

# SNAKEBITE ENVENOMING

## A strategy for prevention and control

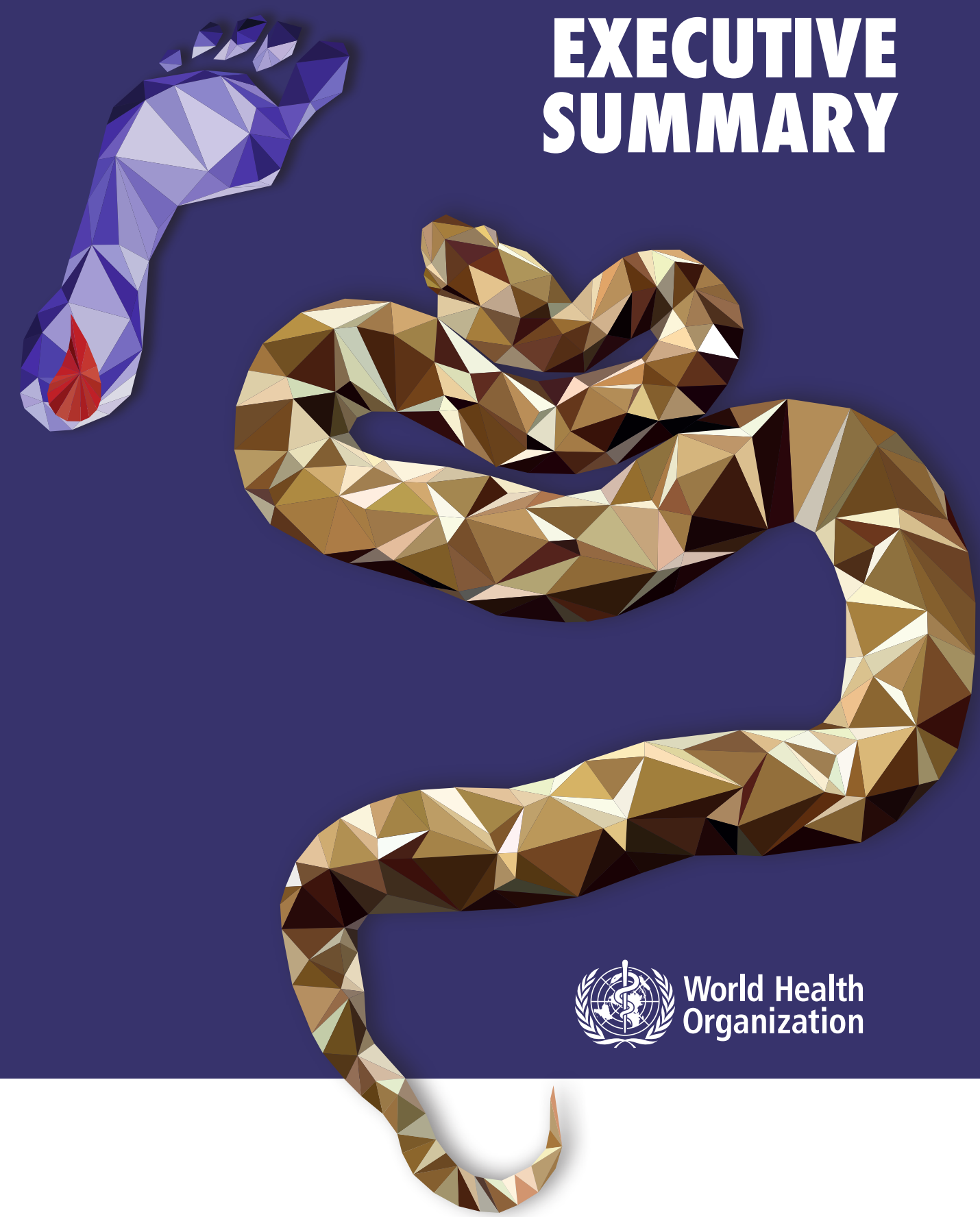
### EXECUTIVE SUMMARY

#### Costs of implementation





WHO's budget will be used to deliver solutions in the field. Thus, 54.1% will be for activities in countries where snakebite is a public health problem, with regional support and collaboration (17.1%). The cost of work by WHO technical departments will account for the remaining 28.8% of the budget. The number of countries involved will increase over the next 11 years as resources are mobilized and capacity built. The success of the programme during the first 2–4 years will determine whether support can be found for the full 12-year strategy.

During the pilot phase, we will prepare a detailed work plan and, in parallel, a strong, evidence-based investment case to demonstrate the cost-effectiveness and the cost-benefit of interventions, as compelling arguments for investment, support, participation and commitment. The projected budget will be updated as the strategy advances and as economic and geopolitical circumstances evolve.

Countries should mobilize domestic and international resources to achieve sustainable financing and implementation of their control programmes, with strong technical support from WHO. National costs and the cost of commodities to be deployed from revolving antivenom stockpiles are not included in the budget; however, as antivenom production is strengthened, the current costings will probably become redundant. WHO will prepare an investment case for the commodities required to operate the stockpiles and will work with governments and other partners to obtain effective, quality-assured products for distribution.



