For more details, please visit:
https://www.who.int/lep/en/

HIGHLY PRELIMINARY

Leprosy (Hansen's Disease)

Overview

Disease and epidemiology

- 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

Burden of disease

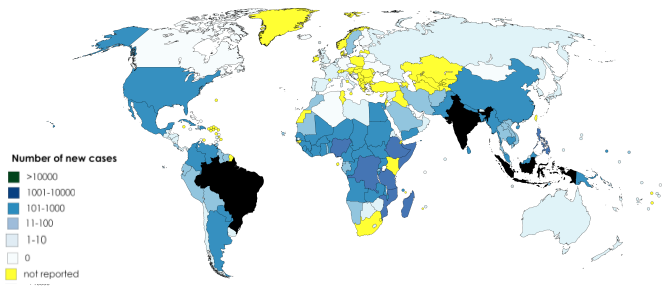
~200,000
New leprosy patients diagnosed globally, 2018

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

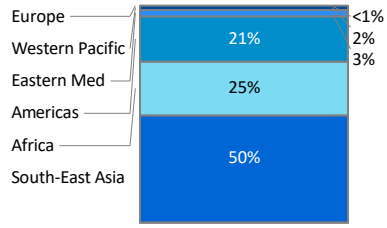
~3-4 million
Persons are living with disabilities due to leprosy

- In 2018, leprosy has been reported from 127 countries (including non-autochthonous cases) with 80% of the burden occurring in India, Brazil and Indonesia; 81 countries reported new cases with grade-2 disabilities[2]
- ~30 million: estimated population at risk that needs to be treated with chemoprophylaxis to reach a 70% reduction in incidence by 2030

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



New leprosy patients with grade-2 disability (visible deformities) by WHO region, 2018 (n=11,323)



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
Not Applicable

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

Impact indicator	2020 target	2018 status
Rate of grade-2 disabilities in newly detected cases/million	< 1/million	1.5/million
Rate of new grade 2 disabilities in new child cases	Zero	350[4]
Number of laws allowing discrimination on the basis of leprosy[5]	Zero countries with discriminatory laws	32 discriminatory laws in 17 countries[6]

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

Leprosy (Hansen's Disease)

WHO 2030 targets and milestones

Impact indicator	2020 (provisional estimate)	2023	2025	2030
Annual number of new leprosy cases detected	184,281	147,774	123,436	62,591
Rate (per million pop.) of new cases with G2D	1.3	0.92	0.68	0.12
Rate (per million children) of new child cases with leprosy	7.81	5.66	4.24	0.77

Assessment of actions required to meet 2030 targets

Summary of critical actions to achieve 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

No bottleneck towards target — Critical action required to reach target

Category	Current Assessment	Current status	Actions required
Technical progress			
Scientific understanding		▪ Limited understanding of host, agent, & environmental factors ▪ Mechanism of leprosy reactions not fully understood	▪ Improve understanding of transmission including transmission from animals to humans ▪ Improve understanding of reaction development
Diagnostics		▪ Mainly clinical diagnosis ▪ Slit-skin smear available for some cases (limited access) ▪ PCR is useful for diagnosis and surveillance of drug resistance ▪ Serology allows detection of infection but its utility to predict disease progression is limited ▪ Inadequate diagnosis of relapses	▪ Maintain and strengthen capacity for clinical diagnosis ▪ Maintain access to & capacity for slit-skin smear ▪ Develop a point-of-care test to confirm diagnosis and detect infection in the population at risk ▪ Improve diagnosis of relapses
Effective intervention		▪ Multidrug therapy (MDT – a combinations of rifampicin, dapsone and clofazimine) used as first-line drugs ▪ Single-dose rifampicin to contacts of new patients provides ~60% protection, but is not yet globally implemented ▪ Limited information on anti-microbial resistance in leprosy; resistance of first-line drugs appears low ▪ Tools exist to diagnose and manage nerve function impairment	▪ Explore more effective drugs or drug combinations to treat leprosy and leprosy reactions ▪ Conduct research on other preventive approaches (e.g. improved chemotherapy & 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
Strategy and service delivery			
Operational and normative guidance		▪ 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	▪ Create surveillance strategies & guidelines for varied endemicity settings ▪ Develop guidelines for diagnosis and management of leprosy reactions ▪ Develop validation/verification guidelines ▪ Update country guidelines where appropriate; Integrate with WASH, skin NTDs, and other programmes
Planning, governance and programme implementation		▪ 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	▪ Development of global leprosy elimination plan ▪ While integration is occurring, ensure leprosy services continue regardless of the platform or approach used ▪ Reduce stigma to improve case finding and treatment outcomes ▪ Enhance coverage of medical and social rehabilitation ▪ Support countries as they transition to low-burden stages
Monitoring & Evaluation		▪ Roll-out digitalized case-based data management system is ongoing; Mapping of cases is being introduced ▪ Integrated programme reviews are occurring – focus on reviewing progress in reaching the leprosy programme targets ▪ Periodic monitoring for reactions is weak	▪ Utilize mapping tools and strong surveillance system to ensure detection of sporadic and hidden cases and to monitor progress; Improve notification systems ▪ Develop mechanisms to monitor adverse events ▪ Expand monitoring of antimicrobial resistance
Access and logistics		▪ 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	▪ Bring drug supply chain systems in line with annual leprosy data ▪ Ensure supply of MDT, prophylactic drugs, second line drugs, drugs to treat leprosy reactions ▪ Ensure availability of wound dressing materials ▪ Ensure access to assistive devices including tailor-made footwear ▪ Ensure unrestricted access to leprosy services for women and girls
Healthcare infrastructure and workforce		▪ 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	▪ Increase capacity for diagnosis, treatment & management ▪ Increase laboratory capacity to support clinical diagnosis and resistance monitoring ▪ Increase capacity to conduct active case finding and PEP ▪ Ensure access to wound care, reconstructive surgery and rehabilitation ▪ Offer counseling and mental health care services
Enablers			
Advocacy and funding		▪ In spite of increased domestic funding in several countries, many countries still depend on external funding ▪ High level advocacy to sustain interest in elimination of leprosy ▪ Ongoing promotion of interest and investment in research – clinical, basic and operational research	▪ Advocate with central and local governments to sustain and increase domestic funding even in post-elimination era ▪ Continue periodic evaluation and high level advocacy to inform ministries on progress and gaps and to increase engagement ▪ Advocate for policy based on evidence from research ▪ Ensure the human rights of leprosy affected persons are respected
Collaboration and multisectoral action		▪ 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	▪ Closely integrate with the UHC/PHC and CHW efforts; coordinate with other relevant programmes for case detection, management and surveillance ▪ Optimize collaboration with other relevant sectors to increase reach of services and promote anti-discrimination measures ▪ Optimize involvement of organizations of leprosy affected persons ▪ Engage specialists including dermatologists & reconstructive surgeons ▪ Engage with private sector and traditional healers ▪ Engage with communities to combat stigma and discrimination
Capacity and awareness building		▪ Clinical expertise among frontline health workers is often not sufficient ▪ Limited managerial capacity in the context of transition to low burden or decentralization	▪ Ensure capacity of frontline and referral-level staff in screening, case finding and treatment ▪ Strengthen the capacity of persons affected by leprosy ▪ Improve capacity to promote social inclusion & access to services ▪ Develop and disseminate e-learning modules ▪ Engage media in awareness raising

Additional risks that require mitigation