

Cholera data management in WHO AFRO Regional Office

AFRO Cholera team

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Outline



Introduction / Context

Report of cholera data from local level to national level in countries

Report of cholera data from countries to WHO Afro RO

AFRO experience in country data and analysis platforms

Challenges and way forward

Conclusion

Introduction / Context



Cholera Global Snapshot

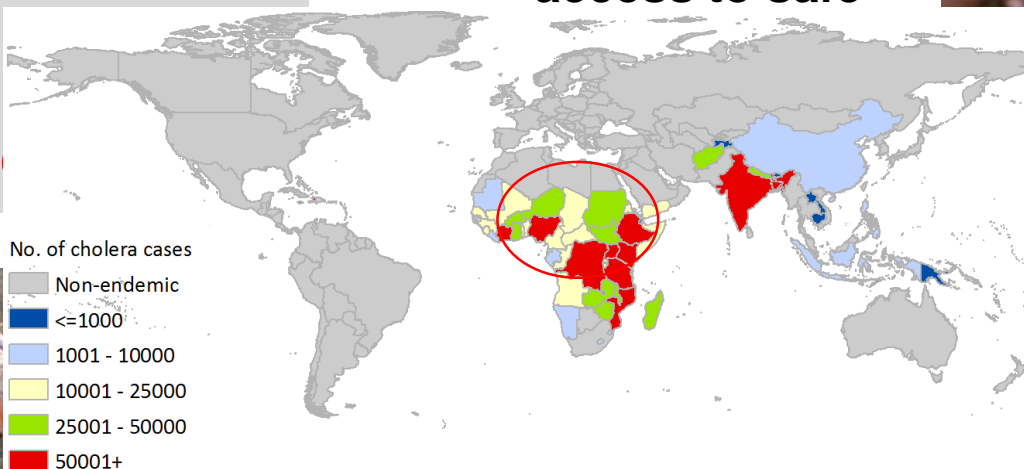


An estimated from cholera/year;

4 million

140,000

663 million people lack access to safe

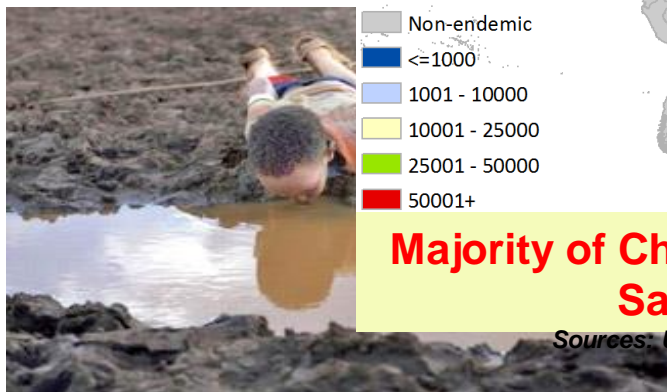


No. of cholera cases

- Non-endemic
- <=1000
- 1001 - 10000
- 10001 - 25000
- 25001 - 50000
- 50001+

Majority of Cholera Burden World-Wide is: Sub-Saharan Africa Countries

Sources: Updated Global Burden of Cholera Study, 2015



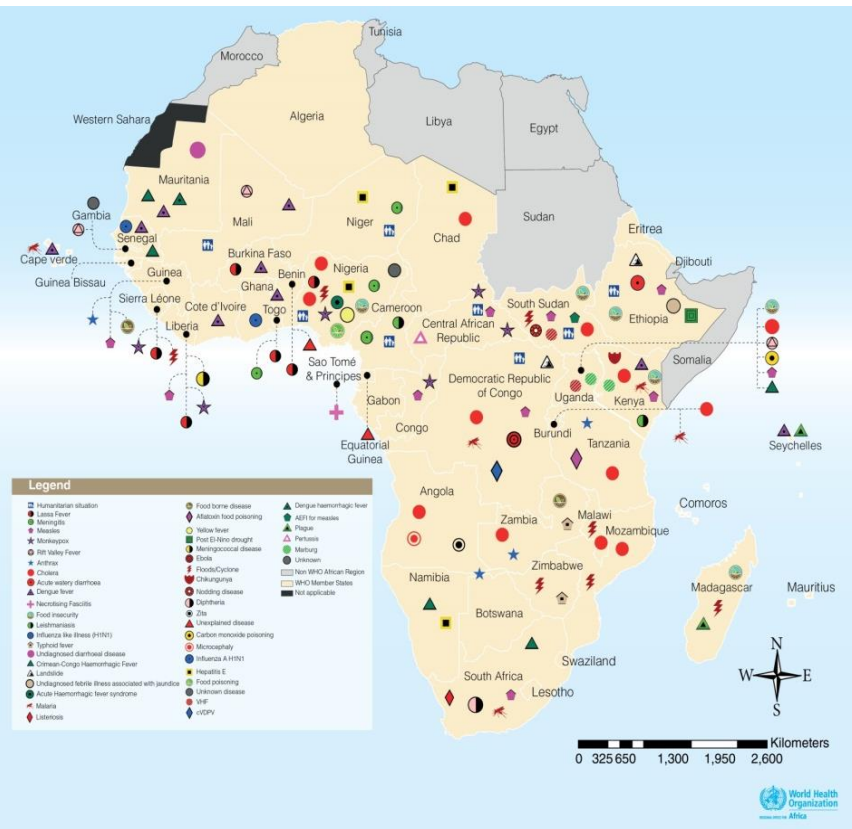
Over 2 billion drink water from faecal contaminated sources

2.4 billion people are living without improved sanitation facilities.

