GLOBAL TASK FORCE ON
CHOLERA CONTROL

# PRIORITY AREAS FOR MULTISECTORAL INTERVENTIONS IN KENYA

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# CONTENT

- National Cholera Situation
- Inception Meeting
- PAMI Working group
- Validation workshop & Final results


Figure 1 Map of Kenya with county boundaries and main cities, 2024.
Source: Ministry of Land, Housing & Urban Development, Survey department

WHO/Billy Miaron

# National Cholera Situation

# HISTORY OF CHOLERA IN KENYA

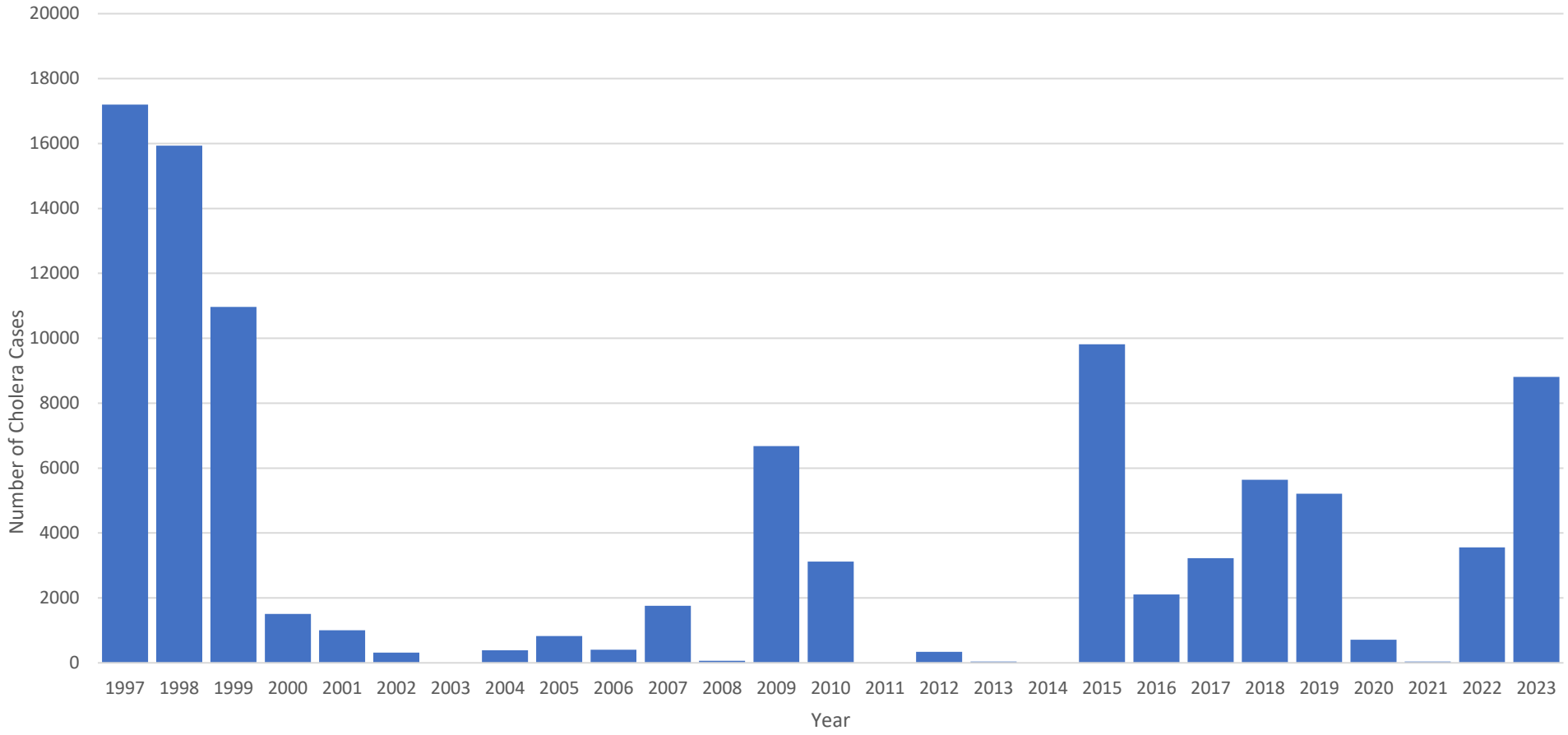



Figure 2 Distribution of cholera cases per year, 1997-2023, IDSR line list, Kenya

# CURRENT SITUATION

- Two coastal counties with active outbreak:

  **Lamu** (339 cases, 4 deaths) and **Tana River** (57 cases, 1 death)

- Major driver is flash flooding with massive displacement of persons & disruption of WASH infrastructure

- Outbreak is likely to propagate due to the ongoing heavy rainfall

- Widespread outbreak in 2022-2023 with over 12,000 cases across 28 counties (CFR >1%)

