WHO Global Clinical Platform for Cholera, and preliminary findings from Malawi

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WHO Global Clinical Platform originated for the COVID-19 pandemic

- **Launched in May 2020**

- **Member States, heath care facilities and research networks share data**

  patient-level

  anonymized

  people hospitalized with *confirmed* or *suspected* COVID-19

  standardized data collection tools

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The First 110,593 COVID-19 Patients Hospitalised in Lombardy: A Regionwide Analysis of Case Characteristics, Risk Factors and Clinical Outcomes

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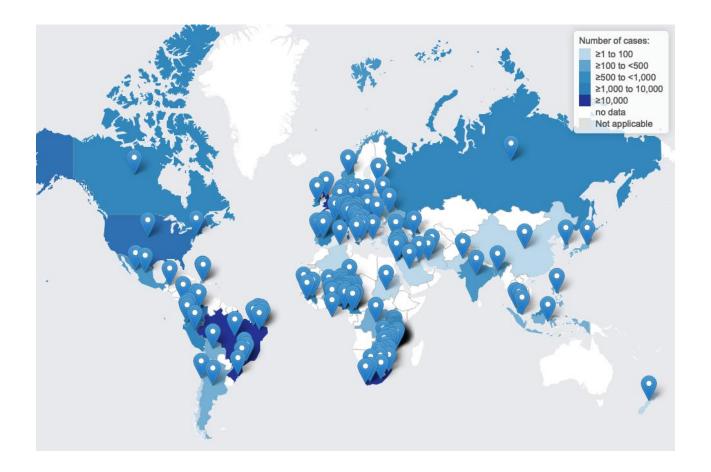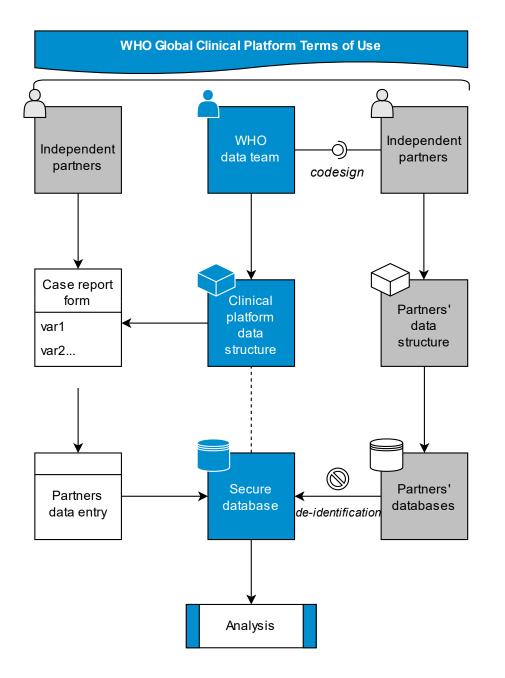
Overview

- Current database on the COVID-19 clinical platform

65	1,863	1,083,764
Countries reporting cases	**Facilities reporting cases**	**Confirmed/probable cases**