WHO/AFRO Events Situational Analysis



- Regional Office of Africa provides technical, financial and logistical support to 42 countries within the region.
- In 2018, AFRO received almost (3) acute public health events (PHE) every week.
 - 39/42 countries, sent 152 true/confirmed events across.
 - 134/152; 18 (12%) were humanitarian crises, (88%) were **infectious disease outbreaks:**
 - **Viral Haemorrhagic Diseases (n=37, 28%),**
 - **Cholera (n=20, 12%)**
 - **Measles (n=11, 8%)**



Cholera Burden in the African Region, 2006 – 2018/19



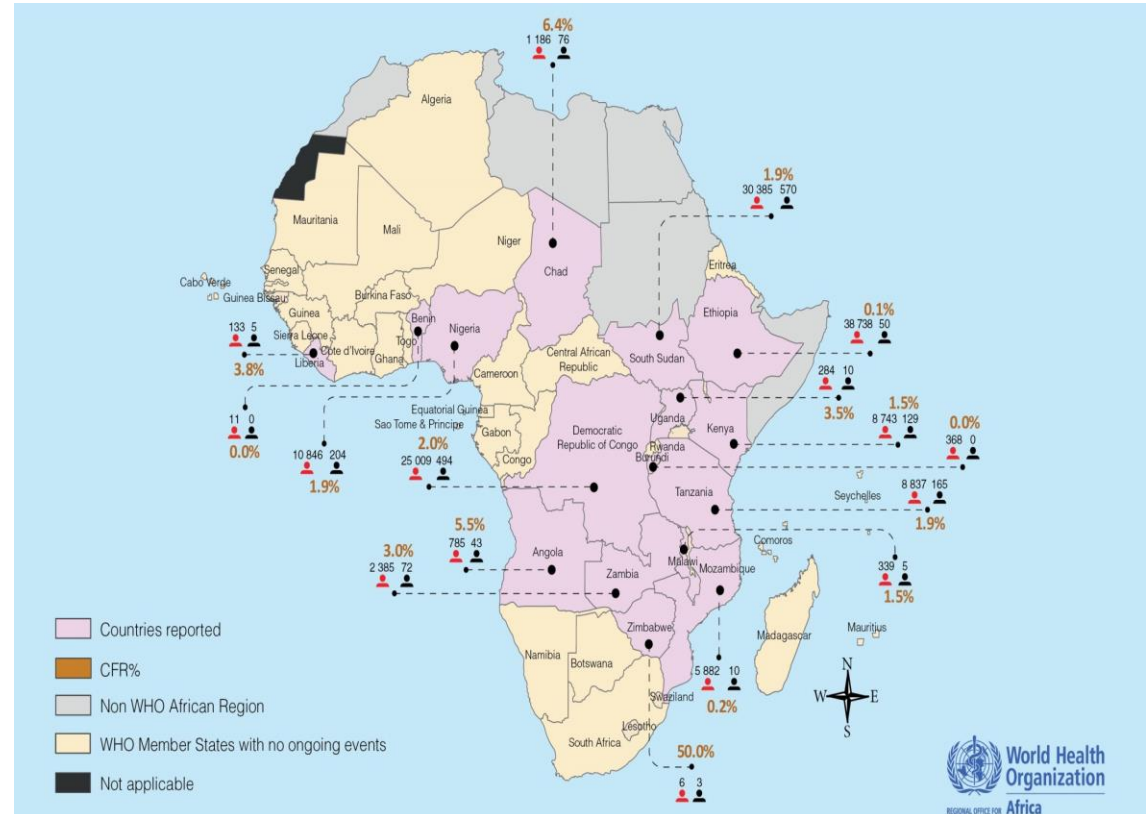
2006 – 2016:

- 752,000 cases and 17,400 deaths (CFR 2.3%) reported from 17 countries

2017:

- Over 150,167 suspected cases and 3,165 deaths (CFR 2.3%) has been reported period from January – December.
- 90% of cases from 5 high burden countries: Ethiopia, DR Congo, South Sudan, Nigeria and Kenya

