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



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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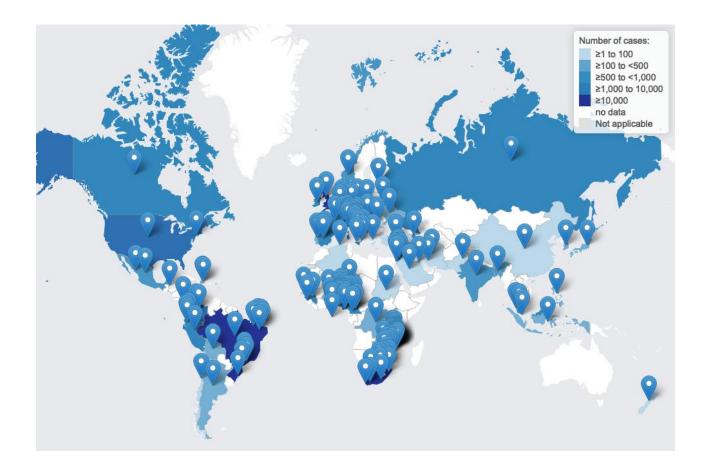
• Current database on the COVID-19 clinical platform







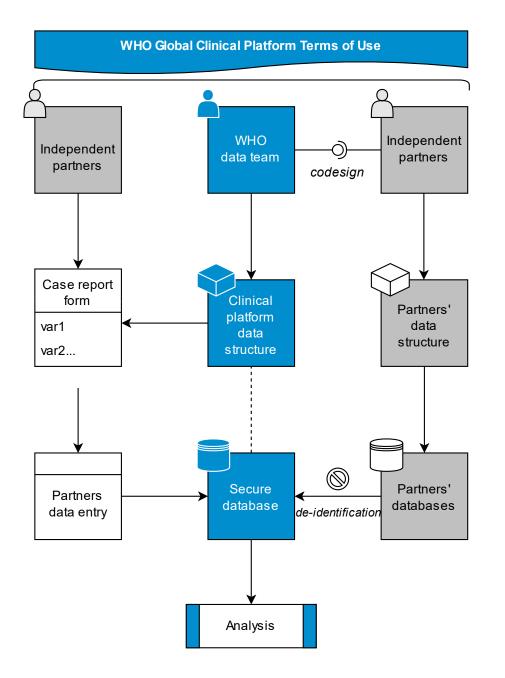
Geospatial distribution: overview





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

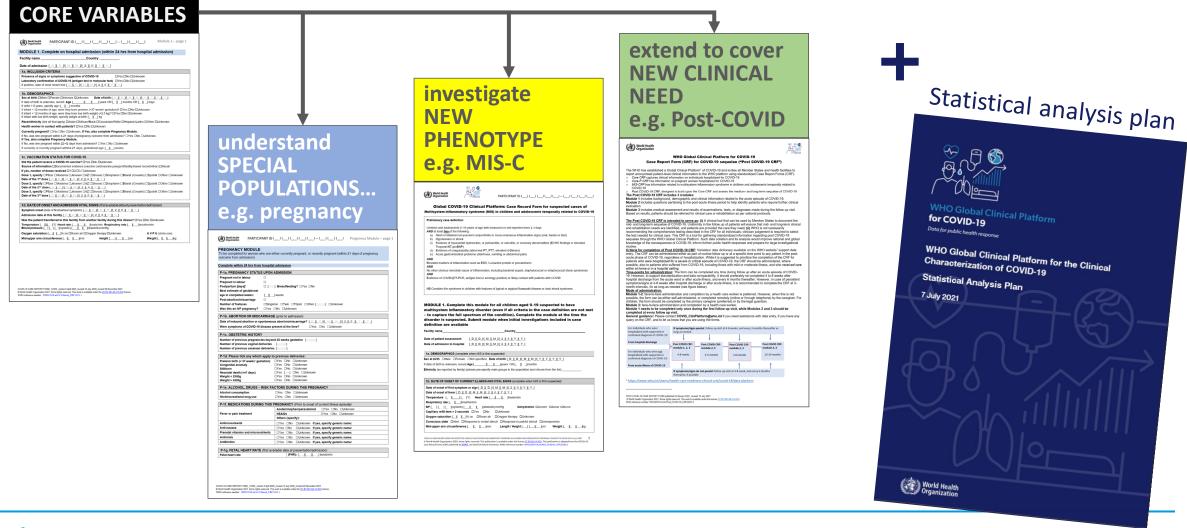




- Strict legal terms give user confidence and ownership of the data
- Contributors
 - Health facilities
 - Research institutions
 - Networks (e.g. ISARIC)
 - Health ministries