Geospatial distribution: overview

65 Countries reporting cases
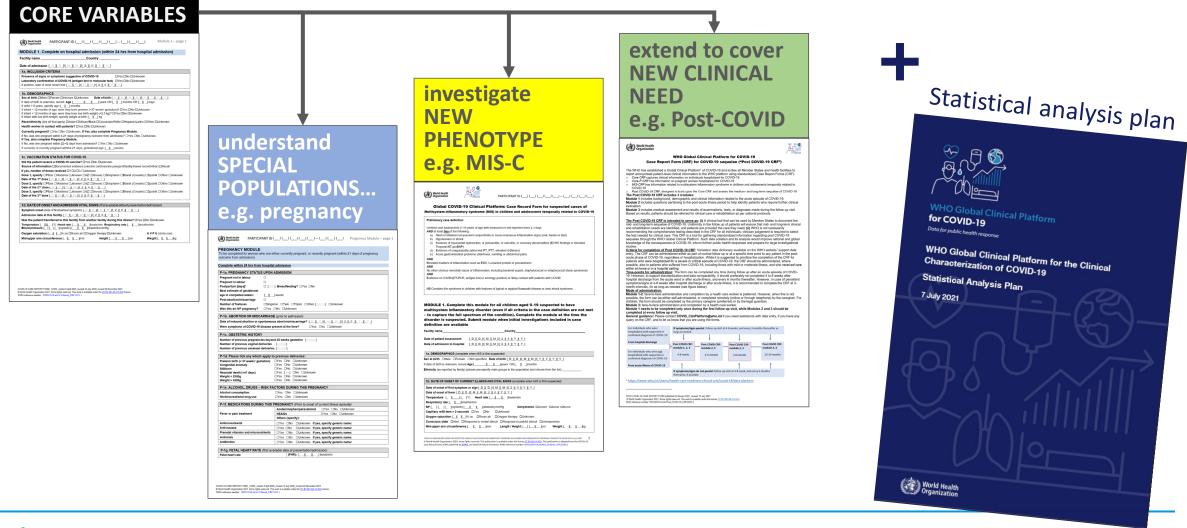
1,863 Facilities reporting cases

1,083,764 Confirmed/probable cases

- Strict legal terms give user confidence and ownership of the data
- Contributors
  - Health facilities
  - Research institutions
  - Networks (e.g. ISARIC)
  - Health ministries
- Flexible, agile, standardised platform
- Ethics for data collection
  - surveillance platform for data and not linked to specific study protocols
  - International Health Regulations 2005

5.2 Following a notification, a State Party shall continue to communicate to WHO timely, accurate and sufficiently detailed public health information available to it on the notified event…

Modular construction
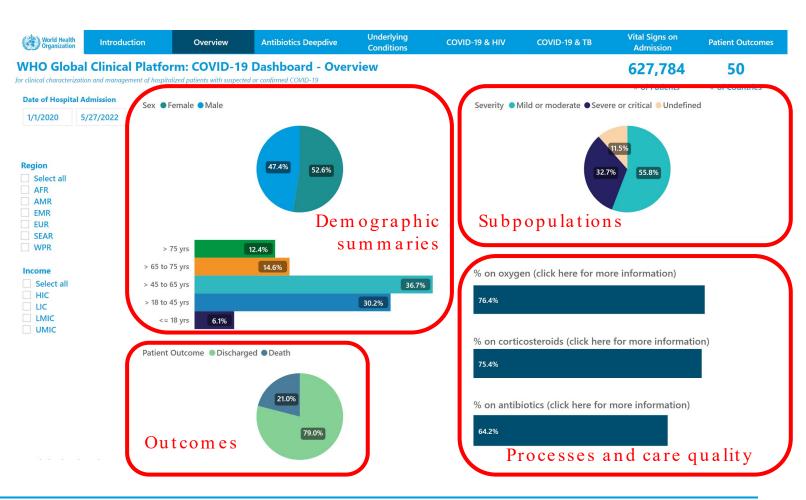
Dashboard – example from COVID-19
(not yet implemented for cholera)
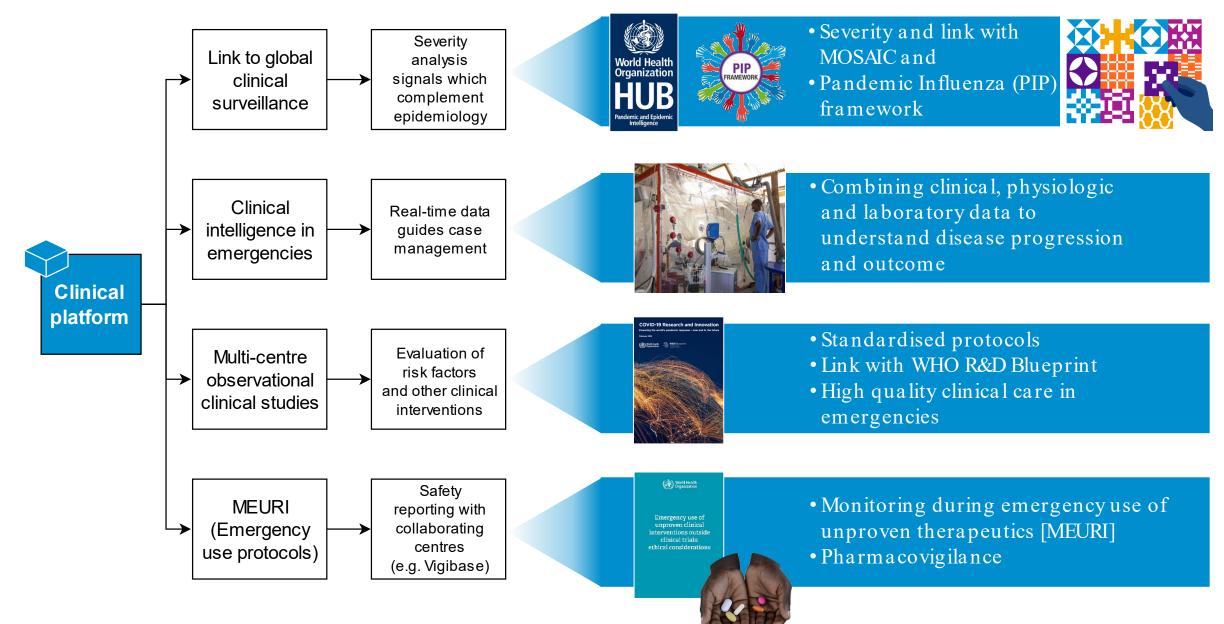
- Filter by region, income classification, and various additional subjects (i.e. age and disease severity)

