18.8 | 16.9 | Commitment to sharing of genetic & biological data & specimens | 100 | 68.1 |
| Exercising response plans | 50 | 16.2 | RISK ENVIRONMENT | 83.0 | 55.0 |
| Emergency response operation | 33.3 | 23.6 | Political and security risks | 82.1 | 60.4 |
| Linking public health and security authorities | 100 | 22.6 | Socio-economic resilience | 88.9 | 66.1 |
| Risk communication | 75 | 39.4 | Infrastructure adequacy | 100 | 49.0 |
| Access to communications infrastructure | 85.1 | 72.7 | Environmental risks | 63.4 | 52.9 |
| Trade and travel restrictions | 100 | 97.4 | Public health vulnerabilities | 78.5 | 46.9 |

*Average: all 195 countries

Scores are normalized (0-100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



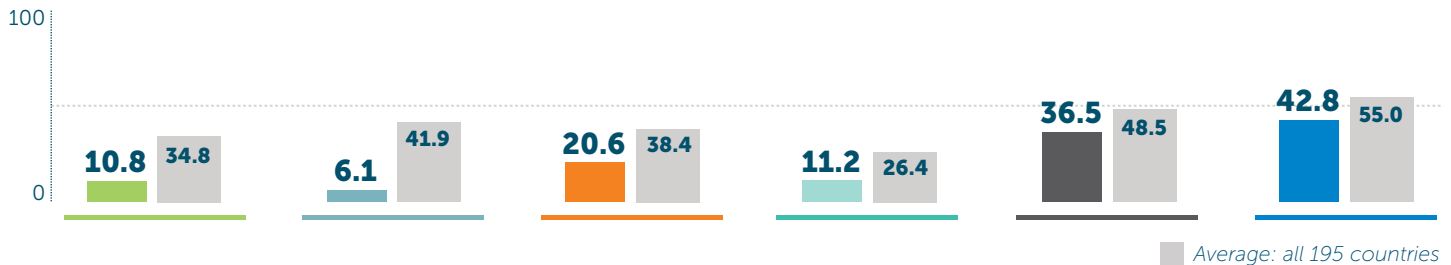
HEALTH



NORMS



RISK



■ Average: all 195 countries

| | COUNTRY SCORE | AVERAGE SCORE* | | COUNTRY SCORE | AVERAGE SCORE* |
|--|---------------|----------------|---|---------------|----------------|
| PREVENTION | 10.8 | 34.8 | HEALTH SYSTEM | 11.2 | 26.4 |
| Antimicrobial resistance (AMR) | 8.3 | 42.4 | Health capacity in clinics, hospitals and community care centers | 14.5 | 24.4 |
| Zoonotic disease | 6.7 | 27.1 | Medical countermeasures and personnel deployment | 0 | 21.2 |
| Biosecurity | 4 | 16.0 | Healthcare access | 47.1 | 38.4 |
| Biosafety | 25 | 22.8 | Communications with healthcare workers during a public health emergency | 0 | 15.1 |
| Dual-use research and culture of responsible science | 0 | 1.7 | Infection control practices and availability of equipment | 0 | 20.8 |
| Immunization | 18.4 | 85.0 | Capacity to test and approve new medical countermeasures | 0 | 42.2 |
| DETECTION AND REPORTING | 6.1 | 41.9 | COMPLIANCE WITH INTERNATIONAL NORMS | 36.5 | 48.5 |
| Laboratory systems | 16.7 | 54.4 | IHR reporting compliance and disaster risk reduction | 50 | 62.3 |
| Real-time surveillance and reporting | 6.7 | 39.1 | Cross-border agreements on public and animal health emergency response | 50 | 54.4 |
| Epidemiology workforce | 0 | 42.3 | International commitments | 37.5 | 53.4 |
| Data integration between human/animal/environmental health sectors | 0 | 29.7 | JEE and PVS | 0 | 17.7 |
| RAPID RESPONSE | 20.6 | 38.4 | Financing | 16.7 | 36.4 |
| Emergency preparedness and response planning | 0 | 16.9 | Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| Exercising response plans | 0 | 16.2 | RISK ENVIRONMENT | 42.8 | 55.0 |
| Emergency response operation | 0 | 23.6 | Political and security risks | 64.3 | 60.4 |
| Linking public health and security authorities | 0 | 22.6 | Socio-economic resilience | 52.6 | 66.1 |
| Risk communication | 0 | 39.4 | Infrastructure adequacy | 16.7 | 49.0 |
| Access to communications infrastructure | 77.2 | 72.7 | Environmental risks | 48 | 52.9 |
| Trade and travel restrictions | 100 | 97.4 | Public health vulnerabilities | 31.9 | 46.9 |

*Average: all 195 countries

Scores are normalized (0–100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



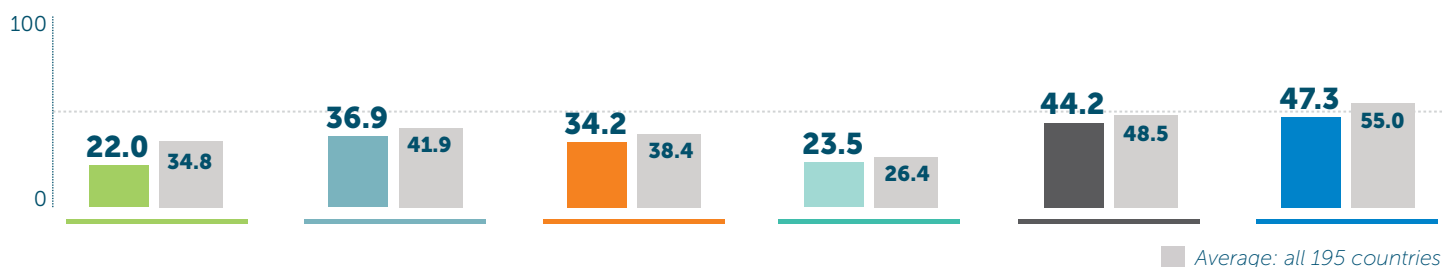
HEALTH



NORMS



RISK



■ Average: all 195 countries

| | COUNTRY SCORE | AVERAGE SCORE* | | COUNTRY SCORE | AVERAGE SCORE* |
|--|---------------|----------------|---|---------------|----------------|
| PREVENTION | 22.0 | 34.8 | HEALTH SYSTEM | 23.5 | 26.4 |
| Antimicrobial resistance (AMR) | 8.3 | 42.4 | Health capacity in clinics, hospitals and community care centers | 20 | 24.4 |
| Zoonotic disease | 14.9 | 27.1 | Medical countermeasures and personnel deployment | 0 | 21.2 |
| Biosecurity | 0 | 16.0 | Healthcare access | 25.3 | 38.4 |
| Biosafety | 0 | 22.8 | Communications with healthcare workers during a public health emergency | 0 | 15.1 |
| Dual-use research and culture of responsible science | 0 | 1.7 | Infection control practices and availability of equipment | 50 | 20.8 |
| Immunization | 92.1 | 85.0 | Capacity to test and approve new medical countermeasures | 50 | 42.2 |
| DETECTION AND REPORTING | 36.9 | 41.9 | COMPLIANCE WITH INTERNATIONAL NORMS | 44.2 | 48.5 |
| Laboratory systems | 16.7 | 54.4 | IHR reporting compliance and disaster risk reduction | 50 | 62.3 |
| Real-time surveillance and reporting | 26.7 | 39.1 | Cross-border agreements on public and animal health emergency response | 50 | 54.4 |
| Epidemiology workforce | 100 | 42.3 | International commitments | 15.6 | 53.4 |
| Data integration between human/animal/environmental health sectors | 0 | 29.7 | JEE and PVS | 25 | 17.7 |
| RAPID RESPONSE | 34.2 | 38.4 | Financing | 50 | 36.4 |
| Emergency preparedness and response planning | 25 | 16.9 | Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| Exercising response plans | 0 | 16.2 | RISK ENVIRONMENT | 47.3 | 55.0 |
| Emergency response operation | 33.3 | 23.6 | Political and security risks | 60.7 | 60.4 |
| Linking public health and security authorities | 0 | 22.6 | Socio-economic resilience | 49.3 | 66.1 |
| Risk communication | 25 | 39.4 | Infrastructure adequacy | 33.3 | 49.0 |
| Access to communications infrastructure | 74.3 | 72.7 | Environmental risks | 70.2 | 52.9 |
| Trade and travel restrictions | 100 | 97.4 | Public health vulnerabilities | 25.5 | 46.9 |

*Average: all 195 countries

Scores are normalized (0–100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



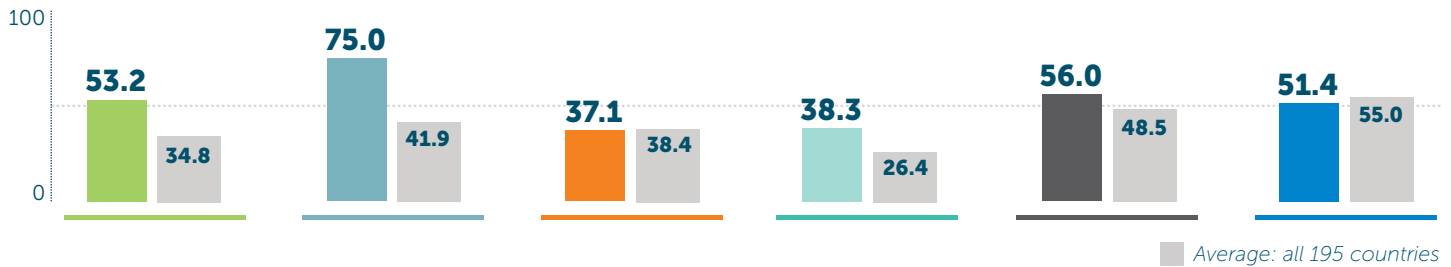
HEALTH



NORMS



RISK



■ Average: all 195 countries

| | COUNTRY SCORE | AVERAGE SCORE* | | COUNTRY SCORE | AVERAGE SCORE* |
|--|---------------|----------------|---|---------------|----------------|
| PREVENTION | 53.2 | 34.8 | HEALTH SYSTEM | 38.3 | 26.4 |
| Antimicrobial resistance (AMR) | 50 | 42.4 | Health capacity in clinics, hospitals and community care centers | 18.3 | 24.4 |
| Zoonotic disease | 32.8 | 27.1 | Medical countermeasures and personnel deployment | 66.7 | 21.2 |
| Biosecurity | 52 | 16.0 | Healthcare access | 96.8 | 38.4 |
| Biosafety | 75 | 22.8 | Communications with healthcare workers during a public health emergency | 0 | 15.1 |
| Dual-use research and culture of responsible science | 0 | 1.7 | Infection control practices and availability of equipment | 0 | 20.8 |
| Immunization | 96.5 | 85.0 | Capacity to test and approve new medical countermeasures | 50 | 42.2 |
| DETECTION AND REPORTING | 75.0 | 41.9 | COMPLIANCE WITH INTERNATIONAL NORMS | 56.0 | 48.5 |
| Laboratory systems | 83.3 | 54.4 | IHR reporting compliance and disaster risk reduction | 100 | 62.3 |
| Real-time surveillance and reporting | 46.7 | 39.1 | Cross-border agreements on public and animal health emergency response | 0 | 54.4 |
| Epidemiology workforce | 75 | 42.3 | International commitments | 96.9 | 53.4 |
| Data integration between human/animal/environmental health sectors | 100 | 29.7 | JEE and PVS | 25 | 17.7 |
| RAPID RESPONSE | 37.1 | 38.4 | Financing | 50 | 36.4 |
| Emergency preparedness and response planning | 18.8 | 16.9 | Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| Exercising response plans | 0 | 16.2 | RISK ENVIRONMENT | 51.4 | 55.0 |
| Emergency response operation | 0 | 23.6 | Political and security risks | 42.9 | 60.4 |
| Linking public health and security authorities | 0 | 22.6 | Socio-economic resilience | 71.6 | 66.1 |
| Risk communication | 75 | 39.4 | Infrastructure adequacy | 50 | 49.0 |
| Access to communications infrastructure | 79 | 72.7 | Environmental risks | 44.2 | 52.9 |
| Trade and travel restrictions | 100 | 97.4 | Public health vulnerabilities | 49.8 | 46.9 |

*Average: all 195 countries

Scores are normalized (0-100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



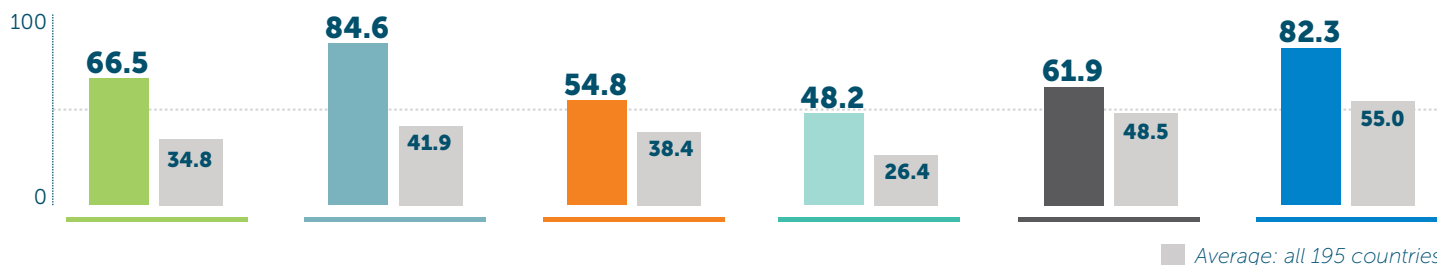
HEALTH



NORMS



RISK



Average: all 195 countries

| | COUNTRY SCORE | AVERAGE SCORE* | | COUNTRY SCORE | AVERAGE SCORE* |
|--|---------------|----------------|---|---------------|----------------|
| PREVENTION | 66.5 | 34.8 | HEALTH SYSTEM | 48.2 | 26.4 |
| Antimicrobial resistance (AMR) | 83.3 | 42.4 | Health capacity in clinics, hospitals and community care centers | 77.1 | 24.4 |
| Zoonotic disease | 54.9 | 27.1 | Medical countermeasures and personnel deployment | 66.7 | 21.2 |
| Biosecurity | 74.7 | 16.0 | Healthcare access | 44.9 | 38.4 |
| Biosafety | 75 | 22.8 | Communications with healthcare workers during a public health emergency | 0 | 15.1 |
| Dual-use research and culture of responsible science | 0 | 1.7 | Infection control practices and availability of equipment | 50 | 20.8 |
| Immunization | 98.2 | 85.0 | Capacity to test and approve new medical countermeasures | 50 | 42.2 |
| DETECTION AND REPORTING | 84.6 | 41.9 | COMPLIANCE WITH INTERNATIONAL NORMS | 61.9 | 48.5 |
| Laboratory systems | 100 | 54.4 | IHR reporting compliance and disaster risk reduction | 50 | 62.3 |
| Real-time surveillance and reporting | 90 | 39.1 | Cross-border agreements on public and animal health emergency response | 100 | 54.4 |
| Epidemiology workforce | 50 | 42.3 | International commitments | 100 | 53.4 |
| Data integration between human/animal/environmental health sectors | 100 | 29.7 | JEE and PVS | 0 | 17.7 |
| RAPID RESPONSE | 54.8 | 38.4 | Financing | 33.3 | 36.4 |
| Emergency preparedness and response planning | 12.5 | 16.9 | Commitment to sharing of genetic & biological data & specimens | 100 | 68.1 |
| Exercising response plans | 50 | 16.2 | RISK ENVIRONMENT | 82.3 | 55.0 |
| Emergency response operation | 33.3 | 23.6 | Political and security risks | 85.7 | 60.4 |
| Linking public health and security authorities | 0 | 22.6 | Socio-economic resilience | 99.1 | 66.1 |
| Risk communication | 100 | 39.4 | Infrastructure adequacy | 83.3 | 49.0 |
| Access to communications infrastructure | 94.1 | 72.7 | Environmental risks | 60.9 | 52.9 |
| Trade and travel restrictions | 100 | 97.4 | Public health vulnerabilities | 80.6 | 46.9 |

*Average: all 195 countries

Scores are normalized (0–100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



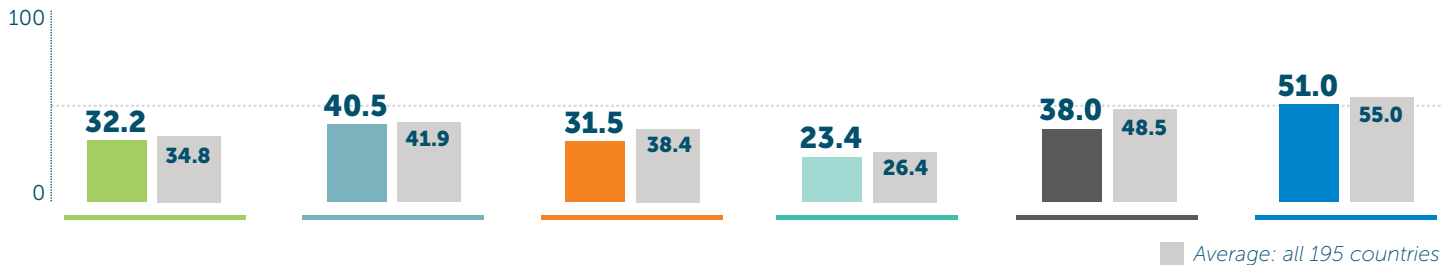
HEALTH



NORMS



RISK



■ Average: all 195 countries

| | COUNTRY SCORE | AVERAGE SCORE* | | COUNTRY SCORE | AVERAGE SCORE* |
|--|---------------|----------------|---|---------------|----------------|
| PREVENTION | 32.2 | 34.8 | HEALTH SYSTEM | 23.4 | 26.4 |
| Antimicrobial resistance (AMR) | 75 | 42.4 | Health capacity in clinics, hospitals and community care centers | 2.3 | 24.4 |
| Zoonotic disease | 7 | 27.1 | Medical countermeasures and personnel deployment | 33.3 | 21.2 |
| Biosecurity | 0 | 16.0 | Healthcare access | 44.1 | 38.4 |
| Biosafety | 0 | 22.8 | Communications with healthcare workers during a public health emergency | 0 | 15.1 |
| Dual-use research and culture of responsible science | 0 | 1.7 | Infection control practices and availability of equipment | 0 | 20.8 |
| Immunization | 96.5 | 85.0 | Capacity to test and approve new medical countermeasures | 75 | 42.2 |
| DETECTION AND REPORTING | 40.5 | 41.9 | COMPLIANCE WITH INTERNATIONAL NORMS | 38.0 | 48.5 |
| Laboratory systems | 50 | 54.4 | IHR reporting compliance and disaster risk reduction | 50 | 62.3 |
| Real-time surveillance and reporting | 55 | 39.1 | Cross-border agreements on public and animal health emergency response | 0 | 54.4 |
| Epidemiology workforce | 50 | 42.3 | International commitments | 28.1 | 53.4 |
| Data integration between human/animal/environmental health sectors | 0 | 29.7 | JEE and PVS | 25 | 17.7 |
| RAPID RESPONSE | 31.5 | 38.4 | Financing | 50 | 36.4 |
| Emergency preparedness and response planning | 0 | 16.9 | Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| Exercising response plans | 50 | 16.2 | RISK ENVIRONMENT | 51.0 | 55.0 |
| Emergency response operation | 33.3 | 23.6 | Political and security risks | 71.4 | 60.4 |
| Linking public health and security authorities | 0 | 22.6 | Socio-economic resilience | 58.3 | 66.1 |
| Risk communication | 0 | 39.4 | Infrastructure adequacy | 41.7 | 49.0 |
| Access to communications infrastructure | 65.2 | 72.7 | Environmental risks | 63.1 | 52.9 |
| Trade and travel restrictions | 100 | 97.4 | Public health vulnerabilities | 21.6 | 46.9 |

*Average: all 195 countries

Scores are normalized (0–100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



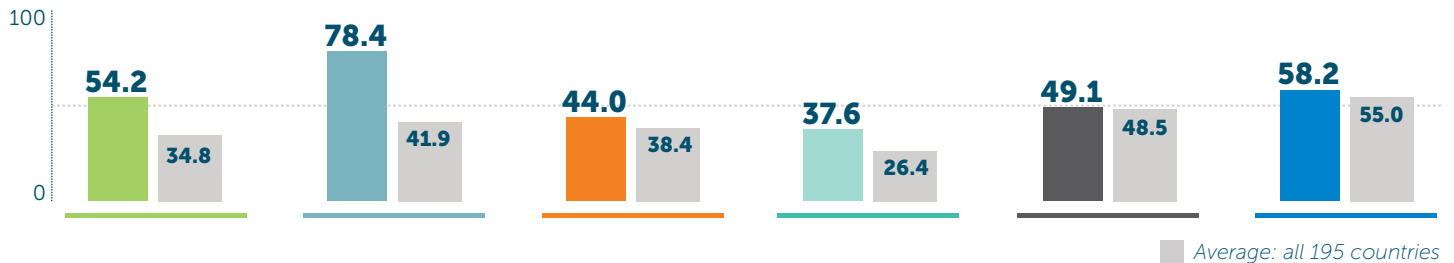
HEALTH



NORMS



RISK



■ Average: all 195 countries

| | COUNTRY SCORE | AVERAGE SCORE* | | COUNTRY SCORE | AVERAGE SCORE* |
|--|---------------|----------------|---|---------------|----------------|
| PREVENTION | 54.2 | 34.8 | HEALTH SYSTEM | 37.6 | 26.4 |
| Antimicrobial resistance (AMR) | 50 | 42.4 | Health capacity in clinics, hospitals and community care centers | 49.2 | 24.4 |
| Zoonotic disease | 21.4 | 27.1 | Medical countermeasures and personnel deployment | 33.3 | 21.2 |
| Biosecurity | 44 | 16.0 | Healthcare access | 44.3 | 38.4 |
| Biosafety | 100 | 22.8 | Communications with healthcare workers during a public health emergency | 0 | 15.1 |
| Dual-use research and culture of responsible science | 0 | 1.7 | Infection control practices and availability of equipment | 50 | 20.8 |
| Immunization | 98.2 | 85.0 | Capacity to test and approve new medical countermeasures | 50 | 42.2 |
| DETECTION AND REPORTING | 78.4 | 41.9 | COMPLIANCE WITH INTERNATIONAL NORMS | 49.1 | 48.5 |
| Laboratory systems | 100 | 54.4 | IHR reporting compliance and disaster risk reduction | 50 | 62.3 |
| Real-time surveillance and reporting | 66.7 | 39.1 | Cross-border agreements on public and animal health emergency response | 100 | 54.4 |
| Epidemiology workforce | 50 | 42.3 | International commitments | 96.9 | 53.4 |
| Data integration between human/animal/environmental health sectors | 100 | 29.7 | JEE and PVS | 0 | 17.7 |
| RAPID RESPONSE | 44.0 | 38.4 | Financing | 0 | 36.4 |
| Emergency preparedness and response planning | 0 | 16.9 | Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| Exercising response plans | 0 | 16.2 | RISK ENVIRONMENT | 58.2 | 55.0 |
| Emergency response operation | 33.3 | 23.6 | Political and security risks | 71.4 | 60.4 |
| Linking public health and security authorities | 100 | 22.6 | Socio-economic resilience | 66.9 | 66.1 |
| Risk communication | 25 | 39.4 | Infrastructure adequacy | 50 | 49.0 |
| Access to communications infrastructure | 82.8 | 72.7 | Environmental risks | 31.1 | 52.9 |
| Trade and travel restrictions | 100 | 97.4 | Public health vulnerabilities | 67 | 46.9 |

*Average: all 195 countries

Scores are normalized (0–100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



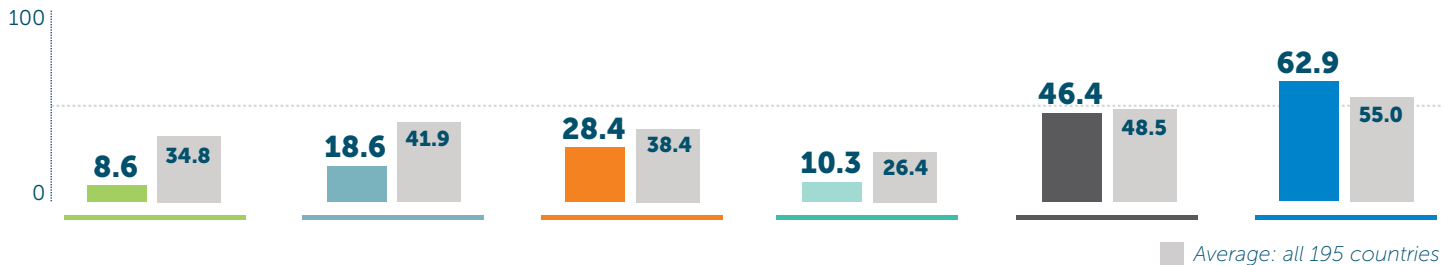
HEALTH



NORMS



RISK



■ Average: all 195 countries

| | COUNTRY SCORE | AVERAGE SCORE* | | COUNTRY SCORE | AVERAGE SCORE* |
|--|---------------|----------------|---|---------------|----------------|
| PREVENTION | 8.6 | 34.8 | HEALTH SYSTEM | 10.3 | 26.4 |
| Antimicrobial resistance (AMR) | 0 | 42.4 | Health capacity in clinics, hospitals and community care centers | 27.8 | 24.4 |
| Zoonotic disease | 6.7 | 27.1 | Medical countermeasures and personnel deployment | 0 | 21.2 |
| Biosecurity | 0 | 16.0 | Healthcare access | 30.1 | 38.4 |
| Biosafety | 0 | 22.8 | Communications with healthcare workers during a public health emergency | 0 | 15.1 |
| Dual-use research and culture of responsible science | 0 | 1.7 | Infection control practices and availability of equipment | 0 | 20.8 |
| Immunization | 37.7 | 85.0 | Capacity to test and approve new medical countermeasures | 0 | 42.2 |
| DETECTION AND REPORTING | 18.6 | 41.9 | COMPLIANCE WITH INTERNATIONAL NORMS | 46.4 | 48.5 |
| Laboratory systems | 33.3 | 54.4 | IHR reporting compliance and disaster risk reduction | 50 | 62.3 |
| Real-time surveillance and reporting | 13.3 | 39.1 | Cross-border agreements on public and animal health emergency response | 100 | 54.4 |
| Epidemiology workforce | 25 | 42.3 | International commitments | 28.1 | 53.4 |
| Data integration between human/animal/environmental health sectors | 0 | 29.7 | JEE and PVS | 0 | 17.7 |
| RAPID RESPONSE | 28.4 | 38.4 | Financing | 33.3 | 36.4 |
| Emergency preparedness and response planning | 50 | 16.9 | Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| Exercising response plans | 0 | 16.2 | RISK ENVIRONMENT | 62.9 | 55.0 |
| Emergency response operation | 0 | 23.6 | Political and security risks | 82.1 | 60.4 |
| Linking public health and security authorities | 0 | 22.6 | Socio-economic resilience | 71.4 | 66.1 |
| Risk communication | 0 | 39.4 | Infrastructure adequacy | 66.7 | 49.0 |
| Access to communications infrastructure | 76.7 | 72.7 | Environmental risks | 43.2 | 52.9 |
| Trade and travel restrictions | 100 | 97.4 | Public health vulnerabilities | 47.7 | 46.9 |

*Average: all 195 countries

Scores are normalized (0–100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



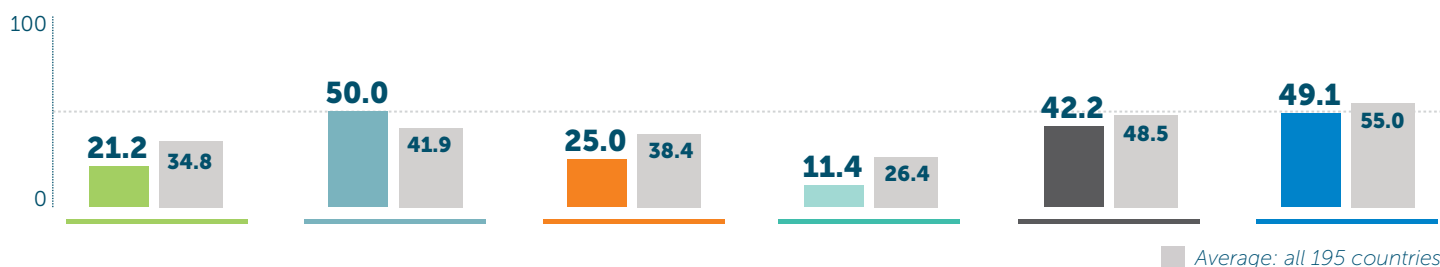
HEALTH



NORMS



RISK



■ Average: all 195 countries

| | COUNTRY SCORE | AVERAGE SCORE* | | COUNTRY SCORE | AVERAGE SCORE* |
|---|---------------|----------------|---|---------------|----------------|
| PREVENTION | 21.2 | 34.8 | HEALTH SYSTEM | 11.4 | 26.4 |
| Antimicrobial resistance (AMR) | 8.3 | 42.4 | Health capacity in clinics, hospitals and community care centers | 3.5 | 24.4 |
| Zoonotic disease | 14.2 | 27.1 | Medical countermeasures and personnel deployment | 0 | 21.2 |
| Biosecurity | 0 | 16.0 | Healthcare access | 41.9 | 38.4 |
| Biosafety | 0 | 22.8 | Communications with healthcare workers during a public health emergency | 0 | 15.1 |
| Dual-use research and culture of responsible science | 0 | 1.7 | Infection control practices and availability of equipment | 0 | 20.8 |
| Immunization | 88.6 | 85.0 | Capacity to test and approve new medical countermeasures | 25 | 42.2 |
| DETECTION AND REPORTING | 50.0 | 41.9 | COMPLIANCE WITH INTERNATIONAL NORMS | 42.2 | 48.5 |
| Laboratory systems | 66.7 | 54.4 | IHR reporting compliance and disaster risk reduction | 50 | 62.3 |
| Real-time surveillance and reporting | 26.7 | 39.1 | Cross-border agreements on public and animal health emergency response | 50 | 54.4 |
| Epidemiology workforce | 100 | 42.3 | International commitments | 31.3 | 53.4 |
| Data integration between human/ animal/environmental health sectors | 0 | 29.7 | JEE and PVS | 0 | 17.7 |
| RAPID RESPONSE | 25.0 | 38.4 | Financing | 50 | 36.4 |
| Emergency preparedness and response planning | 0 | 16.9 | Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| Exercising response plans | 0 | 16.2 | RISK ENVIRONMENT | 49.1 | 55.0 |
| Emergency response operation | 33.3 | 23.6 | Political and security risks | 46.4 | 60.4 |
| Linking public health and security authorities | 0 | 22.6 | Socio-economic resilience | 52.5 | 66.1 |
| Risk communication | 0 | 39.4 | Infrastructure adequacy | 41.7 | 49.0 |
| Access to communications infrastructure | 67.8 | 72.7 | Environmental risks | 64.6 | 52.9 |
| Trade and travel restrictions | 100 | 97.4 | Public health vulnerabilities | 43.1 | 46.9 |

*Average: all 195 countries

Scores are normalized (0–100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



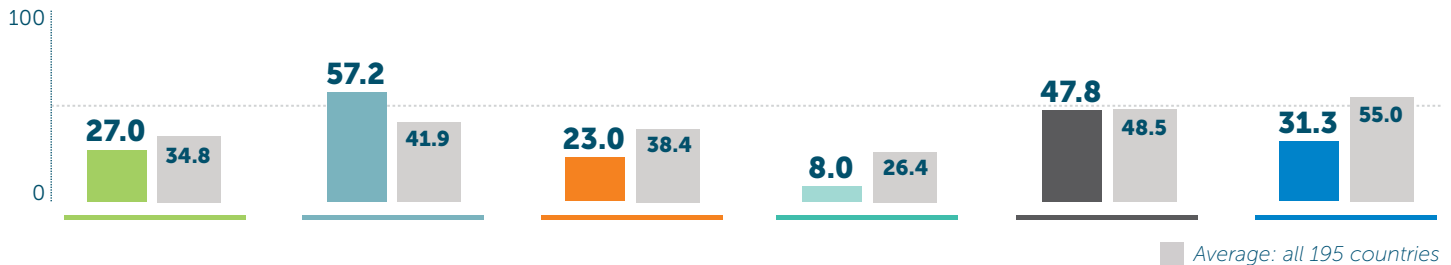
HEALTH



NORMS



RISK



■ Average: all 195 countries

| | COUNTRY SCORE | AVERAGE SCORE* |
|---|---------------|----------------|
| PREVENTION | 27.0 | 34.8 |
| Antimicrobial resistance (AMR) | 33.3 | 42.4 |
| Zoonotic disease | 40.6 | 27.1 |
| Biosecurity | 4 | 16.0 |
| Biosafety | 0 | 22.8 |
| Dual-use research and culture of responsible science | 0 | 1.7 |
| Immunization | 70.2 | 85.0 |
| DETECTION AND REPORTING | 57.2 | 41.9 |
| Laboratory systems | 50 | 54.4 |
| Real-time surveillance and reporting | 36.7 | 39.1 |
| Epidemiology workforce | 50 | 42.3 |
| Data integration between human/ animal/environmental health sectors | 100 | 29.7 |
| RAPID RESPONSE | 23.0 | 38.4 |
| Emergency preparedness and response planning | 0 | 16.9 |
| Exercising response plans | 0 | 16.2 |
| Emergency response operation | 33.3 | 23.6 |
| Linking public health and security authorities | 0 | 22.6 |
| Risk communication | 0 | 39.4 |
| Access to communications infrastructure | 51.7 | 72.7 |
| Trade and travel restrictions | 100 | 97.4 |

| | COUNTRY SCORE | AVERAGE SCORE* |
|---|---------------|----------------|
| HEALTH SYSTEM | 8.0 | 26.4 |
| Health capacity in clinics, hospitals and community care centers | 0.7 | 24.4 |
| Medical countermeasures and personnel deployment | 0 | 21.2 |
| Healthcare access | 42.8 | 38.4 |
| Communications with healthcare workers during a public health emergency | 0 | 15.1 |
| Infection control practices and availability of equipment | 0 | 20.8 |
| Capacity to test and approve new medical countermeasures | 0 | 42.2 |
| COMPLIANCE WITH INTERNATIONAL NORMS | 47.8 | 48.5 |
| IHR reporting compliance and disaster risk reduction | 50 | 62.3 |
| Cross-border agreements on public and animal health emergency response | 50 | 54.4 |
| International commitments | 12.5 | 53.4 |
| JEE and PVS | 50 | 17.7 |
| Financing | 50 | 36.4 |
| Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| RISK ENVIRONMENT | 31.3 | 55.0 |
| Political and security risks | 53.6 | 60.4 |
| Socio-economic resilience | 23.1 | 66.1 |
| Infrastructure adequacy | 0 | 49.0 |
| Environmental risks | 65.8 | 52.9 |
| Public health vulnerabilities | 16.1 | 46.9 |

*Average: all 195 countries

Scores are normalized (0-100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



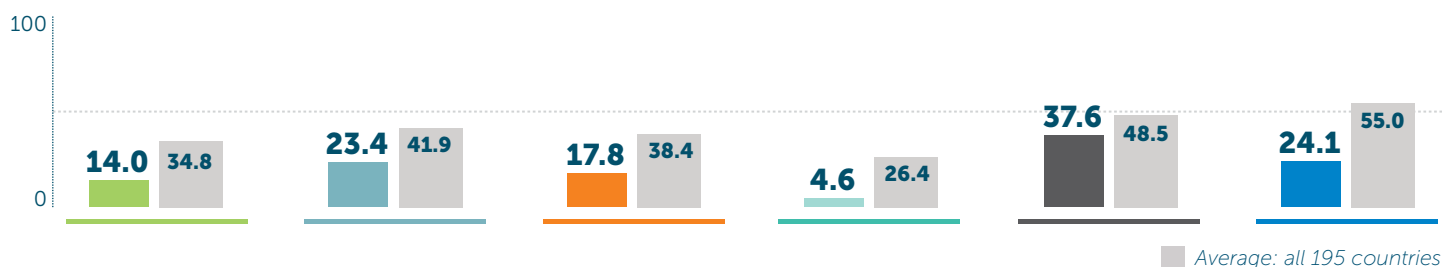
HEALTH



NORMS



RISK



Average: all 195 countries

| | COUNTRY SCORE | AVERAGE SCORE* | | COUNTRY SCORE | AVERAGE SCORE* |
|--|---------------|----------------|---|---------------|----------------|
| PREVENTION | 14.0 | 34.8 | HEALTH SYSTEM | 4.6 | 26.4 |
| Antimicrobial resistance (AMR) | 0 | 42.4 | Health capacity in clinics, hospitals and community care centers | 2.1 | 24.4 |
| Zoonotic disease | 0.5 | 27.1 | Medical countermeasures and personnel deployment | 0 | 21.2 |
| Biosecurity | 0 | 16.0 | Healthcare access | 23 | 38.4 |
| Biosafety | 0 | 22.8 | Communications with healthcare workers during a public health emergency | 0 | 15.1 |
| Dual-use research and culture of responsible science | 0 | 1.7 | Infection control practices and availability of equipment | 0 | 20.8 |
| Immunization | 71.1 | 85.0 | Capacity to test and approve new medical countermeasures | 0 | 42.2 |
| DETECTION AND REPORTING | 23.4 | 41.9 | COMPLIANCE WITH INTERNATIONAL NORMS | 37.6 | 48.5 |
| Laboratory systems | 16.7 | 54.4 | IHR reporting compliance and disaster risk reduction | 50 | 62.3 |
| Real-time surveillance and reporting | 0 | 39.1 | Cross-border agreements on public and animal health emergency response | 0 | 54.4 |
| Epidemiology workforce | 75 | 42.3 | International commitments | 25 | 53.4 |
| Data integration between human/animal/environmental health sectors | 0 | 29.7 | JEE and PVS | 25 | 17.7 |
| RAPID RESPONSE | 17.8 | 38.4 | Financing | 50 | 36.4 |
| Emergency preparedness and response planning | 0 | 16.9 | Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| Exercising response plans | 0 | 16.2 | RISK ENVIRONMENT | 24.1 | 55.0 |
| Emergency response operation | 0 | 23.6 | Political and security risks | 28.6 | 60.4 |
| Linking public health and security authorities | 0 | 22.6 | Socio-economic resilience | 36.3 | 66.1 |
| Risk communication | 0 | 39.4 | Infrastructure adequacy | 8.3 | 49.0 |
| Access to communications infrastructure | 54.1 | 72.7 | Environmental risks | 34.4 | 52.9 |
| Trade and travel restrictions | 100 | 97.4 | Public health vulnerabilities | 14.8 | 46.9 |

*Average: all 195 countries

Scores are normalized (0–100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



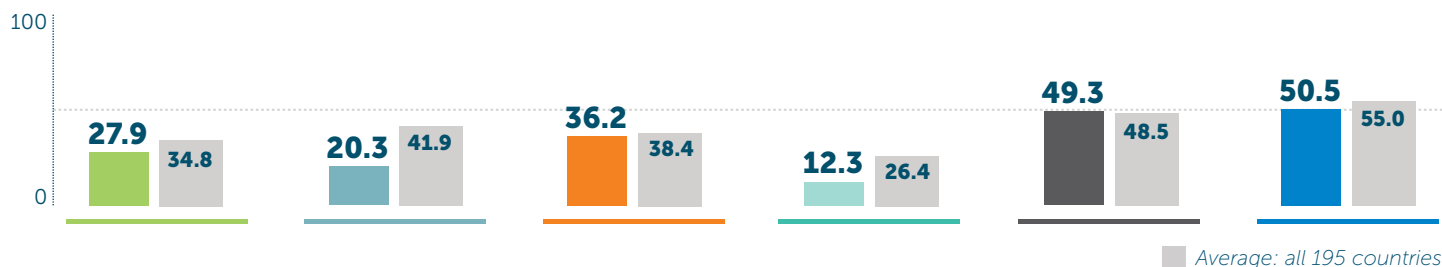
HEALTH



NORMS



RISK



■ Average: all 195 countries

| | COUNTRY SCORE | AVERAGE SCORE* | | COUNTRY SCORE | AVERAGE SCORE* |
|--|---------------|----------------|---|---------------|----------------|
| PREVENTION | 27.9 | 34.8 | HEALTH SYSTEM | 12.3 | 26.4 |
| Antimicrobial resistance (AMR) | 50 | 42.4 | Health capacity in clinics, hospitals and community care centers | 3.5 | 24.4 |
| Zoonotic disease | 1.6 | 27.1 | Medical countermeasures and personnel deployment | 0 | 21.2 |
| Biosecurity | 0 | 16.0 | Healthcare access | 29.9 | 38.4 |
| Biosafety | 0 | 22.8 | Communications with healthcare workers during a public health emergency | 0 | 15.1 |
| Dual-use research and culture of responsible science | 0 | 1.7 | Infection control practices and availability of equipment | 0 | 20.8 |
| Immunization | 100 | 85.0 | Capacity to test and approve new medical countermeasures | 50 | 42.2 |
| DETECTION AND REPORTING | 20.3 | 41.9 | COMPLIANCE WITH INTERNATIONAL NORMS | 49.3 | 48.5 |
| Laboratory systems | 50 | 54.4 | IHR reporting compliance and disaster risk reduction | 50 | 62.3 |
| Real-time surveillance and reporting | 3.3 | 39.1 | Cross-border agreements on public and animal health emergency response | 100 | 54.4 |
| Epidemiology workforce | 25 | 42.3 | International commitments | 25 | 53.4 |
| Data integration between human/animal/environmental health sectors | 0 | 29.7 | JEE and PVS | 0 | 17.7 |
| RAPID RESPONSE | 36.2 | 38.4 | Financing | 50 | 36.4 |
| Emergency preparedness and response planning | 0 | 16.9 | Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| Exercising response plans | 50 | 16.2 | RISK ENVIRONMENT | 50.5 | 55.0 |
| Emergency response operation | 33.3 | 23.6 | Political and security risks | 64.3 | 60.4 |
| Linking public health and security authorities | 0 | 22.6 | Socio-economic resilience | 64.1 | 66.1 |
| Risk communication | 25 | 39.4 | Infrastructure adequacy | 33.3 | 49.0 |
| Access to communications infrastructure | 66.9 | 72.7 | Environmental risks | 46.2 | 52.9 |
| Trade and travel restrictions | 100 | 97.4 | Public health vulnerabilities | 43.6 | 46.9 |

*Average: all 195 countries

Scores are normalized (0–100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



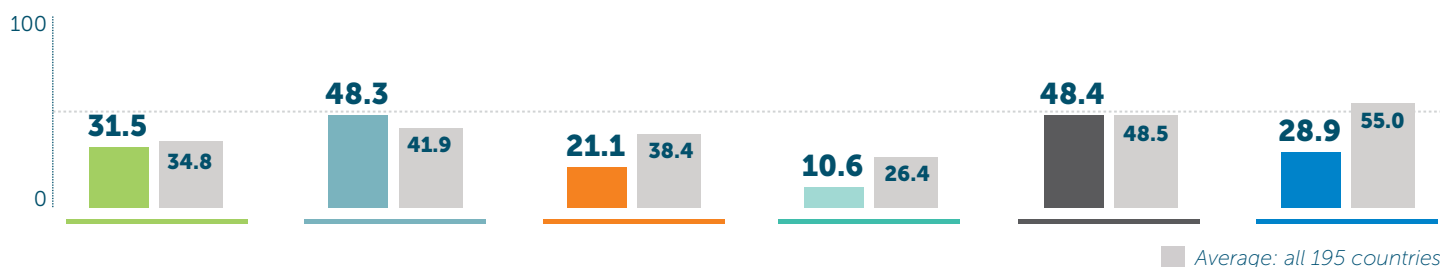
HEALTH



NORMS



RISK



■ Average: all 195 countries

| | COUNTRY SCORE | AVERAGE SCORE* | | COUNTRY SCORE | AVERAGE SCORE* |
|--|---------------|----------------|---|---------------|----------------|
| PREVENTION | 31.5 | 34.8 | HEALTH SYSTEM | 10.6 | 26.4 |
| Antimicrobial resistance (AMR) | 66.7 | 42.4 | Health capacity in clinics, hospitals and community care centers | 1.6 | 24.4 |
| Zoonotic disease | 41.8 | 27.1 | Medical countermeasures and personnel deployment | 0 | 21.2 |
| Biosecurity | 0 | 16.0 | Healthcare access | 39 | 38.4 |
| Biosafety | 0 | 22.8 | Communications with healthcare workers during a public health emergency | 0 | 15.1 |
| Dual-use research and culture of responsible science | 0 | 1.7 | Infection control practices and availability of equipment | 0 | 20.8 |
| Immunization | 68.4 | 85.0 | Capacity to test and approve new medical countermeasures | 25 | 42.2 |
| DETECTION AND REPORTING | 48.3 | 41.9 | COMPLIANCE WITH INTERNATIONAL NORMS | 48.4 | 48.5 |
| Laboratory systems | 50 | 54.4 | IHR reporting compliance and disaster risk reduction | 50 | 62.3 |
| Real-time surveillance and reporting | 36.7 | 39.1 | Cross-border agreements on public and animal health emergency response | 100 | 54.4 |
| Epidemiology workforce | 100 | 42.3 | International commitments | 18.8 | 53.4 |
| Data integration between human/animal/environmental health sectors | 0 | 29.7 | JEE and PVS | 0 | 17.7 |
| RAPID RESPONSE | 21.1 | 38.4 | Financing | 50 | 36.4 |
| Emergency preparedness and response planning | 0 | 16.9 | Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| Exercising response plans | 0 | 16.2 | RISK ENVIRONMENT | 28.9 | 55.0 |
| Emergency response operation | 0 | 23.6 | Political and security risks | 50 | 60.4 |
| Linking public health and security authorities | 0 | 22.6 | Socio-economic resilience | 38.8 | 66.1 |
| Risk communication | 25 | 39.4 | Infrastructure adequacy | 0 | 49.0 |
| Access to communications infrastructure | 44.9 | 72.7 | Environmental risks | 35.8 | 52.9 |
| Trade and travel restrictions | 100 | 97.4 | Public health vulnerabilities | 19.5 | 46.9 |

*Average: all 195 countries

Scores are normalized (0–100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



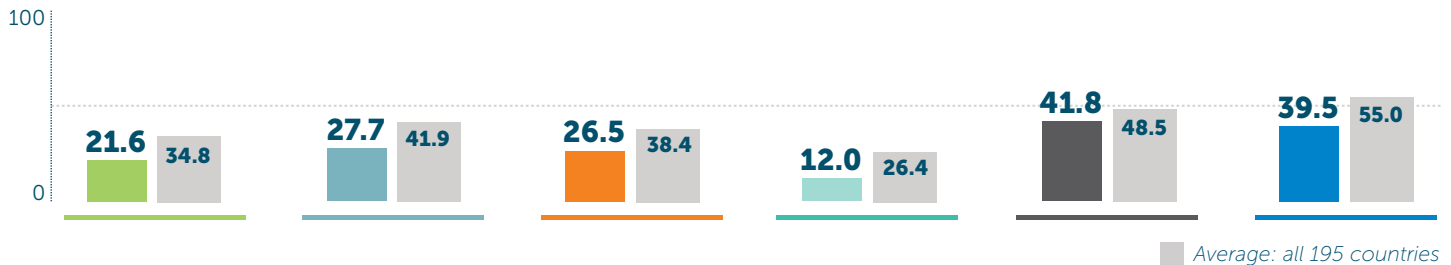
HEALTH



NORMS



RISK



■ Average: all 195 countries

| | COUNTRY SCORE | AVERAGE SCORE* | | COUNTRY SCORE | AVERAGE SCORE* |
|--|---------------|----------------|---|---------------|----------------|
| PREVENTION | 21.6 | 34.8 | HEALTH SYSTEM | 12.0 | 26.4 |
| Antimicrobial resistance (AMR) | 8.3 | 42.4 | Health capacity in clinics, hospitals and community care centers | 2.8 | 24.4 |
| Zoonotic disease | 4.8 | 27.1 | Medical countermeasures and personnel deployment | 0 | 21.2 |
| Biosecurity | 0 | 16.0 | Healthcare access | 45.5 | 38.4 |
| Biosafety | 0 | 22.8 | Communications with healthcare workers during a public health emergency | 0 | 15.1 |
| Dual-use research and culture of responsible science | 0 | 1.7 | Infection control practices and availability of equipment | 0 | 20.8 |
| Immunization | 99.1 | 85.0 | Capacity to test and approve new medical countermeasures | 25 | 42.2 |
| DETECTION AND REPORTING | 27.7 | 41.9 | COMPLIANCE WITH INTERNATIONAL NORMS | 41.8 | 48.5 |
| Laboratory systems | 33.3 | 54.4 | IHR reporting compliance and disaster risk reduction | 50 | 62.3 |
| Real-time surveillance and reporting | 0 | 39.1 | Cross-border agreements on public and animal health emergency response | 50 | 54.4 |
| Epidemiology workforce | 75 | 42.3 | International commitments | 28.1 | 53.4 |
| Data integration between human/animal/environmental health sectors | 0 | 29.7 | JEE and PVS | 0 | 17.7 |
| RAPID RESPONSE | 26.5 | 38.4 | Financing | 50 | 36.4 |
| Emergency preparedness and response planning | 12.5 | 16.9 | Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| Exercising response plans | 0 | 16.2 | RISK ENVIRONMENT | 39.5 | 55.0 |
| Emergency response operation | 33.3 | 23.6 | Political and security risks | 46.4 | 60.4 |
| Linking public health and security authorities | 0 | 22.6 | Socio-economic resilience | 63.4 | 66.1 |
| Risk communication | 0 | 39.4 | Infrastructure adequacy | 25 | 49.0 |
| Access to communications infrastructure | 63.5 | 72.7 | Environmental risks | 16.6 | 52.9 |
| Trade and travel restrictions | 100 | 97.4 | Public health vulnerabilities | 44 | 46.9 |

*Average: all 195 countries

Scores are normalized (0–100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



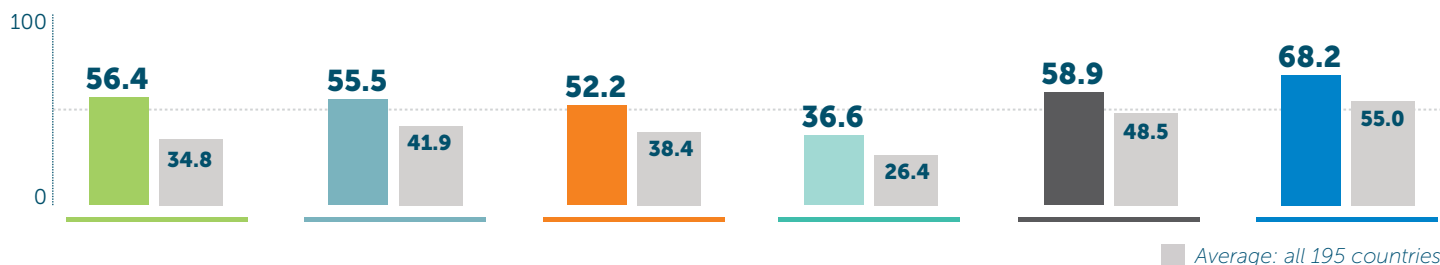
HEALTH



NORMS



RISK



■ Average: all 195 countries

| | COUNTRY SCORE | AVERAGE SCORE* | | COUNTRY SCORE | AVERAGE SCORE* |
|--|---------------|----------------|---|---------------|----------------|
| PREVENTION | 56.4 | 34.8 | HEALTH SYSTEM | 36.6 | 26.4 |
| Antimicrobial resistance (AMR) | 66.7 | 42.4 | Health capacity in clinics, hospitals and community care centers | 41.4 | 24.4 |
| Zoonotic disease | 42.2 | 27.1 | Medical countermeasures and personnel deployment | 33.3 | 21.2 |
| Biosecurity | 65.3 | 16.0 | Healthcare access | 45.7 | 38.4 |
| Biosafety | 50 | 22.8 | Communications with healthcare workers during a public health emergency | 0 | 15.1 |
| Dual-use research and culture of responsible science | 0 | 1.7 | Infection control practices and availability of equipment | 50 | 20.8 |
| Immunization | 100 | 85.0 | Capacity to test and approve new medical countermeasures | 50 | 42.2 |
| DETECTION AND REPORTING | 55.5 | 41.9 | COMPLIANCE WITH INTERNATIONAL NORMS | 58.9 | 48.5 |
| Laboratory systems | 83.3 | 54.4 | IHR reporting compliance and disaster risk reduction | 50 | 62.3 |
| Real-time surveillance and reporting | 78.3 | 39.1 | Cross-border agreements on public and animal health emergency response | 100 | 54.4 |
| Epidemiology workforce | 50 | 42.3 | International commitments | 96.9 | 53.4 |
| Data integration between human/animal/environmental health sectors | 0 | 29.7 | JEE and PVS | 0 | 17.7 |
| RAPID RESPONSE | 52.2 | 38.4 | Financing | 50 | 36.4 |
| Emergency preparedness and response planning | 6.3 | 16.9 | Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| Exercising response plans | 50 | 16.2 | RISK ENVIRONMENT | 68.2 | 55.0 |
| Emergency response operation | 33.3 | 23.6 | Political and security risks | 78.6 | 60.4 |
| Linking public health and security authorities | 100 | 22.6 | Socio-economic resilience | 74.1 | 66.1 |
| Risk communication | 25 | 39.4 | Infrastructure adequacy | 75 | 49.0 |
| Access to communications infrastructure | 86 | 72.7 | Environmental risks | 47.7 | 52.9 |
| Trade and travel restrictions | 100 | 97.4 | Public health vulnerabilities | 62.3 | 46.9 |

*Average: all 195 countries

Scores are normalized (0–100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



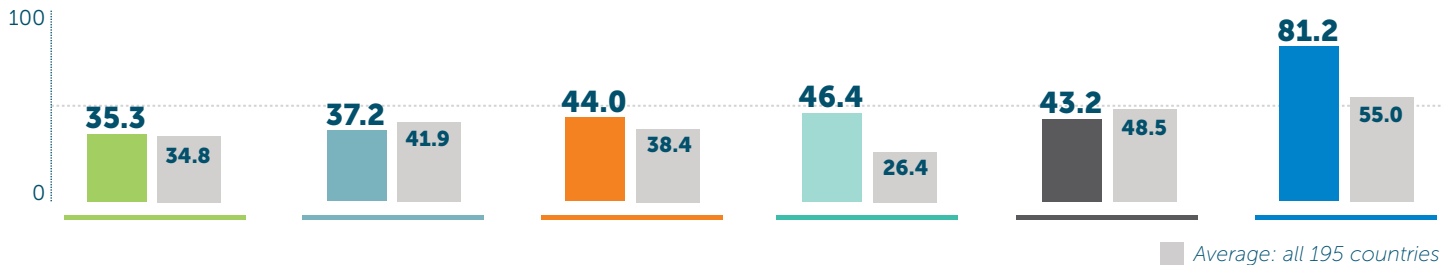
HEALTH



NORMS



RISK



| | COUNTRY SCORE | AVERAGE SCORE* | | COUNTRY SCORE | AVERAGE SCORE* |
|--|---------------|----------------|---|---------------|----------------|
| PREVENTION | 35.3 | 34.8 | HEALTH SYSTEM | 46.4 | 26.4 |
| Antimicrobial resistance (AMR) | 58.3 | 42.4 | Health capacity in clinics, hospitals and community care centers | 51.4 | 24.4 |
| Zoonotic disease | 42.6 | 27.1 | Medical countermeasures and personnel deployment | 33.3 | 21.2 |
| Biosecurity | 0 | 16.0 | Healthcare access | 44.5 | 38.4 |
| Biosafety | 0 | 22.8 | Communications with healthcare workers during a public health emergency | 50 | 15.1 |
| Dual-use research and culture of responsible science | 0 | 1.7 | Infection control practices and availability of equipment | 50 | 20.8 |
| Immunization | 93.9 | 85.0 | Capacity to test and approve new medical countermeasures | 50 | 42.2 |
| DETECTION AND REPORTING | 37.2 | 41.9 | COMPLIANCE WITH INTERNATIONAL NORMS | 43.2 | 48.5 |
| Laboratory systems | 66.7 | 54.4 | IHR reporting compliance and disaster risk reduction | 50 | 62.3 |
| Real-time surveillance and reporting | 50 | 39.1 | Cross-border agreements on public and animal health emergency response | 50 | 54.4 |
| Epidemiology workforce | 25 | 42.3 | International commitments | 81.3 | 53.4 |
| Data integration between human/animal/environmental health sectors | 0 | 29.7 | JEE and PVS | 25 | 17.7 |
| RAPID RESPONSE | 44.0 | 38.4 | Financing | 0 | 36.4 |
| Emergency preparedness and response planning | 12.5 | 16.9 | Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| Exercising response plans | 0 | 16.2 | RISK ENVIRONMENT | 81.2 | 55.0 |
| Emergency response operation | 33.3 | 23.6 | Political and security risks | 96.4 | 60.4 |
| Linking public health and security authorities | 0 | 22.6 | Socio-economic resilience | 89.4 | 66.1 |
| Risk communication | 75 | 39.4 | Infrastructure adequacy | 83.3 | 49.0 |
| Access to communications infrastructure | 98.5 | 72.7 | Environmental risks | 54.8 | 52.9 |
| Trade and travel restrictions | 100 | 97.4 | Public health vulnerabilities | 77.6 | 46.9 |

*Average: all 195 countries

Scores are normalized (0-100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



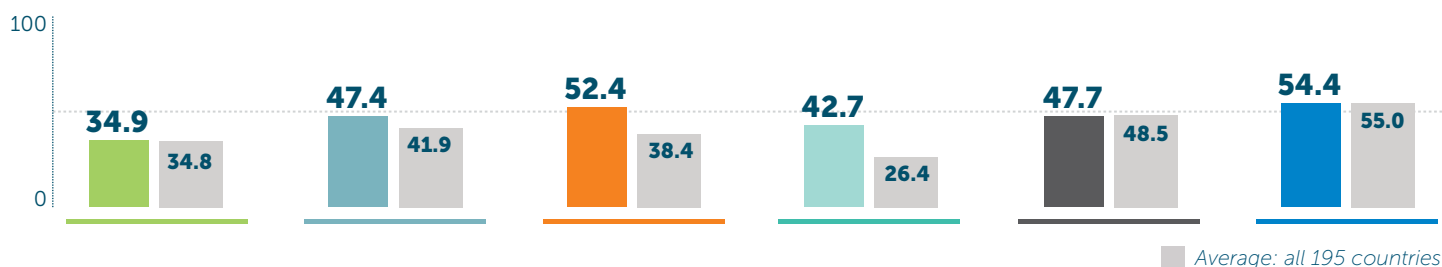
HEALTH



NORMS



RISK



■ Average: all 195 countries

| | COUNTRY SCORE | AVERAGE SCORE* | | COUNTRY SCORE | AVERAGE SCORE* |
|--|---------------|----------------|---|---------------|----------------|
| PREVENTION | 34.9 | 34.8 | HEALTH SYSTEM | 42.7 | 26.4 |
| Antimicrobial resistance (AMR) | 50 | 42.4 | Health capacity in clinics, hospitals and community care centers | 29.4 | 24.4 |
| Zoonotic disease | 27.8 | 27.1 | Medical countermeasures and personnel deployment | 0 | 21.2 |
| Biosecurity | 24 | 16.0 | Healthcare access | 29.6 | 38.4 |
| Biosafety | 0 | 22.8 | Communications with healthcare workers during a public health emergency | 100 | 15.1 |
| Dual-use research and culture of responsible science | 0 | 1.7 | Infection control practices and availability of equipment | 50 | 20.8 |
| Immunization | 92.1 | 85.0 | Capacity to test and approve new medical countermeasures | 50 | 42.2 |
| DETECTION AND REPORTING | 47.4 | 41.9 | COMPLIANCE WITH INTERNATIONAL NORMS | 47.7 | 48.5 |
| Laboratory systems | 83.3 | 54.4 | IHR reporting compliance and disaster risk reduction | 50 | 62.3 |
| Real-time surveillance and reporting | 48.3 | 39.1 | Cross-border agreements on public and animal health emergency response | 0 | 54.4 |
| Epidemiology workforce | 50 | 42.3 | International commitments | 100 | 53.4 |
| Data integration between human/animal/environmental health sectors | 0 | 29.7 | JEE and PVS | 25 | 17.7 |
| RAPID RESPONSE | 52.4 | 38.4 | Financing | 50 | 36.4 |
| Emergency preparedness and response planning | 12.5 | 16.9 | Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| Exercising response plans | 100 | 16.2 | RISK ENVIRONMENT | 54.4 | 55.0 |
| Emergency response operation | 33.3 | 23.6 | Political and security risks | 67.9 | 60.4 |
| Linking public health and security authorities | 0 | 22.6 | Socio-economic resilience | 77.7 | 66.1 |
| Risk communication | 75 | 39.4 | Infrastructure adequacy | 33.3 | 49.0 |
| Access to communications infrastructure | 54.3 | 72.7 | Environmental risks | 62.5 | 52.9 |
| Trade and travel restrictions | 100 | 97.4 | Public health vulnerabilities | 32.5 | 46.9 |

*Average: all 195 countries

Scores are normalized (0–100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



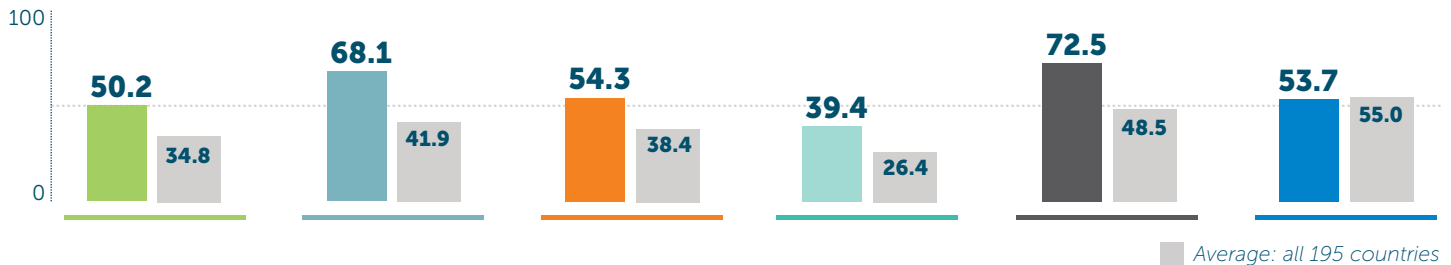
HEALTH



NORMS



RISK



■ Average: all 195 countries

| | COUNTRY SCORE | AVERAGE SCORE* | | COUNTRY SCORE | AVERAGE SCORE* |
|--|---------------|----------------|---|---------------|----------------|
| PREVENTION | 50.2 | 34.8 | HEALTH SYSTEM | 39.4 | 26.4 |
| Antimicrobial resistance (AMR) | 75 | 42.4 | Health capacity in clinics, hospitals and community care centers | 28.4 | 24.4 |
| Zoonotic disease | 60.3 | 27.1 | Medical countermeasures and personnel deployment | 66.7 | 21.2 |
| Biosecurity | 8 | 16.0 | Healthcare access | 47.7 | 38.4 |
| Biosafety | 50 | 22.8 | Communications with healthcare workers during a public health emergency | 50 | 15.1 |
| Dual-use research and culture of responsible science | 0 | 1.7 | Infection control practices and availability of equipment | 0 | 20.8 |
| Immunization | 92.1 | 85.0 | Capacity to test and approve new medical countermeasures | 50 | 42.2 |
| DETECTION AND REPORTING | 68.1 | 41.9 | COMPLIANCE WITH INTERNATIONAL NORMS | 72.5 | 48.5 |
| Laboratory systems | 91.7 | 54.4 | IHR reporting compliance and disaster risk reduction | 100 | 62.3 |
| Real-time surveillance and reporting | 36.7 | 39.1 | Cross-border agreements on public and animal health emergency response | 100 | 54.4 |
| Epidemiology workforce | 50 | 42.3 | International commitments | 78.1 | 53.4 |
| Data integration between human/animal/environmental health sectors | 100 | 29.7 | JEE and PVS | 25 | 17.7 |
| RAPID RESPONSE | 54.3 | 38.4 | Financing | 66.7 | 36.4 |
| Emergency preparedness and response planning | 12.5 | 16.9 | Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| Exercising response plans | 0 | 16.2 | RISK ENVIRONMENT | 53.7 | 55.0 |
| Emergency response operation | 33.3 | 23.6 | Political and security risks | 64.3 | 60.4 |
| Linking public health and security authorities | 100 | 22.6 | Socio-economic resilience | 77.9 | 66.1 |
| Risk communication | 75 | 39.4 | Infrastructure adequacy | 41.7 | 49.0 |
| Access to communications infrastructure | 78.7 | 72.7 | Environmental risks | 46.2 | 52.9 |
| Trade and travel restrictions | 100 | 97.4 | Public health vulnerabilities | 38.7 | 46.9 |

*Average: all 195 countries

Scores are normalized (0-100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