- Flexible, agile, standardised platform
- Ethics for data collection
 - surveillance platform for data and not linked to specific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

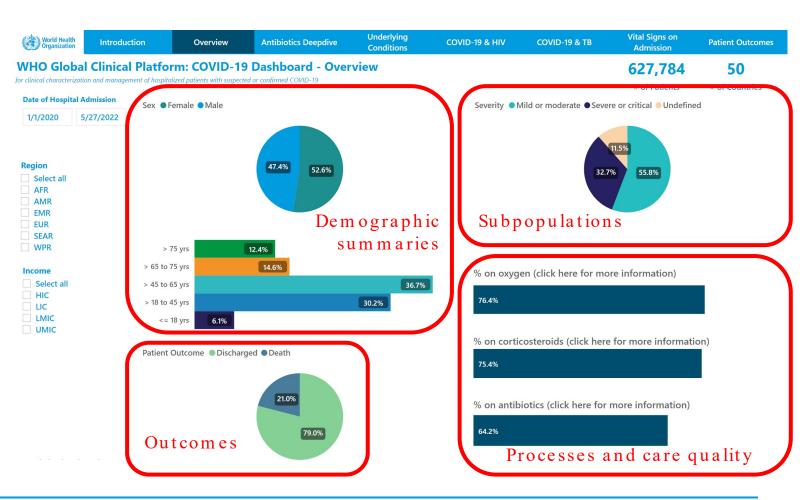






Dashboard – example from COVID-19 (not yet implemented for cholera)

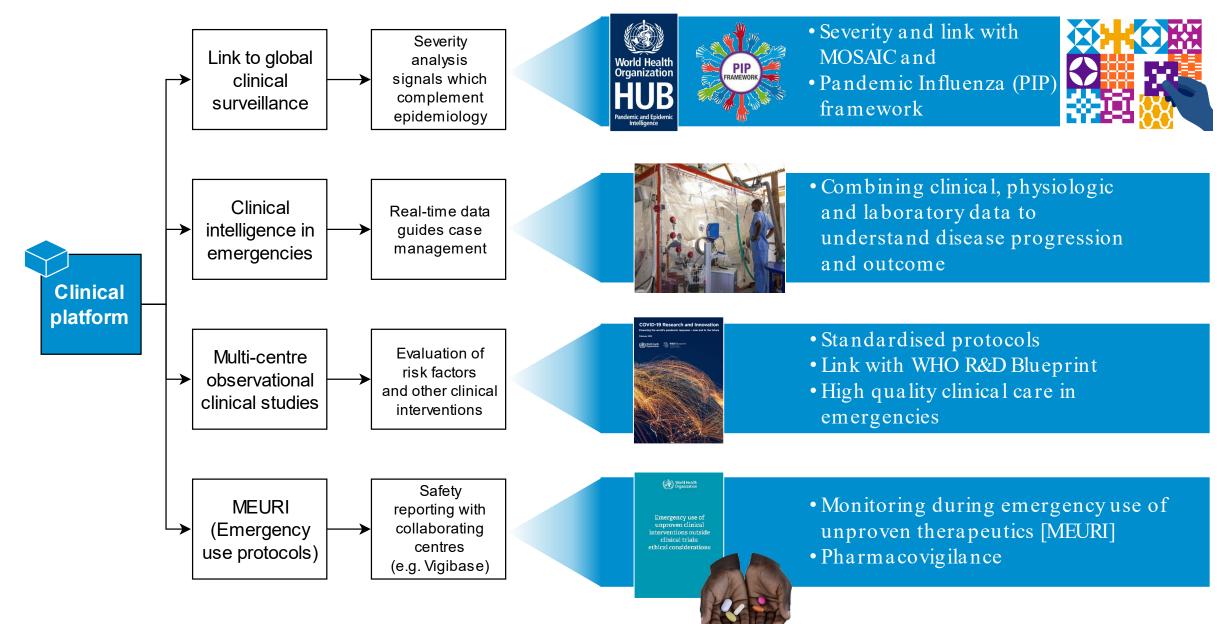
- Filter by region, income classification, and various additional subjects (i.e. age and disease severity)
- Allows detailed analysis on:
 - therapeutic use (O₂, corticosteroids, and antibiotics)
 - HIV and TB and COVID-19
 - Underlying conditions
 - Vital signs on admission
 - Patient outcomes