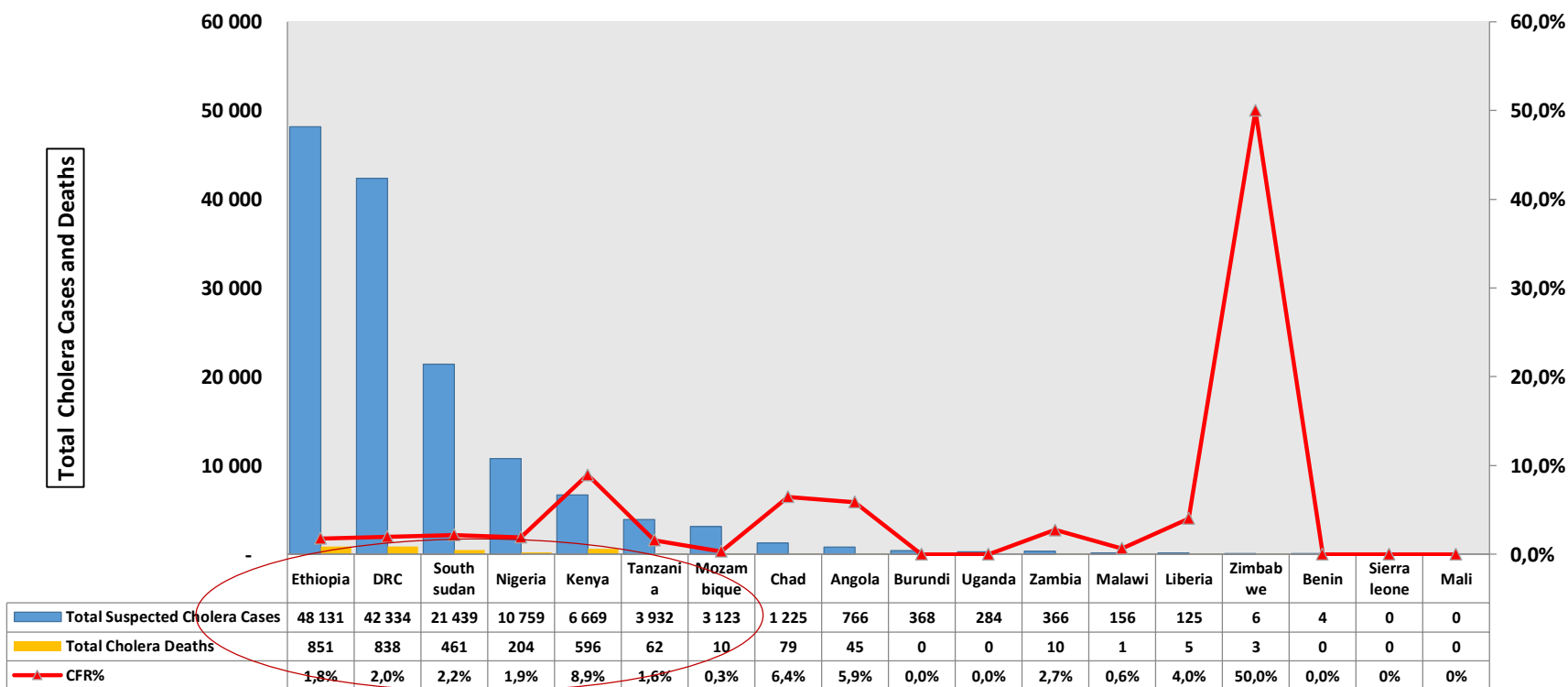
Cholera in Africa Region, 2017



Cholera Epidemiological Curves in AFRO Region, 2017



Ethiopia (34.5%), Congo (30.4%), * South Sudan (15.4%) Nigeria (7.3%), Kenya (4.7%) followed by Tanzania, Mozambique and Chad.