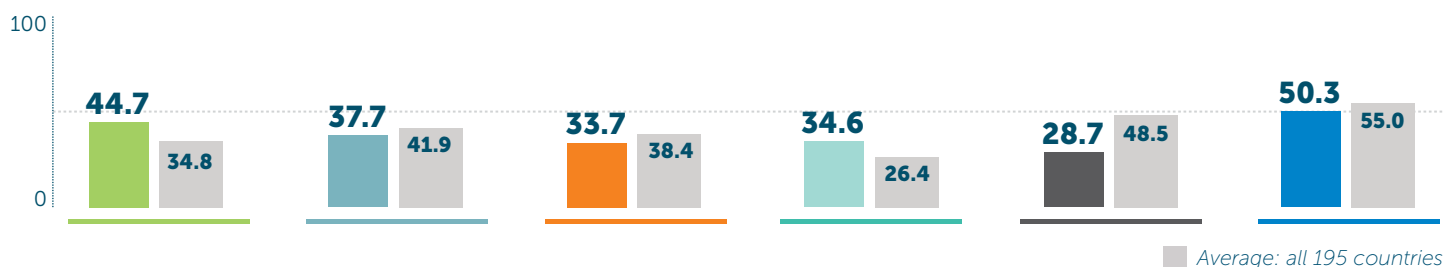
HEALTH



NORMS



RISK



■ Average: all 195 countries

| | COUNTRY SCORE | AVERAGE SCORE* |
|---|---------------|----------------|
| PREVENTION | 44.7 | 34.8 |
| Antimicrobial resistance (AMR) | 58.3 | 42.4 |
| Zoonotic disease | 21.7 | 27.1 |
| Biosecurity | 24 | 16.0 |
| Biosafety | 50 | 22.8 |
| Dual-use research and culture of responsible science | 0 | 1.7 |
| Immunization | 100 | 85.0 |
| DETECTION AND REPORTING | 37.7 | 41.9 |
| Laboratory systems | 66.7 | 54.4 |
| Real-time surveillance and reporting | 28.3 | 39.1 |
| Epidemiology workforce | 50 | 42.3 |
| Data integration between human/ animal/environmental health sectors | 0 | 29.7 |
| RAPID RESPONSE | 33.7 | 38.4 |
| Emergency preparedness and response planning | 0 | 16.9 |
| Exercising response plans | 50 | 16.2 |
| Emergency response operation | 33.3 | 23.6 |
| Linking public health and security authorities | 0 | 22.6 |
| Risk communication | 0 | 39.4 |
| Access to communications infrastructure | 83.1 | 72.7 |
| Trade and travel restrictions | 100 | 97.4 |

| | COUNTRY SCORE | AVERAGE SCORE* |
|---|---------------|----------------|
| HEALTH SYSTEM | 34.6 | 26.4 |
| Health capacity in clinics, hospitals and community care centers | 32 | 24.4 |
| Medical countermeasures and personnel deployment | 0 | 21.2 |
| Healthcare access | 45.5 | 38.4 |
| Communications with healthcare workers during a public health emergency | 50 | 15.1 |
| Infection control practices and availability of equipment | 50 | 20.8 |
| Capacity to test and approve new medical countermeasures | 25 | 42.2 |
| COMPLIANCE WITH INTERNATIONAL NORMS | 28.7 | 48.5 |
| IHR reporting compliance and disaster risk reduction | 50 | 62.3 |
| Cross-border agreements on public and animal health emergency response | 0 | 54.4 |
| International commitments | 37.5 | 53.4 |
| JEE and PVS | 0 | 17.7 |
| Financing | 16.7 | 36.4 |
| Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| RISK ENVIRONMENT | 50.3 | 55.0 |
| Political and security risks | 35.7 | 60.4 |
| Socio-economic resilience | 75.7 | 66.1 |
| Infrastructure adequacy | 41.7 | 49.0 |
| Environmental risks | 45.3 | 52.9 |
| Public health vulnerabilities | 55.4 | 46.9 |

*Average: all 195 countries

Scores are normalized (0–100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



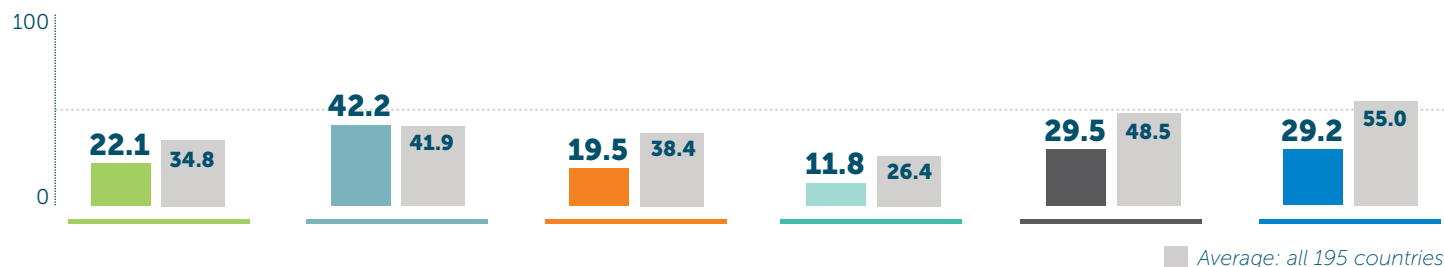
HEALTH



NORMS



RISK



■ Average: all 195 countries

| | COUNTRY SCORE | AVERAGE SCORE* | | COUNTRY SCORE | AVERAGE SCORE* |
|--|---------------|----------------|---|---------------|----------------|
| PREVENTION | 22.1 | 34.8 | HEALTH SYSTEM | 11.8 | 26.4 |
| Antimicrobial resistance (AMR) | 8.3 | 42.4 | Health capacity in clinics, hospitals and community care centers | 5.6 | 24.4 |
| Zoonotic disease | 20.4 | 27.1 | Medical countermeasures and personnel deployment | 0 | 21.2 |
| Biosecurity | 0 | 16.0 | Healthcare access | 41.9 | 38.4 |
| Biosafety | 0 | 22.8 | Communications with healthcare workers during a public health emergency | 0 | 15.1 |
| Dual-use research and culture of responsible science | 0 | 1.7 | Infection control practices and availability of equipment | 0 | 20.8 |
| Immunization | 87.7 | 85.0 | Capacity to test and approve new medical countermeasures | 25 | 42.2 |
| DETECTION AND REPORTING | 42.2 | 41.9 | COMPLIANCE WITH INTERNATIONAL NORMS | 29.5 | 48.5 |
| Laboratory systems | 16.7 | 54.4 | IHR reporting compliance and disaster risk reduction | 50 | 62.3 |
| Real-time surveillance and reporting | 36.7 | 39.1 | Cross-border agreements on public and animal health emergency response | 0 | 54.4 |
| Epidemiology workforce | 25 | 42.3 | International commitments | 43.8 | 53.4 |
| Data integration between human/animal/environmental health sectors | 100 | 29.7 | JEE and PVS | 0 | 17.7 |
| RAPID RESPONSE | 19.5 | 38.4 | Financing | 16.7 | 36.4 |
| Emergency preparedness and response planning | 0 | 16.9 | Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| Exercising response plans | 0 | 16.2 | RISK ENVIRONMENT | 29.2 | 55.0 |
| Emergency response operation | 0 | 23.6 | Political and security risks | 7.1 | 60.4 |
| Linking public health and security authorities | 0 | 22.6 | Socio-economic resilience | 53.6 | 66.1 |
| Risk communication | 0 | 39.4 | Infrastructure adequacy | 8.3 | 49.0 |
| Access to communications infrastructure | 68.4 | 72.7 | Environmental risks | 38.6 | 52.9 |
| Trade and travel restrictions | 100 | 97.4 | Public health vulnerabilities | 42.6 | 46.9 |

*Average: all 195 countries

Scores are normalized (0–100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



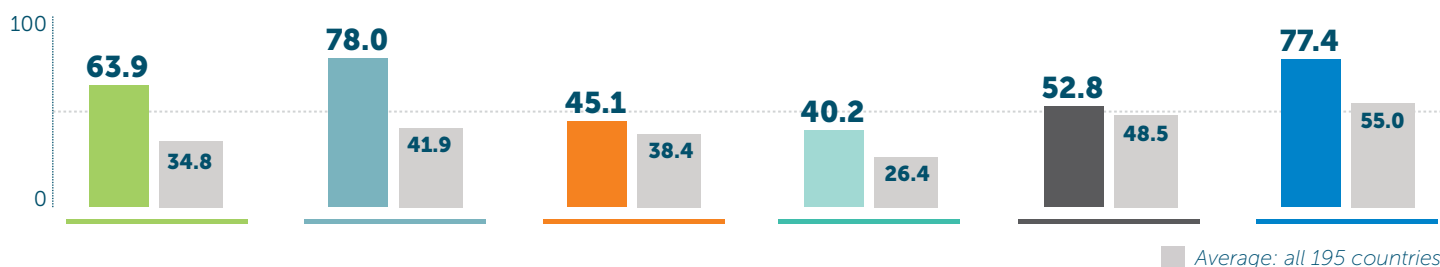
HEALTH



NORMS



RISK



■ Average: all 195 countries

| | COUNTRY SCORE | AVERAGE SCORE* | | COUNTRY SCORE | AVERAGE SCORE* |
|--|---------------|----------------|---|---------------|----------------|
| PREVENTION | 63.9 | 34.8 | HEALTH SYSTEM | 40.2 | 26.4 |
| Antimicrobial resistance (AMR) | 100 | 42.4 | Health capacity in clinics, hospitals and community care centers | 63.2 | 24.4 |
| Zoonotic disease | 77 | 27.1 | Medical countermeasures and personnel deployment | 33.3 | 21.2 |
| Biosecurity | 48 | 16.0 | Healthcare access | 28.3 | 38.4 |
| Biosafety | 50 | 22.8 | Communications with healthcare workers during a public health emergency | 0 | 15.1 |
| Dual-use research and culture of responsible science | 0 | 1.7 | Infection control practices and availability of equipment | 50 | 20.8 |
| Immunization | 93.9 | 85.0 | Capacity to test and approve new medical countermeasures | 75 | 42.2 |
| DETECTION AND REPORTING | 78.0 | 41.9 | COMPLIANCE WITH INTERNATIONAL NORMS | 52.8 | 48.5 |
| Laboratory systems | 83.3 | 54.4 | IHR reporting compliance and disaster risk reduction | 50 | 62.3 |
| Real-time surveillance and reporting | 81.7 | 39.1 | Cross-border agreements on public and animal health emergency response | 100 | 54.4 |
| Epidemiology workforce | 50 | 42.3 | International commitments | 100 | 53.4 |
| Data integration between human/animal/environmental health sectors | 100 | 29.7 | JEE and PVS | 0 | 17.7 |
| RAPID RESPONSE | 45.1 | 38.4 | Financing | 16.7 | 36.4 |
| Emergency preparedness and response planning | 25 | 16.9 | Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| Exercising response plans | 0 | 16.2 | RISK ENVIRONMENT | 77.4 | 55.0 |
| Emergency response operation | 33.3 | 23.6 | Political and security risks | 78.6 | 60.4 |
| Linking public health and security authorities | 0 | 22.6 | Socio-economic resilience | 88.1 | 66.1 |
| Risk communication | 75 | 39.4 | Infrastructure adequacy | 75 | 49.0 |
| Access to communications infrastructure | 90.9 | 72.7 | Environmental risks | 67.9 | 52.9 |
| Trade and travel restrictions | 100 | 97.4 | Public health vulnerabilities | 76.7 | 46.9 |

*Average: all 195 countries

Scores are normalized (0–100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



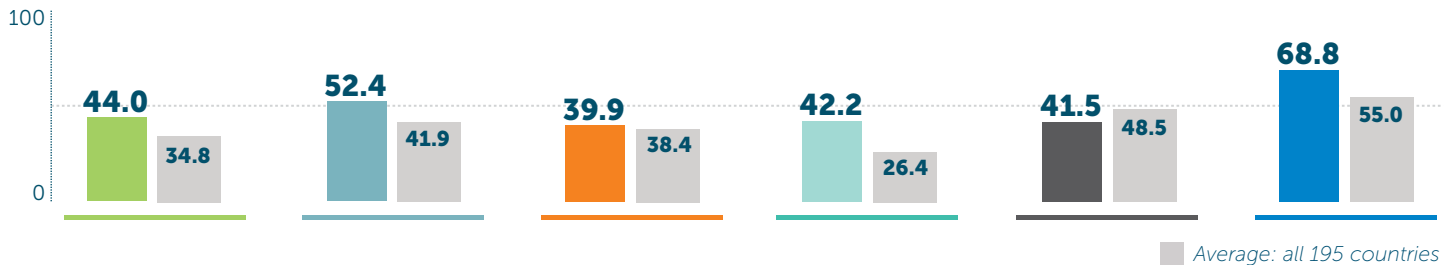
HEALTH



NORMS



RISK



■ Average: all 195 countries

| | COUNTRY SCORE | AVERAGE SCORE* | | COUNTRY SCORE | AVERAGE SCORE* |
|--|---------------|----------------|---|---------------|----------------|
| PREVENTION | 44.0 | 34.8 | HEALTH SYSTEM | 42.2 | 26.4 |
| Antimicrobial resistance (AMR) | 58.3 | 42.4 | Health capacity in clinics, hospitals and community care centers | 42.5 | 24.4 |
| Zoonotic disease | 34.2 | 27.1 | Medical countermeasures and personnel deployment | 66.7 | 21.2 |
| Biosecurity | 32 | 16.0 | Healthcare access | 45.2 | 38.4 |
| Biosafety | 25 | 22.8 | Communications with healthcare workers during a public health emergency | 0 | 15.1 |
| Dual-use research and culture of responsible science | 0 | 1.7 | Infection control practices and availability of equipment | 50 | 20.8 |
| Immunization | 99.1 | 85.0 | Capacity to test and approve new medical countermeasures | 50 | 42.2 |
| DETECTION AND REPORTING | 52.4 | 41.9 | COMPLIANCE WITH INTERNATIONAL NORMS | 41.5 | 48.5 |
| Laboratory systems | 83.3 | 54.4 | IHR reporting compliance and disaster risk reduction | 50 | 62.3 |
| Real-time surveillance and reporting | 66.7 | 39.1 | Cross-border agreements on public and animal health emergency response | 50 | 54.4 |
| Epidemiology workforce | 50 | 42.3 | International commitments | 68.8 | 53.4 |
| Data integration between human/animal/environmental health sectors | 0 | 29.7 | JEE and PVS | 25 | 17.7 |
| RAPID RESPONSE | 39.9 | 38.4 | Financing | 0 | 36.4 |
| Emergency preparedness and response planning | 0 | 16.9 | Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| Exercising response plans | 0 | 16.2 | RISK ENVIRONMENT | 68.8 | 55.0 |
| Emergency response operation | 0 | 23.6 | Political and security risks | 57.1 | 60.4 |
| Linking public health and security authorities | 100 | 22.6 | Socio-economic resilience | 88.3 | 66.1 |
| Risk communication | 25 | 39.4 | Infrastructure adequacy | 75 | 49.0 |
| Access to communications infrastructure | 95.1 | 72.7 | Environmental risks | 56.2 | 52.9 |
| Trade and travel restrictions | 100 | 97.4 | Public health vulnerabilities | 68.3 | 46.9 |

*Average: all 195 countries

Scores are normalized (0-100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



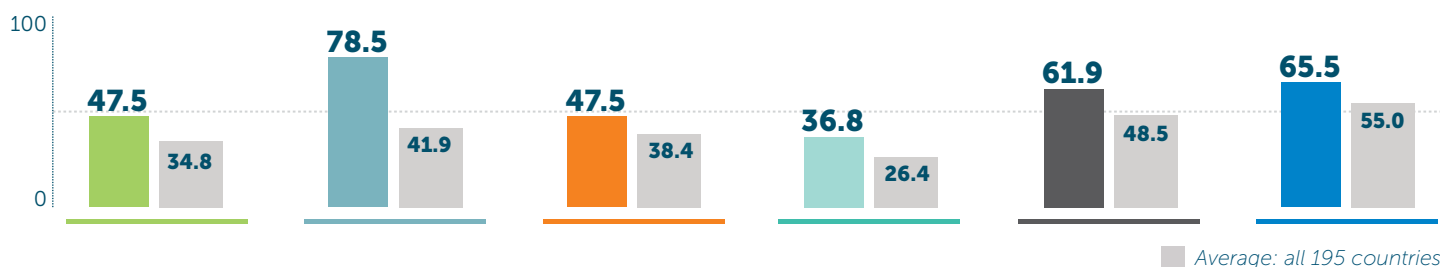
HEALTH



NORMS



RISK



■ Average: all 195 countries

| | COUNTRY SCORE | AVERAGE SCORE* | | COUNTRY SCORE | AVERAGE SCORE* |
|--|---------------|----------------|---|---------------|----------------|
| PREVENTION | 47.5 | 34.8 | HEALTH SYSTEM | 36.8 | 26.4 |
| Antimicrobial resistance (AMR) | 75 | 42.4 | Health capacity in clinics, hospitals and community care centers | 44.5 | 24.4 |
| Zoonotic disease | 29 | 27.1 | Medical countermeasures and personnel deployment | 33.3 | 21.2 |
| Biosecurity | 24 | 16.0 | Healthcare access | 44.3 | 38.4 |
| Biosafety | 50 | 22.8 | Communications with healthcare workers during a public health emergency | 0 | 15.1 |
| Dual-use research and culture of responsible science | 0 | 1.7 | Infection control practices and availability of equipment | 50 | 20.8 |
| Immunization | 93.9 | 85.0 | Capacity to test and approve new medical countermeasures | 50 | 42.2 |
| DETECTION AND REPORTING | 78.5 | 41.9 | COMPLIANCE WITH INTERNATIONAL NORMS | 61.9 | 48.5 |
| Laboratory systems | 83.3 | 54.4 | IHR reporting compliance and disaster risk reduction | 50 | 62.3 |
| Real-time surveillance and reporting | 83.3 | 39.1 | Cross-border agreements on public and animal health emergency response | 100 | 54.4 |
| Epidemiology workforce | 50 | 42.3 | International commitments | 100 | 53.4 |
| Data integration between human/animal/environmental health sectors | 100 | 29.7 | JEE and PVS | 0 | 17.7 |
| RAPID RESPONSE | 47.5 | 38.4 | Financing | 33.3 | 36.4 |
| Emergency preparedness and response planning | 18.8 | 16.9 | Commitment to sharing of genetic & biological data & specimens | 100 | 68.1 |
| Exercising response plans | 50 | 16.2 | RISK ENVIRONMENT | 65.5 | 55.0 |
| Emergency response operation | 0 | 23.6 | Political and security risks | 67.9 | 60.4 |
| Linking public health and security authorities | 100 | 22.6 | Socio-economic resilience | 67.8 | 66.1 |
| Risk communication | 25 | 39.4 | Infrastructure adequacy | 58.3 | 49.0 |
| Access to communications infrastructure | 77.5 | 72.7 | Environmental risks | 58.5 | 52.9 |
| Trade and travel restrictions | 100 | 97.4 | Public health vulnerabilities | 73.5 | 46.9 |

*Average: all 195 countries

Scores are normalized (0–100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



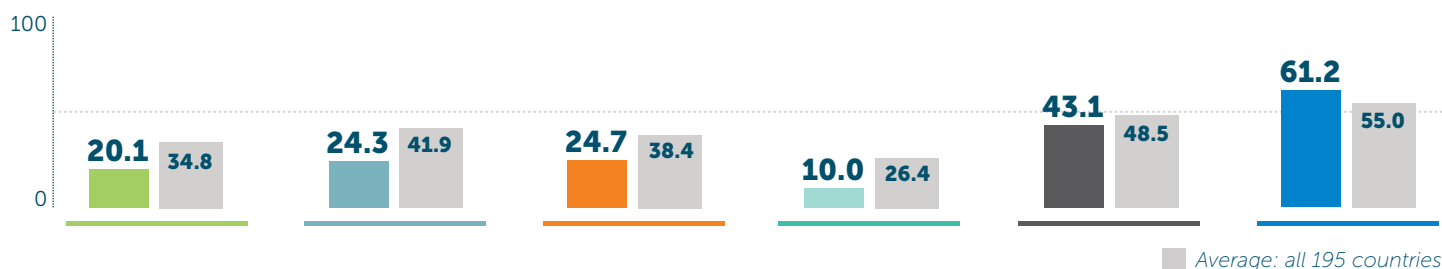
HEALTH



NORMS



RISK



■ Average: all 195 countries

| | COUNTRY SCORE | AVERAGE SCORE* | | COUNTRY SCORE | AVERAGE SCORE* |
|--|---------------|----------------|---|---------------|----------------|
| PREVENTION | 20.1 | 34.8 | HEALTH SYSTEM | 10.0 | 26.4 |
| Antimicrobial resistance (AMR) | 0 | 42.4 | Health capacity in clinics, hospitals and community care centers | 5.2 | 24.4 |
| Zoonotic disease | 7 | 27.1 | Medical countermeasures and personnel deployment | 0 | 21.2 |
| Biosecurity | 0 | 16.0 | Healthcare access | 32.3 | 38.4 |
| Biosafety | 0 | 22.8 | Communications with healthcare workers during a public health emergency | 0 | 15.1 |
| Dual-use research and culture of responsible science | 0 | 1.7 | Infection control practices and availability of equipment | 0 | 20.8 |
| Immunization | 96.5 | 85.0 | Capacity to test and approve new medical countermeasures | 25 | 42.2 |
| DETECTION AND REPORTING | 24.3 | 41.9 | COMPLIANCE WITH INTERNATIONAL NORMS | 43.1 | 48.5 |
| Laboratory systems | 50 | 54.4 | IHR reporting compliance and disaster risk reduction | 50 | 62.3 |
| Real-time surveillance and reporting | 18.3 | 39.1 | Cross-border agreements on public and animal health emergency response | 100 | 54.4 |
| Epidemiology workforce | 25 | 42.3 | International commitments | 28.1 | 53.4 |
| Data integration between human/animal/environmental health sectors | 0 | 29.7 | JEE and PVS | 0 | 17.7 |
| RAPID RESPONSE | 24.7 | 38.4 | Financing | 16.7 | 36.4 |
| Emergency preparedness and response planning | 0 | 16.9 | Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| Exercising response plans | 0 | 16.2 | RISK ENVIRONMENT | 61.2 | 55.0 |
| Emergency response operation | 0 | 23.6 | Political and security risks | 82.1 | 60.4 |
| Linking public health and security authorities | 0 | 22.6 | Socio-economic resilience | 77.4 | 66.1 |
| Risk communication | 25 | 39.4 | Infrastructure adequacy | 50 | 49.0 |
| Access to communications infrastructure | 74.6 | 72.7 | Environmental risks | 43.6 | 52.9 |
| Trade and travel restrictions | 100 | 97.4 | Public health vulnerabilities | 50.1 | 46.9 |

*Average: all 195 countries

Scores are normalized (0-100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



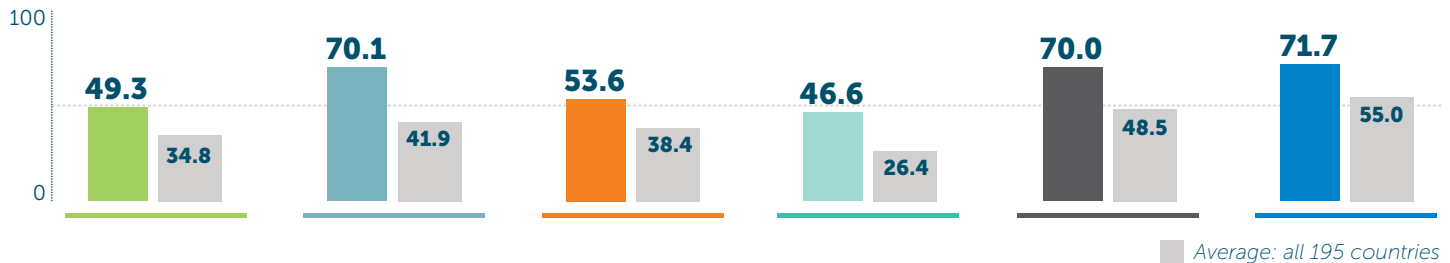
HEALTH



NORMS



RISK



Average: all 195 countries

| | COUNTRY SCORE | AVERAGE SCORE* |
|---|---------------|----------------|
| PREVENTION | 49.3 | 34.8 |
| Antimicrobial resistance (AMR) | 91.7 | 42.4 |
| Zoonotic disease | 28 | 27.1 |
| Biosecurity | 12 | 16.0 |
| Biosafety | 50 | 22.8 |
| Dual-use research and culture of responsible science | 0 | 1.7 |
| Immunization | 100 | 85.0 |
| DETECTION AND REPORTING | 70.1 | 41.9 |
| Laboratory systems | 66.7 | 54.4 |
| Real-time surveillance and reporting | 68.3 | 39.1 |
| Epidemiology workforce | 50 | 42.3 |
| Data integration between human/ animal/environmental health sectors | 100 | 29.7 |
| RAPID RESPONSE | 53.6 | 38.4 |
| Emergency preparedness and response planning | 37.5 | 16.9 |
| Exercising response plans | 0 | 16.2 |
| Emergency response operation | 0 | 23.6 |
| Linking public health and security authorities | 100 | 22.6 |
| Risk communication | 75 | 39.4 |
| Access to communications infrastructure | 86.7 | 72.7 |
| Trade and travel restrictions | 100 | 97.4 |

| | COUNTRY SCORE | AVERAGE SCORE* |
|---|---------------|----------------|
| HEALTH SYSTEM | 46.6 | 26.4 |
| Health capacity in clinics, hospitals and community care centers | 63.6 | 24.4 |
| Medical countermeasures and personnel deployment | 33.3 | 21.2 |
| Healthcare access | 45.6 | 38.4 |
| Communications with healthcare workers during a public health emergency | 0 | 15.1 |
| Infection control practices and availability of equipment | 50 | 20.8 |
| Capacity to test and approve new medical countermeasures | 100 | 42.2 |
| COMPLIANCE WITH INTERNATIONAL NORMS | 70.0 | 48.5 |
| IHR reporting compliance and disaster risk reduction | 50 | 62.3 |
| Cross-border agreements on public and animal health emergency response | 100 | 54.4 |
| International commitments | 100 | 53.4 |
| JEE and PVS | 50 | 17.7 |
| Financing | 33.3 | 36.4 |
| Commitment to sharing of genetic & biological data & specimens | 100 | 68.1 |
| RISK ENVIRONMENT | 71.7 | 55.0 |
| Political and security risks | 82.1 | 60.4 |
| Socio-economic resilience | 78.3 | 66.1 |
| Infrastructure adequacy | 75 | 49.0 |
| Environmental risks | 38.9 | 52.9 |
| Public health vulnerabilities | 79.2 | 46.9 |

*Average: all 195 countries

Scores are normalized (0–100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



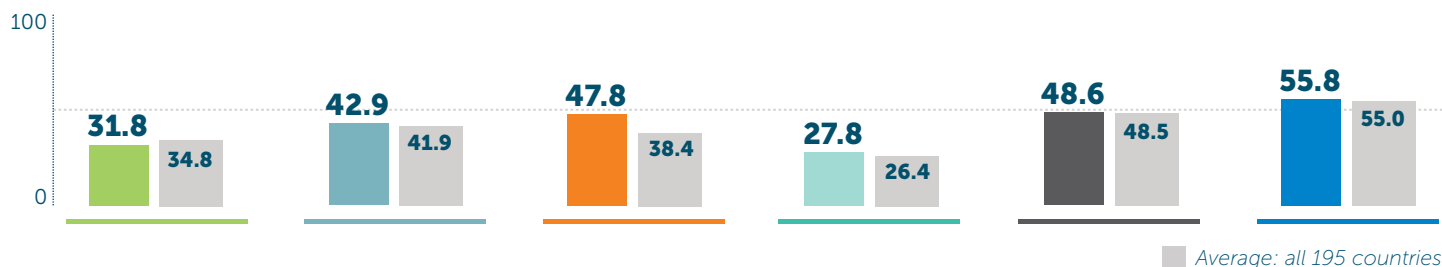
HEALTH



NORMS



RISK



■ Average: all 195 countries

| | COUNTRY SCORE | AVERAGE SCORE* | | COUNTRY SCORE | AVERAGE SCORE* |
|--|---------------|----------------|---|---------------|----------------|
| PREVENTION | 31.8 | 34.8 | HEALTH SYSTEM | 27.8 | 26.4 |
| Antimicrobial resistance (AMR) | 66.7 | 42.4 | Health capacity in clinics, hospitals and community care centers | 37.4 | 24.4 |
| Zoonotic disease | 14.5 | 27.1 | Medical countermeasures and personnel deployment | 0 | 21.2 |
| Biosecurity | 0 | 16.0 | Healthcare access | 32.3 | 38.4 |
| Biosafety | 0 | 22.8 | Communications with healthcare workers during a public health emergency | 0 | 15.1 |
| Dual-use research and culture of responsible science | 0 | 1.7 | Infection control practices and availability of equipment | 50 | 20.8 |
| Immunization | 94.7 | 85.0 | Capacity to test and approve new medical countermeasures | 50 | 42.2 |
| DETECTION AND REPORTING | 42.9 | 41.9 | COMPLIANCE WITH INTERNATIONAL NORMS | 48.6 | 48.5 |
| Laboratory systems | 50 | 54.4 | IHR reporting compliance and disaster risk reduction | 50 | 62.3 |
| Real-time surveillance and reporting | 16.7 | 39.1 | Cross-border agreements on public and animal health emergency response | 50 | 54.4 |
| Epidemiology workforce | 100 | 42.3 | International commitments | 96.9 | 53.4 |
| Data integration between human/animal/environmental health sectors | 0 | 29.7 | JEE and PVS | 25 | 17.7 |
| RAPID RESPONSE | 47.8 | 38.4 | Financing | 16.7 | 36.4 |
| Emergency preparedness and response planning | 12.5 | 16.9 | Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| Exercising response plans | 50 | 16.2 | RISK ENVIRONMENT | 55.8 | 55.0 |
| Emergency response operation | 0 | 23.6 | Political and security risks | 50 | 60.4 |
| Linking public health and security authorities | 0 | 22.6 | Socio-economic resilience | 68.9 | 66.1 |
| Risk communication | 100 | 39.4 | Infrastructure adequacy | 58.3 | 49.0 |
| Access to communications infrastructure | 82.8 | 72.7 | Environmental risks | 47.4 | 52.9 |
| Trade and travel restrictions | 100 | 97.4 | Public health vulnerabilities | 54.6 | 46.9 |

*Average: all 195 countries

Scores are normalized (0–100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



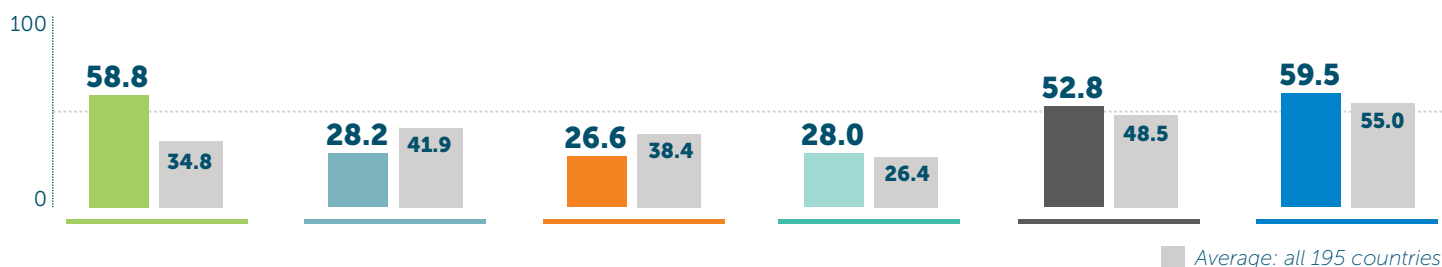
HEALTH



NORMS



RISK



■ Average: all 195 countries

| | COUNTRY SCORE | AVERAGE SCORE* | | COUNTRY SCORE | AVERAGE SCORE* |
|--|---------------|----------------|---|---------------|----------------|
| PREVENTION | 58.8 | 34.8 | HEALTH SYSTEM | 28.0 | 26.4 |
| Antimicrobial resistance (AMR) | 58.3 | 42.4 | Health capacity in clinics, hospitals and community care centers | 42.8 | 24.4 |
| Zoonotic disease | 59.1 | 27.1 | Medical countermeasures and personnel deployment | 33.3 | 21.2 |
| Biosecurity | 20 | 16.0 | Healthcare access | 47.7 | 38.4 |
| Biosafety | 100 | 22.8 | Communications with healthcare workers during a public health emergency | 0 | 15.1 |
| Dual-use research and culture of responsible science | 0 | 1.7 | Infection control practices and availability of equipment | 0 | 20.8 |
| Immunization | 100 | 85.0 | Capacity to test and approve new medical countermeasures | 50 | 42.2 |
| DETECTION AND REPORTING | 28.2 | 41.9 | COMPLIANCE WITH INTERNATIONAL NORMS | 52.8 | 48.5 |
| Laboratory systems | 16.7 | 54.4 | IHR reporting compliance and disaster risk reduction | 100 | 62.3 |
| Real-time surveillance and reporting | 65 | 39.1 | Cross-border agreements on public and animal health emergency response | 50 | 54.4 |
| Epidemiology workforce | 25 | 42.3 | International commitments | 93.8 | 53.4 |
| Data integration between human/animal/environmental health sectors | 0 | 29.7 | JEE and PVS | 0 | 17.7 |
| RAPID RESPONSE | 26.6 | 38.4 | Financing | 16.7 | 36.4 |
| Emergency preparedness and response planning | 25 | 16.9 | Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| Exercising response plans | 0 | 16.2 | RISK ENVIRONMENT | 59.5 | 55.0 |
| Emergency response operation | 0 | 23.6 | Political and security risks | 53.6 | 60.4 |
| Linking public health and security authorities | 0 | 22.6 | Socio-economic resilience | 66 | 66.1 |
| Risk communication | 0 | 39.4 | Infrastructure adequacy | 66.7 | 49.0 |
| Access to communications infrastructure | 94.5 | 72.7 | Environmental risks | 60.2 | 52.9 |
| Trade and travel restrictions | 100 | 97.4 | Public health vulnerabilities | 52.5 | 46.9 |

*Average: all 195 countries

Scores are normalized (0–100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



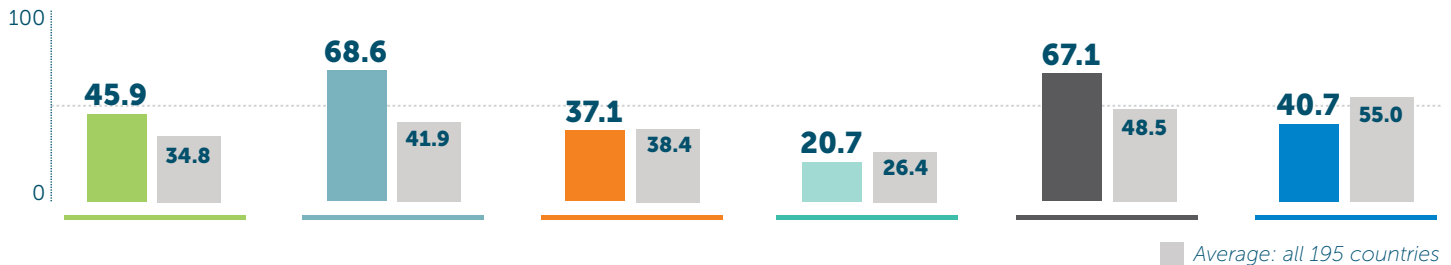
HEALTH



NORMS



RISK



■ Average: all 195 countries

| | COUNTRY SCORE | AVERAGE SCORE* | | COUNTRY SCORE | AVERAGE SCORE* |
|--|---------------|----------------|---|---------------|----------------|
| PREVENTION | 45.9 | 34.8 | HEALTH SYSTEM | 20.7 | 26.4 |
| Antimicrobial resistance (AMR) | 66.7 | 42.4 | Health capacity in clinics, hospitals and community care centers | 20.7 | 24.4 |
| Zoonotic disease | 54.6 | 27.1 | Medical countermeasures and personnel deployment | 0 | 21.2 |
| Biosecurity | 20 | 16.0 | Healthcare access | 42.7 | 38.4 |
| Biosafety | 50 | 22.8 | Communications with healthcare workers during a public health emergency | 0 | 15.1 |
| Dual-use research and culture of responsible science | 0 | 1.7 | Infection control practices and availability of equipment | 0 | 20.8 |
| Immunization | 72.8 | 85.0 | Capacity to test and approve new medical countermeasures | 75 | 42.2 |
| DETECTION AND REPORTING | 68.6 | 41.9 | COMPLIANCE WITH INTERNATIONAL NORMS | 67.1 | 48.5 |
| Laboratory systems | 83.3 | 54.4 | IHR reporting compliance and disaster risk reduction | 100 | 62.3 |
| Real-time surveillance and reporting | 80 | 39.1 | Cross-border agreements on public and animal health emergency response | 50 | 54.4 |
| Epidemiology workforce | 100 | 42.3 | International commitments | 90.6 | 53.4 |
| Data integration between human/animal/environmental health sectors | 0 | 29.7 | JEE and PVS | 50 | 17.7 |
| RAPID RESPONSE | 37.1 | 38.4 | Financing | 50 | 36.4 |
| Emergency preparedness and response planning | 12.5 | 16.9 | Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| Exercising response plans | 50 | 16.2 | RISK ENVIRONMENT | 40.7 | 55.0 |
| Emergency response operation | 33.3 | 23.6 | Political and security risks | 50 | 60.4 |
| Linking public health and security authorities | 0 | 22.6 | Socio-economic resilience | 55.8 | 66.1 |
| Risk communication | 25 | 39.4 | Infrastructure adequacy | 8.3 | 49.0 |
| Access to communications infrastructure | 58.5 | 72.7 | Environmental risks | 73 | 52.9 |
| Trade and travel restrictions | 100 | 97.4 | Public health vulnerabilities | 21.2 | 46.9 |

*Average: all 195 countries

Scores are normalized (0-100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



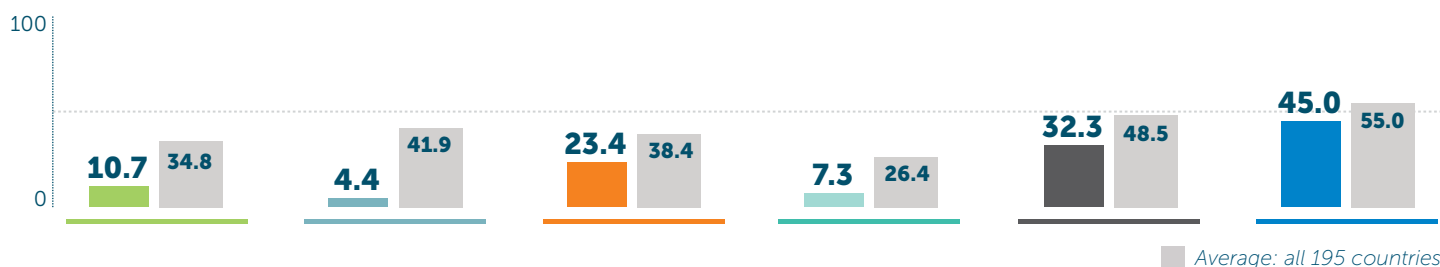
HEALTH



NORMS



RISK



■ Average: all 195 countries

| | COUNTRY SCORE | AVERAGE SCORE* | | COUNTRY SCORE | AVERAGE SCORE* |
|--|---------------|----------------|---|---------------|----------------|
| PREVENTION | 10.7 | 34.8 | HEALTH SYSTEM | 7.3 | 26.4 |
| Antimicrobial resistance (AMR) | 25 | 42.4 | Health capacity in clinics, hospitals and community care centers | 7.4 | 24.4 |
| Zoonotic disease | 0 | 27.1 | Medical countermeasures and personnel deployment | 0 | 21.2 |
| Biosecurity | 0 | 16.0 | Healthcare access | 33 | 38.4 |
| Biosafety | 0 | 22.8 | Communications with healthcare workers during a public health emergency | 0 | 15.1 |
| Dual-use research and culture of responsible science | 0 | 1.7 | Infection control practices and availability of equipment | 0 | 20.8 |
| Immunization | 34.2 | 85.0 | Capacity to test and approve new medical countermeasures | 0 | 42.2 |
| DETECTION AND REPORTING | 4.4 | 41.9 | COMPLIANCE WITH INTERNATIONAL NORMS | 32.3 | 48.5 |
| Laboratory systems | 16.7 | 54.4 | IHR reporting compliance and disaster risk reduction | 50 | 62.3 |
| Real-time surveillance and reporting | 0 | 39.1 | Cross-border agreements on public and animal health emergency response | 0 | 54.4 |
| Epidemiology workforce | 0 | 42.3 | International commitments | 15.6 | 53.4 |
| Data integration between human/animal/environmental health sectors | 0 | 29.7 | JEE and PVS | 0 | 17.7 |
| RAPID RESPONSE | 23.4 | 38.4 | Financing | 50 | 36.4 |
| Emergency preparedness and response planning | 0 | 16.9 | Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| Exercising response plans | 0 | 16.2 | RISK ENVIRONMENT | 45.0 | 55.0 |
| Emergency response operation | 33.3 | 23.6 | Political and security risks | 85.7 | 60.4 |
| Linking public health and security authorities | 0 | 22.6 | Socio-economic resilience | 60.7 | 66.1 |
| Risk communication | 0 | 39.4 | Infrastructure adequacy | 16.7 | 49.0 |
| Access to communications infrastructure | 54.6 | 72.7 | Environmental risks | 36.7 | 52.9 |
| Trade and travel restrictions | 100 | 97.4 | Public health vulnerabilities | 21.9 | 46.9 |

*Average: all 195 countries

Scores are normalized (0–100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



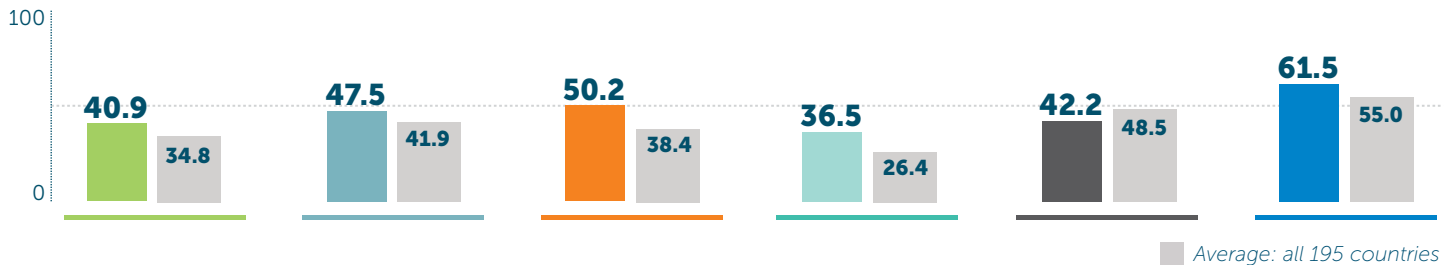
HEALTH



NORMS



RISK



Average: all 195 countries

| | COUNTRY SCORE | AVERAGE SCORE* | | COUNTRY SCORE | AVERAGE SCORE* |
|--|---------------|----------------|---|---------------|----------------|
| PREVENTION | 40.9 | 34.8 | HEALTH SYSTEM | 36.5 | 26.4 |
| Antimicrobial resistance (AMR) | 33.3 | 42.4 | Health capacity in clinics, hospitals and community care centers | 39.9 | 24.4 |
| Zoonotic disease | 40.9 | 27.1 | Medical countermeasures and personnel deployment | 33.3 | 21.2 |
| Biosecurity | 4 | 16.0 | Healthcare access | 46.6 | 38.4 |
| Biosafety | 50 | 22.8 | Communications with healthcare workers during a public health emergency | 0 | 15.1 |
| Dual-use research and culture of responsible science | 0 | 1.7 | Infection control practices and availability of equipment | 50 | 20.8 |
| Immunization | 100 | 85.0 | Capacity to test and approve new medical countermeasures | 50 | 42.2 |
| DETECTION AND REPORTING | 47.5 | 41.9 | COMPLIANCE WITH INTERNATIONAL NORMS | 42.2 | 48.5 |
| Laboratory systems | 75 | 54.4 | IHR reporting compliance and disaster risk reduction | 50 | 62.3 |
| Real-time surveillance and reporting | 23.3 | 39.1 | Cross-border agreements on public and animal health emergency response | 50 | 54.4 |
| Epidemiology workforce | 0 | 42.3 | International commitments | 25 | 53.4 |
| Data integration between human/animal/environmental health sectors | 100 | 29.7 | JEE and PVS | 25 | 17.7 |
| RAPID RESPONSE | 50.2 | 38.4 | Financing | 33.3 | 36.4 |
| Emergency preparedness and response planning | 6.3 | 16.9 | Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| Exercising response plans | 0 | 16.2 | RISK ENVIRONMENT | 61.5 | 55.0 |
| Emergency response operation | 33.3 | 23.6 | Political and security risks | 57.1 | 60.4 |
| Linking public health and security authorities | 100 | 22.6 | Socio-economic resilience | 73.1 | 66.1 |
| Risk communication | 75 | 39.4 | Infrastructure adequacy | 58.3 | 49.0 |
| Access to communications infrastructure | 98.7 | 72.7 | Environmental risks | 52.3 | 52.9 |
| Trade and travel restrictions | 50 | 97.4 | Public health vulnerabilities | 66.7 | 46.9 |

*Average: all 195 countries

Scores are normalized (0-100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



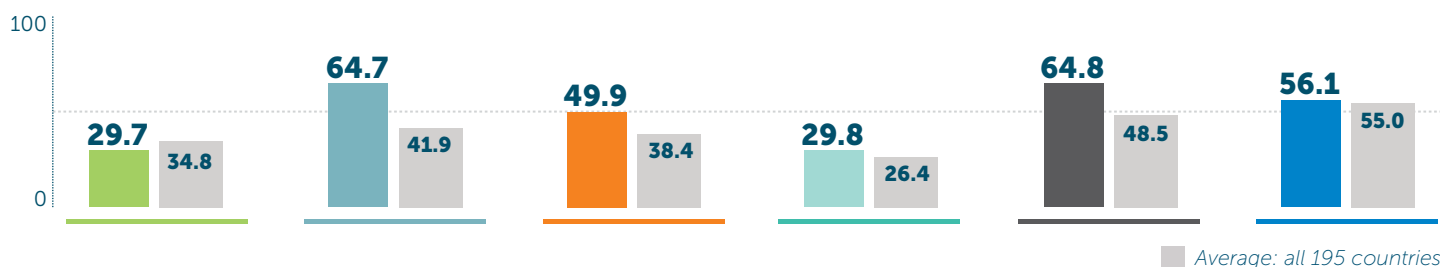
HEALTH



NORMS



RISK



■ Average: all 195 countries

| | COUNTRY SCORE | AVERAGE SCORE* | | COUNTRY SCORE | AVERAGE SCORE* |
|--|---------------|----------------|---|---------------|----------------|
| PREVENTION | 29.7 | 34.8 | HEALTH SYSTEM | 29.8 | 26.4 |
| Antimicrobial resistance (AMR) | 8.3 | 42.4 | Health capacity in clinics, hospitals and community care centers | 17.2 | 24.4 |
| Zoonotic disease | 35.3 | 27.1 | Medical countermeasures and personnel deployment | 33.3 | 21.2 |
| Biosecurity | 20 | 16.0 | Healthcare access | 48.7 | 38.4 |
| Biosafety | 0 | 22.8 | Communications with healthcare workers during a public health emergency | 0 | 15.1 |
| Dual-use research and culture of responsible science | 0 | 1.7 | Infection control practices and availability of equipment | 50 | 20.8 |
| Immunization | 96.5 | 85.0 | Capacity to test and approve new medical countermeasures | 25 | 42.2 |
| DETECTION AND REPORTING | 64.7 | 41.9 | COMPLIANCE WITH INTERNATIONAL NORMS | 64.8 | 48.5 |
| Laboratory systems | 66.7 | 54.4 | IHR reporting compliance and disaster risk reduction | 100 | 62.3 |
| Real-time surveillance and reporting | 48.3 | 39.1 | Cross-border agreements on public and animal health emergency response | 50 | 54.4 |
| Epidemiology workforce | 50 | 42.3 | International commitments | 43.8 | 53.4 |
| Data integration between human/animal/environmental health sectors | 100 | 29.7 | JEE and PVS | 75 | 17.7 |
| RAPID RESPONSE | 49.9 | 38.4 | Financing | 50 | 36.4 |
| Emergency preparedness and response planning | 25 | 16.9 | Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| Exercising response plans | 100 | 16.2 | RISK ENVIRONMENT | 56.1 | 55.0 |
| Emergency response operation | 0 | 23.6 | Political and security risks | 57.1 | 60.4 |
| Linking public health and security authorities | 0 | 22.6 | Socio-economic resilience | 70.8 | 66.1 |
| Risk communication | 100 | 39.4 | Infrastructure adequacy | 41.7 | 49.0 |
| Access to communications infrastructure | 73 | 72.7 | Environmental risks | 66.4 | 52.9 |
| Trade and travel restrictions | 50 | 97.4 | Public health vulnerabilities | 47.2 | 46.9 |

*Average: all 195 countries

Scores are normalized (0–100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



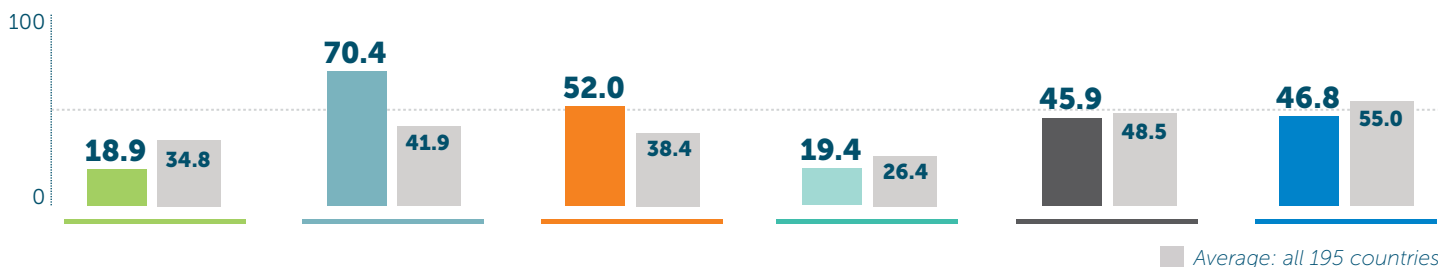
HEALTH



NORMS



RISK

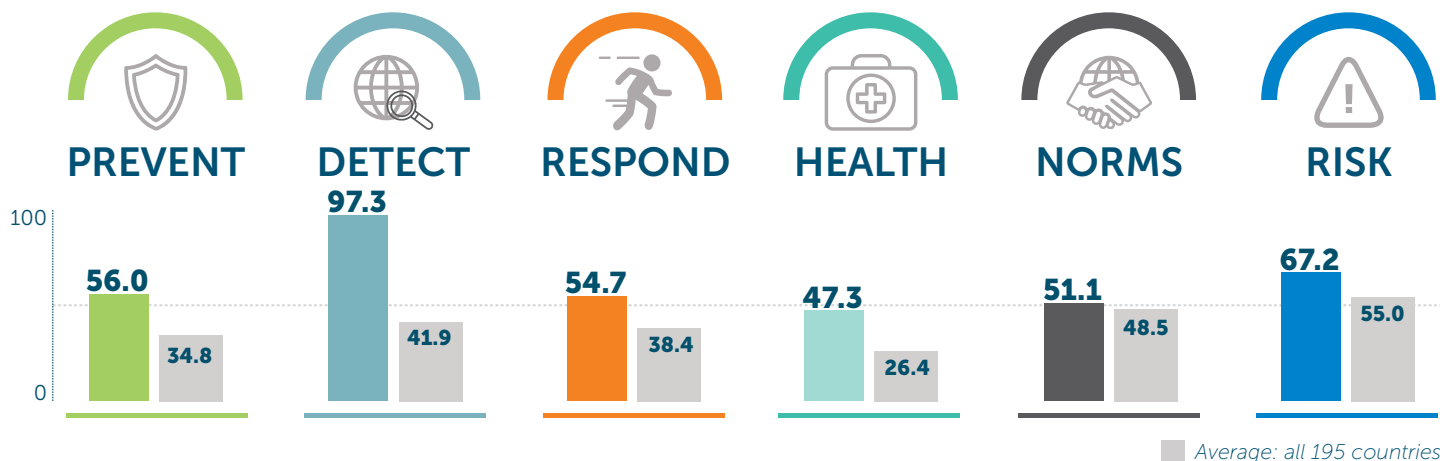


■ Average: all 195 countries

| | COUNTRY SCORE | AVERAGE SCORE* | | COUNTRY SCORE | AVERAGE SCORE* |
|--|---------------|----------------|---|---------------|----------------|
| PREVENTION | 18.9 | 34.8 | HEALTH SYSTEM | 19.4 | 26.4 |
| Antimicrobial resistance (AMR) | 0 | 42.4 | Health capacity in clinics, hospitals and community care centers | 21 | 24.4 |
| Zoonotic disease | 9 | 27.1 | Medical countermeasures and personnel deployment | 33.3 | 21.2 |
| Biosecurity | 4 | 16.0 | Healthcare access | 38.5 | 38.4 |
| Biosafety | 0 | 22.8 | Communications with healthcare workers during a public health emergency | 0 | 15.1 |
| Dual-use research and culture of responsible science | 0 | 1.7 | Infection control practices and availability of equipment | 0 | 20.8 |
| Immunization | 85.1 | 85.0 | Capacity to test and approve new medical countermeasures | 25 | 42.2 |
| DETECTION AND REPORTING | 70.4 | 41.9 | COMPLIANCE WITH INTERNATIONAL NORMS | 45.9 | 48.5 |
| Laboratory systems | 50 | 54.4 | IHR reporting compliance and disaster risk reduction | 50 | 62.3 |
| Real-time surveillance and reporting | 38.3 | 39.1 | Cross-border agreements on public and animal health emergency response | 50 | 54.4 |
| Epidemiology workforce | 100 | 42.3 | International commitments | 28.1 | 53.4 |
| Data integration between human/animal/environmental health sectors | 100 | 29.7 | JEE and PVS | 25 | 17.7 |
| RAPID RESPONSE | 52.0 | 38.4 | Financing | 50 | 36.4 |
| Emergency preparedness and response planning | 6.3 | 16.9 | Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| Exercising response plans | 100 | 16.2 | RISK ENVIRONMENT | 46.8 | 55.0 |
| Emergency response operation | 33.3 | 23.6 | Political and security risks | 57.1 | 60.4 |
| Linking public health and security authorities | 0 | 22.6 | Socio-economic resilience | 52.8 | 66.1 |
| Risk communication | 75 | 39.4 | Infrastructure adequacy | 33.3 | 49.0 |
| Access to communications infrastructure | 59.4 | 72.7 | Environmental risks | 58.4 | 52.9 |
| Trade and travel restrictions | 100 | 97.4 | Public health vulnerabilities | 33.9 | 46.9 |

*Average: all 195 countries

Scores are normalized (0–100, where 100 = most favorable)



| | COUNTRY SCORE | AVERAGE SCORE* | | COUNTRY SCORE | AVERAGE SCORE* |
|---|---------------|----------------|---|---------------|----------------|
| PREVENTION | 56.0 | 34.8 | HEALTH SYSTEM | 47.3 | 26.4 |
| Antimicrobial resistance (AMR) | 75 | 42.4 | Health capacity in clinics, hospitals and community care centers | 38.1 | 24.4 |
| Zoonotic disease | 51.1 | 27.1 | Medical countermeasures and personnel deployment | 33.3 | 21.2 |
| Biosecurity | 48 | 16.0 | Healthcare access | 44.9 | 38.4 |
| Biosafety | 50 | 22.8 | Communications with healthcare workers during a public health emergency | 50 | 15.1 |
| Dual-use research and culture of responsible science | 0 | 1.7 | Infection control practices and availability of equipment | 50 | 20.8 |
| Immunization | 97.4 | 85.0 | Capacity to test and approve new medical countermeasures | 75 | 42.2 |
| DETECTION AND REPORTING | 97.3 | 41.9 | COMPLIANCE WITH INTERNATIONAL NORMS | 51.1 | 48.5 |
| Laboratory systems | 100 | 54.4 | IHR reporting compliance and disaster risk reduction | 50 | 62.3 |
| Real-time surveillance and reporting | 90 | 39.1 | Cross-border agreements on public and animal health emergency response | 50 | 54.4 |
| Epidemiology workforce | 100 | 42.3 | International commitments | 96.9 | 53.4 |
| Data integration between human/ animal/environmental health sectors | 100 | 29.7 | JEE and PVS | 25 | 17.7 |
| RAPID RESPONSE | 54.7 | 38.4 | Financing | 0 | 36.4 |
| Emergency preparedness and response planning | 37.5 | 16.9 | Commitment to sharing of genetic & biological data & specimens | 100 | 68.1 |
| Exercising response plans | 0 | 16.2 | RISK ENVIRONMENT | 67.2 | 55.0 |
| Emergency response operation | 0 | 23.6 | Political and security risks | 67.9 | 60.4 |
| Linking public health and security authorities | 100 | 22.6 | Socio-economic resilience | 85.8 | 66.1 |
| Risk communication | 75 | 39.4 | Infrastructure adequacy | 66.7 | 49.0 |
| Access to communications infrastructure | 94.9 | 72.7 | Environmental risks | 57.5 | 52.9 |
| Trade and travel restrictions | 100 | 97.4 | Public health vulnerabilities | 58.5 | 46.9 |

*Average: all 195 countries

Scores are normalized (0–100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



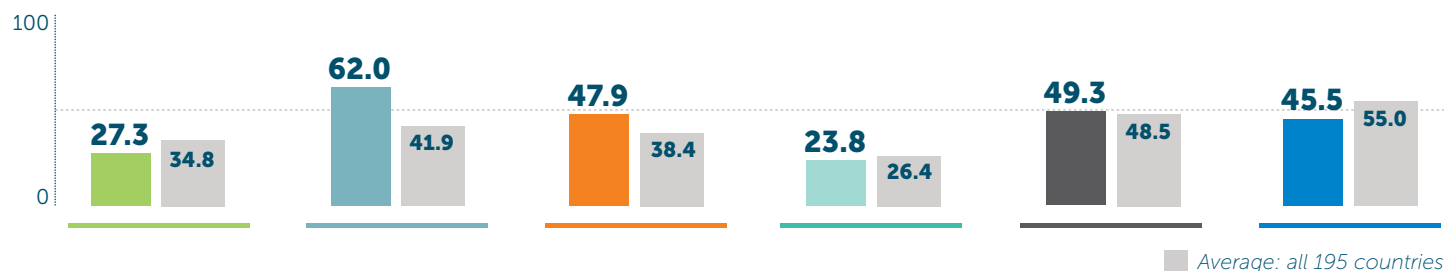
HEALTH



NORMS



RISK



■ Average: all 195 countries

| | COUNTRY SCORE | AVERAGE SCORE* | | COUNTRY SCORE | AVERAGE SCORE* |
|---|---------------|----------------|---|---------------|----------------|
| PREVENTION | 27.3 | 34.8 | HEALTH SYSTEM | 23.8 | 26.4 |
| Antimicrobial resistance (AMR) | 41.7 | 42.4 | Health capacity in clinics, hospitals and community care centers | 37.4 | 24.4 |
| Zoonotic disease | 13.8 | 27.1 | Medical countermeasures and personnel deployment | 33.3 | 21.2 |
| Biosecurity | 0 | 16.0 | Healthcare access | 30.4 | 38.4 |
| Biosafety | 0 | 22.8 | Communications with healthcare workers during a public health emergency | 0 | 15.1 |
| Dual-use research and culture of responsible science | 0 | 1.7 | Infection control practices and availability of equipment | 0 | 20.8 |
| Immunization | 93 | 85.0 | Capacity to test and approve new medical countermeasures | 50 | 42.2 |
| DETECTION AND REPORTING | 62.0 | 41.9 | COMPLIANCE WITH INTERNATIONAL NORMS | 49.3 | 48.5 |
| Laboratory systems | 66.7 | 54.4 | IHR reporting compliance and disaster risk reduction | 100 | 62.3 |
| Real-time surveillance and reporting | 61.7 | 39.1 | Cross-border agreements on public and animal health emergency response | 50 | 54.4 |
| Epidemiology workforce | 25 | 42.3 | International commitments | 37.5 | 53.4 |
| Data integration between human/ animal/environmental health sectors | 100 | 29.7 | JEE and PVS | 25 | 17.7 |
| RAPID RESPONSE | 47.9 | 38.4 | Financing | 16.7 | 36.4 |
| Emergency preparedness and response planning | 25 | 16.9 | Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| Exercising response plans | 0 | 16.2 | RISK ENVIRONMENT | 45.5 | 55.0 |
| Emergency response operation | 33.3 | 23.6 | Political and security risks | 14.3 | 60.4 |
| Linking public health and security authorities | 100 | 22.6 | Socio-economic resilience | 69.1 | 66.1 |
| Risk communication | 25 | 39.4 | Infrastructure adequacy | 33.3 | 49.0 |
| Access to communications infrastructure | 82.4 | 72.7 | Environmental risks | 56.8 | 52.9 |
| Trade and travel restrictions | 100 | 97.4 | Public health vulnerabilities | 59.5 | 46.9 |

*Average: all 195 countries

Scores are normalized (0–100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



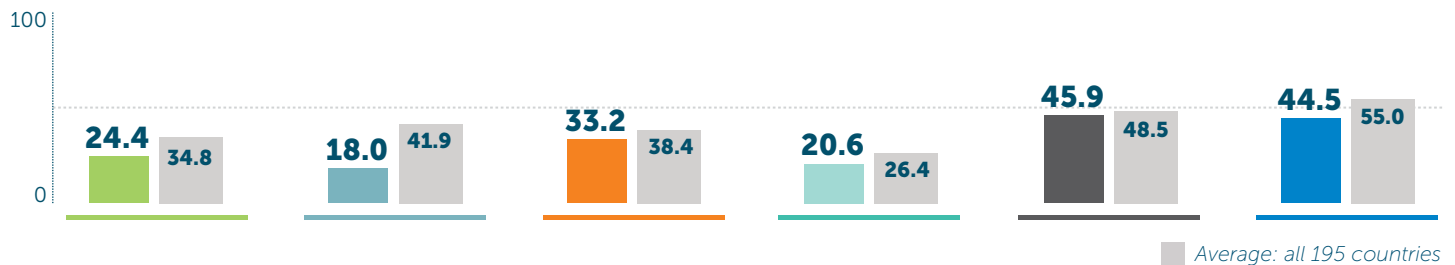
HEALTH



NORMS



RISK



■ Average: all 195 countries

| | COUNTRY SCORE | AVERAGE SCORE* | | COUNTRY SCORE | AVERAGE SCORE* |
|--|---------------|----------------|---|---------------|----------------|
| PREVENTION | 24.4 | 34.8 | HEALTH SYSTEM | 20.6 | 26.4 |
| Antimicrobial resistance (AMR) | 50 | 42.4 | Health capacity in clinics, hospitals and community care centers | 2.7 | 24.4 |
| Zoonotic disease | 4.4 | 27.1 | Medical countermeasures and personnel deployment | 33.3 | 21.2 |
| Biosecurity | 0 | 16.0 | Healthcare access | 28.9 | 38.4 |
| Biosafety | 0 | 22.8 | Communications with healthcare workers during a public health emergency | 0 | 15.1 |
| Dual-use research and culture of responsible science | 0 | 1.7 | Infection control practices and availability of equipment | 50 | 20.8 |
| Immunization | 79.8 | 85.0 | Capacity to test and approve new medical countermeasures | 0 | 42.2 |
| DETECTION AND REPORTING | 18.0 | 41.9 | COMPLIANCE WITH INTERNATIONAL NORMS | 45.9 | 48.5 |
| Laboratory systems | 41.7 | 54.4 | IHR reporting compliance and disaster risk reduction | 50 | 62.3 |
| Real-time surveillance and reporting | 26.7 | 39.1 | Cross-border agreements on public and animal health emergency response | 50 | 54.4 |
| Epidemiology workforce | 0 | 42.3 | International commitments | 28.1 | 53.4 |
| Data integration between human/animal/environmental health sectors | 0 | 29.7 | JEE and PVS | 25 | 17.7 |
| RAPID RESPONSE | 33.2 | 38.4 | Financing | 50 | 36.4 |
| Emergency preparedness and response planning | 0 | 16.9 | Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| Exercising response plans | 0 | 16.2 | RISK ENVIRONMENT | 44.5 | 55.0 |
| Emergency response operation | 0 | 23.6 | Political and security risks | 60.7 | 60.4 |
| Linking public health and security authorities | 100 | 22.6 | Socio-economic resilience | 45.1 | 66.1 |
| Risk communication | 0 | 39.4 | Infrastructure adequacy | 41.7 | 49.0 |
| Access to communications infrastructure | 77.1 | 72.7 | Environmental risks | 55.2 | 52.9 |
| Trade and travel restrictions | 100 | 97.4 | Public health vulnerabilities | 20.3 | 46.9 |

*Average: all 195 countries

Scores are normalized (0–100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