WHO Clinical Platform – current and future use



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

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Note that. If you wish to filter to see decaded case they to an set to "Yos". You can't simply filter on the Classification reason of the set of the classification reason of the filters are applied on this list (may include hidden fields).

Cases

77468 RESULTS

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.

- <u>Module 1</u>: First day of presentation or admission to the Cholera Treatment Unit, Centre or Ward
- <u>Module 2</u>: Daily Form for inpatient days
- <u>Module 3</u>: 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



Giobal Clinical	Data Platform					
CHOLERA CASE REPORT FORM (CRF) MODULE 1						
e CRF is designed to collect data obtained dire m review of hospital or clinical notes of people w						
	in suspected, probable of commed choiera.					
II. VITAL SIGNS AT TRIAGE						
II. VITAL SIGNS AT TRIAGE Temperature (°C): [][_] . []	Heart rate (bpm) [_][_]					
	Heart rate (bpm) [_][_][_] O2 saturation room air (%): [_][_]]					
Temperature (°C): [][] . []						
Temperature (°C): [][] . [] BP (mmHg): [][_] (systolic)	O ₂ saturation room air (%): [][]					
Temperature (°C): [_][_] . [_] BP (mmHg): [_][_] (systolic) [_][_][_] (diastolic)	O₂ saturation room air (%): [_][_] on □Room air □ Oxygen therapy					
Temperature (°C): [_][_] . [_] BP (mmHg): [_][_] (systolic) [_][_][_] (diastolic) Capillary refill ≥ 3 sec? □ Yes □ No	O₂ saturation room air (%): [_][_][_] on □Room air □ Oxygen therapy Weight (kg): [_][_]. [_]					
Temperature (°C): [_][_] . [_] BP (mmHg): [_][_] (systolic) [_][_][_] (diastolic) Capillary refill ≥ 3 sec? □ Yes □ No	O₂ saturation room air (%): [][_][_] on □Room air □ Oxygen therapy Weight (kg): [_][_][_]. [_]					
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Temperature (°C): [_][_] . [_] BP (mmHg): [_][_] (systolic) [_][_][_] (diastolic) Capillary refill ≥ 3 sec? □ Yes □ No Absent or weak pulse □ Yes □ No	O₂ saturation room air (%): []] on □Room air □ Oxygen therapy Weight (kg): []]]. Height (cm): [][][]					
Temperature (°C): [_][_]. [_] BP (mmHg): [_][_] (systolic) [_][_] (diastolic) Capillary refill ≥ 3 sec? □ Yes □ No Absent or weak pulse □ Yes □ No Sunken eyes □ Yes □ No	O2 saturation room air (%): [] on □Room air □ Oxygen therapy Weight (kg): [][] Height (cm): [][][_] Drinking Able Not able					
Temperature (°C): [_][_] . [_] BP (mmHg): [_][_] (systolic) [_][_][_] (diastolic) Capillary refill ≥ 3 sec? □ Yes □ No Absent or weak pulse □ Yes □ No	O₂ saturation room air (%): []] on □Room air □ Oxygen therapy Weight (kg): []]]. Height (cm): [][][]					

