

Innovative Approaches to Eliminating Neglected Tropical Diseases (NTDs): Research, Evidence-Based Strategies, and Global Collaboration

Kalpana Singh^{1*}, Treesa Thomas²

Poverty and social inequality are both caused by and a result of neglected tropical diseases (NTDs). Since the middle of the 2000s, increased advocacy activities have resulted in ambitious new control measures. One of the most economical funding approaches that national governments and international organizations may employ is probably to maximize the effectiveness of already-existing programs. NTD advocacy began with calls for new medications. Research, evidence-based tactics, and international cooperation are the three creative approaches to eradicating neglected tropical diseases (NTDs) that are covered in this editorial. Researchers must continue to create, assess, and test novel treatments and treatment combinations through appropriately conducted randomized controlled trials.

Access this article online

Website:

www.cijmr.com

DOI:

10.58999/cijmr.v4i03.286

Keywords:

Neglected Tropical Diseases (NTDs), Global Health, Disease Elimination, Evidence-Based Strategies, Innovative Approaches

Introduction

Neglected Tropical Diseases (NTDs) encompass a diverse group of 20 diseases, which are prevalent in tropical and subtropical regions and mostly impact areas of poverty where access to clean water, sanitary facilities, and medical care is restricted. Initially classified as 17 diseases by the World Health Organization (WHO) in the early 2000s, NTDs are caused by bacteria, helminths, protozoa, or viruses and include conditions like Buruli ulcer, Chagas disease, dengue, dracunculiasis (Guinea-worm disease), echinococcosis, and foodborne trematodiasis. People living in rural, remote, and conflict-affected areas are disproportionately affected because of the increased risk of transmission due to the close proximity to animals and disease vectors.¹ NTDs significantly impact maternal and fetal health by increasing maternal mortality risks, impairing fetal growth through nutrient deficiencies, causing long-term cognitive and physical developmental issues in children, and reducing future economic productivity, while interventions like school-based deworming programs can mitigate these effects and improve educational outcomes.²

Incorporating neglected tropical diseases into global health and development indicates that substantial progress was made in 2015 in reaching the Roadmap objectives. These accomplishments stem from executing the five strategies proposed by WHO to tackle NTDs, which include: preventive chemotherapy; enhanced and innovative disease management; management of vector ecology; veterinary public health services; and ensuring access to safe water, sanitation, and hygiene.³ By employing geospatial techniques to monitor infection trends and improve decision-making, surveillance and diagnostic screening serve as both early warning systems and intervention tools. Rather than depending only on the health sector, a multi-sectoral approach that takes into account social and environmental aspects together with integrated public health measures is more effective in controlling and eliminating NTDs.⁴

By providing billions of treatments, promoting research, and creating novel therapies through programs like Merck & Co.'s ivermectin and GSK's albendazole donations, as well as public-private Product Development Partnerships (PDPs) like DNDi and the Global Health Innovative Technology Fund, pharmaceutical donations and public-private partnerships have greatly advanced

¹Nursing & Midwifery Research Department, Hamad Medical Corporation (HMC), Doha 3050, Qatar

²Research assistant, Hamad Medical Corporation (HMC), Doha 3050, Qatar

Correspondence to: Kalpana Singh, Nursing & Midwifery Research Department, Hamad Medical Corporation (HMC), Doha 3050, Qatar. E-mail: KSingh1@hamad.qa

Submitted: 25/11/2025 Revision: 08/12/2025

Accepted: 18/12/2025 Published: 20/12/2025

This is an open access journal, and articles are distributed under the terms of the Creative Commons Attribution-NonCommercial-ShareAlike 4.0 License, which allows others to remix, tweak, and build upon the work non-commercially, as long as appropriate credit is given and the new creations are licensed under the identical terms.

How to cite this article: Singh K, Thomas T. Innovative Approaches to Eliminating Neglected Tropical Diseases (NTDs): Research, Evidence-Based Strategies, and Global Collaboration. Central India Journal of Medical Research. 2025;4(3):77-78.

NTD control. This underscores the vital need for ongoing cooperation, innovation, and investment in global health solutions.¹ Modern point-of-care (POC) diagnostics, such as multiplex surveillance platforms and highly sensitive and specific nucleic acid amplification tests, allow for the quick and precise identification of several NTDs, directing mass drug administration (MDA) plans and identifying hotspots for efficient disease management. However, for deployment to be successful, obstacles in fragile health systems must be overcome through connectivity solutions, automated surveillance, and public-private collaborations to improve diagnosis, treatment, and efforts to eradicate NTDs.⁵

Global health partnerships, including product development partnerships (PDPs) and multi-stakeholder collaborations, such as the London Declaration, which has committed substantial financial resources and support for drug access and research, have strengthened efforts to address emerging and re-emerging neglected tropical diseases (EReNTDs). One important strategy for tackling the intricate problems of EReNTDs is the One Health program, which encourages multi-sectoral and interdisciplinary collaboration across human, animal, and environmental health. These alliances are positioned to strengthen international efforts to prevent, control, and eradicate EReNTDs in the future by incorporating technical advancements, enhancing governance, and encouraging cross-sector collaborations.²

Conclusion

In order to specifically assist the impoverished and rescue their poverty-related health issues from neglect, a worldwide response to neglected tropical illnesses has been launched. Innovative ideas and a solid public-private cooperation have propelled the endeavor to unprecedented levels of scale. Utilizing evidence-based strategies, including multi-sectoral initiatives, enhanced diagnostics, and mass drug administration, the international health community may significantly lessen the burden of NTDs. Beyond condemning affected

individuals to live for many years with a disability and stigma, research into the more subtle and indirect effects of NTDs has also shown that they cost developing economies billions of dollars annually, keep children out of school, keep adults out of the workforce, put a significant financial burden on households for medical care, and keep communities trapped in never-ending cycles of poverty.

Competing interest

The author has no relevant interests to disclose.

Acknowledgments

None

Ethics declaration

Not applicable.

Declaration of interests

The authors declare no known competing financial interests or personal relationships that could have influenced the work reported in this paper.

Data availability statement

No data has been generated in this study.

References

1. Engels D, Zhou X. Neglected tropical diseases: an effective global response to local poverty-related disease priorities. *Infect Dis Poverty*. 2020;9(1). doi:10.1186/s40249-020-0630-9
2. Mackey TK, Liang BA, Cuomo R, Hafen R, Brouwer KC, Lee DE. Emerging and re-emerging neglected tropical diseases: a review of key characteristics, risk factors, and the policy and innovation environment. *Clin Microbiol Rev*. 2014;27(4):949-979. doi:10.1128/cmr.00045-14
3. World Health Organization. Integrating neglected tropical diseases into global health and development: fourth WHO report on neglected tropical diseases. Geneva: WHO; 2017.
4. Ackley C, Elsheikh M, Zaman S. Scoping review of neglected tropical disease interventions and health promotion: a framework for successful NTD interventions as evidenced by the literature. *PLoS Negl Trop Dis*. 2021;15(7):e0009278. doi:10.1371/journal.pntd.0009278
5. Peeling RW, Boeras DI, Nkengasong J. Re-imagining the future of diagnosis of neglected tropical diseases. *Comput Struct Biotechnol J*. 2017;15:271-274. doi:10.1016/j.csbj.2017.02.003