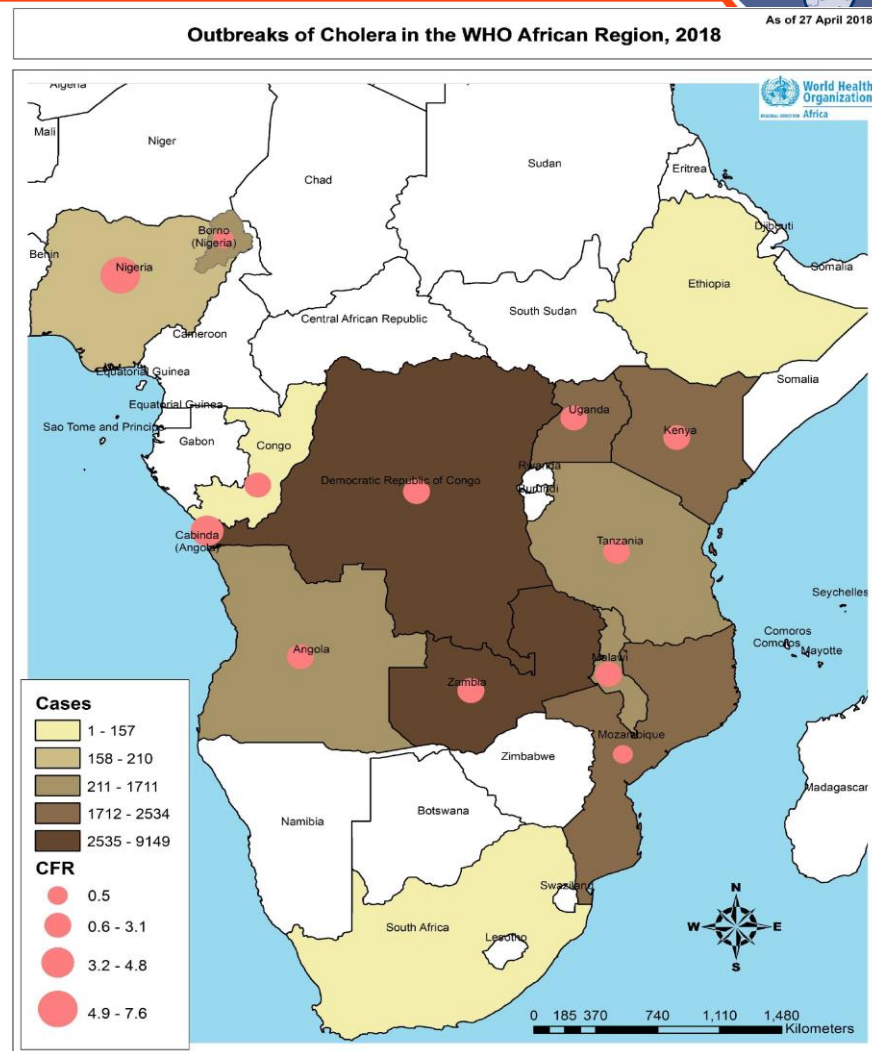


* South Sudan: Last reported cases was in week 46, 2017. As up to date confirmed Zero Cases

Cholera Outbreak in the African Region, 2018: 1/3



- 112,730 cases, **2,345 deaths (CFR =2.1%)** have been reported in 15 countries.
- **More than 74%:** were from **six burden countries;** DRC, Nigeria, Niger, Kenya, Zimbabwe and Tanzania.
- Cross-border transmission was documented in South Africa (Zimbabwe), Ghana, Niger and Cameroon (Nigeria)
- **31%** (6/15) of the countries; (Ethiopia, Malawi, Mozambique, South Sudan, Uganda and Zambia) have controlled the outbreak.



Cholera Outbreaks in African Region, 2018: 2/3



Country	Total # cases	Total# death	CFR (%)	Grading
Angola	675	16	2.3	Grade 1
* Cameroon	1,790	51	2.8	Grade 1
DRC	29,754	922	3.4	Grade 1
Ethiopia (AWD)	3,248	35	1.0	Non Graded
* Ghana	2	0	0	Non Graded
Kenya	5,735	78	1.3	Grade 1
Malawi	1,570	54	3.6	Non Graded
Mozambique	910	4	0.4	Non Graded
* Niger	3,824	78	2.0	Grade 1
Nigeria	44,201	836	1.9	Grade 2
* South Africa	5	0	-	Non Graded
Tanzania	4,693	84	1.9	Grade 1
Uganda	2,117	44	2.0	Non Graded
Zambia	3,763	84	1.8	Non Graded
** Zimbabwe	10,443	59	0.6	Grade 2

Compared to 2017; a **marginal reduction** in number of cases and death

Based on WHO IMS;

- 6 countries grade (1),
- 2 countries grade (2),
- 7 countries ungraded

* 4 countries documented cross border transmission.

* 2/4 (Niger and Cameroon), documented local transmission in addition to the cross borders.

** Zimbabwe: the largest Outbreak reported in 2018.

Regional Framework for the Implementation of Global Strategy for Cholera Prevention and Control, 2018-2030