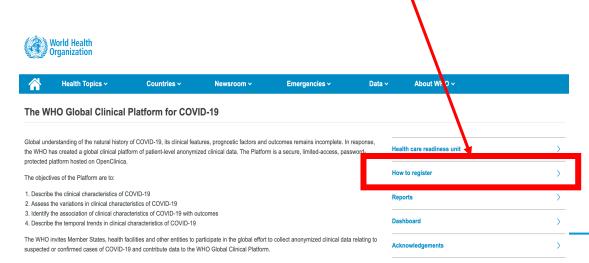




How to contribute data

3 simple steps to contribute anonymized clinical data to the platform

- Register
- Agree to the Terms of Use
- Receive log-in credentials to access



	World Health Organization
	TERMS OF USE for the Global Clinical Data Platform for Clinical Characterization and Management of Patients with Emerging Infectious Diseases (such as COVID-19, viral hemorrhagic fever (including Ebola virus disease), Mpox, Acute hepatitis of unknown etiology, Lassa Fever, Disease X)
	(Updated 2 June 2023)
20 to cha infe Ebe (he "G Em	World Health Organization, a United Nations' Specialized Agency with headquarters at Avenue Appia, CH-1211 Geneva, Switzerland ("WHO"), maintains a global data platform facilitate the sharing of anonymized clinical data and information relating to the clinical reacteristics and management of patients suspected or confirmed to be infected with emerging exclused siscasses such as COVID-19, viral hearorhanging ferver (including, but not limited to la virus disease). Mpox, Acute hepatitis of unknown etiology, Lassa Fever, Disease X reinafter, collectively, "Emerging Infectious Diseases"), which platform is known as the obal Clinical Data Platform for Clinical Characterization and Management of Platients with erging Infectious Diseases" (the "Platform"). Access to and use of the Platform and the Data defined herein is subject to and governed by these Terms of Use.
By (i) (ii)	accessing and/or using the Platform as a provider of Data, you: agree and accept, both for yourself and on behalf of the entity of which you are an employee or representative, that you and such entity (collectively, the "Entity") will be bound by these Terms of Use effective as of the first date of your access or use of the Platform; and warrant that you have all power and authority necessary to agree to and accect these Terms of Use on behalf of the Entity.
1.	Provision and Use of Data
1.1	Subject to the terms and conditions contained in these Terms of Use, the Entity hereby agrees to provide, and WHO hereby agrees to accept, the Data for the Purpose of Use (as each such term is defined below). The Data will be provided, free of charge, through the Platform.
1.2	As used herein, the following terms have the following meanings:
	"Data" means all anonymized (i.e., strictly stripped of any personal identifiers) clinical and/or patient data and/or information related to patients with suspected or confirmed infections with Imerging Infections Diseases that are collected or otherwise obtained by or on behalf of the Entity and provided by the Entity on the Platform. For the avoidance of doubt, the term "Data" shall include, without limitation: (i) any clinical data and/or information on concurrent conditions, symptoms and/or complications; (ii) any data and/or information on clinical outcomes; and (iii) any data and/or information arising from or relating to any



Countries contributing data to the WHO Platform (June, 2021)





Therapeutic recommendations Clinical practice standard setting

> Accessible materials, relevant research





Training, including healthcare workers

> Emergency response





Data partnerships

> Therapeutic availability



Key messages

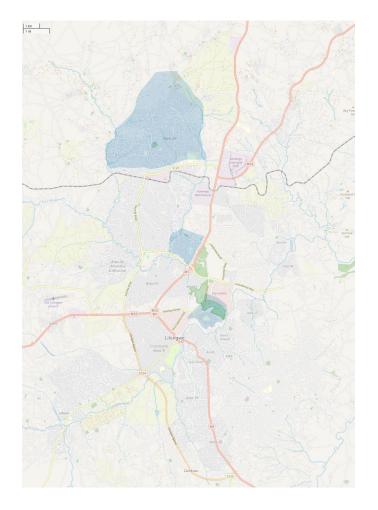
- Pre-existing CRF can be deployed quickly, but needs resource
- We need refinement to ensure feasibility of data collection
- Automated analysis pipeline and infrastructure is complete
- Larger datasets will help define clinical features and potentially useful interventions
 - We have demonstrated feasibility (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

