2022 Monkeypox Outbreak: Global Trends

World Health Organization

Produced on 28 July 2022

1. Overview

This report provides a global overview of the monkeypox epidemiological situation as reported to WHO as of July 26 2022. The report focuses on laboratory confirmed cases[1] as defined by the WHO's working case definition published in the Surveillance, case investigation and contact tracing for monkeypox interim guidance (https://www.who.int/publications/i/item/WHO-MPX-Surveillance-2022.2). Note that countries may use their own case definitions separate from those outlined in the above document. This report should be considered in the context of other WHO information products associated with the 2022 monkeypox outbreak (https://www.who.int/emergencies/situations/monkeypox-oubreak-2022), and monkeypox in general (https://www.who.int/health-topics/monkeypox#tab=tab_1):

- The biweekly Situation Report (https://www.who.int/publications/m/item/multi-country-outbreak-of-monkeypox--external-situation-report--2---25-july-2022) provides a comprehensive update of the monkeypox situation and response activities across a variety of domains such as epidemiology, clinical management and communications, replacing the previous Disease Outbreak News format;
- The Emergency Dashboard (https://extranet.who.int/publicemergency/) provides the latest daily data on total cases and deaths of monkeypox, as well as other events and emergencies to which WHO is responding;
- This global epidemiological report provides in-depth epidemiological information about the monkeypox situation, based primarily on case report forms provided by Member States to WHO under Article 6 of the International Health Regulations (IHR 2005).

Links to these products can be see in more detail at the end of the report.

Since 1 January 2022, cases of monkeypox have been reported to WHO from **78 Member States across all 6 WHO regions**. As of July 26 2022 at 17h CEST, a total of **18,081 laboratory confirmed cases** and **73 probable cases**, including **5 deaths**, have been reported to WHO. Since 13 May 2022, a high proportion of these cases have been reported from countries without previously documented monkeypox transmission. This is the first time that cases and sustained chains of transmission have been reported in countries without direct or immediate epidemiological links to areas of West or Central Africa.

With the exception of countries[2] areas of West and Central Africa, the ongoing outbreak of monkeypox continues to primarily affect men who have sex with men (MSM) who have reported recent sex with one or multiple partners. At present there is no signal suggesting sustained transmission beyond these networks.

Confirmation of one case of monkeypox, in a country, is considered an outbreak. The unexpected appearance of monkeypox in several regions in the initial absence of epidemiological links to areas in West and Central Africa, suggests that there may have been undetected transmission for some time.

WHO assesses the global risk as **Moderate**. Regionally, WHO assesses the risk in the **European Region as High** and as **Moderate** in the **African Region**, **Region of the Americas**, **Eastern Mediterranean Region** and the **South-East Asia Region**. The risk in the **Western Pacific Region** is assessed as **Low-Moderate.** The IHR Emergency Committee on the multi-country outbreak of monkeypox held its second meeting on 21 July 2022 (https://www.who.int/news/item/23-07-2022-second-meeting-of-the-international-health-regulations-(2005)-(ihr)-emergency-committee-regarding-the-multi-country-outbreak-of-monkeypox). Having considered the views of committee members and advisors as well as other factors in line with the International Health Regulations (2005), the WHO Director-General declared this outbreak a **public health emergency of international concern** and issued temporary recommendations in relation to the outbreak.

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1. For the WHO European region, both confirmed and probable cases are included within confirmed case counts and detailed case data.
2. Throughout this document, any use of the word **country** should be considered shorthand for a **country, area, or territory**
3. All references to Kosovo should be understood to be in the context of the United Nations Security Council resolution 1244 (1999).

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2. Global situation update

The number of weekly[1] reported new cases globally has increased by **60.6%** in **week 29 (18 Jul - 24 Jul) (n = 4,407 cases)** compared to **week 28 (11 Jul - 17 Jul) (n = 2,744 cases).** The majority of cases reported in the past 4 weeks were notified from the European Region (70%) and the Region of the Americas (27.8%).

The 10 most affected countries globally are: **Spain (n = 3,596), United States of America (n = 2,881), Germany (n = 2,410), The United Kingdom (n = 2,208), France (n = 1,567), Netherlands (n = 818), Brazil (n = 696), Canada (n = 681), Portugal (n = 588), and Italy (n = 426).** Together, these countries account for **87.8%** of the cases reported globally.

In the past 7 days, **35** countries reported an increase in the weekly number of cases, with the highest increase reported in France. **9** countries have reported no new cases in the past 21 days.