#### The cost of implementing the four strategic objectives between 2019 and 2030 will be spread over three phases

	PILOT PHASE (2019–2020) 10–12 countries US\$ 8.96 million	SCALE-UP PHASE (2021–2024) +35–40 countries US\$ 45.44 million	FULL ROLL-OUT (2025–2030) All affected countries US\$ 82.36 million
 Empower and engage communities	US\$ 0.65 m	US\$ 8.97 m	US\$ 17.19 m
 Ensure safe, effective treatments	US\$ 4.29 m	US\$ 15.58 m	US\$ 29.86 m
 Strengthen health systems	US\$ 1.89 m	US\$ 13.26 m	US\$ 21.80 m
 Increase partnerships, coordination and resources	US\$ 2.13 m	US\$ 7.63 m	US\$ 13.51 m

References: (1) Longbottom J, et al. Lancet. 2018, 392(10148):673–684; (2) Chippaux JP. Bull World Health Organ. 1998, 76(5):515–24; (3) Kasturiratne A, et al. PLoS Med. 2008, 5(11):e218; (4) Harrison RA, et al. PLoS Negl Trop Dis. 2009, 3(12):e569; (5) Report of the tenth meeting of the WHO STAG for NTDs: 29–30 March 2017. Geneva: WHO, 2017; (6) Resolution WHA71.5. Addressing the burden of snakebite envenoming. Geneva: WHO, 2018.



## A disease whose time has come

Snakebite envenoming is a neglected tropical disease (NTD) that is responsible for enormous suffering, disability and premature death on every continent. As over 5.8 billion people are at risk of encountering a venomous snake, it is not surprising but no less tragic that **almost 7400 people every day are bitten by snakes, and 220–380 men, women and children die as a result (1, 2, 3), adding up to about 2.7 million cases of envenoming and 81 000–138 000 deaths a year.**

The economic cost of snakebite envenoming is unmanageable in most countries, as it affects not only the victims but often their entire families, particularly in poor communities (4) in low- and middle-income countries that do not have social security.

As work towards achieving the objectives of UHC2030 (<https://www.uhc2030.org/>) accelerates, **immediate action is needed to reduce the burden of suffering of some of the world's most disadvantaged communities, and countries around the globe have appealed for a coordinated response.** Following a recommendation by WHO's Strategic and Technical Advisory Group for Neglected Tropical Diseases (5) and a resolution on snakebite envenoming adopted by the Seventy-first World Health Assembly in 2018 (6), WHO has added this disease to its list of category A NTDs. It has now developed a strategy to reduce mortality and disability from snakebite envenoming by 50% before 2030. This document describes the strategy for action in countries, supported by regional collaboration, that will save lives and prevent needless suffering.

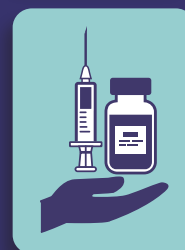
## A comprehensive strategy

For millions of men, women and children around the world, the risk of snakebite is a daily concern as they go about their everyday activities – walking to school, tending gardens, herding livestock, fetching water or simply going to the toilet – where a misplaced step, a momentary lapse of concentration or being in the wrong place at the wrong time can be fatal.

**Reducing the problem starts with improving community education about the risk and encouraging them to seek health care and ensuring intensified case management for every patient. First aid, effective, affordable treatment provided by well-trained medical staff and rehabilitation will allow many victims to return more quickly to good health and productive lives.**

The core of the strategy is the goal for all patients to have better overall care, so that the numbers of deaths and cases of disability are reduced by 50% before 2030.

For this to be achieved, four strategic aims will be pursued.



### Empower and engage communities

Prevent snakebite envenoming and increase use of treatment through education, training and facilitation. Research will be conducted to determine the sociocultural, economic, political and geophysical influences on perceptions of snakebite and treatment-seeking by populations at risk and the results used to change behaviour, policy and practice.

### Ensure safe, effective treatment

Build a stable, sustainable market for safe, effective antivenoms at reasonable cost and assured access to treatment. The production and quality of snakebite treatments must meet internationally accepted standards, through cooperation among academia, industry and public and private institutions for innovation and modernization. The current crisis in the supply of antivenoms should be addressed by WHO by creating a revolving stockpile of antivenoms proven to be effective, so they can be sent where they are needed.

### Strengthen health systems

The principles of the WHO Health Systems Framework should be used to integrate more effective prevention, treatment and management of snakebite envenoming into national health systems, national health plans and policy frameworks.

### Increase partnerships, coordination and resources

Strong collaboration will be required for this comprehensive plan of action, and advocacy will be necessary to build a global coalition to drive change, generate investment, implement projects and accelerate research into new therapies, diagnostics and medical interventions. Country capacity-building and knowledge exchange will be emphasized. The strategy will require transformational public-private investment, with long-term commitment by partners and governments.



## A multifocal incremental response by countries

The strategy is based on existing resources, skills and experience while looking ahead to next-generation solutions.

A central objective is to **strengthen national health systems** to provide solutions at community level. Access to treatment will be improved, renewing communities' confidence in early treatment with safe, effective, affordable medicine. Innovative research will address clinicians' needs for better diagnosis and treatment. Better case management – from first aid, through hospital care, to post-discharge rehabilitation – will help victims to resume healthy, productive lives.

The strategy will be tested in 2019–2020 in 10–12 countries with a high burden of snakebite envenoming and urgent need of a solution. Countries will be supported in designing and implementing locally relevant plans and in participating in regional initiatives.

During the scaling-up phase in 2021–2024, a further 35–40 countries will be involved, as resources increase and experience demonstrates the effectiveness of the strategy. During full roll-out in 2025–2030, all countries will be able to integrate the strategy into their public health agendas.

The strategy will be reviewed and adapted regularly to ensure that it meets the needs of countries. Through advocacy, WHO will build a sustainable global coalition committed to ensuring that the targets and milestones are achieved to halve the numbers of snakebite deaths and cases of disability by 50% by 2030.