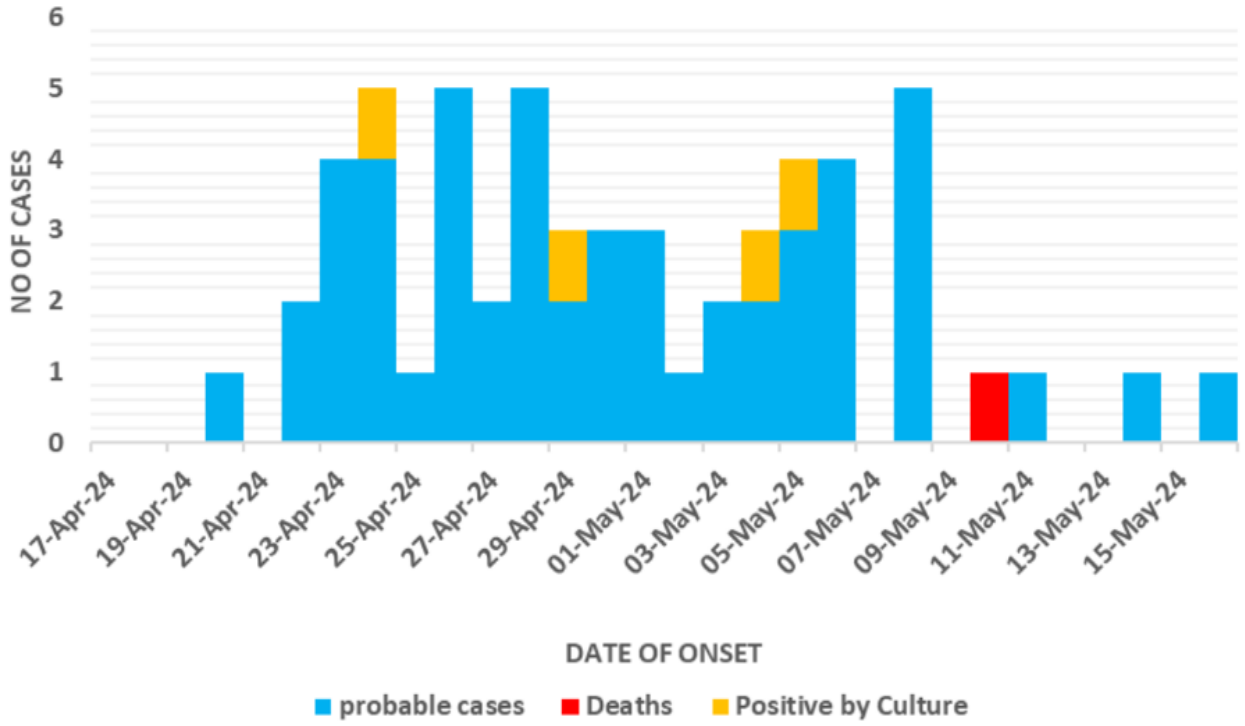
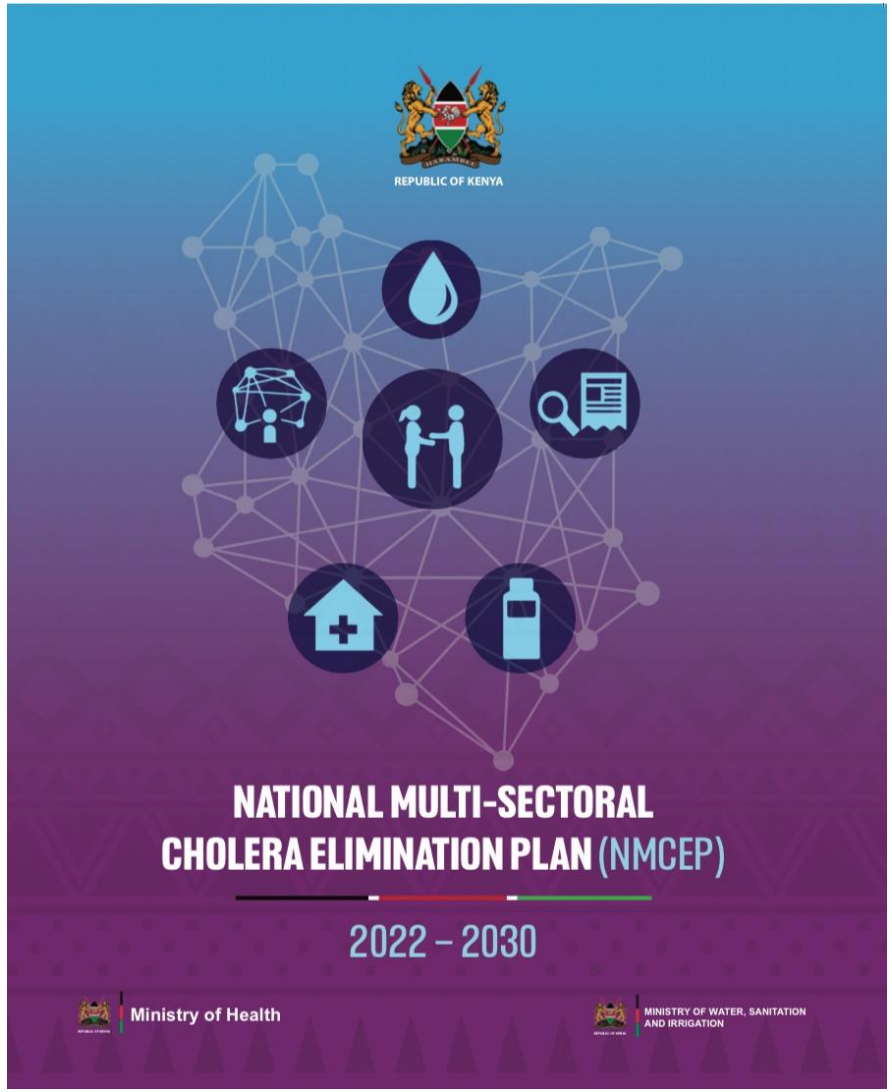



