GLOBAL TASK FORCE ON CHOLERA CONTROL

Guidance and tool for countries to identify priority areas for intervention

September 2019

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OBJECTIVE

This document aims to provide guidance to countries in the identification of priority areas for intervention as part of the Situational Analysis of their National Cholera Control or Elimination Plans (NCPs).

KEY PRINCIPLES

- Priority areas for intervention are geographically delimited and well-defined – level 2 or level 3 administrative units (e.g. districts or health catchment areas).
- This document differentiates three categories of potential priority areas based on their cholera risk:
    a) Cholera burden hotspots**:** areas with a high incidence of cholera.
    b) Areas with limited transmission of cholera: Areas with low incidence of cholera.
    c) Areas with no transmission of cholera: Areas with no current reported cases of cholera but with environmental conditions, population characteristics or other contextual factors that are favourable for introduction or re-emergence.
- Cholera burden hotspots are defined based on epidemiologic indicators alone. Contextual factors and WaSH indicators are used to identify areas with no or limited transmission of cholera.
- Cholera burden hotspots must be targeted in priority by NCPs, however other areas with limited and no transmission may also be considered, especially if the goal of the NCP is cholera elimination.
- The situation analysis, including the identification of priority areas for intervention is part of a dynamic process conducted by the country with an initial baseline assessment and annual monitoring and update.

STEP 1. IDENTIFICATION OF CHOLERA HOTSPOTS

Cholera hotspots are identified and ranked based on epidemiological indicators. The two recommended indicators quantify the historical incidence of cholera cases (typically suspected cases) and the persistence of cholera in the area. The last five years of data are

recommended to carry out the analysis, although other periods (e.g. last 3 years or 10 years) can be used for sensitivity analysis. Detailed descriptions of the suggested indicators are as follows:

Epidemiological indicators

Indicator - Mean annual incidence	
Definition	Mean annual incidence over the period of interest
Calculation	The annual cholera incidence in an administrative unit will be calculated by dividing the number of suspected and confirmed cholera cases reported in a given year by the population in the area. Then the mean of the annual incidence for the period will be calculated for each administrative unit.
Suggested Period	Last 5 years*
Source of information	Surveillance (number of suspected and confirmed cases reported, including community cases) and population data by administrative unit

*other periods (e.g. last 3 years or 10 years) can be used for sensitivity analysis

Indicator - Persistence	
Definition	Proportion of weeks with reported cases over the period of interest
Calculation	Total number of weeks with reports of suspected cholera cases[#] divided by total number of weeks in the period of interest (i.e. 260 weeks for a five-year period)
Suggested Period	Last 5 years*
Source of information	Surveillance data by administrative unit (number of suspected and confirmed cases reported by week, including community cases)

[#] weeks with missing data should be considered as weeks with zero cases

*other periods (e.g. last 3 years or 10 years) can be used for sensitivity analysis

Tool for identifying and prioritizing cholera burden hotspots

Countries can use this online Excel-file tool to enter data for the two epidemiological indicators and assign a priority level to the districts based on the mean annual incidence and persistence of cholera over the period of interest. The tool doesn't provide or calculate any specific threshold or cut-offs. Countries will need to determine and set their cut-offs for incidence and persistence based on the objectives of their NCPs (control or elimination) and resources available for effective implementation.

Priority levels (high, medium and low) are assigned according to the following criteria:

PRIORITY LEVEL	CRITERIA
HIGH	Districts with high incidence and high persistence of cholera
MEDIUM	Districts with high incidence and low persistence of cholera AND districts with low incidence and high persistence
LOW	Districts with low incidence and low persistence of cholera

To access and download the tool, click **here**. Instructions for using the tool are included in the document.

From this initial ranked list of areas based on the incidence and persistence of cholera, countries could consider additional indicators for further refinement.

