

# Scabies and other ectoparasitoses

Scabies and other ectoparasitoses are caused by infection with a microscopic mite *Sarcoptes scabiei var hominis*. The female mite burrows into the skin and lays eggs, triggering an immune response that causes intense itching and rash.

## Disease and epidemiology

- Scabies and other ectoparasitoses are caused by infection with a microscopic mite *Sarcoptes scabiei var hominis*.
- Human infection is transmitted through close contact with the skin, which the female mite burrows into and lays eggs, triggering an immune response that causes intense itching and rash.
- Bacterial infections can complicate the disease, leading to serious consequences such as severe soft tissue infections, septicaemia, kidney disease and, possibly, rheumatic heart disease.

## Core strategic interventions

<b>Preventive chemotherapy</b>	<ul style="list-style-type: none"> <li>• Mass drug administration (MDA) using oral ivermectin and topical scabicides</li> </ul>
<b>WASH</b>	<ul style="list-style-type: none"> <li>• Hygiene measures may be helpful as part of the response to institutional outbreaks</li> <li>• Hygiene measures reduce the risk of secondary infection in infested individuals</li> </ul>
<b>Vector control</b>	N/A
<b>Veterinary public health</b>	N/A
<b>Case management</b>	<ul style="list-style-type: none"> <li>• Topical scabicides such as permethrin, benzyl benzoate, malathion and sulfur ointment</li> <li>• Oral ivermectin</li> <li>• Treatment of all household contacts</li> <li>• Specialist case management of crusted scabies cases</li> </ul>
<b>Other</b>	<ul style="list-style-type: none"> <li>• Not applicable</li> </ul>

## Progress against WHO 2020 targets

Not applicable: scabies and other ectoparasitoses were categorized as a WHO neglected tropical disease only in 2017

## Risks that require mitigation

- As programmes that use ivermectin are discontinued (e.g. lymphatic filariasis and onchocerciasis in certain areas) in some countries, there is risk of scabies outbreaks or resurgence
- As MDA becomes more commonly used, monitoring for resistance will become important

## WHO 2030 target, sub-targets and milestones

Indicator	2020 (baseline)	2023	2025	2030
Number of countries having incorporated scabies management in the universal health coverage package of care	0	25 (13%)	50 (26%)	194 (100%)
Number of countries using MDA intervention in all endemic districts	0	3	6	25