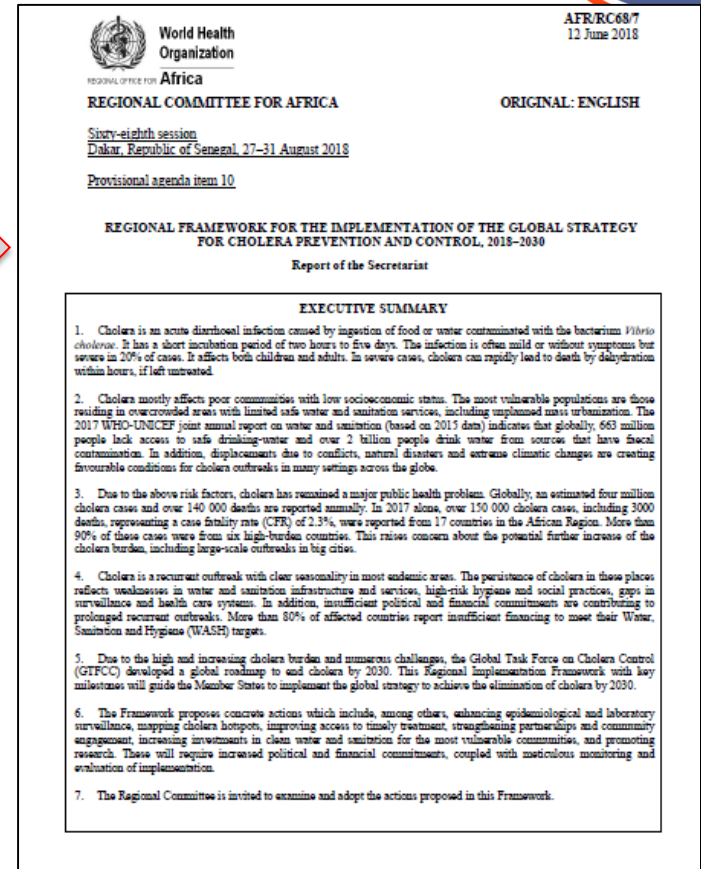


 GLOBAL TASK FORCE ON
CHOLERA CONTROL

Ending cholera : a global roadmap to 2030

**Adopted and
Translated**

- **Lunched** and presented during the 68th session of the Regional Committee of the World Health Organization (WHO), in Senegal on August 2018.
- The meeting attending by representatives from 47 African States, Ministers and Senior National Officials.
- Represented countries **Agreed** to take evidence-based actions to tackle outbreaks, including; enhancing epidemiological and laboratory surveillance, improving access to timely treatment, strengthening cross-border surveillance, promoting community engagement and increasing the use of the oral cholera vaccine.
- <http://apps.who.int/iris/handle/10665/275121>



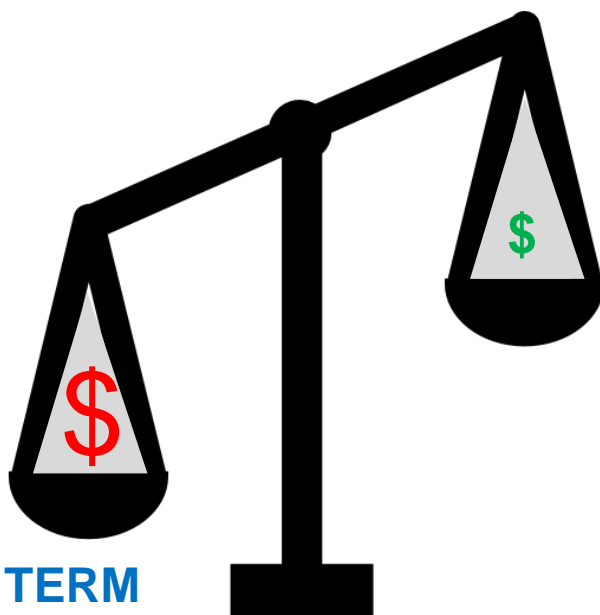
Regional Implementation Framework for Cholera Prevention and Control, 2018-2030