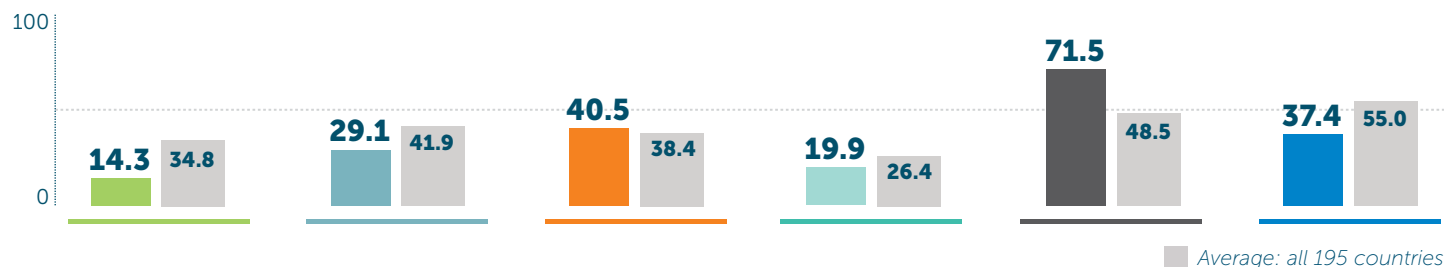
HEALTH



NORMS



RISK



■ Average: all 195 countries

| | COUNTRY SCORE | AVERAGE SCORE* | | COUNTRY SCORE | AVERAGE SCORE* |
|--|---------------|----------------|---|---------------|----------------|
| PREVENTION | 14.3 | 34.8 | HEALTH SYSTEM | 19.9 | 26.4 |
| Antimicrobial resistance (AMR) | 0 | 42.4 | Health capacity in clinics, hospitals and community care centers | 1.6 | 24.4 |
| Zoonotic disease | 33.3 | 27.1 | Medical countermeasures and personnel deployment | 33.3 | 21.2 |
| Biosecurity | 4 | 16.0 | Healthcare access | 25.7 | 38.4 |
| Biosafety | 0 | 22.8 | Communications with healthcare workers during a public health emergency | 0 | 15.1 |
| Dual-use research and culture of responsible science | 0 | 1.7 | Infection control practices and availability of equipment | 0 | 20.8 |
| Immunization | 39.5 | 85.0 | Capacity to test and approve new medical countermeasures | 75 | 42.2 |
| DETECTION AND REPORTING | 29.1 | 41.9 | COMPLIANCE WITH INTERNATIONAL NORMS | 71.5 | 48.5 |
| Laboratory systems | 16.7 | 54.4 | IHR reporting compliance and disaster risk reduction | 100 | 62.3 |
| Real-time surveillance and reporting | 45 | 39.1 | Cross-border agreements on public and animal health emergency response | 50 | 54.4 |
| Epidemiology workforce | 50 | 42.3 | International commitments | 75 | 53.4 |
| Data integration between human/animal/environmental health sectors | 0 | 29.7 | JEE and PVS | 50 | 17.7 |
| RAPID RESPONSE | 40.5 | 38.4 | Financing | 83.3 | 36.4 |
| Emergency preparedness and response planning | 25 | 16.9 | Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| Exercising response plans | 0 | 16.2 | RISK ENVIRONMENT | 37.4 | 55.0 |
| Emergency response operation | 33.3 | 23.6 | Political and security risks | 60.7 | 60.4 |
| Linking public health and security authorities | 0 | 22.6 | Socio-economic resilience | 43.8 | 66.1 |
| Risk communication | 75 | 39.4 | Infrastructure adequacy | 8.3 | 49.0 |
| Access to communications infrastructure | 53.4 | 72.7 | Environmental risks | 57.2 | 52.9 |
| Trade and travel restrictions | 100 | 97.4 | Public health vulnerabilities | 18.2 | 46.9 |

*Average: all 195 countries

Scores are normalized (0–100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



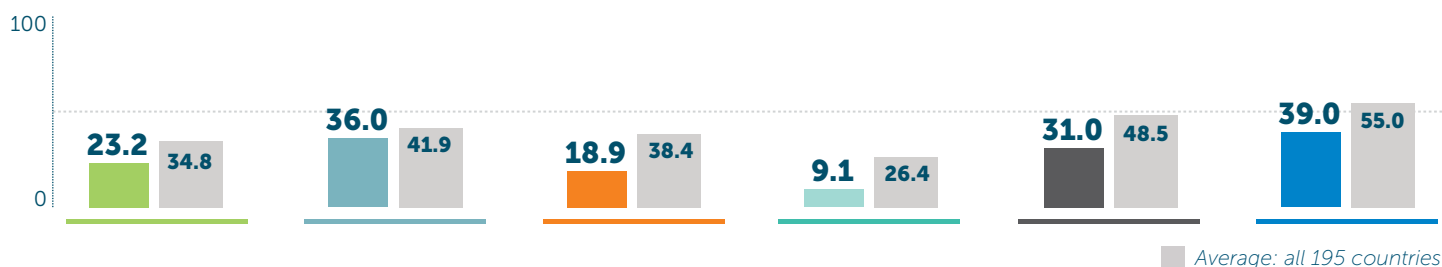
HEALTH



NORMS



RISK



■ Average: all 195 countries

| | COUNTRY SCORE | AVERAGE SCORE* | | COUNTRY SCORE | AVERAGE SCORE* |
|--|---------------|----------------|---|---------------|----------------|
| PREVENTION | 23.2 | 34.8 | HEALTH SYSTEM | 9.1 | 26.4 |
| Antimicrobial resistance (AMR) | 25 | 42.4 | Health capacity in clinics, hospitals and community care centers | 16.7 | 24.4 |
| Zoonotic disease | 1.6 | 27.1 | Medical countermeasures and personnel deployment | 0 | 21.2 |
| Biosecurity | 0 | 16.0 | Healthcare access | 16.6 | 38.4 |
| Biosafety | 0 | 22.8 | Communications with healthcare workers during a public health emergency | 0 | 15.1 |
| Dual-use research and culture of responsible science | 0 | 1.7 | Infection control practices and availability of equipment | 0 | 20.8 |
| Immunization | 96.5 | 85.0 | Capacity to test and approve new medical countermeasures | 25 | 42.2 |
| DETECTION AND REPORTING | 36.0 | 41.9 | COMPLIANCE WITH INTERNATIONAL NORMS | 31.0 | 48.5 |
| Laboratory systems | 50 | 54.4 | IHR reporting compliance and disaster risk reduction | 50 | 62.3 |
| Real-time surveillance and reporting | 5 | 39.1 | Cross-border agreements on public and animal health emergency response | 0 | 54.4 |
| Epidemiology workforce | 0 | 42.3 | International commitments | 25 | 53.4 |
| Data integration between human/animal/environmental health sectors | 100 | 29.7 | JEE and PVS | 25 | 17.7 |
| RAPID RESPONSE | 18.9 | 38.4 | Financing | 16.7 | 36.4 |
| Emergency preparedness and response planning | 0 | 16.9 | Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| Exercising response plans | 0 | 16.2 | RISK ENVIRONMENT | 39.0 | 55.0 |
| Emergency response operation | 0 | 23.6 | Political and security risks | 0 | 60.4 |
| Linking public health and security authorities | 0 | 22.6 | Socio-economic resilience | 65.2 | 66.1 |
| Risk communication | 0 | 39.4 | Infrastructure adequacy | 25 | 49.0 |
| Access to communications infrastructure | 63.6 | 72.7 | Environmental risks | 59.9 | 52.9 |
| Trade and travel restrictions | 100 | 97.4 | Public health vulnerabilities | 52.5 | 46.9 |

*Average: all 195 countries

Scores are normalized (0–100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



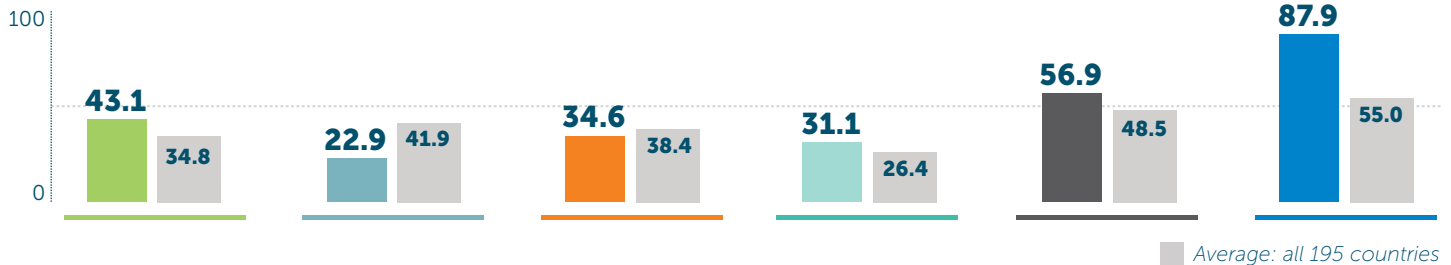
HEALTH



NORMS



RISK



■ Average: all 195 countries

| | COUNTRY SCORE | AVERAGE SCORE* | | COUNTRY SCORE | AVERAGE SCORE* |
|---|---------------|----------------|---|---------------|----------------|
| PREVENTION | 43.1 | 34.8 | HEALTH SYSTEM | 31.1 | 26.4 |
| Antimicrobial resistance (AMR) | 66.7 | 42.4 | Health capacity in clinics, hospitals and community care centers | 25.5 | 24.4 |
| Zoonotic disease | 35.2 | 27.1 | Medical countermeasures and personnel deployment | 0 | 21.2 |
| Biosecurity | 20 | 16.0 | Healthcare access | 44.6 | 38.4 |
| Biosafety | 25 | 22.8 | Communications with healthcare workers during a public health emergency | 0 | 15.1 |
| Dual-use research and culture of responsible science | 0 | 1.7 | Infection control practices and availability of equipment | 50 | 20.8 |
| Immunization | 96.5 | 85.0 | Capacity to test and approve new medical countermeasures | 75 | 42.2 |
| DETECTION AND REPORTING | 22.9 | 41.9 | COMPLIANCE WITH INTERNATIONAL NORMS | 56.9 | 48.5 |
| Laboratory systems | 16.7 | 54.4 | IHR reporting compliance and disaster risk reduction | 50 | 62.3 |
| Real-time surveillance and reporting | 21.7 | 39.1 | Cross-border agreements on public and animal health emergency response | 100 | 54.4 |
| Epidemiology workforce | 50 | 42.3 | International commitments | 100 | 53.4 |
| Data integration between human/ animal/environmental health sectors | 0 | 29.7 | JEE and PVS | 25 | 17.7 |
| RAPID RESPONSE | 34.6 | 38.4 | Financing | 16.7 | 36.4 |
| Emergency preparedness and response planning | 12.5 | 16.9 | Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| Exercising response plans | 0 | 16.2 | RISK ENVIRONMENT | 87.9 | 55.0 |
| Emergency response operation | 33.3 | 23.6 | Political and security risks | 92.9 | 60.4 |
| Linking public health and security authorities | 0 | 22.6 | Socio-economic resilience | 87 | 66.1 |
| Risk communication | 25 | 39.4 | Infrastructure adequacy | 100 | 49.0 |
| Access to communications infrastructure | 93.5 | 72.7 | Environmental risks | 84.9 | 52.9 |
| Trade and travel restrictions | 100 | 97.4 | Public health vulnerabilities | 74.1 | 46.9 |

*Average: all 195 countries

Scores are normalized (0–100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



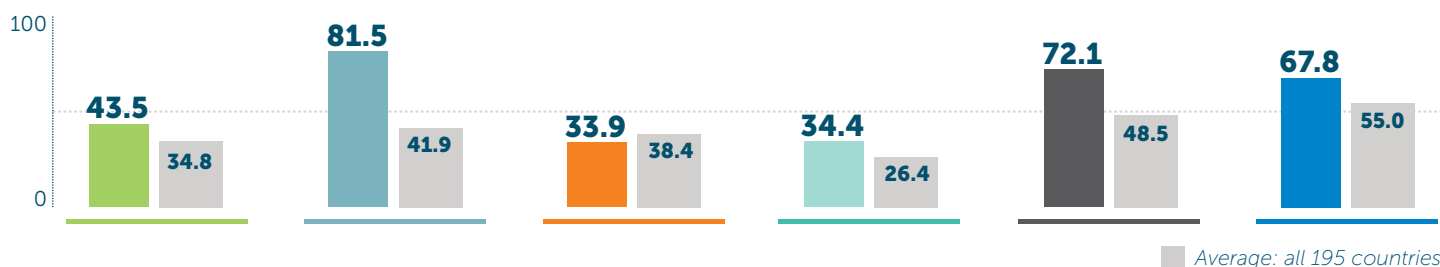
HEALTH



NORMS



RISK



■ Average: all 195 countries

| | COUNTRY SCORE | AVERAGE SCORE* | | COUNTRY SCORE | AVERAGE SCORE* |
|--|---------------|----------------|---|---------------|----------------|
| PREVENTION | 43.5 | 34.8 | HEALTH SYSTEM | 34.4 | 26.4 |
| Antimicrobial resistance (AMR) | 75 | 42.4 | Health capacity in clinics, hospitals and community care centers | 29.3 | 24.4 |
| Zoonotic disease | 31.6 | 27.1 | Medical countermeasures and personnel deployment | 33.3 | 21.2 |
| Biosecurity | 44 | 16.0 | Healthcare access | 45.4 | 38.4 |
| Biosafety | 0 | 22.8 | Communications with healthcare workers during a public health emergency | 0 | 15.1 |
| Dual-use research and culture of responsible science | 0 | 1.7 | Infection control practices and availability of equipment | 50 | 20.8 |
| Immunization | 95.6 | 85.0 | Capacity to test and approve new medical countermeasures | 50 | 42.2 |
| DETECTION AND REPORTING | 81.5 | 41.9 | COMPLIANCE WITH INTERNATIONAL NORMS | 72.1 | 48.5 |
| Laboratory systems | 100 | 54.4 | IHR reporting compliance and disaster risk reduction | 100 | 62.3 |
| Real-time surveillance and reporting | 78.3 | 39.1 | Cross-border agreements on public and animal health emergency response | 100 | 54.4 |
| Epidemiology workforce | 50 | 42.3 | International commitments | 100 | 53.4 |
| Data integration between human/animal/environmental health sectors | 100 | 29.7 | JEE and PVS | 25 | 17.7 |
| RAPID RESPONSE | 33.9 | 38.4 | Financing | 50 | 36.4 |
| Emergency preparedness and response planning | 37.5 | 16.9 | Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| Exercising response plans | 0 | 16.2 | RISK ENVIRONMENT | 67.8 | 55.0 |
| Emergency response operation | 33.3 | 23.6 | Political and security risks | 75 | 60.4 |
| Linking public health and security authorities | 0 | 22.6 | Socio-economic resilience | 87.6 | 66.1 |
| Risk communication | 0 | 39.4 | Infrastructure adequacy | 58.3 | 49.0 |
| Access to communications infrastructure | 92 | 72.7 | Environmental risks | 57.8 | 52.9 |
| Trade and travel restrictions | 100 | 97.4 | Public health vulnerabilities | 60 | 46.9 |

*Average: all 195 countries

Scores are normalized (0–100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



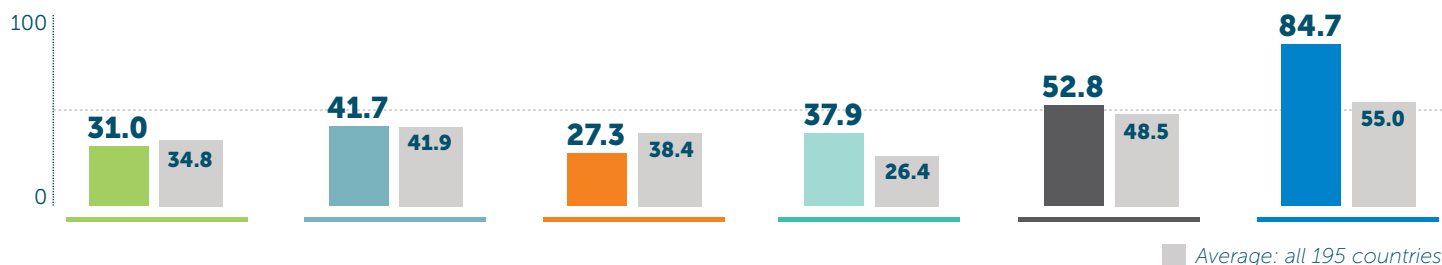
HEALTH



NORMS



RISK



■ Average: all 195 countries

| | COUNTRY SCORE | AVERAGE SCORE* |
|---|---------------|----------------|
| PREVENTION | 31.0 | 34.8 |
| Antimicrobial resistance (AMR) | 91.7 | 42.4 |
| Zoonotic disease | 0 | 27.1 |
| Biosecurity | 40 | 16.0 |
| Biosafety | 0 | 22.8 |
| Dual-use research and culture of responsible science | 0 | 1.7 |
| Immunization | 50 | 85.0 |
| DETECTION AND REPORTING | 41.7 | 41.9 |
| Laboratory systems | 66.7 | 54.4 |
| Real-time surveillance and reporting | 43.3 | 39.1 |
| Epidemiology workforce | 50 | 42.3 |
| Data integration between human/ animal/environmental health sectors | 0 | 29.7 |
| RAPID RESPONSE | 27.3 | 38.4 |
| Emergency preparedness and response planning | 0 | 16.9 |
| Exercising response plans | 0 | 16.2 |
| Emergency response operation | 0 | 23.6 |
| Linking public health and security authorities | 0 | 22.6 |
| Risk communication | 25 | 39.4 |
| Access to communications infrastructure | 96.3 | 72.7 |
| Trade and travel restrictions | 100 | 97.4 |

| | COUNTRY SCORE | AVERAGE SCORE* |
|---|---------------|----------------|
| HEALTH SYSTEM | 37.9 | 26.4 |
| Health capacity in clinics, hospitals and community care centers | 50 | 24.4 |
| Medical countermeasures and personnel deployment | 33.3 | 21.2 |
| Healthcare access | 44.9 | 38.4 |
| Communications with healthcare workers during a public health emergency | 0 | 15.1 |
| Infection control practices and availability of equipment | 50 | 20.8 |
| Capacity to test and approve new medical countermeasures | 50 | 42.2 |
| COMPLIANCE WITH INTERNATIONAL NORMS | 52.8 | 48.5 |
| IHR reporting compliance and disaster risk reduction | 50 | 62.3 |
| Cross-border agreements on public and animal health emergency response | 100 | 54.4 |
| International commitments | 100 | 53.4 |
| JEE and PVS | 0 | 17.7 |
| Financing | 16.7 | 36.4 |
| Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| RISK ENVIRONMENT | 84.7 | 55.0 |
| Political and security risks | 89.3 | 60.4 |
| Socio-economic resilience | 99.2 | 66.1 |
| Infrastructure adequacy | 91.7 | 49.0 |
| Environmental risks | 55.8 | 52.9 |
| Public health vulnerabilities | 84.2 | 46.9 |

*Average: all 195 countries

Scores are normalized (0-100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



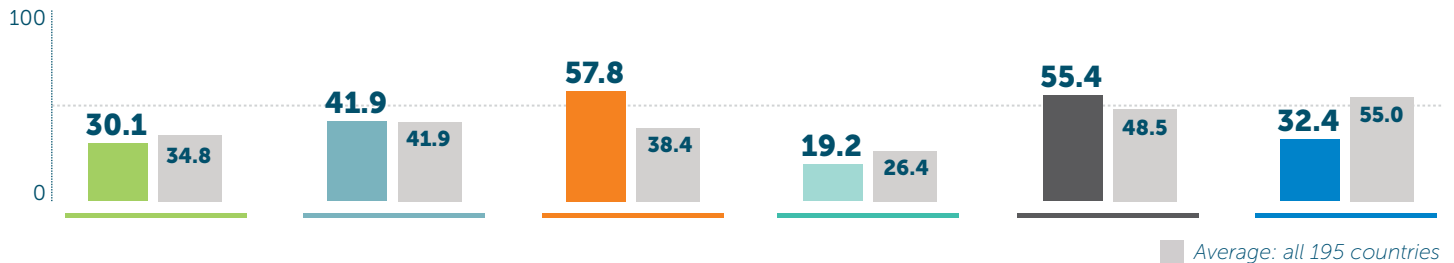
HEALTH



NORMS



RISK



| | COUNTRY SCORE | AVERAGE SCORE* |
|--|---------------|----------------|
| PREVENTION | 30.1 | 34.8 |
| Antimicrobial resistance (AMR) | 33.3 | 42.4 |
| Zoonotic disease | 40.9 | 27.1 |
| Biosecurity | 4 | 16.0 |
| Biosafety | 0 | 22.8 |
| Dual-use research and culture of responsible science | 0 | 1.7 |
| Immunization | 86 | 85.0 |
| DETECTION AND REPORTING | 41.9 | 41.9 |
| Laboratory systems | 41.7 | 54.4 |
| Real-time surveillance and reporting | 68.3 | 39.1 |
| Epidemiology workforce | 50 | 42.3 |
| Data integration between human/animal/environmental health sectors | 0 | 29.7 |
| RAPID RESPONSE | 57.8 | 38.4 |
| Emergency preparedness and response planning | 62.5 | 16.9 |
| Exercising response plans | 50 | 16.2 |
| Emergency response operation | 33.3 | 23.6 |
| Linking public health and security authorities | 0 | 22.6 |
| Risk communication | 100 | 39.4 |
| Access to communications infrastructure | 53.8 | 72.7 |
| Trade and travel restrictions | 100 | 97.4 |

| | COUNTRY SCORE | AVERAGE SCORE* |
|---|---------------|----------------|
| HEALTH SYSTEM | 19.2 | 26.4 |
| Health capacity in clinics, hospitals and community care centers | 0.6 | 24.4 |
| Medical countermeasures and personnel deployment | 33.3 | 21.2 |
| Healthcare access | 39.6 | 38.4 |
| Communications with healthcare workers during a public health emergency | 0 | 15.1 |
| Infection control practices and availability of equipment | 0 | 20.8 |
| Capacity to test and approve new medical countermeasures | 50 | 42.2 |
| COMPLIANCE WITH INTERNATIONAL NORMS | 55.4 | 48.5 |
| IHR reporting compliance and disaster risk reduction | 50 | 62.3 |
| Cross-border agreements on public and animal health emergency response | 100 | 54.4 |
| International commitments | 40.6 | 53.4 |
| JEE and PVS | 25 | 17.7 |
| Financing | 50 | 36.4 |
| Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| RISK ENVIRONMENT | 32.4 | 55.0 |
| Political and security risks | 60.7 | 60.4 |
| Socio-economic resilience | 28.6 | 66.1 |
| Infrastructure adequacy | 16.7 | 49.0 |
| Environmental risks | 42.1 | 52.9 |
| Public health vulnerabilities | 12.9 | 46.9 |

*Average: all 195 countries

Scores are normalized (0–100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



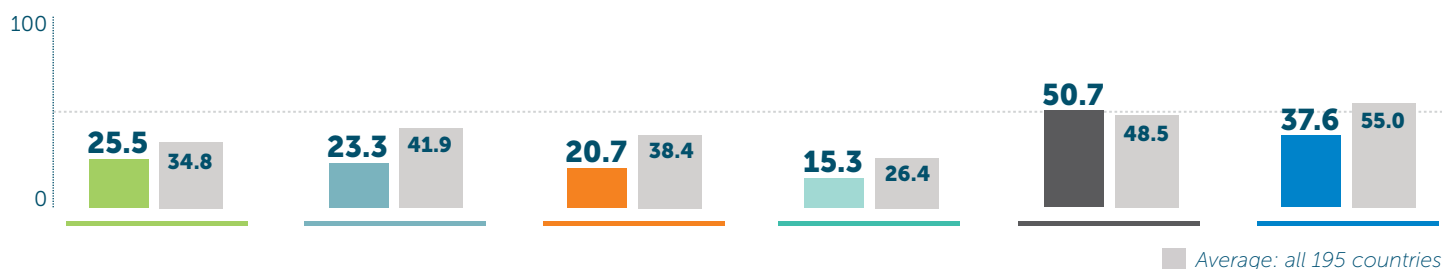
HEALTH



NORMS



RISK



■ Average: all 195 countries

| | COUNTRY SCORE | AVERAGE SCORE* | | COUNTRY SCORE | AVERAGE SCORE* |
|--|---------------|----------------|---|---------------|----------------|
| PREVENTION | 25.5 | 34.8 | HEALTH SYSTEM | 15.3 | 26.4 |
| Antimicrobial resistance (AMR) | 33.3 | 42.4 | Health capacity in clinics, hospitals and community care centers | 19 | 24.4 |
| Zoonotic disease | 0.8 | 27.1 | Medical countermeasures and personnel deployment | 0 | 21.2 |
| Biosecurity | 20 | 16.0 | Healthcare access | 31.4 | 38.4 |
| Biosafety | 0 | 22.8 | Communications with healthcare workers during a public health emergency | 0 | 15.1 |
| Dual-use research and culture of responsible science | 0 | 1.7 | Infection control practices and availability of equipment | 0 | 20.8 |
| Immunization | 86 | 85.0 | Capacity to test and approve new medical countermeasures | 50 | 42.2 |
| DETECTION AND REPORTING | 23.3 | 41.9 | COMPLIANCE WITH INTERNATIONAL NORMS | 50.7 | 48.5 |
| Laboratory systems | 16.7 | 54.4 | IHR reporting compliance and disaster risk reduction | 100 | 62.3 |
| Real-time surveillance and reporting | 23.3 | 39.1 | Cross-border agreements on public and animal health emergency response | 0 | 54.4 |
| Epidemiology workforce | 50 | 42.3 | International commitments | 87.5 | 53.4 |
| Data integration between human/animal/environmental health sectors | 0 | 29.7 | JEE and PVS | 0 | 17.7 |
| RAPID RESPONSE | 20.7 | 38.4 | Financing | 50 | 36.4 |
| Emergency preparedness and response planning | 0 | 16.9 | Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| Exercising response plans | 0 | 16.2 | RISK ENVIRONMENT | 37.6 | 55.0 |
| Emergency response operation | 0 | 23.6 | Political and security risks | 64.3 | 60.4 |
| Linking public health and security authorities | 0 | 22.6 | Socio-economic resilience | 28.5 | 66.1 |
| Risk communication | 25 | 39.4 | Infrastructure adequacy | 25 | 49.0 |
| Access to communications infrastructure | 41.7 | 72.7 | Environmental risks | 46.2 | 52.9 |
| Trade and travel restrictions | 100 | 97.4 | Public health vulnerabilities | 22.6 | 46.9 |

*Average: all 195 countries

Scores are normalized (0–100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



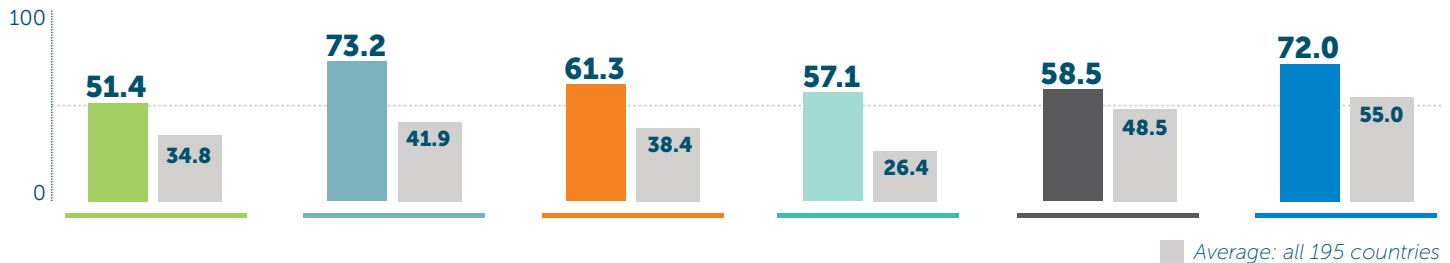
HEALTH



NORMS



RISK



■ Average: all 195 countries

| | COUNTRY SCORE | AVERAGE SCORE* | | COUNTRY SCORE | AVERAGE SCORE* |
|--|---------------|----------------|---|---------------|----------------|
| PREVENTION | 51.4 | 34.8 | HEALTH SYSTEM | 57.1 | 26.4 |
| Antimicrobial resistance (AMR) | 58.3 | 42.4 | Health capacity in clinics, hospitals and community care centers | 26.6 | 24.4 |
| Zoonotic disease | 47.2 | 27.1 | Medical countermeasures and personnel deployment | 33.3 | 21.2 |
| Biosecurity | 44 | 16.0 | Healthcare access | 30.4 | 38.4 |
| Biosafety | 50 | 22.8 | Communications with healthcare workers during a public health emergency | 100 | 15.1 |
| Dual-use research and culture of responsible science | 0 | 1.7 | Infection control practices and availability of equipment | 100 | 20.8 |
| Immunization | 94.7 | 85.0 | Capacity to test and approve new medical countermeasures | 50 | 42.2 |
| DETECTION AND REPORTING | 73.2 | 41.9 | COMPLIANCE WITH INTERNATIONAL NORMS | 58.5 | 48.5 |
| Laboratory systems | 66.7 | 54.4 | IHR reporting compliance and disaster risk reduction | 50 | 62.3 |
| Real-time surveillance and reporting | 80 | 39.1 | Cross-border agreements on public and animal health emergency response | 100 | 54.4 |
| Epidemiology workforce | 50 | 42.3 | International commitments | 93.8 | 53.4 |
| Data integration between human/animal/environmental health sectors | 100 | 29.7 | JEE and PVS | 0 | 17.7 |
| RAPID RESPONSE | 61.3 | 38.4 | Financing | 50 | 36.4 |
| Emergency preparedness and response planning | 12.5 | 16.9 | Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| Exercising response plans | 0 | 16.2 | RISK ENVIRONMENT | 72.0 | 55.0 |
| Emergency response operation | 66.7 | 23.6 | Political and security risks | 71.4 | 60.4 |
| Linking public health and security authorities | 100 | 22.6 | Socio-economic resilience | 92.1 | 66.1 |
| Risk communication | 75 | 39.4 | Infrastructure adequacy | 75 | 49.0 |
| Access to communications infrastructure | 90 | 72.7 | Environmental risks | 67.4 | 52.9 |
| Trade and travel restrictions | 100 | 97.4 | Public health vulnerabilities | 55.4 | 46.9 |

*Average: all 195 countries

Scores are normalized (0–100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



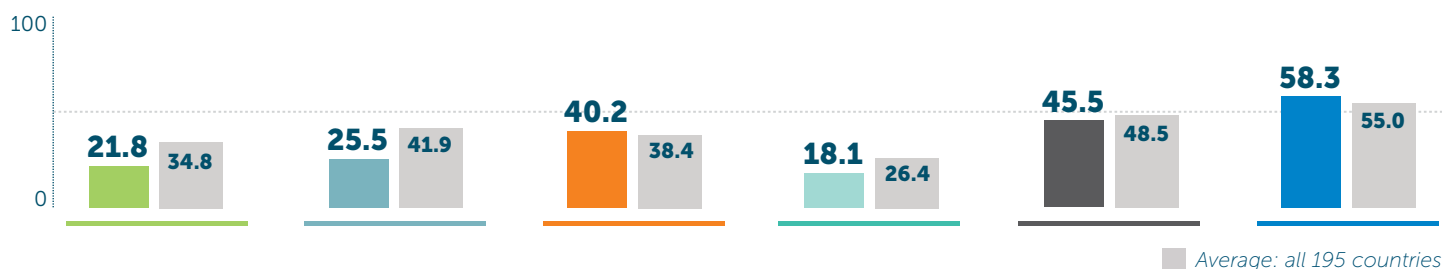
HEALTH



NORMS



RISK



■ Average: all 195 countries

| | COUNTRY SCORE | AVERAGE SCORE* | | COUNTRY SCORE | AVERAGE SCORE* |
|--|---------------|----------------|---|---------------|----------------|
| PREVENTION | 21.8 | 34.8 | HEALTH SYSTEM | 18.1 | 26.4 |
| Antimicrobial resistance (AMR) | 75 | 42.4 | Health capacity in clinics, hospitals and community care centers | 22.3 | 24.4 |
| Zoonotic disease | 0 | 27.1 | Medical countermeasures and personnel deployment | 33.3 | 21.2 |
| Biosecurity | 0 | 16.0 | Healthcare access | 30.3 | 38.4 |
| Biosafety | 0 | 22.8 | Communications with healthcare workers during a public health emergency | 0 | 15.1 |
| Dual-use research and culture of responsible science | 0 | 1.7 | Infection control practices and availability of equipment | 0 | 20.8 |
| Immunization | 50 | 85.0 | Capacity to test and approve new medical countermeasures | 25 | 42.2 |
| DETECTION AND REPORTING | 25.5 | 41.9 | COMPLIANCE WITH INTERNATIONAL NORMS | 45.5 | 48.5 |
| Laboratory systems | 66.7 | 54.4 | IHR reporting compliance and disaster risk reduction | 50 | 62.3 |
| Real-time surveillance and reporting | 6.7 | 39.1 | Cross-border agreements on public and animal health emergency response | 50 | 54.4 |
| Epidemiology workforce | 25 | 42.3 | International commitments | 25 | 53.4 |
| Data integration between human/animal/environmental health sectors | 0 | 29.7 | JEE and PVS | 25 | 17.7 |
| RAPID RESPONSE | 40.2 | 38.4 | Financing | 50 | 36.4 |
| Emergency preparedness and response planning | 25 | 16.9 | Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| Exercising response plans | 50 | 16.2 | RISK ENVIRONMENT | 58.3 | 55.0 |
| Emergency response operation | 33.3 | 23.6 | Political and security risks | 53.6 | 60.4 |
| Linking public health and security authorities | 0 | 22.6 | Socio-economic resilience | 71.2 | 66.1 |
| Risk communication | 25 | 39.4 | Infrastructure adequacy | 50 | 49.0 |
| Access to communications infrastructure | 67.5 | 72.7 | Environmental risks | 58.7 | 52.9 |
| Trade and travel restrictions | 100 | 97.4 | Public health vulnerabilities | 59.2 | 46.9 |

*Average: all 195 countries

Scores are normalized (0–100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



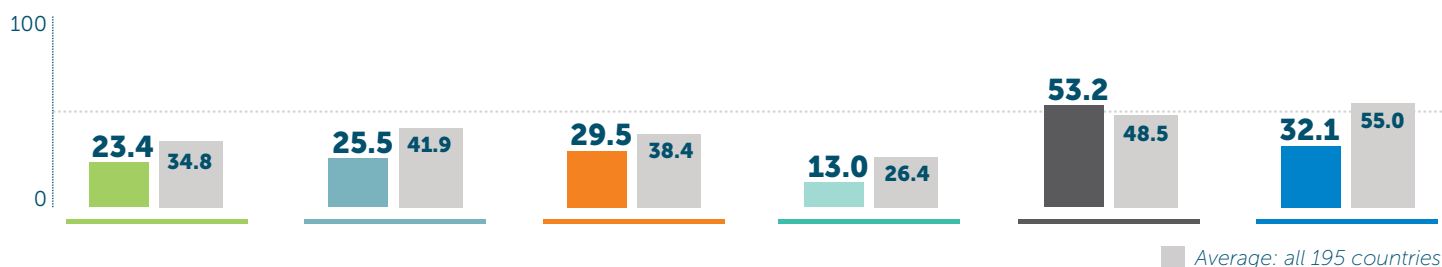
HEALTH



NORMS



RISK



■ Average: all 195 countries

| | COUNTRY SCORE | AVERAGE SCORE* |
|--|---------------|----------------|
| PREVENTION | 23.4 | 34.8 |
| Antimicrobial resistance (AMR) | 8.3 | 42.4 |
| Zoonotic disease | 34.4 | 27.1 |
| Biosecurity | 4 | 16.0 |
| Biosafety | 0 | 22.8 |
| Dual-use research and culture of responsible science | 0 | 1.7 |
| Immunization | 78.1 | 85.0 |
| DETECTION AND REPORTING | 25.5 | 41.9 |
| Laboratory systems | 25 | 54.4 |
| Real-time surveillance and reporting | 23.3 | 39.1 |
| Epidemiology workforce | 50 | 42.3 |
| Data integration between human/animal/environmental health sectors | 0 | 29.7 |
| RAPID RESPONSE | 29.5 | 38.4 |
| Emergency preparedness and response planning | 12.5 | 16.9 |
| Exercising response plans | 0 | 16.2 |
| Emergency response operation | 33.3 | 23.6 |
| Linking public health and security authorities | 0 | 22.6 |
| Risk communication | 25 | 39.4 |
| Access to communications infrastructure | 51.7 | 72.7 |
| Trade and travel restrictions | 100 | 97.4 |

| | COUNTRY SCORE | AVERAGE SCORE* |
|---|---------------|----------------|
| HEALTH SYSTEM | 13.0 | 26.4 |
| Health capacity in clinics, hospitals and community care centers | 0.5 | 24.4 |
| Medical countermeasures and personnel deployment | 33.3 | 21.2 |
| Healthcare access | 22.8 | 38.4 |
| Communications with healthcare workers during a public health emergency | 0 | 15.1 |
| Infection control practices and availability of equipment | 0 | 20.8 |
| Capacity to test and approve new medical countermeasures | 25 | 42.2 |
| COMPLIANCE WITH INTERNATIONAL NORMS | 53.2 | 48.5 |
| IHR reporting compliance and disaster risk reduction | 100 | 62.3 |
| Cross-border agreements on public and animal health emergency response | 0 | 54.4 |
| International commitments | 15.6 | 53.4 |
| JEE and PVS | 75 | 17.7 |
| Financing | 50 | 36.4 |
| Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| RISK ENVIRONMENT | 32.1 | 55.0 |
| Political and security risks | 25 | 60.4 |
| Socio-economic resilience | 38.8 | 66.1 |
| Infrastructure adequacy | 16.7 | 49.0 |
| Environmental risks | 65 | 52.9 |
| Public health vulnerabilities | 20.5 | 46.9 |

*Average: all 195 countries

Scores are normalized (0–100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



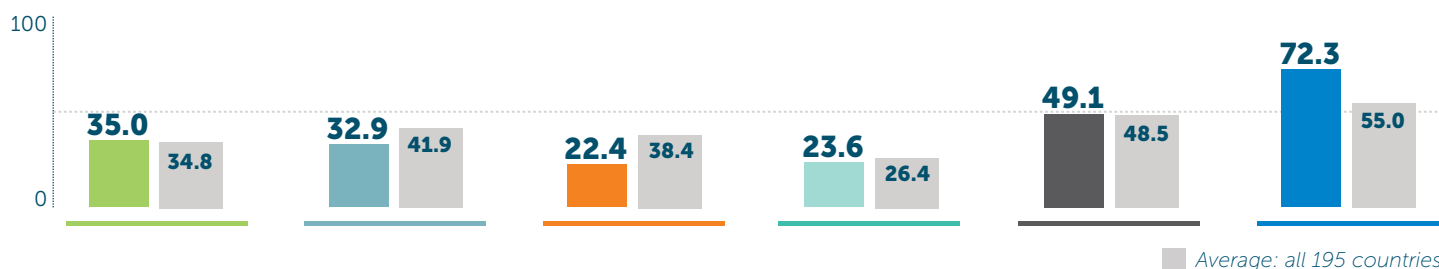
HEALTH



NORMS



RISK



■ Average: all 195 countries

| | COUNTRY SCORE | AVERAGE SCORE* | | COUNTRY SCORE | AVERAGE SCORE* |
|--|---------------|----------------|---|---------------|----------------|
| PREVENTION | 35.0 | 34.8 | HEALTH SYSTEM | 23.6 | 26.4 |
| Antimicrobial resistance (AMR) | 75 | 42.4 | Health capacity in clinics, hospitals and community care centers | 24.4 | 24.4 |
| Zoonotic disease | 8.8 | 27.1 | Medical countermeasures and personnel deployment | 33.3 | 21.2 |
| Biosecurity | 20 | 16.0 | Healthcare access | 41.2 | 38.4 |
| Biosafety | 0 | 22.8 | Communications with healthcare workers during a public health emergency | 0 | 15.1 |
| Dual-use research and culture of responsible science | 0 | 1.7 | Infection control practices and availability of equipment | 0 | 20.8 |
| Immunization | 93 | 85.0 | Capacity to test and approve new medical countermeasures | 50 | 42.2 |
| DETECTION AND REPORTING | 32.9 | 41.9 | COMPLIANCE WITH INTERNATIONAL NORMS | 49.1 | 48.5 |
| Laboratory systems | 50 | 54.4 | IHR reporting compliance and disaster risk reduction | 50 | 62.3 |
| Real-time surveillance and reporting | 26.7 | 39.1 | Cross-border agreements on public and animal health emergency response | 100 | 54.4 |
| Epidemiology workforce | 50 | 42.3 | International commitments | 96.9 | 53.4 |
| Data integration between human/animal/environmental health sectors | 0 | 29.7 | JEE and PVS | 0 | 17.7 |
| RAPID RESPONSE | 22.4 | 38.4 | Financing | 0 | 36.4 |
| Emergency preparedness and response planning | 0 | 16.9 | Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| Exercising response plans | 0 | 16.2 | RISK ENVIRONMENT | 72.3 | 55.0 |
| Emergency response operation | 0 | 23.6 | Political and security risks | 82.1 | 60.4 |
| Linking public health and security authorities | 0 | 22.6 | Socio-economic resilience | 93.8 | 66.1 |
| Risk communication | 0 | 39.4 | Infrastructure adequacy | 58.3 | 49.0 |
| Access to communications infrastructure | 92.2 | 72.7 | Environmental risks | 54.3 | 52.9 |
| Trade and travel restrictions | 100 | 97.4 | Public health vulnerabilities | 70.9 | 46.9 |

*Average: all 195 countries

Scores are normalized (0-100, where 100 = most favorable)

Marshall Islands

18.2 Index Score

191/195



PREVENT



DETECT



RESPOND



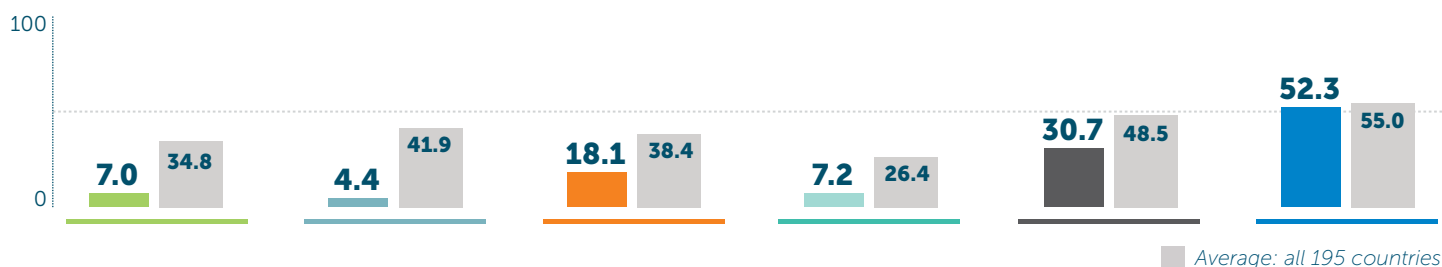
HEALTH



NORMS



RISK



■ Average: all 195 countries

| | COUNTRY SCORE | AVERAGE SCORE* | | COUNTRY SCORE | AVERAGE SCORE* |
|--|---------------|----------------|---|---------------|----------------|
| PREVENTION | 7.0 | 34.8 | HEALTH SYSTEM | 7.2 | 26.4 |
| Antimicrobial resistance (AMR) | 0 | 42.4 | Health capacity in clinics, hospitals and community care centers | 8.6 | 24.4 |
| Zoonotic disease | 0 | 27.1 | Medical countermeasures and personnel deployment | 0 | 21.2 |
| Biosecurity | 0 | 16.0 | Healthcare access | 30.9 | 38.4 |
| Biosafety | 0 | 22.8 | Communications with healthcare workers during a public health emergency | 0 | 15.1 |
| Dual-use research and culture of responsible science | 0 | 1.7 | Infection control practices and availability of equipment | 0 | 20.8 |
| Immunization | 36 | 85.0 | Capacity to test and approve new medical countermeasures | 0 | 42.2 |
| DETECTION AND REPORTING | 4.4 | 41.9 | COMPLIANCE WITH INTERNATIONAL NORMS | 30.7 | 48.5 |
| Laboratory systems | 16.7 | 54.4 | IHR reporting compliance and disaster risk reduction | 50 | 62.3 |
| Real-time surveillance and reporting | 0 | 39.1 | Cross-border agreements on public and animal health emergency response | 0 | 54.4 |
| Epidemiology workforce | 0 | 42.3 | International commitments | 28.1 | 53.4 |
| Data integration between human/animal/environmental health sectors | 0 | 29.7 | JEE and PVS | 0 | 17.7 |
| RAPID RESPONSE | 18.1 | 38.4 | Financing | 33.3 | 36.4 |
| Emergency preparedness and response planning | 0 | 16.9 | Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| Exercising response plans | 0 | 16.2 | RISK ENVIRONMENT | 52.3 | 55.0 |
| Emergency response operation | 0 | 23.6 | Political and security risks | 82.1 | 60.4 |
| Linking public health and security authorities | 0 | 22.6 | Socio-economic resilience | 71.8 | 66.1 |
| Risk communication | 0 | 39.4 | Infrastructure adequacy | 33.3 | 49.0 |
| Access to communications infrastructure | 56.6 | 72.7 | Environmental risks | 27.8 | 52.9 |
| Trade and travel restrictions | 100 | 97.4 | Public health vulnerabilities | 42.1 | 46.9 |

*Average: all 195 countries

Scores are normalized (0–100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



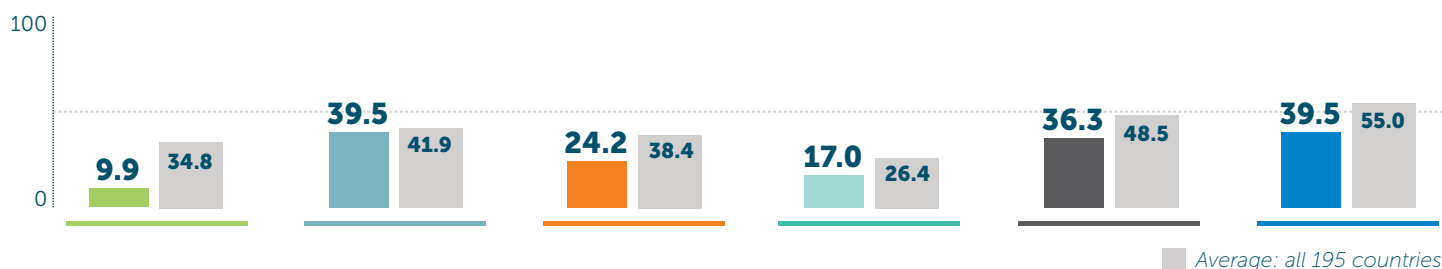
HEALTH



NORMS



RISK



■ Average: all 195 countries

| | COUNTRY SCORE | AVERAGE SCORE* | | COUNTRY SCORE | AVERAGE SCORE* |
|--|---------------|----------------|---|---------------|----------------|
| PREVENTION | 9.9 | 34.8 | HEALTH SYSTEM | 17.0 | 26.4 |
| Antimicrobial resistance (AMR) | 0 | 42.4 | Health capacity in clinics, hospitals and community care centers | 1.1 | 24.4 |
| Zoonotic disease | 13.3 | 27.1 | Medical countermeasures and personnel deployment | 33.3 | 21.2 |
| Biosecurity | 0 | 16.0 | Healthcare access | 27.1 | 38.4 |
| Biosafety | 0 | 22.8 | Communications with healthcare workers during a public health emergency | 0 | 15.1 |
| Dual-use research and culture of responsible science | 0 | 1.7 | Infection control practices and availability of equipment | 0 | 20.8 |
| Immunization | 38.6 | 85.0 | Capacity to test and approve new medical countermeasures | 50 | 42.2 |
| DETECTION AND REPORTING | 39.5 | 41.9 | COMPLIANCE WITH INTERNATIONAL NORMS | 36.3 | 48.5 |
| Laboratory systems | 33.3 | 54.4 | IHR reporting compliance and disaster risk reduction | 50 | 62.3 |
| Real-time surveillance and reporting | 20 | 39.1 | Cross-border agreements on public and animal health emergency response | 0 | 54.4 |
| Epidemiology workforce | 100 | 42.3 | International commitments | 15.6 | 53.4 |
| Data integration between human/animal/environmental health sectors | 0 | 29.7 | JEE and PVS | 25 | 17.7 |
| RAPID RESPONSE | 24.2 | 38.4 | Financing | 50 | 36.4 |
| Emergency preparedness and response planning | 0 | 16.9 | Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| Exercising response plans | 0 | 16.2 | RISK ENVIRONMENT | 39.5 | 55.0 |
| Emergency response operation | 33.3 | 23.6 | Political and security risks | 53.6 | 60.4 |
| Linking public health and security authorities | 0 | 22.6 | Socio-economic resilience | 42.2 | 66.1 |
| Risk communication | 0 | 39.4 | Infrastructure adequacy | 16.7 | 49.0 |
| Access to communications infrastructure | 60.9 | 72.7 | Environmental risks | 61.8 | 52.9 |
| Trade and travel restrictions | 100 | 97.4 | Public health vulnerabilities | 25.4 | 46.9 |

*Average: all 195 countries

Scores are normalized (0–100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



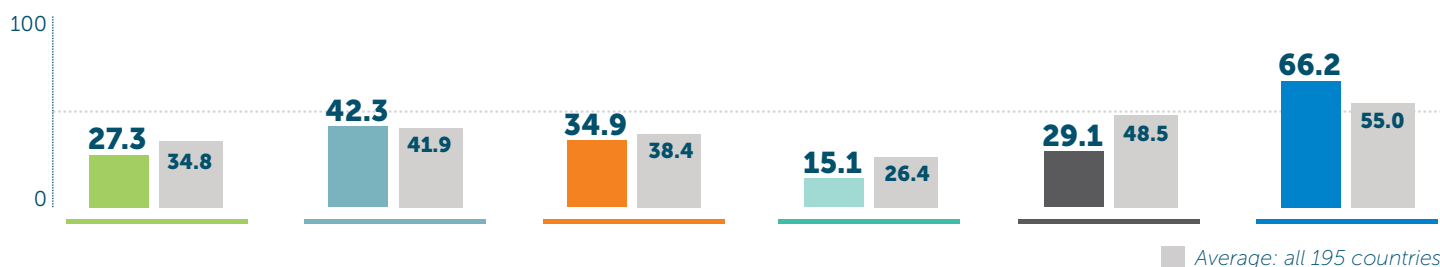
HEALTH



NORMS



RISK



■ Average: all 195 countries

| | COUNTRY SCORE | AVERAGE SCORE* |
|--|---------------|----------------|
| PREVENTION | 27.3 | 34.8 |
| Antimicrobial resistance (AMR) | 58.3 | 42.4 |
| Zoonotic disease | 0.6 | 27.1 |
| Biosecurity | 0 | 16.0 |
| Biosafety | 0 | 22.8 |
| Dual-use research and culture of responsible science | 0 | 1.7 |
| Immunization | 91.2 | 85.0 |
| DETECTION AND REPORTING | 42.3 | 41.9 |
| Laboratory systems | 50 | 54.4 |
| Real-time surveillance and reporting | 61.7 | 39.1 |
| Epidemiology workforce | 50 | 42.3 |
| Data integration between human/animal/environmental health sectors | 0 | 29.7 |
| RAPID RESPONSE | 34.9 | 38.4 |
| Emergency preparedness and response planning | 75 | 16.9 |
| Exercising response plans | 0 | 16.2 |
| Emergency response operation | 0 | 23.6 |
| Linking public health and security authorities | 0 | 22.6 |
| Risk communication | 50 | 39.4 |
| Access to communications infrastructure | 71.1 | 72.7 |
| Trade and travel restrictions | 50 | 97.4 |

| | COUNTRY SCORE | AVERAGE SCORE* |
|---|---------------|----------------|
| HEALTH SYSTEM | 15.1 | 26.4 |
| Health capacity in clinics, hospitals and community care centers | 38.1 | 24.4 |
| Medical countermeasures and personnel deployment | 0 | 21.2 |
| Healthcare access | 29.1 | 38.4 |
| Communications with healthcare workers during a public health emergency | 0 | 15.1 |
| Infection control practices and availability of equipment | 0 | 20.8 |
| Capacity to test and approve new medical countermeasures | 25 | 42.2 |
| COMPLIANCE WITH INTERNATIONAL NORMS | 29.1 | 48.5 |
| IHR reporting compliance and disaster risk reduction | 50 | 62.3 |
| Cross-border agreements on public and animal health emergency response | 0 | 54.4 |
| International commitments | 40.6 | 53.4 |
| JEE and PVS | 0 | 17.7 |
| Financing | 16.7 | 36.4 |
| Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| RISK ENVIRONMENT | 66.2 | 55.0 |
| Political and security risks | 78.6 | 60.4 |
| Socio-economic resilience | 79.8 | 66.1 |
| Infrastructure adequacy | 58.3 | 49.0 |
| Environmental risks | 58.5 | 52.9 |
| Public health vulnerabilities | 54.9 | 46.9 |

*Average: all 195 countries

Scores are normalized (0–100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



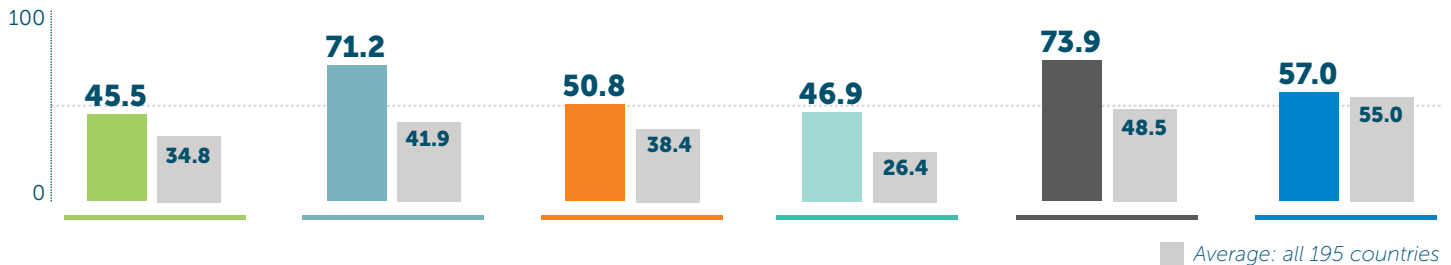
HEALTH



NORMS



RISK



■ Average: all 195 countries

| | COUNTRY SCORE | AVERAGE SCORE* | | COUNTRY SCORE | AVERAGE SCORE* |
|--|---------------|----------------|---|---------------|----------------|
| PREVENTION | 45.5 | 34.8 | HEALTH SYSTEM | 46.9 | 26.4 |
| Antimicrobial resistance (AMR) | 50 | 42.4 | Health capacity in clinics, hospitals and community care centers | 51.2 | 24.4 |
| Zoonotic disease | 34.7 | 27.1 | Medical countermeasures and personnel deployment | 33.3 | 21.2 |
| Biosecurity | 44 | 16.0 | Healthcare access | 30.1 | 38.4 |
| Biosafety | 50 | 22.8 | Communications with healthcare workers during a public health emergency | 50 | 15.1 |
| Dual-use research and culture of responsible science | 0 | 1.7 | Infection control practices and availability of equipment | 50 | 20.8 |
| Immunization | 82.5 | 85.0 | Capacity to test and approve new medical countermeasures | 75 | 42.2 |
| DETECTION AND REPORTING | 71.2 | 41.9 | COMPLIANCE WITH INTERNATIONAL NORMS | 73.9 | 48.5 |
| Laboratory systems | 83.3 | 54.4 | IHR reporting compliance and disaster risk reduction | 100 | 62.3 |
| Real-time surveillance and reporting | 80 | 39.1 | Cross-border agreements on public and animal health emergency response | 100 | 54.4 |
| Epidemiology workforce | 25 | 42.3 | International commitments | 100 | 53.4 |
| Data integration between human/animal/environmental health sectors | 100 | 29.7 | JEE and PVS | 0 | 17.7 |
| RAPID RESPONSE | 50.8 | 38.4 | Financing | 50 | 36.4 |
| Emergency preparedness and response planning | 25 | 16.9 | Commitment to sharing of genetic & biological data & specimens | 100 | 68.1 |
| Exercising response plans | 0 | 16.2 | RISK ENVIRONMENT | 57.0 | 55.0 |
| Emergency response operation | 33.3 | 23.6 | Political and security risks | 53.6 | 60.4 |
| Linking public health and security authorities | 100 | 22.6 | Socio-economic resilience | 60.7 | 66.1 |
| Risk communication | 50 | 39.4 | Infrastructure adequacy | 58.3 | 49.0 |
| Access to communications infrastructure | 70.3 | 72.7 | Environmental risks | 59 | 52.9 |
| Trade and travel restrictions | 100 | 97.4 | Public health vulnerabilities | 54.4 | 46.9 |

*Average: all 195 countries

Scores are normalized (0-100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



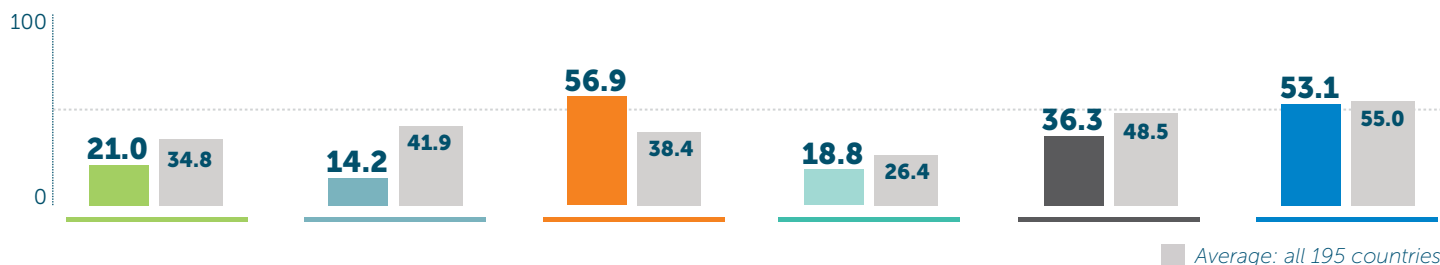
HEALTH



NORMS



RISK



■ Average: all 195 countries

| | COUNTRY SCORE | AVERAGE SCORE* | | COUNTRY SCORE | AVERAGE SCORE* |
|--|---------------|----------------|---|---------------|----------------|
| PREVENTION | 21.0 | 34.8 | HEALTH SYSTEM | 18.8 | 26.4 |
| Antimicrobial resistance (AMR) | 25 | 42.4 | Health capacity in clinics, hospitals and community care centers | 8.7 | 24.4 |
| Zoonotic disease | 7.5 | 27.1 | Medical countermeasures and personnel deployment | 66.7 | 21.2 |
| Biosecurity | 0 | 16.0 | Healthcare access | 33.3 | 38.4 |
| Biosafety | 0 | 22.8 | Communications with healthcare workers during a public health emergency | 0 | 15.1 |
| Dual-use research and culture of responsible science | 0 | 1.7 | Infection control practices and availability of equipment | 0 | 20.8 |
| Immunization | 79.8 | 85.0 | Capacity to test and approve new medical countermeasures | 0 | 42.2 |
| DETECTION AND REPORTING | 14.2 | 41.9 | COMPLIANCE WITH INTERNATIONAL NORMS | 36.3 | 48.5 |
| Laboratory systems | 25 | 54.4 | IHR reporting compliance and disaster risk reduction | 50 | 62.3 |
| Real-time surveillance and reporting | 5 | 39.1 | Cross-border agreements on public and animal health emergency response | 0 | 54.4 |
| Epidemiology workforce | 25 | 42.3 | International commitments | 15.6 | 53.4 |
| Data integration between human/animal/environmental health sectors | 0 | 29.7 | JEE and PVS | 25 | 17.7 |
| RAPID RESPONSE | 56.9 | 38.4 | Financing | 50 | 36.4 |
| Emergency preparedness and response planning | 75 | 16.9 | Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| Exercising response plans | 0 | 16.2 | RISK ENVIRONMENT | 53.1 | 55.0 |
| Emergency response operation | 33.3 | 23.6 | Political and security risks | 85.7 | 60.4 |
| Linking public health and security authorities | 100 | 22.6 | Socio-economic resilience | 59.5 | 66.1 |
| Risk communication | 50 | 39.4 | Infrastructure adequacy | 33.3 | 49.0 |
| Access to communications infrastructure | 55.9 | 72.7 | Environmental risks | 49.1 | 52.9 |
| Trade and travel restrictions | 100 | 97.4 | Public health vulnerabilities | 35.2 | 46.9 |

*Average: all 195 countries

Scores are normalized (0–100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



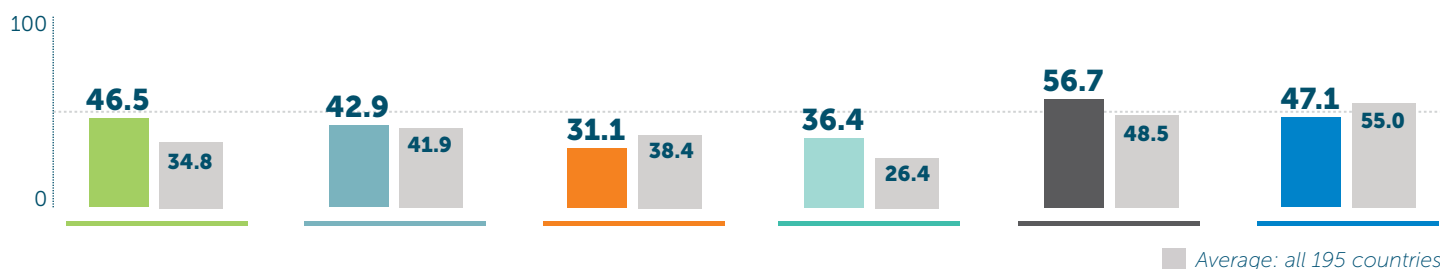
HEALTH



NORMS



RISK



■ Average: all 195 countries

| | COUNTRY SCORE | AVERAGE SCORE* | | COUNTRY SCORE | AVERAGE SCORE* |
|---|---------------|----------------|---|---------------|----------------|
| PREVENTION | 46.5 | 34.8 | HEALTH SYSTEM | 36.4 | 26.4 |
| Antimicrobial resistance (AMR) | 50 | 42.4 | Health capacity in clinics, hospitals and community care centers | 37.7 | 24.4 |
| Zoonotic disease | 49.7 | 27.1 | Medical countermeasures and personnel deployment | 33.3 | 21.2 |
| Biosecurity | 44 | 16.0 | Healthcare access | 48.4 | 38.4 |
| Biosafety | 25 | 22.8 | Communications with healthcare workers during a public health emergency | 0 | 15.1 |
| Dual-use research and culture of responsible science | 0 | 1.7 | Infection control practices and availability of equipment | 50 | 20.8 |
| Immunization | 94.7 | 85.0 | Capacity to test and approve new medical countermeasures | 50 | 42.2 |
| DETECTION AND REPORTING | 42.9 | 41.9 | COMPLIANCE WITH INTERNATIONAL NORMS | 56.7 | 48.5 |
| Laboratory systems | 83.3 | 54.4 | IHR reporting compliance and disaster risk reduction | 50 | 62.3 |
| Real-time surveillance and reporting | 55 | 39.1 | Cross-border agreements on public and animal health emergency response | 100 | 54.4 |
| Epidemiology workforce | 25 | 42.3 | International commitments | 50 | 53.4 |
| Data integration between human/ animal/environmental health sectors | 0 | 29.7 | JEE and PVS | 25 | 17.7 |
| RAPID RESPONSE | 31.1 | 38.4 | Financing | 50 | 36.4 |
| Emergency preparedness and response planning | 0 | 16.9 | Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| Exercising response plans | 0 | 16.2 | RISK ENVIRONMENT | 47.1 | 55.0 |
| Emergency response operation | 33.3 | 23.6 | Political and security risks | 42.9 | 60.4 |
| Linking public health and security authorities | 0 | 22.6 | Socio-economic resilience | 65.1 | 66.1 |
| Risk communication | 25 | 39.4 | Infrastructure adequacy | 25 | 49.0 |
| Access to communications infrastructure | 81.7 | 72.7 | Environmental risks | 59.9 | 52.9 |
| Trade and travel restrictions | 100 | 97.4 | Public health vulnerabilities | 46 | 46.9 |

*Average: all 195 countries

Scores are normalized (0-100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



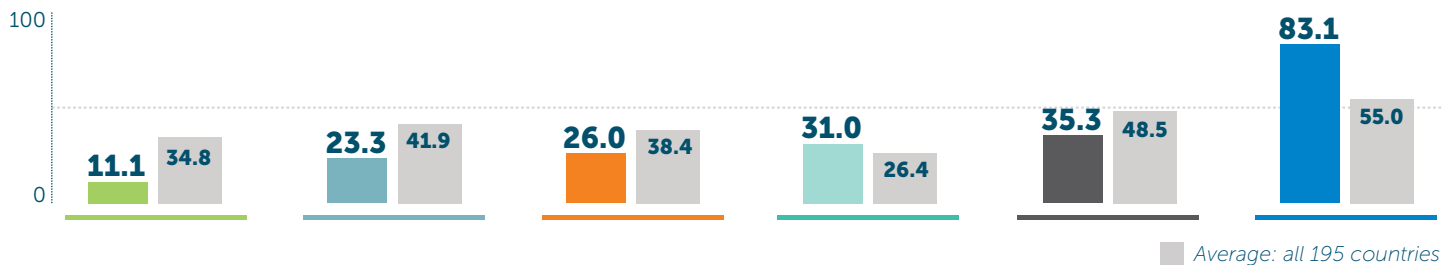
HEALTH



NORMS



RISK



■ Average: all 195 countries

| | COUNTRY SCORE | AVERAGE SCORE* | | COUNTRY SCORE | AVERAGE SCORE* |
|--|---------------|----------------|---|---------------|----------------|
| PREVENTION | 11.1 | 34.8 | HEALTH SYSTEM | 31.0 | 26.4 |
| Antimicrobial resistance (AMR) | 0 | 42.4 | Health capacity in clinics, hospitals and community care centers | 56.4 | 24.4 |
| Zoonotic disease | 0 | 27.1 | Medical countermeasures and personnel deployment | 0 | 21.2 |
| Biosecurity | 20 | 16.0 | Healthcare access | 31.6 | 38.4 |
| Biosafety | 0 | 22.8 | Communications with healthcare workers during a public health emergency | 0 | 15.1 |
| Dual-use research and culture of responsible science | 0 | 1.7 | Infection control practices and availability of equipment | 50 | 20.8 |
| Immunization | 40.4 | 85.0 | Capacity to test and approve new medical countermeasures | 50 | 42.2 |
| DETECTION AND REPORTING | 23.3 | 41.9 | COMPLIANCE WITH INTERNATIONAL NORMS | 35.3 | 48.5 |
| Laboratory systems | 16.7 | 54.4 | IHR reporting compliance and disaster risk reduction | 50 | 62.3 |
| Real-time surveillance and reporting | 23.3 | 39.1 | Cross-border agreements on public and animal health emergency response | 50 | 54.4 |
| Epidemiology workforce | 50 | 42.3 | International commitments | 28.1 | 53.4 |
| Data integration between human/animal/environmental health sectors | 0 | 29.7 | JEE and PVS | 0 | 17.7 |
| RAPID RESPONSE | 26.0 | 38.4 | Financing | 16.7 | 36.4 |
| Emergency preparedness and response planning | 0 | 16.9 | Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| Exercising response plans | 0 | 16.2 | RISK ENVIRONMENT | 83.1 | 55.0 |
| Emergency response operation | 0 | 23.6 | Political and security risks | 96.4 | 60.4 |
| Linking public health and security authorities | 0 | 22.6 | Socio-economic resilience | 86.9 | 66.1 |
| Risk communication | 25 | 39.4 | Infrastructure adequacy | 100 | 49.0 |
| Access to communications infrastructure | 84.9 | 72.7 | Environmental risks | 52.2 | 52.9 |
| Trade and travel restrictions | 100 | 97.4 | Public health vulnerabilities | 75.2 | 46.9 |