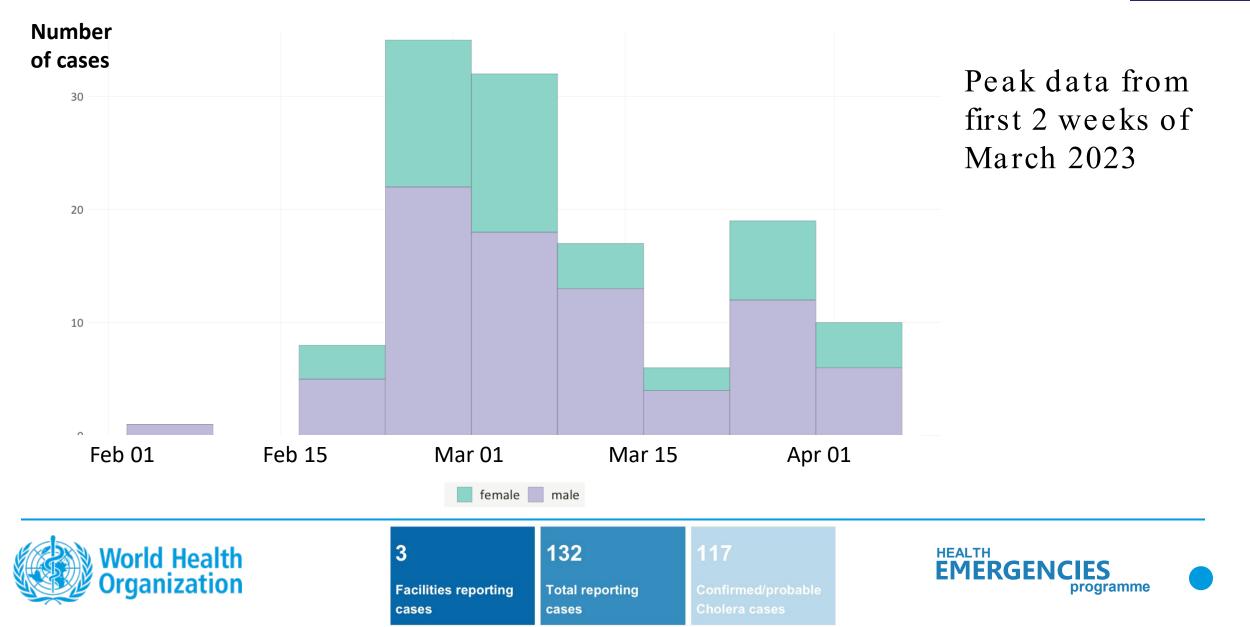




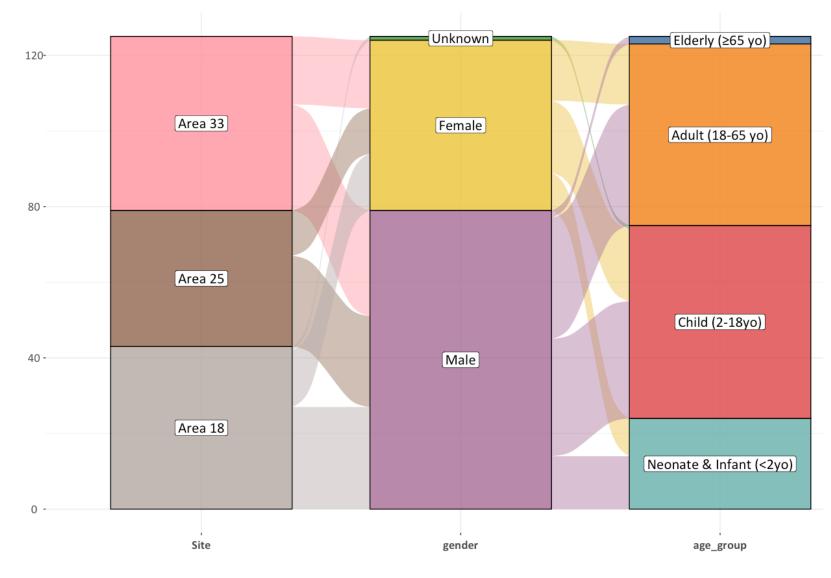


Reported cases to the WHO Platform





Population characteristics



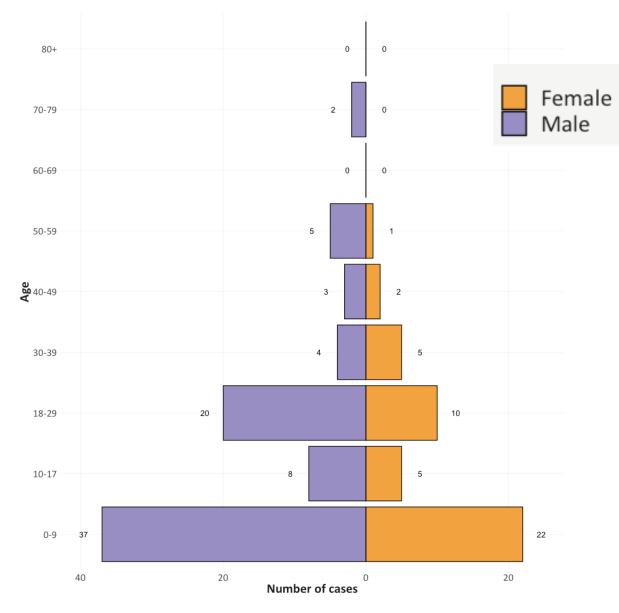
WHO Global Clinical Platfo for Cholera Detto for public health response

