Leprosy (Hansen’s Disease)

Overview

- Communicable disease caused by the bacillus Mycobacterium leprae with a long incubation period (average of 5+ years)
- The disease affects the skin and peripheral nerves and can cause permanent damage to the skin, nerves, face, hands and feet; untreated leprosy can progress to impairment, disabilities and exclusion
- Likely transmitted by droplets from the nose and mouth during prolonged and close contact with untreated leprosy patients\(^1\)
- Diagnosis of leprosy is mainly clinical
- Stigma and discrimination play a major role in leprosy; overcoming them is important to reach zero leprosy
- As in other neglected diseases, leprosy is often related to poor socioeconomic conditions

Disease and epidemiology

~200,000
New leprosy patients diagnosed globally, 2018

~16,000
New child cases diagnosed with leprosy, 2018

~3-4 million
Persons are living with disabilities due to leprosy

Burden of disease

Number of new leprosy cases, 2018 (n=208,641)

Strategic interventions

Preventive chemotherapy

- Post-exposure prophylaxis administered to all contacts of detected and consenting cases (single-dose rifampicin reduces the risk of leprosy among contacts by 60%)\(^3\)
- BCG at birth is an important preventive measure in leprosy

WASH

- Access to clean water for wound care and routine self care including daily soaking of hands and feet to prevent secondary disabilities; Ensure hygiene, water & sanitation also in health care facilities

Vector control

Veterinary public health

Not Applicable

Case management

- Early detection of cases is important to contain spread of infection and prevent disability
- Multidrug therapy (MDT) for 6 or 12 months combining dapsone, rifampicin and clofazimine
- Periodic monitoring, detection and treatment of leprosy reactions (type 1 and 2) and nerve damage
- Management of adverse drug reactions
- Counselling and psychological first aid
- Prevention of disability, wound care, and management of disability including self-care
- Rehabilitation to optimize functioning of the individual in the community

Other

- Early detection by active cases search (including contact screening), and prompt treatment with MDT and post-exposure prophylaxis given to contacts, is important to contain spread of infection and prevent disabilities
- Interventions addressing stigma and discrimination help to reduce their unfavorable consequences and promote inclusion of persons affected into society
- Counseling and health education are crucial to help leprosy patients, their families as well as communities to complete treatment and cope with physical and mental consequences

Progress against WHO 2020 targets

<table>
<thead>
<tr>
<th>Impact indicator</th>
<th>2020 target</th>
<th>2018 status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rate of grade-2 disabilities in newly detected cases/million</td>
<td>&lt; 1/million</td>
<td>1.5/million</td>
</tr>
<tr>
<td>Rate of new grade 2 disabilities in new child cases</td>
<td>Zero</td>
<td>350*</td>
</tr>
<tr>
<td>Number of laws allowing discrimination on the basis of leprosy(^5)</td>
<td>Zero countries with discriminatory laws</td>
<td>32 discriminatory laws in 17 countries(^6)</td>
</tr>
</tbody>
</table>

1 Up to 95% of the world’s population has some immunity
2 Grade-2 disability: presence of visible deformities due to leprosy (for new cases: at the time of diagnosis of leprosy)
3 Post-exposure prophylaxis as a blanket approach can be used in areas characterized by small population and hyper transmission
4 Figure based on incomplete data. Estimate including all countries is 400-500 cases
5 Excluding regulations and customary practices; an assessment undertaken by ILEP in August 2019 revealed 139 laws and regulations in 24 countries
6 Source: as reported to WHO by national leprosy programmes

For more details, please visit: [https://www.who.int/lep/en/](https://www.who.int/lep/en/)
## Summary of critical actions to achieve targets

<table>
<thead>
<tr>
<th>Category</th>
<th>Current Assessment</th>
<th>Current status</th>
<th>Critical action required to reach target</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Technical progress</strong></td>
<td></td>
<td></td>
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<tr>
<td>Scientific understanding</td>
<td></td>
<td></td>
<td>Improve understanding of transmission including transmission from animals to humans</td>
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<tr>
<td>Diagnostics</td>
<td></td>
<td></td>
<td>Maintain and strengthen capacity for clinical diagnosis</td>
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<tr>
<td>Effective intervention</td>
<td></td>
<td></td>
<td>Maintain access &amp; capacity for slit-skin smear</td>
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<tr>
<td>Strategy and service delivery</td>
<td></td>
<td></td>
<td>Explore more effective drugs or drug combinations to treat leprosy and leprosy reactions</td>
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<tr>
<td>Operational and normative guidance</td>
<td></td>
<td></td>
<td>Create surveillance strategies &amp; guidelines for varied endemicity settings</td>
</tr>
<tr>
<td>Planning, governance and programme implementation</td>
<td></td>
<td></td>
<td>Develop guidelines for diagnosis and management of leprosy reactions</td>
</tr>
<tr>
<td>Monitoring &amp; Evaluation</td>
<td></td>
<td></td>
<td>Develop validation/verification guidelines</td>
</tr>
<tr>
<td>Access and logistics</td>
<td></td>
<td></td>
<td>Update country guidelines where appropriate; Integrate with WASH, skin NTDs, and other programmes</td>
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<tr>
<td>Healthcare infrastructure and workforce</td>
<td></td>
<td></td>
<td>Develop development of global leprosy elimination plan</td>
</tr>
<tr>
<td>Enablers</td>
<td></td>
<td></td>
<td>While integration is occurring, ensure leprosy services continue regardless of the platform or approach used</td>
</tr>
<tr>
<td>Advocacy and funding</td>
<td></td>
<td></td>
<td>Reduce stigma to improve case finding and treatment outcomes</td>
</tr>
<tr>
<td>Collaboration and multisectoral action</td>
<td></td>
<td></td>
<td>Enhance coverage of medical and social rehabilitation</td>
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<tr>
<td>Capacity and awareness building</td>
<td></td>
<td></td>
<td>Support countries as they transition to low-burden stages</td>
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</table>