Figure 3 Epicurve showing cholera cases and deaths by date of onset of illness, April 2024 - May 2024, Tana River County, Kenya

# 2022 -2030 NATIONAL MULTISECTORAL CHOLERA ELIMINATION PLAN




- 1st NCP in 2013
- New NMCEP in 2022
  - Multisectoral plan
  - Coordination mechanism at both national and county levels
  - Risk assessment – hotspots mapped
  - Capacity assessment – SWOT analysis
  - Implementation structured across 6 Pillars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# Inception Meeting for PAMI identification

# INCEPTION MEETING

## Organization

- Half-Day Meeting
- 30 participants:
  - Representatives of MoH departments
  - Representatives of the Ministry of Water, Sanitation and Irrigation
  - Partners: WHO, UNICEF, IOM, UNHCR, AMREF,….
- Supported by the CSP

## Discussion

- History of the NCP and cholera hotspot identification
- New GTFCC methodology for PAMI identification

## Results

- Constitution of PAMI working group:
  - DDSR
  - EPI (NVIP)
  - MWSI
  - FELTP
  - WHO
  - UNICEF
- Selection of:
  - The database,
  - The studied time,
  - The administrative levels

# Key Parameters

## Administrative Levels

- Level 2 administrative units: **Sub-counties (HIS shape file)**

## Studied Period

- **2018-2023** (6 years)

## Population

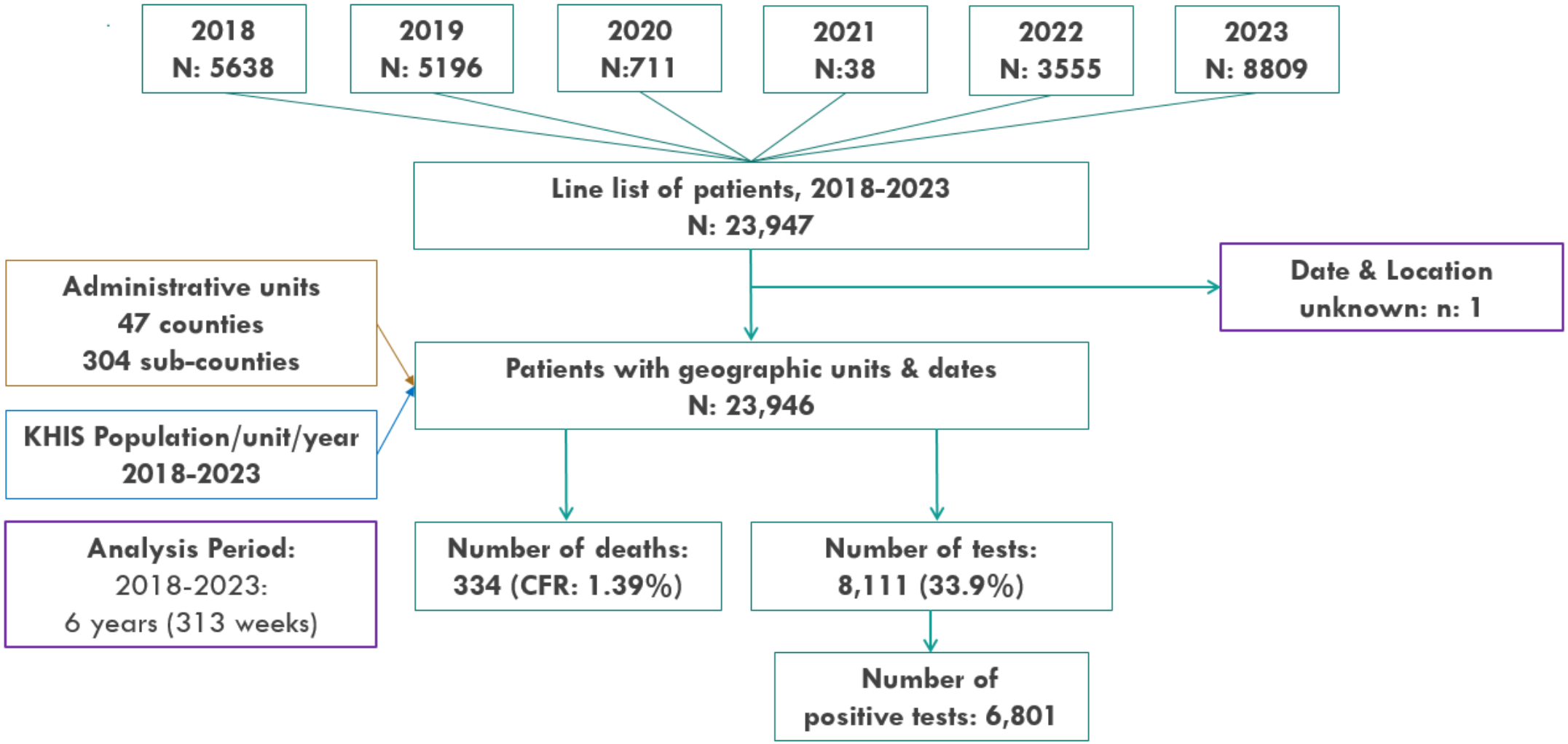
- **KHIS population with specific sub-county growth rate**

