



Thematic Feature

INTEGRATION FOR JOINT ELIMINATION OF MALARIA AND LYMPHATIC FILARIASIS (LF)

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Introduction

The late 1990s marked a pivotal moment in global health when the World Health Organization (WHO), recognizing malaria, HIV, and Tuberculosis as diseases linked to poverty, catalysed concerted efforts through the establishment of the Global Fund. This not only brought neglected tropical diseases (NTDs) to the forefront but also spurred integrated treatment approaches, acknowledging the interconnectedness of health challenges.

While strides have been made in reducing malaria cases and fatalities since then, hurdles such as drug and insecticide resistance persist, underscoring the limitations of a one-size-fits-all approach, and highlighting the importance of targeted strategies tailored to local contexts.

Recognizing these challenges, the WHO emphasized the necessity of integrated interventions as early as 2011 a directive particularly pertinent in regions like the Asia-Pacific. In these areas, diseases such as malaria and lymphatic filariasis (LF) often share similar transmission dynamics, mandating customized strategies for containment. Integrated approaches for the elimination of these diseases not only streamlines resource allocation but also mitigates competing priorities, fostering more effective programming for disease control and elimination [1].

Integrated Disease Elimination of Malaria in PNG



In Papua New Guinea (PNG), malaria poses a significant health challenge, with transmission rates varying due to landscape diversity and vector ecology, especially in coastal and low-lying areas. Along with the resource limitations, there is also the challenge of reaching at-risk remote communities [2].

Concurrently, LF also remains a concern in PNG, with its true burden remaining elusive due to the absence of a national surveillance system. This lack of comprehensive surveillance hampers efforts to accurately assess and address the extent of LF endemicity, resulting in suboptimal elimination endeavours [3].

Both malaria and LF share similar vector-ecological factors, leading to overlapping endemic areas, particularly in coastal regions. Historical evidence suggests that insecticide spraying for malaria control disrupted LF transmission in select areas. Noteworthy successes have also been realized with integrated Mass Drug Administration (MDA) in various regions of PNG, including East New Britain Province (ENBP), New Ireland Province (NIP), and notably, in 2023, in West New Britain (WNB) [4]. These efforts, together with bed net distribution, decreased infection rates for both diseases. Yet, the extent of their impact remains ambiguous due to limited data.

A recent landscape assessment conducted in PNG to address malaria and LF elimination in Milne Bay province has unearthed significant disparities in surveillance and control efforts, underscoring critical gaps that impede effective disease management [3].

PNG's malaria surveillance systems, such as the Electronic National Health Information System (eNHIS) and Malaria Indicator Surveys (MIS), provide detailed trend information, offering a well-established framework for monitoring and evaluation. In contrast, lymphatic filariasis (LF) surveillance efforts remain markedly inadequate, hindering comprehensive assessments of disease burden and intervention impact.

While the PNG Institute of Medical Research (PNG IMR) conducts limited routine vector monitoring and sporadic insecticide resistance monitoring, these efforts fall short of establishing a robust LF surveillance system. This deficiency poses a significant challenge in evaluating the effectiveness of control measures and guiding strategic decision-making.

Concurrently, malaria control strategies, primarily reliant on long-lasting insecticidal net (LLIN) distribution, face multifaceted obstacles. Stock shortages, low usage rates, substandard product quality, and limited funding impede the overall efficacy of these interventions. Similarly, LF control efforts, heavily dependent on MDA, grapple with operational hurdles, weak clinical management, and resource constraints.

Addressing these disparities in surveillance capabilities and overcoming the challenges faced by both malaria and LF control programs is crucial for achieving sustainable progress against these debilitating diseases. A concerted effort to strengthen surveillance systems, optimize resource allocation, and enhance operational efficiency is imperative.





Recommendations

To effectively tackle the intertwined challenges of malaria and LF in PNG, a comprehensive and integrated policy framework is imperative. The following recommendations are proposed:

1. Joint Surveillance and Vector Control Strategies

Malaria and LF in PNG present a unique opportunity for synergistic surveillance and vector control efforts. An integrated approach to LLIN distribution, indoor residual spraying (IRS), and larval source management is strongly recommended. Combining LLINs and IRS, as well as exploring the distribution of LF MDA through existing LLIN networks, can amplify the impact of interventions and optimize resource utilization.

2. Capacity-Building

Robust capacity-building initiatives are crucial for driving evidence-based disease control strategies. Investing in implementation research will not only provide valuable insights into the most effective and efficient approaches but also foster local expertise through training programs and knowledge-sharing platforms. By strengthening local capacity, stakeholders can ensure sustainable and tailored disease management strategies.

3. Cost-Effectiveness Assessments for Increased Investments

Sustaining effective approaches to managing malaria and LF in resource-limited settings necessitates cost-effectiveness assessments of integrated interventions to build a case for increased investment for scaling up operations. Securing adequate financial resources is essential for expanding programs, developing infrastructure, and sustaining monitoring efforts. Donor agencies, governments, and stakeholders must prioritize investing in disease control programs to improve public health outcomes and advance elimination goals. Exploring innovative financing mechanisms, such as public-private partnerships, can mobilize additional resources and ensure sustained support for disease control efforts.



Conclusion

The intertwined challenges of malaria and LF underscore the pressing need for integrated and comprehensive disease elimination strategies. By adopting a synergistic approach that harnesses the strengths of joint surveillance, vector control, capacity-building, and evidence-based resource allocation, countries like PNG can pave the way for a future free from the burdens of these debilitating diseases.

The successes achieved through integrated interventions, such as mass drug administration and bed net distribution, serve as a testament to the potential of collaborative efforts.

However, to sustain and amplify these gains, it is imperative to address the disparities in surveillance capabilities, overcome operational hurdles, and optimize resource utilization.

Joint disease surveillance, including vector control strategies will not only streamline resource allocation but also mitigate competing priorities, fostering more effective programming. Capacity-building initiatives, including implementation research, training programs, and knowledge-sharing platforms, will foster local expertise and ensure sustainable, tailored disease management strategies.

Furthermore, conducting cost-effectiveness assessments of integrated interventions will present a compelling case for increased investment, enabling the scaling up of operations, infrastructure development, and sustained monitoring efforts. Innovative financing mechanisms, such as public-private partnerships, can mobilize additional resources and ensure long-term support for disease control efforts.

Ultimately, the path to disease elimination lies in embracing an integrated and collaborative approach to address the intertwined challenges of malaria and LF through concerted efforts.

References

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