*Average: all 195 countries

Scores are normalized (0–100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



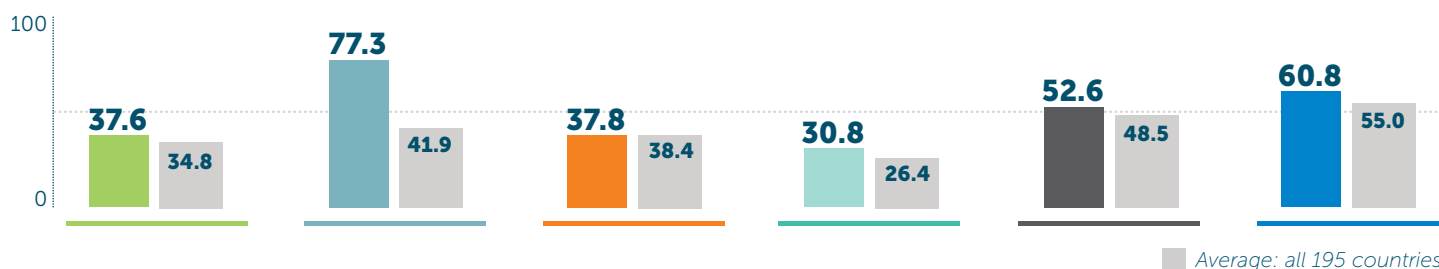
HEALTH



NORMS



RISK



■ Average: all 195 countries

| | COUNTRY SCORE | AVERAGE SCORE* | | COUNTRY SCORE | AVERAGE SCORE* |
|--|---------------|----------------|---|---------------|----------------|
| PREVENTION | 37.6 | 34.8 | HEALTH SYSTEM | 30.8 | 26.4 |
| Antimicrobial resistance (AMR) | 50 | 42.4 | Health capacity in clinics, hospitals and community care centers | 23.1 | 24.4 |
| Zoonotic disease | 52.4 | 27.1 | Medical countermeasures and personnel deployment | 33.3 | 21.2 |
| Biosecurity | 4 | 16.0 | Healthcare access | 31.9 | 38.4 |
| Biosafety | 0 | 22.8 | Communications with healthcare workers during a public health emergency | 0 | 15.1 |
| Dual-use research and culture of responsible science | 0 | 1.7 | Infection control practices and availability of equipment | 50 | 20.8 |
| Immunization | 100 | 85.0 | Capacity to test and approve new medical countermeasures | 50 | 42.2 |
| DETECTION AND REPORTING | 77.3 | 41.9 | COMPLIANCE WITH INTERNATIONAL NORMS | 52.6 | 48.5 |
| Laboratory systems | 83.3 | 54.4 | IHR reporting compliance and disaster risk reduction | 50 | 62.3 |
| Real-time surveillance and reporting | 31.7 | 39.1 | Cross-border agreements on public and animal health emergency response | 50 | 54.4 |
| Epidemiology workforce | 100 | 42.3 | International commitments | 78.1 | 53.4 |
| Data integration between human/animal/environmental health sectors | 100 | 29.7 | JEE and PVS | 25 | 17.7 |
| RAPID RESPONSE | 37.8 | 38.4 | Financing | 50 | 36.4 |
| Emergency preparedness and response planning | 0 | 16.9 | Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| Exercising response plans | 50 | 16.2 | RISK ENVIRONMENT | 60.8 | 55.0 |
| Emergency response operation | 33.3 | 23.6 | Political and security risks | 78.6 | 60.4 |
| Linking public health and security authorities | 0 | 22.6 | Socio-economic resilience | 72.9 | 66.1 |
| Risk communication | 25 | 39.4 | Infrastructure adequacy | 50 | 49.0 |
| Access to communications infrastructure | 79.9 | 72.7 | Environmental risks | 65.2 | 52.9 |
| Trade and travel restrictions | 100 | 97.4 | Public health vulnerabilities | 37.8 | 46.9 |

*Average: all 195 countries

Scores are normalized (0-100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



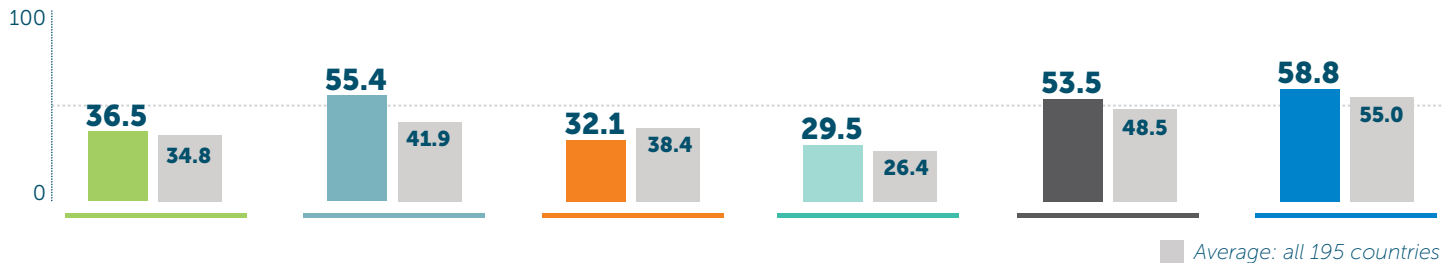
HEALTH



NORMS



RISK



Average: all 195 countries

| | COUNTRY SCORE | AVERAGE SCORE* | | COUNTRY SCORE | AVERAGE SCORE* |
|--|---------------|----------------|---|---------------|----------------|
| PREVENTION | 36.5 | 34.8 | HEALTH SYSTEM | 29.5 | 26.4 |
| Antimicrobial resistance (AMR) | 75 | 42.4 | Health capacity in clinics, hospitals and community care centers | 16.9 | 24.4 |
| Zoonotic disease | 42.8 | 27.1 | Medical countermeasures and personnel deployment | 33.3 | 21.2 |
| Biosecurity | 26.7 | 16.0 | Healthcare access | 47.5 | 38.4 |
| Biosafety | 0 | 22.8 | Communications with healthcare workers during a public health emergency | 0 | 15.1 |
| Dual-use research and culture of responsible science | 0 | 1.7 | Infection control practices and availability of equipment | 50 | 20.8 |
| Immunization | 64 | 85.0 | Capacity to test and approve new medical countermeasures | 25 | 42.2 |
| DETECTION AND REPORTING | 55.4 | 41.9 | COMPLIANCE WITH INTERNATIONAL NORMS | 53.5 | 48.5 |
| Laboratory systems | 50 | 54.4 | IHR reporting compliance and disaster risk reduction | 100 | 62.3 |
| Real-time surveillance and reporting | 30 | 39.1 | Cross-border agreements on public and animal health emergency response | 100 | 54.4 |
| Epidemiology workforce | 50 | 42.3 | International commitments | 40.6 | 53.4 |
| Data integration between human/animal/environmental health sectors | 100 | 29.7 | JEE and PVS | 0 | 17.7 |
| RAPID RESPONSE | 32.1 | 38.4 | Financing | 16.7 | 36.4 |
| Emergency preparedness and response planning | 0 | 16.9 | Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| Exercising response plans | 0 | 16.2 | RISK ENVIRONMENT | 58.8 | 55.0 |
| Emergency response operation | 33.3 | 23.6 | Political and security risks | 64.3 | 60.4 |
| Linking public health and security authorities | 0 | 22.6 | Socio-economic resilience | 77.2 | 66.1 |
| Risk communication | 25 | 39.4 | Infrastructure adequacy | 50 | 49.0 |
| Access to communications infrastructure | 89.5 | 72.7 | Environmental risks | 40 | 52.9 |
| Trade and travel restrictions | 100 | 97.4 | Public health vulnerabilities | 60.5 | 46.9 |

*Average: all 195 countries

Scores are normalized (0–100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



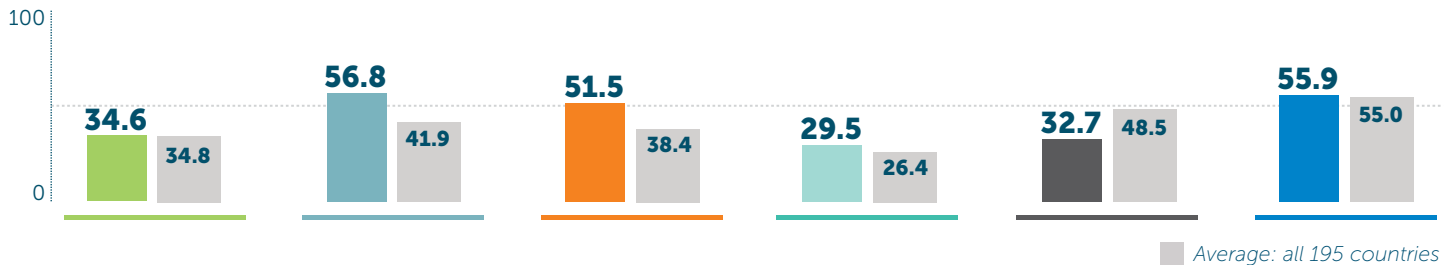
HEALTH



NORMS



RISK



■ Average: all 195 countries

| | COUNTRY SCORE | AVERAGE SCORE* |
|---|---------------|----------------|
| PREVENTION | 34.6 | 34.8 |
| Antimicrobial resistance (AMR) | 25 | 42.4 |
| Zoonotic disease | 40.4 | 27.1 |
| Biosecurity | 24 | 16.0 |
| Biosafety | 0 | 22.8 |
| Dual-use research and culture of responsible science | 0 | 1.7 |
| Immunization | 100 | 85.0 |
| DETECTION AND REPORTING | 56.8 | 41.9 |
| Laboratory systems | 100 | 54.4 |
| Real-time surveillance and reporting | 10 | 39.1 |
| Epidemiology workforce | 25 | 42.3 |
| Data integration between human/ animal/environmental health sectors | 100 | 29.7 |
| RAPID RESPONSE | 51.5 | 38.4 |
| Emergency preparedness and response planning | 6.3 | 16.9 |
| Exercising response plans | 50 | 16.2 |
| Emergency response operation | 33.3 | 23.6 |
| Linking public health and security authorities | 0 | 22.6 |
| Risk communication | 100 | 39.4 |
| Access to communications infrastructure | 74.7 | 72.7 |
| Trade and travel restrictions | 100 | 97.4 |

| | COUNTRY SCORE | AVERAGE SCORE* |
|---|---------------|----------------|
| HEALTH SYSTEM | 29.5 | 26.4 |
| Health capacity in clinics, hospitals and community care centers | 20.5 | 24.4 |
| Medical countermeasures and personnel deployment | 33.3 | 21.2 |
| Healthcare access | 26.9 | 38.4 |
| Communications with healthcare workers during a public health emergency | 0 | 15.1 |
| Infection control practices and availability of equipment | 50 | 20.8 |
| Capacity to test and approve new medical countermeasures | 50 | 42.2 |
| COMPLIANCE WITH INTERNATIONAL NORMS | 32.7 | 48.5 |
| IHR reporting compliance and disaster risk reduction | 50 | 62.3 |
| Cross-border agreements on public and animal health emergency response | 0 | 54.4 |
| International commitments | 37.5 | 53.4 |
| JEE and PVS | 25 | 17.7 |
| Financing | 16.7 | 36.4 |
| Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| RISK ENVIRONMENT | 55.9 | 55.0 |
| Political and security risks | 50 | 60.4 |
| Socio-economic resilience | 60.9 | 66.1 |
| Infrastructure adequacy | 58.3 | 49.0 |
| Environmental risks | 67.4 | 52.9 |
| Public health vulnerabilities | 45.7 | 46.9 |

*Average: all 195 countries

Scores are normalized (0-100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



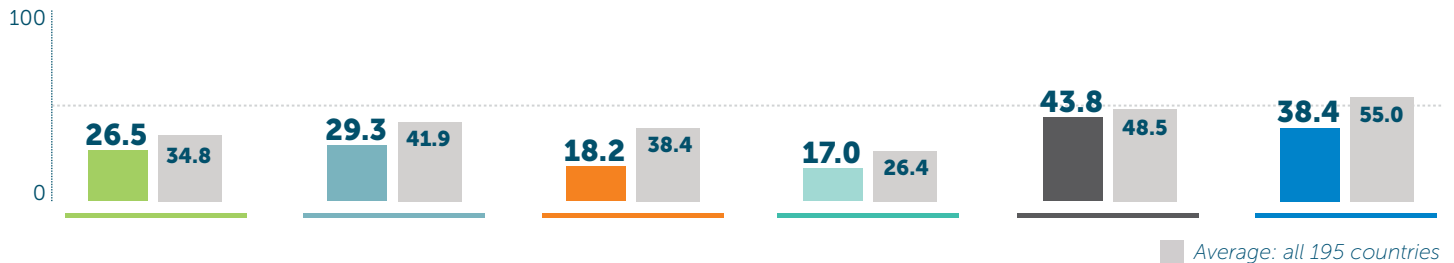
HEALTH



NORMS



RISK



■ Average: all 195 countries

| | COUNTRY SCORE | AVERAGE SCORE* | | COUNTRY SCORE | AVERAGE SCORE* |
|--|---------------|----------------|---|---------------|----------------|
| PREVENTION | 26.5 | 34.8 | HEALTH SYSTEM | 17.0 | 26.4 |
| Antimicrobial resistance (AMR) | 33.3 | 42.4 | Health capacity in clinics, hospitals and community care centers | 18.1 | 24.4 |
| Zoonotic disease | 8.8 | 27.1 | Medical countermeasures and personnel deployment | 0 | 21.2 |
| Biosecurity | 0 | 16.0 | Healthcare access | 41.6 | 38.4 |
| Biosafety | 0 | 22.8 | Communications with healthcare workers during a public health emergency | 0 | 15.1 |
| Dual-use research and culture of responsible science | 0 | 1.7 | Infection control practices and availability of equipment | 0 | 20.8 |
| Immunization | 100 | 85.0 | Capacity to test and approve new medical countermeasures | 50 | 42.2 |
| DETECTION AND REPORTING | 29.3 | 41.9 | COMPLIANCE WITH INTERNATIONAL NORMS | 43.8 | 48.5 |
| Laboratory systems | 50 | 54.4 | IHR reporting compliance and disaster risk reduction | 50 | 62.3 |
| Real-time surveillance and reporting | 36.7 | 39.1 | Cross-border agreements on public and animal health emergency response | 50 | 54.4 |
| Epidemiology workforce | 25 | 42.3 | International commitments | 12.5 | 53.4 |
| Data integration between human/animal/environmental health sectors | 0 | 29.7 | JEE and PVS | 25 | 17.7 |
| RAPID RESPONSE | 18.2 | 38.4 | Financing | 50 | 36.4 |
| Emergency preparedness and response planning | 0 | 16.9 | Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| Exercising response plans | 0 | 16.2 | RISK ENVIRONMENT | 38.4 | 55.0 |
| Emergency response operation | 0 | 23.6 | Political and security risks | 53.6 | 60.4 |
| Linking public health and security authorities | 0 | 22.6 | Socio-economic resilience | 31.5 | 66.1 |
| Risk communication | 0 | 39.4 | Infrastructure adequacy | 41.7 | 49.0 |
| Access to communications infrastructure | 57.7 | 72.7 | Environmental risks | 55.4 | 52.9 |
| Trade and travel restrictions | 100 | 97.4 | Public health vulnerabilities | 11.2 | 46.9 |

*Average: all 195 countries

Scores are normalized (0–100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



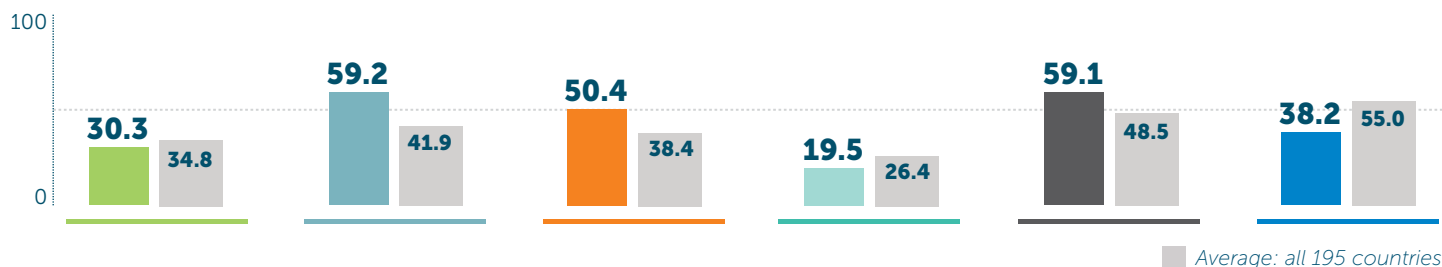
HEALTH



NORMS



RISK



■ Average: all 195 countries

| | COUNTRY SCORE | AVERAGE SCORE* |
|--|---------------|----------------|
| PREVENTION | 30.3 | 34.8 |
| Antimicrobial resistance (AMR) | 25 | 42.4 |
| Zoonotic disease | 49.4 | 27.1 |
| Biosecurity | 4 | 16.0 |
| Biosafety | 0 | 22.8 |
| Dual-use research and culture of responsible science | 0 | 1.7 |
| Immunization | 86 | 85.0 |
| DETECTION AND REPORTING | 59.2 | 41.9 |
| Laboratory systems | 83.3 | 54.4 |
| Real-time surveillance and reporting | 11.7 | 39.1 |
| Epidemiology workforce | 50 | 42.3 |
| Data integration between human/animal/environmental health sectors | 100 | 29.7 |
| RAPID RESPONSE | 50.4 | 38.4 |
| Emergency preparedness and response planning | 81.3 | 16.9 |
| Exercising response plans | 0 | 16.2 |
| Emergency response operation | 33.3 | 23.6 |
| Linking public health and security authorities | 0 | 22.6 |
| Risk communication | 75 | 39.4 |
| Access to communications infrastructure | 61.6 | 72.7 |
| Trade and travel restrictions | 100 | 97.4 |

| | COUNTRY SCORE | AVERAGE SCORE* |
|---|---------------|----------------|
| HEALTH SYSTEM | 19.5 | 26.4 |
| Health capacity in clinics, hospitals and community care centers | 20 | 24.4 |
| Medical countermeasures and personnel deployment | 0 | 21.2 |
| Healthcare access | 24.5 | 38.4 |
| Communications with healthcare workers during a public health emergency | 50 | 15.1 |
| Infection control practices and availability of equipment | 0 | 20.8 |
| Capacity to test and approve new medical countermeasures | 25 | 42.2 |
| COMPLIANCE WITH INTERNATIONAL NORMS | 59.1 | 48.5 |
| IHR reporting compliance and disaster risk reduction | 50 | 62.3 |
| Cross-border agreements on public and animal health emergency response | 100 | 54.4 |
| International commitments | 37.5 | 53.4 |
| JEE and PVS | 50 | 17.7 |
| Financing | 50 | 36.4 |
| Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| RISK ENVIRONMENT | 38.2 | 55.0 |
| Political and security risks | 25 | 60.4 |
| Socio-economic resilience | 72.5 | 66.1 |
| Infrastructure adequacy | 33.3 | 49.0 |
| Environmental risks | 33.4 | 52.9 |
| Public health vulnerabilities | 30.1 | 46.9 |

*Average: all 195 countries

Scores are normalized (0-100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



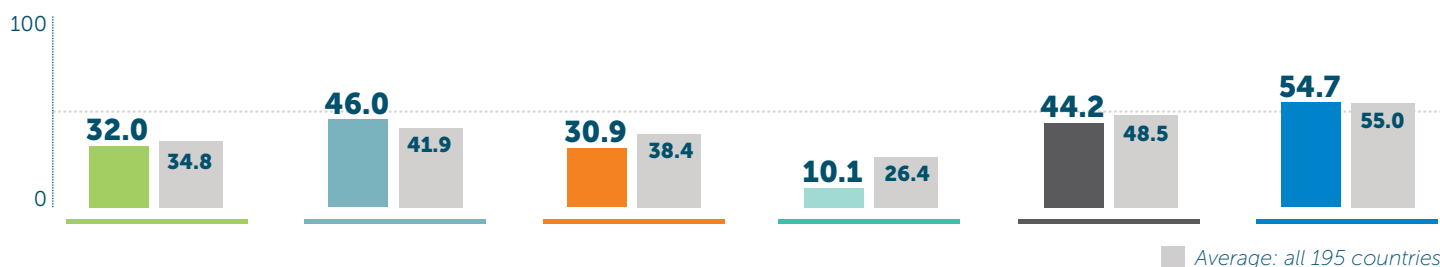
HEALTH



NORMS



RISK



■ Average: all 195 countries

| | COUNTRY SCORE | AVERAGE SCORE* |
|---|---------------|----------------|
| PREVENTION | 32.0 | 34.8 |
| Antimicrobial resistance (AMR) | 50 | 42.4 |
| Zoonotic disease | 34.6 | 27.1 |
| Biosecurity | 4 | 16.0 |
| Biosafety | 0 | 22.8 |
| Dual-use research and culture of responsible science | 0 | 1.7 |
| Immunization | 87.7 | 85.0 |
| DETECTION AND REPORTING | 46.0 | 41.9 |
| Laboratory systems | 58.3 | 54.4 |
| Real-time surveillance and reporting | 20 | 39.1 |
| Epidemiology workforce | 100 | 42.3 |
| Data integration between human/ animal/environmental health sectors | 0 | 29.7 |
| RAPID RESPONSE | 30.9 | 38.4 |
| Emergency preparedness and response planning | 0 | 16.9 |
| Exercising response plans | 50 | 16.2 |
| Emergency response operation | 0 | 23.6 |
| Linking public health and security authorities | 0 | 22.6 |
| Risk communication | 25 | 39.4 |
| Access to communications infrastructure | 69.2 | 72.7 |
| Trade and travel restrictions | 100 | 97.4 |

| | COUNTRY SCORE | AVERAGE SCORE* |
|---|---------------|----------------|
| HEALTH SYSTEM | 10.1 | 26.4 |
| Health capacity in clinics, hospitals and community care centers | 7.7 | 24.4 |
| Medical countermeasures and personnel deployment | 0 | 21.2 |
| Healthcare access | 30.6 | 38.4 |
| Communications with healthcare workers during a public health emergency | 0 | 15.1 |
| Infection control practices and availability of equipment | 0 | 20.8 |
| Capacity to test and approve new medical countermeasures | 25 | 42.2 |
| COMPLIANCE WITH INTERNATIONAL NORMS | 44.2 | 48.5 |
| IHR reporting compliance and disaster risk reduction | 50 | 62.3 |
| Cross-border agreements on public and animal health emergency response | 50 | 54.4 |
| International commitments | 15.6 | 53.4 |
| JEE and PVS | 25 | 17.7 |
| Financing | 50 | 36.4 |
| Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| RISK ENVIRONMENT | 54.7 | 55.0 |
| Political and security risks | 75 | 60.4 |
| Socio-economic resilience | 63.8 | 66.1 |
| Infrastructure adequacy | 58.3 | 49.0 |
| Environmental risks | 45.1 | 52.9 |
| Public health vulnerabilities | 29.4 | 46.9 |

*Average: all 195 countries

Scores are normalized (0–100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



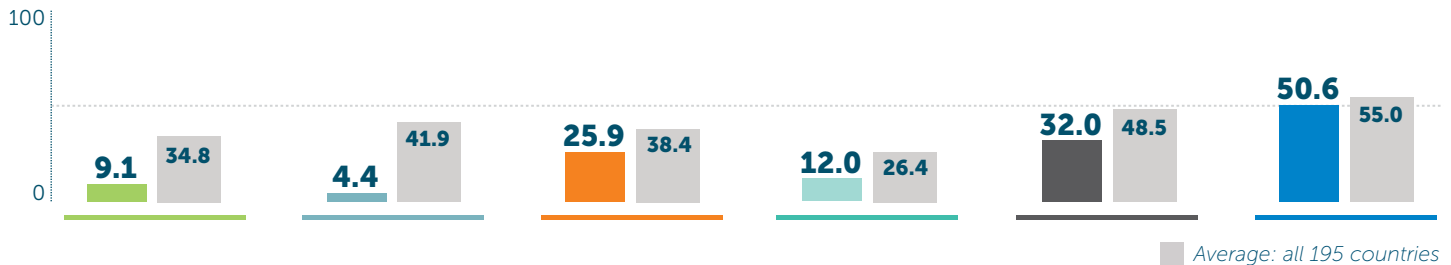
HEALTH



NORMS



RISK



■ Average: all 195 countries

| | COUNTRY SCORE | AVERAGE SCORE* | | COUNTRY SCORE | AVERAGE SCORE* |
|--|---------------|----------------|---|---------------|----------------|
| PREVENTION | 9.1 | 34.8 | HEALTH SYSTEM | 12.0 | 26.4 |
| Antimicrobial resistance (AMR) | 0 | 42.4 | Health capacity in clinics, hospitals and community care centers | 34.3 | 24.4 |
| Zoonotic disease | 0 | 27.1 | Medical countermeasures and personnel deployment | 0 | 21.2 |
| Biosecurity | 0 | 16.0 | Healthcare access | 32.8 | 38.4 |
| Biosafety | 0 | 22.8 | Communications with healthcare workers during a public health emergency | 0 | 15.1 |
| Dual-use research and culture of responsible science | 0 | 1.7 | Infection control practices and availability of equipment | 0 | 20.8 |
| Immunization | 46.5 | 85.0 | Capacity to test and approve new medical countermeasures | 0 | 42.2 |
| DETECTION AND REPORTING | 4.4 | 41.9 | COMPLIANCE WITH INTERNATIONAL NORMS | 32.0 | 48.5 |
| Laboratory systems | 16.7 | 54.4 | IHR reporting compliance and disaster risk reduction | 50 | 62.3 |
| Real-time surveillance and reporting | 0 | 39.1 | Cross-border agreements on public and animal health emergency response | 50 | 54.4 |
| Epidemiology workforce | 0 | 42.3 | International commitments | 28.1 | 53.4 |
| Data integration between human/animal/environmental health sectors | 0 | 29.7 | JEE and PVS | 0 | 17.7 |
| RAPID RESPONSE | 25.9 | 38.4 | Financing | 0 | 36.4 |
| Emergency preparedness and response planning | 0 | 16.9 | Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| Exercising response plans | 0 | 16.2 | RISK ENVIRONMENT | 50.6 | 55.0 |
| Emergency response operation | 33.3 | 23.6 | Political and security risks | 64.3 | 60.4 |
| Linking public health and security authorities | 0 | 22.6 | Socio-economic resilience | 69.7 | 66.1 |
| Risk communication | 0 | 39.4 | Infrastructure adequacy | 41.7 | 49.0 |
| Access to communications infrastructure | 74.8 | 72.7 | Environmental risks | 27.2 | 52.9 |
| Trade and travel restrictions | 100 | 97.4 | Public health vulnerabilities | 47 | 46.9 |

*Average: all 195 countries

Scores are normalized (0–100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



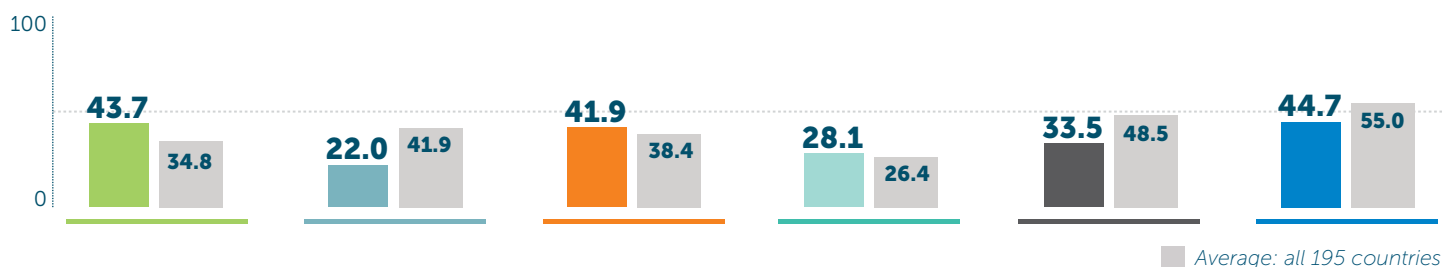
HEALTH



NORMS



RISK

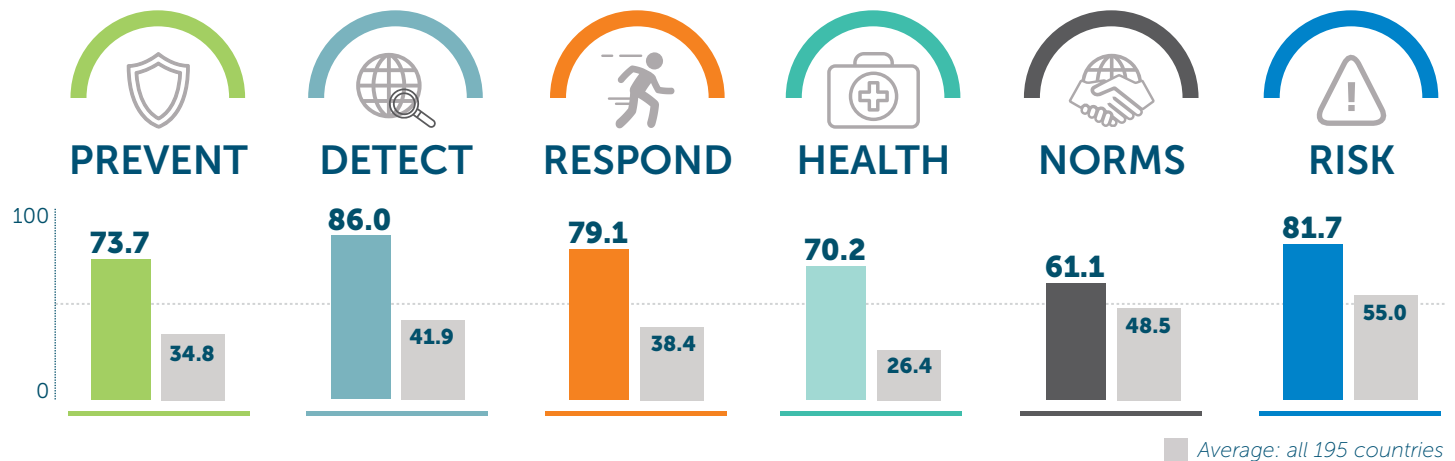


■ Average: all 195 countries

| | COUNTRY SCORE | AVERAGE SCORE* | | COUNTRY SCORE | AVERAGE SCORE* |
|--|---------------|----------------|---|---------------|----------------|
| PREVENTION | 43.7 | 34.8 | HEALTH SYSTEM | 28.1 | 26.4 |
| Antimicrobial resistance (AMR) | 75 | 42.4 | Health capacity in clinics, hospitals and community care centers | 3.3 | 24.4 |
| Zoonotic disease | 40.6 | 27.1 | Medical countermeasures and personnel deployment | 0 | 21.2 |
| Biosecurity | 40 | 16.0 | Healthcare access | 25 | 38.4 |
| Biosafety | 0 | 22.8 | Communications with healthcare workers during a public health emergency | 100 | 15.1 |
| Dual-use research and culture of responsible science | 0 | 1.7 | Infection control practices and availability of equipment | 0 | 20.8 |
| Immunization | 92.1 | 85.0 | Capacity to test and approve new medical countermeasures | 50 | 42.2 |
| DETECTION AND REPORTING | 22.0 | 41.9 | COMPLIANCE WITH INTERNATIONAL NORMS | 33.5 | 48.5 |
| Laboratory systems | 50 | 54.4 | IHR reporting compliance and disaster risk reduction | 50 | 62.3 |
| Real-time surveillance and reporting | 33.3 | 39.1 | Cross-border agreements on public and animal health emergency response | 0 | 54.4 |
| Epidemiology workforce | 0 | 42.3 | International commitments | 25 | 53.4 |
| Data integration between human/animal/environmental health sectors | 0 | 29.7 | JEE and PVS | 0 | 17.7 |
| RAPID RESPONSE | 41.9 | 38.4 | Financing | 50 | 36.4 |
| Emergency preparedness and response planning | 25 | 16.9 | Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| Exercising response plans | 0 | 16.2 | RISK ENVIRONMENT | 44.7 | 55.0 |
| Emergency response operation | 33.3 | 23.6 | Political and security risks | 60.7 | 60.4 |
| Linking public health and security authorities | 0 | 22.6 | Socio-economic resilience | 46.9 | 66.1 |
| Risk communication | 75 | 39.4 | Infrastructure adequacy | 25 | 49.0 |
| Access to communications infrastructure | 64.5 | 72.7 | Environmental risks | 58 | 52.9 |
| Trade and travel restrictions | 100 | 97.4 | Public health vulnerabilities | 33.2 | 46.9 |

*Average: all 195 countries

Scores are normalized (0–100, where 100 = most favorable)



| | COUNTRY SCORE | AVERAGE SCORE* | | COUNTRY SCORE | AVERAGE SCORE* |
|---|---------------|----------------|---|---------------|----------------|
| PREVENTION | 73.7 | 34.8 | HEALTH SYSTEM | 70.2 | 26.4 |
| Antimicrobial resistance (AMR) | 100 | 42.4 | Health capacity in clinics, hospitals and community care centers | 66.3 | 24.4 |
| Zoonotic disease | 55.4 | 27.1 | Medical countermeasures and personnel deployment | 66.7 | 21.2 |
| Biosecurity | 52 | 16.0 | Healthcare access | 95.7 | 38.4 |
| Biosafety | 100 | 22.8 | Communications with healthcare workers during a public health emergency | 50 | 15.1 |
| Dual-use research and culture of responsible science | 33.3 | 1.7 | Infection control practices and availability of equipment | 50 | 20.8 |
| Immunization | 94.7 | 85.0 | Capacity to test and approve new medical countermeasures | 100 | 42.2 |
| DETECTION AND REPORTING | 86.0 | 41.9 | COMPLIANCE WITH INTERNATIONAL NORMS | 61.1 | 48.5 |
| Laboratory systems | 100 | 54.4 | IHR reporting compliance and disaster risk reduction | 100 | 62.3 |
| Real-time surveillance and reporting | 95 | 39.1 | Cross-border agreements on public and animal health emergency response | 100 | 54.4 |
| Epidemiology workforce | 50 | 42.3 | International commitments | 96.9 | 53.4 |
| Data integration between human/ animal/environmental health sectors | 100 | 29.7 | JEE and PVS | 0 | 17.7 |
| RAPID RESPONSE | 79.1 | 38.4 | Financing | 16.7 | 36.4 |
| Emergency preparedness and response planning | 87.5 | 16.9 | Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| Exercising response plans | 50 | 16.2 | RISK ENVIRONMENT | 81.7 | 55.0 |
| Emergency response operation | 33.3 | 23.6 | Political and security risks | 85.7 | 60.4 |
| Linking public health and security authorities | 100 | 22.6 | Socio-economic resilience | 99.9 | 66.1 |
| Risk communication | 100 | 39.4 | Infrastructure adequacy | 91.7 | 49.0 |
| Access to communications infrastructure | 92.2 | 72.7 | Environmental risks | 47.8 | 52.9 |
| Trade and travel restrictions | 100 | 97.4 | Public health vulnerabilities | 80.1 | 46.9 |

*Average: all 195 countries

Scores are normalized (0-100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



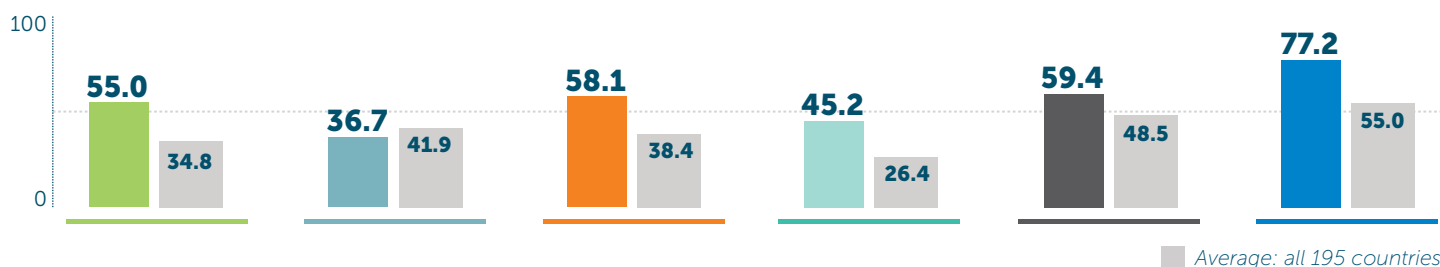
HEALTH



NORMS



RISK



■ Average: all 195 countries

| | COUNTRY SCORE | AVERAGE SCORE* | | COUNTRY SCORE | AVERAGE SCORE* |
|--|---------------|----------------|---|---------------|----------------|
| PREVENTION | 55.0 | 34.8 | HEALTH SYSTEM | 45.2 | 26.4 |
| Antimicrobial resistance (AMR) | 83.3 | 42.4 | Health capacity in clinics, hospitals and community care centers | 45.7 | 24.4 |
| Zoonotic disease | 58.8 | 27.1 | Medical countermeasures and personnel deployment | 66.7 | 21.2 |
| Biosecurity | 28 | 16.0 | Healthcare access | 45.8 | 38.4 |
| Biosafety | 50 | 22.8 | Communications with healthcare workers during a public health emergency | 50 | 15.1 |
| Dual-use research and culture of responsible science | 0 | 1.7 | Infection control practices and availability of equipment | 0 | 20.8 |
| Immunization | 94.7 | 85.0 | Capacity to test and approve new medical countermeasures | 75 | 42.2 |
| DETECTION AND REPORTING | 36.7 | 41.9 | COMPLIANCE WITH INTERNATIONAL NORMS | 59.4 | 48.5 |
| Laboratory systems | 66.7 | 54.4 | IHR reporting compliance and disaster risk reduction | 50 | 62.3 |
| Real-time surveillance and reporting | 48.3 | 39.1 | Cross-border agreements on public and animal health emergency response | 100 | 54.4 |
| Epidemiology workforce | 25 | 42.3 | International commitments | 100 | 53.4 |
| Data integration between human/animal/environmental health sectors | 0 | 29.7 | JEE and PVS | 0 | 17.7 |
| RAPID RESPONSE | 58.1 | 38.4 | Financing | 50 | 36.4 |
| Emergency preparedness and response planning | 75 | 16.9 | Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| Exercising response plans | 0 | 16.2 | RISK ENVIRONMENT | 77.2 | 55.0 |
| Emergency response operation | 33.3 | 23.6 | Political and security risks | 92.9 | 60.4 |
| Linking public health and security authorities | 0 | 22.6 | Socio-economic resilience | 97.4 | 66.1 |
| Risk communication | 100 | 39.4 | Infrastructure adequacy | 83.3 | 49.0 |
| Access to communications infrastructure | 96.6 | 72.7 | Environmental risks | 32.2 | 52.9 |
| Trade and travel restrictions | 100 | 97.4 | Public health vulnerabilities | 74.1 | 46.9 |

*Average: all 195 countries

Scores are normalized (0–100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



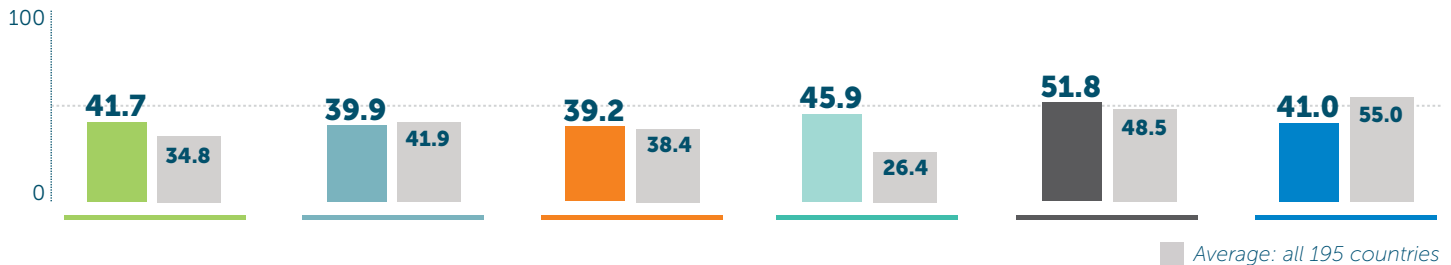
HEALTH



NORMS



RISK



■ Average: all 195 countries

| | COUNTRY SCORE | AVERAGE SCORE* | | COUNTRY SCORE | AVERAGE SCORE* |
|---|---------------|----------------|---|---------------|----------------|
| PREVENTION | 41.7 | 34.8 | HEALTH SYSTEM | 45.9 | 26.4 |
| Antimicrobial resistance (AMR) | 50 | 42.4 | Health capacity in clinics, hospitals and community care centers | 46.2 | 24.4 |
| Zoonotic disease | 33.8 | 27.1 | Medical countermeasures and personnel deployment | 33.3 | 21.2 |
| Biosecurity | 0 | 16.0 | Healthcare access | 46.7 | 38.4 |
| Biosafety | 50 | 22.8 | Communications with healthcare workers during a public health emergency | 50 | 15.1 |
| Dual-use research and culture of responsible science | 0 | 1.7 | Infection control practices and availability of equipment | 50 | 20.8 |
| Immunization | 100 | 85.0 | Capacity to test and approve new medical countermeasures | 50 | 42.2 |
| DETECTION AND REPORTING | 39.9 | 41.9 | COMPLIANCE WITH INTERNATIONAL NORMS | 51.8 | 48.5 |
| Laboratory systems | 66.7 | 54.4 | IHR reporting compliance and disaster risk reduction | 50 | 62.3 |
| Real-time surveillance and reporting | 60 | 39.1 | Cross-border agreements on public and animal health emergency response | 100 | 54.4 |
| Epidemiology workforce | 25 | 42.3 | International commitments | 43.8 | 53.4 |
| Data integration between human/ animal/environmental health sectors | 0 | 29.7 | JEE and PVS | 0 | 17.7 |
| RAPID RESPONSE | 39.2 | 38.4 | Financing | 50 | 36.4 |
| Emergency preparedness and response planning | 0 | 16.9 | Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| Exercising response plans | 0 | 16.2 | RISK ENVIRONMENT | 41.0 | 55.0 |
| Emergency response operation | 33.3 | 23.6 | Political and security risks | 35.7 | 60.4 |
| Linking public health and security authorities | 0 | 22.6 | Socio-economic resilience | 43.5 | 66.1 |
| Risk communication | 75 | 39.4 | Infrastructure adequacy | 41.7 | 49.0 |
| Access to communications infrastructure | 74.8 | 72.7 | Environmental risks | 39 | 52.9 |
| Trade and travel restrictions | 100 | 97.4 | Public health vulnerabilities | 45.1 | 46.9 |

*Average: all 195 countries

Scores are normalized (0–100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



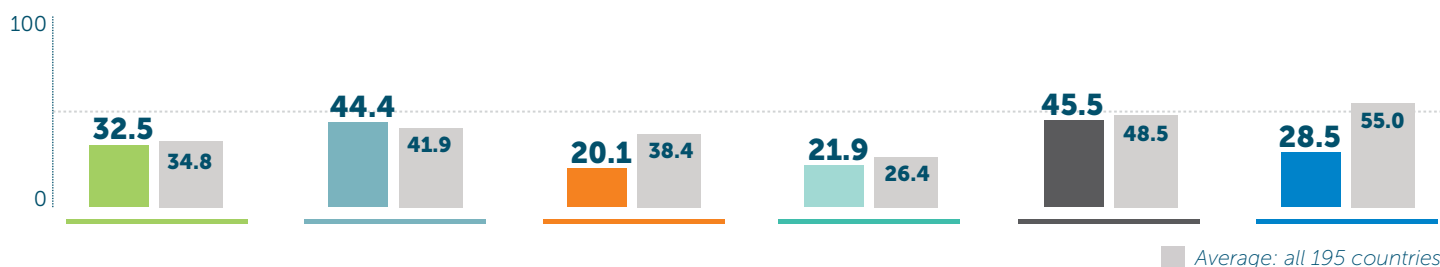
HEALTH



NORMS



RISK



■ Average: all 195 countries

| | COUNTRY SCORE | AVERAGE SCORE* | | COUNTRY SCORE | AVERAGE SCORE* |
|--|---------------|----------------|---|---------------|----------------|
| PREVENTION | 32.5 | 34.8 | HEALTH SYSTEM | 21.9 | 26.4 |
| Antimicrobial resistance (AMR) | 58.3 | 42.4 | Health capacity in clinics, hospitals and community care centers | 17.1 | 24.4 |
| Zoonotic disease | 27 | 27.1 | Medical countermeasures and personnel deployment | 33.3 | 21.2 |
| Biosecurity | 0 | 16.0 | Healthcare access | 38.7 | 38.4 |
| Biosafety | 0 | 22.8 | Communications with healthcare workers during a public health emergency | 0 | 15.1 |
| Dual-use research and culture of responsible science | 0 | 1.7 | Infection control practices and availability of equipment | 0 | 20.8 |
| Immunization | 93.9 | 85.0 | Capacity to test and approve new medical countermeasures | 50 | 42.2 |
| DETECTION AND REPORTING | 44.4 | 41.9 | COMPLIANCE WITH INTERNATIONAL NORMS | 45.5 | 48.5 |
| Laboratory systems | 66.7 | 54.4 | IHR reporting compliance and disaster risk reduction | 50 | 62.3 |
| Real-time surveillance and reporting | 53.3 | 39.1 | Cross-border agreements on public and animal health emergency response | 50 | 54.4 |
| Epidemiology workforce | 50 | 42.3 | International commitments | 25 | 53.4 |
| Data integration between human/animal/environmental health sectors | 0 | 29.7 | JEE and PVS | 25 | 17.7 |
| RAPID RESPONSE | 20.1 | 38.4 | Financing | 50 | 36.4 |
| Emergency preparedness and response planning | 0 | 16.9 | Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| Exercising response plans | 0 | 16.2 | RISK ENVIRONMENT | 28.5 | 55.0 |
| Emergency response operation | 0 | 23.6 | Political and security risks | 17.9 | 60.4 |
| Linking public health and security authorities | 0 | 22.6 | Socio-economic resilience | 39.9 | 66.1 |
| Risk communication | 25 | 39.4 | Infrastructure adequacy | 8.3 | 49.0 |
| Access to communications infrastructure | 36.6 | 72.7 | Environmental risks | 75.6 | 52.9 |
| Trade and travel restrictions | 100 | 97.4 | Public health vulnerabilities | 9.2 | 46.9 |

*Average: all 195 countries

Scores are normalized (0–100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



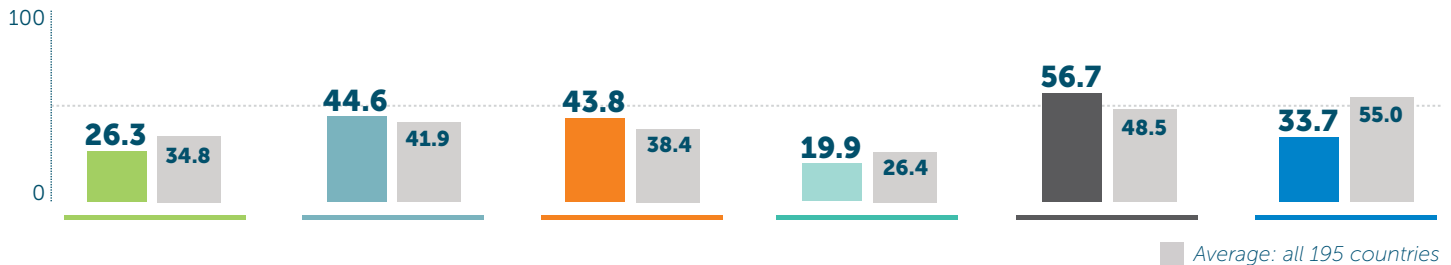
HEALTH



NORMS



RISK



■ Average: all 195 countries

| | COUNTRY SCORE | AVERAGE SCORE* | | COUNTRY SCORE | AVERAGE SCORE* |
|--|---------------|----------------|---|---------------|----------------|
| PREVENTION | 26.3 | 34.8 | HEALTH SYSTEM | 19.9 | 26.4 |
| Antimicrobial resistance (AMR) | 41.7 | 42.4 | Health capacity in clinics, hospitals and community care centers | 2.8 | 24.4 |
| Zoonotic disease | 33.5 | 27.1 | Medical countermeasures and personnel deployment | 0 | 21.2 |
| Biosecurity | 24 | 16.0 | Healthcare access | 71.7 | 38.4 |
| Biosafety | 0 | 22.8 | Communications with healthcare workers during a public health emergency | 0 | 15.1 |
| Dual-use research and culture of responsible science | 0 | 1.7 | Infection control practices and availability of equipment | 0 | 20.8 |
| Immunization | 50 | 85.0 | Capacity to test and approve new medical countermeasures | 50 | 42.2 |
| DETECTION AND REPORTING | 44.6 | 41.9 | COMPLIANCE WITH INTERNATIONAL NORMS | 56.7 | 48.5 |
| Laboratory systems | 50 | 54.4 | IHR reporting compliance and disaster risk reduction | 50 | 62.3 |
| Real-time surveillance and reporting | 70 | 39.1 | Cross-border agreements on public and animal health emergency response | 50 | 54.4 |
| Epidemiology workforce | 50 | 42.3 | International commitments | 78.1 | 53.4 |
| Data integration between human/animal/environmental health sectors | 0 | 29.7 | JEE and PVS | 50 | 17.7 |
| RAPID RESPONSE | 43.8 | 38.4 | Financing | 50 | 36.4 |
| Emergency preparedness and response planning | 12.5 | 16.9 | Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| Exercising response plans | 100 | 16.2 | RISK ENVIRONMENT | 33.7 | 55.0 |
| Emergency response operation | 33.3 | 23.6 | Political and security risks | 39.3 | 60.4 |
| Linking public health and security authorities | 0 | 22.6 | Socio-economic resilience | 42.1 | 66.1 |
| Risk communication | 25 | 39.4 | Infrastructure adequacy | 16.7 | 49.0 |
| Access to communications infrastructure | 56.7 | 72.7 | Environmental risks | 55.2 | 52.9 |
| Trade and travel restrictions | 100 | 97.4 | Public health vulnerabilities | 18.4 | 46.9 |

*Average: all 195 countries

Scores are normalized (0–100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



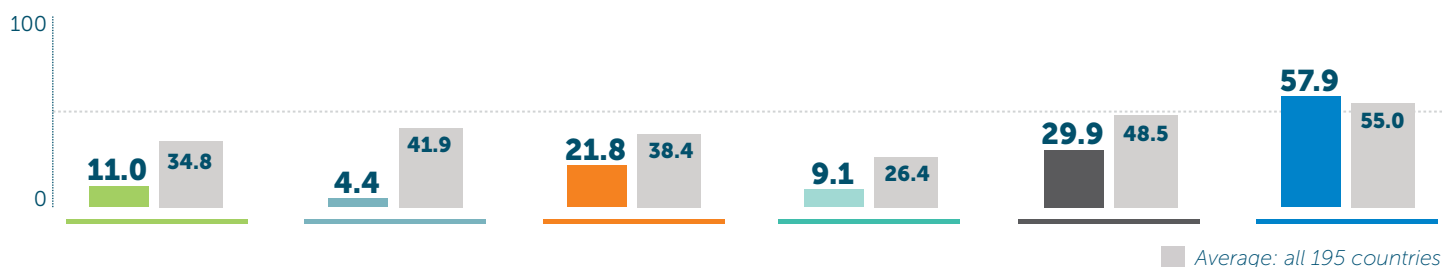
HEALTH



NORMS



RISK



■ Average: all 195 countries

| | COUNTRY SCORE | AVERAGE SCORE* | | COUNTRY SCORE | AVERAGE SCORE* |
|--|---------------|----------------|---|---------------|----------------|
| PREVENTION | 11.0 | 34.8 | HEALTH SYSTEM | 9.1 | 26.4 |
| Antimicrobial resistance (AMR) | 0 | 42.4 | Health capacity in clinics, hospitals and community care centers | 17.6 | 24.4 |
| Zoonotic disease | 6.7 | 27.1 | Medical countermeasures and personnel deployment | 0 | 21.2 |
| Biosecurity | 0 | 16.0 | Healthcare access | 33 | 38.4 |
| Biosafety | 0 | 22.8 | Communications with healthcare workers during a public health emergency | 0 | 15.1 |
| Dual-use research and culture of responsible science | 0 | 1.7 | Infection control practices and availability of equipment | 0 | 20.8 |
| Immunization | 50 | 85.0 | Capacity to test and approve new medical countermeasures | 0 | 42.2 |
| DETECTION AND REPORTING | 4.4 | 41.9 | COMPLIANCE WITH INTERNATIONAL NORMS | 29.9 | 48.5 |
| Laboratory systems | 16.7 | 54.4 | IHR reporting compliance and disaster risk reduction | 50 | 62.3 |
| Real-time surveillance and reporting | 0 | 39.1 | Cross-border agreements on public and animal health emergency response | 50 | 54.4 |
| Epidemiology workforce | 0 | 42.3 | International commitments | 12.5 | 53.4 |
| Data integration between human/animal/environmental health sectors | 0 | 29.7 | JEE and PVS | 0 | 17.7 |
| RAPID RESPONSE | 21.8 | 38.4 | Financing | 0 | 36.4 |
| Emergency preparedness and response planning | 12.5 | 16.9 | Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| Exercising response plans | 0 | 16.2 | RISK ENVIRONMENT | 57.9 | 55.0 |
| Emergency response operation | 0 | 23.6 | Political and security risks | 85.7 | 60.4 |
| Linking public health and security authorities | 0 | 22.6 | Socio-economic resilience | 66.6 | 66.1 |
| Risk communication | 0 | 39.4 | Infrastructure adequacy | 41.7 | 49.0 |
| Access to communications infrastructure | 71 | 72.7 | Environmental risks | 39.6 | 52.9 |
| Trade and travel restrictions | 100 | 97.4 | Public health vulnerabilities | 51.7 | 46.9 |

*Average: all 195 countries

Scores are normalized (0–100, where 100 = most favorable)



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DETECT



RESPOND



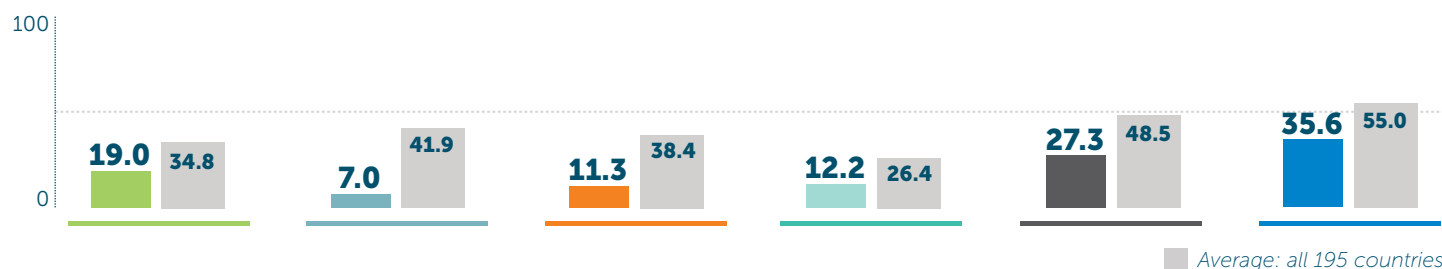
HEALTH



NORMS



RISK



■ Average: all 195 countries

| | COUNTRY SCORE | AVERAGE SCORE* | | COUNTRY SCORE | AVERAGE SCORE* |
|--|---------------|----------------|---|---------------|----------------|
| PREVENTION | 19.0 | 34.8 | HEALTH SYSTEM | 12.2 | 26.4 |
| Antimicrobial resistance (AMR) | 50 | 42.4 | Health capacity in clinics, hospitals and community care centers | 34.9 | 24.4 |
| Zoonotic disease | 6.7 | 27.1 | Medical countermeasures and personnel deployment | 0 | 21.2 |
| Biosecurity | 0 | 16.0 | Healthcare access | 33.3 | 38.4 |
| Biosafety | 0 | 22.8 | Communications with healthcare workers during a public health emergency | 0 | 15.1 |
| Dual-use research and culture of responsible science | 0 | 1.7 | Infection control practices and availability of equipment | 0 | 20.8 |
| Immunization | 50 | 85.0 | Capacity to test and approve new medical countermeasures | 0 | 42.2 |
| DETECTION AND REPORTING | 7.0 | 41.9 | COMPLIANCE WITH INTERNATIONAL NORMS | 27.3 | 48.5 |
| Laboratory systems | 16.7 | 54.4 | IHR reporting compliance and disaster risk reduction | 50 | 62.3 |
| Real-time surveillance and reporting | 10 | 39.1 | Cross-border agreements on public and animal health emergency response | 50 | 54.4 |
| Epidemiology workforce | 0 | 42.3 | International commitments | 12.5 | 53.4 |
| Data integration between human/animal/environmental health sectors | 0 | 29.7 | JEE and PVS | 0 | 17.7 |
| RAPID RESPONSE | 11.3 | 38.4 | Financing | 16.7 | 36.4 |
| Emergency preparedness and response planning | 0 | 16.9 | Commitment to sharing of genetic & biological data & specimens | 33.3 | 68.1 |
| Exercising response plans | 0 | 16.2 | RISK ENVIRONMENT | 35.6 | 55.0 |
| Emergency response operation | 0 | 23.6 | Political and security risks | 35.7 | 60.4 |
| Linking public health and security authorities | 0 | 22.6 | Socio-economic resilience | 14.1 | 66.1 |
| Risk communication | 0 | 39.4 | Infrastructure adequacy | 41.7 | 49.0 |
| Access to communications infrastructure | 0.8 | 72.7 | Environmental risks | 40 | 52.9 |
| Trade and travel restrictions | 100 | 97.4 | Public health vulnerabilities | 45.3 | 46.9 |

*Average: all 195 countries

Scores are normalized (0–100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



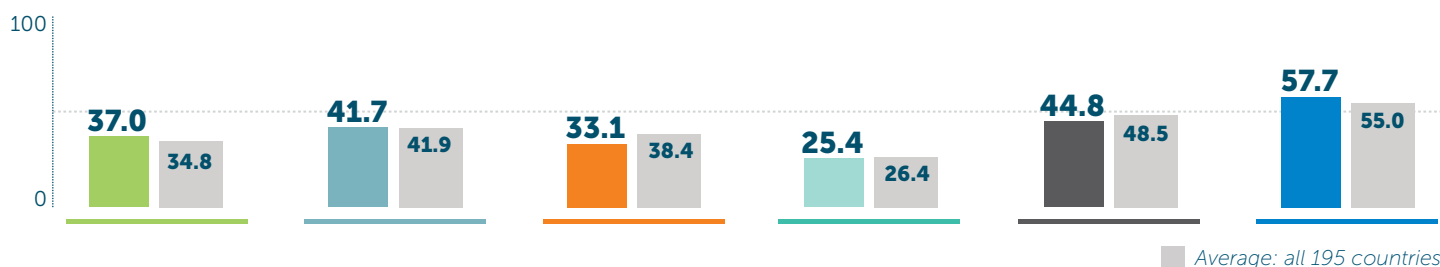
HEALTH



NORMS



RISK



| | COUNTRY SCORE | AVERAGE SCORE* |
|--|---------------|----------------|
| PREVENTION | 37.0 | 34.8 |
| Antimicrobial resistance (AMR) | 75 | 42.4 |
| Zoonotic disease | 27.8 | 27.1 |
| Biosecurity | 20 | 16.0 |
| Biosafety | 0 | 22.8 |
| Dual-use research and culture of responsible science | 0 | 1.7 |
| Immunization | 86 | 85.0 |
| DETECTION AND REPORTING | 41.7 | 41.9 |
| Laboratory systems | 66.7 | 54.4 |
| Real-time surveillance and reporting | 66.7 | 39.1 |
| Epidemiology workforce | 25 | 42.3 |
| Data integration between human/animal/environmental health sectors | 0 | 29.7 |
| RAPID RESPONSE | 33.1 | 38.4 |
| Emergency preparedness and response planning | 12.5 | 16.9 |
| Exercising response plans | 0 | 16.2 |
| Emergency response operation | 33.3 | 23.6 |
| Linking public health and security authorities | 0 | 22.6 |
| Risk communication | 25 | 39.4 |
| Access to communications infrastructure | 81.2 | 72.7 |
| Trade and travel restrictions | 100 | 97.4 |

| | COUNTRY SCORE | AVERAGE SCORE* |
|---|---------------|----------------|
| HEALTH SYSTEM | 25.4 | 26.4 |
| Health capacity in clinics, hospitals and community care centers | 42.2 | 24.4 |
| Medical countermeasures and personnel deployment | 0 | 21.2 |
| Healthcare access | 47.6 | 38.4 |
| Communications with healthcare workers during a public health emergency | 0 | 15.1 |
| Infection control practices and availability of equipment | 0 | 20.8 |
| Capacity to test and approve new medical countermeasures | 75 | 42.2 |
| COMPLIANCE WITH INTERNATIONAL NORMS | 44.8 | 48.5 |
| IHR reporting compliance and disaster risk reduction | 100 | 62.3 |
| Cross-border agreements on public and animal health emergency response | 50 | 54.4 |
| International commitments | 34.4 | 53.4 |
| JEE and PVS | 0 | 17.7 |
| Financing | 16.7 | 36.4 |
| Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| RISK ENVIRONMENT | 57.7 | 55.0 |
| Political and security risks | 53.6 | 60.4 |
| Socio-economic resilience | 85.4 | 66.1 |
| Infrastructure adequacy | 41.7 | 49.0 |
| Environmental risks | 53.6 | 52.9 |
| Public health vulnerabilities | 55.9 | 46.9 |

*Average: all 195 countries

Scores are normalized (0–100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



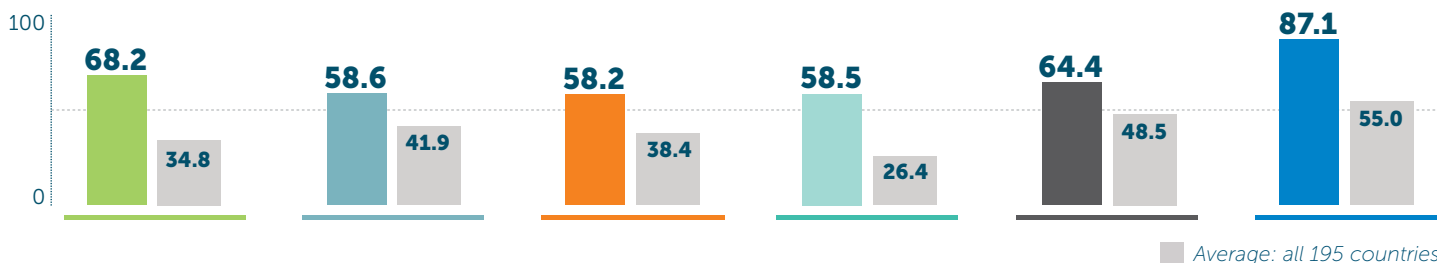
HEALTH



NORMS



RISK



| | COUNTRY SCORE | AVERAGE SCORE* |
|---|---------------|----------------|
| PREVENTION | 68.2 | 34.8 |
| Antimicrobial resistance (AMR) | 83.3 | 42.4 |
| Zoonotic disease | 45.2 | 27.1 |
| Biosecurity | 72 | 16.0 |
| Biosafety | 100 | 22.8 |
| Dual-use research and culture of responsible science | 0 | 1.7 |
| Immunization | 97.4 | 85.0 |
| DETECTION AND REPORTING | 58.6 | 41.9 |
| Laboratory systems | 83.3 | 54.4 |
| Real-time surveillance and reporting | 90 | 39.1 |
| Epidemiology workforce | 50 | 42.3 |
| Data integration between human/ animal/environmental health sectors | 0 | 29.7 |
| RAPID RESPONSE | 58.2 | 38.4 |
| Emergency preparedness and response planning | 25 | 16.9 |
| Exercising response plans | 0 | 16.2 |
| Emergency response operation | 33.3 | 23.6 |
| Linking public health and security authorities | 100 | 22.6 |
| Risk communication | 75 | 39.4 |
| Access to communications infrastructure | 94 | 72.7 |
| Trade and travel restrictions | 100 | 97.4 |

| | COUNTRY SCORE | AVERAGE SCORE* |
|---|---------------|----------------|
| HEALTH SYSTEM | 58.5 | 26.4 |
| Health capacity in clinics, hospitals and community care centers | 56.1 | 24.4 |
| Medical countermeasures and personnel deployment | 33.3 | 21.2 |
| Healthcare access | 43.4 | 38.4 |
| Communications with healthcare workers during a public health emergency | 100 | 15.1 |
| Infection control practices and availability of equipment | 50 | 20.8 |
| Capacity to test and approve new medical countermeasures | 75 | 42.2 |
| COMPLIANCE WITH INTERNATIONAL NORMS | 64.4 | 48.5 |
| IHR reporting compliance and disaster risk reduction | 100 | 62.3 |
| Cross-border agreements on public and animal health emergency response | 100 | 54.4 |
| International commitments | 96.9 | 53.4 |
| JEE and PVS | 0 | 17.7 |
| Financing | 33.3 | 36.4 |
| Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| RISK ENVIRONMENT | 87.1 | 55.0 |
| Political and security risks | 96.4 | 60.4 |
| Socio-economic resilience | 99.8 | 66.1 |
| Infrastructure adequacy | 91.7 | 49.0 |
| Environmental risks | 59.3 | 52.9 |
| Public health vulnerabilities | 84.9 | 46.9 |