• 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

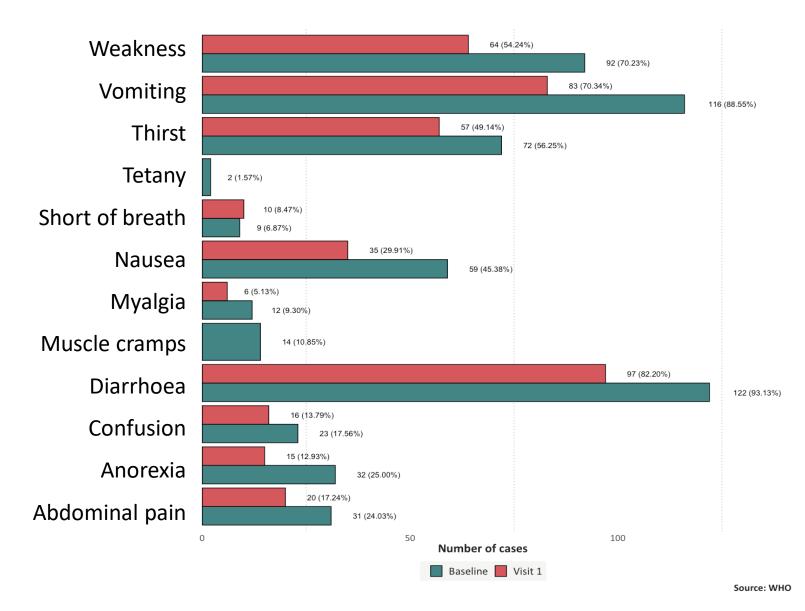
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Clinical evaluation at admission and follow up visit

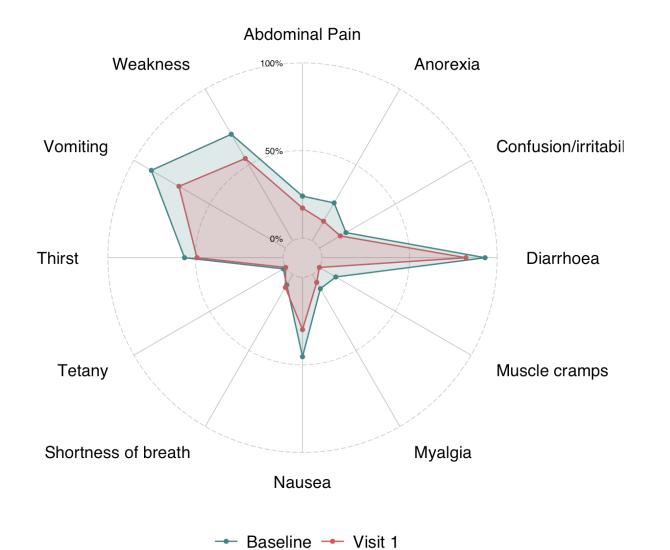


High prevalence of digestive symptoms at admission:

