

Correspondence

Focus on snake ecology to fight snakebite

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The recent surge of interest from WHO and global health funders has rightly taken aim at slashing the global burden of snakebite, currently estimated at 81,000-138,000 deaths and over 400,000 disabilities annually ([https://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(19\)31232-2/fulltext](https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(19)31232-2/fulltext)). Fresh funding is primarily aimed at revolutionising treatments (<https://wellcome.ac.uk/what-we-do/our-work/snakebites>).

However, snakebite epidemiology needs a revolution to match. The vast majority of snakebite research and management is already focussed on venom – its properties, effects and antivenoms. The remainder mostly focuses on the analysis of incidence rates and individual risk factors (males, farmers, poverty) (*Gutiérrez et al. Nat. Rev. Dis. Primer 3, 17063 (2017)*)¹. Far less addressed is understanding snake ecology. This is akin to trying to combat malaria while ignoring mosquitoes.

Snakebite shares many epidemiological similarities with zoonoses: pathogens transmitted from animals to humans. Understanding host and vector ecology in addition to pathogens has been central to the control of zoonoses, but so far not for snakebite. This strongly limits epidemiological understanding and efforts to accurately map, forecast and mitigate snakebite risk.

High quality, quantitative information on the distribution, abundance, behaviour and habitat preferences of venomous snakes is particularly scarce in the most affected regions. Better knowledge of snake ecology will improve efforts to direct obviously scarce resources more efficiently, enhance prevention strategies and maximise reach of both existing and new snakebite treatment technologies.

References cited

1. Gutiérrez, J. M. *et al.* Snakebite envenoming. *Nat. Rev. Dis. Primer* **3**, 17063 (2017).

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Authors' contributions

KAM conceived and drafted the Correspondence, all authors contributed to writing and revisions.

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The authors declare no conflicts of interest

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