*Average: all 195 countries

Scores are normalized (0-100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



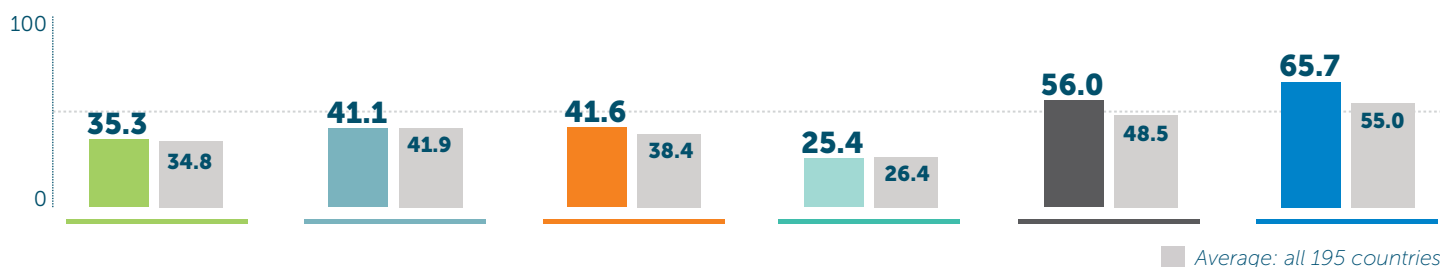
HEALTH



NORMS



RISK



■ Average: all 195 countries

| | COUNTRY SCORE | AVERAGE SCORE* | | COUNTRY SCORE | AVERAGE SCORE* |
|--|---------------|----------------|---|---------------|----------------|
| PREVENTION | 35.3 | 34.8 | HEALTH SYSTEM | 25.4 | 26.4 |
| Antimicrobial resistance (AMR) | 75 | 42.4 | Health capacity in clinics, hospitals and community care centers | 26.9 | 24.4 |
| Zoonotic disease | 20.7 | 27.1 | Medical countermeasures and personnel deployment | 33.3 | 21.2 |
| Biosecurity | 0 | 16.0 | Healthcare access | 48.6 | 38.4 |
| Biosafety | 0 | 22.8 | Communications with healthcare workers during a public health emergency | 0 | 15.1 |
| Dual-use research and culture of responsible science | 0 | 1.7 | Infection control practices and availability of equipment | 0 | 20.8 |
| Immunization | 100 | 85.0 | Capacity to test and approve new medical countermeasures | 50 | 42.2 |
| DETECTION AND REPORTING | 41.1 | 41.9 | COMPLIANCE WITH INTERNATIONAL NORMS | 56.0 | 48.5 |
| Laboratory systems | 83.3 | 54.4 | IHR reporting compliance and disaster risk reduction | 100 | 62.3 |
| Real-time surveillance and reporting | 48.3 | 39.1 | Cross-border agreements on public and animal health emergency response | 50 | 54.4 |
| Epidemiology workforce | 25 | 42.3 | International commitments | 87.5 | 53.4 |
| Data integration between human/animal/environmental health sectors | 0 | 29.7 | JEE and PVS | 25 | 17.7 |
| RAPID RESPONSE | 41.6 | 38.4 | Financing | 16.7 | 36.4 |
| Emergency preparedness and response planning | 6.3 | 16.9 | Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| Exercising response plans | 0 | 16.2 | RISK ENVIRONMENT | 65.7 | 55.0 |
| Emergency response operation | 33.3 | 23.6 | Political and security risks | 64.3 | 60.4 |
| Linking public health and security authorities | 0 | 22.6 | Socio-economic resilience | 73.2 | 66.1 |
| Risk communication | 75 | 39.4 | Infrastructure adequacy | 75 | 49.0 |
| Access to communications infrastructure | 86.9 | 72.7 | Environmental risks | 50.1 | 52.9 |
| Trade and travel restrictions | 100 | 97.4 | Public health vulnerabilities | 64.6 | 46.9 |

*Average: all 195 countries

Scores are normalized (0–100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



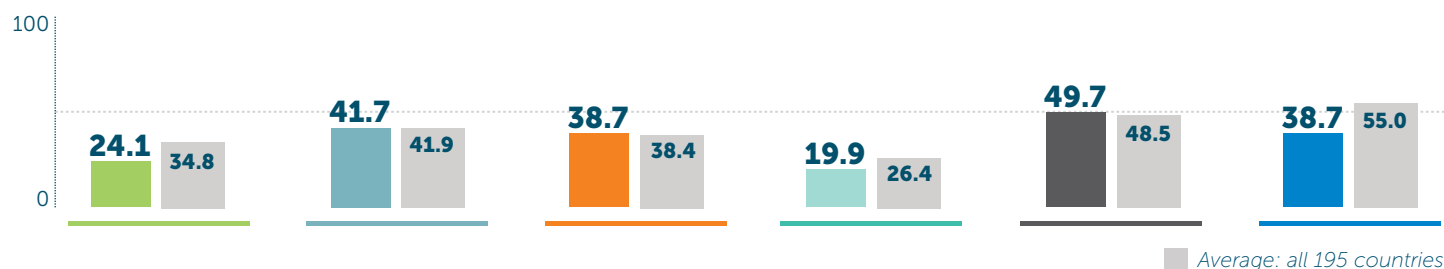
HEALTH



NORMS



RISK



■ Average: all 195 countries

| | COUNTRY SCORE | AVERAGE SCORE* | | COUNTRY SCORE | AVERAGE SCORE* |
|--|---------------|----------------|---|---------------|----------------|
| PREVENTION | 24.1 | 34.8 | HEALTH SYSTEM | 19.9 | 26.4 |
| Antimicrobial resistance (AMR) | 25 | 42.4 | Health capacity in clinics, hospitals and community care centers | 3.4 | 24.4 |
| Zoonotic disease | 7.2 | 27.1 | Medical countermeasures and personnel deployment | 33.3 | 21.2 |
| Biosecurity | 20 | 16.0 | Healthcare access | 23.8 | 38.4 |
| Biosafety | 0 | 22.8 | Communications with healthcare workers during a public health emergency | 0 | 15.1 |
| Dual-use research and culture of responsible science | 0 | 1.7 | Infection control practices and availability of equipment | 0 | 20.8 |
| Immunization | 79.8 | 85.0 | Capacity to test and approve new medical countermeasures | 75 | 42.2 |
| DETECTION AND REPORTING | 41.7 | 41.9 | COMPLIANCE WITH INTERNATIONAL NORMS | 49.7 | 48.5 |
| Laboratory systems | 75 | 54.4 | IHR reporting compliance and disaster risk reduction | 50 | 62.3 |
| Real-time surveillance and reporting | 35 | 39.1 | Cross-border agreements on public and animal health emergency response | 0 | 54.4 |
| Epidemiology workforce | 50 | 42.3 | International commitments | 84.4 | 53.4 |
| Data integration between human/animal/environmental health sectors | 0 | 29.7 | JEE and PVS | 50 | 17.7 |
| RAPID RESPONSE | 38.7 | 38.4 | Financing | 50 | 36.4 |
| Emergency preparedness and response planning | 0 | 16.9 | Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| Exercising response plans | 50 | 16.2 | RISK ENVIRONMENT | 38.7 | 55.0 |
| Emergency response operation | 33.3 | 23.6 | Political and security risks | 17.9 | 60.4 |
| Linking public health and security authorities | 100 | 22.6 | Socio-economic resilience | 56.1 | 66.1 |
| Risk communication | 0 | 39.4 | Infrastructure adequacy | 33.3 | 49.0 |
| Access to communications infrastructure | 19.9 | 72.7 | Environmental risks | 58.9 | 52.9 |
| Trade and travel restrictions | 100 | 97.4 | Public health vulnerabilities | 33.5 | 46.9 |

*Average: all 195 countries

Scores are normalized (0–100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



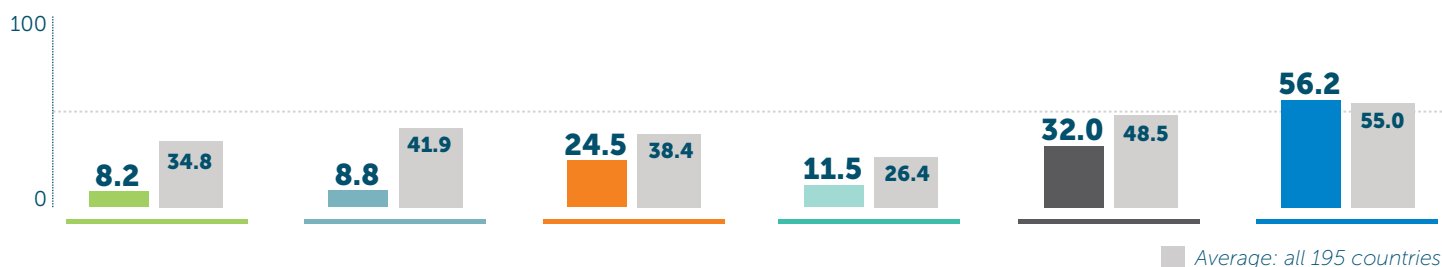
HEALTH



NORMS



RISK



■ Average: all 195 countries

| | COUNTRY SCORE | AVERAGE SCORE* | | COUNTRY SCORE | AVERAGE SCORE* |
|--|---------------|----------------|---|---------------|----------------|
| PREVENTION | 8.2 | 34.8 | HEALTH SYSTEM | 11.5 | 26.4 |
| Antimicrobial resistance (AMR) | 0 | 42.4 | Health capacity in clinics, hospitals and community care centers | 15.4 | 24.4 |
| Zoonotic disease | 4.5 | 27.1 | Medical countermeasures and personnel deployment | 0 | 21.2 |
| Biosecurity | 0 | 16.0 | Healthcare access | 48 | 38.4 |
| Biosafety | 0 | 22.8 | Communications with healthcare workers during a public health emergency | 0 | 15.1 |
| Dual-use research and culture of responsible science | 0 | 1.7 | Infection control practices and availability of equipment | 0 | 20.8 |
| Immunization | 37.7 | 85.0 | Capacity to test and approve new medical countermeasures | 0 | 42.2 |
| DETECTION AND REPORTING | 8.8 | 41.9 | COMPLIANCE WITH INTERNATIONAL NORMS | 32.0 | 48.5 |
| Laboratory systems | 16.7 | 54.4 | IHR reporting compliance and disaster risk reduction | 50 | 62.3 |
| Real-time surveillance and reporting | 16.7 | 39.1 | Cross-border agreements on public and animal health emergency response | 50 | 54.4 |
| Epidemiology workforce | 0 | 42.3 | International commitments | 28.1 | 53.4 |
| Data integration between human/animal/environmental health sectors | 0 | 29.7 | JEE and PVS | 0 | 17.7 |
| RAPID RESPONSE | 24.5 | 38.4 | Financing | 0 | 36.4 |
| Emergency preparedness and response planning | 0 | 16.9 | Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| Exercising response plans | 0 | 16.2 | RISK ENVIRONMENT | 56.2 | 55.0 |
| Emergency response operation | 0 | 23.6 | Political and security risks | 82.1 | 60.4 |
| Linking public health and security authorities | 0 | 22.6 | Socio-economic resilience | 71.3 | 66.1 |
| Risk communication | 25 | 39.4 | Infrastructure adequacy | 33.3 | 49.0 |
| Access to communications infrastructure | 73 | 72.7 | Environmental risks | 26.8 | 52.9 |
| Trade and travel restrictions | 100 | 97.4 | Public health vulnerabilities | 61.7 | 46.9 |

*Average: all 195 countries

Scores are normalized (0–100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



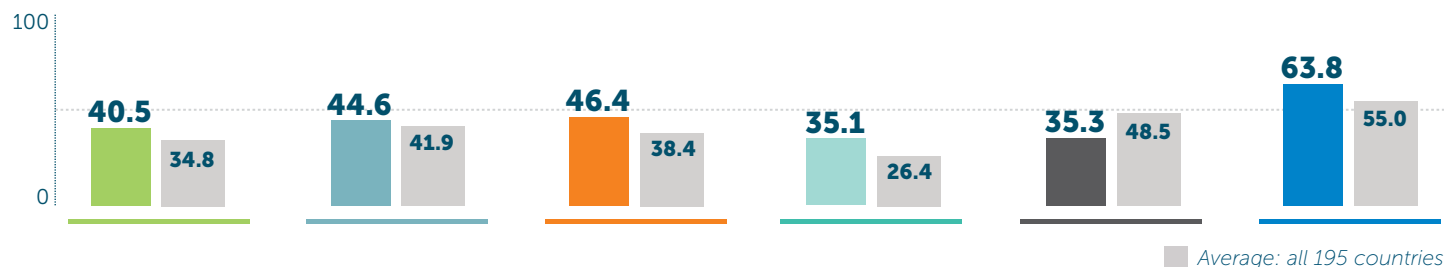
HEALTH



NORMS



RISK



■ Average: all 195 countries

| | COUNTRY SCORE | AVERAGE SCORE* | | COUNTRY SCORE | AVERAGE SCORE* |
|--|---------------|----------------|---|---------------|----------------|
| PREVENTION | 40.5 | 34.8 | HEALTH SYSTEM | 35.1 | 26.4 |
| Antimicrobial resistance (AMR) | 33.3 | 42.4 | Health capacity in clinics, hospitals and community care centers | 51 | 24.4 |
| Zoonotic disease | 21.5 | 27.1 | Medical countermeasures and personnel deployment | 33.3 | 21.2 |
| Biosecurity | 24 | 16.0 | Healthcare access | 28.9 | 38.4 |
| Biosafety | 50 | 22.8 | Communications with healthcare workers during a public health emergency | 0 | 15.1 |
| Dual-use research and culture of responsible science | 0 | 1.7 | Infection control practices and availability of equipment | 50 | 20.8 |
| Immunization | 99.1 | 85.0 | Capacity to test and approve new medical countermeasures | 50 | 42.2 |
| DETECTION AND REPORTING | 44.6 | 41.9 | COMPLIANCE WITH INTERNATIONAL NORMS | 35.3 | 48.5 |
| Laboratory systems | 50 | 54.4 | IHR reporting compliance and disaster risk reduction | 50 | 62.3 |
| Real-time surveillance and reporting | 46.7 | 39.1 | Cross-border agreements on public and animal health emergency response | 50 | 54.4 |
| Epidemiology workforce | 75 | 42.3 | International commitments | 28.1 | 53.4 |
| Data integration between human/animal/environmental health sectors | 0 | 29.7 | JEE and PVS | 0 | 17.7 |
| RAPID RESPONSE | 46.4 | 38.4 | Financing | 16.7 | 36.4 |
| Emergency preparedness and response planning | 75 | 16.9 | Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| Exercising response plans | 0 | 16.2 | RISK ENVIRONMENT | 63.8 | 55.0 |
| Emergency response operation | 0 | 23.6 | Political and security risks | 67.9 | 60.4 |
| Linking public health and security authorities | 100 | 22.6 | Socio-economic resilience | 67.6 | 66.1 |
| Risk communication | 0 | 39.4 | Infrastructure adequacy | 75 | 49.0 |
| Access to communications infrastructure | 88.3 | 72.7 | Environmental risks | 52.4 | 52.9 |
| Trade and travel restrictions | 100 | 97.4 | Public health vulnerabilities | 54.8 | 46.9 |

*Average: all 195 countries

Scores are normalized (0-100, where 100 = most favorable)

Papua New Guinea

27.8 Index Score

155/195



PREVENT



DETECT



RESPOND



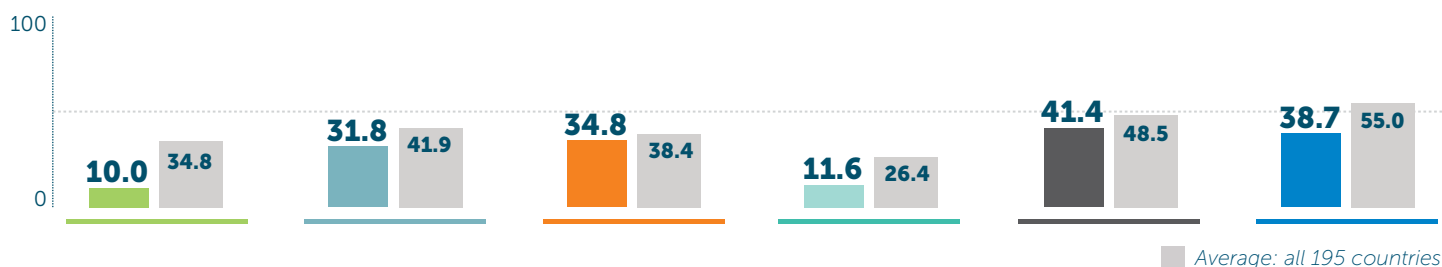
HEALTH



NORMS



RISK



■ Average: all 195 countries

| | COUNTRY SCORE | AVERAGE SCORE* | | COUNTRY SCORE | AVERAGE SCORE* |
|--|---------------|----------------|---|---------------|----------------|
| PREVENTION | 10.0 | 34.8 | HEALTH SYSTEM | 11.6 | 26.4 |
| Antimicrobial resistance (AMR) | 0 | 42.4 | Health capacity in clinics, hospitals and community care centers | 22.7 | 24.4 |
| Zoonotic disease | 0.1 | 27.1 | Medical countermeasures and personnel deployment | 0 | 21.2 |
| Biosecurity | 0 | 16.0 | Healthcare access | 24.6 | 38.4 |
| Biosafety | 0 | 22.8 | Communications with healthcare workers during a public health emergency | 0 | 15.1 |
| Dual-use research and culture of responsible science | 0 | 1.7 | Infection control practices and availability of equipment | 0 | 20.8 |
| Immunization | 50.9 | 85.0 | Capacity to test and approve new medical countermeasures | 25 | 42.2 |
| DETECTION AND REPORTING | 31.8 | 41.9 | COMPLIANCE WITH INTERNATIONAL NORMS | 41.4 | 48.5 |
| Laboratory systems | 33.3 | 54.4 | IHR reporting compliance and disaster risk reduction | 50 | 62.3 |
| Real-time surveillance and reporting | 15 | 39.1 | Cross-border agreements on public and animal health emergency response | 50 | 54.4 |
| Epidemiology workforce | 75 | 42.3 | International commitments | 25 | 53.4 |
| Data integration between human/animal/environmental health sectors | 0 | 29.7 | JEE and PVS | 0 | 17.7 |
| RAPID RESPONSE | 34.8 | 38.4 | Financing | 50 | 36.4 |
| Emergency preparedness and response planning | 0 | 16.9 | Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| Exercising response plans | 50 | 16.2 | RISK ENVIRONMENT | 38.7 | 55.0 |
| Emergency response operation | 33.3 | 23.6 | Political and security risks | 53.6 | 60.4 |
| Linking public health and security authorities | 0 | 22.6 | Socio-economic resilience | 54.9 | 66.1 |
| Risk communication | 25 | 39.4 | Infrastructure adequacy | 16.7 | 49.0 |
| Access to communications infrastructure | 55.1 | 72.7 | Environmental risks | 60.3 | 52.9 |
| Trade and travel restrictions | 100 | 97.4 | Public health vulnerabilities | 11.2 | 46.9 |

*Average: all 195 countries

Scores are normalized (0–100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



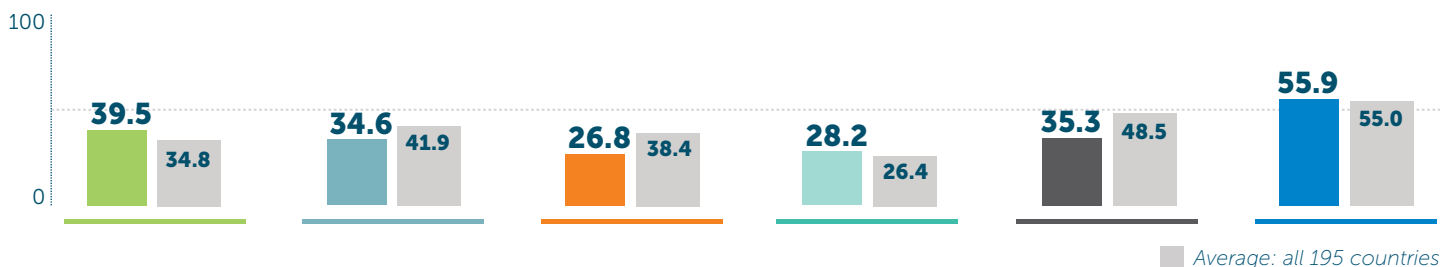
HEALTH



NORMS



RISK



■ Average: all 195 countries

| | COUNTRY SCORE | AVERAGE SCORE* | | COUNTRY SCORE | AVERAGE SCORE* |
|--|---------------|----------------|---|---------------|----------------|
| PREVENTION | 39.5 | 34.8 | HEALTH SYSTEM | 28.2 | 26.4 |
| Antimicrobial resistance (AMR) | 33.3 | 42.4 | Health capacity in clinics, hospitals and community care centers | 5.8 | 24.4 |
| Zoonotic disease | 55.2 | 27.1 | Medical countermeasures and personnel deployment | 0 | 21.2 |
| Biosecurity | 0 | 16.0 | Healthcare access | 47.1 | 38.4 |
| Biosafety | 50 | 22.8 | Communications with healthcare workers during a public health emergency | 0 | 15.1 |
| Dual-use research and culture of responsible science | 0 | 1.7 | Infection control practices and availability of equipment | 50 | 20.8 |
| Immunization | 83.3 | 85.0 | Capacity to test and approve new medical countermeasures | 75 | 42.2 |
| DETECTION AND REPORTING | 34.6 | 41.9 | COMPLIANCE WITH INTERNATIONAL NORMS | 35.3 | 48.5 |
| Laboratory systems | 50 | 54.4 | IHR reporting compliance and disaster risk reduction | 50 | 62.3 |
| Real-time surveillance and reporting | 56.7 | 39.1 | Cross-border agreements on public and animal health emergency response | 50 | 54.4 |
| Epidemiology workforce | 25 | 42.3 | International commitments | 28.1 | 53.4 |
| Data integration between human/animal/environmental health sectors | 0 | 29.7 | JEE and PVS | 0 | 17.7 |
| RAPID RESPONSE | 26.8 | 38.4 | Financing | 16.7 | 36.4 |
| Emergency preparedness and response planning | 0 | 16.9 | Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| Exercising response plans | 0 | 16.2 | RISK ENVIRONMENT | 55.9 | 55.0 |
| Emergency response operation | 33.3 | 23.6 | Political and security risks | 64.3 | 60.4 |
| Linking public health and security authorities | 0 | 22.6 | Socio-economic resilience | 77.8 | 66.1 |
| Risk communication | 0 | 39.4 | Infrastructure adequacy | 41.7 | 49.0 |
| Access to communications infrastructure | 82.7 | 72.7 | Environmental risks | 44.6 | 52.9 |
| Trade and travel restrictions | 100 | 97.4 | Public health vulnerabilities | 50.6 | 46.9 |

*Average: all 195 countries

Scores are normalized (0–100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



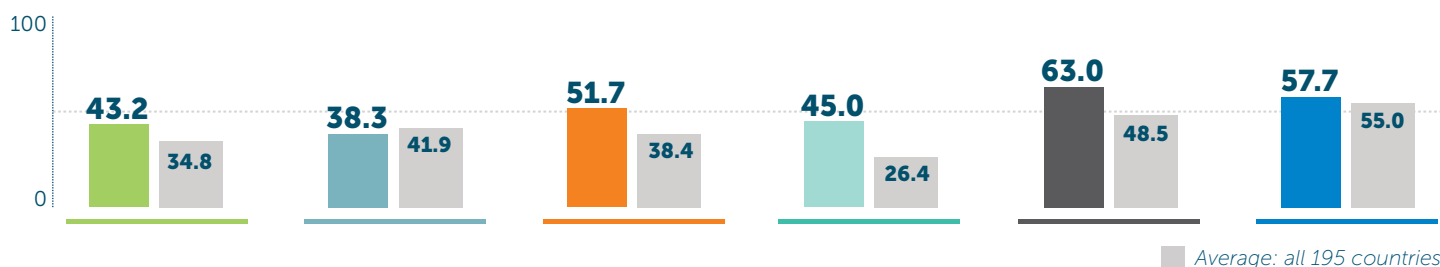
HEALTH



NORMS



RISK



■ Average: all 195 countries

| | COUNTRY SCORE | AVERAGE SCORE* | | COUNTRY SCORE | AVERAGE SCORE* |
|--|---------------|----------------|---|---------------|----------------|
| PREVENTION | 43.2 | 34.8 | HEALTH SYSTEM | 45.0 | 26.4 |
| Antimicrobial resistance (AMR) | 58.3 | 42.4 | Health capacity in clinics, hospitals and community care centers | 6.3 | 24.4 |
| Zoonotic disease | 47 | 27.1 | Medical countermeasures and personnel deployment | 0 | 21.2 |
| Biosecurity | 4 | 16.0 | Healthcare access | 47.2 | 38.4 |
| Biosafety | 50 | 22.8 | Communications with healthcare workers during a public health emergency | 100 | 15.1 |
| Dual-use research and culture of responsible science | 0 | 1.7 | Infection control practices and availability of equipment | 50 | 20.8 |
| Immunization | 86 | 85.0 | Capacity to test and approve new medical countermeasures | 75 | 42.2 |
| DETECTION AND REPORTING | 38.3 | 41.9 | COMPLIANCE WITH INTERNATIONAL NORMS | 63.0 | 48.5 |
| Laboratory systems | 33.3 | 54.4 | IHR reporting compliance and disaster risk reduction | 100 | 62.3 |
| Real-time surveillance and reporting | 86.7 | 39.1 | Cross-border agreements on public and animal health emergency response | 50 | 54.4 |
| Epidemiology workforce | 25 | 42.3 | International commitments | 90.6 | 53.4 |
| Data integration between human/animal/environmental health sectors | 0 | 29.7 | JEE and PVS | 25 | 17.7 |
| RAPID RESPONSE | 51.7 | 38.4 | Financing | 50 | 36.4 |
| Emergency preparedness and response planning | 87.5 | 16.9 | Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| Exercising response plans | 0 | 16.2 | RISK ENVIRONMENT | 57.7 | 55.0 |
| Emergency response operation | 33.3 | 23.6 | Political and security risks | 75 | 60.4 |
| Linking public health and security authorities | 0 | 22.6 | Socio-economic resilience | 69.8 | 66.1 |
| Risk communication | 75 | 39.4 | Infrastructure adequacy | 58.3 | 49.0 |
| Access to communications infrastructure | 64.5 | 72.7 | Environmental risks | 33.6 | 52.9 |
| Trade and travel restrictions | 100 | 97.4 | Public health vulnerabilities | 48.3 | 46.9 |

*Average: all 195 countries

Scores are normalized (0–100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



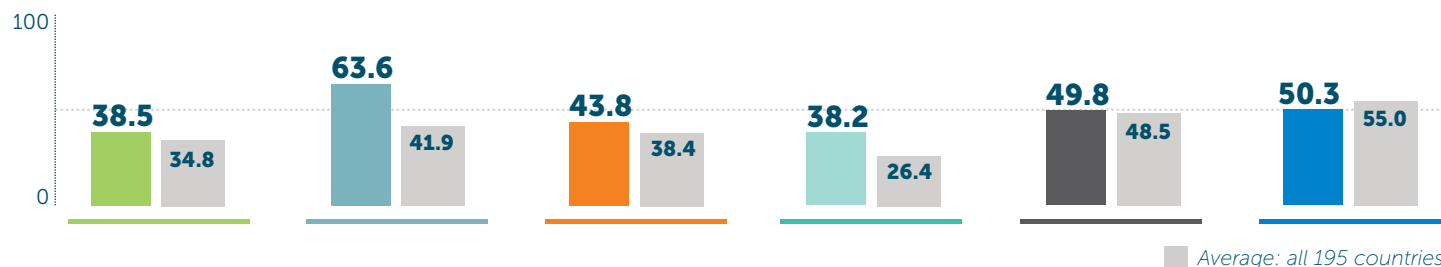
HEALTH



NORMS



RISK



■ Average: all 195 countries

| | COUNTRY SCORE | AVERAGE SCORE* | | COUNTRY SCORE | AVERAGE SCORE* |
|--|---------------|----------------|---|---------------|----------------|
| PREVENTION | 38.5 | 34.8 | HEALTH SYSTEM | 38.2 | 26.4 |
| Antimicrobial resistance (AMR) | 75 | 42.4 | Health capacity in clinics, hospitals and community care centers | 20.9 | 24.4 |
| Zoonotic disease | 20.7 | 27.1 | Medical countermeasures and personnel deployment | 66.7 | 21.2 |
| Biosecurity | 30.7 | 16.0 | Healthcare access | 43.7 | 38.4 |
| Biosafety | 0 | 22.8 | Communications with healthcare workers during a public health emergency | 0 | 15.1 |
| Dual-use research and culture of responsible science | 0 | 1.7 | Infection control practices and availability of equipment | 50 | 20.8 |
| Immunization | 91.2 | 85.0 | Capacity to test and approve new medical countermeasures | 50 | 42.2 |
| DETECTION AND REPORTING | 63.6 | 41.9 | COMPLIANCE WITH INTERNATIONAL NORMS | 49.8 | 48.5 |
| Laboratory systems | 83.3 | 54.4 | IHR reporting compliance and disaster risk reduction | 50 | 62.3 |
| Real-time surveillance and reporting | 51.7 | 39.1 | Cross-border agreements on public and animal health emergency response | 50 | 54.4 |
| Epidemiology workforce | 25 | 42.3 | International commitments | 87.5 | 53.4 |
| Data integration between human/animal/environmental health sectors | 100 | 29.7 | JEE and PVS | 0 | 17.7 |
| RAPID RESPONSE | 43.8 | 38.4 | Financing | 50 | 36.4 |
| Emergency preparedness and response planning | 6.3 | 16.9 | Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| Exercising response plans | 50 | 16.2 | RISK ENVIRONMENT | 50.3 | 55.0 |
| Emergency response operation | 66.7 | 23.6 | Political and security risks | 39.3 | 60.4 |
| Linking public health and security authorities | 0 | 22.6 | Socio-economic resilience | 87.1 | 66.1 |
| Risk communication | 50 | 39.4 | Infrastructure adequacy | 33.3 | 49.0 |
| Access to communications infrastructure | 84.6 | 72.7 | Environmental risks | 55 | 52.9 |
| Trade and travel restrictions | 50 | 97.4 | Public health vulnerabilities | 41.4 | 46.9 |

*Average: all 195 countries

Scores are normalized (0-100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



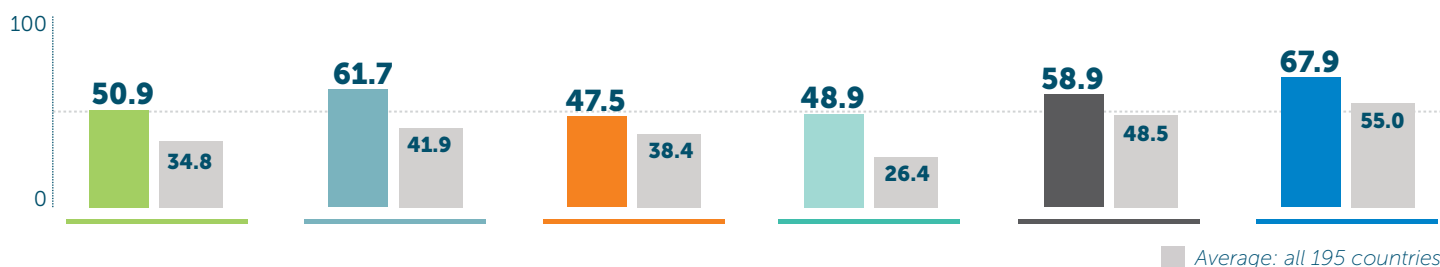
HEALTH



NORMS



RISK



■ Average: all 195 countries

| | COUNTRY SCORE | AVERAGE SCORE* | | COUNTRY SCORE | AVERAGE SCORE* |
|--|---------------|----------------|---|---------------|----------------|
| PREVENTION | 50.9 | 34.8 | HEALTH SYSTEM | 48.9 | 26.4 |
| Antimicrobial resistance (AMR) | 75 | 42.4 | Health capacity in clinics, hospitals and community care centers | 63 | 24.4 |
| Zoonotic disease | 40.2 | 27.1 | Medical countermeasures and personnel deployment | 33.3 | 21.2 |
| Biosecurity | 30.7 | 16.0 | Healthcare access | 47 | 38.4 |
| Biosafety | 50 | 22.8 | Communications with healthcare workers during a public health emergency | 50 | 15.1 |
| Dual-use research and culture of responsible science | 0 | 1.7 | Infection control practices and availability of equipment | 50 | 20.8 |
| Immunization | 95.6 | 85.0 | Capacity to test and approve new medical countermeasures | 50 | 42.2 |
| DETECTION AND REPORTING | 61.7 | 41.9 | COMPLIANCE WITH INTERNATIONAL NORMS | 58.9 | 48.5 |
| Laboratory systems | 50 | 54.4 | IHR reporting compliance and disaster risk reduction | 50 | 62.3 |
| Real-time surveillance and reporting | 53.3 | 39.1 | Cross-border agreements on public and animal health emergency response | 100 | 54.4 |
| Epidemiology workforce | 50 | 42.3 | International commitments | 96.9 | 53.4 |
| Data integration between human/animal/environmental health sectors | 100 | 29.7 | JEE and PVS | 0 | 17.7 |
| RAPID RESPONSE | 47.5 | 38.4 | Financing | 50 | 36.4 |
| Emergency preparedness and response planning | 18.8 | 16.9 | Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| Exercising response plans | 0 | 16.2 | RISK ENVIRONMENT | 67.9 | 55.0 |
| Emergency response operation | 33.3 | 23.6 | Political and security risks | 75 | 60.4 |
| Linking public health and security authorities | 100 | 22.6 | Socio-economic resilience | 66.1 | 66.1 |
| Risk communication | 25 | 39.4 | Infrastructure adequacy | 66.7 | 49.0 |
| Access to communications infrastructure | 87.9 | 72.7 | Environmental risks | 68.8 | 52.9 |
| Trade and travel restrictions | 100 | 97.4 | Public health vulnerabilities | 62.5 | 46.9 |

*Average: all 195 countries

Scores are normalized (0–100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



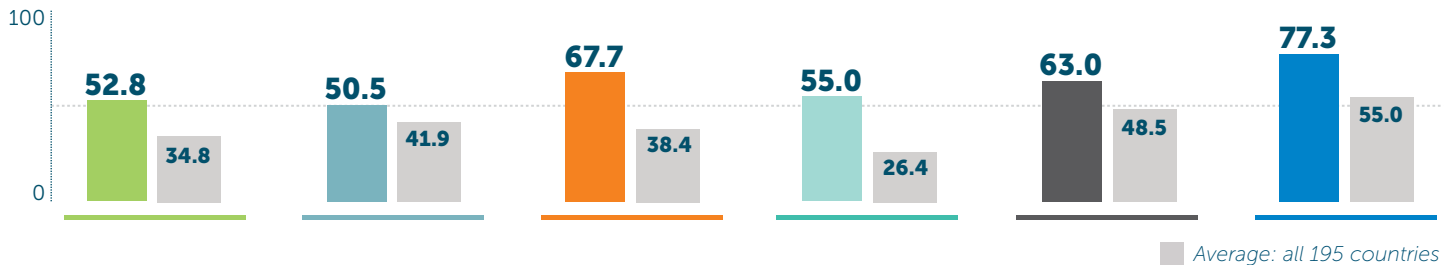
HEALTH



NORMS



RISK



| | COUNTRY SCORE | AVERAGE SCORE* |
|---|---------------|----------------|
| PREVENTION | 52.8 | 34.8 |
| Antimicrobial resistance (AMR) | 75 | 42.4 |
| Zoonotic disease | 49.3 | 27.1 |
| Biosecurity | 28 | 16.0 |
| Biosafety | 50 | 22.8 |
| Dual-use research and culture of responsible science | 0 | 1.7 |
| Immunization | 99.1 | 85.0 |
| DETECTION AND REPORTING | 50.5 | 41.9 |
| Laboratory systems | 83.3 | 54.4 |
| Real-time surveillance and reporting | 83.3 | 39.1 |
| Epidemiology workforce | 25 | 42.3 |
| Data integration between human/ animal/environmental health sectors | 0 | 29.7 |
| RAPID RESPONSE | 67.7 | 38.4 |
| Emergency preparedness and response planning | 25 | 16.9 |
| Exercising response plans | 50 | 16.2 |
| Emergency response operation | 33.3 | 23.6 |
| Linking public health and security authorities | 100 | 22.6 |
| Risk communication | 100 | 39.4 |
| Access to communications infrastructure | 80.1 | 72.7 |
| Trade and travel restrictions | 100 | 97.4 |

| | COUNTRY SCORE | AVERAGE SCORE* |
|---|---------------|----------------|
| HEALTH SYSTEM | 55.0 | 26.4 |
| Health capacity in clinics, hospitals and community care centers | 46 | 24.4 |
| Medical countermeasures and personnel deployment | 66.7 | 21.2 |
| Healthcare access | 94.3 | 38.4 |
| Communications with healthcare workers during a public health emergency | 0 | 15.1 |
| Infection control practices and availability of equipment | 50 | 20.8 |
| Capacity to test and approve new medical countermeasures | 75 | 42.2 |
| COMPLIANCE WITH INTERNATIONAL NORMS | 63.0 | 48.5 |
| IHR reporting compliance and disaster risk reduction | 50 | 62.3 |
| Cross-border agreements on public and animal health emergency response | 100 | 54.4 |
| International commitments | 96.9 | 53.4 |
| JEE and PVS | 25 | 17.7 |
| Financing | 50 | 36.4 |
| Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| RISK ENVIRONMENT | 77.3 | 55.0 |
| Political and security risks | 82.1 | 60.4 |
| Socio-economic resilience | 87.2 | 66.1 |
| Infrastructure adequacy | 91.7 | 49.0 |
| Environmental risks | 55.1 | 52.9 |
| Public health vulnerabilities | 68 | 46.9 |

*Average: all 195 countries

Scores are normalized (0-100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



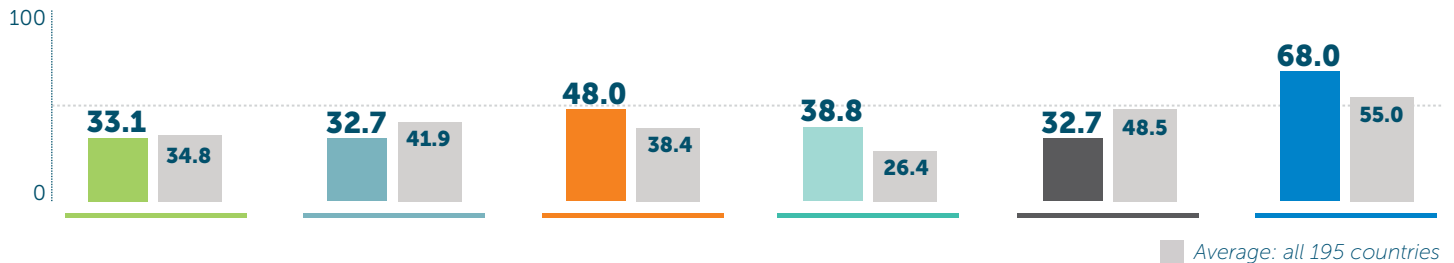
HEALTH



NORMS



RISK



■ Average: all 195 countries

| | COUNTRY SCORE | AVERAGE SCORE* | | COUNTRY SCORE | AVERAGE SCORE* |
|--|---------------|----------------|---|---------------|----------------|
| PREVENTION | 33.1 | 34.8 | HEALTH SYSTEM | 38.8 | 26.4 |
| Antimicrobial resistance (AMR) | 33.3 | 42.4 | Health capacity in clinics, hospitals and community care centers | 52.6 | 24.4 |
| Zoonotic disease | 27.8 | 27.1 | Medical countermeasures and personnel deployment | 33.3 | 21.2 |
| Biosecurity | 20 | 16.0 | Healthcare access | 47.6 | 38.4 |
| Biosafety | 0 | 22.8 | Communications with healthcare workers during a public health emergency | 0 | 15.1 |
| Dual-use research and culture of responsible science | 0 | 1.7 | Infection control practices and availability of equipment | 50 | 20.8 |
| Immunization | 100 | 85.0 | Capacity to test and approve new medical countermeasures | 50 | 42.2 |
| DETECTION AND REPORTING | 32.7 | 41.9 | COMPLIANCE WITH INTERNATIONAL NORMS | 32.7 | 48.5 |
| Laboratory systems | 66.7 | 54.4 | IHR reporting compliance and disaster risk reduction | 50 | 62.3 |
| Real-time surveillance and reporting | 33.3 | 39.1 | Cross-border agreements on public and animal health emergency response | 0 | 54.4 |
| Epidemiology workforce | 25 | 42.3 | International commitments | 37.5 | 53.4 |
| Data integration between human/animal/environmental health sectors | 0 | 29.7 | JEE and PVS | 25 | 17.7 |
| RAPID RESPONSE | 48.0 | 38.4 | Financing | 16.7 | 36.4 |
| Emergency preparedness and response planning | 18.8 | 16.9 | Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| Exercising response plans | 0 | 16.2 | RISK ENVIRONMENT | 68.0 | 55.0 |
| Emergency response operation | 33.3 | 23.6 | Political and security risks | 64.3 | 60.4 |
| Linking public health and security authorities | 100 | 22.6 | Socio-economic resilience | 75.1 | 66.1 |
| Risk communication | 25 | 39.4 | Infrastructure adequacy | 75 | 49.0 |
| Access to communications infrastructure | 91.3 | 72.7 | Environmental risks | 52.6 | 52.9 |
| Trade and travel restrictions | 100 | 97.4 | Public health vulnerabilities | 71.6 | 46.9 |

*Average: all 195 countries

Scores are normalized (0–100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



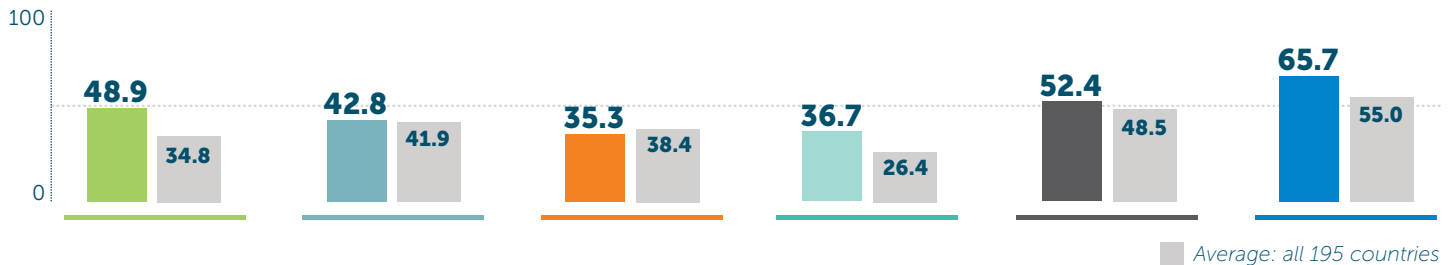
HEALTH



NORMS



RISK



■ Average: all 195 countries

| | COUNTRY SCORE | AVERAGE SCORE* | | COUNTRY SCORE | AVERAGE SCORE* |
|---|---------------|----------------|---|---------------|----------------|
| PREVENTION | 48.9 | 34.8 | HEALTH SYSTEM | 36.7 | 26.4 |
| Antimicrobial resistance (AMR) | 58.3 | 42.4 | Health capacity in clinics, hospitals and community care centers | 22.4 | 24.4 |
| Zoonotic disease | 56.9 | 27.1 | Medical countermeasures and personnel deployment | 33.3 | 21.2 |
| Biosecurity | 24 | 16.0 | Healthcare access | 47.4 | 38.4 |
| Biosafety | 50 | 22.8 | Communications with healthcare workers during a public health emergency | 0 | 15.1 |
| Dual-use research and culture of responsible science | 0 | 1.7 | Infection control practices and availability of equipment | 50 | 20.8 |
| Immunization | 89.5 | 85.0 | Capacity to test and approve new medical countermeasures | 75 | 42.2 |
| DETECTION AND REPORTING | 42.8 | 41.9 | COMPLIANCE WITH INTERNATIONAL NORMS | 52.4 | 48.5 |
| Laboratory systems | 50 | 54.4 | IHR reporting compliance and disaster risk reduction | 50 | 62.3 |
| Real-time surveillance and reporting | 63.3 | 39.1 | Cross-border agreements on public and animal health emergency response | 100 | 54.4 |
| Epidemiology workforce | 50 | 42.3 | International commitments | 96.9 | 53.4 |
| Data integration between human/ animal/environmental health sectors | 0 | 29.7 | JEE and PVS | 0 | 17.7 |
| RAPID RESPONSE | 35.3 | 38.4 | Financing | 16.7 | 36.4 |
| Emergency preparedness and response planning | 12.5 | 16.9 | Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| Exercising response plans | 50 | 16.2 | RISK ENVIRONMENT | 65.7 | 55.0 |
| Emergency response operation | 33.3 | 23.6 | Political and security risks | 75 | 60.4 |
| Linking public health and security authorities | 0 | 22.6 | Socio-economic resilience | 71.8 | 66.1 |
| Risk communication | 0 | 39.4 | Infrastructure adequacy | 66.7 | 49.0 |
| Access to communications infrastructure | 79.7 | 72.7 | Environmental risks | 57.1 | 52.9 |
| Trade and travel restrictions | 100 | 97.4 | Public health vulnerabilities | 56.7 | 46.9 |

*Average: all 195 countries

Scores are normalized (0-100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



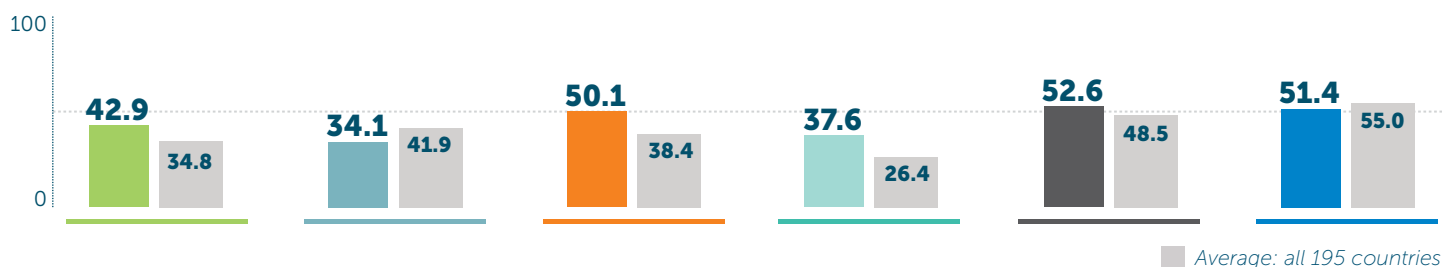
HEALTH



NORMS



RISK



■ Average: all 195 countries

| | COUNTRY SCORE | AVERAGE SCORE* | | COUNTRY SCORE | AVERAGE SCORE* |
|--|---------------|----------------|---|---------------|----------------|
| PREVENTION | 42.9 | 34.8 | HEALTH SYSTEM | 37.6 | 26.4 |
| Antimicrobial resistance (AMR) | 41.7 | 42.4 | Health capacity in clinics, hospitals and community care centers | 47.3 | 24.4 |
| Zoonotic disease | 15.3 | 27.1 | Medical countermeasures and personnel deployment | 33.3 | 21.2 |
| Biosecurity | 37.3 | 16.0 | Healthcare access | 46.1 | 38.4 |
| Biosafety | 50 | 22.8 | Communications with healthcare workers during a public health emergency | 0 | 15.1 |
| Dual-use research and culture of responsible science | 0 | 1.7 | Infection control practices and availability of equipment | 50 | 20.8 |
| Immunization | 99.1 | 85.0 | Capacity to test and approve new medical countermeasures | 50 | 42.2 |
| DETECTION AND REPORTING | 34.1 | 41.9 | COMPLIANCE WITH INTERNATIONAL NORMS | 52.6 | 48.5 |
| Laboratory systems | 58.3 | 54.4 | IHR reporting compliance and disaster risk reduction | 50 | 62.3 |
| Real-time surveillance and reporting | 46.7 | 39.1 | Cross-border agreements on public and animal health emergency response | 100 | 54.4 |
| Epidemiology workforce | 25 | 42.3 | International commitments | 50 | 53.4 |
| Data integration between human/animal/environmental health sectors | 0 | 29.7 | JEE and PVS | 0 | 17.7 |
| RAPID RESPONSE | 50.1 | 38.4 | Financing | 50 | 36.4 |
| Emergency preparedness and response planning | 25 | 16.9 | Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| Exercising response plans | 50 | 16.2 | RISK ENVIRONMENT | 51.4 | 55.0 |
| Emergency response operation | 0 | 23.6 | Political and security risks | 35.7 | 60.4 |
| Linking public health and security authorities | 100 | 22.6 | Socio-economic resilience | 64.4 | 66.1 |
| Risk communication | 25 | 39.4 | Infrastructure adequacy | 58.3 | 49.0 |
| Access to communications infrastructure | 90.2 | 72.7 | Environmental risks | 45.9 | 52.9 |
| Trade and travel restrictions | 100 | 97.4 | Public health vulnerabilities | 54.2 | 46.9 |

*Average: all 195 countries

Scores are normalized (0–100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



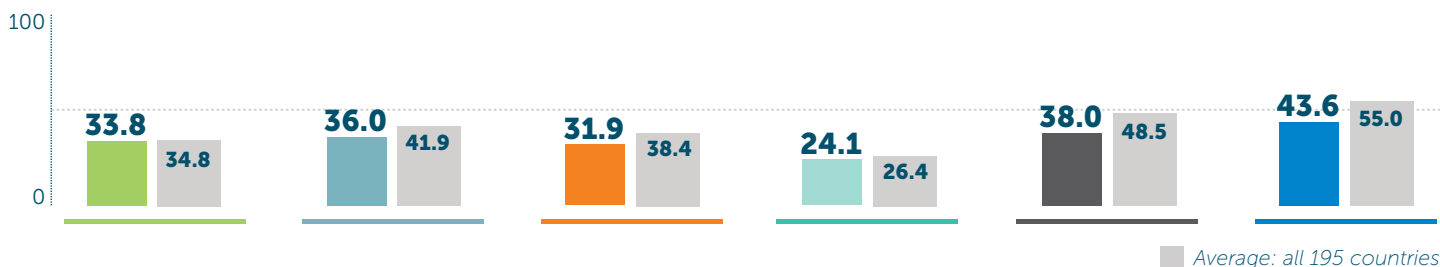
HEALTH



NORMS



RISK



■ Average: all 195 countries

| | COUNTRY SCORE | AVERAGE SCORE* | | COUNTRY SCORE | AVERAGE SCORE* |
|---|---------------|----------------|---|---------------|----------------|
| PREVENTION | 33.8 | 34.8 | HEALTH SYSTEM | 24.1 | 26.4 |
| Antimicrobial resistance (AMR) | 58.3 | 42.4 | Health capacity in clinics, hospitals and community care centers | 20.1 | 24.4 |
| Zoonotic disease | 23.9 | 27.1 | Medical countermeasures and personnel deployment | 33.3 | 21.2 |
| Biosecurity | 4 | 16.0 | Healthcare access | 48.2 | 38.4 |
| Biosafety | 0 | 22.8 | Communications with healthcare workers during a public health emergency | 0 | 15.1 |
| Dual-use research and culture of responsible science | 0 | 1.7 | Infection control practices and availability of equipment | 0 | 20.8 |
| Immunization | 100 | 85.0 | Capacity to test and approve new medical countermeasures | 50 | 42.2 |
| DETECTION AND REPORTING | 36.0 | 41.9 | COMPLIANCE WITH INTERNATIONAL NORMS | 38.0 | 48.5 |
| Laboratory systems | 50 | 54.4 | IHR reporting compliance and disaster risk reduction | 50 | 62.3 |
| Real-time surveillance and reporting | 38.3 | 39.1 | Cross-border agreements on public and animal health emergency response | 0 | 54.4 |
| Epidemiology workforce | 50 | 42.3 | International commitments | 28.1 | 53.4 |
| Data integration between human/ animal/environmental health sectors | 0 | 29.7 | JEE and PVS | 25 | 17.7 |
| RAPID RESPONSE | 31.9 | 38.4 | Financing | 50 | 36.4 |
| Emergency preparedness and response planning | 6.3 | 16.9 | Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| Exercising response plans | 100 | 16.2 | RISK ENVIRONMENT | 43.6 | 55.0 |
| Emergency response operation | 0 | 23.6 | Political and security risks | 53.6 | 60.4 |
| Linking public health and security authorities | 0 | 22.6 | Socio-economic resilience | 43.6 | 66.1 |
| Risk communication | 25 | 39.4 | Infrastructure adequacy | 25 | 49.0 |
| Access to communications infrastructure | 58.7 | 72.7 | Environmental risks | 73.6 | 52.9 |
| Trade and travel restrictions | 50 | 97.4 | Public health vulnerabilities | 25.8 | 46.9 |

*Average: all 195 countries

Scores are normalized (0–100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



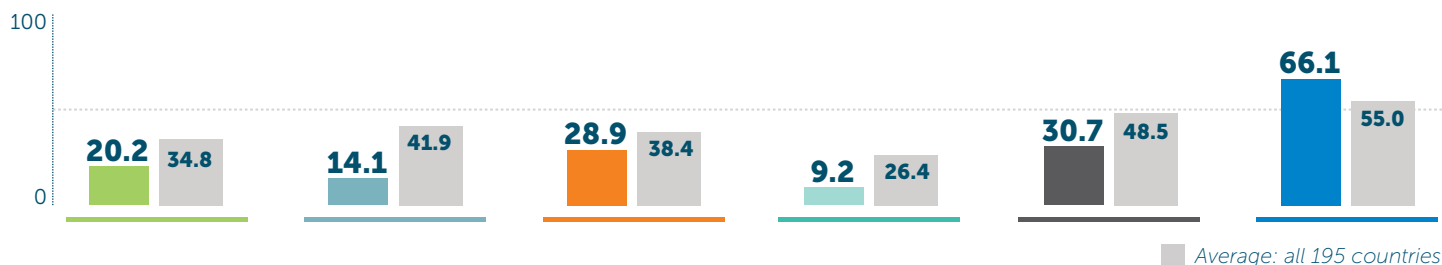
HEALTH



NORMS



RISK



■ Average: all 195 countries

| | COUNTRY SCORE | AVERAGE SCORE* | | COUNTRY SCORE | AVERAGE SCORE* |
|--|---------------|----------------|---|---------------|----------------|
| PREVENTION | 20.2 | 34.8 | HEALTH SYSTEM | 9.2 | 26.4 |
| Antimicrobial resistance (AMR) | 16.7 | 42.4 | Health capacity in clinics, hospitals and community care centers | 3.6 | 24.4 |
| Zoonotic disease | 7.1 | 27.1 | Medical countermeasures and personnel deployment | 0 | 21.2 |
| Biosecurity | 0 | 16.0 | Healthcare access | 29.8 | 38.4 |
| Biosafety | 0 | 22.8 | Communications with healthcare workers during a public health emergency | 0 | 15.1 |
| Dual-use research and culture of responsible science | 0 | 1.7 | Infection control practices and availability of equipment | 0 | 20.8 |
| Immunization | 83.3 | 85.0 | Capacity to test and approve new medical countermeasures | 25 | 42.2 |
| DETECTION AND REPORTING | 14.1 | 41.9 | COMPLIANCE WITH INTERNATIONAL NORMS | 30.7 | 48.5 |
| Laboratory systems | 33.3 | 54.4 | IHR reporting compliance and disaster risk reduction | 50 | 62.3 |
| Real-time surveillance and reporting | 20 | 39.1 | Cross-border agreements on public and animal health emergency response | 0 | 54.4 |
| Epidemiology workforce | 0 | 42.3 | International commitments | 28.1 | 53.4 |
| Data integration between human/animal/environmental health sectors | 0 | 29.7 | JEE and PVS | 0 | 17.7 |
| RAPID RESPONSE | 28.9 | 38.4 | Financing | 33.3 | 36.4 |
| Emergency preparedness and response planning | 0 | 16.9 | Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| Exercising response plans | 0 | 16.2 | RISK ENVIRONMENT | 66.1 | 55.0 |
| Emergency response operation | 33.3 | 23.6 | Political and security risks | 82.1 | 60.4 |
| Linking public health and security authorities | 0 | 22.6 | Socio-economic resilience | 81.5 | 66.1 |
| Risk communication | 25 | 39.4 | Infrastructure adequacy | 58.3 | 49.0 |
| Access to communications infrastructure | 63.5 | 72.7 | Environmental risks | 58.3 | 52.9 |
| Trade and travel restrictions | 100 | 97.4 | Public health vulnerabilities | 49.1 | 46.9 |

*Average: all 195 countries

Scores are normalized (0–100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



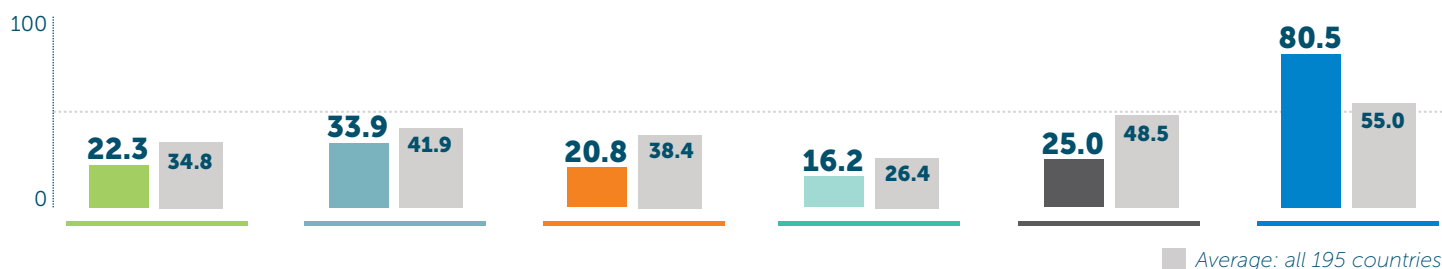
HEALTH



NORMS



RISK



■ Average: all 195 countries

| | COUNTRY SCORE | AVERAGE SCORE* | | COUNTRY SCORE | AVERAGE SCORE* |
|--|---------------|----------------|---|---------------|----------------|
| PREVENTION | 22.3 | 34.8 | HEALTH SYSTEM | 16.2 | 26.4 |
| Antimicrobial resistance (AMR) | 25 | 42.4 | Health capacity in clinics, hospitals and community care centers | 28.2 | 24.4 |
| Zoonotic disease | 9.5 | 27.1 | Medical countermeasures and personnel deployment | 0 | 21.2 |
| Biosecurity | 0 | 16.0 | Healthcare access | 44.7 | 38.4 |
| Biosafety | 0 | 22.8 | Communications with healthcare workers during a public health emergency | 0 | 15.1 |
| Dual-use research and culture of responsible science | 0 | 1.7 | Infection control practices and availability of equipment | 0 | 20.8 |
| Immunization | 85.1 | 85.0 | Capacity to test and approve new medical countermeasures | 25 | 42.2 |
| DETECTION AND REPORTING | 33.9 | 41.9 | COMPLIANCE WITH INTERNATIONAL NORMS | 25.0 | 48.5 |
| Laboratory systems | 33.3 | 54.4 | IHR reporting compliance and disaster risk reduction | 50 | 62.3 |
| Real-time surveillance and reporting | 13.3 | 39.1 | Cross-border agreements on public and animal health emergency response | 0 | 54.4 |
| Epidemiology workforce | 0 | 42.3 | International commitments | 34.4 | 53.4 |
| Data integration between human/animal/environmental health sectors | 100 | 29.7 | JEE and PVS | 0 | 17.7 |
| RAPID RESPONSE | 20.8 | 38.4 | Financing | 0 | 36.4 |
| Emergency preparedness and response planning | 0 | 16.9 | Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| Exercising response plans | 0 | 16.2 | RISK ENVIRONMENT | 80.5 | 55.0 |
| Emergency response operation | 0 | 23.6 | Political and security risks | 100 | 60.4 |
| Linking public health and security authorities | 0 | 22.6 | Socio-economic resilience | 76.9 | 66.1 |
| Risk communication | 0 | 39.4 | Infrastructure adequacy | 91.7 | 49.0 |
| Access to communications infrastructure | 79.2 | 72.7 | Environmental risks | 53.3 | 52.9 |
| Trade and travel restrictions | 100 | 97.4 | Public health vulnerabilities | 75.3 | 46.9 |

*Average: all 195 countries

Scores are normalized (0–100, where 100 = most favorable)

São Tomé and Príncipe

17.7 Index Score

192/195



PREVENT



DETECT



RESPOND



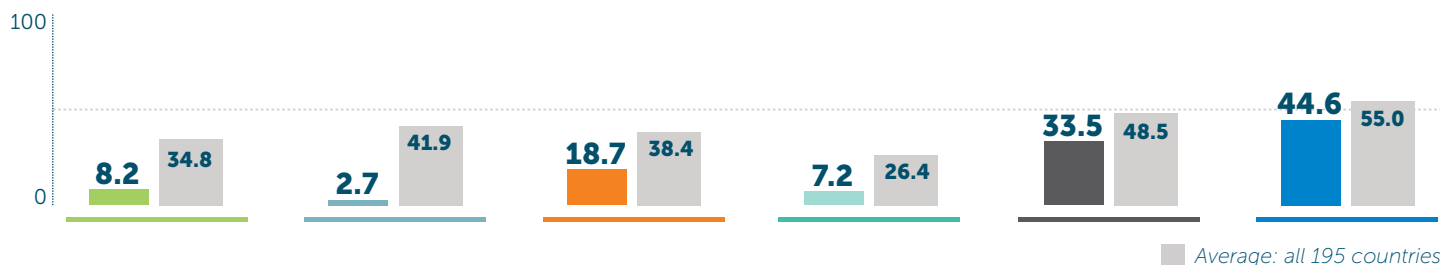
HEALTH



NORMS



RISK



| | COUNTRY SCORE | AVERAGE SCORE* | | COUNTRY SCORE | AVERAGE SCORE* |
|--|---------------|----------------|---|---------------|----------------|
| PREVENTION | 8.2 | 34.8 | HEALTH SYSTEM | 7.2 | 26.4 |
| Antimicrobial resistance (AMR) | 0 | 42.4 | Health capacity in clinics, hospitals and community care centers | 7.9 | 24.4 |
| Zoonotic disease | 0 | 27.1 | Medical countermeasures and personnel deployment | 0 | 21.2 |
| Biosecurity | 0 | 16.0 | Healthcare access | 31.8 | 38.4 |
| Biosafety | 0 | 22.8 | Communications with healthcare workers during a public health emergency | 0 | 15.1 |
| Dual-use research and culture of responsible science | 0 | 1.7 | Infection control practices and availability of equipment | 0 | 20.8 |
| Immunization | 42.1 | 85.0 | Capacity to test and approve new medical countermeasures | 0 | 42.2 |
| DETECTION AND REPORTING | 2.7 | 41.9 | COMPLIANCE WITH INTERNATIONAL NORMS | 33.5 | 48.5 |
| Laboratory systems | 0 | 54.4 | IHR reporting compliance and disaster risk reduction | 50 | 62.3 |
| Real-time surveillance and reporting | 10 | 39.1 | Cross-border agreements on public and animal health emergency response | 0 | 54.4 |
| Epidemiology workforce | 0 | 42.3 | International commitments | 25 | 53.4 |
| Data integration between human/animal/environmental health sectors | 0 | 29.7 | JEE and PVS | 0 | 17.7 |
| RAPID RESPONSE | 18.7 | 38.4 | Financing | 50 | 36.4 |
| Emergency preparedness and response planning | 0 | 16.9 | Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| Exercising response plans | 0 | 16.2 | RISK ENVIRONMENT | 44.6 | 55.0 |
| Emergency response operation | 0 | 23.6 | Political and security risks | 57.1 | 60.4 |
| Linking public health and security authorities | 0 | 22.6 | Socio-economic resilience | 70.5 | 66.1 |
| Risk communication | 0 | 39.4 | Infrastructure adequacy | 25 | 49.0 |
| Access to communications infrastructure | 61.9 | 72.7 | Environmental risks | 42.7 | 52.9 |
| Trade and travel restrictions | 100 | 97.4 | Public health vulnerabilities | 28.5 | 46.9 |