In the past 7 days, **8** countries reported their first case. countries which reported their first case in the past 7 days are: **Barbados (19 July), Martinique (20 July), Costa Rica (21 July), Qatar (21 July), Thailand (21 July), Bermuda (23 July), Andorra (25 July), Japan (25 July)**.

Global data are data collected by public sources. These data are largely aggregated cases that have been reported from open and official country sources. The below epidemic curve shows the aggregated number of cases by week according to the date of case reporting.

2.1. Epidemic curve 2.2. Epidemic curve by WHO Region 2.3. Global Map

2.4. Table - Cases and deaths by WHO Region 2.5. Table - Cases and deaths by country

2.6. Table - African Region 2.7. Table - Region of the Americas

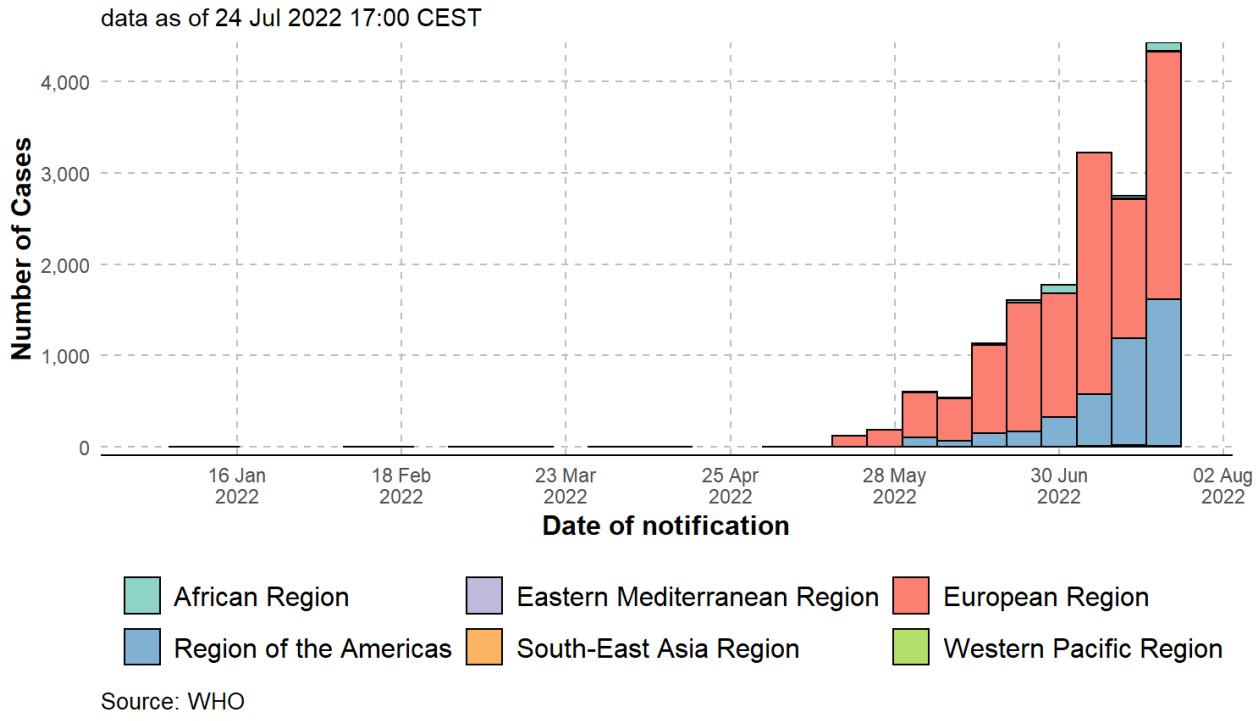
2.8. Table - Eastern Mediterranean Region 2.9. Table - European Region

2.10. Table - South-East Asia Region 2.11. Table - Western Pacific Region

2.12. Table - countries with last case reported 21 or more days ago

2.13. Epidemic curve by country

Epidemic curve shown for cases reported up to 25 Jul 2022 to avoid showing incomplete weeks of data.



1. Weekly reported cases, and weekly cases shown in the epidemic curve are aggregated according to international standard weeks, running from Monday to Sunday.

3. Detailed case data

Detailed case data are acquired via direct reporting of case based data via WHO Member States. Data from cases are reported according to the WHO minimum dataset under the International Health Regulations (IHR 2005) Article 6, and subsequently aggreagated and presented below. Note that completeness of records is variable, meaning denominators for each output may be different from one another. **All of the following is derived from the detailed case data, and as a result, overall numbers may not be reflective of figures shown with aggregate case numbers.** All detailed cases shown are confirmed cases, where the reporting date occured after 01 January 2022.

