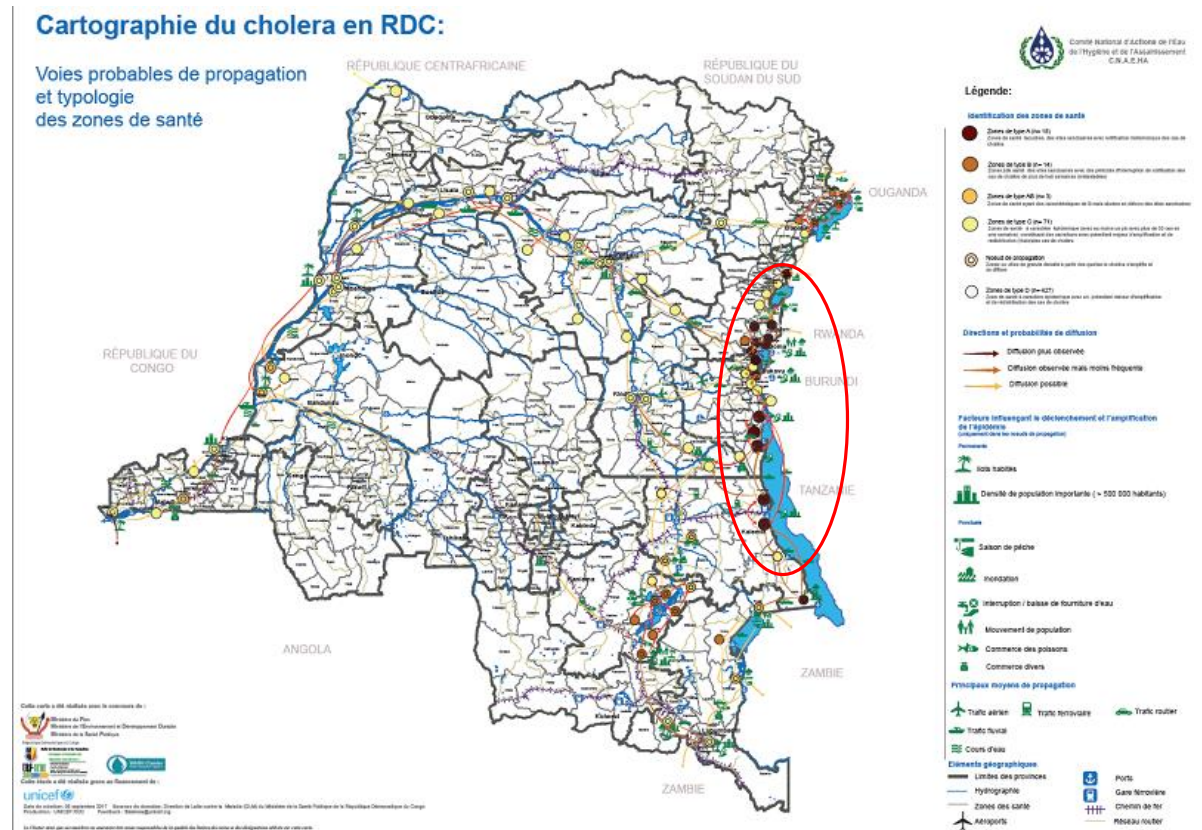GLOBAL TASK FORCE ON
CHOLERA CONTROL

CHOLERA HOTSPOTS: PRIORITIZING INTERVENTIONS

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MAIN CHOLERA EPIDEMIOLOGICAL PROFILES

- **Epidemic cholera**: areas suffering occurrence of sporadic cholera outbreaks usually associated with high morbidity and mortality (e.g.. Angola 2006, Zimbabwe 2008–09, Haiti 2010–2011, Yemen 2017)

- **Endemic areas**: areas suffering high cholera incidence rates in a persistent manner (e.g.. India, Bangladesh, DRC)

Cartographie du choléra en RDC:
Voies probables de propagation et typologie des zones de santé

HOTSPOT DEFINITION

A geographically limited area (e.g. city, administrative level 2 or health district catchment area) where environmental, cultural and/or socioeconomic conditions facilitate the transmission of the disease **and where cholera persists or re-appears regularly**