*Average: all 195 countries

Scores are normalized (0–100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



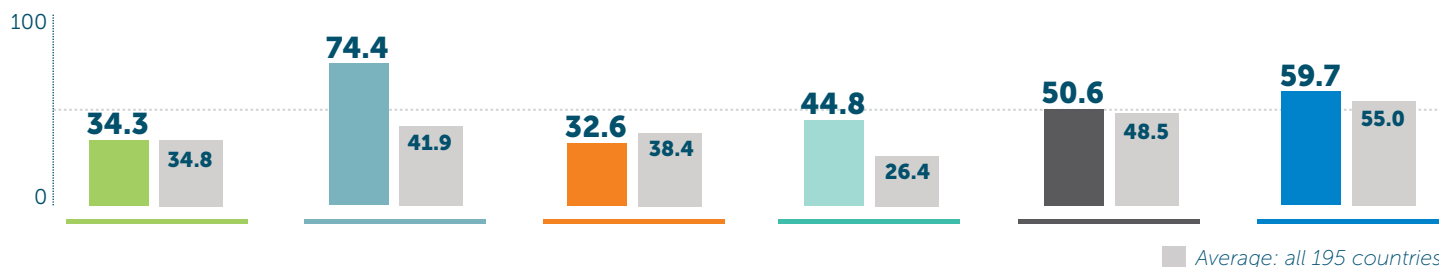
HEALTH



NORMS



RISK



■ Average: all 195 countries

| | COUNTRY SCORE | AVERAGE SCORE* | | COUNTRY SCORE | AVERAGE SCORE* |
|--|---------------|----------------|---|---------------|----------------|
| PREVENTION | 34.3 | 34.8 | HEALTH SYSTEM | 44.8 | 26.4 |
| Antimicrobial resistance (AMR) | 50 | 42.4 | Health capacity in clinics, hospitals and community care centers | 56.3 | 24.4 |
| Zoonotic disease | 40.5 | 27.1 | Medical countermeasures and personnel deployment | 66.7 | 21.2 |
| Biosecurity | 0 | 16.0 | Healthcare access | 46.4 | 38.4 |
| Biosafety | 0 | 22.8 | Communications with healthcare workers during a public health emergency | 0 | 15.1 |
| Dual-use research and culture of responsible science | 0 | 1.7 | Infection control practices and availability of equipment | 50 | 20.8 |
| Immunization | 97.4 | 85.0 | Capacity to test and approve new medical countermeasures | 50 | 42.2 |
| DETECTION AND REPORTING | 74.4 | 41.9 | COMPLIANCE WITH INTERNATIONAL NORMS | 50.6 | 48.5 |
| Laboratory systems | 41.7 | 54.4 | IHR reporting compliance and disaster risk reduction | 50 | 62.3 |
| Real-time surveillance and reporting | 85 | 39.1 | Cross-border agreements on public and animal health emergency response | 50 | 54.4 |
| Epidemiology workforce | 75 | 42.3 | International commitments | 87.5 | 53.4 |
| Data integration between human/animal/environmental health sectors | 100 | 29.7 | JEE and PVS | 25 | 17.7 |
| RAPID RESPONSE | 32.6 | 38.4 | Financing | 33.3 | 36.4 |
| Emergency preparedness and response planning | 0 | 16.9 | Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| Exercising response plans | 0 | 16.2 | RISK ENVIRONMENT | 59.7 | 55.0 |
| Emergency response operation | 33.3 | 23.6 | Political and security risks | 60.7 | 60.4 |
| Linking public health and security authorities | 0 | 22.6 | Socio-economic resilience | 53.6 | 66.1 |
| Risk communication | 25 | 39.4 | Infrastructure adequacy | 75 | 49.0 |
| Access to communications infrastructure | 93.3 | 72.7 | Environmental risks | 41.8 | 52.9 |
| Trade and travel restrictions | 100 | 97.4 | Public health vulnerabilities | 64.5 | 46.9 |

*Average: all 195 countries

Scores are normalized (0-100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



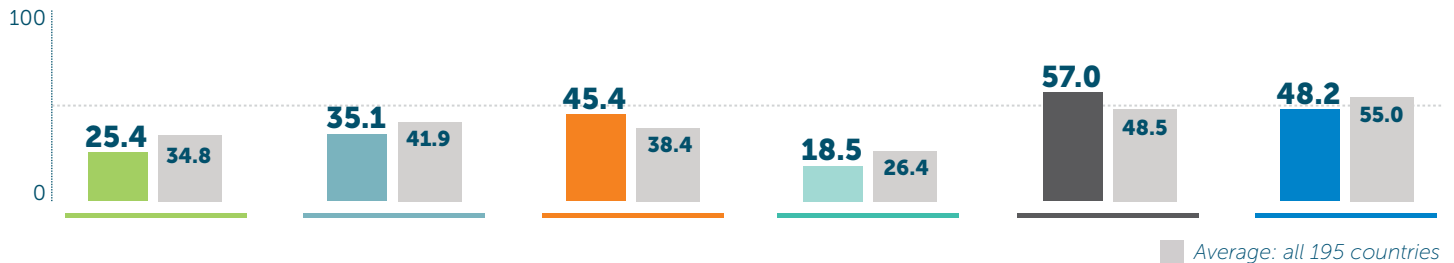
HEALTH



NORMS



RISK



■ Average: all 195 countries

| | COUNTRY SCORE | AVERAGE SCORE* | | COUNTRY SCORE | AVERAGE SCORE* |
|--|---------------|----------------|---|---------------|----------------|
| PREVENTION | 25.4 | 34.8 | HEALTH SYSTEM | 18.5 | 26.4 |
| Antimicrobial resistance (AMR) | 8.3 | 42.4 | Health capacity in clinics, hospitals and community care centers | 0.7 | 24.4 |
| Zoonotic disease | 34.2 | 27.1 | Medical countermeasures and personnel deployment | 33.3 | 21.2 |
| Biosecurity | 0 | 16.0 | Healthcare access | 24.2 | 38.4 |
| Biosafety | 0 | 22.8 | Communications with healthcare workers during a public health emergency | 50 | 15.1 |
| Dual-use research and culture of responsible science | 0 | 1.7 | Infection control practices and availability of equipment | 0 | 20.8 |
| Immunization | 92.1 | 85.0 | Capacity to test and approve new medical countermeasures | 0 | 42.2 |
| DETECTION AND REPORTING | 35.1 | 41.9 | COMPLIANCE WITH INTERNATIONAL NORMS | 57.0 | 48.5 |
| Laboratory systems | 50 | 54.4 | IHR reporting compliance and disaster risk reduction | 50 | 62.3 |
| Real-time surveillance and reporting | 35 | 39.1 | Cross-border agreements on public and animal health emergency response | 0 | 54.4 |
| Epidemiology workforce | 50 | 42.3 | International commitments | 78.1 | 53.4 |
| Data integration between human/animal/environmental health sectors | 0 | 29.7 | JEE and PVS | 100 | 17.7 |
| RAPID RESPONSE | 45.4 | 38.4 | Financing | 50 | 36.4 |
| Emergency preparedness and response planning | 12.5 | 16.9 | Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| Exercising response plans | 100 | 16.2 | RISK ENVIRONMENT | 48.2 | 55.0 |
| Emergency response operation | 33.3 | 23.6 | Political and security risks | 64.3 | 60.4 |
| Linking public health and security authorities | 0 | 22.6 | Socio-economic resilience | 49.1 | 66.1 |
| Risk communication | 25 | 39.4 | Infrastructure adequacy | 33.3 | 49.0 |
| Access to communications infrastructure | 69.9 | 72.7 | Environmental risks | 68.9 | 52.9 |
| Trade and travel restrictions | 100 | 97.4 | Public health vulnerabilities | 27.2 | 46.9 |

*Average: all 195 countries

Scores are normalized (0–100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



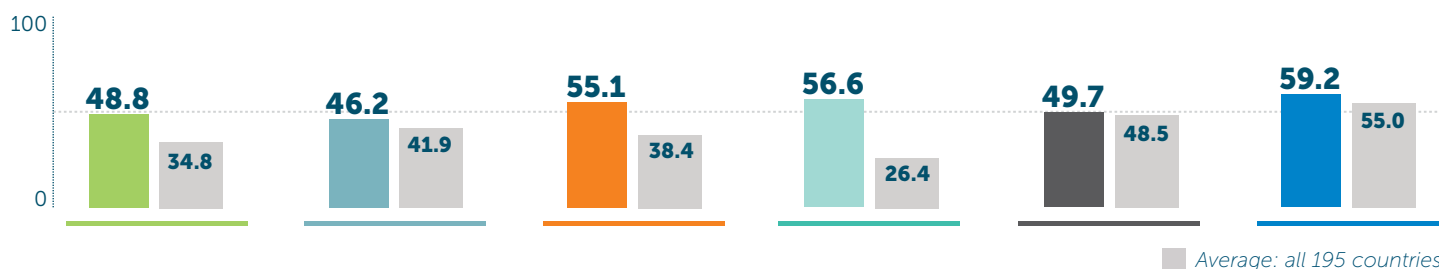
HEALTH



NORMS



RISK



■ Average: all 195 countries

| | COUNTRY SCORE | AVERAGE SCORE* | | COUNTRY SCORE | AVERAGE SCORE* |
|--|---------------|----------------|---|---------------|----------------|
| PREVENTION | 48.8 | 34.8 | HEALTH SYSTEM | 56.6 | 26.4 |
| Antimicrobial resistance (AMR) | 66.7 | 42.4 | Health capacity in clinics, hospitals and community care centers | 19.4 | 24.4 |
| Zoonotic disease | 31.6 | 27.1 | Medical countermeasures and personnel deployment | 33.3 | 21.2 |
| Biosecurity | 44 | 16.0 | Healthcare access | 45.9 | 38.4 |
| Biosafety | 50 | 22.8 | Communications with healthcare workers during a public health emergency | 50 | 15.1 |
| Dual-use research and culture of responsible science | 0 | 1.7 | Infection control practices and availability of equipment | 100 | 20.8 |
| Immunization | 88.6 | 85.0 | Capacity to test and approve new medical countermeasures | 100 | 42.2 |
| DETECTION AND REPORTING | 46.2 | 41.9 | COMPLIANCE WITH INTERNATIONAL NORMS | 49.7 | 48.5 |
| Laboratory systems | 66.7 | 54.4 | IHR reporting compliance and disaster risk reduction | 50 | 62.3 |
| Real-time surveillance and reporting | 26.7 | 39.1 | Cross-border agreements on public and animal health emergency response | 100 | 54.4 |
| Epidemiology workforce | 0 | 42.3 | International commitments | 46.9 | 53.4 |
| Data integration between human/animal/environmental health sectors | 100 | 29.7 | JEE and PVS | 25 | 17.7 |
| RAPID RESPONSE | 55.1 | 38.4 | Financing | 16.7 | 36.4 |
| Emergency preparedness and response planning | 25 | 16.9 | Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| Exercising response plans | 50 | 16.2 | RISK ENVIRONMENT | 59.2 | 55.0 |
| Emergency response operation | 33.3 | 23.6 | Political and security risks | 50 | 60.4 |
| Linking public health and security authorities | 0 | 22.6 | Socio-economic resilience | 75.9 | 66.1 |
| Risk communication | 100 | 39.4 | Infrastructure adequacy | 66.7 | 49.0 |
| Access to communications infrastructure | 80.7 | 72.7 | Environmental risks | 48 | 52.9 |
| Trade and travel restrictions | 100 | 97.4 | Public health vulnerabilities | 56 | 46.9 |

*Average: all 195 countries

Scores are normalized (0-100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



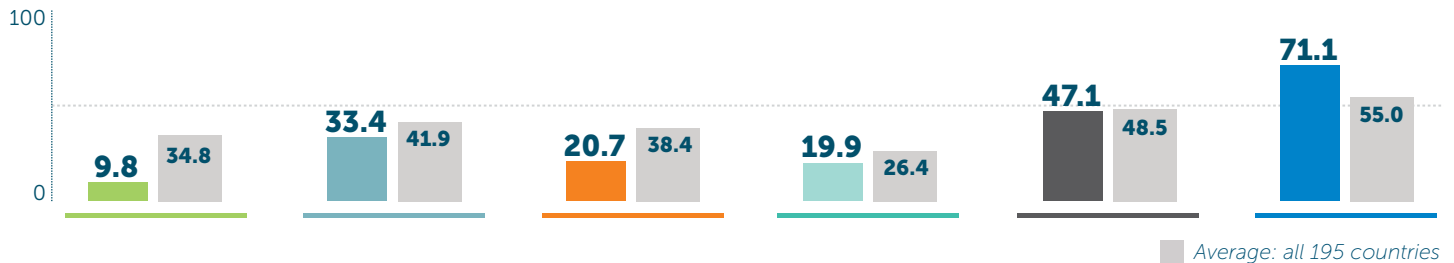
HEALTH



NORMS



RISK



■ Average: all 195 countries

| | COUNTRY SCORE | AVERAGE SCORE* | | COUNTRY SCORE | AVERAGE SCORE* |
|--|---------------|----------------|---|---------------|----------------|
| PREVENTION | 9.8 | 34.8 | HEALTH SYSTEM | 19.9 | 26.4 |
| Antimicrobial resistance (AMR) | 0 | 42.4 | Health capacity in clinics, hospitals and community care centers | 12.1 | 24.4 |
| Zoonotic disease | 0 | 27.1 | Medical countermeasures and personnel deployment | 33.3 | 21.2 |
| Biosecurity | 0 | 16.0 | Healthcare access | 49.6 | 38.4 |
| Biosafety | 0 | 22.8 | Communications with healthcare workers during a public health emergency | 0 | 15.1 |
| Dual-use research and culture of responsible science | 0 | 1.7 | Infection control practices and availability of equipment | 0 | 20.8 |
| Immunization | 50 | 85.0 | Capacity to test and approve new medical countermeasures | 25 | 42.2 |
| DETECTION AND REPORTING | 33.4 | 41.9 | COMPLIANCE WITH INTERNATIONAL NORMS | 47.1 | 48.5 |
| Laboratory systems | 8.3 | 54.4 | IHR reporting compliance and disaster risk reduction | 50 | 62.3 |
| Real-time surveillance and reporting | 21.7 | 39.1 | Cross-border agreements on public and animal health emergency response | 50 | 54.4 |
| Epidemiology workforce | 100 | 42.3 | International commitments | 37.5 | 53.4 |
| Data integration between human/animal/environmental health sectors | 0 | 29.7 | JEE and PVS | 25 | 17.7 |
| RAPID RESPONSE | 20.7 | 38.4 | Financing | 50 | 36.4 |
| Emergency preparedness and response planning | 0 | 16.9 | Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| Exercising response plans | 0 | 16.2 | RISK ENVIRONMENT | 71.1 | 55.0 |
| Emergency response operation | 0 | 23.6 | Political and security risks | 82.1 | 60.4 |
| Linking public health and security authorities | 0 | 22.6 | Socio-economic resilience | 70.5 | 66.1 |
| Risk communication | 0 | 39.4 | Infrastructure adequacy | 83.3 | 49.0 |
| Access to communications infrastructure | 78.5 | 72.7 | Environmental risks | 60.6 | 52.9 |
| Trade and travel restrictions | 100 | 97.4 | Public health vulnerabilities | 56.7 | 46.9 |

*Average: all 195 countries

Scores are normalized (0–100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



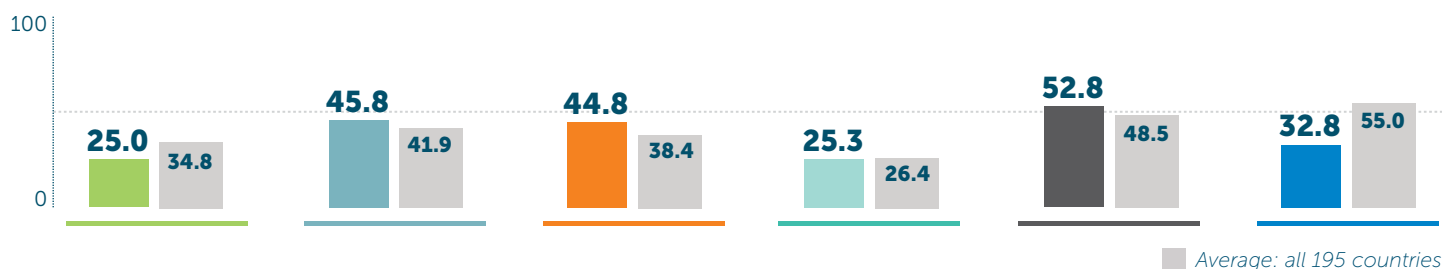
HEALTH



NORMS



RISK



■ Average: all 195 countries

| | COUNTRY SCORE | AVERAGE SCORE* | | COUNTRY SCORE | AVERAGE SCORE* |
|--|---------------|----------------|---|---------------|----------------|
| PREVENTION | 25.0 | 34.8 | HEALTH SYSTEM | 25.3 | 26.4 |
| Antimicrobial resistance (AMR) | 50 | 42.4 | Health capacity in clinics, hospitals and community care centers | 17.4 | 24.4 |
| Zoonotic disease | 0.3 | 27.1 | Medical countermeasures and personnel deployment | 0 | 21.2 |
| Biosecurity | 4 | 16.0 | Healthcare access | 25.2 | 38.4 |
| Biosafety | 0 | 22.8 | Communications with healthcare workers during a public health emergency | 50 | 15.1 |
| Dual-use research and culture of responsible science | 0 | 1.7 | Infection control practices and availability of equipment | 0 | 20.8 |
| Immunization | 83.3 | 85.0 | Capacity to test and approve new medical countermeasures | 75 | 42.2 |
| DETECTION AND REPORTING | 45.8 | 41.9 | COMPLIANCE WITH INTERNATIONAL NORMS | 52.8 | 48.5 |
| Laboratory systems | 25 | 54.4 | IHR reporting compliance and disaster risk reduction | 50 | 62.3 |
| Real-time surveillance and reporting | 51.7 | 39.1 | Cross-border agreements on public and animal health emergency response | 50 | 54.4 |
| Epidemiology workforce | 100 | 42.3 | International commitments | 25 | 53.4 |
| Data integration between human/animal/environmental health sectors | 0 | 29.7 | JEE and PVS | 50 | 17.7 |
| RAPID RESPONSE | 44.8 | 38.4 | Financing | 66.7 | 36.4 |
| Emergency preparedness and response planning | 18.8 | 16.9 | Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| Exercising response plans | 0 | 16.2 | RISK ENVIRONMENT | 32.8 | 55.0 |
| Emergency response operation | 33.3 | 23.6 | Political and security risks | 53.6 | 60.4 |
| Linking public health and security authorities | 0 | 22.6 | Socio-economic resilience | 28.9 | 66.1 |
| Risk communication | 100 | 39.4 | Infrastructure adequacy | 16.7 | 49.0 |
| Access to communications infrastructure | 60.1 | 72.7 | Environmental risks | 56.9 | 52.9 |
| Trade and travel restrictions | 100 | 97.4 | Public health vulnerabilities | 9.7 | 46.9 |

*Average: all 195 countries

Scores are normalized (0–100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



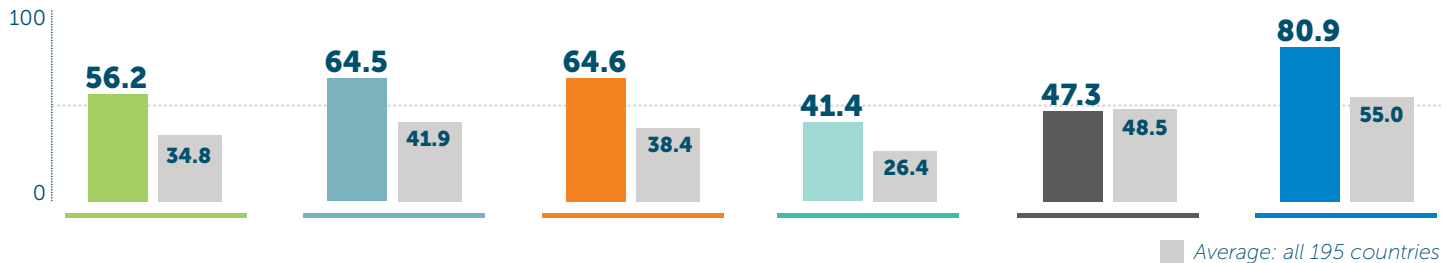
HEALTH



NORMS



RISK



■ Average: all 195 countries

| | COUNTRY SCORE | AVERAGE SCORE* | | COUNTRY SCORE | AVERAGE SCORE* |
|--|---------------|----------------|---|---------------|----------------|
| PREVENTION | 56.2 | 34.8 | HEALTH SYSTEM | 41.4 | 26.4 |
| Antimicrobial resistance (AMR) | 58.3 | 42.4 | Health capacity in clinics, hospitals and community care centers | 56.6 | 24.4 |
| Zoonotic disease | 41.3 | 27.1 | Medical countermeasures and personnel deployment | 33.3 | 21.2 |
| Biosecurity | 28 | 16.0 | Healthcare access | 40.8 | 38.4 |
| Biosafety | 100 | 22.8 | Communications with healthcare workers during a public health emergency | 0 | 15.1 |
| Dual-use research and culture of responsible science | 0 | 1.7 | Infection control practices and availability of equipment | 50 | 20.8 |
| Immunization | 96.5 | 85.0 | Capacity to test and approve new medical countermeasures | 75 | 42.2 |
| DETECTION AND REPORTING | 64.5 | 41.9 | COMPLIANCE WITH INTERNATIONAL NORMS | 47.3 | 48.5 |
| Laboratory systems | 83.3 | 54.4 | IHR reporting compliance and disaster risk reduction | 50 | 62.3 |
| Real-time surveillance and reporting | 55 | 39.1 | Cross-border agreements on public and animal health emergency response | 0 | 54.4 |
| Epidemiology workforce | 25 | 42.3 | International commitments | 96.9 | 53.4 |
| Data integration between human/animal/environmental health sectors | 100 | 29.7 | JEE and PVS | 25 | 17.7 |
| RAPID RESPONSE | 64.6 | 38.4 | Financing | 50 | 36.4 |
| Emergency preparedness and response planning | 37.5 | 16.9 | Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| Exercising response plans | 0 | 16.2 | RISK ENVIRONMENT | 80.9 | 55.0 |
| Emergency response operation | 33.3 | 23.6 | Political and security risks | 89.3 | 60.4 |
| Linking public health and security authorities | 100 | 22.6 | Socio-economic resilience | 88.4 | 66.1 |
| Risk communication | 100 | 39.4 | Infrastructure adequacy | 100 | 49.0 |
| Access to communications infrastructure | 94.2 | 72.7 | Environmental risks | 51.3 | 52.9 |
| Trade and travel restrictions | 100 | 97.4 | Public health vulnerabilities | 71.5 | 46.9 |

*Average: all 195 countries

Scores are normalized (0–100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



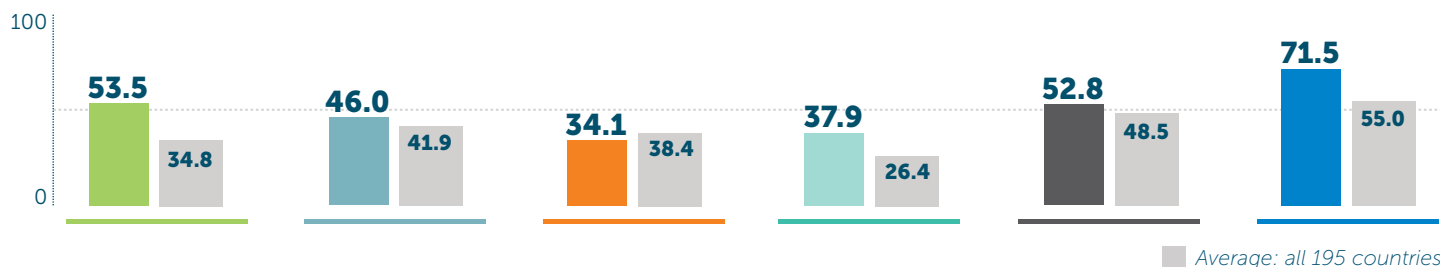
HEALTH



NORMS



RISK



■ Average: all 195 countries

| | COUNTRY SCORE | AVERAGE SCORE* | | COUNTRY SCORE | AVERAGE SCORE* |
|---|---------------|----------------|---|---------------|----------------|
| PREVENTION | 53.5 | 34.8 | HEALTH SYSTEM | 37.9 | 26.4 |
| Antimicrobial resistance (AMR) | 58.3 | 42.4 | Health capacity in clinics, hospitals and community care centers | 47.9 | 24.4 |
| Zoonotic disease | 42.6 | 27.1 | Medical countermeasures and personnel deployment | 33.3 | 21.2 |
| Biosecurity | 58.7 | 16.0 | Healthcare access | 46.9 | 38.4 |
| Biosafety | 50 | 22.8 | Communications with healthcare workers during a public health emergency | 0 | 15.1 |
| Dual-use research and culture of responsible science | 0 | 1.7 | Infection control practices and availability of equipment | 50 | 20.8 |
| Immunization | 97.4 | 85.0 | Capacity to test and approve new medical countermeasures | 50 | 42.2 |
| DETECTION AND REPORTING | 46.0 | 41.9 | COMPLIANCE WITH INTERNATIONAL NORMS | 52.8 | 48.5 |
| Laboratory systems | 83.3 | 54.4 | IHR reporting compliance and disaster risk reduction | 50 | 62.3 |
| Real-time surveillance and reporting | 66.7 | 39.1 | Cross-border agreements on public and animal health emergency response | 100 | 54.4 |
| Epidemiology workforce | 25 | 42.3 | International commitments | 100 | 53.4 |
| Data integration between human/ animal/environmental health sectors | 0 | 29.7 | JEE and PVS | 0 | 17.7 |
| RAPID RESPONSE | 34.1 | 38.4 | Financing | 16.7 | 36.4 |
| Emergency preparedness and response planning | 12.5 | 16.9 | Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| Exercising response plans | 0 | 16.2 | RISK ENVIRONMENT | 71.5 | 55.0 |
| Emergency response operation | 33.3 | 23.6 | Political and security risks | 78.6 | 60.4 |
| Linking public health and security authorities | 0 | 22.6 | Socio-economic resilience | 76.3 | 66.1 |
| Risk communication | 25 | 39.4 | Infrastructure adequacy | 75 | 49.0 |
| Access to communications infrastructure | 89.4 | 72.7 | Environmental risks | 61.8 | 52.9 |
| Trade and travel restrictions | 100 | 97.4 | Public health vulnerabilities | 64.4 | 46.9 |

*Average: all 195 countries

Scores are normalized (0-100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



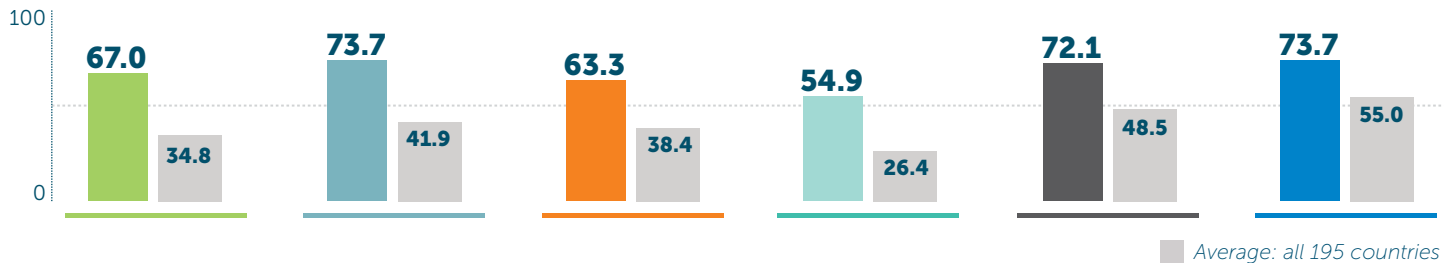
HEALTH



NORMS



RISK



■ Average: all 195 countries

| | COUNTRY SCORE | AVERAGE SCORE* | | COUNTRY SCORE | AVERAGE SCORE* |
|--|---------------|----------------|---|---------------|----------------|
| PREVENTION | 67.0 | 34.8 | HEALTH SYSTEM | 54.9 | 26.4 |
| Antimicrobial resistance (AMR) | 66.7 | 42.4 | Health capacity in clinics, hospitals and community care centers | 46.6 | 24.4 |
| Zoonotic disease | 55.9 | 27.1 | Medical countermeasures and personnel deployment | 66.7 | 21.2 |
| Biosecurity | 28 | 16.0 | Healthcare access | 47.6 | 38.4 |
| Biosafety | 100 | 22.8 | Communications with healthcare workers during a public health emergency | 50 | 15.1 |
| Dual-use research and culture of responsible science | 50 | 1.7 | Infection control practices and availability of equipment | 50 | 20.8 |
| Immunization | 94.7 | 85.0 | Capacity to test and approve new medical countermeasures | 75 | 42.2 |
| DETECTION AND REPORTING | 73.7 | 41.9 | COMPLIANCE WITH INTERNATIONAL NORMS | 72.1 | 48.5 |
| Laboratory systems | 66.7 | 54.4 | IHR reporting compliance and disaster risk reduction | 100 | 62.3 |
| Real-time surveillance and reporting | 81.7 | 39.1 | Cross-border agreements on public and animal health emergency response | 100 | 54.4 |
| Epidemiology workforce | 50 | 42.3 | International commitments | 100 | 53.4 |
| Data integration between human/animal/environmental health sectors | 100 | 29.7 | JEE and PVS | 25 | 17.7 |
| RAPID RESPONSE | 63.3 | 38.4 | Financing | 50 | 36.4 |
| Emergency preparedness and response planning | 37.5 | 16.9 | Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| Exercising response plans | 0 | 16.2 | RISK ENVIRONMENT | 73.7 | 55.0 |
| Emergency response operation | 33.3 | 23.6 | Political and security risks | 82.1 | 60.4 |
| Linking public health and security authorities | 100 | 22.6 | Socio-economic resilience | 69.6 | 66.1 |
| Risk communication | 100 | 39.4 | Infrastructure adequacy | 83.3 | 49.0 |
| Access to communications infrastructure | 83.8 | 72.7 | Environmental risks | 61.7 | 52.9 |
| Trade and travel restrictions | 100 | 97.4 | Public health vulnerabilities | 69.5 | 46.9 |

*Average: all 195 countries

Scores are normalized (0–100, where 100 = most favorable)

Solomon Islands

20.7 Index Score

183/195



PREVENT



DETECT



RESPOND



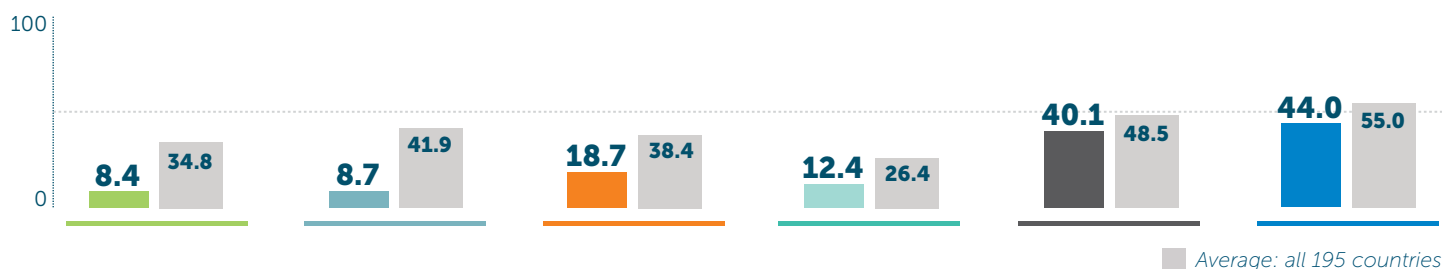
HEALTH



NORMS



RISK



Average: all 195 countries

| | COUNTRY SCORE | AVERAGE SCORE* | | COUNTRY SCORE | AVERAGE SCORE* |
|--|---------------|----------------|---|---------------|----------------|
| PREVENTION | 8.4 | 34.8 | HEALTH SYSTEM | 12.4 | 26.4 |
| Antimicrobial resistance (AMR) | 0 | 42.4 | Health capacity in clinics, hospitals and community care centers | 20.8 | 24.4 |
| Zoonotic disease | 6.7 | 27.1 | Medical countermeasures and personnel deployment | 0 | 21.2 |
| Biosecurity | 0 | 16.0 | Healthcare access | 30.8 | 38.4 |
| Biosafety | 0 | 22.8 | Communications with healthcare workers during a public health emergency | 0 | 15.1 |
| Dual-use research and culture of responsible science | 0 | 1.7 | Infection control practices and availability of equipment | 0 | 20.8 |
| Immunization | 36.8 | 85.0 | Capacity to test and approve new medical countermeasures | 25 | 42.2 |
| DETECTION AND REPORTING | 8.7 | 41.9 | COMPLIANCE WITH INTERNATIONAL NORMS | 40.1 | 48.5 |
| Laboratory systems | 33.3 | 54.4 | IHR reporting compliance and disaster risk reduction | 50 | 62.3 |
| Real-time surveillance and reporting | 0 | 39.1 | Cross-border agreements on public and animal health emergency response | 50 | 54.4 |
| Epidemiology workforce | 0 | 42.3 | International commitments | 15.6 | 53.4 |
| Data integration between human/animal/environmental health sectors | 0 | 29.7 | JEE and PVS | 0 | 17.7 |
| RAPID RESPONSE | 18.7 | 38.4 | Financing | 50 | 36.4 |
| Emergency preparedness and response planning | 0 | 16.9 | Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| Exercising response plans | 0 | 16.2 | RISK ENVIRONMENT | 44.0 | 55.0 |
| Emergency response operation | 0 | 23.6 | Political and security risks | 75 | 60.4 |
| Linking public health and security authorities | 0 | 22.6 | Socio-economic resilience | 68.1 | 66.1 |
| Risk communication | 0 | 39.4 | Infrastructure adequacy | 8.3 | 49.0 |
| Access to communications infrastructure | 61.6 | 72.7 | Environmental risks | 44.6 | 52.9 |
| Trade and travel restrictions | 100 | 97.4 | Public health vulnerabilities | 23.2 | 46.9 |

*Average: all 195 countries

Scores are normalized (0-100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



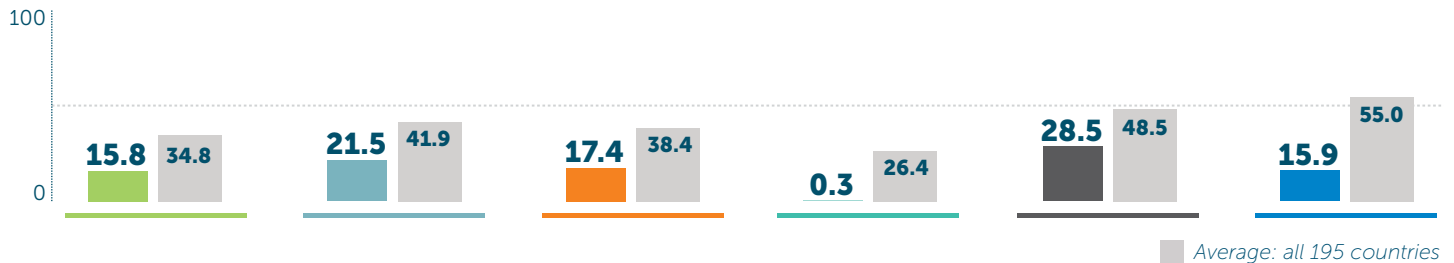
HEALTH



NORMS



RISK



■ Average: all 195 countries

| | COUNTRY SCORE | AVERAGE SCORE* | | COUNTRY SCORE | AVERAGE SCORE* |
|--|---------------|----------------|---|---------------|----------------|
| PREVENTION | 15.8 | 34.8 | HEALTH SYSTEM | 0.3 | 26.4 |
| Antimicrobial resistance (AMR) | 16.7 | 42.4 | Health capacity in clinics, hospitals and community care centers | 1.5 | 24.4 |
| Zoonotic disease | 1.6 | 27.1 | Medical countermeasures and personnel deployment | 0 | 21.2 |
| Biosecurity | 0 | 16.0 | Healthcare access | 0 | 38.4 |
| Biosafety | 0 | 22.8 | Communications with healthcare workers during a public health emergency | 0 | 15.1 |
| Dual-use research and culture of responsible science | 0 | 1.7 | Infection control practices and availability of equipment | 0 | 20.8 |
| Immunization | 65.8 | 85.0 | Capacity to test and approve new medical countermeasures | 0 | 42.2 |
| DETECTION AND REPORTING | 21.5 | 41.9 | COMPLIANCE WITH INTERNATIONAL NORMS | 28.5 | 48.5 |
| Laboratory systems | 16.7 | 54.4 | IHR reporting compliance and disaster risk reduction | 50 | 62.3 |
| Real-time surveillance and reporting | 16.7 | 39.1 | Cross-border agreements on public and animal health emergency response | 0 | 54.4 |
| Epidemiology workforce | 50 | 42.3 | International commitments | 6.3 | 53.4 |
| Data integration between human/animal/environmental health sectors | 0 | 29.7 | JEE and PVS | 25 | 17.7 |
| RAPID RESPONSE | 17.4 | 38.4 | Financing | 16.7 | 36.4 |
| Emergency preparedness and response planning | 0 | 16.9 | Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| Exercising response plans | 0 | 16.2 | RISK ENVIRONMENT | 15.9 | 55.0 |
| Emergency response operation | 0 | 23.6 | Political and security risks | 7.1 | 60.4 |
| Linking public health and security authorities | 0 | 22.6 | Socio-economic resilience | 35 | 66.1 |
| Risk communication | 0 | 39.4 | Infrastructure adequacy | 0 | 49.0 |
| Access to communications infrastructure | 51.2 | 72.7 | Environmental risks | 38 | 52.9 |
| Trade and travel restrictions | 100 | 97.4 | Public health vulnerabilities | 4.6 | 46.9 |

*Average: all 195 countries

Scores are normalized (0–100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



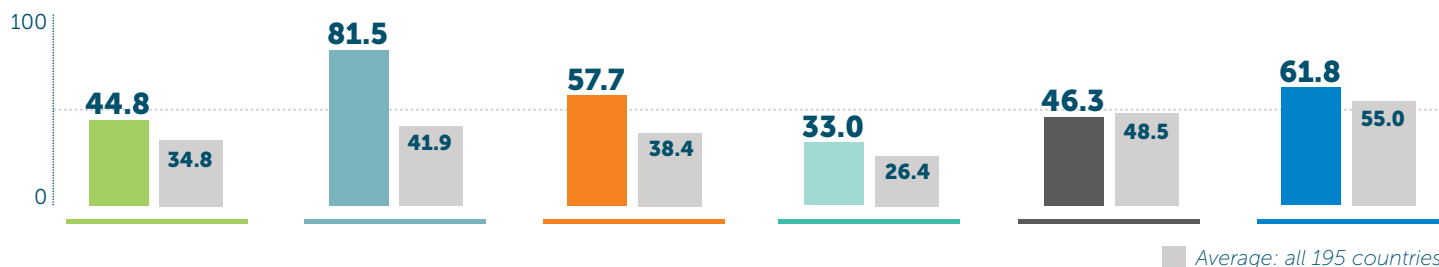
HEALTH



NORMS



RISK

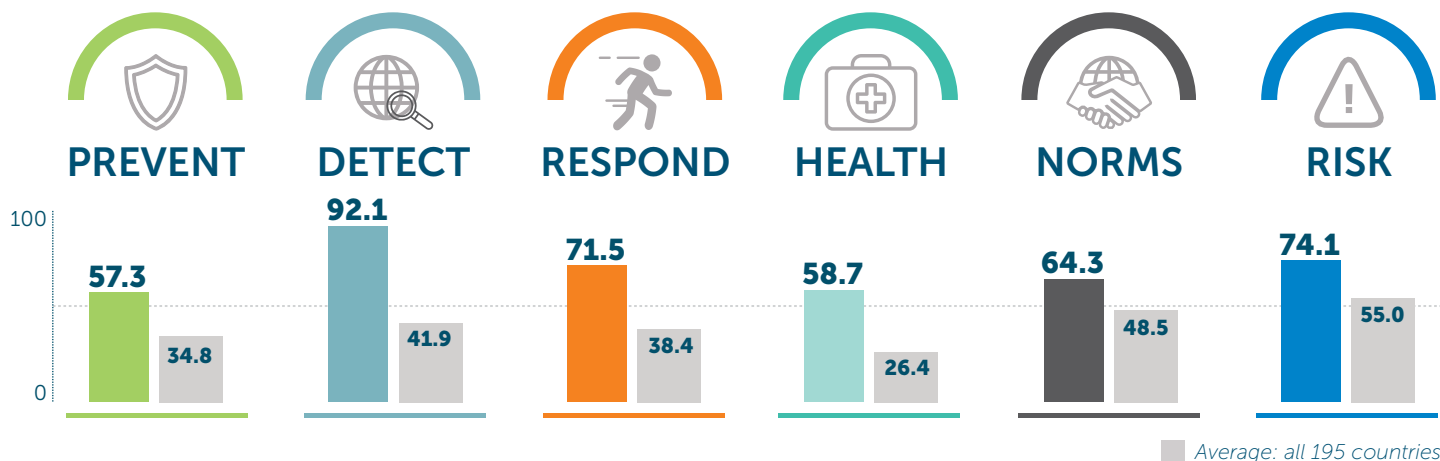


■ Average: all 195 countries

| | COUNTRY SCORE | AVERAGE SCORE* | | COUNTRY SCORE | AVERAGE SCORE* |
|--|---------------|----------------|---|---------------|----------------|
| PREVENTION | 44.8 | 34.8 | HEALTH SYSTEM | 33.0 | 26.4 |
| Antimicrobial resistance (AMR) | 58.3 | 42.4 | Health capacity in clinics, hospitals and community care centers | 52.6 | 24.4 |
| Zoonotic disease | 53.9 | 27.1 | Medical countermeasures and personnel deployment | 33.3 | 21.2 |
| Biosecurity | 8 | 16.0 | Healthcare access | 48.8 | 38.4 |
| Biosafety | 50 | 22.8 | Communications with healthcare workers during a public health emergency | 0 | 15.1 |
| Dual-use research and culture of responsible science | 0 | 1.7 | Infection control practices and availability of equipment | 0 | 20.8 |
| Immunization | 84.2 | 85.0 | Capacity to test and approve new medical countermeasures | 75 | 42.2 |
| DETECTION AND REPORTING | 81.5 | 41.9 | COMPLIANCE WITH INTERNATIONAL NORMS | 46.3 | 48.5 |
| Laboratory systems | 100 | 54.4 | IHR reporting compliance and disaster risk reduction | 50 | 62.3 |
| Real-time surveillance and reporting | 78.3 | 39.1 | Cross-border agreements on public and animal health emergency response | 50 | 54.4 |
| Epidemiology workforce | 50 | 42.3 | International commitments | 50 | 53.4 |
| Data integration between human/animal/environmental health sectors | 100 | 29.7 | JEE and PVS | 50 | 17.7 |
| RAPID RESPONSE | 57.7 | 38.4 | Financing | 16.7 | 36.4 |
| Emergency preparedness and response planning | 0 | 16.9 | Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| Exercising response plans | 0 | 16.2 | RISK ENVIRONMENT | 61.8 | 55.0 |
| Emergency response operation | 33.3 | 23.6 | Political and security risks | 78.6 | 60.4 |
| Linking public health and security authorities | 100 | 22.6 | Socio-economic resilience | 76.6 | 66.1 |
| Risk communication | 100 | 39.4 | Infrastructure adequacy | 58.3 | 49.0 |
| Access to communications infrastructure | 86 | 72.7 | Environmental risks | 56.9 | 52.9 |
| Trade and travel restrictions | 100 | 97.4 | Public health vulnerabilities | 38.3 | 46.9 |

*Average: all 195 countries

Scores are normalized (0-100, where 100 = most favorable)



| | COUNTRY SCORE | AVERAGE SCORE* | | COUNTRY SCORE | AVERAGE SCORE* |
|--|---------------|----------------|---|---------------|----------------|
| PREVENTION | 57.3 | 34.8 | HEALTH SYSTEM | 58.7 | 26.4 |
| Antimicrobial resistance (AMR) | 83.3 | 42.4 | Health capacity in clinics, hospitals and community care centers | 73.2 | 24.4 |
| Zoonotic disease | 55.2 | 27.1 | Medical countermeasures and personnel deployment | 66.7 | 21.2 |
| Biosecurity | 42.7 | 16.0 | Healthcare access | 43.5 | 38.4 |
| Biosafety | 50 | 22.8 | Communications with healthcare workers during a public health emergency | 50 | 15.1 |
| Dual-use research and culture of responsible science | 0 | 1.7 | Infection control practices and availability of equipment | 50 | 20.8 |
| Immunization | 98.2 | 85.0 | Capacity to test and approve new medical countermeasures | 75 | 42.2 |
| DETECTION AND REPORTING | 92.1 | 41.9 | COMPLIANCE WITH INTERNATIONAL NORMS | 64.3 | 48.5 |
| Laboratory systems | 75 | 54.4 | IHR reporting compliance and disaster risk reduction | 100 | 62.3 |
| Real-time surveillance and reporting | 95 | 39.1 | Cross-border agreements on public and animal health emergency response | 50 | 54.4 |
| Epidemiology workforce | 100 | 42.3 | International commitments | 100 | 53.4 |
| Data integration between human/animal/environmental health sectors | 100 | 29.7 | JEE and PVS | 25 | 17.7 |
| RAPID RESPONSE | 71.5 | 38.4 | Financing | 50 | 36.4 |
| Emergency preparedness and response planning | 75 | 16.9 | Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| Exercising response plans | 0 | 16.2 | RISK ENVIRONMENT | 74.1 | 55.0 |
| Emergency response operation | 100 | 23.6 | Political and security risks | 71.4 | 60.4 |
| Linking public health and security authorities | 100 | 22.6 | Socio-economic resilience | 89.3 | 66.1 |
| Risk communication | 75 | 39.4 | Infrastructure adequacy | 83.3 | 49.0 |
| Access to communications infrastructure | 93.1 | 72.7 | Environmental risks | 57.3 | 52.9 |
| Trade and travel restrictions | 50 | 97.4 | Public health vulnerabilities | 68.4 | 46.9 |

*Average: all 195 countries
Scores are normalized (0–100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



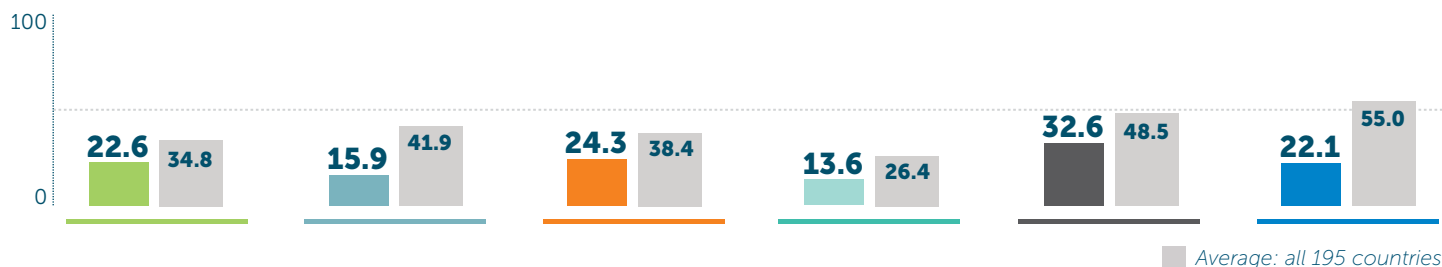
HEALTH



NORMS



RISK



■ Average: all 195 countries

| | COUNTRY SCORE | AVERAGE SCORE* | | COUNTRY SCORE | AVERAGE SCORE* |
|--|---------------|----------------|---|---------------|----------------|
| PREVENTION | 22.6 | 34.8 | HEALTH SYSTEM | 13.6 | 26.4 |
| Antimicrobial resistance (AMR) | 0 | 42.4 | Health capacity in clinics, hospitals and community care centers | 27.1 | 24.4 |
| Zoonotic disease | 22.4 | 27.1 | Medical countermeasures and personnel deployment | 33.3 | 21.2 |
| Biosecurity | 20 | 16.0 | Healthcare access | 18.2 | 38.4 |
| Biosafety | 0 | 22.8 | Communications with healthcare workers during a public health emergency | 0 | 15.1 |
| Dual-use research and culture of responsible science | 0 | 1.7 | Infection control practices and availability of equipment | 0 | 20.8 |
| Immunization | 78.9 | 85.0 | Capacity to test and approve new medical countermeasures | 0 | 42.2 |
| DETECTION AND REPORTING | 15.9 | 41.9 | COMPLIANCE WITH INTERNATIONAL NORMS | 32.6 | 48.5 |
| Laboratory systems | 25 | 54.4 | IHR reporting compliance and disaster risk reduction | 50 | 62.3 |
| Real-time surveillance and reporting | 35 | 39.1 | Cross-border agreements on public and animal health emergency response | 0 | 54.4 |
| Epidemiology workforce | 0 | 42.3 | International commitments | 12.5 | 53.4 |
| Data integration between human/animal/environmental health sectors | 0 | 29.7 | JEE and PVS | 25 | 17.7 |
| RAPID RESPONSE | 24.3 | 38.4 | Financing | 33.3 | 36.4 |
| Emergency preparedness and response planning | 6.3 | 16.9 | Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| Exercising response plans | 50 | 16.2 | RISK ENVIRONMENT | 22.1 | 55.0 |
| Emergency response operation | 0 | 23.6 | Political and security risks | 7.1 | 60.4 |
| Linking public health and security authorities | 0 | 22.6 | Socio-economic resilience | 37.4 | 66.1 |
| Risk communication | 0 | 39.4 | Infrastructure adequacy | 0 | 49.0 |
| Access to communications infrastructure | 43.6 | 72.7 | Environmental risks | 66.4 | 52.9 |
| Trade and travel restrictions | 100 | 97.4 | Public health vulnerabilities | 8.3 | 46.9 |

*Average: all 195 countries

Scores are normalized (0–100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



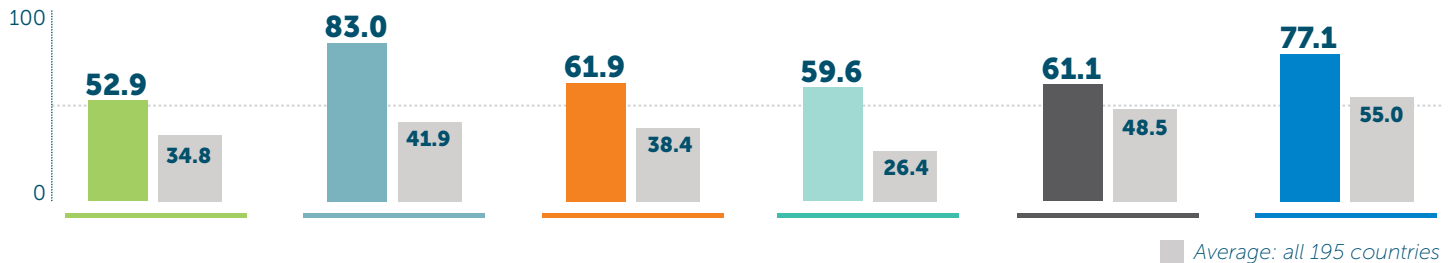
HEALTH



NORMS



RISK



■ Average: all 195 countries

| | COUNTRY SCORE | AVERAGE SCORE* | | COUNTRY SCORE | AVERAGE SCORE* |
|--|---------------|----------------|---|---------------|----------------|
| PREVENTION | 52.9 | 34.8 | HEALTH SYSTEM | 59.6 | 26.4 |
| Antimicrobial resistance (AMR) | 75 | 42.4 | Health capacity in clinics, hospitals and community care centers | 43.1 | 24.4 |
| Zoonotic disease | 33.1 | 27.1 | Medical countermeasures and personnel deployment | 33.3 | 21.2 |
| Biosecurity | 48 | 16.0 | Healthcare access | 44.3 | 38.4 |
| Biosafety | 50 | 22.8 | Communications with healthcare workers during a public health emergency | 100 | 15.1 |
| Dual-use research and culture of responsible science | 0 | 1.7 | Infection control practices and availability of equipment | 50 | 20.8 |
| Immunization | 98.2 | 85.0 | Capacity to test and approve new medical countermeasures | 100 | 42.2 |
| DETECTION AND REPORTING | 83.0 | 41.9 | COMPLIANCE WITH INTERNATIONAL NORMS | 61.1 | 48.5 |
| Laboratory systems | 83.3 | 54.4 | IHR reporting compliance and disaster risk reduction | 100 | 62.3 |
| Real-time surveillance and reporting | 100 | 39.1 | Cross-border agreements on public and animal health emergency response | 100 | 54.4 |
| Epidemiology workforce | 50 | 42.3 | International commitments | 96.9 | 53.4 |
| Data integration between human/animal/environmental health sectors | 100 | 29.7 | JEE and PVS | 0 | 17.7 |
| RAPID RESPONSE | 61.9 | 38.4 | Financing | 16.7 | 36.4 |
| Emergency preparedness and response planning | 25 | 16.9 | Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| Exercising response plans | 0 | 16.2 | RISK ENVIRONMENT | 77.1 | 55.0 |
| Emergency response operation | 33.3 | 23.6 | Political and security risks | 78.6 | 60.4 |
| Linking public health and security authorities | 100 | 22.6 | Socio-economic resilience | 78.2 | 66.1 |
| Risk communication | 100 | 39.4 | Infrastructure adequacy | 91.7 | 49.0 |
| Access to communications infrastructure | 88 | 72.7 | Environmental risks | 63.2 | 52.9 |
| Trade and travel restrictions | 100 | 97.4 | Public health vulnerabilities | 72.2 | 46.9 |

*Average: all 195 countries

Scores are normalized (0–100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



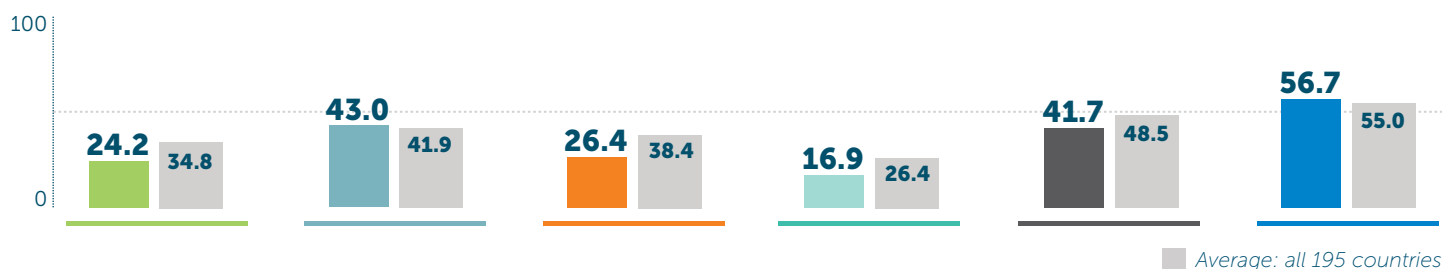
HEALTH



NORMS



RISK



■ Average: all 195 countries

| | COUNTRY SCORE | AVERAGE SCORE* | | COUNTRY SCORE | AVERAGE SCORE* |
|--|---------------|----------------|---|---------------|----------------|
| PREVENTION | 24.2 | 34.8 | HEALTH SYSTEM | 16.9 | 26.4 |
| Antimicrobial resistance (AMR) | 25 | 42.4 | Health capacity in clinics, hospitals and community care centers | 10.5 | 24.4 |
| Zoonotic disease | 0 | 27.1 | Medical countermeasures and personnel deployment | 0 | 21.2 |
| Biosecurity | 4 | 16.0 | Healthcare access | 48 | 38.4 |
| Biosafety | 0 | 22.8 | Communications with healthcare workers during a public health emergency | 0 | 15.1 |
| Dual-use research and culture of responsible science | 0 | 1.7 | Infection control practices and availability of equipment | 0 | 20.8 |
| Immunization | 100 | 85.0 | Capacity to test and approve new medical countermeasures | 50 | 42.2 |
| DETECTION AND REPORTING | 43.0 | 41.9 | COMPLIANCE WITH INTERNATIONAL NORMS | 41.7 | 48.5 |
| Laboratory systems | 83.3 | 54.4 | IHR reporting compliance and disaster risk reduction | 50 | 62.3 |
| Real-time surveillance and reporting | 31.7 | 39.1 | Cross-border agreements on public and animal health emergency response | 0 | 54.4 |
| Epidemiology workforce | 50 | 42.3 | International commitments | 25 | 53.4 |
| Data integration between human/animal/environmental health sectors | 0 | 29.7 | JEE and PVS | 50 | 17.7 |
| RAPID RESPONSE | 26.4 | 38.4 | Financing | 50 | 36.4 |
| Emergency preparedness and response planning | 12.5 | 16.9 | Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| Exercising response plans | 0 | 16.2 | RISK ENVIRONMENT | 56.7 | 55.0 |
| Emergency response operation | 33.3 | 23.6 | Political and security risks | 57.1 | 60.4 |
| Linking public health and security authorities | 0 | 22.6 | Socio-economic resilience | 60 | 66.1 |
| Risk communication | 0 | 39.4 | Infrastructure adequacy | 50 | 49.0 |
| Access to communications infrastructure | 62.8 | 72.7 | Environmental risks | 65.3 | 52.9 |
| Trade and travel restrictions | 100 | 97.4 | Public health vulnerabilities | 52.6 | 46.9 |

*Average: all 195 countries

Scores are normalized (0–100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



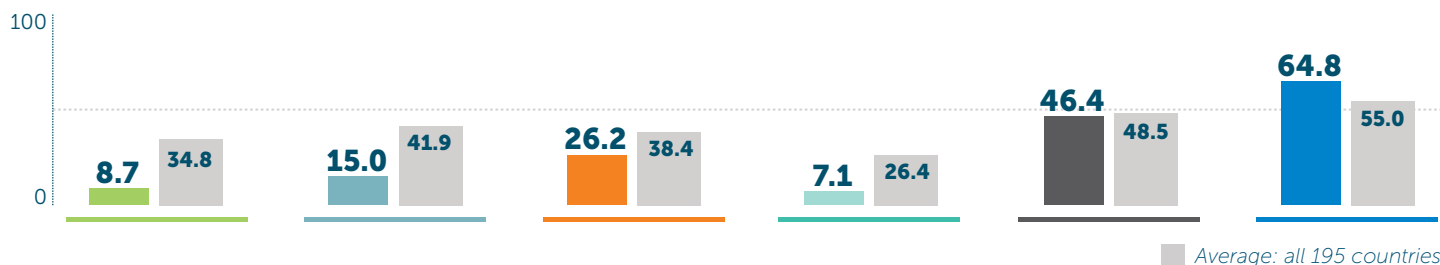
HEALTH



NORMS



RISK



■ Average: all 195 countries

| | COUNTRY SCORE | AVERAGE SCORE* | | COUNTRY SCORE | AVERAGE SCORE* |
|--|---------------|----------------|---|---------------|----------------|
| PREVENTION | 8.7 | 34.8 | HEALTH SYSTEM | 7.1 | 26.4 |
| Antimicrobial resistance (AMR) | 0 | 42.4 | Health capacity in clinics, hospitals and community care centers | 11.5 | 24.4 |
| Zoonotic disease | 0 | 27.1 | Medical countermeasures and personnel deployment | 0 | 21.2 |
| Biosecurity | 0 | 16.0 | Healthcare access | 27.9 | 38.4 |
| Biosafety | 0 | 22.8 | Communications with healthcare workers during a public health emergency | 0 | 15.1 |
| Dual-use research and culture of responsible science | 0 | 1.7 | Infection control practices and availability of equipment | 0 | 20.8 |
| Immunization | 44.7 | 85.0 | Capacity to test and approve new medical countermeasures | 0 | 42.2 |
| DETECTION AND REPORTING | 15.0 | 41.9 | COMPLIANCE WITH INTERNATIONAL NORMS | 46.4 | 48.5 |
| Laboratory systems | 33.3 | 54.4 | IHR reporting compliance and disaster risk reduction | 50 | 62.3 |
| Real-time surveillance and reporting | 0 | 39.1 | Cross-border agreements on public and animal health emergency response | 100 | 54.4 |
| Epidemiology workforce | 25 | 42.3 | International commitments | 28.1 | 53.4 |
| Data integration between human/animal/environmental health sectors | 0 | 29.7 | JEE and PVS | 0 | 17.7 |
| RAPID RESPONSE | 26.2 | 38.4 | Financing | 33.3 | 36.4 |
| Emergency preparedness and response planning | 0 | 16.9 | Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| Exercising response plans | 0 | 16.2 | RISK ENVIRONMENT | 64.8 | 55.0 |
| Emergency response operation | 0 | 23.6 | Political and security risks | 82.1 | 60.4 |
| Linking public health and security authorities | 0 | 22.6 | Socio-economic resilience | 70.6 | 66.1 |
| Risk communication | 25 | 39.4 | Infrastructure adequacy | 66.7 | 49.0 |
| Access to communications infrastructure | 87.3 | 72.7 | Environmental risks | 45.3 | 52.9 |
| Trade and travel restrictions | 100 | 97.4 | Public health vulnerabilities | 55.6 | 46.9 |

*Average: all 195 countries

Scores are normalized (0–100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



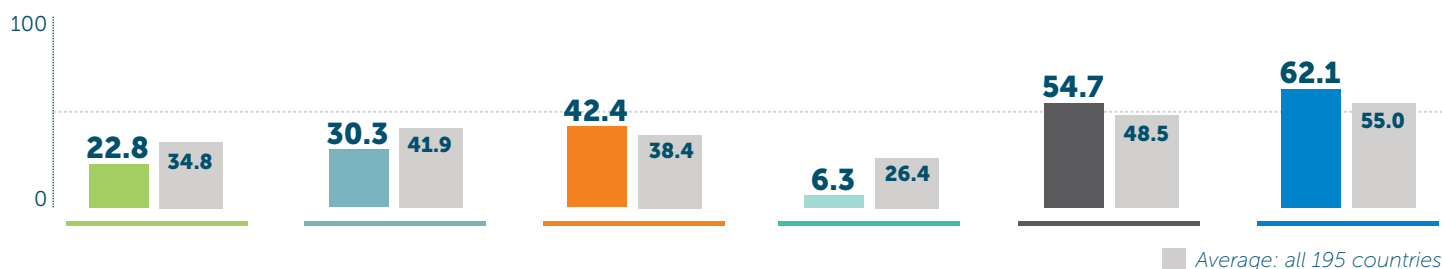
HEALTH



NORMS



RISK



■ Average: all 195 countries

| | COUNTRY SCORE | AVERAGE SCORE* | | COUNTRY SCORE | AVERAGE SCORE* |
|--|---------------|----------------|---|---------------|----------------|
| PREVENTION | 22.8 | 34.8 | HEALTH SYSTEM | 6.3 | 26.4 |
| Antimicrobial resistance (AMR) | 33.3 | 42.4 | Health capacity in clinics, hospitals and community care centers | 3.9 | 24.4 |
| Zoonotic disease | 0 | 27.1 | Medical countermeasures and personnel deployment | 0 | 21.2 |
| Biosecurity | 0 | 16.0 | Healthcare access | 30.7 | 38.4 |
| Biosafety | 0 | 22.8 | Communications with healthcare workers during a public health emergency | 0 | 15.1 |
| Dual-use research and culture of responsible science | 0 | 1.7 | Infection control practices and availability of equipment | 0 | 20.8 |
| Immunization | 89.5 | 85.0 | Capacity to test and approve new medical countermeasures | 0 | 42.2 |
| DETECTION AND REPORTING | 30.3 | 41.9 | COMPLIANCE WITH INTERNATIONAL NORMS | 54.7 | 48.5 |
| Laboratory systems | 33.3 | 54.4 | IHR reporting compliance and disaster risk reduction | 100 | 62.3 |
| Real-time surveillance and reporting | 33.3 | 39.1 | Cross-border agreements on public and animal health emergency response | 100 | 54.4 |
| Epidemiology workforce | 50 | 42.3 | International commitments | 25 | 53.4 |
| Data integration between human/animal/environmental health sectors | 0 | 29.7 | JEE and PVS | 0 | 17.7 |
| RAPID RESPONSE | 42.4 | 38.4 | Financing | 33.3 | 36.4 |
| Emergency preparedness and response planning | 50 | 16.9 | Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| Exercising response plans | 0 | 16.2 | RISK ENVIRONMENT | 62.1 | 55.0 |
| Emergency response operation | 33.3 | 23.6 | Political and security risks | 78.6 | 60.4 |
| Linking public health and security authorities | 0 | 22.6 | Socio-economic resilience | 70.6 | 66.1 |
| Risk communication | 50 | 39.4 | Infrastructure adequacy | 58.3 | 49.0 |
| Access to communications infrastructure | 73.1 | 72.7 | Environmental risks | 48.2 | 52.9 |
| Trade and travel restrictions | 100 | 97.4 | Public health vulnerabilities | 52.4 | 46.9 |

*Average: all 195 countries

Scores are normalized (0–100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