3.1. Reporting coverage

The detailed case dataset was last updated on July 26 2022. As of this date, the total number of detailed confirmed cases reported is 15,094, representing **87.6%** of all aggregated cases reported.

The table below indicate the reporting coverage between reported aggregated confirmed cases and detailed confirmed cases by countries and per region.

Note that for all tables below, in order to best align modes of reporting, total confirmed cases are

shown as of:

1. The most recent Friday (22 July) for data in the **Region of the Americas.**
2. The most recent Tuesday (26 July) for data in the **European Region.**

Total cases shown fully as of 26 July are shown in the global trends section.

3.1.1. Table - Coverage by region

Monkeypox reporting completeness

As of 26 Jul 2022[1]

	Total Confirmed Cases	Total Detailed Confirmed Cases[2]	% Detailed Cases reported
European Region	13,043	12,761	97.8%
Region of the Americas	3,772	2,119	56.2%
African Region	328	173	52.7%
Western Pacific Region	61	13	21.3%
Eastern Mediterranean Region	25	23	92.0%
South-East Asia Region	5	5	100.0%

[1] Total confirmed cases shown as of date of last detailed case report for the WHO Region of the Americas and WHO European Region.
[2] Note that in rare cases total detailed cases may exceed total confirmed cases due to ongoing data cleaning issues

3.2. Trends in cases

Trends in cases are shown for all submitted detailed cases. These are shown by:

1. Date of symptom onset
2. Date of lab or clinical diagnosis (if date of symptom onset is not available)
3. Date of reporting (if date of symptom onset and date of diagnosis are not available)

Note that reporting of detailed cases is subject to some delay. The epidemic curves shown are not right censored, and therefore trends in the most recent 1-3 weeks should be interpreted with caution. It should be additionally noted that date of report does not reflect the date of reporting to WHO, but rather reporting to national or regional authorities.

Delay between date of onset and date of report were calculated for all countries where reporting

quality passed minimum quality checks. Delays were only shown when the time between onset and reporting was between -5 and 40 days.

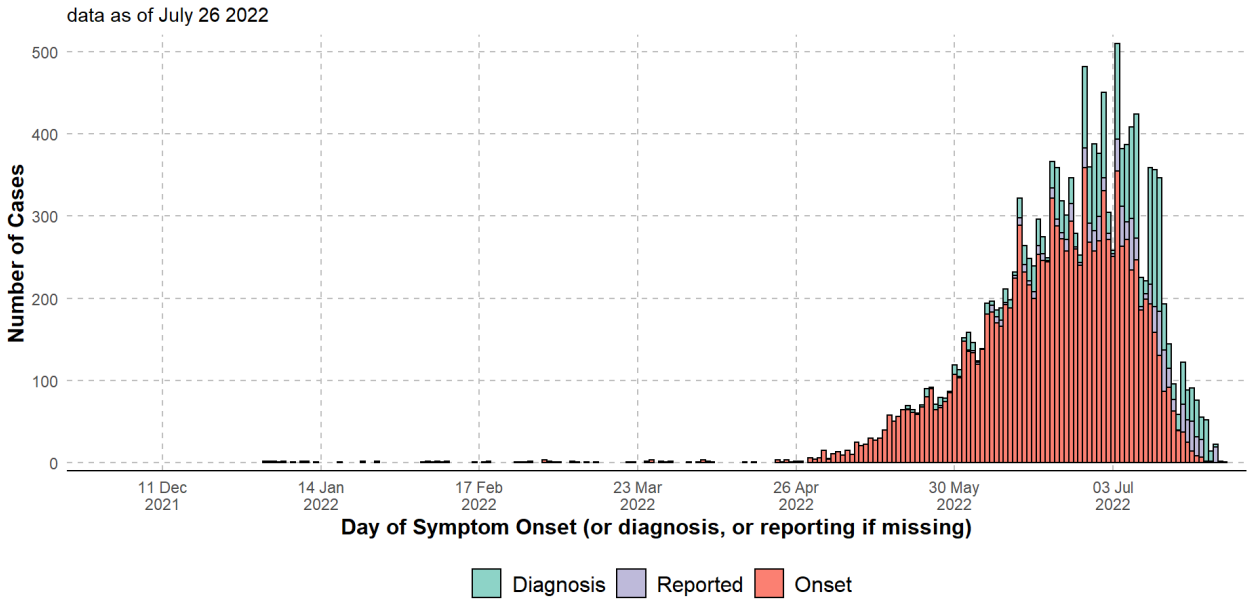
- Median delay between onset and reporting was **7** days
- The interquartile range between onset and reporting was **4-10 days**.