Shift the Balance

EMERGENCY RESPONSE

PREVENTION AND CONTROL



**SHORT TERM
EMERGENCY**

CTC, IDD kits

Emergency WaSH

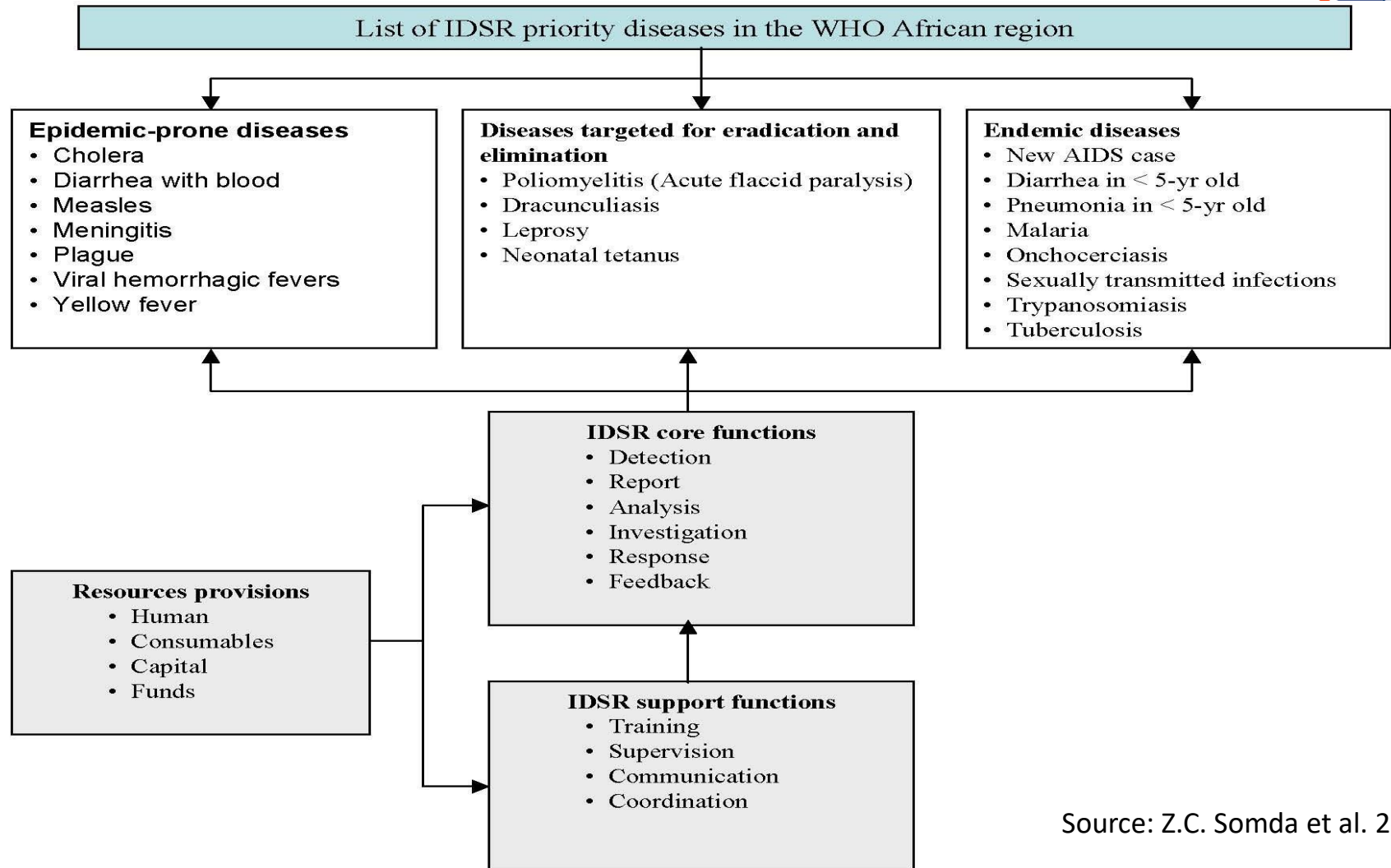
**LONG TERM
SUSTAINABLE**

WaSH,
Urban planning



Report of cholera at national level

Guiding strategy (IDSR)



Source: Z.C. Somda et al. 2009

Guiding strategy (IDSR)



- IDSR is the guiding strategy for cholera detection and notification in WHO African Region
- Strategy adopted by a 40 Member States
- IDSR is the main strategy used in routine
- IDSR is completed during outbreaks by other strategies namely EWARS, EWARN
- Data are being managed through different forms including DHIS2, Excel sheet

Reporting at Country Level



- Each country has a scheduled reporting flows and formats,
- Paper-based reporting is still on in some parts of countries where access to electronic reporting is impossible → delay in reporting,
- Electronic surveillance is a growing available way of notification in many countries,
- DHIS2 is also a growing data entry and notification mechanism that allows local levels to record data directly in the platform with a validation process required → can improve completeness and timeliness,
- There are various data formats in countries: Excel sheet, Access.

Reporting at country level



- Data are compiled by levels (districts, regions,) prior to sharing with national level
- Final compilation is performed by national health surveillance teams before sharing with Afro
- National IDSR compiled data are shared with Afro **normally** on weekly basis



AFRO experience in country on cholera data and analysis platforms

Time and format of data sharing to Afro



- IDSR routine data are shared with Afro **normally** on weekly basis. These data are suspected cholera cases
- When outbreaks are confirmed, data are shared **normally** on daily and/ or weekly basis
 - Data shared include confirmed cases and suspected cases, in addition to the laboratory data.
- A large proportion of countries shared data on Excel format (line-list)

Status on IDSR data sharing from week 1 to week 14 of 2019

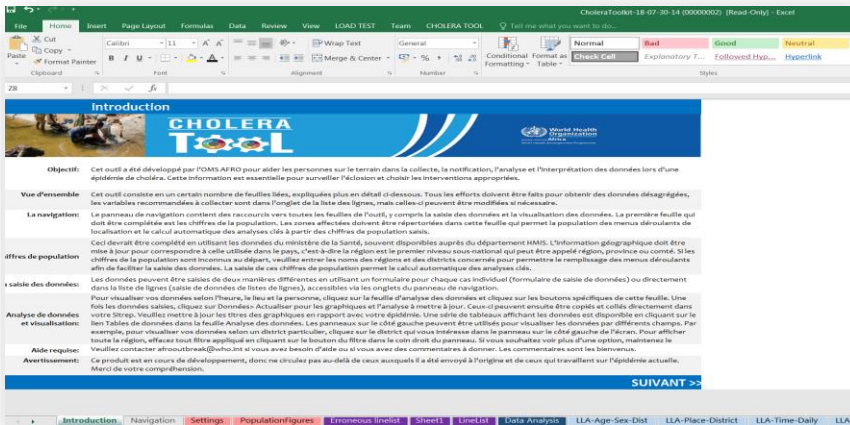


Countries	Epidemiological weeks													
	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Central Africa														
Angola														
Burundi														
Cameroun														
Central African Republic														
Chad														
Congo														
Democratic Republic of Congo														
Equatorial Guinea														
Gabon														
Sao Tome & Principe														
West Africa														
Algeria														
Benin														
Burkina Faso														
Cabo verde														
Côte d'Ivoire														
Gambia														
Ghana														
Guinee														
Guinee Bissau														
Liberia														
Mali														
Mauritania														
Niger														
Nigeria														
Senegal														
Sierra Leone														
Togo														
Eastern and Southern Africa														
Botswana														
Comoros														
Eritrea														
Ethiopia														
Kenya														
Lesotho														
Madagascar														
Malawi														
Mauritius														
Mozambique														
Namibia														
Rwanda														
Seychelles														
South Africa														
South Sudan														
Swaziland														
Tanzania														
Uganda														
Zambia														
Zimbabwe														