### WHO 2030 targets and milestones

<table>
<thead>
<tr>
<th>Impact indicator</th>
<th>2020 (provisional estimate)</th>
<th>2025</th>
<th>2030</th>
</tr>
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<tr>
<td>Annual number of new leprosy cases detected</td>
<td>184,281</td>
<td>147,774</td>
<td>123,436</td>
</tr>
<tr>
<td>Rate (per million pop.) of new cases with G2D</td>
<td>1.3</td>
<td>0.92</td>
<td>0.68</td>
</tr>
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<td>Rate (per million children) of new child cases with leprosy</td>
<td>7.81</td>
<td>5.66</td>
<td>4.24</td>
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</table>

### Assessment of actions required to meet 2030 targets

- **Update country guidelines to include post exposure prophylaxis (PEP) for contacts; advance research on new preventative approaches**
- **Continue investment into research for diagnostics for disease and infection; Develop surveillance strategies, systems, and guidelines to enable case finding and treatment; Ensure resources for validation**
- **Ensure drug supply including access to MDT, prophylactic drugs, 2nd line drugs, and drugs to treat reactions; Monitor adverse events (pharmacovigilance) and resistance**
- **Ensure capacity for case finding (screening, diagnosis) treatment, surveillance; Integrate with primary care, skin & other NTDs, TB, and/or other programmes where appropriate**
- **Combat stigma and discrimination to ensure access to services and inclusion in society; ensure human rights of leprosy affected persons are respected**

### Additional risks that require mitigation

- **Discriminatory laws**
- **Limited understanding of host, agent, & environmental factors**
- **Mechanism of leprosy reactions not fully understood**
- **Maintain and strengthen capacity for clinical diagnosis**
- **Maintain access & capacity for slit-skin smear**
- **Develop a point-of-care test to confirm diagnosis and detect infection in the population at risk**
- **Explore more effective drugs or drug combinations to treat leprosy and leprosy reactions**
- **Conduct research on other preventative approaches (e.g. improved chemotheraphy & vaccines)**
- **Swiftly implement new post-exposure chemoprophylaxis (rifampicin)**
- **Expand active case detection in targeted populations**
- **Include diagnosis and treatment of nerve function impairment as routine programme components**
- **Encourage access to WASH**
- **Improve understanding of transmission including transmission from animals to humans**
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### Global Leprosy Strategy, Operational Manual, Monitoring and Evaluation

- **Guidelines for the Diagnosis, Treatment and Prevention of Leprosy published (2018)**
- **Guide for Surveillance of Anti-Microbial Resistance in Leprosy published**
- **Global Leprosy Strategy, Operational Manual, Monitoring and Evaluation Guide published with strategies identified based on burden of disease**
- **Global Partnership for Zero Leprosy was formed in 2018 as a coalition committed to ending leprosy**
- **Countries are integrating leprosy with skin NTD programmes & into UHC**
- **Ongoing efforts to reduce discrimination including abolition of discriminatory laws**
- **Countries have varying approaches to integration of leprosy**
- **Roll-out digitalized case-based data management system is ongoing; Mapping of cases is being introduced**
- **Integrate programme reviews are occurring – focus on reviewing progress in reaching the leprosy programme targets**
- **Periodic monitoring for reactions is weak**
- **Novartis donates MDT drugs and clofazimine for reactions; current commitment is through 2020**
- **Limited availability of second-line drugs**
- **Limited availability of drugs to manage reactions**
- **Assistive devices to improve quality of life of persons affected by disabilities due to leprosy are mostly available but often with poor access**
- **Weak capacity of health care staff for diagnosis and management of leprosy, reactions and morbidity and disability prevention**
- **Inadequate capacity of laboratories for diagnostic services**
- **Limited corrective surgery, wound care and disability care for persons with disabilities due to leprosy**
- **Limited access to mental health care services, counseling and psychological first aid**
- **Global Partnership for Zero Leprosy to coordinate and advocate for the leprosy community**
- **Variable collaboration with other ministries (e.g. social welfare, justice, education)**
- **Involvement of organizations of affected persons in many countries**
- **Collaboration with donors and partners in implementing programme**
- **Collaboration with communities to address stigma and discrimination**
- **Integration of leprosy programme with other health programmes is ongoing in specific countries**
- **Clinical expertise among frontline health workers is often not sufficient**
- **Limited managerial capacity in the context of transition to low burden or decentralization**

### Progress in reaching the leprosy programme targets

- **Limited understanding of host, agent, & environmental factors**
- **Leprosy community education)**
- **Engage specialists including dermatologists & reconstructive surgeons**
- **Swiftly implement new post-exposure chemoprophylaxis (rifampicin)**
- **Implement mapping of cases is being introduced**
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- **Improve understanding of transmission including transmission from animals to humans**
- **Improve understanding of reaction development**
- **Characterize latency to infection and disease progression in leprosy**
- **Invest in research to understand factors influencing disease and infection progression**
- **Develop surveillance strategies, systems and guidelines**
- **Develop a rapid point-of-care test to confirm diagnosis and detect infection in the population at risk**
- **Expand active case detection in targeted populations**
- **Include diagnosis and treatment of nerve function impairment as routine programme component**
- **Engage media in awareness raising**
- **Develop and disseminate e-learning modules**
- **Strengthen the capacity of persons affected by leprosy**
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