- Allows detailed analysis on:
  - therapeutic use (O_2, corticosteroids, and antibiotics)
  - HIV and TB and COVID-19
  - Underlying conditions
  - Vital signs on admission
  - Patient outcomes

WHO Clinical Platform – current and future use

Clinical platform

- Link to global clinical surveillance → Severity analysis signals which complement epidemiology

- Severity and link with MOSAIC and
- Pandemic Influenza (PIP) framework

- Clinical intelligence in emergencies → Real-time data guides case management

- Combining clinical, physiologic and laboratory data to understand disease progression and outcome

- Multi-centre observational clinical studies → Evaluation of risk factors and other clinical interventions

- Standardised protocols
- Link with WHO R&D Blueprint
- High quality clinical care in emergencies

- MEURI (Emergency use protocols) → Safety reporting with collaborating centres (e.g. Vigibase)

- Monitoring during emergency use of unproven therapeutics [MEURI]
- Pharmacovigilance

Data to understand cholera
Jamie Rylance
Case Management, Country Readiness Strengthening, WHO

Objectives of the platform overall

1. Description of clinical characteristics
2. Systematic recording of therapeutic interventions, and adverse events where recorded
3. Exploration of the determinants of patient outcomes

- Pre-defined subgroups
  - Age, sex
  - Pregnancy
  - HIV status
  - Comorbidity

Data collection

3 modules - Co-developed with support from GTFCC, who gave feedback on drafts.

- Module 1: First day of presentation or admission to the Cholera Treatment Unit, Centre or Ward
- Module 2: Daily Form for inpatient days
- Module 3: Outcome at discharge, transfer, or death

CRF collects data for suspected, probable or confirmed cholera

- direct from patient examination and interview or
- from review of hospital or clinical notes
- REDCap for data capture (tablets, etc.)
- Meta-data survey supports facility evaluation

GLOBAL TASK FORCE ON CHOLERA CONTROL

Global Clinical Data Platform

CHOLERA CASE REPORT FORM (CRF)

MODULE 1

INTRODUCTION

The CRF is designed to collect data obtained direct from patient examination and interview, and from review of hospital or clinical notes of people with suspected, probable or confirmed cholera.

II. VITAL SIGNS AT TRIAGE

Temperature (°C): [__][__] . [__]	Heart rate (bpm) [__][__][__]
BP (mmHg): [__][__][__] (systolic) [__][__][__] (diastolic)	O_2 saturation room air (%): [__][__][__] on □ Room air □ Oxygen therapy
Capillary refill ≥ 3 sec? □ Yes □ No	Weight (kg): [__][__][__] . [__]
Absent or weak pulse □ Yes □ No	Height (cm): [__][__][__]

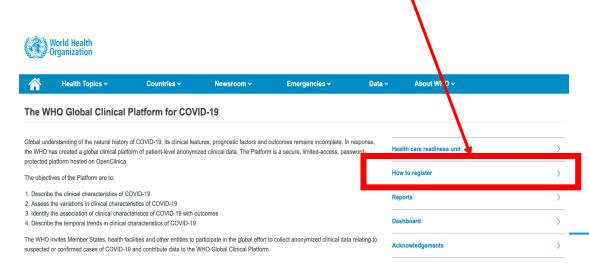|			
Sunken eyes	□ Yes □ No	Drinking	□ Able □ Not able
Slow skin pinch (> 2 secs)	□ Yes □ No	Eating	□ Able □ Not able
Passed urine in past 12 hours	□ Yes □ No	Route	□ PO □ NG □ Breastfeeding

