

**GENERIC FRAMEWORK  
FOR CONTROL, ELIMINATION AND  
ERADICATION OF NEGLECTED  
TROPICAL DISEASES**



**World Health  
Organization**

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# 1. Introduction

In formulating definitions for control, elimination and eradication of neglected tropical diseases, public health workers need to consider the diversity of their causative pathogens, epidemiology, interactions with humans, ecology and other factors influencing transmission in specific communities. For some chronic diseases, such as soil-transmitted helminthiases, light infections rarely cause disease, and the main aim of interventions, such as preventive chemotherapy, is to reduce heavy infections in a population using regular, large-scale treatment. Conversely, for some acute diseases, such as human rabies, infection invariably leads to severe disease or death, and the main aim of interventions is complete prevention of the infection.

## 2. Definitions of control, elimination and eradication

The World Health Organization (WHO) Strategic and Technical Advisory Group for Neglected Tropical Diseases has proposed the following definitions for consideration by the WHO Department of Control of Neglected Tropical Diseases.

**Control** to mean reduction of disease incidence, prevalence, morbidity, and/or mortality to a locally acceptable level as a result of deliberate efforts; continued intervention measures are required to maintain the reduction. Control may or may not be related to global targets set by WHO.

**Elimination of transmission** (also referred to as interruption of transmission) to mean reduction to zero of the incidence of infection caused by a specific pathogen in a defined geographical area, with minimal risk of reintroduction, as a result of deliberate efforts; continued actions to prevent re-establishment of transmission may be required. The process of documenting elimination of transmission is called verification.

**Elimination as a public health problem** is a term related to both infection and disease. It is defined by achievement of measurable global targets set by WHO in relation to a specific disease. When reached, continued actions are required to maintain the targets and/or to advance the interruption of transmission. The process of documenting elimination as a public health problem is called validation.

**Eradication** to mean permanent reduction to zero of a specific pathogen, as a result of deliberate efforts, with no more risk of reintroduction. The process of documenting eradication is called certification.

**Extinction** to mean eradication of the specific pathogen so that it no longer exists in nature or the laboratory, which may occur with or without deliberate efforts.

### 3. Assessment process

The formal process of certification will involve an International Commission that verifies and progressively grants country certification while surveillance is continued until all countries are duly certified. Certification is justified only for diseases that are targeted for eradication, such as smallpox in the past and dracunculiasis, yaws and poliomyelitis in the present.

Validation of elimination as a public health problem or verification of elimination of transmission should be assessed against objective criteria in a country, area or region, and the achievement recorded formally. Elimination (according to these two definitions) is therefore not an end-point but a status that must be sustained. The development and implementation of novel, effective interventions or surveillance and response systems may lead, in the future, to eradication: In this event, countries in which elimination as a public health problem or elimination of transmission has been validated or verified would have to undergo the formal process of certification, under an International Commission.

The WHO Roadmap on neglected tropical diseases has set eradication and elimination targets. Eleven diseases are targeted for elimination at the global, regional or country level in 2015–2020 (*Table 1*).

### 4. Process for validating elimination as a public health problem, verifying elimination of transmission and certifying eradication of disease

The WHO Roadmap targets the eradication, elimination of transmission or elimination as a public health problem, at regional or global level, of Chagas disease, human African trypanosomiasis, human dog-mediated rabies, leprosy, lymphatic filariasis, onchocerciasis, schistosomiasis, trachoma, visceral leishmaniasis and yaws by 2020. These targets are all supported by global political commitment as elaborated in various World Health Assembly or regional resolutions.

The definitions of elimination as a public health problem, elimination of transmission and eradication of disease, as well as the indicators used to assess their achievement, are specific to each disease and were established through a consultative process by WHO and partners.

Table 1. WHO Roadmap targets for eradicating and eliminating neglected tropical diseases<sup>a</sup>

Disease	2015				2020			
	Eradication	Global elimination	Regional elimination	Country elimination	Eradication	Global elimination	Regional elimination	Country elimination
Rabies			√ EOT Latin America				√ EOT South-East Asia Region and Western Pacific Region	
Blinding trachoma					√ EPHP			
Endemic treponematoses (yaws)					√			
Leprosy						√		
Chagas disease			√ EOT Transmission through blood transfusion interrupted				√ EOT Intra-domiciliary transmission interrupted in the Region of the Americas	
Human African trypanosomiasis				√ EPHP In 80% of foci		√ EPHP		
Visceral leishmaniasis							√ EPHP Indian subcontinent	
Dracunculiasis	√							
Lymphatic filariasis						√ EPHP		
Onchocerciasis			√ EOT Latin America					√ EOT Selected countries in Africa
Schistosomiasis			√ EOT Eastern Mediterranean Region, Caribbean, Indonesia and the Mekong River basin				√ EOT Region of the Americas and Western Pacific Region	√ EOT Selected countries in Africa

EOT, elimination of transmission; EPHP, elimination as a public health problem.

