

# HAI SNAKEBITE PROJECT IN SUB-SAHARAN AFRICA



Photo: Maxime Niyomwungeri (Unsplash)

## ABOUT SNAKEBITE ENVENOMING

- Conservative global estimates show that snakebite envenoming kills 81,000–138,000 people every year and permanently disables 400,000 more.<sup>1,2,3</sup>
- In Africa, there are an estimated 435,000–580,000 snakebites annually needing treatment,<sup>4</sup> resulting in about 32,000 deaths and 6,000 amputations for sub-Saharan Africa, alone.
- The economic burden of snakebite is largely under-researched and unknown. However, it is estimated that, for Western Africa, up to USD 6,205 per death could be averted with effective antivenom treatment. The costs of permanent disabilities resulting from snakebite are even higher.<sup>5</sup>
- The World Health Organization and Member States have started prioritising snakebite envenoming by committing to important policy milestones in recent years.

## KEY ISSUES IN SUB-SAHARAN AFRICA

- **Research:** Health Action International (HAI) has conducted research in Uganda, Zambia and Kenya, to measure the local snakebite burden.
- **Under-reporting:** 140 health facilities in Uganda reported 593 snakebite cases, and 875 cases were reported from 97 facilities in Zambia over one year. These rates are likely to be low, as approximately 70% of snakebite cases in sub-Saharan Africa go unreported.<sup>6</sup>
- **Antivenom:** Quality antivenoms are life-saving, but there are serious shortages. Just 4–10% of HAI surveyed healthcare facilities had antivenom in stock—but most of them were ineffective, or unaffordable. Furthermore, snakebite treatment products (including antivenom, adrenaline, antibiotics and syringes) were unavailable for up to ten days per month.

- **Survivors:** Many survivors of snakebite envenoming are left with a permanent disability, such as limb amputation or blindness, and are plunged further into debt because of high treatment and transport costs, and the loss of income.<sup>7,8</sup> HAI research in Uganda and Zambia found that the cost of one vial of antivenom, alone, compares to up to 385 days of income. The entire treatment costs can add up to several years of income.
- **Healthcare workers:** Training of healthcare workers is not part of any medical curriculum. Our survey found that 79.5–91% of healthcare workers in the public sector received no snakebite training at all.
- **Traditional healers:** We found that at least 50–68% of snakebite victims in sub-Saharan Africa seek initial traditional treatment due, in part, to the above-mentioned factors.<sup>9</sup> These treatments can worsen snakebite injuries, and waste precious time for a victim to receive medical care.

## THE HAI SNAKEBITE PROJECT

HAI's Snakebite Project operates in Kenya, Uganda and Zambia in collaboration with the Global Snakebite Initiative and our country partners, including the James Ashe Antivenom Trust, Bio-Ken Snake Farm and HEPS Uganda. Project activities include:

- **Building a snakebite evidence base:** We are gathering much-needed data from healthcare facilities and communities on snakebite cases and antivenom treatment.
- **Conducting evidence-based advocacy:** We are developing champions and building civil society driven multi-stakeholder groups of snakebite experts, which regularly meet to

review and use our data to call for policy changes by national ministries.

- **Increasing community education:** We are providing communities with information and tools to learn how to prevent snakebite and provide effective first-aid.

The goals of the project are:

- **Empowered communities:** Communities independently reduce the number of snakebite cases through awareness and education tools.
- **Mandatory snakebite reporting:** Government authorities make snakebite a notifiable or reportable disease by law.
- **Treatment available for all:** Health authorities take steps to ensure antivenom is provided to everyone and is safe, effective, and affordable.
- **Effective healthcare interventions:** Evidence from our project encourages proper training of healthcare workers, including tools for rehabilitation and disability services.

## WHO WE ARE

HAI is an independent non-profit organisation. Using research and advocacy, we advance policies that enable access to medicines and rational medicine use.

### For more information:

Sophie von Bernus  
Senior Project Officer  
Health Action International  
sophie@haiweb.org | +31 20 412 4523  
haiweb.org

## ENDNOTES

1. Kasturiratne, A., Wickremasinghe, A.R., de Silva, N., et al., 2008. The Global Burden of Snakebite: A Literature Analysis and Modelling Based on Regional Estimates of Envenoming and Deaths. *PLoS Medicine*, 5(11): e218.
2. Gutiérrez, J.M., Burnouf, T., Harrison, R.A., et al, 2014. A multicomponent strategy to improve the availability of antivenom for treating snakebite envenoming. *Bulletin of the World Health Organization*, 92(7):526–532.
3. Harrison, Robert A., Casewell, Nicholas R., Ainsworth, Stuart A., Lalloo, David G., 2019. The time is now: a call for action to translate recent momentum on tackling tropical snakebite into sustained benefit for victims. *Transactions of The Royal Society of Tropical Medicine and Hygiene*, try134, <https://doi.org/10.1093/trstmh/try134>

4. [www.who.int/health-topics/news-room/fact-sheets/detail/snakebite-envenoming](http://www.who.int/health-topics/news-room/fact-sheets/detail/snakebite-envenoming)
5. Hamza, M., Idris, M. A., Maiyaki, M. B., Lamorde, M., Chip-paux, J.-P., Warrell, D. A., ... Habib, A. G. (2016). Cost-Effectiveness of Antivenoms for Snakebite Envenoming in 16 Countries in West Africa. *PLOS Neglected Tropical Diseases*, 10 (3), e0004568. <https://doi.org/10.1371/journal.pntd.0004568>
6. [www.who.int/snakebites/epidemiology/en](http://www.who.int/snakebites/epidemiology/en)
7. WHO. (2017). Snakebite envenoming - The disease. Retrieved November 22, 2017, from <http://www.who.int/snakebites/disease/en/>
8. Habib, A. G., & Brown, N. I. (2018). The snakebite problem and antivenom crisis from a health-economic perspective. *Toxicon*, 150(February), 115–123. <https://doi.org/10.1016/j.toxicon.2018.05.009>
9. Harrison, R.A., et al., Snake envenoming: a disease of poverty. *PLoS Neglected Tropical Diseases*, 2009. 3(12): p. e569.