How to contribute data

3 simple steps to contribute anonymized clinical data to the platform

- Register

- Agree to the Terms of Use

- Receive log-in credentials to access

Therapeutic recommendations
Clinical practice standard setting

Accessible materials,
relevant research

Training, including
healthcare workers

Emergency
response

Data
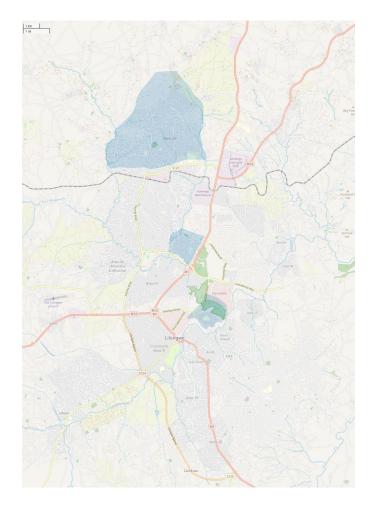partnerships

Therapeutic
availability

Key messages

- Pre-existing CRF can be deployed quickly, but needs resource

- We need refinement to ensure feasibility of data collection

- Automated analysis pipeline and infrastructure is complete

- Larger datasets will help define clinical features and potentially useful interventions
  - We have demonstrated feasibility (and interest) in Malawi
  - Current interests
    - *Role of comorbidities in outcome / need for modified treatment*
    - *Contribution of electrolyte abnormalities to outcome (and potential earlier identification)*
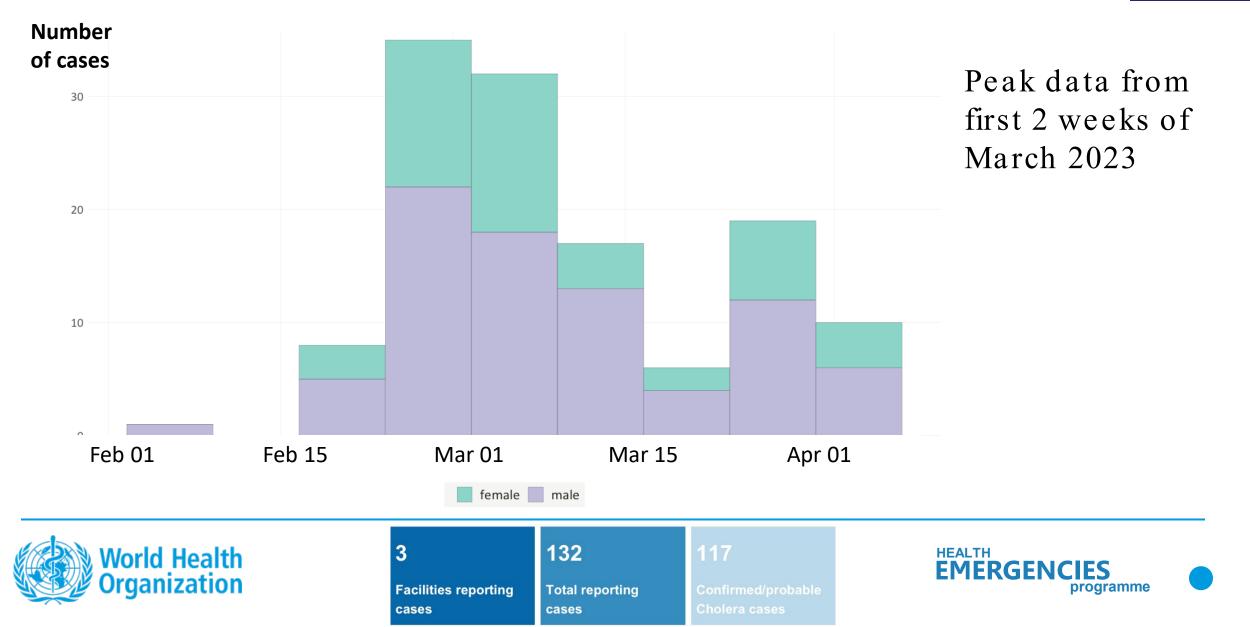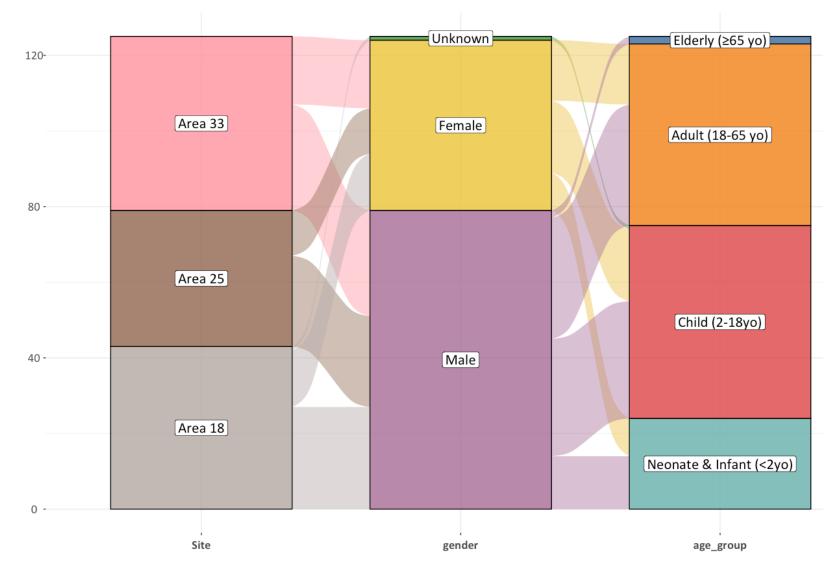
Distribution of cases for Malawi