## Burden of disease

**About  
200 million**

people affected by scabies  
at any time

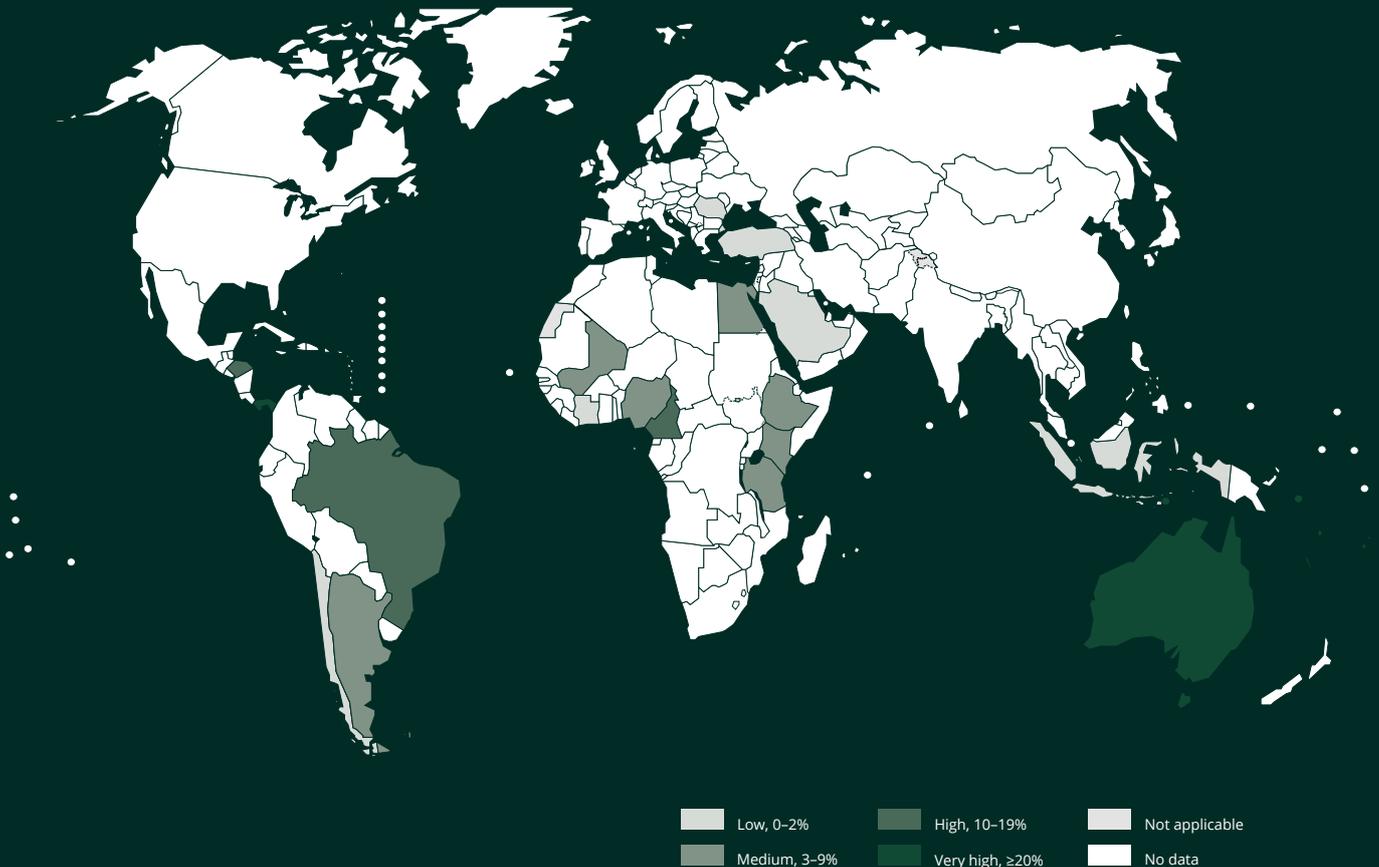
**About  
4.5 million**

DALYs (all-age) in 2017

Accurate data on incidence and prevalence are not available.

The disease is endemic across all continents; the highest burden is in Asia (number of cases, DALYs).

## Prevalence of scabies, latest year available



## Scabies: assessment of actions required to meet 2030 sub-targets



### Summary of critical actions to achieve targets

- Develop guidance and tools for mapping in endemic countries to estimate the burden of disease.
- Develop guidance for implementation of preventive chemotherapy.
- Create an advocacy and funding plan; secure financing for ivermectin and topical treatments; advocate for inclusion in universal health coverage.

#### Category and current assessment

##### Technical progress

Category and current assessment	Current status	Actions required
<p>Scientific understanding</p>	<ul style="list-style-type: none"> <li>• Significant research has been performed to define the impact of MDA strategies on transmission of scabies</li> <li>• Initial research on burden of scabies has begun in certain regions</li> </ul>	<ul style="list-style-type: none"> <li>• Evaluate epidemiological burden globally</li> <li>• Improve understanding of recrudescence of transmission in settings where MDA with ivermectin for other NTDs has stopped</li> <li>• Understand the life cycle and the impact of treatments on individuals and associated morbidity (e.g. impetigo and rheumatic fever)</li> </ul>
<p>Diagnostics</p>	<ul style="list-style-type: none"> <li>• Methods exist for screening and individual diagnosis, but lack of point-of-care confirmatory diagnostics</li> <li>• New international consensus criteria 2019 will facilitate programmatic screening</li> </ul>	<ul style="list-style-type: none"> <li>• Validate clinical diagnostic algorithms for programmatic use</li> <li>• Develop population-level diagnostics to facilitate integration with other NTD programme activities and evaluate programme end-points</li> </ul>
<p>Effective intervention</p>	<ul style="list-style-type: none"> <li>• Strong evidence for effectiveness of ivermectin MDA in combination with topical scabicides for those who cannot take ivermectin; ivermectin cannot be safely used in areas in which loiasis is co-endemic</li> </ul>	<ul style="list-style-type: none"> <li>• Determine if ivermectin-based single-dose MDA (instead of two doses 7 days apart) is effective for programmatic use</li> <li>• Identify alternative strategies for MDA including in areas where loiasis is co-endemic</li> <li>• Understand if moxidectin could serve as a treatment</li> </ul>