3.2.1. Overall by date of symptom onset 3.2.2. By date of onset and by WHO region

3.2.3. By date of onset and by country (top 10 most cases)

3.2.4. By date of onset and by age group 3.2.5. By date of onset and by sexual orientation

3.2.6. Reporting lags 3.2.7. By date of onset and by country/area/territory



Source: WHO

3.3. Case profile (overall)

The following outputs reflect various demographic characteristics in confirmed monkeypox cases. **Note that these data are only derived from detailed case data, and as a result, total numbers of cases and deaths may differ from those reported via aggregate case data where reporting is not fully aligned.**

As shown below, and stated previously, the ongoing outbreak is largely developing in MSM (Men who have Sex with Men; defined as homosexual or bisexual males in reporting forms) networks. In the following analyses, we have re-coded men reported as bisexual as MSM. Note that reported sexual orientation does not necessarily reflect who the case has had recent sexual history with nor does it imply sexual activity. Generally, severity has been low, with few reported hospitalisations and deaths:

- **98.9% (13740/13893)** of cases with available data are male, the median age is **36 years**

(IQR: 31 - 43).

- Males between **18-44 years old** continue to be disproportionately affected by this outbreak as they account for **77.1%** of cases.
- Of the **13,933** cases where age was available, there were **84 (0.6%)** cases reported aged **0-17**, out of which **24 (0.2%)** were aged **0-4.**
- Among cases with known data on sexual orientation, **98.3% (5996/6099)** identified as **MSM**. Of those identified as MSM, **54 / 5996 (0.9%)** were identified as bisexual men.
- Among those with known HIV status **38.0% (2,352/6,197)** were **HIV-positive**. Note that information on HIV status is not available for the majority of cases, and for those for which it is available, it is likely to be skewed towards those reporting positive HIV results.
- **322** cases were reported to be **health workers**. However, most were infected in the community and further investigation is ongoing to determine whether the remaining infection was due to occupational exposure.
- Of all reported types of transmission, a **sexual encounter** was reported most commonly, with **3,603 of 3,939 (91.5%)** of all reported transmission events.
- Of all settings in which cases were likely exposed, the most common was in **party setting with sexual contacts**, with **569 of 1,380 (41.2%)** of all likely exposure categories.

3.3.1. Demographic Information 3.3.2. Age-sex pyramid 3.3.3. Transmission type

3.3.4. Exposure settings

Note that the proportions shown below should be interpreted with caution. When considering some variables, it is **more likely that a yes response will be obtained when compared to a no response after consideration of true proportions of these factors.** This is most likely to be true for variables where reported answers can only be *yes* or *no*, such as HIV status, health worker status, travel history, hospitalisation, ICU, and death.

Case profiles

As of July 26 2022

	Reported values[1]		Unknown or Missing Value
	Yes	No	
MSM	5995 (98.3%)	103 (1.7%)	8986
HIV-Positive	2352 (38.0%)	3844 (62.0%)	8888

[1] Note given true proportions of variables, yes reporting may be common than no reporting
[2] May be hospitalised for isolation or medical treatment

Case profiles As of July 26 2022			
Health worker	322 (15.8%)	1720 (84.2%)	13042
Travel History	674 (36.8%)	1157 (63.2%)	13253
Sexual Transmission	3602 (91.5%)	336 (8.5%)	11146
Hospitalised[2]	476 (7.7%)	5706 (92.3%)	8902
ICU	1 (0.0%)	2978 (100.0%)	12105
Died	0	8411 (100.0%)	6673

[1] Note given true proportions of variables, yes reporting may be common than no reporting
[2] May be hospitalised for isolation or medical treatment

3.4. Case profile (Non-MSM)

The following outputs apply to only those individuals where sexual orientation **has been reported, but it is not MSM**. Non-MSM categories of sexual orientation that are reportable are:

- Heterosexual
- Lesbian (women who have sex with women)
- Other

As stated above, MSM in this case refers to those who have a reported sexual orientation of MSM, and men reported as bisexual. As above, note that reported sexual orientation does not necessarily reflect persons who the case has had recent sexual history with nor does it imply sexual activity. Up until this point in time, the 2022 multi-country Monkeypox outbreak has been overwhelmingly concentrated in MSM networks. For this reason, understanding events in which non-MSM individuals have acquired monkeypox is important to monitor potential of sustained spillover into the general population.