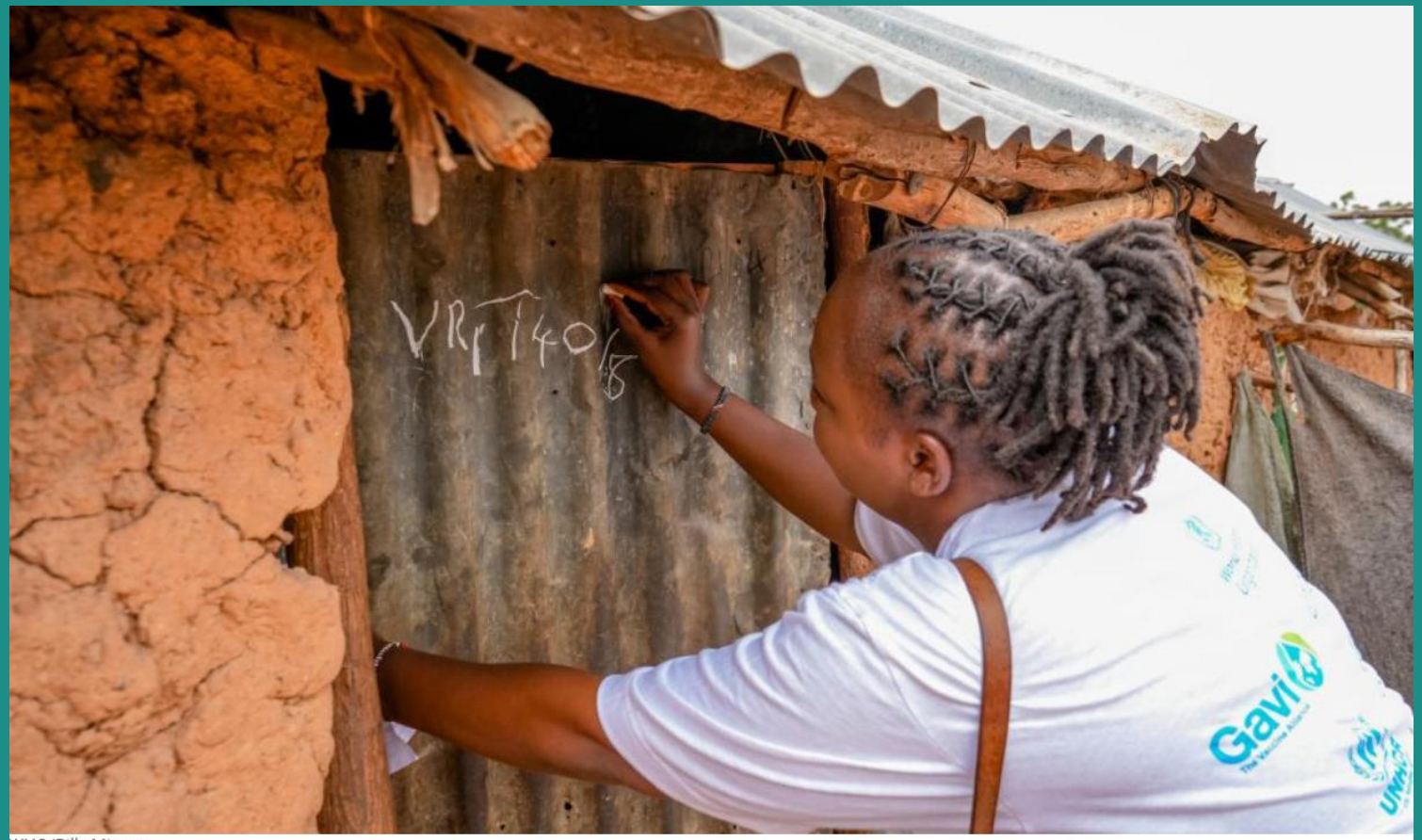
## Studied population

- Suspected and confirmed cholera cases
- **Outbreak line list**

# DATA OVERVIEW

Figure 4: Flowchart of patients registered in IDSR cholera line list, Kenya, 2018-2023



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# PAMI Working Group

# WORKING GROUP MEETINGS

## Organization

- Online meetings
- Led by DDSR
- Epidemiology core team:
  - DDSR epidemiologist,
  - WHO Data Manager,
  - CSP consultants
- Representatives of MoH departments (DDSR, EPI..)
- Partners: WHO, UNICEF

## Discussion

- Review and validation of the methods and the preliminary results
- Discussion of the vulnerability factors

