

Disease Ecology of Skin NTDs: A One Health Scoping Review

WHO Work Group for One Health in Skin NTDs

Call for Contributions on the One Health Platform

WHO Skin NTD Working Group One Health

Friedrich-Loeffler-Institut, Institute for International Animal Health / One Health

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1. Why Skin NTDs Matter

Skin-related neglected tropical diseases cause a significant burden worldwide. The WHO 2030 road map calls for multidisciplinary and integrated action, and the One Health approach — recognizing the interdependence of human, animal, and environmental health — is central to achieving these targets. Yet, a comprehensive overview of what we know and, critically, **what we do not know** about the disease ecology of skin NTD pathogens has been missing.

This scoping review aims to fill that gap: synthesizing the current evidence on reservoir systems, transmission dynamics, and ecological factors across eleven skin NTDs to **identify research priorities and opportunities for One Health interventions**. We are now searching for contributors to support a systematic search and collaborative data extraction process.

2. What Are Critical Knowledge Gaps

A preliminary analysis identified multiple interconnected gaps that hinder effective control of skin neglected tropical diseases (sNTDs). Not only are research efforts unevenly distributed geographically, leaving several endemic regions without robust data on pathogen ecology or reservoir dynamics, but also surveillance systems are often weak or fragmented, limiting accurate burden estimation and timely response.

Diagnostic constraints further impede progress, particularly where tools lack sensitivity, specificity, or the ability to distinguish between causative agents, thereby constraining epidemiological clarity and targeted interventions. The role of zoonotic transmission remains inadequately understood, with limited evidence on animal reservoirs and spillover mechanisms. In addition, the effects of climate variability and environmental change on disease distribution and transmission dynamics are insufficiently explored, creating challenges for long-term planning.

Critically, vertical, disease-specific strategies dominate current approaches, overlooking opportunities for integrated control. Addressing shared structural determinants—such as inadequate housing, poor sanitation, limited access to clean water, and close human–animal interactions—could enable more efficient, coordinated interventions. Such integrated strategies are consistent with One Health principles and offer a pathway toward more sustainable and scalable sNTD control.

3. We Need Your Contribution

For eight skin NTDs, we are asking for support for the data extraction.

This is a voluntary, collaborative effort led by the WHO Skin NTD Working Group One Health, and every contribution directly advances our ability to identify gaps and shape One Health interventions for these neglected diseases.

The diseases most urgently in need of reviewers are **leishmaniasis, leprosy, lymphatic filariasis, sporotrichosis, and mycetoma**. Ongoing extraction for onchocerciasis, scabies, and chromoblastomycosis also requires additional hands to reach completion.

What we ask for:

- Pick the disease matching your expertise and sign up for one or more batches (~40 papers each)
- Complete full text screening and data extraction following the provided guidelines
- Return the completed Excel file — and later join disease-specific expert workshops for the gap analysis

What reviewers receive:

- A standardised Excel workbook with assigned papers, metadata, and a structured data extraction template
- Training materials: video guides for the extraction process and for AI-assisted extraction using NotebookLM
- PDF reference documents summarising the process and the data extraction questions
- Support and guidance throughout questions are always welcome
- In recognition of your valuable contribution to this research, we will ensure you receive appropriate academic credit, either through co-authorship or acknowledgment in the publication, in accordance with your level of participation.

4. What Happens Next

- **Expert workshops per disease** — to validate findings, conduct citation screening from excluded reviews, and begin the gap analysis collaboratively
- **Narrative synthesis** — thematic summary of the evidence for each skin NTD
- **Coordination with a partner scoping review** on skin NTDs in society (social determinants, mental health, intervention acceptance) led by the Liverpool School of Tropical Medicine
- **Policy recommendations** — strategic guidance for One Health interventions aligned with the WHO 2030 targets, complemented by a planned cost-benefit analysis
- **Publication**

Get in Touch

To volunteer for data extraction, ask questions, or discuss the review:

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