- **60.8% (62/102)** of cases with available data are male; the median age is **33 years (IQR: 27-43)**.
- Males between **18-44 years old** account for **52.0%** of cases.
- Among those with known HIV status **4.5% (4/88)** were **HIV-positive**. Note that information on HIV status is not available for the majority of cases, and for those for which it is available, it is likely to be skewed towards those reporting positive HIV results.
- **2** cases were reported to be **health workers**. However, most were infected in the community and further investigation is ongoing to determine whether the remaining infection was due to occupational exposure.

- Of all reported types of transmission, **sexual encounter** was reported most commonly, with **30 of 38 (78.9%)** of all reported transmission events.
- Of all settings in which cases were likely exposed, the most common was in **party setting with sexual contacts**, with **7 of 29 (24.1%)** of all likely exposure categories.

3.4.1. Demographic Information 3.4.2. Age-sex pyramid 3.4.3. Transmission type

3.4.4. Exposure settings

Note that the proportions shown below should be interpreted with caution. When considering some variables, it is **more likely that a yes response will be obtained when compared to a no response after consideration of true proportions of these factors.** This is most likely to be true for variables where reported answers can only be *yes* or *no*, such as HIV status, health worker status, travel history, hospitalisation, ICU, and death.

Case profiles (Non-MSM)

As of July 26 2022

	Reported values[1]		Unknown or Missing Value
	Yes	No	
MSM	0	103 (100.0%)	0
HIV-Positive	4 (4.5%)	84 (95.5%)	15
Health worker	2 (3.3%)	59 (96.7%)	42
Travel History	17 (30.4%)	39 (69.6%)	47
Sexual Transmission	30 (78.9%)	8 (21.1%)	65
Hospitalised[2]	29 (30.2%)	67 (69.8%)	7
ICU	0	46 (100.0%)	57
Died	0	99 (100.0%)	4

[1] Note given true proportions of variables, yes reporting may be common than no reporting
[2] May be hospitalised for isolation or medical treatment