## Results

- Validation of the preliminary results
- Selection of 6 vulnerability factors, considering the available data at sub-county level

# VULNERABILITY FACTORS

Table 1 Description of the selected vulnerability factors, Kenya, 2024

| Component | Indicator name | Data provider | Data collection year |
|---|---|---|---|
| Population | High population density | KNBS | 2023 |
| Vulnerable groups | Fishermen, mining population, pastoralists- nomads, Refugees | Literature review<br>UNHCR | *2024* |
| Cholera risk | Cross-border areas adjacent to frequently cholera-affected areas | Literature review | *Different according to the country* |
| Climate | Extreme climate and weather conditions | World Bank | *2019* |
| WASH | People using unimproved sanitation services (% of the population) | KNBS | *2019 Census* |
| WASH | People using unimproved drinking water services (% of the population) | KNBS | *2019 Census* |

*Abbreviations: KNBS: Kenya National Bureau of Statistics, WASH: Water, Sanitation and Hygiene, UNHCR: United Nations High Commissioner for Refugees*


# Results and Validation workshop

# PAMI VALIDATION WORKSHOP

## Organization

- 3-day workshop, outside of Nairobi
- 55 participants:
  - County representatives
  - Representatives of MoH departments, Ministry of Water, Sanitation and Irrigation
  - Partners: CSP, WHO, UNICEF, IOM, UNHCR, AMREF,….
- Supported by the CSP

## Day-1 Agenda

- History of NCP and hotspot identification in the country
- Updates (Vaccination, outbreaks, WASH)
- GTFCC Methodology
- PAMI results & vulnerability factors
- Presentation per region

## Results

- Selection of the priority index threshold at 6, 7, or 8

# COUNTRY ANALYSIS

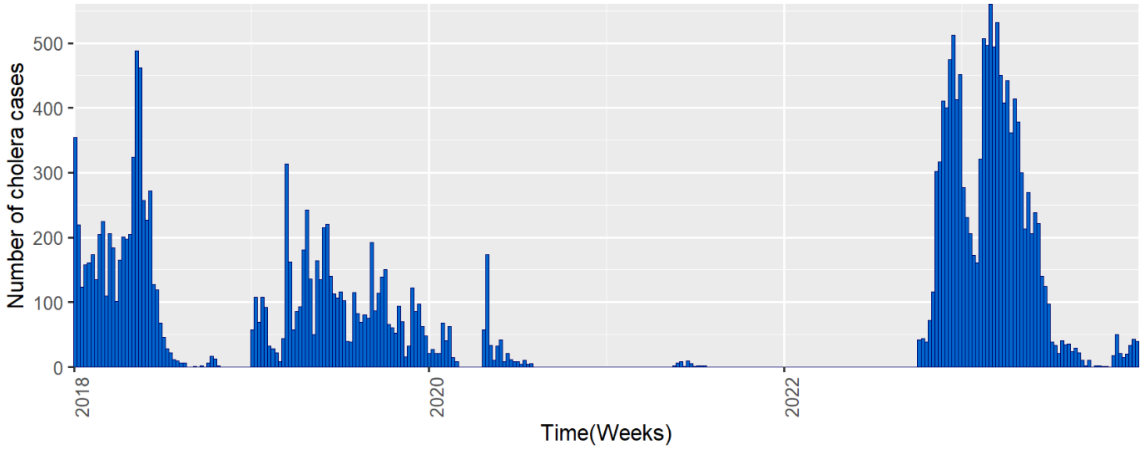


Figure 5 Weekly distribution of cholera cases, all ages, registered in the reference line list, Kenya, 2018-2023