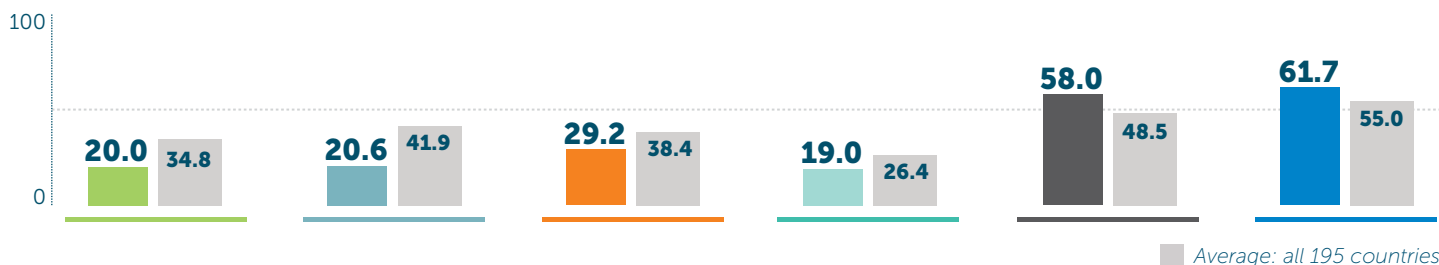
HEALTH



NORMS



RISK



| | COUNTRY SCORE | AVERAGE SCORE* |
|--|---------------|----------------|
| PREVENTION | 20.0 | 34.8 |
| Antimicrobial resistance (AMR) | 0 | 42.4 |
| Zoonotic disease | 2.5 | 27.1 |
| Biosecurity | 0 | 16.0 |
| Biosafety | 0 | 22.8 |
| Dual-use research and culture of responsible science | 0 | 1.7 |
| Immunization | 100 | 85.0 |
| DETECTION AND REPORTING | 20.6 | 41.9 |
| Laboratory systems | 16.7 | 54.4 |
| Real-time surveillance and reporting | 13.3 | 39.1 |
| Epidemiology workforce | 50 | 42.3 |
| Data integration between human/animal/environmental health sectors | 0 | 29.7 |
| RAPID RESPONSE | 29.2 | 38.4 |
| Emergency preparedness and response planning | 25 | 16.9 |
| Exercising response plans | 0 | 16.2 |
| Emergency response operation | 0 | 23.6 |
| Linking public health and security authorities | 0 | 22.6 |
| Risk communication | 25 | 39.4 |
| Access to communications infrastructure | 79.3 | 72.7 |
| Trade and travel restrictions | 100 | 97.4 |

| | COUNTRY SCORE | AVERAGE SCORE* |
|---|---------------|----------------|
| HEALTH SYSTEM | 19.0 | 26.4 |
| Health capacity in clinics, hospitals and community care centers | 9.3 | 24.4 |
| Medical countermeasures and personnel deployment | 0 | 21.2 |
| Healthcare access | 49.2 | 38.4 |
| Communications with healthcare workers during a public health emergency | 50 | 15.1 |
| Infection control practices and availability of equipment | 0 | 20.8 |
| Capacity to test and approve new medical countermeasures | 0 | 42.2 |
| COMPLIANCE WITH INTERNATIONAL NORMS | 58.0 | 48.5 |
| IHR reporting compliance and disaster risk reduction | 100 | 62.3 |
| Cross-border agreements on public and animal health emergency response | 100 | 54.4 |
| International commitments | 25 | 53.4 |
| JEE and PVS | 0 | 17.7 |
| Financing | 50 | 36.4 |
| Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| RISK ENVIRONMENT | 61.7 | 55.0 |
| Political and security risks | 78.6 | 60.4 |
| Socio-economic resilience | 70.3 | 66.1 |
| Infrastructure adequacy | 66.7 | 49.0 |
| Environmental risks | 40.9 | 52.9 |
| Public health vulnerabilities | 48.7 | 46.9 |

*Average: all 195 countries
Scores are normalized (0–100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



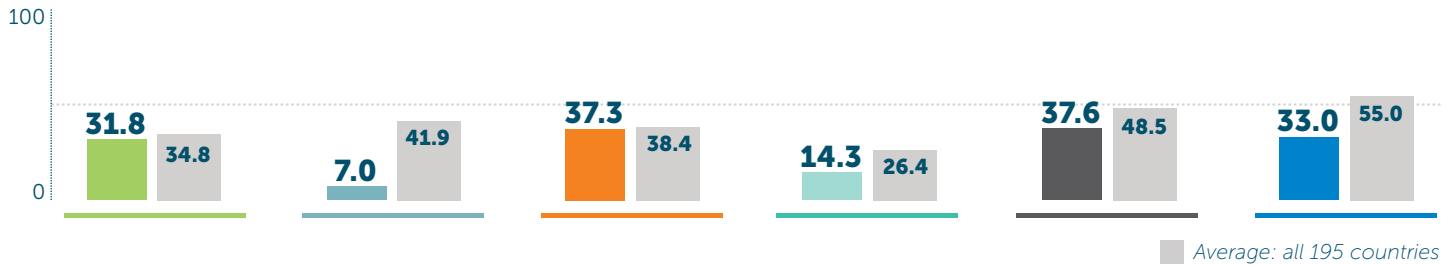
HEALTH



NORMS



RISK



| | COUNTRY SCORE | AVERAGE SCORE* |
|--|---------------|----------------|
| PREVENTION | 31.8 | 34.8 |
| Antimicrobial resistance (AMR) | 83.3 | 42.4 |
| Zoonotic disease | 2.3 | 27.1 |
| Biosecurity | 0 | 16.0 |
| Biosafety | 0 | 22.8 |
| Dual-use research and culture of responsible science | 0 | 1.7 |
| Immunization | 92.1 | 85.0 |
| DETECTION AND REPORTING | 7.0 | 41.9 |
| Laboratory systems | 16.7 | 54.4 |
| Real-time surveillance and reporting | 10 | 39.1 |
| Epidemiology workforce | 0 | 42.3 |
| Data integration between human/animal/environmental health sectors | 0 | 29.7 |
| RAPID RESPONSE | 37.3 | 38.4 |
| Emergency preparedness and response planning | 0 | 16.9 |
| Exercising response plans | 0 | 16.2 |
| Emergency response operation | 33.3 | 23.6 |
| Linking public health and security authorities | 0 | 22.6 |
| Risk communication | 75 | 39.4 |
| Access to communications infrastructure | 58.9 | 72.7 |
| Trade and travel restrictions | 100 | 97.4 |

| | COUNTRY SCORE | AVERAGE SCORE* |
|---|---------------|----------------|
| HEALTH SYSTEM | 14.3 | 26.4 |
| Health capacity in clinics, hospitals and community care centers | 2.7 | 24.4 |
| Medical countermeasures and personnel deployment | 33.3 | 21.2 |
| Healthcare access | 27.7 | 38.4 |
| Communications with healthcare workers during a public health emergency | 0 | 15.1 |
| Infection control practices and availability of equipment | 0 | 20.8 |
| Capacity to test and approve new medical countermeasures | 25 | 42.2 |
| COMPLIANCE WITH INTERNATIONAL NORMS | 37.6 | 48.5 |
| IHR reporting compliance and disaster risk reduction | 50 | 62.3 |
| Cross-border agreements on public and animal health emergency response | 0 | 54.4 |
| International commitments | 25 | 53.4 |
| JEE and PVS | 25 | 17.7 |
| Financing | 50 | 36.4 |
| Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| RISK ENVIRONMENT | 33.0 | 55.0 |
| Political and security risks | 25 | 60.4 |
| Socio-economic resilience | 44.8 | 66.1 |
| Infrastructure adequacy | 25 | 49.0 |
| Environmental risks | 52.3 | 52.9 |
| Public health vulnerabilities | 22.4 | 46.9 |

*Average: all 195 countries

Scores are normalized (0–100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



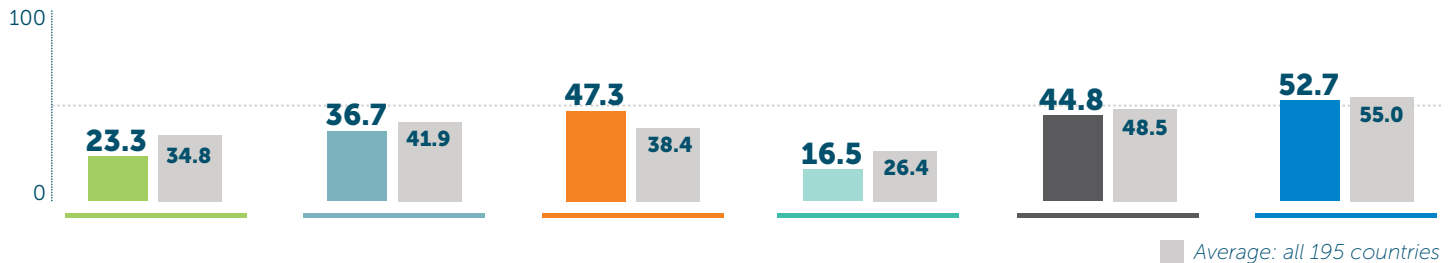
HEALTH



NORMS



RISK

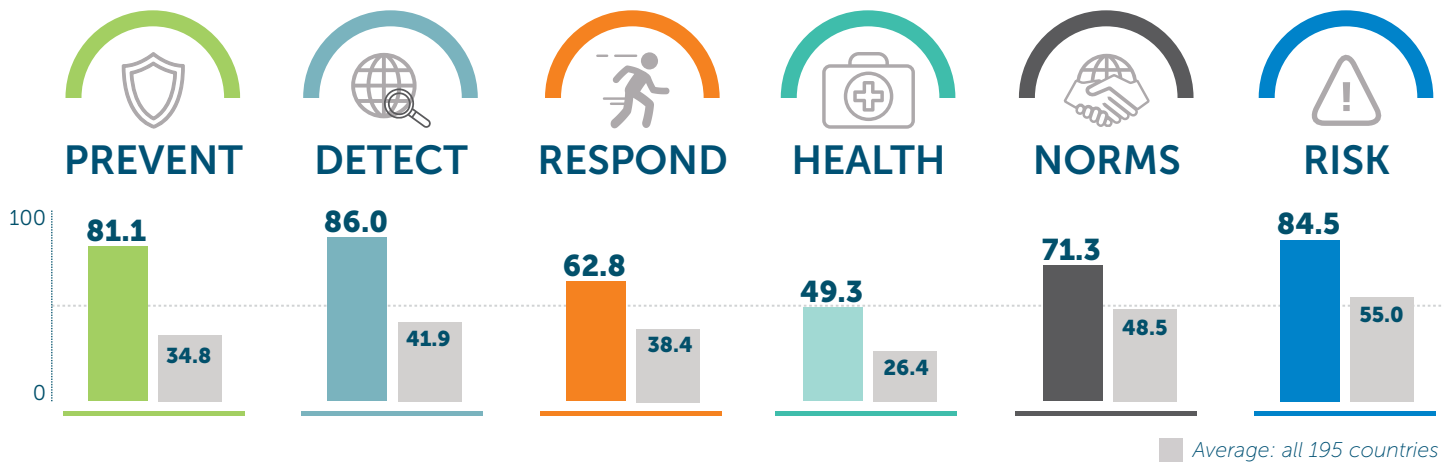


■ Average: all 195 countries

| | COUNTRY SCORE | AVERAGE SCORE* | | COUNTRY SCORE | AVERAGE SCORE* |
|--|---------------|----------------|---|---------------|----------------|
| PREVENTION | 23.3 | 34.8 | HEALTH SYSTEM | 16.5 | 26.4 |
| Antimicrobial resistance (AMR) | 25 | 42.4 | Health capacity in clinics, hospitals and community care centers | 11.5 | 24.4 |
| Zoonotic disease | 0.5 | 27.1 | Medical countermeasures and personnel deployment | 0 | 21.2 |
| Biosecurity | 0 | 16.0 | Healthcare access | 44.9 | 38.4 |
| Biosafety | 0 | 22.8 | Communications with healthcare workers during a public health emergency | 0 | 15.1 |
| Dual-use research and culture of responsible science | 0 | 1.7 | Infection control practices and availability of equipment | 0 | 20.8 |
| Immunization | 98.2 | 85.0 | Capacity to test and approve new medical countermeasures | 50 | 42.2 |
| DETECTION AND REPORTING | 36.7 | 41.9 | COMPLIANCE WITH INTERNATIONAL NORMS | 44.8 | 48.5 |
| Laboratory systems | 33.3 | 54.4 | IHR reporting compliance and disaster risk reduction | 50 | 62.3 |
| Real-time surveillance and reporting | 0 | 39.1 | Cross-border agreements on public and animal health emergency response | 100 | 54.4 |
| Epidemiology workforce | 25 | 42.3 | International commitments | 40.6 | 53.4 |
| Data integration between human/animal/environmental health sectors | 100 | 29.7 | JEE and PVS | 0 | 17.7 |
| RAPID RESPONSE | 47.3 | 38.4 | Financing | 16.7 | 36.4 |
| Emergency preparedness and response planning | 12.5 | 16.9 | Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| Exercising response plans | 0 | 16.2 | RISK ENVIRONMENT | 52.7 | 55.0 |
| Emergency response operation | 66.7 | 23.6 | Political and security risks | 71.4 | 60.4 |
| Linking public health and security authorities | 0 | 22.6 | Socio-economic resilience | 77.6 | 66.1 |
| Risk communication | 75 | 39.4 | Infrastructure adequacy | 33.3 | 49.0 |
| Access to communications infrastructure | 79.3 | 72.7 | Environmental risks | 31.4 | 52.9 |
| Trade and travel restrictions | 100 | 97.4 | Public health vulnerabilities | 47.1 | 46.9 |

*Average: all 195 countries

Scores are normalized (0–100, where 100 = most favorable)



| | COUNTRY SCORE | AVERAGE SCORE* |
|--|---------------|----------------|
| PREVENTION | 81.1 | 34.8 |
| Antimicrobial resistance (AMR) | 100 | 42.4 |
| Zoonotic disease | 75.1 | 27.1 |
| Biosecurity | 72 | 16.0 |
| Biosafety | 100 | 22.8 |
| Dual-use research and culture of responsible science | 33.3 | 1.7 |
| Immunization | 98.2 | 85.0 |
| DETECTION AND REPORTING | 86.0 | 41.9 |
| Laboratory systems | 100 | 54.4 |
| Real-time surveillance and reporting | 95 | 39.1 |
| Epidemiology workforce | 50 | 42.3 |
| Data integration between human/animal/environmental health sectors | 100 | 29.7 |
| RAPID RESPONSE | 62.8 | 38.4 |
| Emergency preparedness and response planning | 37.5 | 16.9 |
| Exercising response plans | 50 | 16.2 |
| Emergency response operation | 33.3 | 23.6 |
| Linking public health and security authorities | 100 | 22.6 |
| Risk communication | 50 | 39.4 |
| Access to communications infrastructure | 95.8 | 72.7 |
| Trade and travel restrictions | 100 | 97.4 |

| | COUNTRY SCORE | AVERAGE SCORE* |
|---|---------------|----------------|
| HEALTH SYSTEM | 49.3 | 26.4 |
| Health capacity in clinics, hospitals and community care centers | 48.4 | 24.4 |
| Medical countermeasures and personnel deployment | 66.7 | 21.2 |
| Healthcare access | 44 | 38.4 |
| Communications with healthcare workers during a public health emergency | 0 | 15.1 |
| Infection control practices and availability of equipment | 50 | 20.8 |
| Capacity to test and approve new medical countermeasures | 100 | 42.2 |
| COMPLIANCE WITH INTERNATIONAL NORMS | 71.3 | 48.5 |
| IHR reporting compliance and disaster risk reduction | 100 | 62.3 |
| Cross-border agreements on public and animal health emergency response | 100 | 54.4 |
| International commitments | 100 | 53.4 |
| JEE and PVS | 0 | 17.7 |
| Financing | 66.7 | 36.4 |
| Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| RISK ENVIRONMENT | 84.5 | 55.0 |
| Political and security risks | 89.3 | 60.4 |
| Socio-economic resilience | 99.7 | 66.1 |
| Infrastructure adequacy | 91.7 | 49.0 |
| Environmental risks | 57.6 | 52.9 |
| Public health vulnerabilities | 81.6 | 46.9 |

*Average: all 195 countries

Scores are normalized (0-100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



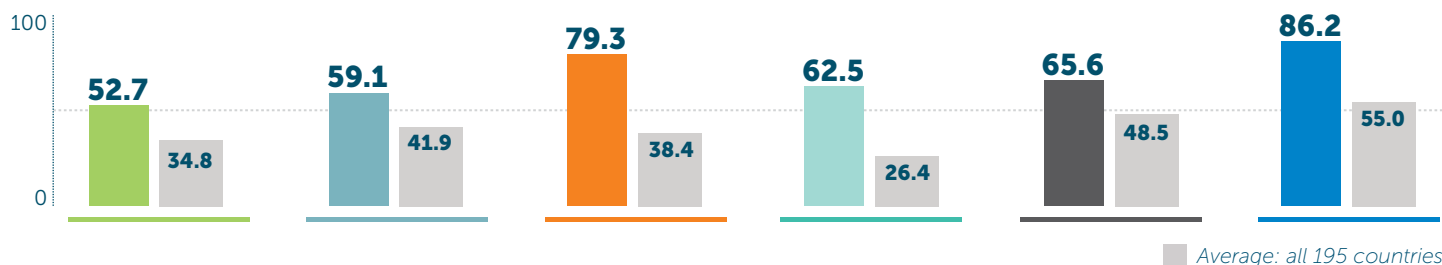
HEALTH



NORMS



RISK



■ Average: all 195 countries

| | COUNTRY SCORE | AVERAGE SCORE* |
|--|---------------|----------------|
| PREVENTION | 52.7 | 34.8 |
| Antimicrobial resistance (AMR) | 75 | 42.4 |
| Zoonotic disease | 55.6 | 27.1 |
| Biosecurity | 24 | 16.0 |
| Biosafety | 50 | 22.8 |
| Dual-use research and culture of responsible science | 0 | 1.7 |
| Immunization | 96.5 | 85.0 |
| DETECTION AND REPORTING | 59.1 | 41.9 |
| Laboratory systems | 83.3 | 54.4 |
| Real-time surveillance and reporting | 58.3 | 39.1 |
| Epidemiology workforce | 0 | 42.3 |
| Data integration between human/animal/environmental health sectors | 100 | 29.7 |
| RAPID RESPONSE | 79.3 | 38.4 |
| Emergency preparedness and response planning | 87.5 | 16.9 |
| Exercising response plans | 50 | 16.2 |
| Emergency response operation | 33.3 | 23.6 |
| Linking public health and security authorities | 100 | 22.6 |
| Risk communication | 100 | 39.4 |
| Access to communications infrastructure | 93.9 | 72.7 |
| Trade and travel restrictions | 100 | 97.4 |

| | COUNTRY SCORE | AVERAGE SCORE* |
|---|---------------|----------------|
| HEALTH SYSTEM | 62.5 | 26.4 |
| Health capacity in clinics, hospitals and community care centers | 57.6 | 24.4 |
| Medical countermeasures and personnel deployment | 66.7 | 21.2 |
| Healthcare access | 33.3 | 38.4 |
| Communications with healthcare workers during a public health emergency | 100 | 15.1 |
| Infection control practices and availability of equipment | 50 | 20.8 |
| Capacity to test and approve new medical countermeasures | 75 | 42.2 |
| COMPLIANCE WITH INTERNATIONAL NORMS | 65.6 | 48.5 |
| IHR reporting compliance and disaster risk reduction | 100 | 62.3 |
| Cross-border agreements on public and animal health emergency response | 100 | 54.4 |
| International commitments | 100 | 53.4 |
| JEE and PVS | 25 | 17.7 |
| Financing | 16.7 | 36.4 |
| Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| RISK ENVIRONMENT | 86.2 | 55.0 |
| Political and security risks | 89.3 | 60.4 |
| Socio-economic resilience | 100 | 66.1 |
| Infrastructure adequacy | 91.7 | 49.0 |
| Environmental risks | 63.9 | 52.9 |
| Public health vulnerabilities | 83.8 | 46.9 |

*Average: all 195 countries

Scores are normalized (0–100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



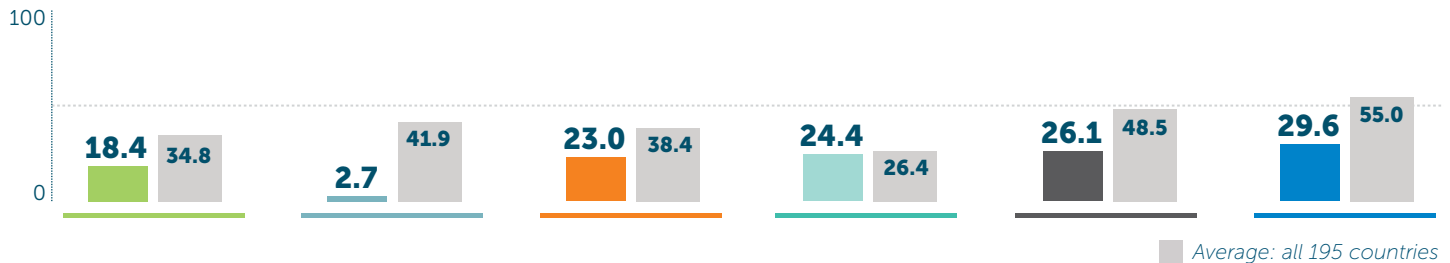
HEALTH



NORMS



RISK



■ Average: all 195 countries

| | COUNTRY SCORE | AVERAGE SCORE* | | COUNTRY SCORE | AVERAGE SCORE* |
|--|---------------|----------------|---|---------------|----------------|
| PREVENTION | 18.4 | 34.8 | HEALTH SYSTEM | 24.4 | 26.4 |
| Antimicrobial resistance (AMR) | 0 | 42.4 | Health capacity in clinics, hospitals and community care centers | 7.8 | 24.4 |
| Zoonotic disease | 8 | 27.1 | Medical countermeasures and personnel deployment | 33.3 | 21.2 |
| Biosecurity | 0 | 16.0 | Healthcare access | 32.6 | 38.4 |
| Biosafety | 0 | 22.8 | Communications with healthcare workers during a public health emergency | 50 | 15.1 |
| Dual-use research and culture of responsible science | 0 | 1.7 | Infection control practices and availability of equipment | 0 | 20.8 |
| Immunization | 86.8 | 85.0 | Capacity to test and approve new medical countermeasures | 25 | 42.2 |
| DETECTION AND REPORTING | 2.7 | 41.9 | COMPLIANCE WITH INTERNATIONAL NORMS | 26.1 | 48.5 |
| Laboratory systems | 0 | 54.4 | IHR reporting compliance and disaster risk reduction | 50 | 62.3 |
| Real-time surveillance and reporting | 10 | 39.1 | Cross-border agreements on public and animal health emergency response | 0 | 54.4 |
| Epidemiology workforce | 0 | 42.3 | International commitments | 18.8 | 53.4 |
| Data integration between human/animal/environmental health sectors | 0 | 29.7 | JEE and PVS | 0 | 17.7 |
| RAPID RESPONSE | 23.0 | 38.4 | Financing | 16.7 | 36.4 |
| Emergency preparedness and response planning | 0 | 16.9 | Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| Exercising response plans | 0 | 16.2 | RISK ENVIRONMENT | 29.6 | 55.0 |
| Emergency response operation | 0 | 23.6 | Political and security risks | 0 | 60.4 |
| Linking public health and security authorities | 0 | 22.6 | Socio-economic resilience | 34.9 | 66.1 |
| Risk communication | 50 | 39.4 | Infrastructure adequacy | 8.3 | 49.0 |
| Access to communications infrastructure | 23.9 | 72.7 | Environmental risks | 61.9 | 52.9 |
| Trade and travel restrictions | 100 | 97.4 | Public health vulnerabilities | 49.7 | 46.9 |

*Average: all 195 countries

Scores are normalized (0–100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



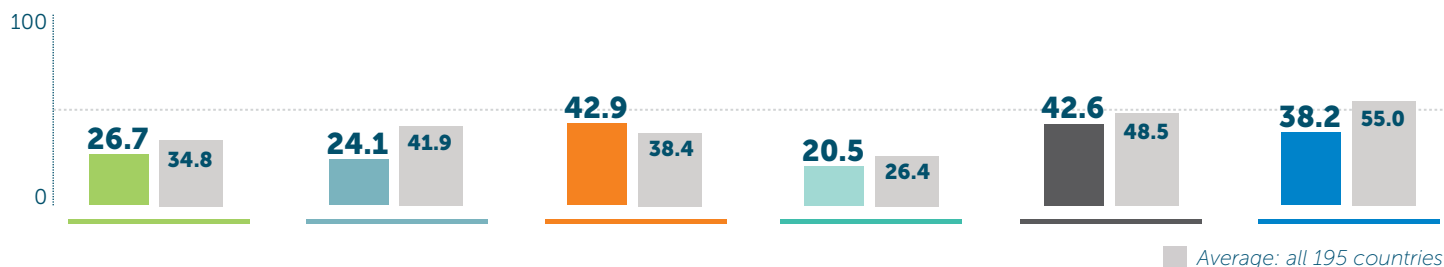
HEALTH



NORMS



RISK



■ Average: all 195 countries

| | COUNTRY SCORE | AVERAGE SCORE* |
|--|---------------|----------------|
| PREVENTION | 26.7 | 34.8 |
| Antimicrobial resistance (AMR) | 16.7 | 42.4 |
| Zoonotic disease | 22.5 | 27.1 |
| Biosecurity | 4 | 16.0 |
| Biosafety | 0 | 22.8 |
| Dual-use research and culture of responsible science | 0 | 1.7 |
| Immunization | 99.1 | 85.0 |
| DETECTION AND REPORTING | 24.1 | 41.9 |
| Laboratory systems | 33.3 | 54.4 |
| Real-time surveillance and reporting | 10 | 39.1 |
| Epidemiology workforce | 50 | 42.3 |
| Data integration between human/animal/environmental health sectors | 0 | 29.7 |
| RAPID RESPONSE | 42.9 | 38.4 |
| Emergency preparedness and response planning | 50 | 16.9 |
| Exercising response plans | 50 | 16.2 |
| Emergency response operation | 33.3 | 23.6 |
| Linking public health and security authorities | 0 | 22.6 |
| Risk communication | 25 | 39.4 |
| Access to communications infrastructure | 57.5 | 72.7 |
| Trade and travel restrictions | 100 | 97.4 |

| | COUNTRY SCORE | AVERAGE SCORE* |
|---|---------------|----------------|
| HEALTH SYSTEM | 20.5 | 26.4 |
| Health capacity in clinics, hospitals and community care centers | 16.6 | 24.4 |
| Medical countermeasures and personnel deployment | 33.3 | 21.2 |
| Healthcare access | 32 | 38.4 |
| Communications with healthcare workers during a public health emergency | 0 | 15.1 |
| Infection control practices and availability of equipment | 0 | 20.8 |
| Capacity to test and approve new medical countermeasures | 50 | 42.2 |
| COMPLIANCE WITH INTERNATIONAL NORMS | 42.6 | 48.5 |
| IHR reporting compliance and disaster risk reduction | 100 | 62.3 |
| Cross-border agreements on public and animal health emergency response | 0 | 54.4 |
| International commitments | 28.1 | 53.4 |
| JEE and PVS | 0 | 17.7 |
| Financing | 50 | 36.4 |
| Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| RISK ENVIRONMENT | 38.2 | 55.0 |
| Political and security risks | 35.7 | 60.4 |
| Socio-economic resilience | 52.5 | 66.1 |
| Infrastructure adequacy | 16.7 | 49.0 |
| Environmental risks | 46.8 | 52.9 |
| Public health vulnerabilities | 41.5 | 46.9 |

*Average: all 195 countries

Scores are normalized (0–100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



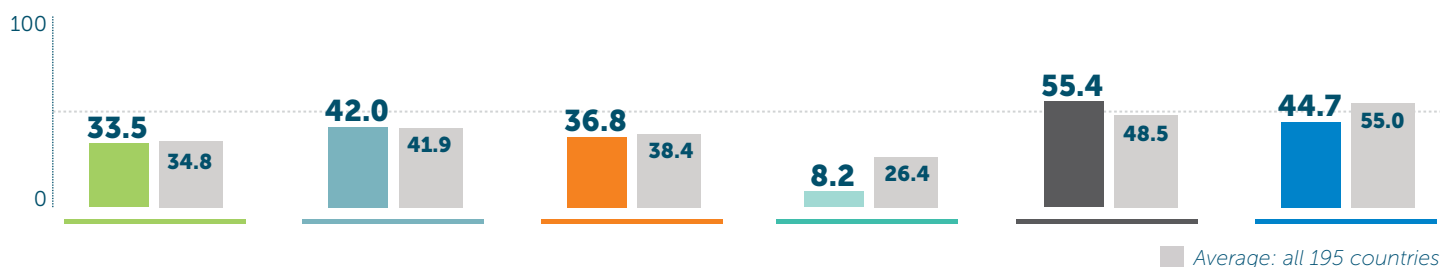
HEALTH



NORMS



RISK

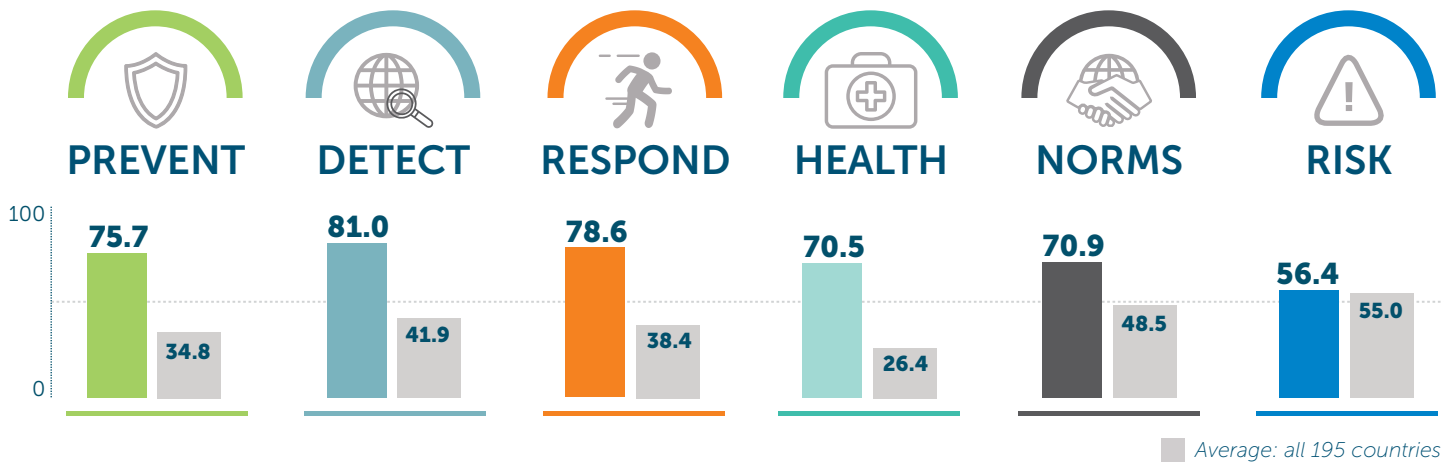


■ Average: all 195 countries

| | COUNTRY SCORE | AVERAGE SCORE* | | COUNTRY SCORE | AVERAGE SCORE* |
|--|---------------|----------------|---|---------------|----------------|
| PREVENTION | 33.5 | 34.8 | HEALTH SYSTEM | 8.2 | 26.4 |
| Antimicrobial resistance (AMR) | 41.7 | 42.4 | Health capacity in clinics, hospitals and community care centers | 1.4 | 24.4 |
| Zoonotic disease | 40.9 | 27.1 | Medical countermeasures and personnel deployment | 0 | 21.2 |
| Biosecurity | 0 | 16.0 | Healthcare access | 26.4 | 38.4 |
| Biosafety | 0 | 22.8 | Communications with healthcare workers during a public health emergency | 0 | 15.1 |
| Dual-use research and culture of responsible science | 0 | 1.7 | Infection control practices and availability of equipment | 0 | 20.8 |
| Immunization | 100 | 85.0 | Capacity to test and approve new medical countermeasures | 25 | 42.2 |
| DETECTION AND REPORTING | 42.0 | 41.9 | COMPLIANCE WITH INTERNATIONAL NORMS | 55.4 | 48.5 |
| Laboratory systems | 50 | 54.4 | IHR reporting compliance and disaster risk reduction | 50 | 62.3 |
| Real-time surveillance and reporting | 13.3 | 39.1 | Cross-border agreements on public and animal health emergency response | 50 | 54.4 |
| Epidemiology workforce | 100 | 42.3 | International commitments | 68.8 | 53.4 |
| Data integration between human/animal/environmental health sectors | 0 | 29.7 | JEE and PVS | 50 | 17.7 |
| RAPID RESPONSE | 36.8 | 38.4 | Financing | 50 | 36.4 |
| Emergency preparedness and response planning | 0 | 16.9 | Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| Exercising response plans | 50 | 16.2 | RISK ENVIRONMENT | 44.7 | 55.0 |
| Emergency response operation | 0 | 23.6 | Political and security risks | 60.7 | 60.4 |
| Linking public health and security authorities | 0 | 22.6 | Socio-economic resilience | 53.9 | 66.1 |
| Risk communication | 75 | 39.4 | Infrastructure adequacy | 33.3 | 49.0 |
| Access to communications infrastructure | 44.8 | 72.7 | Environmental risks | 61.8 | 52.9 |
| Trade and travel restrictions | 100 | 97.4 | Public health vulnerabilities | 16.1 | 46.9 |

*Average: all 195 countries

Scores are normalized (0–100, where 100 = most favorable)



| | COUNTRY SCORE | AVERAGE SCORE* |
|--|---------------|----------------|
| PREVENTION | 75.7 | 34.8 |
| Antimicrobial resistance (AMR) | 75 | 42.4 |
| Zoonotic disease | 67.5 | 27.1 |
| Biosecurity | 69.3 | 16.0 |
| Biosafety | 100 | 22.8 |
| Dual-use research and culture of responsible science | 33.3 | 1.7 |
| Immunization | 100 | 85.0 |
| DETECTION AND REPORTING | 81.0 | 41.9 |
| Laboratory systems | 100 | 54.4 |
| Real-time surveillance and reporting | 76.7 | 39.1 |
| Epidemiology workforce | 50 | 42.3 |
| Data integration between human/animal/environmental health sectors | 100 | 29.7 |
| RAPID RESPONSE | 78.6 | 38.4 |
| Emergency preparedness and response planning | 87.5 | 16.9 |
| Exercising response plans | 50 | 16.2 |
| Emergency response operation | 66.7 | 23.6 |
| Linking public health and security authorities | 100 | 22.6 |
| Risk communication | 100 | 39.4 |
| Access to communications infrastructure | 88 | 72.7 |
| Trade and travel restrictions | 50 | 97.4 |

| | COUNTRY SCORE | AVERAGE SCORE* |
|---|---------------|----------------|
| HEALTH SYSTEM | 70.5 | 26.4 |
| Health capacity in clinics, hospitals and community care centers | 48.1 | 24.4 |
| Medical countermeasures and personnel deployment | 33.3 | 21.2 |
| Healthcare access | 99.3 | 38.4 |
| Communications with healthcare workers during a public health emergency | 100 | 15.1 |
| Infection control practices and availability of equipment | 50 | 20.8 |
| Capacity to test and approve new medical countermeasures | 100 | 42.2 |
| COMPLIANCE WITH INTERNATIONAL NORMS | 70.9 | 48.5 |
| IHR reporting compliance and disaster risk reduction | 100 | 62.3 |
| Cross-border agreements on public and animal health emergency response | 100 | 54.4 |
| International commitments | 90.6 | 53.4 |
| JEE and PVS | 25 | 17.7 |
| Financing | 50 | 36.4 |
| Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| RISK ENVIRONMENT | 56.4 | 55.0 |
| Political and security risks | 39.3 | 60.4 |
| Socio-economic resilience | 69.3 | 66.1 |
| Infrastructure adequacy | 50 | 49.0 |
| Environmental risks | 72.7 | 52.9 |
| Public health vulnerabilities | 55.2 | 46.9 |

*Average: all 195 countries

Scores are normalized (0-100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



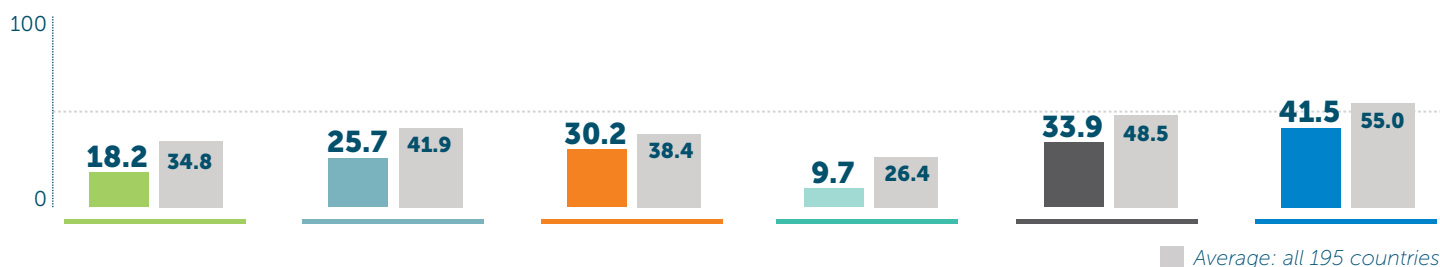
HEALTH



NORMS



RISK



■ Average: all 195 countries

| | COUNTRY SCORE | AVERAGE SCORE* | | COUNTRY SCORE | AVERAGE SCORE* |
|--|---------------|----------------|---|---------------|----------------|
| PREVENTION | 18.2 | 34.8 | HEALTH SYSTEM | 9.7 | 26.4 |
| Antimicrobial resistance (AMR) | 50 | 42.4 | Health capacity in clinics, hospitals and community care centers | 11.7 | 24.4 |
| Zoonotic disease | 8.8 | 27.1 | Medical countermeasures and personnel deployment | 0 | 21.2 |
| Biosecurity | 0 | 16.0 | Healthcare access | 42 | 38.4 |
| Biosafety | 0 | 22.8 | Communications with healthcare workers during a public health emergency | 0 | 15.1 |
| Dual-use research and culture of responsible science | 0 | 1.7 | Infection control practices and availability of equipment | 0 | 20.8 |
| Immunization | 43.9 | 85.0 | Capacity to test and approve new medical countermeasures | 0 | 42.2 |
| DETECTION AND REPORTING | 25.7 | 41.9 | COMPLIANCE WITH INTERNATIONAL NORMS | 33.9 | 48.5 |
| Laboratory systems | 50 | 54.4 | IHR reporting compliance and disaster risk reduction | 50 | 62.3 |
| Real-time surveillance and reporting | 23.3 | 39.1 | Cross-border agreements on public and animal health emergency response | 0 | 54.4 |
| Epidemiology workforce | 25 | 42.3 | International commitments | 28.1 | 53.4 |
| Data integration between human/animal/environmental health sectors | 0 | 29.7 | JEE and PVS | 0 | 17.7 |
| RAPID RESPONSE | 30.2 | 38.4 | Financing | 50 | 36.4 |
| Emergency preparedness and response planning | 0 | 16.9 | Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| Exercising response plans | 0 | 16.2 | RISK ENVIRONMENT | 41.5 | 55.0 |
| Emergency response operation | 33.3 | 23.6 | Political and security risks | 57.1 | 60.4 |
| Linking public health and security authorities | 0 | 22.6 | Socio-economic resilience | 64.9 | 66.1 |
| Risk communication | 25 | 39.4 | Infrastructure adequacy | 16.7 | 49.0 |
| Access to communications infrastructure | 74.2 | 72.7 | Environmental risks | 40.6 | 52.9 |
| Trade and travel restrictions | 100 | 97.4 | Public health vulnerabilities | 28.5 | 46.9 |

*Average: all 195 countries

Scores are normalized (0–100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



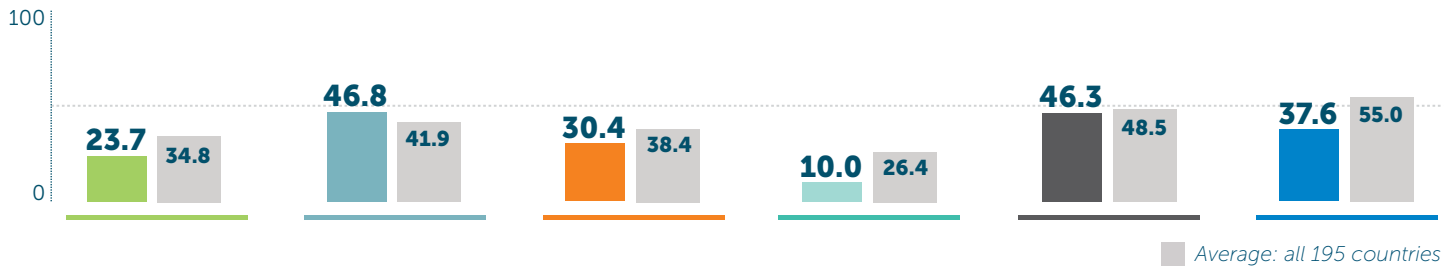
HEALTH



NORMS



RISK



| | COUNTRY SCORE | AVERAGE SCORE* |
|---|---------------|----------------|
| PREVENTION | 23.7 | 34.8 |
| Antimicrobial resistance (AMR) | 8.3 | 42.4 |
| Zoonotic disease | 23.3 | 27.1 |
| Biosecurity | 0 | 16.0 |
| Biosafety | 0 | 22.8 |
| Dual-use research and culture of responsible science | 0 | 1.7 |
| Immunization | 93 | 85.0 |
| DETECTION AND REPORTING | 46.8 | 41.9 |
| Laboratory systems | 75 | 54.4 |
| Real-time surveillance and reporting | 6.7 | 39.1 |
| Epidemiology workforce | 100 | 42.3 |
| Data integration between human/ animal/environmental health sectors | 0 | 29.7 |
| RAPID RESPONSE | 30.4 | 38.4 |
| Emergency preparedness and response planning | 0 | 16.9 |
| Exercising response plans | 50 | 16.2 |
| Emergency response operation | 33.3 | 23.6 |
| Linking public health and security authorities | 0 | 22.6 |
| Risk communication | 0 | 39.4 |
| Access to communications infrastructure | 56.2 | 72.7 |
| Trade and travel restrictions | 100 | 97.4 |

| | COUNTRY SCORE | AVERAGE SCORE* |
|---|---------------|----------------|
| HEALTH SYSTEM | 10.0 | 26.4 |
| Health capacity in clinics, hospitals and community care centers | 1.3 | 24.4 |
| Medical countermeasures and personnel deployment | 33.3 | 21.2 |
| Healthcare access | 22.8 | 38.4 |
| Communications with healthcare workers during a public health emergency | 0 | 15.1 |
| Infection control practices and availability of equipment | 0 | 20.8 |
| Capacity to test and approve new medical countermeasures | 0 | 42.2 |
| COMPLIANCE WITH INTERNATIONAL NORMS | 46.3 | 48.5 |
| IHR reporting compliance and disaster risk reduction | 100 | 62.3 |
| Cross-border agreements on public and animal health emergency response | 0 | 54.4 |
| International commitments | 25 | 53.4 |
| JEE and PVS | 25 | 17.7 |
| Financing | 50 | 36.4 |
| Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| RISK ENVIRONMENT | 37.6 | 55.0 |
| Political and security risks | 46.4 | 60.4 |
| Socio-economic resilience | 37.2 | 66.1 |
| Infrastructure adequacy | 25 | 49.0 |
| Environmental risks | 68.3 | 52.9 |
| Public health vulnerabilities | 14.7 | 46.9 |

*Average: all 195 countries

Scores are normalized (0–100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



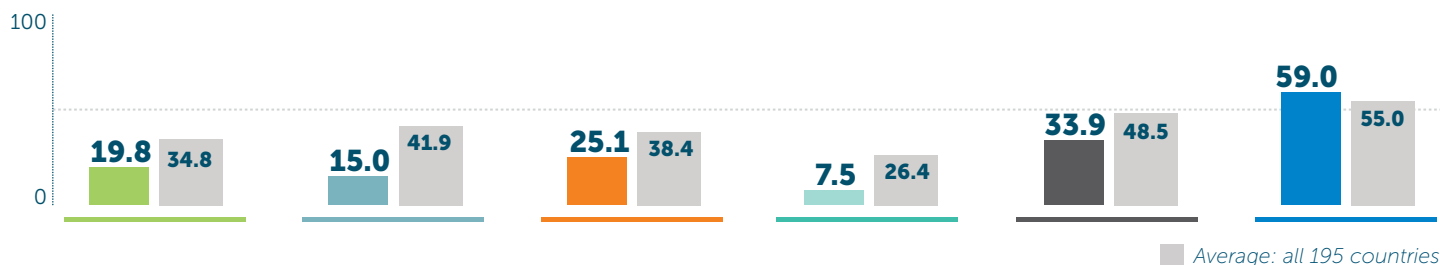
HEALTH



NORMS



RISK



| | COUNTRY SCORE | AVERAGE SCORE* |
|--|---------------|----------------|
| PREVENTION | 19.8 | 34.8 |
| Antimicrobial resistance (AMR) | 0 | 42.4 |
| Zoonotic disease | 1.7 | 27.1 |
| Biosecurity | 0 | 16.0 |
| Biosafety | 0 | 22.8 |
| Dual-use research and culture of responsible science | 0 | 1.7 |
| Immunization | 100 | 85.0 |
| DETECTION AND REPORTING | 15.0 | 41.9 |
| Laboratory systems | 33.3 | 54.4 |
| Real-time surveillance and reporting | 0 | 39.1 |
| Epidemiology workforce | 25 | 42.3 |
| Data integration between human/animal/environmental health sectors | 0 | 29.7 |
| RAPID RESPONSE | 25.1 | 38.4 |
| Emergency preparedness and response planning | 0 | 16.9 |
| Exercising response plans | 0 | 16.2 |
| Emergency response operation | 33.3 | 23.6 |
| Linking public health and security authorities | 0 | 22.6 |
| Risk communication | 0 | 39.4 |
| Access to communications infrastructure | 68.6 | 72.7 |
| Trade and travel restrictions | 100 | 97.4 |

| | COUNTRY SCORE | AVERAGE SCORE* |
|---|---------------|----------------|
| HEALTH SYSTEM | 7.5 | 26.4 |
| Health capacity in clinics, hospitals and community care centers | 8.9 | 24.4 |
| Medical countermeasures and personnel deployment | 0 | 21.2 |
| Healthcare access | 32.3 | 38.4 |
| Communications with healthcare workers during a public health emergency | 0 | 15.1 |
| Infection control practices and availability of equipment | 0 | 20.8 |
| Capacity to test and approve new medical countermeasures | 0 | 42.2 |
| COMPLIANCE WITH INTERNATIONAL NORMS | 33.9 | 48.5 |
| IHR reporting compliance and disaster risk reduction | 50 | 62.3 |
| Cross-border agreements on public and animal health emergency response | 0 | 54.4 |
| International commitments | 28.1 | 53.4 |
| JEE and PVS | 0 | 17.7 |
| Financing | 50 | 36.4 |
| Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| RISK ENVIRONMENT | 59.0 | 55.0 |
| Political and security risks | 67.9 | 60.4 |
| Socio-economic resilience | 70.2 | 66.1 |
| Infrastructure adequacy | 58.3 | 49.0 |
| Environmental risks | 48.2 | 52.9 |
| Public health vulnerabilities | 49 | 46.9 |

*Average: all 195 countries

Scores are normalized (0-100, where 100 = most favorable)

Trinidad and Tobago

36.6 Index Score

99/195



PREVENT



DETECT



RESPOND



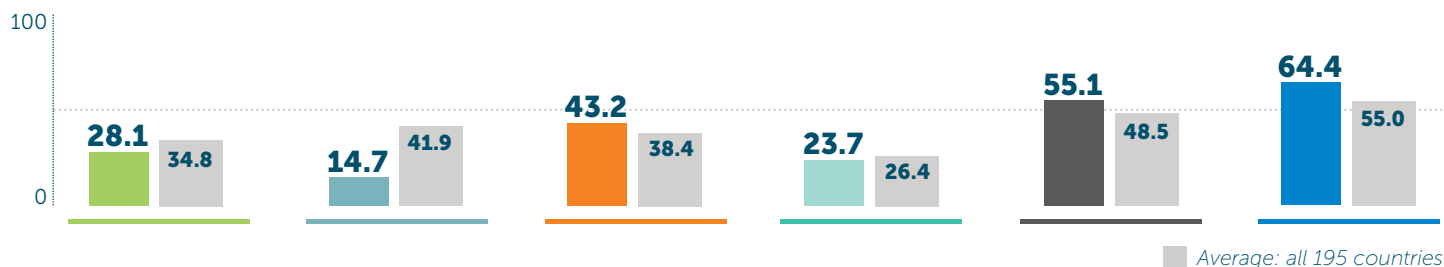
HEALTH



NORMS



RISK



| | COUNTRY SCORE | AVERAGE SCORE* | | COUNTRY SCORE | AVERAGE SCORE* |
|--|---------------|----------------|---|---------------|----------------|
| PREVENTION | 28.1 | 34.8 | HEALTH SYSTEM | 23.7 | 26.4 |
| Antimicrobial resistance (AMR) | 50 | 42.4 | Health capacity in clinics, hospitals and community care centers | 36.9 | 24.4 |
| Zoonotic disease | 8.6 | 27.1 | Medical countermeasures and personnel deployment | 0 | 21.2 |
| Biosecurity | 0 | 16.0 | Healthcare access | 27.1 | 38.4 |
| Biosafety | 0 | 22.8 | Communications with healthcare workers during a public health emergency | 0 | 15.1 |
| Dual-use research and culture of responsible science | 0 | 1.7 | Infection control practices and availability of equipment | 50 | 20.8 |
| Immunization | 94.7 | 85.0 | Capacity to test and approve new medical countermeasures | 25 | 42.2 |
| DETECTION AND REPORTING | 14.7 | 41.9 | COMPLIANCE WITH INTERNATIONAL NORMS | 55.1 | 48.5 |
| Laboratory systems | 16.7 | 54.4 | IHR reporting compliance and disaster risk reduction | 100 | 62.3 |
| Real-time surveillance and reporting | 15 | 39.1 | Cross-border agreements on public and animal health emergency response | 100 | 54.4 |
| Epidemiology workforce | 25 | 42.3 | International commitments | 28.1 | 53.4 |
| Data integration between human/animal/environmental health sectors | 0 | 29.7 | JEE and PVS | 0 | 17.7 |
| RAPID RESPONSE | 43.2 | 38.4 | Financing | 33.3 | 36.4 |
| Emergency preparedness and response planning | 12.5 | 16.9 | Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| Exercising response plans | 0 | 16.2 | RISK ENVIRONMENT | 64.4 | 55.0 |
| Emergency response operation | 33.3 | 23.6 | Political and security risks | 71.4 | 60.4 |
| Linking public health and security authorities | 0 | 22.6 | Socio-economic resilience | 82.3 | 66.1 |
| Risk communication | 75 | 39.4 | Infrastructure adequacy | 58.3 | 49.0 |
| Access to communications infrastructure | 91.9 | 72.7 | Environmental risks | 55.8 | 52.9 |
| Trade and travel restrictions | 100 | 97.4 | Public health vulnerabilities | 53.9 | 46.9 |

*Average: all 195 countries

Scores are normalized (0–100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



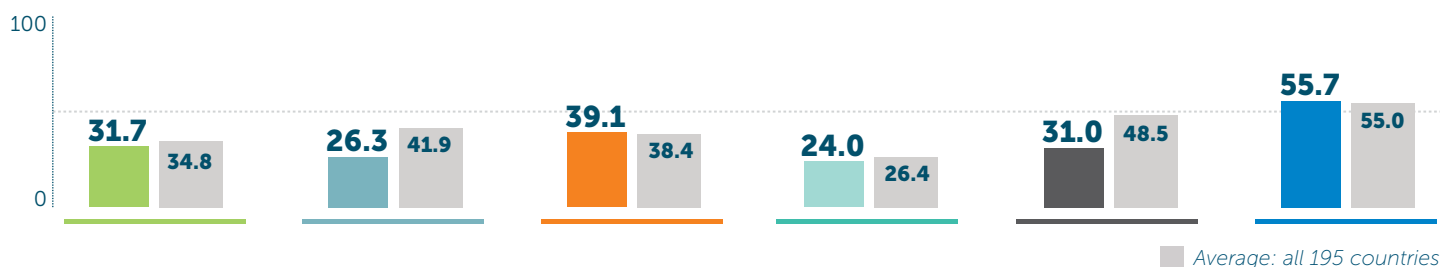
HEALTH



NORMS



RISK



■ Average: all 195 countries

| | COUNTRY SCORE | AVERAGE SCORE* | | COUNTRY SCORE | AVERAGE SCORE* |
|--|---------------|----------------|---|---------------|----------------|
| PREVENTION | 31.7 | 34.8 | HEALTH SYSTEM | 24.0 | 26.4 |
| Antimicrobial resistance (AMR) | 41.7 | 42.4 | Health capacity in clinics, hospitals and community care centers | 8.9 | 24.4 |
| Zoonotic disease | 27.8 | 27.1 | Medical countermeasures and personnel deployment | 0 | 21.2 |
| Biosecurity | 4 | 16.0 | Healthcare access | 42.8 | 38.4 |
| Biosafety | 0 | 22.8 | Communications with healthcare workers during a public health emergency | 50 | 15.1 |
| Dual-use research and culture of responsible science | 0 | 1.7 | Infection control practices and availability of equipment | 0 | 20.8 |
| Immunization | 99.1 | 85.0 | Capacity to test and approve new medical countermeasures | 50 | 42.2 |
| DETECTION AND REPORTING | 26.3 | 41.9 | COMPLIANCE WITH INTERNATIONAL NORMS | 31.0 | 48.5 |
| Laboratory systems | 41.7 | 54.4 | IHR reporting compliance and disaster risk reduction | 50 | 62.3 |
| Real-time surveillance and reporting | 10 | 39.1 | Cross-border agreements on public and animal health emergency response | 0 | 54.4 |
| Epidemiology workforce | 50 | 42.3 | International commitments | 25 | 53.4 |
| Data integration between human/animal/environmental health sectors | 0 | 29.7 | JEE and PVS | 25 | 17.7 |
| RAPID RESPONSE | 39.1 | 38.4 | Financing | 16.7 | 36.4 |
| Emergency preparedness and response planning | 0 | 16.9 | Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| Exercising response plans | 0 | 16.2 | RISK ENVIRONMENT | 55.7 | 55.0 |
| Emergency response operation | 33.3 | 23.6 | Political and security risks | 35.7 | 60.4 |
| Linking public health and security authorities | 100 | 22.6 | Socio-economic resilience | 67.9 | 66.1 |
| Risk communication | 0 | 39.4 | Infrastructure adequacy | 66.7 | 49.0 |
| Access to communications infrastructure | 78.9 | 72.7 | Environmental risks | 57.3 | 52.9 |
| Trade and travel restrictions | 100 | 97.4 | Public health vulnerabilities | 53.8 | 46.9 |

*Average: all 195 countries

Scores are normalized (0–100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



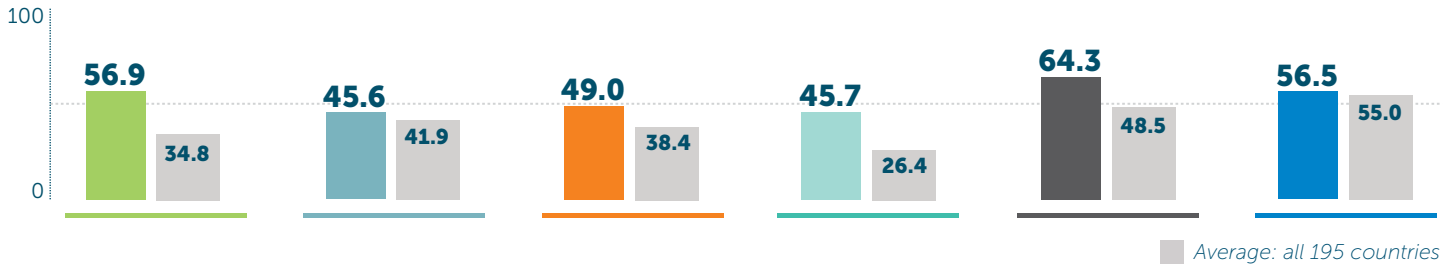
HEALTH



NORMS



RISK



| | COUNTRY SCORE | AVERAGE SCORE* |
|--|---------------|----------------|
| PREVENTION | 56.9 | 34.8 |
| Antimicrobial resistance (AMR) | 58.3 | 42.4 |
| Zoonotic disease | 48 | 27.1 |
| Biosecurity | 24 | 16.0 |
| Biosafety | 100 | 22.8 |
| Dual-use research and culture of responsible science | 0 | 1.7 |
| Immunization | 97.4 | 85.0 |
| DETECTION AND REPORTING | 45.6 | 41.9 |
| Laboratory systems | 83.3 | 54.4 |
| Real-time surveillance and reporting | 41.7 | 39.1 |
| Epidemiology workforce | 50 | 42.3 |
| Data integration between human/animal/environmental health sectors | 0 | 29.7 |
| RAPID RESPONSE | 49.0 | 38.4 |
| Emergency preparedness and response planning | 62.5 | 16.9 |
| Exercising response plans | 0 | 16.2 |
| Emergency response operation | 33.3 | 23.6 |
| Linking public health and security authorities | 0 | 22.6 |
| Risk communication | 75 | 39.4 |
| Access to communications infrastructure | 74.3 | 72.7 |
| Trade and travel restrictions | 100 | 97.4 |

| | COUNTRY SCORE | AVERAGE SCORE* |
|---|---------------|----------------|
| HEALTH SYSTEM | 45.7 | 26.4 |
| Health capacity in clinics, hospitals and community care centers | 10.7 | 24.4 |
| Medical countermeasures and personnel deployment | 66.7 | 21.2 |
| Healthcare access | 48.2 | 38.4 |
| Communications with healthcare workers during a public health emergency | 50 | 15.1 |
| Infection control practices and availability of equipment | 50 | 20.8 |
| Capacity to test and approve new medical countermeasures | 50 | 42.2 |
| COMPLIANCE WITH INTERNATIONAL NORMS | 64.3 | 48.5 |
| IHR reporting compliance and disaster risk reduction | 100 | 62.3 |
| Cross-border agreements on public and animal health emergency response | 50 | 54.4 |
| International commitments | 100 | 53.4 |
| JEE and PVS | 25 | 17.7 |
| Financing | 50 | 36.4 |
| Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| RISK ENVIRONMENT | 56.5 | 55.0 |
| Political and security risks | 39.3 | 60.4 |
| Socio-economic resilience | 72 | 66.1 |
| Infrastructure adequacy | 66.7 | 49.0 |
| Environmental risks | 47.6 | 52.9 |
| Public health vulnerabilities | 58.4 | 46.9 |

*Average: all 195 countries
Scores are normalized (0–100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



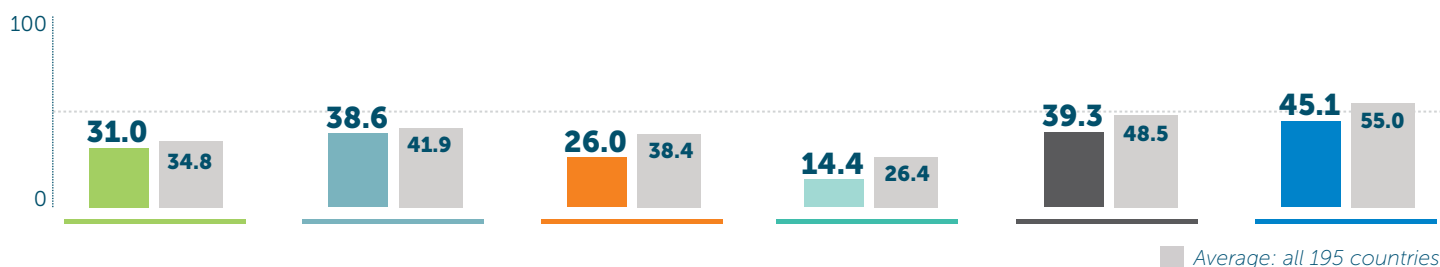
HEALTH



NORMS



RISK



■ Average: all 195 countries

| | COUNTRY SCORE | AVERAGE SCORE* | | COUNTRY SCORE | AVERAGE SCORE* |
|--|---------------|----------------|---|---------------|----------------|
| PREVENTION | 31.0 | 34.8 | HEALTH SYSTEM | 14.4 | 26.4 |
| Antimicrobial resistance (AMR) | 41.7 | 42.4 | Health capacity in clinics, hospitals and community care centers | 22.2 | 24.4 |
| Zoonotic disease | 8.5 | 27.1 | Medical countermeasures and personnel deployment | 33.3 | 21.2 |
| Biosecurity | 20 | 16.0 | Healthcare access | 27.2 | 38.4 |
| Biosafety | 0 | 22.8 | Communications with healthcare workers during a public health emergency | 0 | 15.1 |
| Dual-use research and culture of responsible science | 0 | 1.7 | Infection control practices and availability of equipment | 0 | 20.8 |
| Immunization | 100 | 85.0 | Capacity to test and approve new medical countermeasures | 0 | 42.2 |
| DETECTION AND REPORTING | 38.6 | 41.9 | COMPLIANCE WITH INTERNATIONAL NORMS | 39.3 | 48.5 |
| Laboratory systems | 75 | 54.4 | IHR reporting compliance and disaster risk reduction | 50 | 62.3 |
| Real-time surveillance and reporting | 0 | 39.1 | Cross-border agreements on public and animal health emergency response | 50 | 54.4 |
| Epidemiology workforce | 75 | 42.3 | International commitments | 28.1 | 53.4 |
| Data integration between human/animal/environmental health sectors | 0 | 29.7 | JEE and PVS | 25 | 17.7 |
| RAPID RESPONSE | 26.0 | 38.4 | Financing | 16.7 | 36.4 |
| Emergency preparedness and response planning | 0 | 16.9 | Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| Exercising response plans | 0 | 16.2 | RISK ENVIRONMENT | 45.1 | 55.0 |
| Emergency response operation | 33.3 | 23.6 | Political and security risks | 46.4 | 60.4 |
| Linking public health and security authorities | 0 | 22.6 | Socio-economic resilience | 52 | 66.1 |
| Risk communication | 0 | 39.4 | Infrastructure adequacy | 33.3 | 49.0 |
| Access to communications infrastructure | 75.9 | 72.7 | Environmental risks | 45.9 | 52.9 |
| Trade and travel restrictions | 100 | 97.4 | Public health vulnerabilities | 48.3 | 46.9 |

*Average: all 195 countries

Scores are normalized (0–100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



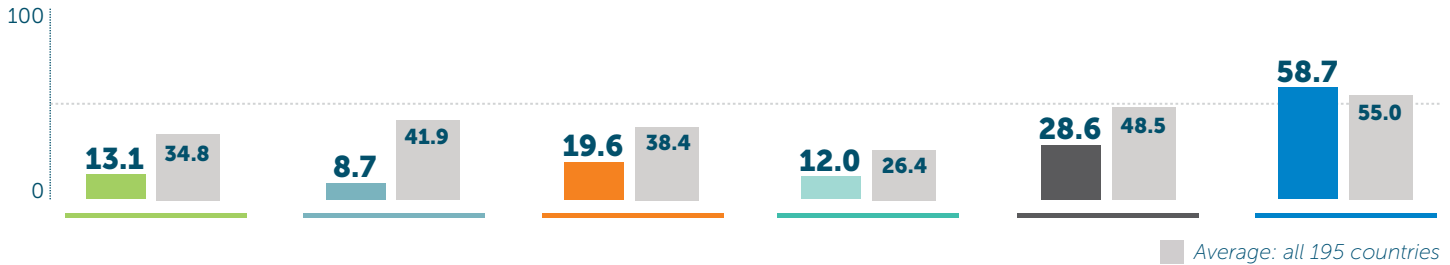
HEALTH



NORMS



RISK



■ Average: all 195 countries

| | COUNTRY SCORE | AVERAGE SCORE* |
|---|---------------|----------------|
| PREVENTION | 13.1 | 34.8 |
| Antimicrobial resistance (AMR) | 25 | 42.4 |
| Zoonotic disease | 0 | 27.1 |
| Biosecurity | 0 | 16.0 |
| Biosafety | 0 | 22.8 |
| Dual-use research and culture of responsible science | 0 | 1.7 |
| Immunization | 46.5 | 85.0 |
| DETECTION AND REPORTING | 8.7 | 41.9 |
| Laboratory systems | 33.3 | 54.4 |
| Real-time surveillance and reporting | 0 | 39.1 |
| Epidemiology workforce | 0 | 42.3 |
| Data integration between human/ animal/environmental health sectors | 0 | 29.7 |
| RAPID RESPONSE | 19.6 | 38.4 |
| Emergency preparedness and response planning | 0 | 16.9 |
| Exercising response plans | 0 | 16.2 |
| Emergency response operation | 0 | 23.6 |
| Linking public health and security authorities | 0 | 22.6 |
| Risk communication | 0 | 39.4 |
| Access to communications infrastructure | 68.9 | 72.7 |
| Trade and travel restrictions | 100 | 97.4 |

| | COUNTRY SCORE | AVERAGE SCORE* |
|---|---------------|----------------|
| HEALTH SYSTEM | 12.0 | 26.4 |
| Health capacity in clinics, hospitals and community care centers | 17.1 | 24.4 |
| Medical countermeasures and personnel deployment | 0 | 21.2 |
| Healthcare access | 32 | 38.4 |
| Communications with healthcare workers during a public health emergency | 0 | 15.1 |
| Infection control practices and availability of equipment | 0 | 20.8 |
| Capacity to test and approve new medical countermeasures | 25 | 42.2 |
| COMPLIANCE WITH INTERNATIONAL NORMS | 28.6 | 48.5 |
| IHR reporting compliance and disaster risk reduction | 50 | 62.3 |
| Cross-border agreements on public and animal health emergency response | 0 | 54.4 |
| International commitments | 12.5 | 53.4 |
| JEE and PVS | 0 | 17.7 |
| Financing | 33.3 | 36.4 |
| Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| RISK ENVIRONMENT | 58.7 | 55.0 |
| Political and security risks | 85.7 | 60.4 |
| Socio-economic resilience | 70.5 | 66.1 |
| Infrastructure adequacy | 50 | 49.0 |
| Environmental risks | 33.6 | 52.9 |
| Public health vulnerabilities | 48.8 | 46.9 |