IDENTIFYING AND PRIORITIZING HOTSPOTS: KEY PRINCIPLES

- Priority areas for intervention are geographically delimited and well-defined – administrative level 2 or level 3 (e.g. districts or health catchment areas)

- Three categories should be considered based on their cholera risk:

  - **Cholera burden hotspots:** areas with a high incidence of cholera

  - **Areas with limited transmission of cholera**: areas with low incidence of cholera

  - **Areas with no transmission of cholera**: Areas with no current reported

1. IDENTIFYING AND PRIORITIZING HOTSPOTS:
KEY PRINCIPLES

- Cholera burden hotspots are defined based on epidemiologic indicators alone
  - Contextual factors and WaSH indicators are used to identify areas at risk 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.

IDENTIFICATION OF CHOLERA HOTSPOTS

- The two recommended indicators quantify the historical incidence of cholera cases (typically suspected cases) and the persistence of cholera in the area

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

- 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

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)

TOOL FOR IDENTIFYING AND PRIORITIZING CHOLERA BURDEN HOTSPOTS
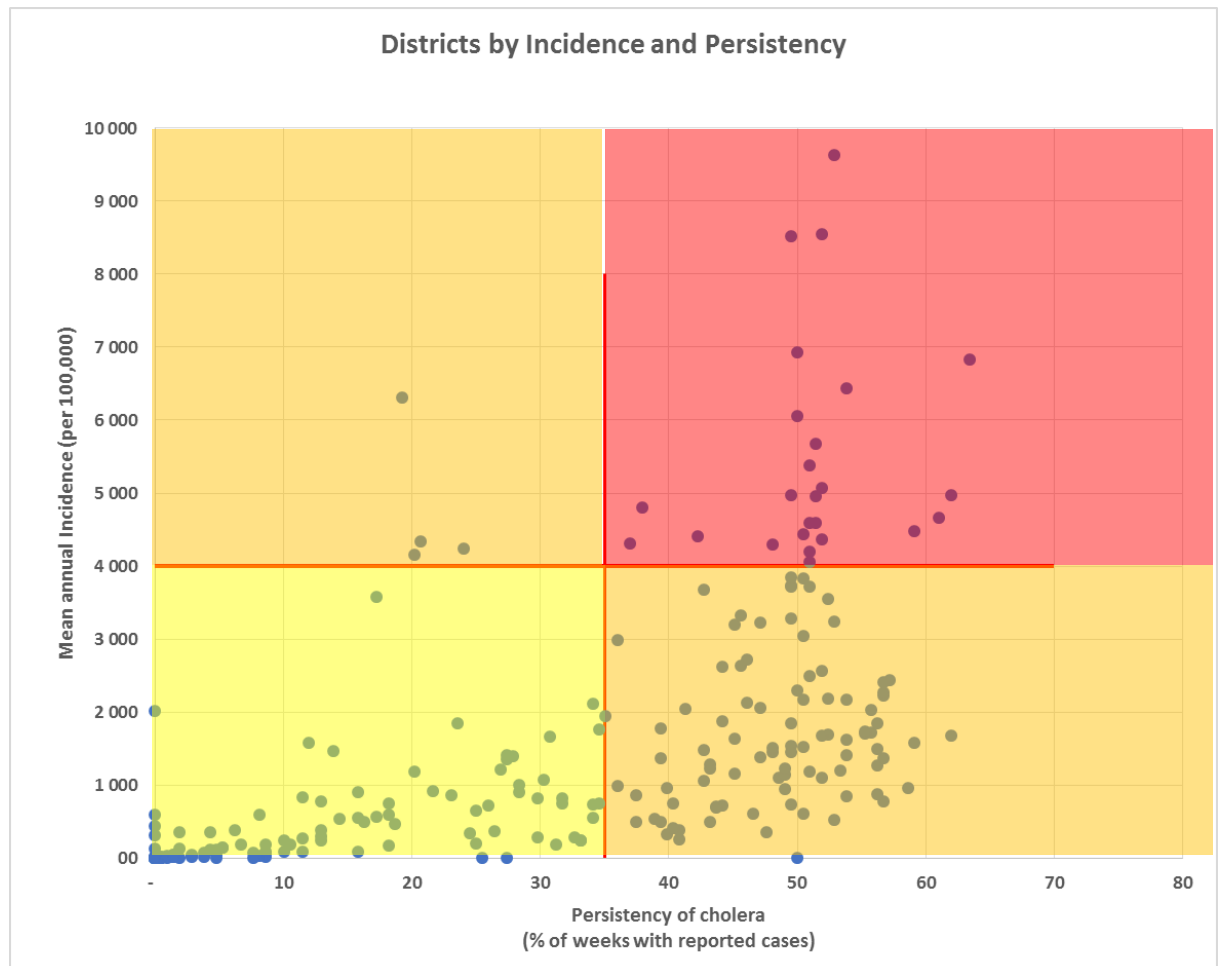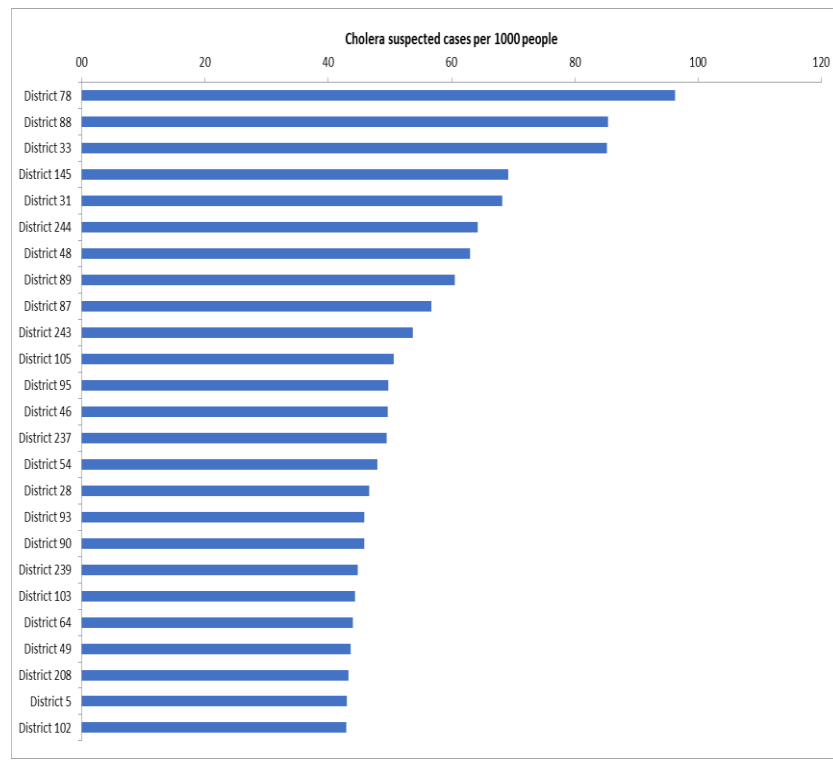
EXAMPLE FROM RANKING EXCERCISE: KENYA
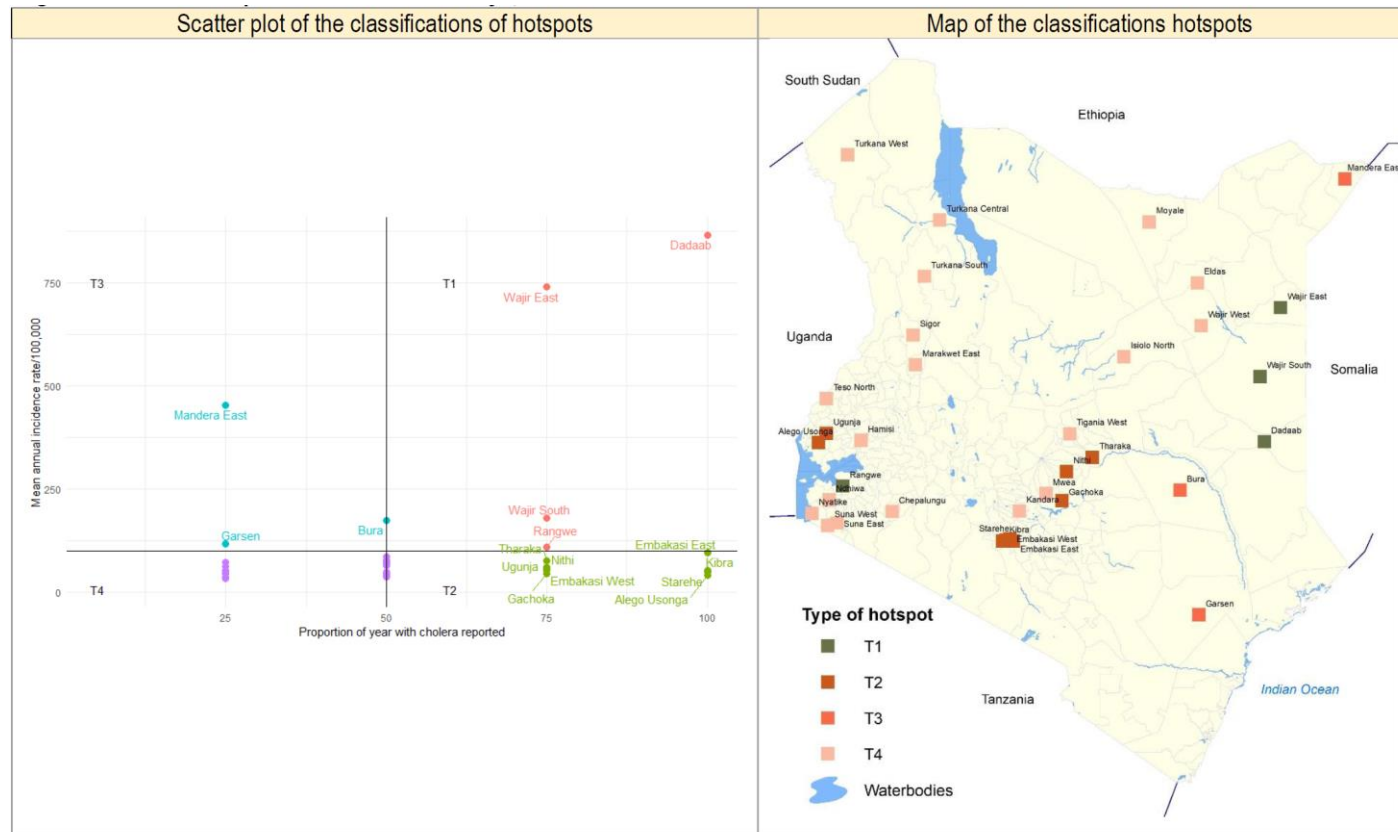
REFINEMENT OF THE RANKED LIST OF HOTSPOTS