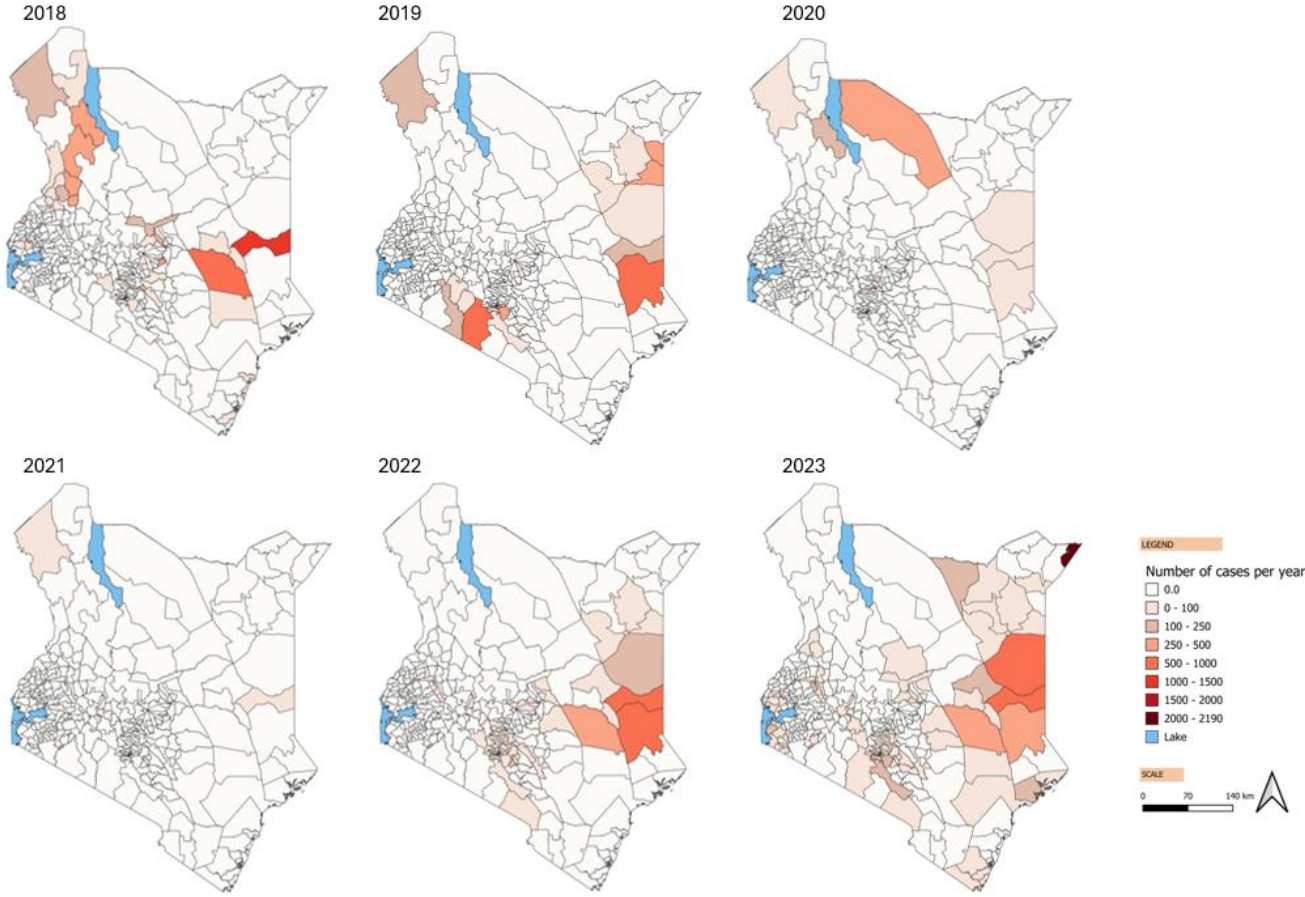


Figure 6 Distribution of the cholera cases per sub-county and per year, 2018-2023, Kenya.

# SUB-COUNTIES ANALYSIS

Table 2: Summary of the sub-counties and the population stratified by priority index, Kenya, 2018-2023

| Priority index values | Number of geographic units | Cum. number of geographic units | Rel. % of num. of geographic units | Total population | Rel. % of population | Cum. % of population |
|---|---|---|---|---|---|---|
| **11** | 7 | 7 | **2.3%** | 1,480,432 | **3.0%** | 3.0% |
| **10** | 5 | 12 | **1.6%** | 1,540,503 | **3.1%** | 6.0% |
| **9** | 15 | 27 | **4.9%** | 3,112,718 | **6.2%** | 12.2% |
| **8** | 16 | 43 | **5.3%** | 3,278,023 | **6.5%** | 18.8% |
| **7** | 17 | 60 | **5.6%** | 3,259,214 | **6.5%** | 25.3% |
| **6** | 18 | 78 | **5.9%** | 3,017,289 | **6.0%** | 31.3% |
| **5** | 15 | 93 | **4.9%** | 2,728,465 | **5.4%** | 36.7% |
| **4** | 20 | 113 | **6.6%** | 3,602,240 | **7.2%** | 43.9% |
| **3** | 40 | 153 | **13.2%** | 6,539,059 | **13.0%** | 56.9% |
| **0** | 151 | 304 | **49.7%** | 21,600,638 | **43.1%** | 100.0% |
| **Grand Total** | **304** | | **100.0%** | **50,158,580** | **100.0%** | |