Use of cholera data in Afro

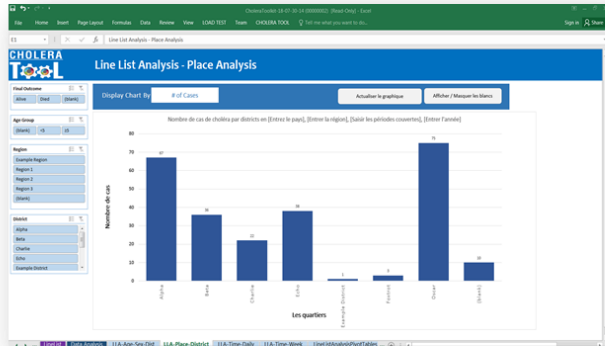
- Afro has developed a cholera toolkit to support data collection and analysis during outbreaks,
- This follows issues encountered during the events follow-up by Afro,
- The toolkit is shared to countries during outbreaks and trainings were performed for their use,
- The tool include one sheet for line-list inputing and 5 sheets for automated analysis (LLA-Age-Sex-Dist Analysis, LLA-Place-District Analysis, LLA-Time-Daily Analysis, LLA-Time-Week Analysis and Analysis PivotTables Analysis).



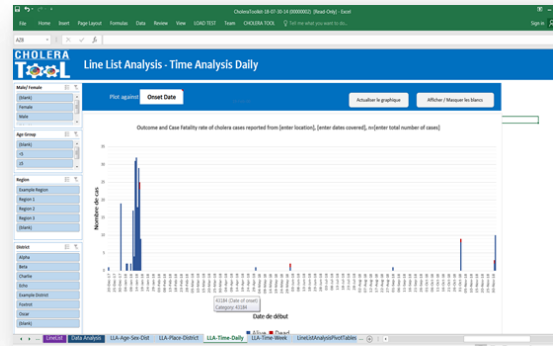
Use of cholera data in Afro



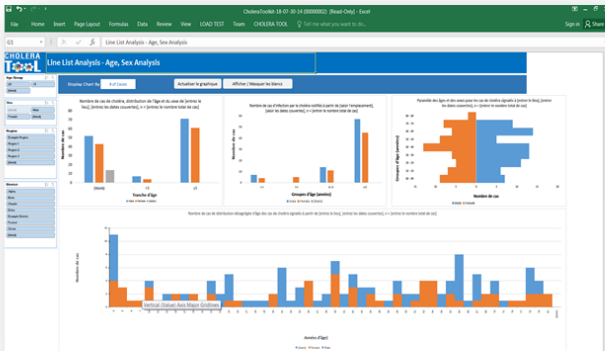
LLA-Place-District Analysis



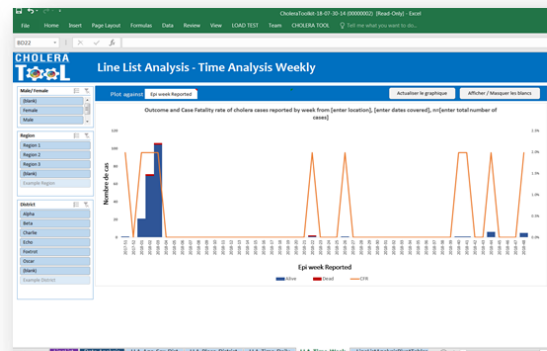
LLA-Time-Daily Analysis



LLA-Age-Sex-Dist Analysis



LLA-Time-Week Analysis



Analysis PivotTables Analysis

Tableau	Contenu	Exemple de date (01-Jan-00)	Taux de mortalité par cas (CFR) pour les enfants de moins de cinq ans et les enfants de moins de 15 ans	Taux de mortalité par cas (CFR) pour les enfants de moins de cinq ans et les enfants de moins de 15 ans	Taux de mortalité par cas (CFR) pour les enfants de moins de cinq ans et les enfants de moins de 15 ans
Tableau 1 - Nombre de cas de choléra déclarés par semaine et par région	(Blanc)	03-Jan-00	0,00%	0,00%	0,00%
Tableau 2 - Nombre de cas de choléra déclarés par semaine et par région	(Blanc)	03-Jan-00	0,00%	0,00%	3,64%
Tableau 3 - Nombre de cas de choléra déclarés par semaine et par région	(Blanc)	03-Jan-00	0,00%	0,00%	12,50%
Tableau 4 - Nombre de cas de choléra déclarés par semaine et par région	(Blanc)	03-Jan-00	0,00%	0,00%	0,00%
Tableau 5 - Nombre de cas de choléra déclarés par semaine et par région	(Blanc)	03-Jan-00	0,00%	0,00%	0,00%
Tableau 6 - Mortalité et mortalité - Taux d'attaque par district selon le sexe	(Blanc)	04-Jan-00	0,00%	0,00%	3,03%
Tableau 7 - Mortalité et mortalité - Taux d'attaque par semaine dans chaque district	(Blanc)	15-Mar-00	0,00%	0,00%	0,00%
Tableau 8 - Mortalité et mortalité - Taux de mortalité par cas (CFR) pour les enfants de moins de cinq ans et de plus de cinq ans, par semaine	(Blanc)	01-Jan-00	0,00%	0,00%	0,00%

Cholera data warehouse and dashboard



Afro has developed a cholera dashboard with as objective to:

- Provide full range of cholera related information through production of visualized dashboard to support monitoring of responses.
- Support Member State in having prompt, well- functioning and integrated data-sharing platform for timely and ongoing data analysis and interpretation.
- Facilitate timely collection and adequate cholera related data during outbreaks, through using standardized and simplified data collection tool.