- Other epidemiological indicators may be considered to weight and refine the initial ranking of areas to help in the decision–making.

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

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.

• **Contextual factors**: difficult to research areas, displaced population, adjacent areas to hotspots (cross-border)

• **WASH indicators**: SDG 6.1 and 6.2

HOW THESE PRINCIPLES APPLY FOR THE SELECTION OF HOTSPOTS TO BE VACCINATED

- Some issues to consider:

  - Vaccine supply is constrained by current production capacity

  - The size of the population living in endemic areas largely exceed the current production capacity

SOME BACKGROUND INFORMATION: EXAMPLE FROM SUB-SAHARAN AFRICA

Incidence Threshold	Population (in millions)
1 per 1k	15.04
1 per 5k	64.53
1 per 10k	84.05
1 per 100k	366.33

ISO	Percent living in areas with >1 case per 1k	Population (in millions)
SOM	22.44	2.62
SLE	12.21	0.82
GHA	11.12	3.19
GIN	5.69	0.76
CMR	4.19	1.06
COD	2.82	2.44

GROUP WORK DISCUSSION:
HOW HOTSPOTS SHOULD BE PRIORITIZE WITHIN COUNTRIES AND BETWEEN COUNTRIES ?

To develop guidance for countries to decide on what areas,

among those identified as cholera hotspots, should be targeted

for vaccination and included in the NCP

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THANKS