- 88% vom it in g
- 93% diarrhea
- 56% thirst
- 45% nausea
- 70% of weakness

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Clinical evaluation at admission and follow up visit



High prevalence of digestive symptoms at admission (as expected):

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Treatments recorded

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

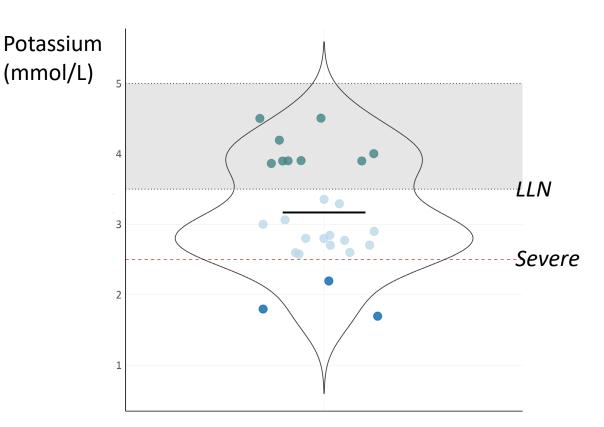


3	132	117
Facilities reporting	Total reporting	Confirmed/probable
cases	cases	Cholera cases



Electrolytes in children

sex	age	Haemoglobin (Hb)	Haematocrit	Platelets	Sodium	Potassium (K+)	Urea	Creatinine
ď	0.00	14.9	40.2	467	126	3.90	148.0	3.9
ď	0.00	8.4	25.5	237	136	2.85	-	108.0
ď	0.50	8.5	24.6	252	137	2.70	23.5	0.3
Ŷ	1.00	9.5	28.0	448	137	4.00	12.4	0.3
ç	1.00	14.0	38.6	423	130	3.90	40.0	0.5
ç	1.00	10.0	29.3	419	135	4.50	17.6	0.8
ç	1.42	9.5	28.0	685	134	2.80	19.7	0.8
ď	1.50	10.6	30.0	193	-	-	-	-
ď	2.00	9.9	27.9	387	141	2.20	23.1	0.4
Ŷ	2.00	9.8	29.6	671	134	2.57	51.6	0.8
ď	2.00	9.5	26.4	342	-	-	22.6	3.1
ď	2.00	12.1	33.7	513	138	1.69	83.0	0.9
ď	2.00	12.2	37.7	645	136	2.60	32.6	0.8
ď	3.00	13.1	36.8	581	136	3.07	43.5	1.4
ď	3.00	10.4	29.3	308	135	2.78	-	-
Ŷ	3.00	10.0	28.0	307	140	3.36	17.8	0.3
ď	3.00	10.6	30.2	543	134	2.80	28.7	0.9
ď	3.00	12.3	33.7	419	138	2.70	21.0	0.7
ď	3.00	10.8	29.6	350	132	1.80	18.0	0.4
ď	3.00	14.5	40.2	796	131	4.20	53.0	1.1
ď	3.00	14.0	38.0	468	133	3.86	71.0	2.0
ď	4.00	14.8	39.8	471	137	3.00	49.3	0.8
ď	4.00	10.7	30.4	532	137	3.90	24.0	0.3
۶	4.00	12.7	40.8	337	-	-	-	-
ď	5.00	11.6	32.3	459	140	3.90	46.7	1.9
Ŷ	5.00	11.3	30.6	422	134	3.30	30.0	0.3
ç	6.00	9.8	27.9	404	137	2.90	44.1	3.1
ď		14.4	38.6	441	138	2.60	137.0	8.1
ď		19.7	51.6	251	123	4.50	81.0	4.3



Hypokalaemia

- 17/26 (65%)
- (<3.5 m ol/L)

Severe hypokalaemia

- 3/26 (12%)
- (<2.5mmol/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







With many thanks to

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