Cholera data warehouse and dashboard



Deliverables :

- An online portal hosting a set of dashboards for analysing various cholera data will be developed and disseminated to Member States,
- An electronic archive of cholera data submissions will be established for archiving of current and available historical cholera data submissions from member states.



Work flow Diagram

- The architecture of cholera portal is a representation real time information flow from the WHO Country Offices (WCOs) to the Regional level in an electronic form as given in the overview diagram No.2 below.

Data Sharing Mechanism

- WCOs within Afro region shall be responsible to share Cholera outbreaks and programme data (surveillance, laboratory, OCV and WASH) using agreed template on regular basis.
- Data shall be received and collected through emails.

[Cholera dashboard concept note](#)

Cholera data warehouse and dashboard



CHOLERA PORTAL - KENYA

WHO AFRO - World Health Emergency Programme



Kenya

5641 Cases Total
78 Deaths Total
0.11 CFR

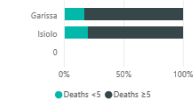
2167 Total Samples Collected
714 RDT tested
624 RDT positive
974 Total positive



Age Distribution of Cases by County



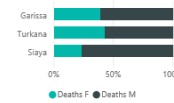
Age Distribution of Deaths by County



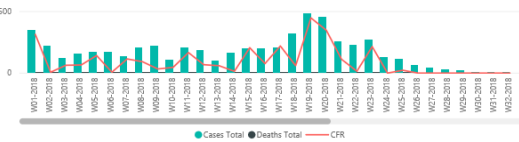
Gender Distribution of Cases by County



Gender Distribution of Deaths by County



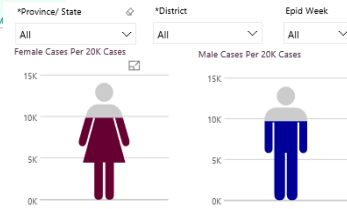
Epi Trend By Week



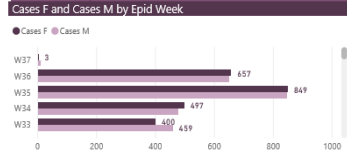
Data Table

County	Cases F	Cases M	Deaths F	Deaths M
Busia	64	72	0	6
Elgeyo Marakwet	186	123	2	1
Embu	0	3	0	0

Nigeria Cholera Dashboard



*Province/ State	Cases F	Deaths F	Cases M	Deaths M	Average of CFR
Adamawa	1035	18	967	14	1.63
Anambra	12	0	11	1	0.00
Bauchi	4665	8	4740	27	0.51
Borno	1289	3	1289	3	0.56
Ebonyi	95	3	67	4	3.27
FCT	119	9	102	5	2.17
Gombe	12	0	34	4	0.00
Jigawa	9	1	6	0	3.85



Cases Total, Deaths Total and First *District by *Province/ State

709 Total Samples Tested
584 Total Positive Lab Results

Province/ State	Cases <5	Cases >=5	Deaths <5	Deaths >=5
Adamawa	439	1561	6	26
Anambra	21	2	0	1

Top 10 Districts by Total Positive Lab Results:

District	Cases <5	Cases >=5
Katsina	179	163
Borno	122	105
Adamawa	87	73
Bauchi	76	58
Yobe	40	29
Sokoto	28	25
Kaduna	26	15
Kano	26	21
Zamfara	26	25
Kogi	23	17

Challenges



- Low timeliness and completeness
 - Only 10 countries reported consistently IDSR data from week 1 to week 14
 - 28 countries don't report IDSR data since week 1
 - Insufficient quality of data
 - Delay in outbreak detection
 - EWARS or other ad'hoc mechanisms data not shared to Afro
 - Are these information included in IDSR data (Excel Sheet, DHIS2) /
 - IDSR data do not include outbreaks data in many countries
 - Insufficient capacity of national experts on IDSR especially at operational level
- These challenges can plague the monitoring of the elimination process

Way forward



- Finalize and implement the cholera data warehouse and dashboard strategy,
- Advocate towards countries for the regular sharing of IDSR data including cholera data,
- Find mechanism to integrate different data collection tools to avoid duplication and/or data missing,
- Develop insights on ways to include outbreaks data in IDSR notification,
- Support countries to develop specific data management and monitoring strategies in their elimination plan,
- Strengthen capacity of national experts on IDSR and cholera surveillance.

Conclusion



- Cholera elimination framework need a strong monitoring process and then a reactive, sensitive and effective surveillance system
- Revitalization of the IDSR strategy will be key in Afro with a functioning rumors / alerts detection mechanisms and regular information sharing in line with IDSR / IHR requirements

Acknowledgement



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- WHE Afro team



THANK YOU