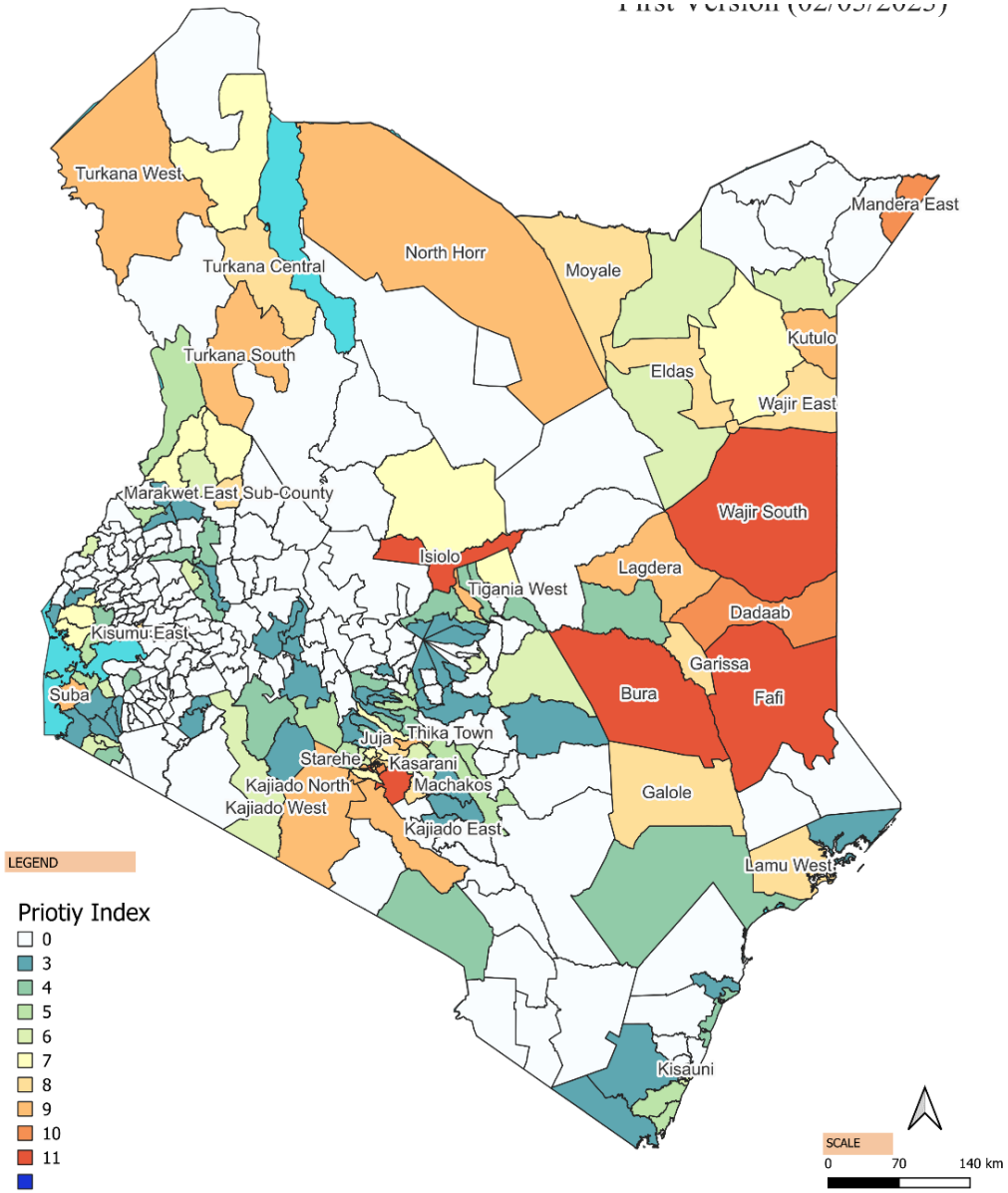


Figure 7: Map of the administrative units by priority index, Kenya, 2018-2023, Cholera line list

# DAY-2 GROUP SESSION PER REGION

**Group work — discussion by division of the proposed PAMIs list**

- **TASKS**
  - Nominate a rapporteur who can summarise the discussion and present to plenary
  - Based on your experience, discuss the list of subcounties to be considered as PAMIs

**Proposed questions to guide the discussion:**

1. Do we agree on the sub-counties with a score of 8?
2. Do we need to assess other sub-counties?

- Sub-counties with a score at 7
- Under-reporting sub-counties (cholera cases, mortality…)
- Bordering score-7 sub-counties
- Regional approach for interventions
- Presence of vulnerability factors ("Yes"): Access to WASH, Geographic risk, High-risk populations…….

Sub-counties to consider as PAMIS

| Sub-county | County | Reason to upgrade as PAMIS |
|---|---|---|
| | | |
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**Group work – discussion by division of the proposed PAMIs list**

- **Feedback:**
  - The list of sub-counties which may need to be considered as PAMIs and the reason
    - ·Excel document for the list of sub-counties to consider as PAMIs
    - ·Proposed change in the score and reason: in the last two columns
  - Any points of discussion that you feel need to be shared to the plenary sessions

Other comments on sub-counties (if any)

| Sub-county | County | Comments and suggestion actions |
|---|---|---|
| | | |
| | | |
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# DAY-3 VALIDATION

## Discussion

- Discussion on all the feedback and proposed additional PAMIs
- Discussion on the no-represented counties
- Comparison with the different priority index thresholds

## Results

- Selection of the priority index threshold at 8
- Identification of 29 additional PAMIs
- Discussion about:
  - Reason for underestimation of some indicators in high-risk areas
  - Additional vulnerability factors to consider (e.g. road network)