*Average: all 195 countries

Scores are normalized (0–100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



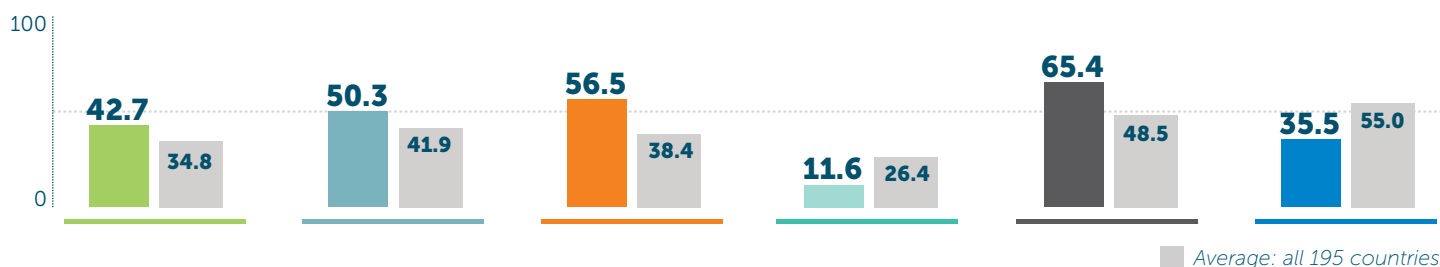
HEALTH



NORMS



RISK



■ Average: all 195 countries

| | COUNTRY SCORE | AVERAGE SCORE* | | COUNTRY SCORE | AVERAGE SCORE* |
|--|---------------|----------------|---|---------------|----------------|
| PREVENTION | 42.7 | 34.8 | HEALTH SYSTEM | 11.6 | 26.4 |
| Antimicrobial resistance (AMR) | 58.3 | 42.4 | Health capacity in clinics, hospitals and community care centers | 1.4 | 24.4 |
| Zoonotic disease | 47.4 | 27.1 | Medical countermeasures and personnel deployment | 0 | 21.2 |
| Biosecurity | 0 | 16.0 | Healthcare access | 28.3 | 38.4 |
| Biosafety | 50 | 22.8 | Communications with healthcare workers during a public health emergency | 0 | 15.1 |
| Dual-use research and culture of responsible science | 0 | 1.7 | Infection control practices and availability of equipment | 0 | 20.8 |
| Immunization | 86 | 85.0 | Capacity to test and approve new medical countermeasures | 50 | 42.2 |
| DETECTION AND REPORTING | 50.3 | 41.9 | COMPLIANCE WITH INTERNATIONAL NORMS | 65.4 | 48.5 |
| Laboratory systems | 75 | 54.4 | IHR reporting compliance and disaster risk reduction | 100 | 62.3 |
| Real-time surveillance and reporting | 20 | 39.1 | Cross-border agreements on public and animal health emergency response | 50 | 54.4 |
| Epidemiology workforce | 100 | 42.3 | International commitments | 78.1 | 53.4 |
| Data integration between human/animal/environmental health sectors | 0 | 29.7 | JEE and PVS | 50 | 17.7 |
| RAPID RESPONSE | 56.5 | 38.4 | Financing | 50 | 36.4 |
| Emergency preparedness and response planning | 0 | 16.9 | Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| Exercising response plans | 50 | 16.2 | RISK ENVIRONMENT | 35.5 | 55.0 |
| Emergency response operation | 33.3 | 23.6 | Political and security risks | 28.6 | 60.4 |
| Linking public health and security authorities | 100 | 22.6 | Socio-economic resilience | 43.4 | 66.1 |
| Risk communication | 75 | 39.4 | Infrastructure adequacy | 33.3 | 49.0 |
| Access to communications infrastructure | 56.7 | 72.7 | Environmental risks | 69.6 | 52.9 |
| Trade and travel restrictions | 100 | 97.4 | Public health vulnerabilities | 9.1 | 46.9 |

*Average: all 195 countries

Scores are normalized (0-100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



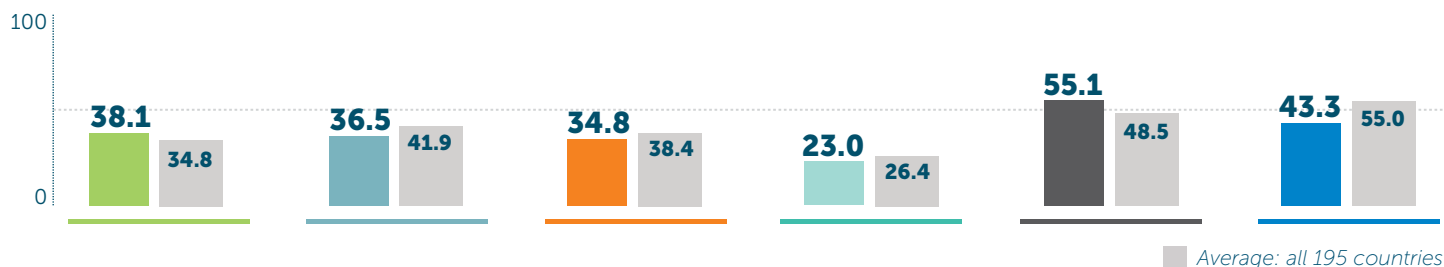
HEALTH



NORMS



RISK



■ Average: all 195 countries

| | COUNTRY SCORE | AVERAGE SCORE* |
|--|---------------|----------------|
| PREVENTION | 38.1 | 34.8 |
| Antimicrobial resistance (AMR) | 0 | 42.4 |
| Zoonotic disease | 42.8 | 27.1 |
| Biosecurity | 32 | 16.0 |
| Biosafety | 50 | 22.8 |
| Dual-use research and culture of responsible science | 0 | 1.7 |
| Immunization | 88.6 | 85.0 |
| DETECTION AND REPORTING | 36.5 | 41.9 |
| Laboratory systems | 50 | 54.4 |
| Real-time surveillance and reporting | 40 | 39.1 |
| Epidemiology workforce | 50 | 42.3 |
| Data integration between human/animal/environmental health sectors | 0 | 29.7 |
| RAPID RESPONSE | 34.8 | 38.4 |
| Emergency preparedness and response planning | 0 | 16.9 |
| Exercising response plans | 0 | 16.2 |
| Emergency response operation | 0 | 23.6 |
| Linking public health and security authorities | 0 | 22.6 |
| Risk communication | 75 | 39.4 |
| Access to communications infrastructure | 84.8 | 72.7 |
| Trade and travel restrictions | 100 | 97.4 |

| | COUNTRY SCORE | AVERAGE SCORE* |
|---|---------------|----------------|
| HEALTH SYSTEM | 23.0 | 26.4 |
| Health capacity in clinics, hospitals and community care centers | 28.2 | 24.4 |
| Medical countermeasures and personnel deployment | 0 | 21.2 |
| Healthcare access | 47.9 | 38.4 |
| Communications with healthcare workers during a public health emergency | 0 | 15.1 |
| Infection control practices and availability of equipment | 0 | 20.8 |
| Capacity to test and approve new medical countermeasures | 75 | 42.2 |
| COMPLIANCE WITH INTERNATIONAL NORMS | 55.1 | 48.5 |
| IHR reporting compliance and disaster risk reduction | 50 | 62.3 |
| Cross-border agreements on public and animal health emergency response | 50 | 54.4 |
| International commitments | 96.9 | 53.4 |
| JEE and PVS | 25 | 17.7 |
| Financing | 50 | 36.4 |
| Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| RISK ENVIRONMENT | 43.3 | 55.0 |
| Political and security risks | 14.3 | 60.4 |
| Socio-economic resilience | 63.8 | 66.1 |
| Infrastructure adequacy | 41.7 | 49.0 |
| Environmental risks | 47.6 | 52.9 |
| Public health vulnerabilities | 53.5 | 46.9 |

*Average: all 195 countries

Scores are normalized (0–100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



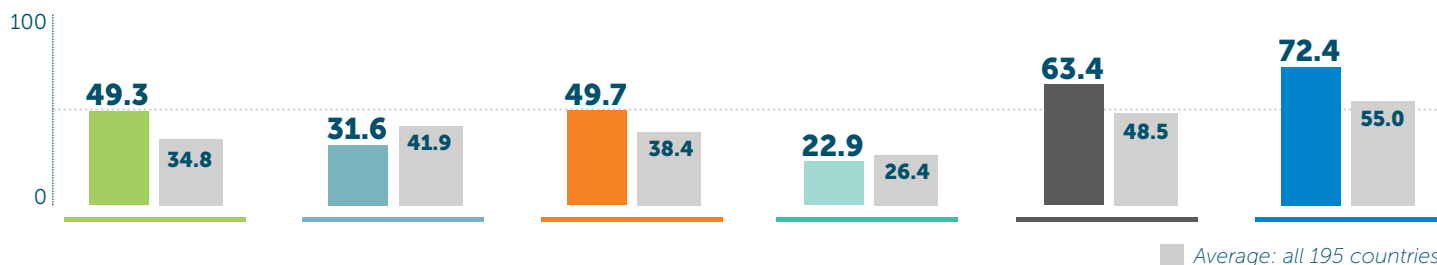
HEALTH



NORMS



RISK

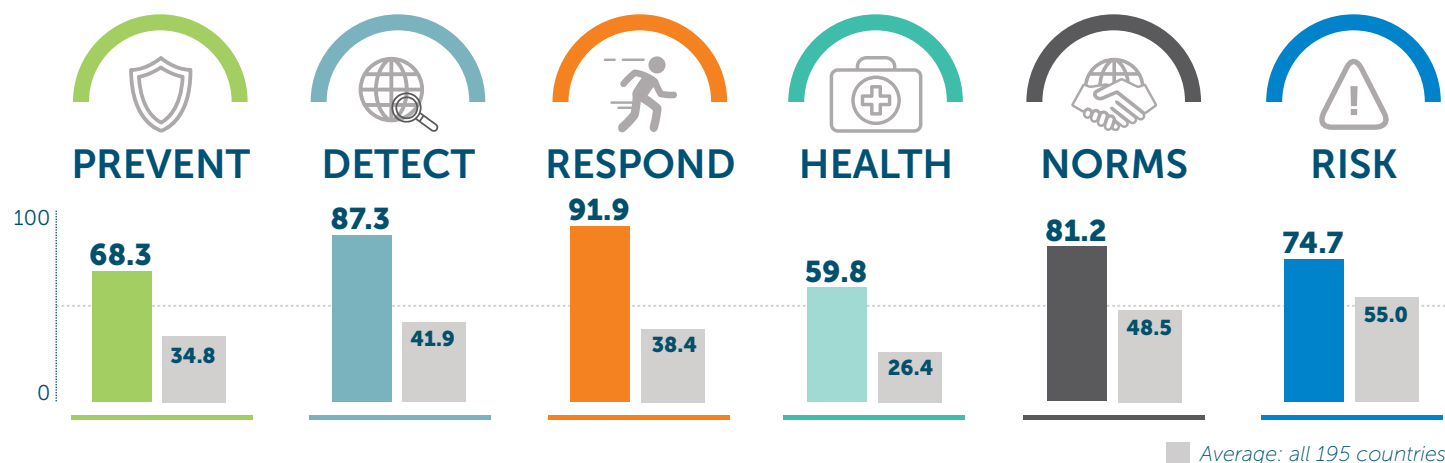


| | COUNTRY SCORE | AVERAGE SCORE* |
|---|---------------|----------------|
| PREVENTION | 49.3 | 34.8 |
| Antimicrobial resistance (AMR) | 83.3 | 42.4 |
| Zoonotic disease | 47.3 | 27.1 |
| Biosecurity | 24 | 16.0 |
| Biosafety | 25 | 22.8 |
| Dual-use research and culture of responsible science | 0 | 1.7 |
| Immunization | 100 | 85.0 |
| DETECTION AND REPORTING | 31.6 | 41.9 |
| Laboratory systems | 83.3 | 54.4 |
| Real-time surveillance and reporting | 36.7 | 39.1 |
| Epidemiology workforce | 0 | 42.3 |
| Data integration between human/ animal/environmental health sectors | 0 | 29.7 |
| RAPID RESPONSE | 49.7 | 38.4 |
| Emergency preparedness and response planning | 12.5 | 16.9 |
| Exercising response plans | 0 | 16.2 |
| Emergency response operation | 66.7 | 23.6 |
| Linking public health and security authorities | 0 | 22.6 |
| Risk communication | 75 | 39.4 |
| Access to communications infrastructure | 99.1 | 72.7 |
| Trade and travel restrictions | 100 | 97.4 |

| | COUNTRY SCORE | AVERAGE SCORE* |
|---|---------------|----------------|
| HEALTH SYSTEM | 22.9 | 26.4 |
| Health capacity in clinics, hospitals and community care centers | 32.9 | 24.4 |
| Medical countermeasures and personnel deployment | 33.3 | 21.2 |
| Healthcare access | 46.6 | 38.4 |
| Communications with healthcare workers during a public health emergency | 0 | 15.1 |
| Infection control practices and availability of equipment | 0 | 20.8 |
| Capacity to test and approve new medical countermeasures | 25 | 42.2 |
| COMPLIANCE WITH INTERNATIONAL NORMS | 63.4 | 48.5 |
| IHR reporting compliance and disaster risk reduction | 100 | 62.3 |
| Cross-border agreements on public and animal health emergency response | 50 | 54.4 |
| International commitments | 93.8 | 53.4 |
| JEE and PVS | 25 | 17.7 |
| Financing | 50 | 36.4 |
| Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| RISK ENVIRONMENT | 72.4 | 55.0 |
| Political and security risks | 75 | 60.4 |
| Socio-economic resilience | 72.5 | 66.1 |
| Infrastructure adequacy | 91.7 | 49.0 |
| Environmental risks | 57.8 | 52.9 |
| Public health vulnerabilities | 63.1 | 46.9 |

*Average: all 195 countries

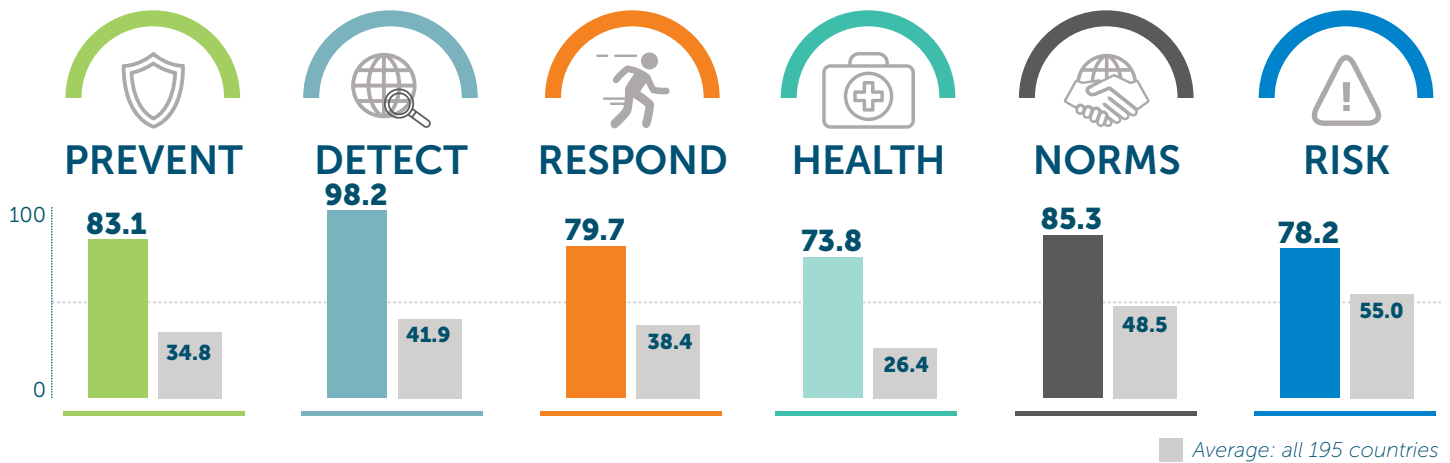
Scores are normalized (0-100, where 100 = most favorable)



| | COUNTRY SCORE | AVERAGE SCORE* |
|--|---------------|----------------|
| PREVENTION | 68.3 | 34.8 |
| Antimicrobial resistance (AMR) | 100 | 42.4 |
| Zoonotic disease | 55.6 | 27.1 |
| Biosecurity | 69.3 | 16.0 |
| Biosafety | 50 | 22.8 |
| Dual-use research and culture of responsible science | 33.3 | 1.7 |
| Immunization | 93.9 | 85.0 |
| DETECTION AND REPORTING | 87.3 | 41.9 |
| Laboratory systems | 100 | 54.4 |
| Real-time surveillance and reporting | 100 | 39.1 |
| Epidemiology workforce | 50 | 42.3 |
| Data integration between human/animal/environmental health sectors | 100 | 29.7 |
| RAPID RESPONSE | 91.9 | 38.4 |
| Emergency preparedness and response planning | 87.5 | 16.9 |
| Exercising response plans | 100 | 16.2 |
| Emergency response operation | 66.7 | 23.6 |
| Linking public health and security authorities | 100 | 22.6 |
| Risk communication | 100 | 39.4 |
| Access to communications infrastructure | 95.2 | 72.7 |
| Trade and travel restrictions | 100 | 97.4 |

| | COUNTRY SCORE | AVERAGE SCORE* |
|---|---------------|----------------|
| HEALTH SYSTEM | 59.8 | 26.4 |
| Health capacity in clinics, hospitals and community care centers | 59.6 | 24.4 |
| Medical countermeasures and personnel deployment | 66.7 | 21.2 |
| Healthcare access | 45.3 | 38.4 |
| Communications with healthcare workers during a public health emergency | 50 | 15.1 |
| Infection control practices and availability of equipment | 50 | 20.8 |
| Capacity to test and approve new medical countermeasures | 100 | 42.2 |
| COMPLIANCE WITH INTERNATIONAL NORMS | 81.2 | 48.5 |
| IHR reporting compliance and disaster risk reduction | 100 | 62.3 |
| Cross-border agreements on public and animal health emergency response | 100 | 54.4 |
| International commitments | 100 | 53.4 |
| JEE and PVS | 25 | 17.7 |
| Financing | 66.7 | 36.4 |
| Commitment to sharing of genetic & biological data & specimens | 100 | 68.1 |
| RISK ENVIRONMENT | 74.7 | 55.0 |
| Political and security risks | 82.1 | 60.4 |
| Socio-economic resilience | 88 | 66.1 |
| Infrastructure adequacy | 66.7 | 49.0 |
| Environmental risks | 59.6 | 52.9 |
| Public health vulnerabilities | 75.2 | 46.9 |

*Average: all 195 countries
Scores are normalized (0-100, where 100 = most favorable)



| | COUNTRY SCORE | AVERAGE SCORE* | | COUNTRY SCORE | AVERAGE SCORE* |
|--|---------------|----------------|---|---------------|----------------|
| PREVENTION | 83.1 | 34.8 | HEALTH SYSTEM | 73.8 | 26.4 |
| Antimicrobial resistance (AMR) | 83.3 | 42.4 | Health capacity in clinics, hospitals and community care centers | 60.4 | 24.4 |
| Zoonotic disease | 77 | 27.1 | Medical countermeasures and personnel deployment | 66.7 | 21.2 |
| Biosecurity | 89.3 | 16.0 | Healthcare access | 25.3 | 38.4 |
| Biosafety | 100 | 22.8 | Communications with healthcare workers during a public health emergency | 100 | 15.1 |
| Dual-use research and culture of responsible science | 50 | 1.7 | Infection control practices and availability of equipment | 100 | 20.8 |
| Immunization | 93.9 | 85.0 | Capacity to test and approve new medical countermeasures | 100 | 42.2 |
| DETECTION AND REPORTING | 98.2 | 41.9 | COMPLIANCE WITH INTERNATIONAL NORMS | 85.3 | 48.5 |
| Laboratory systems | 100 | 54.4 | IHR reporting compliance and disaster risk reduction | 100 | 62.3 |
| Real-time surveillance and reporting | 93.3 | 39.1 | Cross-border agreements on public and animal health emergency response | 100 | 54.4 |
| Epidemiology workforce | 100 | 42.3 | International commitments | 100 | 53.4 |
| Data integration between human/animal/environmental health sectors | 100 | 29.7 | JEE and PVS | 50 | 17.7 |
| RAPID RESPONSE | 79.7 | 38.4 | Financing | 66.7 | 36.4 |
| Emergency preparedness and response planning | 100 | 16.9 | Commitment to sharing of genetic & biological data & specimens | 100 | 68.1 |
| Exercising response plans | 0 | 16.2 | RISK ENVIRONMENT | 78.2 | 55.0 |
| Emergency response operation | 66.7 | 23.6 | Political and security risks | 75 | 60.4 |
| Linking public health and security authorities | 100 | 22.6 | Socio-economic resilience | 75.7 | 66.1 |
| Risk communication | 100 | 39.4 | Infrastructure adequacy | 91.7 | 49.0 |
| Access to communications infrastructure | 91.4 | 72.7 | Environmental risks | 51.7 | 52.9 |
| Trade and travel restrictions | 100 | 97.4 | Public health vulnerabilities | 93.3 | 46.9 |

*Average: all 195 countries

Scores are normalized (0-100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



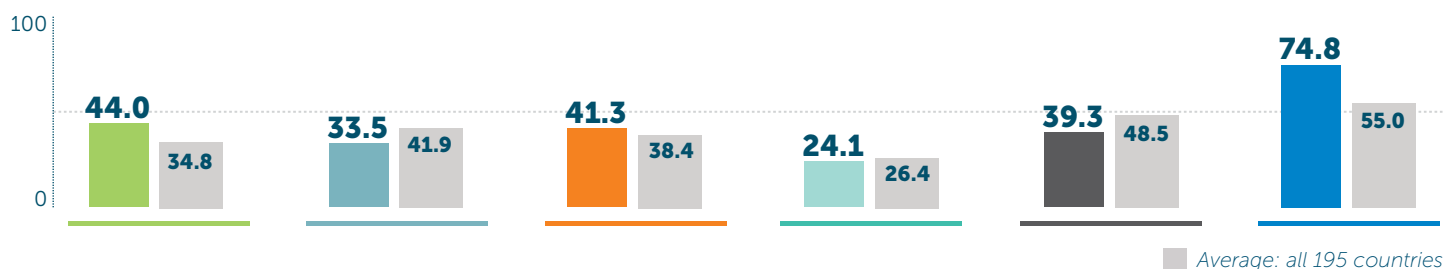
HEALTH



NORMS



RISK



■ Average: all 195 countries

| | COUNTRY SCORE | AVERAGE SCORE* |
|---|---------------|----------------|
| PREVENTION | 44.0 | 34.8 |
| Antimicrobial resistance (AMR) | 75 | 42.4 |
| Zoonotic disease | 73.2 | 27.1 |
| Biosecurity | 0 | 16.0 |
| Biosafety | 0 | 22.8 |
| Dual-use research and culture of responsible science | 0 | 1.7 |
| Immunization | 96.5 | 85.0 |
| DETECTION AND REPORTING | 33.5 | 41.9 |
| Laboratory systems | 33.3 | 54.4 |
| Real-time surveillance and reporting | 45 | 39.1 |
| Epidemiology workforce | 50 | 42.3 |
| Data integration between human/ animal/environmental health sectors | 0 | 29.7 |
| RAPID RESPONSE | 41.3 | 38.4 |
| Emergency preparedness and response planning | 37.5 | 16.9 |
| Exercising response plans | 0 | 16.2 |
| Emergency response operation | 0 | 23.6 |
| Linking public health and security authorities | 0 | 22.6 |
| Risk communication | 75 | 39.4 |
| Access to communications infrastructure | 89.6 | 72.7 |
| Trade and travel restrictions | 100 | 97.4 |

| | COUNTRY SCORE | AVERAGE SCORE* |
|---|---------------|----------------|
| HEALTH SYSTEM | 24.1 | 26.4 |
| Health capacity in clinics, hospitals and community care centers | 17.7 | 24.4 |
| Medical countermeasures and personnel deployment | 0 | 21.2 |
| Healthcare access | 30.9 | 38.4 |
| Communications with healthcare workers during a public health emergency | 0 | 15.1 |
| Infection control practices and availability of equipment | 50 | 20.8 |
| Capacity to test and approve new medical countermeasures | 50 | 42.2 |
| COMPLIANCE WITH INTERNATIONAL NORMS | 39.3 | 48.5 |
| IHR reporting compliance and disaster risk reduction | 50 | 62.3 |
| Cross-border agreements on public and animal health emergency response | 50 | 54.4 |
| International commitments | 28.1 | 53.4 |
| JEE and PVS | 25 | 17.7 |
| Financing | 16.7 | 36.4 |
| Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| RISK ENVIRONMENT | 74.8 | 55.0 |
| Political and security risks | 85.7 | 60.4 |
| Socio-economic resilience | 93.8 | 66.1 |
| Infrastructure adequacy | 75 | 49.0 |
| Environmental risks | 57.1 | 52.9 |
| Public health vulnerabilities | 60.6 | 46.9 |

*Average: all 195 countries

Scores are normalized (0–100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



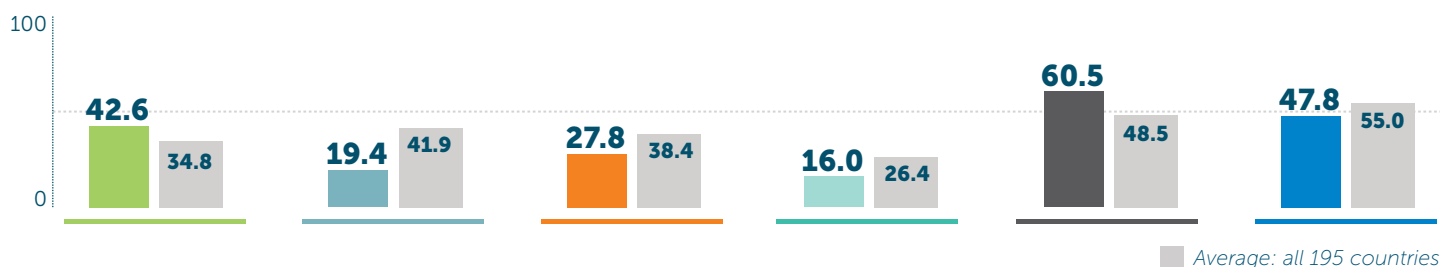
HEALTH



NORMS



RISK



■ Average: all 195 countries

| | COUNTRY SCORE | AVERAGE SCORE* | | COUNTRY SCORE | AVERAGE SCORE* |
|--|---------------|----------------|---|---------------|----------------|
| PREVENTION | 42.6 | 34.8 | HEALTH SYSTEM | 16.0 | 26.4 |
| Antimicrobial resistance (AMR) | 66.7 | 42.4 | Health capacity in clinics, hospitals and community care centers | 22.7 | 24.4 |
| Zoonotic disease | 24 | 27.1 | Medical countermeasures and personnel deployment | 0 | 21.2 |
| Biosecurity | 0 | 16.0 | Healthcare access | 31.8 | 38.4 |
| Biosafety | 50 | 22.8 | Communications with healthcare workers during a public health emergency | 0 | 15.1 |
| Dual-use research and culture of responsible science | 0 | 1.7 | Infection control practices and availability of equipment | 0 | 20.8 |
| Immunization | 100 | 85.0 | Capacity to test and approve new medical countermeasures | 50 | 42.2 |
| DETECTION AND REPORTING | 19.4 | 41.9 | COMPLIANCE WITH INTERNATIONAL NORMS | 60.5 | 48.5 |
| Laboratory systems | 50 | 54.4 | IHR reporting compliance and disaster risk reduction | 100 | 62.3 |
| Real-time surveillance and reporting | 0 | 39.1 | Cross-border agreements on public and animal health emergency response | 100 | 54.4 |
| Epidemiology workforce | 25 | 42.3 | International commitments | 43.8 | 53.4 |
| Data integration between human/animal/environmental health sectors | 0 | 29.7 | JEE and PVS | 0 | 17.7 |
| RAPID RESPONSE | 27.8 | 38.4 | Financing | 50 | 36.4 |
| Emergency preparedness and response planning | 0 | 16.9 | Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| Exercising response plans | 0 | 16.2 | RISK ENVIRONMENT | 47.8 | 55.0 |
| Emergency response operation | 33.3 | 23.6 | Political and security risks | 50 | 60.4 |
| Linking public health and security authorities | 0 | 22.6 | Socio-economic resilience | 62.8 | 66.1 |
| Risk communication | 25 | 39.4 | Infrastructure adequacy | 16.7 | 49.0 |
| Access to communications infrastructure | 54.6 | 72.7 | Environmental risks | 62.4 | 52.9 |
| Trade and travel restrictions | 100 | 97.4 | Public health vulnerabilities | 49.8 | 46.9 |

*Average: all 195 countries

Scores are normalized (0–100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



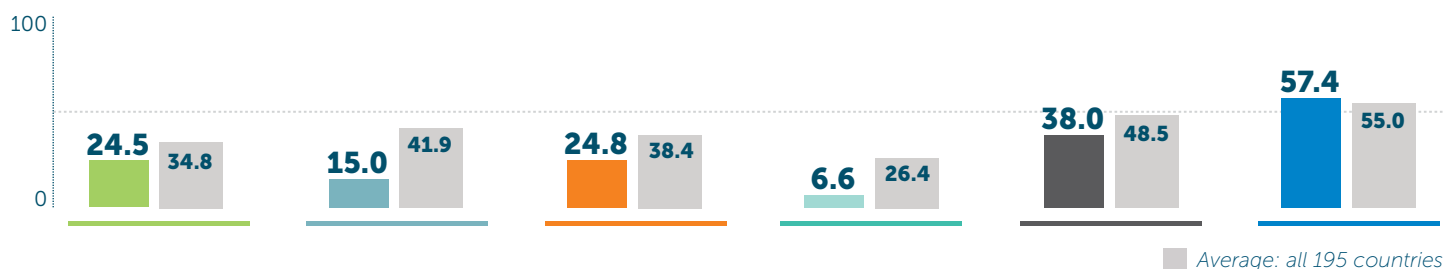
HEALTH



NORMS



RISK



■ Average: all 195 countries

| | COUNTRY SCORE | AVERAGE SCORE* | | COUNTRY SCORE | AVERAGE SCORE* |
|--|---------------|----------------|---|---------------|----------------|
| PREVENTION | 24.5 | 34.8 | HEALTH SYSTEM | 6.6 | 26.4 |
| Antimicrobial resistance (AMR) | 50 | 42.4 | Health capacity in clinics, hospitals and community care centers | 5 | 24.4 |
| Zoonotic disease | 0.7 | 27.1 | Medical countermeasures and personnel deployment | 0 | 21.2 |
| Biosecurity | 0 | 16.0 | Healthcare access | 31.3 | 38.4 |
| Biosafety | 0 | 22.8 | Communications with healthcare workers during a public health emergency | 0 | 15.1 |
| Dual-use research and culture of responsible science | 0 | 1.7 | Infection control practices and availability of equipment | 0 | 20.8 |
| Immunization | 83.3 | 85.0 | Capacity to test and approve new medical countermeasures | 0 | 42.2 |
| DETECTION AND REPORTING | 15.0 | 41.9 | COMPLIANCE WITH INTERNATIONAL NORMS | 38.0 | 48.5 |
| Laboratory systems | 33.3 | 54.4 | IHR reporting compliance and disaster risk reduction | 50 | 62.3 |
| Real-time surveillance and reporting | 0 | 39.1 | Cross-border agreements on public and animal health emergency response | 0 | 54.4 |
| Epidemiology workforce | 25 | 42.3 | International commitments | 28.1 | 53.4 |
| Data integration between human/animal/environmental health sectors | 0 | 29.7 | JEE and PVS | 25 | 17.7 |
| RAPID RESPONSE | 24.8 | 38.4 | Financing | 50 | 36.4 |
| Emergency preparedness and response planning | 0 | 16.9 | Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| Exercising response plans | 0 | 16.2 | RISK ENVIRONMENT | 57.4 | 55.0 |
| Emergency response operation | 33.3 | 23.6 | Political and security risks | 85.7 | 60.4 |
| Linking public health and security authorities | 0 | 22.6 | Socio-economic resilience | 76.6 | 66.1 |
| Risk communication | 0 | 39.4 | Infrastructure adequacy | 33.3 | 49.0 |
| Access to communications infrastructure | 66.2 | 72.7 | Environmental risks | 55.8 | 52.9 |
| Trade and travel restrictions | 100 | 97.4 | Public health vulnerabilities | 34.7 | 46.9 |

*Average: all 195 countries

Scores are normalized (0–100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



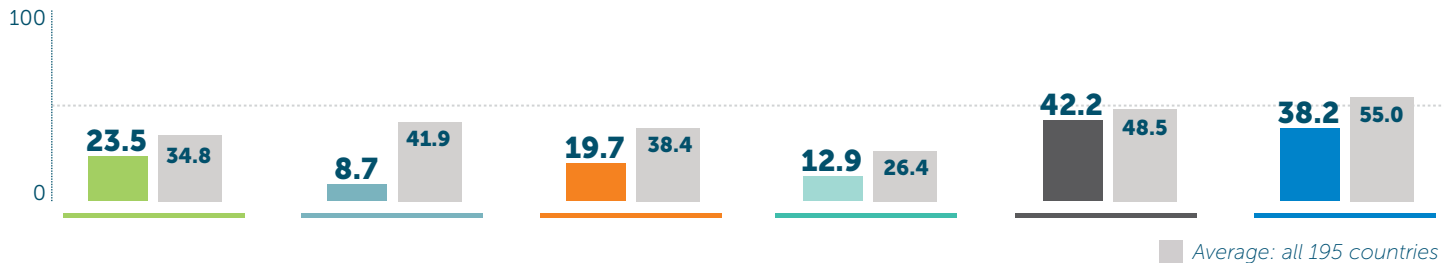
HEALTH



NORMS



RISK



■ Average: all 195 countries

| | COUNTRY SCORE | AVERAGE SCORE* | | COUNTRY SCORE | AVERAGE SCORE* |
|--|---------------|----------------|---|---------------|----------------|
| PREVENTION | 23.5 | 34.8 | HEALTH SYSTEM | 12.9 | 26.4 |
| Antimicrobial resistance (AMR) | 25 | 42.4 | Health capacity in clinics, hospitals and community care centers | 6.4 | 24.4 |
| Zoonotic disease | 2.8 | 27.1 | Medical countermeasures and personnel deployment | 0 | 21.2 |
| Biosecurity | 0 | 16.0 | Healthcare access | 47.4 | 38.4 |
| Biosafety | 0 | 22.8 | Communications with healthcare workers during a public health emergency | 0 | 15.1 |
| Dual-use research and culture of responsible science | 0 | 1.7 | Infection control practices and availability of equipment | 0 | 20.8 |
| Immunization | 97.4 | 85.0 | Capacity to test and approve new medical countermeasures | 25 | 42.2 |
| DETECTION AND REPORTING | 8.7 | 41.9 | COMPLIANCE WITH INTERNATIONAL NORMS | 42.2 | 48.5 |
| Laboratory systems | 33.3 | 54.4 | IHR reporting compliance and disaster risk reduction | 50 | 62.3 |
| Real-time surveillance and reporting | 0 | 39.1 | Cross-border agreements on public and animal health emergency response | 50 | 54.4 |
| Epidemiology workforce | 0 | 42.3 | International commitments | 31.3 | 53.4 |
| Data integration between human/animal/environmental health sectors | 0 | 29.7 | JEE and PVS | 0 | 17.7 |
| RAPID RESPONSE | 19.7 | 38.4 | Financing | 50 | 36.4 |
| Emergency preparedness and response planning | 0 | 16.9 | Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| Exercising response plans | 0 | 16.2 | RISK ENVIRONMENT | 38.2 | 55.0 |
| Emergency response operation | 0 | 23.6 | Political and security risks | 28.6 | 60.4 |
| Linking public health and security authorities | 0 | 22.6 | Socio-economic resilience | 45.2 | 66.1 |
| Risk communication | 0 | 39.4 | Infrastructure adequacy | 16.7 | 49.0 |
| Access to communications infrastructure | 70.2 | 72.7 | Environmental risks | 46.1 | 52.9 |
| Trade and travel restrictions | 100 | 97.4 | Public health vulnerabilities | 56.3 | 46.9 |

*Average: all 195 countries

Scores are normalized (0-100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



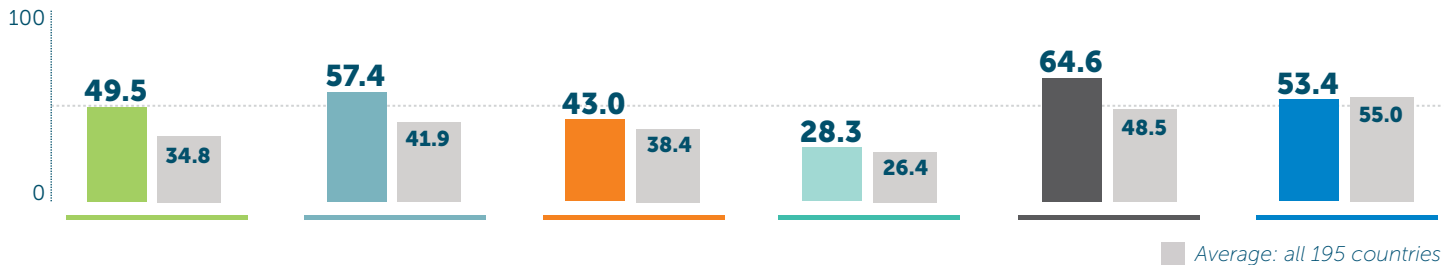
HEALTH



NORMS



RISK



■ Average: all 195 countries

| | COUNTRY SCORE | AVERAGE SCORE* |
|--|---------------|----------------|
| PREVENTION | 49.5 | 34.8 |
| Antimicrobial resistance (AMR) | 66.7 | 42.4 |
| Zoonotic disease | 42.9 | 27.1 |
| Biosecurity | 24 | 16.0 |
| Biosafety | 50 | 22.8 |
| Dual-use research and culture of responsible science | 0 | 1.7 |
| Immunization | 98.2 | 85.0 |
| DETECTION AND REPORTING | 57.4 | 41.9 |
| Laboratory systems | 83.3 | 54.4 |
| Real-time surveillance and reporting | 38.3 | 39.1 |
| Epidemiology workforce | 100 | 42.3 |
| Data integration between human/animal/environmental health sectors | 0 | 29.7 |
| RAPID RESPONSE | 43.0 | 38.4 |
| Emergency preparedness and response planning | 12.5 | 16.9 |
| Exercising response plans | 50 | 16.2 |
| Emergency response operation | 33.3 | 23.6 |
| Linking public health and security authorities | 0 | 22.6 |
| Risk communication | 50 | 39.4 |
| Access to communications infrastructure | 70.5 | 72.7 |
| Trade and travel restrictions | 100 | 97.4 |

| | COUNTRY SCORE | AVERAGE SCORE* |
|---|---------------|----------------|
| HEALTH SYSTEM | 28.3 | 26.4 |
| Health capacity in clinics, hospitals and community care centers | 24.1 | 24.4 |
| Medical countermeasures and personnel deployment | 0 | 21.2 |
| Healthcare access | 47.7 | 38.4 |
| Communications with healthcare workers during a public health emergency | 0 | 15.1 |
| Infection control practices and availability of equipment | 50 | 20.8 |
| Capacity to test and approve new medical countermeasures | 50 | 42.2 |
| COMPLIANCE WITH INTERNATIONAL NORMS | 64.6 | 48.5 |
| IHR reporting compliance and disaster risk reduction | 50 | 62.3 |
| Cross-border agreements on public and animal health emergency response | 100 | 54.4 |
| International commitments | 78.1 | 53.4 |
| JEE and PVS | 50 | 17.7 |
| Financing | 50 | 36.4 |
| Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| RISK ENVIRONMENT | 53.4 | 55.0 |
| Political and security risks | 64.3 | 60.4 |
| Socio-economic resilience | 61.5 | 66.1 |
| Infrastructure adequacy | 33.3 | 49.0 |
| Environmental risks | 61.1 | 52.9 |
| Public health vulnerabilities | 47.5 | 46.9 |

*Average: all 195 countries

Scores are normalized (0–100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



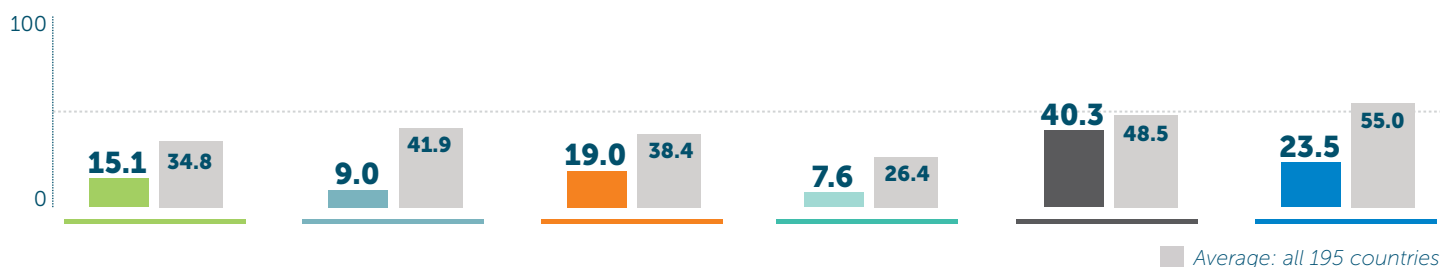
HEALTH



NORMS



RISK



■ Average: all 195 countries

| | COUNTRY SCORE | AVERAGE SCORE* | | COUNTRY SCORE | AVERAGE SCORE* |
|--|---------------|----------------|---|---------------|----------------|
| PREVENTION | 15.1 | 34.8 | HEALTH SYSTEM | 7.6 | 26.4 |
| Antimicrobial resistance (AMR) | 0 | 42.4 | Health capacity in clinics, hospitals and community care centers | 2.3 | 24.4 |
| Zoonotic disease | 0.3 | 27.1 | Medical countermeasures and personnel deployment | 0 | 21.2 |
| Biosecurity | 0 | 16.0 | Healthcare access | 22.3 | 38.4 |
| Biosafety | 0 | 22.8 | Communications with healthcare workers during a public health emergency | 0 | 15.1 |
| Dual-use research and culture of responsible science | 0 | 1.7 | Infection control practices and availability of equipment | 0 | 20.8 |
| Immunization | 77.2 | 85.0 | Capacity to test and approve new medical countermeasures | 25 | 42.2 |
| DETECTION AND REPORTING | 9.0 | 41.9 | COMPLIANCE WITH INTERNATIONAL NORMS | 40.3 | 48.5 |
| Laboratory systems | 0 | 54.4 | IHR reporting compliance and disaster risk reduction | 50 | 62.3 |
| Real-time surveillance and reporting | 10 | 39.1 | Cross-border agreements on public and animal health emergency response | 0 | 54.4 |
| Epidemiology workforce | 25 | 42.3 | International commitments | 75 | 53.4 |
| Data integration between human/animal/environmental health sectors | 0 | 29.7 | JEE and PVS | 0 | 17.7 |
| RAPID RESPONSE | 19.0 | 38.4 | Financing | 50 | 36.4 |
| Emergency preparedness and response planning | 0 | 16.9 | Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| Exercising response plans | 0 | 16.2 | RISK ENVIRONMENT | 23.5 | 55.0 |
| Emergency response operation | 0 | 23.6 | Political and security risks | 0 | 60.4 |
| Linking public health and security authorities | 0 | 22.6 | Socio-economic resilience | 35.5 | 66.1 |
| Risk communication | 25 | 39.4 | Infrastructure adequacy | 0 | 49.0 |
| Access to communications infrastructure | 27.8 | 72.7 | Environmental risks | 60 | 52.9 |
| Trade and travel restrictions | 100 | 97.4 | Public health vulnerabilities | 29.7 | 46.9 |

*Average: all 195 countries

Scores are normalized (0–100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



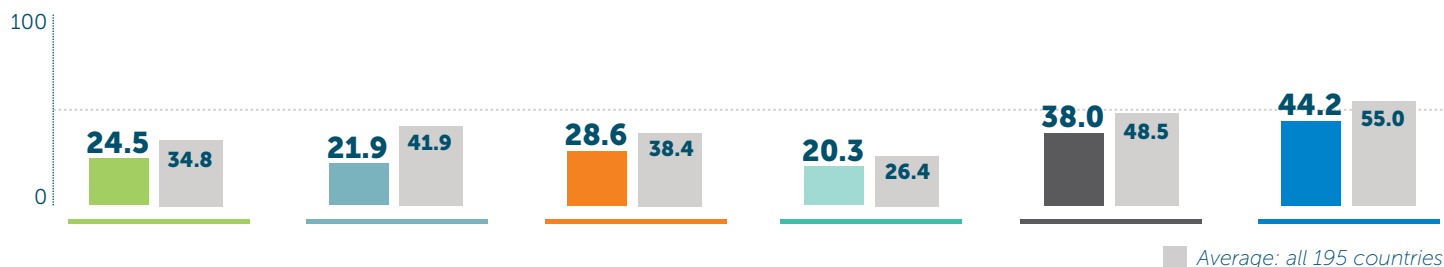
HEALTH



NORMS



RISK



■ Average: all 195 countries

| | COUNTRY SCORE | AVERAGE SCORE* |
|--|---------------|----------------|
| PREVENTION | 24.5 | 34.8 |
| Antimicrobial resistance (AMR) | 33.3 | 42.4 |
| Zoonotic disease | 0.9 | 27.1 |
| Biosecurity | 0 | 16.0 |
| Biosafety | 0 | 22.8 |
| Dual-use research and culture of responsible science | 0 | 1.7 |
| Immunization | 97.4 | 85.0 |
| DETECTION AND REPORTING | 21.9 | 41.9 |
| Laboratory systems | 25 | 54.4 |
| Real-time surveillance and reporting | 10 | 39.1 |
| Epidemiology workforce | 50 | 42.3 |
| Data integration between human/animal/environmental health sectors | 0 | 29.7 |
| RAPID RESPONSE | 28.6 | 38.4 |
| Emergency preparedness and response planning | 0 | 16.9 |
| Exercising response plans | 0 | 16.2 |
| Emergency response operation | 33.3 | 23.6 |
| Linking public health and security authorities | 0 | 22.6 |
| Risk communication | 25 | 39.4 |
| Access to communications infrastructure | 61.1 | 72.7 |
| Trade and travel restrictions | 100 | 97.4 |

| | COUNTRY SCORE | AVERAGE SCORE* |
|---|---------------|----------------|
| HEALTH SYSTEM | 20.3 | 26.4 |
| Health capacity in clinics, hospitals and community care centers | 21 | 24.4 |
| Medical countermeasures and personnel deployment | 33.3 | 21.2 |
| Healthcare access | 26.4 | 38.4 |
| Communications with healthcare workers during a public health emergency | 0 | 15.1 |
| Infection control practices and availability of equipment | 0 | 20.8 |
| Capacity to test and approve new medical countermeasures | 50 | 42.2 |
| COMPLIANCE WITH INTERNATIONAL NORMS | 38.0 | 48.5 |
| IHR reporting compliance and disaster risk reduction | 50 | 62.3 |
| Cross-border agreements on public and animal health emergency response | 0 | 54.4 |
| International commitments | 28.1 | 53.4 |
| JEE and PVS | 25 | 17.7 |
| Financing | 50 | 36.4 |
| Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| RISK ENVIRONMENT | 44.2 | 55.0 |
| Political and security risks | 67.9 | 60.4 |
| Socio-economic resilience | 48.6 | 66.1 |
| Infrastructure adequacy | 33.3 | 49.0 |
| Environmental risks | 53.4 | 52.9 |
| Public health vulnerabilities | 17.7 | 46.9 |

*Average: all 195 countries

Scores are normalized (0–100, where 100 = most favorable)



PREVENT



DETECT



RESPOND



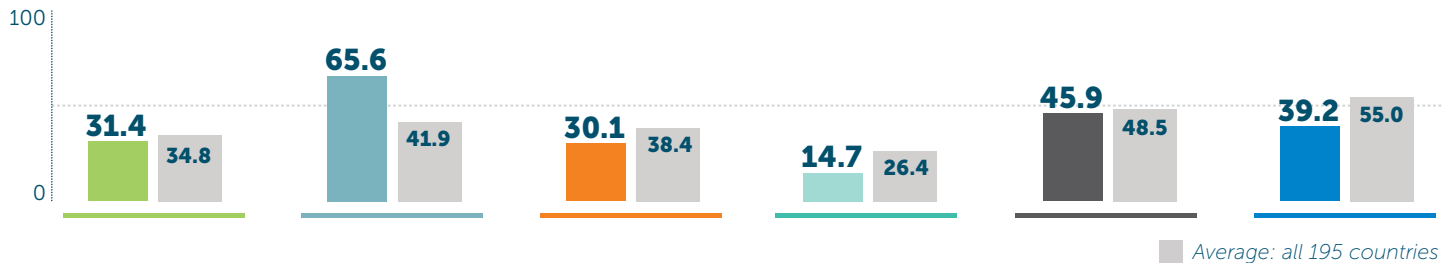
HEALTH



NORMS



RISK

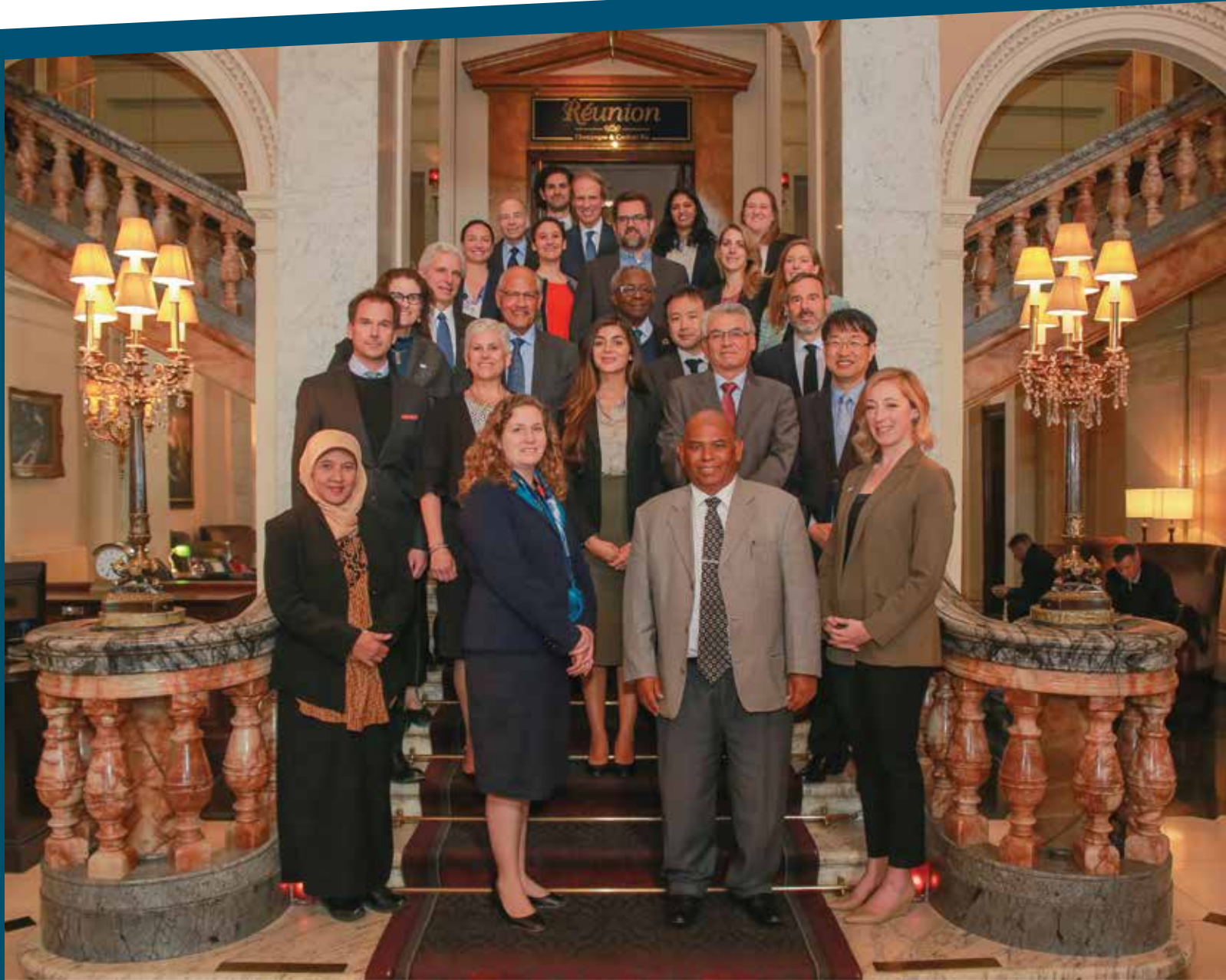


■ Average: all 195 countries

| | COUNTRY SCORE | AVERAGE SCORE* | | COUNTRY SCORE | AVERAGE SCORE* |
|--|---------------|----------------|---|---------------|----------------|
| PREVENTION | 31.4 | 34.8 | HEALTH SYSTEM | 14.7 | 26.4 |
| Antimicrobial resistance (AMR) | 50 | 42.4 | Health capacity in clinics, hospitals and community care centers | 3.9 | 24.4 |
| Zoonotic disease | 29.9 | 27.1 | Medical countermeasures and personnel deployment | 33.3 | 21.2 |
| Biosecurity | 0 | 16.0 | Healthcare access | 29 | 38.4 |
| Biosafety | 0 | 22.8 | Communications with healthcare workers during a public health emergency | 0 | 15.1 |
| Dual-use research and culture of responsible science | 0 | 1.7 | Infection control practices and availability of equipment | 0 | 20.8 |
| Immunization | 92.1 | 85.0 | Capacity to test and approve new medical countermeasures | 25 | 42.2 |
| DETECTION AND REPORTING | 65.6 | 41.9 | COMPLIANCE WITH INTERNATIONAL NORMS | 45.9 | 48.5 |
| Laboratory systems | 75 | 54.4 | IHR reporting compliance and disaster risk reduction | 50 | 62.3 |
| Real-time surveillance and reporting | 20 | 39.1 | Cross-border agreements on public and animal health emergency response | 50 | 54.4 |
| Epidemiology workforce | 75 | 42.3 | International commitments | 28.1 | 53.4 |
| Data integration between human/animal/environmental health sectors | 100 | 29.7 | JEE and PVS | 25 | 17.7 |
| RAPID RESPONSE | 30.1 | 38.4 | Financing | 50 | 36.4 |
| Emergency preparedness and response planning | 0 | 16.9 | Commitment to sharing of genetic & biological data & specimens | 66.7 | 68.1 |
| Exercising response plans | 50 | 16.2 | RISK ENVIRONMENT | 39.2 | 55.0 |
| Emergency response operation | 33.3 | 23.6 | Political and security risks | 42.9 | 60.4 |
| Linking public health and security authorities | 0 | 22.6 | Socio-economic resilience | 62 | 66.1 |
| Risk communication | 25 | 39.4 | Infrastructure adequacy | 33.3 | 49.0 |
| Access to communications infrastructure | 62.3 | 72.7 | Environmental risks | 38.6 | 52.9 |
| Trade and travel restrictions | 50 | 97.4 | Public health vulnerabilities | 20.7 | 46.9 |

*Average: all 195 countries

Scores are normalized (0-100, where 100 = most favorable)



Members of the International Panel of Experts, London, April 2019.

About the Organizations

Nuclear Threat Initiative

The Nuclear Threat Initiative (NTI) works to protect our lives, environment, and quality of life now and for future generations. NTI works to prevent catastrophic attacks with weapons of mass destruction and disruption—nuclear, biological, radiological, chemical, and cyber.

www.nti.org

Johns Hopkins Center for Health Security

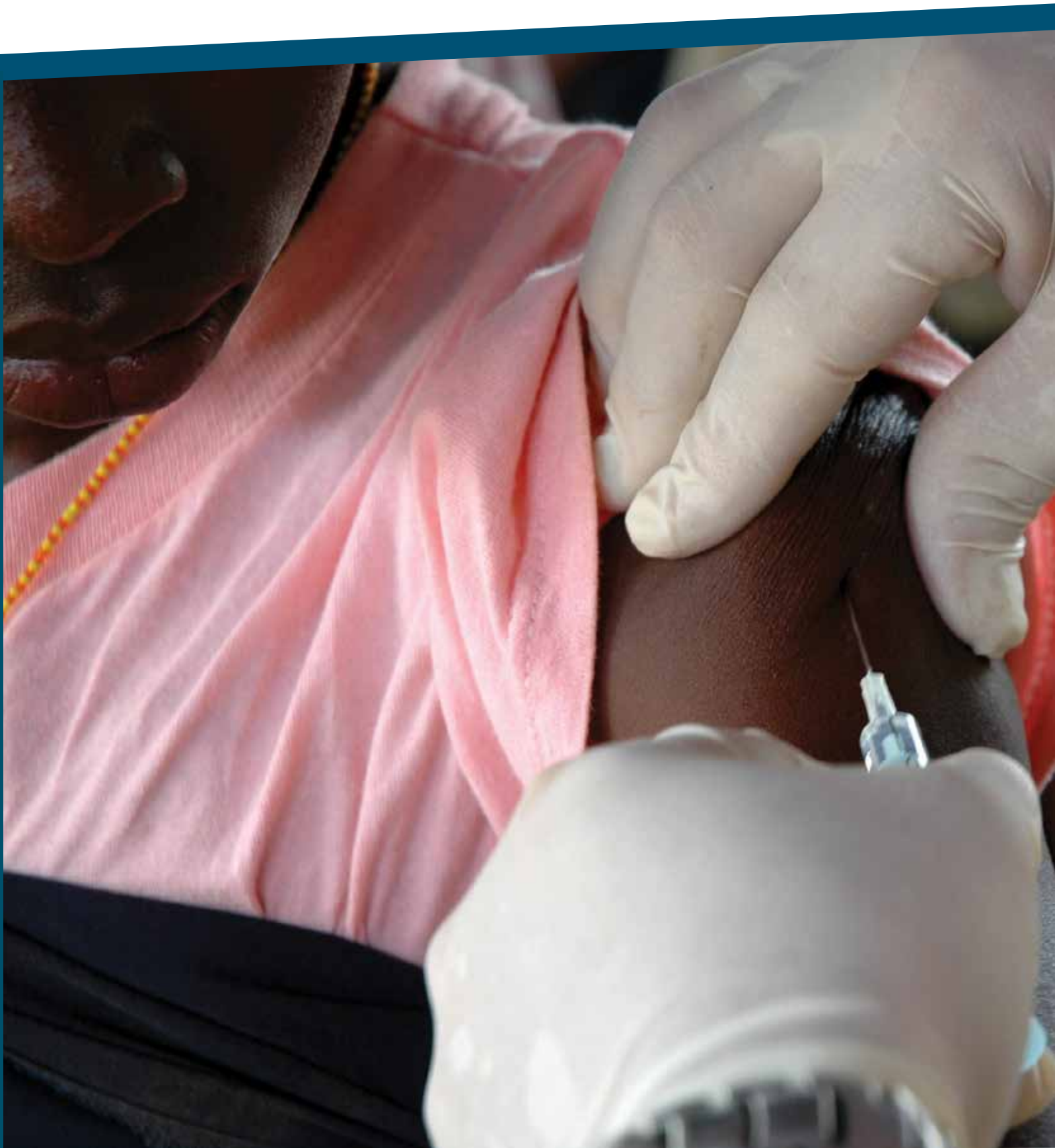
The Johns Hopkins Center for Health Security (JHU) works to protect people's health from epidemics and disasters and ensure that communities are resilient to major challenges. JHU examines how scientific and technological innovations can strengthen health security. It studies the policies, organizations, systems, and tools to prevent and respond to outbreaks and public health crises. It advances policies and practice to address a range of challenges, including the global rise in emerging infectious diseases; a continued risk of pandemic flu; major natural disasters; countries' dependence on vulnerable infrastructure; outbreaks of foodborne illness; and the potential for biological, chemical, or nuclear accidents or intentional threats.

www.centerforhealthsecurity.org

The Economist Intelligence Unit

The Economist Intelligence Unit is the research arm of The Economist Group, publisher of *The Economist*. As the world's leading provider of country intelligence, The Economist Intelligence Unit helps governments, institutions, and businesses by providing timely, reliable, and impartial analysis of economic and development strategies. Through its public policy practice, it provides evidence-based research for policymakers and stakeholders seeking measurable outcomes in fields ranging from technology and finance to energy and health. It conducts research through interviews, regulatory analysis, and quantitative modelling and forecasting and displays the results via interactive data visualization tools. Through a global network of more than 900 analysts and contributors, The Economist Intelligence Unit continuously assesses and forecasts political, economic, and business conditions in more than 200 countries.

www.eiu.com



Glossary

AMR—Antimicrobial resistance.

binary indicators—Indicators that are measured with a “yes” or “no” answer

biosafety—Combination of practices, procedures, and equipment that protect laboratory workers, the public, and the environment from the infectious agents and toxins used in the laboratory

biosecurity—Measures taken to protect infectious agents and toxins from loss, theft, or misuse

biosurveillance—Active gathering and analysis of biological data that might relate to the spread of disease or other threats to human and animal health

bottom tier—Countries scoring between 0 and 33.3 (also called “low scores”)

BWC—Biological Weapons Convention

capability—Higher level of ability that can be demonstrated

capacity—Ability that exists at present

CBM—Confidence-Building Measure

communicable disease—Illness caused by an infectious agent or its toxins that occurs through the direct or indirect transmission of the infectious agent or its products from an infected individual or via an animal, vector, or the inanimate environment to a susceptible animal or human host

DNA synthesis—Process by which deoxyribonucleic acids are linked to form a DNA sequence

DRC—Democratic Republic of Congo

dual-use—Research and technologies with the potential to be used for both peaceful and nefarious purposes

emerging pathogens—Pathogens that have newly appeared or increased in incidence in a population

engineered agents—Pathogens that have been genetically modified to serve as bioweapons

EOC—Emergency Operations Center

epidemic—Increase, often sudden, in the number of cases of a disease above what is normally expected in that population in that area

epidemiology—Methods used to find the causes of health outcomes and diseases in populations

especially dangerous pathogens—Pathogens that pose a severe threat to the health and safety of people, plants, or animals

FAO—Food and Agriculture Organization of the United Nations

G-7—The group of seven industrialized countries are Canada, France, Germany, Italy, Japan, the United Kingdom, and the United States. The European Union also participates in G-7 meetings.

GCBR—Global Catastrophic Biological Risk; “Those events in which biological agents—whether naturally emerging or reemerging, deliberately created and released, or laboratory engineered and escaped—could lead to sudden, extraordinary, widespread disaster beyond the collective capability of national and international governments and the private sector to control. If unchecked, GCBRs would lead to great suffering, loss of life, and sustained damage to national governments, international relationships, economies, societal stability, or global security.”

GDP—Gross domestic product

genomics—Branch of molecular biology concerned with the structure, function, evolution, and mapping of genomes

Global Health Security—Measures that are required to reduce the risk and impact of health events that endanger populations around the world

high-consequence biological events—Infectious disease outbreaks that could overwhelm national or international capacity to manage them

IDA—The World Bank International Development Association

IHR—International Health Regulations (2005)

JEE—World Health Organization Joint External Evaluation

MERS—Middle East Respiratory Syndrome

MCM—Medical countermeasure, including diagnostics, therapeutics, and vaccines

middle tier—Countries scoring between 33.4 and 66.6 (also called “moderate scores”)

NAPHS—National Action Plan for Health Security

nosocomial—Originating in a hospital

OIE—World Organisation for Animal Health

One Health—Concept that human, animal, and environmental health are intertwined and should be addressed together to prevent the spread of infectious disease

pandemic—Epidemic that has spread over several countries or continents, usually affecting a large number of people

pathogens with pandemic potential—Especially dangerous pathogens that have the potential to cause a pandemic

PHEIC—Public health emergency of international concern

PVS—World Organisation for Animal Health Performance of Veterinary Services Pathway

real-time—Continuous and systematic collection, analysis, and interpretation of health-related data needed for the planning, implementation, and evaluation of public health practice

SIDS—Small Island Developing States

States Parties—The 195 States Parties to the International Health Regulations (2005)

synthetic biology—Redesign and fabrication of biological components

tabletop simulations—Exercises in which experts are brought together to discuss strategies for addressing hypothetical situations and crises

transmissibility—Degree to which a pathogen moves from one host to another

UHC—Universal Health Coverage; coverage that all people and communities can use for the promotive, preventive, curative, rehabilitative, and palliative health services they need, of sufficient quality to be effective, while also ensuring that the use of these services does not expose the user to financial hardship

UNSCR 1540—United Nations Security Council’s resolution on the non-proliferation of weapons of mass destruction

upper tier—Countries scoring between 66.7 and 100 (also called “high scores” and “top tier”)

urbanization—Process by which large numbers of people become permanently concentrated in relatively small areas, forming cities

vaccine-derived poliovirus—Rare strains of poliovirus that have mutated from the strain contained in the polio vaccine

virulence—Disease-producing power of an organism

WHO—World Health Organization

wild poliovirus—Naturally occurring poliovirus

World Bank—International organization that provides finance and financial advice to low-income nations seeking to increase economic development

zoonoses—Infections that spread between animals and people (also called “zoonotic diseases”)

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