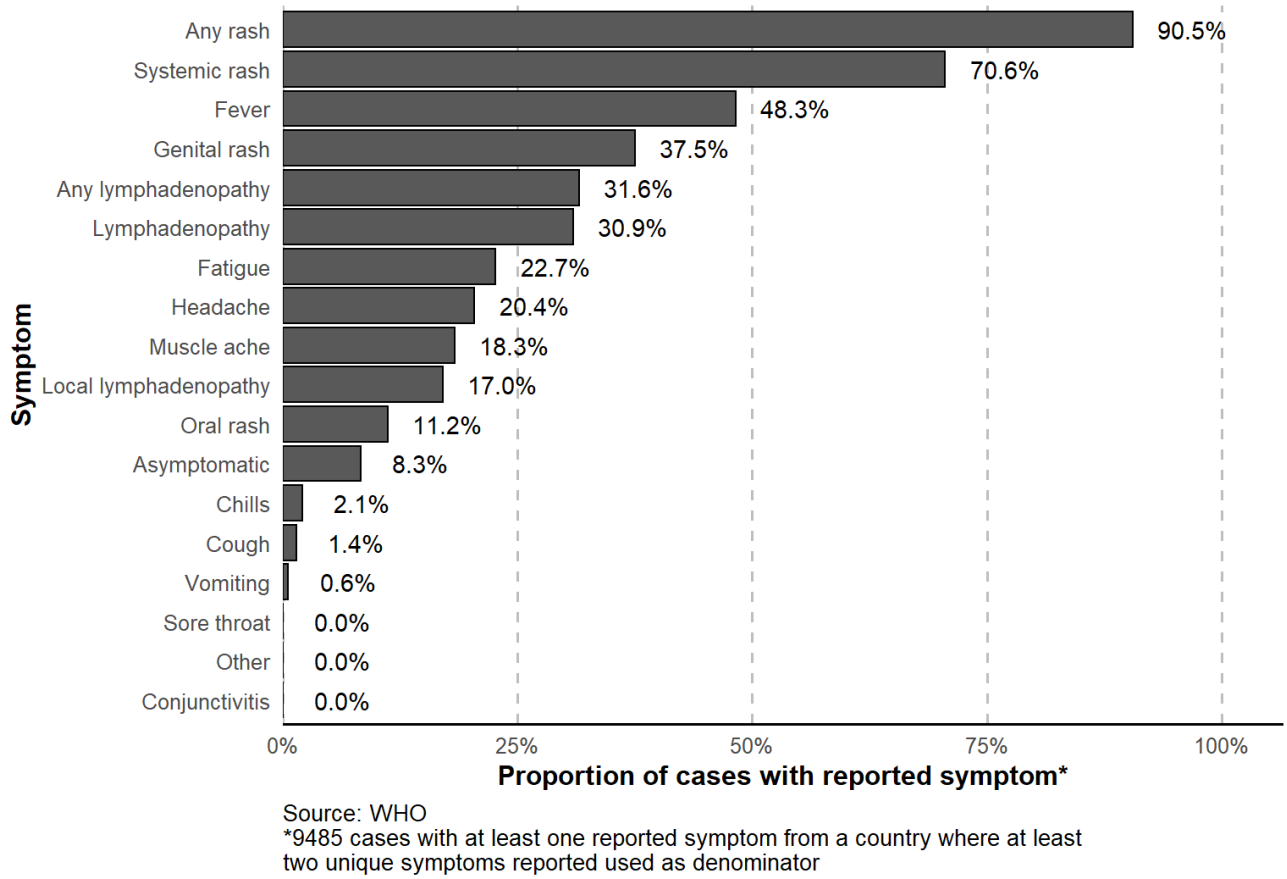
3.5. Symptomatology

Although most cases in current outbreaks have presented with mild disease symptoms, monkeypox virus (MPXV) may cause severe disease in certain population groups (young children, pregnant women, immunosuppressed persons)

Among the cases who reported at least one symptom, the most common symptom is **any rash** and is reported in **91%** of cases with at least one reported symptom. Note that identifying true denominators for symptomatology is difficult due to a general lack of negative reporting and symptom definitions that may vary between countries' reporting systems.

A bar chart and table showing symptoms is shown below. Here *any rash* refers to one or more rash symptoms (systemic, oral, genital, or unknown location), and *any lymphadenopathy* refers to either general or local lymphadenopathy.

3.5.1. Bar chart - Symptoms 3.5.2. Table - Symptoms



Source: WHO
*9485 cases with at least one reported symptom from a country where at least two unique symptoms reported used as denominator

4. Disclaimers

Users are advised to interpret all data with caution and be aware of their limitations. Case counts and their corresponding data may be retrospectively corrected as new information is collected and reported.

5. Acknowledgements

We gratefully acknowledge the input of national public health staff involved in surveillance activities and data submission to WHO, the European Centre for Disease Prevention and Control (ECDC) for the provision of surveillance data collected via the TESSy platform, as well as external partners who contributed additional insights and contextual information on the data.

6. Useful links and documentation

6.1. Global

- 2022 Monkeypox outbreak homepage (https://www.who.int/emergencies/situations/monkeypox-oubreak-2022)
- About monkeypox (https://www.who.int/health-topics/monkeypox#tab=tab_1)
- Report from Second meeting of the IHR Emergency Committee regarding the multi-country outbreak of monkeypox (https://www.who.int/news/item/23-07-2022-second-meeting-of-the-international-health-regulations-(2005)-(ihr)-emergency-committee-regarding-the-multi-country-outbreak-of-monkeypox)
- Latest WHO monkeypox situation update (https://www.who.int/publications/m/item/multi-country-outbreak-of-monkeypox--external-situation-report--2---25-july-2022)
- WHO Monkeypox surveillance guidance (https://www.who.int/publications/i/item/WHO-MPX-Surveillance-2022.2)
- WHO emergency dashboard with monkeypox data (https://extranet.who.int/publicemergency/)

6.2. Region of the Americas

- Region of the Americas Monkeypox homepage (https://www.paho.org/en/monkeypox)
- Region of the Americas cases dashboard (https://shiny.pahobra.org/monkeypox/)

6.3. Eastern Mediterranean Region

- Eastern Mediterranean Region Monkeypox homepage (http://www.emro.who.int/monkeypox/index.html#:~:text=It%20is%20a%20zoonotic%20viral,a%20skin%20rash%20or%20lesions.)

6.4. European Region

- European Region Monkeypox homepage (https://www.who.int/europe/emergencies/situations/monkeypox)
- Joint ECDC-WHO Regional Office for Europe Monkeypox Surveillance Bulletin (https://monkeypoxreport.ecdc.europa.eu/)