3 — Facilities reporting cases

132 — Total reporting cases

117 — Confirmed/probable Cholera cases

Reported cases to the WHO Platform

Number of cases

Peak data from first 2 weeks of March 2023

3 Facilities reporting cases

132 Total reporting cases

117 Confirmed/probable Cholera cases

Population characteristics
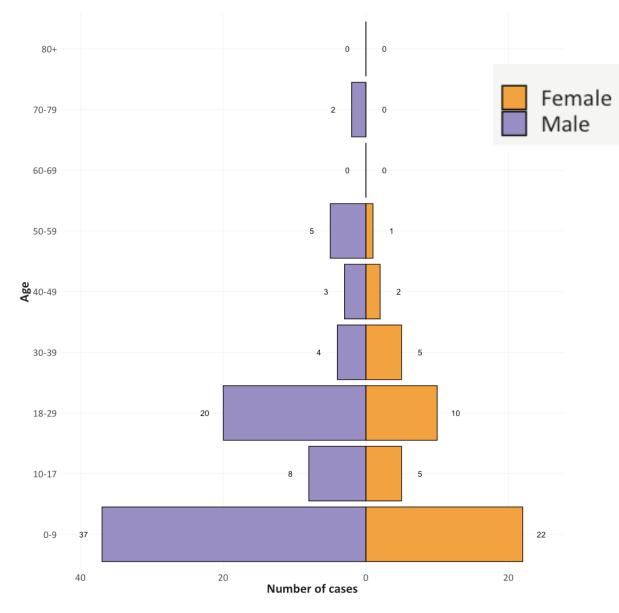
- 83 (63%) male
- 5 pregnant women
- 75 (57%) ≤18 years old
- 24 (18%) ≤2 years old

3	132	117
Facilities reporting cases	Total reporting cases	Confirmed/probable Cholera cases
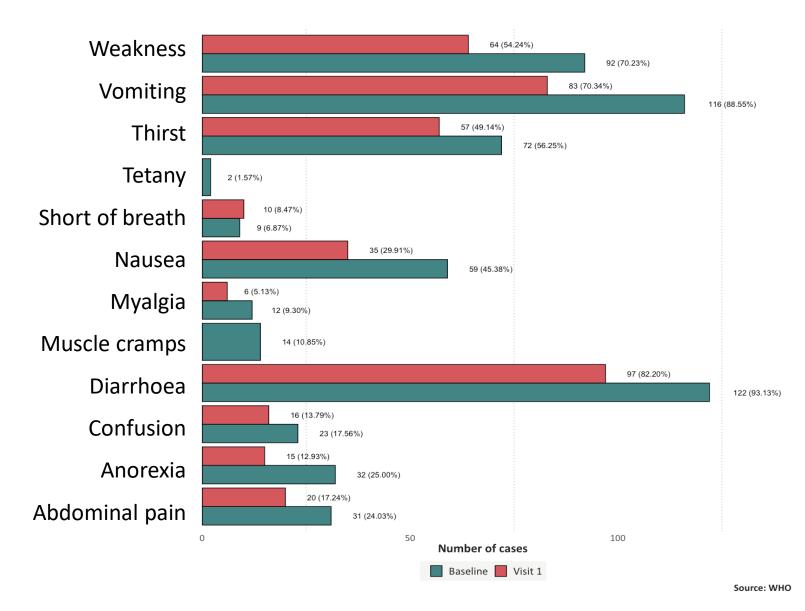
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Clinical evaluation at admission and follow up visit