<sup>a</sup>Adapted from *Accelerating work to overcome the global impact of neglected tropical diseases: a roadmap for implementation*. Geneva: World Health Organization; 2012 (WHO/HTM/NTD/2012.1).

## 4.1 Standard operating procedures

Standard operating procedures for validating elimination as a public health problem or verifying elimination of transmission need to be established and standardized for (i) preparation, review and feedback on dossiers for validation, verification or certification in a Member State; (ii) public acknowledgement by WHO of validation, verification or certification of a Member State; and (iii) activities after validation, verification or certification in a Member State (which may be intended to either sustain the disease burden under the targeted threshold or continue progress towards a more advanced goal). The principles that will regulate those standard operating procedures are given below.

## 4.2 Preparation of dossiers for validation, verification or certification

- WHO will provide the Member State with a template dossier for each disease.
- The dossier should contain the minimum amount of information necessary to establish whether the Member State has met the requirements for validation, verification or certification.
- Additional optional information may be included at the discretion of individual national programmes, and should be clearly indicated.
- The dossier should be completed and maintained online. If the national programme does not have the capacity or the bandwidth to complete the dossier online, information should be forwarded to WHO for uploading.
- If possible, systems should be established to transfer data already stored in electronic format elsewhere (e.g. baseline trachoma prevalence data, mass drug administration coverage data, atlas of human African trypanosomiasis) to the dossier, in order to maximize efficiencies for national programme staff and maintain the integrity of the data.
- The Member State is responsible for initiating the preparation of the dossiers for its national programme. If requested, WHO will provide technical assistance.
- WHO headquarters is responsible for maintaining the repository of dossiers. Each dossier should be systematically reviewed to ensure that duplicate information is removed.
- If the dossier fulfils the requirements of the validation process, the consent of Member States should be requested to allow either the full or the summary dossier containing the pre-specified core information to be accessible on the Internet via the WHO NTD website.

## 4.3 Submission and assessment of dossiers for validation, verification or certification

- The Member State should submit the completed dossier to WHO. For each disease, WHO will establish the process for review of the dossier and identify a Reviewing Authority.
- The Reviewing Authority will vary according to whether validation, verification or certification is being assessed (*Table 2*).

Table 2. Operational definitions for eradication and elimination of neglected tropical diseases

Status	Applicable term	Geographical area	Reviewing authority	Acknowledged by
Eradication	Certification	Global	International Commission established by World Health Assembly Resolution	WHO Director-General (for individual countries) and World Health Assembly (globally)
Elimination of transmission	Verification	Geographical region and country	Ad hoc international Reviewing Authority	WHO Director-General
Elimination as a public health problem	Validation	Country (sum of subnational units)	Ad hoc regional Reviewing Authority	WHO Director-General

- The Reviewing Authority should collectively discuss each dossier received, via video conference, teleconference or at a face-to-face meeting.
- With the exception of eradication, country visits will not be required unless requested by the Reviewing Authority.
- The Reviewing Authority should decide by consensus and within one year of receipt of the dossier to either: (i) validate the claim of elimination as a public health problem, verify the claim of elimination of transmission or certify the country in the process towards eradication; or (ii) postpone such decisions until more evidence has been provided in the dossier to demonstrate that this has occurred.

#### 4.4 Feedback on dossiers for validation, verification or certification

- WHO will summarize the comments and decision of the Reviewing Authority.
- If the claim of elimination is accepted, the summary will be forwarded to the Director-General of WHO.
- If the claim of elimination is postponed, WHO will request the country to provide any further evidence needed to enable validation, verification or certification by the Reviewing Authority.

#### 4.5 Acknowledgement of validation, verification or certification

- At the discretion of the WHO Director-General, a letter of notification will be provided to the Member State by way of official acknowledgment.
- WHO headquarters will, where indicated, change the endemicity status of the Member State in the Global Health Observatory to “eliminated as a public health problem”, “elimination of transmission” or “eradicated”, with a note specifying the date of the change in status. For eradication, an Eradication Commission will decide on certification where there is an eradication programme.

- Where indicated, WHO headquarters will also acknowledge the achievement of the Member State in the next annual disease-specific article published in the *Weekly Epidemiological Record*. WHO will continue to note whether the definition of elimination as a public health problem, elimination of transmission or certification is still met in the Member State, on an annual basis, in the *Weekly Epidemiological Record*.

#### 4.6 Activities after validation, verification or certification

- The Member State should continue to undertake post-elimination surveillance for the disease according to its epidemiological characteristics. A statement of commitment and a description of the surveillance strategy should be included in the dossier.
- All stakeholders must recognize that the status of validation, verification and certification is potentially reversible, and take this into consideration in their communications at all stages. Where post-elimination surveillance data indicate that the disease or infection has recrudesced above defined thresholds or has reappeared, this change in endemicity status will be noted in the Global Health Observatory and the *Weekly Epidemiological Record*.
- Member States are responsible for ensuring that surveillance data are made available to WHO.
- For some diseases, Member States that have achieved elimination as a public health problem may, at a later date, request verification of elimination of transmission, if appropriate evidence demonstrates that this has occurred.