For more details, please visit:  
[www.who.int/neglected\\_diseases/diseases/scabies/en/](http://www.who.int/neglected_diseases/diseases/scabies/en/)

Category and current assessment	Current status	Actions required
<b>Strategy and service delivery</b>		
Operational and normative guidance	<ul style="list-style-type: none"> <li>Provisional framework in development</li> </ul>	<ul style="list-style-type: none"> <li>Develop guidance and tools for mapping in endemic countries to estimate the burden of disease</li> <li>Develop guidance for implementation of preventive chemotherapy</li> </ul>
Planning, governance and programme implementation	<ul style="list-style-type: none"> <li>Informal bodies exist to support coordination</li> <li>Country-level organization and planning are often lacking</li> <li>MDA with ivermectin for lymphatic filariasis or onchocerciasis has had some impact on transmission, although these strategies miss some children at risk for infection</li> </ul>	<ul style="list-style-type: none"> <li>Include scabies and impetigo in national universal health coverage and integrated management of childhood illness guidelines</li> <li>Incorporate scabies into national NTD programme planning in known highly endemic countries</li> </ul>
Monitoring and evaluation	<ul style="list-style-type: none"> <li>Burden of the disease and its prevalence are poorly understood</li> </ul>	<ul style="list-style-type: none"> <li>Design operationally feasible mapping strategies</li> <li>Develop and disseminate protocols for standardization of mapping to ensure consistency of data</li> <li>Develop system for tracking scabies outbreaks; monitor particularly where lymphatic filariasis or onchocerciasis elimination programmes are closing</li> <li>Consider integrating M&amp;E strategies with other skin diseases</li> </ul>
Access and logistics	<ul style="list-style-type: none"> <li>Ivermectin added to WHO Model List of Essential Medicines for ectoparasites (2019)</li> </ul>	<ul style="list-style-type: none"> <li>Secure supply of low-cost ivermectin and topical scabicides; identify potential generic manufacturers of ivermectin that could obtain WHO prequalification</li> <li>Ensure availability of topical scabicides and treatment of secondary infection</li> </ul>
Health care infrastructure and workforce	<ul style="list-style-type: none"> <li>WHO manual on skin NTDs provides some guidance on diagnosis and management in the primary health care setting (2018)</li> </ul>	<ul style="list-style-type: none"> <li>Develop national plans for staff training in diagnosis and management of scabies including secondary infection</li> <li>Ensure good-quality prescribing practices in skin NTDs</li> </ul>
<b>Enablers</b>		
Advocacy and funding	<ul style="list-style-type: none"> <li>Currently minimal donor support and limited domestic prioritization in many countries</li> </ul>	<ul style="list-style-type: none"> <li>Create an advocacy and funding plan; secure financing for ivermectin and topical treatments; advocate for inclusion in universal health coverage</li> </ul>
Collaboration and multisectoral action	<ul style="list-style-type: none"> <li>Collaboration beginning to increase as a framework is developed</li> <li>The International Alliance for the Control of Scabies and the International League of Dermatological Societies helps coordinate action against scabies</li> </ul>	<ul style="list-style-type: none"> <li>Strengthen integrated management of skin NTDs</li> <li>Coordinate with other programmes that use ivermectin (e.g. lymphatic filariasis)</li> <li>Strengthen collaboration with WASH in institutional settings</li> </ul>
Capacity and awareness building	<ul style="list-style-type: none"> <li>Needs have not been assessed but are expected to be high</li> </ul>	<ul style="list-style-type: none"> <li>Capacity-building should be considered across skin NTDs for treatment and prevention of secondary infection</li> </ul>