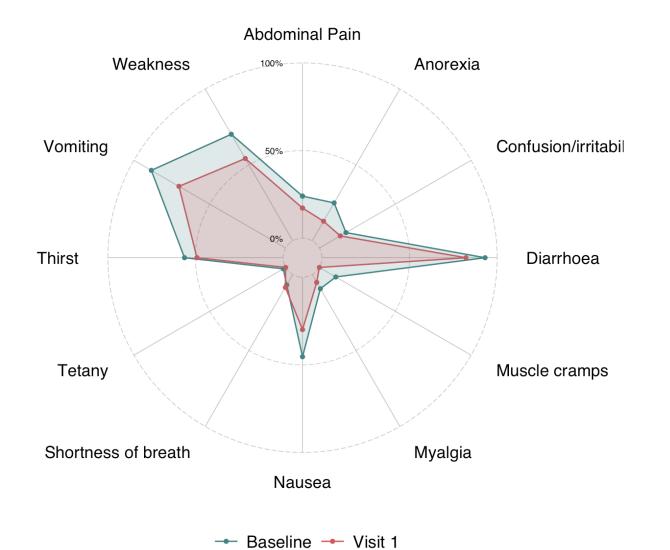

High prevalence of digestive symptoms at admission:
- 88% vomiting
- 93% diarrhea
- 56% thirst
- 45% nausea

- 70% of weakness

3	132	117
Facilities reporting cases	Total reporting cases	Confirmed/probable Cholera cases

Source: WHO

Clinical evaluation at admission and follow up visit

High prevalence of digestive symptoms at admission (as expected):
- 93% diarrhea
- 88% vomiting
- 56% thirst
- 45% nausea

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Treatments recorded

- ORS
  - 111/121 (91.7%)
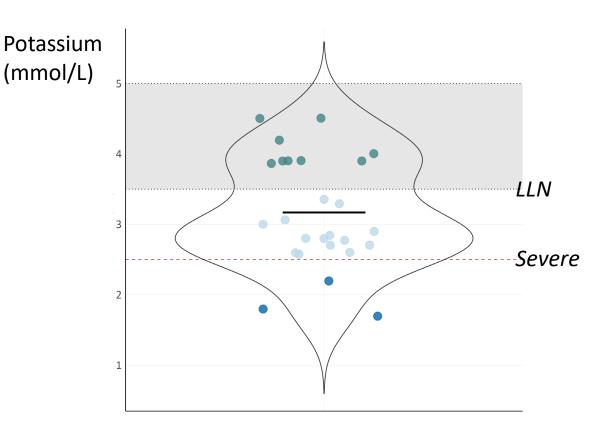- Antibiotics
  - 91/121 (75%)
- Intravenous fluids
  - 92/118 (78%)

3
Facilities reporting cases

132
Total reporting cases

117
Confirmed/probable Cholera cases

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Electrolytes in children

Potassium (mmol/L)

Hypokalaemia
- 17/26 (65%)
- (<3.5 mmol/L)
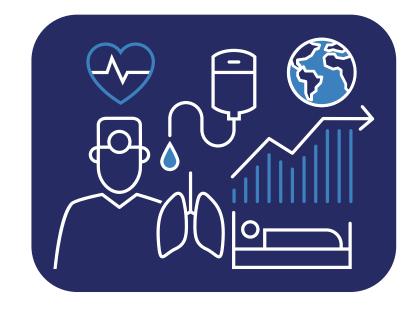
Severe hypokalaemia
- 3/26 (12%)
- (<2.5 mmol/L)

Conclusions

- Data collection platforms for emergencies must be agile and flexible

- Explicit data ownership is key to trust and uptake

- Synthesis and presentation of information can be close to real-time.

- We have work to do to, but the foundation is there to be useful to clinicians and policymakers

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Thank you

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