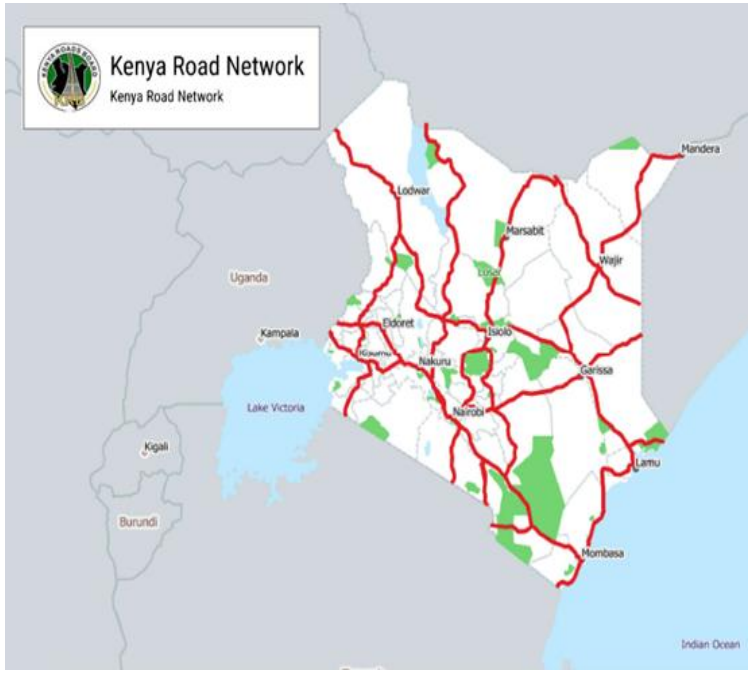


Figure 8 Road network, Kenya, 2024; Source: Kenya Road Board

# FINAL LIST OF PAMIS

**Total PAMIs: 107 sub-counties**

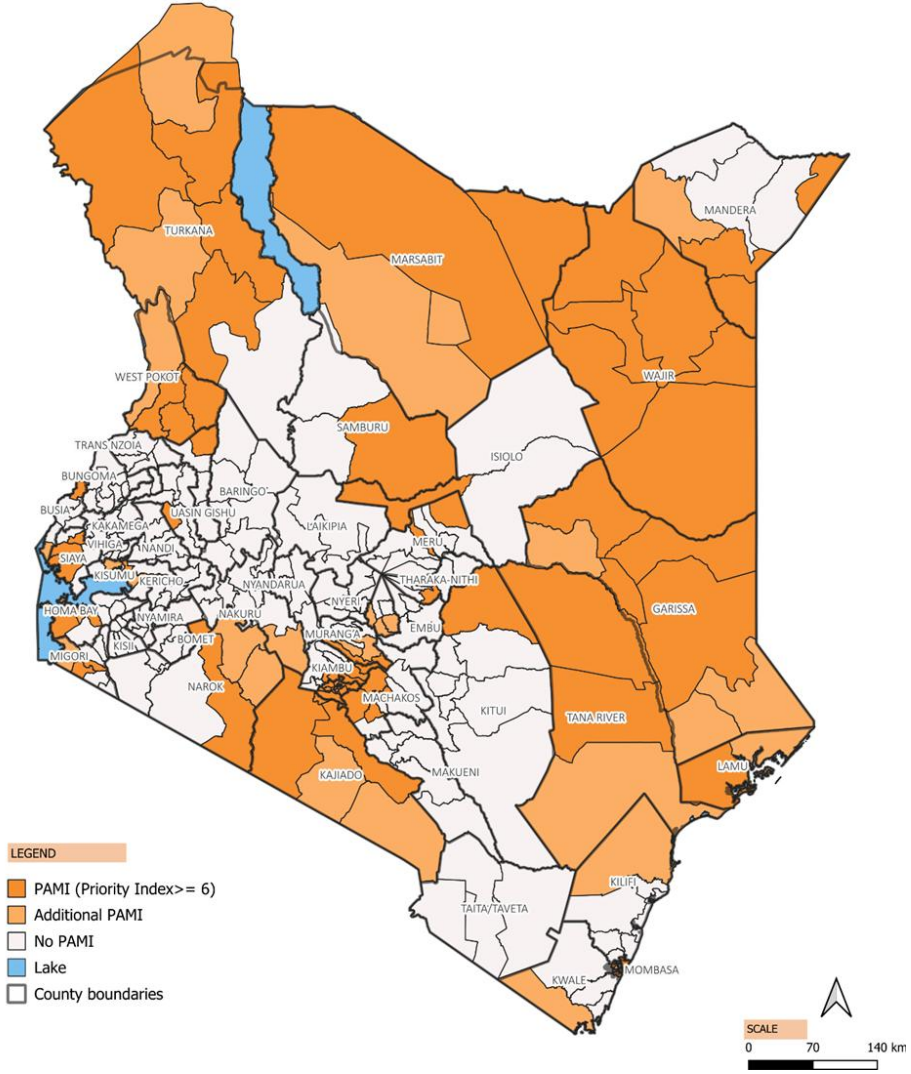


Figure 9:Final PAMI decision, Kenya, 2024

Table 3: Summary of the sub-counties and the population stratified by PAMI decision, Kenya, 2024

| Categories | Units* | Rel % of units | Cumulative % of units | Est. Population 2023 | Rel % of population | Cumulative % of population |
|---|---|---|---|---|---|---|
| Index_PAMIs | 78 | 25.66 | 25.66 | 16910854 | 31.32 | 31.32 |
| upgraded PAMI | 29 | 9.54 | 35.20 | 4663209 | 8.64 | 39.96 |
| No PAMIs | 197 | 64.80 | 100 | 32418320 | 60.04 | 100.00 |
| Total | 304 | 100.00 | | 53992383 | 100 | |


Thank you
Together we can
#endcholera
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