STEP 2. REFINEMENT OF THE RANKED LIST OF HOTSPOTS

While cholera incidence and persistence of cholera are the most important indicators for selecting priority areas, other epidemiological indicators may be considered to weight and refine the initial ranking of areas to help in the decision-making. These indicators might include cholera case fatality rate, proportion of suspected cases tested at the laboratory, proportion of tested suspected cases laboratory confirmed, proportion of children under five years among suspected cases, proportion of severe cases among suspected cases, and areas that are currently reporting cases.

Additional epidemiological indicators

Additional indicators	
CFR	Proportion of cholera deaths among total number of suspected cholera cases
Laboratory testing	Proportion of cases tested at the laboratory among total number of cases
Positivity rate	Proportion of laboratory confirmed cases among tested cases
Children under-five	Proportion of cases under 5 years old among all suspected cases
Severity	Proportion of cases with severe dehydration among all suspected cases
Ongoing transmission	Areas currently reporting cases, among which some are laboratory confirmed

STEP 3. IDENTIFICATION OF VULNERABLE AREAS

Risk for cholera may extend to areas that have limited or no cholera transmission but current WaSH conditions and/or contextual factors are favourable for introduction or re-emergence of cholera. Such vulnerable and at-risk areas are particularly important for inclusion in targeted interventions especially if cholera elimination is the primary goal of the NCPs. Since epidemiological indicators cannot be applied in low incidence settings, countries should rank and assign a priority level to these areas based on the existing contextual factors and WaSH conditions that increase the risk of cholera.

Contextual factors

The contextual factors are classified in vulnerability factors, factors related with transmission or/and amplification, and cultural or behavioural factors. Most of these factors are binary qualitative indicators (presence/absence).

Vulnerability factors
Remote areas and/or difficult to reach areas
Areas affected by humanitarian emergencies, including man-made or natural disasters
Areas with displaced populations
Areas with high poverty index
Areas with high proportion of children with severe malnutrition
Areas with high HIV prevalence
Areas with special populations: prisoners, fishermen, military, etc.
Areas with poor health systems
Areas with poor preparedness and/or poor capacity for cholera surveillance and response
Factors related with transmission or/and amplification
Areas with high population density: slums, refugee or IDP camps
Areas located on trade routes with high transit of people or influx of travellers, big urban centres and transportation hubs.
Areas with mass gatherings, market places, religious or pilgrim places, areas with major industrial activities.
Areas affected by extreme climate and weather conditions: heavy rains, flooding, droughts
Areas bordering with cholera affected countries with cross-border movements
Areas adjacent to cholera hotspots
Areas with high number of susceptible individuals for cholera infection: low immunity of the population based on earlier exposure to cholera from previous outbreaks, from endemic situations or by vaccination

Cultural or behavioural factors
Areas with unsafe burial practices
Areas with high proportion of population reluctant to use health services
Areas with low education level
Areas with nomadic and mobile populations

WASH indicators

Current WaSH conditions that may increase the risk of cholera should be measured and monitored at district level using standard indicators. These WaSH indicators at district level are based on the *Sustainable Development Goal 6: Ensure availability and sustainable management of water and sanitation for all* and can be obtained either by ad-hoc surveys or using existing or modelled data. For ad-hoc surveys countries can use the 2018 questionnaire "Core questions on drinking water, sanitation and hygiene for household surveys" developed by WHO/UNICEF Joint Monitoring Programme for Water Supply, Sanitation and Hygiene[1].

Use of safely managed drinking water services	
Definition	Proportion of population using safely managed drinking water services
Numerator	Number of people with access and using managed safe drinking water
Denominator	Total population living in the district
Period	As close to present-day as possible
Source of information	Country data / survey: Water and Sanitation Agency

Use of safely managed sanitation services	
Definition	Proportion of population using safely managed sanitation services including a hand-washing facility with soap and water
Numerator	Number of people with access and using safe sanitation services including a hand washing facility with soap and water
Denominator	Total population living in the district
Period	As close to present-day as possible
Source of information	Country data / survey: Water and Sanitation Agency

[1] https://washdata.org/sites/default/files/documents/reports/2019-05/JMP-2018-core-questions-for-household-surveys.pdf