



WEEKLY EPIDEMIOLOGICAL BULLETIN

WEEK 29 – 2023

(17-23 July 2023)

Editorial message

Effective and efficient disease surveillance system contribute to the reduction of morbidity, disability and mortality from disease outbreaks and health emergencies.

This weekly bulletin presents the epidemiological status of the priority diseases, conditions, and events under surveillance in Rwanda. These data are useful to trigger a rapid response for rapid impact, actions and results oriented, a proactive preparedness, risk mitigation and prevention, intelligence, real-time information, and communication for decision making.

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KEY EPIDEMIOLOGICAL HIGHLIGHTS

EPIDEMIOLOGICAL WEEK 29

Event Based Surveillance (EBS) Highlights:

- During the epidemiological week 29, eight alerts were notified through the electronic Community Event Based Surveillance System (eCBS) including 7 human deaths (3 deaths in Rusizi district, 1 death reported respectively in Musanze, Gicumbi, Burera and Ngororero districts) and one event of foodborne illness reported in Rwamagana district.
- Three alerts were identified through the Epidemic Intelligence from Open Source (EIOS).

Indicator Based Surveillance (IBS) Highlights:

- 401 immediate reportable diseases were notified by health facilities countrywide. They included cases of acute flaccid paralysis (AFP), foodborne illness, mumps, severe malaria; bloody diarrhea, measles/rubella, cholera and chicken pox.
- 8 weekly reportable diseases and health events are being reported on weekly basis, they include among others flu syndrome, simple malaria, severe pneumonia for under 5 years, non-bloody diarrhea for under 5 years, COVID-19, dog bites, brucellosis, and trypanosomiasis. A thorough analysis conducted for Epi Week 29 revealed that, no disease crossed the epidemic thresholds.
- A total of 71 deaths were reported through the electronic Integrated Disease Surveillance and Response (eIDSR) system. The majority of deaths were classified as perinatal and deaths of children under the age of 5.

Outbreaks occurred or ongoing in week 29-2023

In the Epi Week 29, there was three outbreaks in Rwanda:

- Ongoing Measles outbreak in Kirehe District
- Ongoing Cholera outbreak in Rubavu district
- Four events due to foodborne illness occurred respectively in three districts: Ngoma, Rulindo and Rwamagana.

Completeness and timeliness

In Epi Week 29, the overall completeness and timeliness of surveillance data reporting in Rwanda was 98% and 94%, respectively.

WEEKLY UPDATES ON EVENT BASED SURVEILLANCE (EBS) EPIDEMIOLOGICAL WEEK 29

Description: *Event Based Surveillance (EBS) is a type of public health surveillance system that detects and reports unusual health events or disease outbreaks in a timely manner. The system is designed to detect signals of potential public health threats and allow a rapid response to prevent or control the spread of diseases. RBC is implementing EBS through PHS&EPR Division.*

Currently, an electronic Community Event Based Surveillance System (eCBS) and Epidemic Intelligence from Open Source (EIOS) are being used to detect and report events of public health importance from the community and media. The process for establishment of other types of EBS is still being on going.

COMMUNITY EVENT BASED SURVEILLANCE

During the Epi week 29, eight alerts were received from community:

Seven Human Deaths:

1. A 52-years-old, Male from Nyamagumba village, Kigombe cell, Muhoza sector, Musanze District, passed away on 17/07/2023. The cause of death is unknown.
2. A 12-years-old, Female from Kinyaga village, Kinyaga cell, Nkanka sector, Rusizi District, passed away on 16/07/2023. She was known to have chronic illnesses (hypertension and kidney).
3. A 41-years-old, Male from Kajevuba village, Bugondo cell, Kaniga sector, Gicumbi District, passed away on 16/07/2023. The cause of death is unknown.
4. A 59 years-old, Male from Nyabizi III village, Rutovu cell, Kinyababa sector, Burera District passed away on 19/07/2023. The person was suffering from liver failure, he was discharged from CHUK on 14/07/2023.
5. A 85 years-old, Male from Sumoyamana village, Kinyaga cell, Nkanka sector, Rusizi District, passed away on 17/07/2023. The person was admitted in Gihundwe DH for a month & half, suffering from Hypertension and lungs disease. On 16/07, he developed respiratory distress and passed away.
6. A 60 years-old, Male from Nganzo village, Rugogwe cell, Muhororo sector, Ngororero District, passed away on 22/07/2023. The person was beaten by someone else and passed away before reaching the health facility.
7. A 93 years-old, Female from Kivoga village, Kagara cell, Gihundwe sector, Rusizi District, passed away on 22/07/2023. The cause of death was unknown.

1 event of Human Illness (HI)

This event was about foodborne illness cases reported on 18/07/2023 in Rwamagana district, Munyaga sector, Kaduha cell, Rwimbogo village, where a total of 82 people consulted Munyaga HC presenting diarrhea, abdominal pain and vomiting after consumption of sorghum brew (ubushera) in a wedding.

MEDIA SCAN

During the Epi week 29, three alerts were received through Epidemic Intelligence from Open Source (EIOS):

1. **East Africa likely to have El Nino in rainy season: IGAD** NAIROBI, 17/07/2023 (Xinhua) - The Intergovernmental

Authority on Development (IGAD) Climate Prediction and Applications Center (ICPAC) warned on Monday that there is a high likelihood of El Nino occurring in East Africa during the rainy season between October and December. ICPAC noted that currently, the Indian Ocean Dipole (IOD), a phenomenon that causes heavy rains, is in a neutral phase, but this is set to change towards the October period. According to ICPAC, though there might be improved pastures for livestock, there is also an elevated risk of livestock deaths, exacerbated by diseases such as Rift Valley Fever and pneumonia.

Furthermore, existing human disease outbreaks such as cholera, measles and malaria will likely worsen with the impact of flooding, aggravating acute malnutrition, it added. East Africa, especially the Horn of Africa, is currently emerging from the worst drought in 40 years after rains failed for four consecutive seasons. An occurrence of El Nino would worsen plight of millions still grappling with drought effects as climate change effects hit harder. <https://www.ugandanews.net/news/273901747/east-africa-likely-to-have-el-nino-in-rainy-season-igad>.

2. **Measles outbreak in Mombasa: Health officials launch vaccination campaign**

The Mombasa County government has declared a measles outbreak following 34 reported cases in the Mvita and Likoni sub-counties. According to the Department of Health Vaccines in Mombasa, 23 samples from Mvita and 11 samples from Likoni were confirmed positive for measles after being sent to Nairobi for testing. "We conducted mass vaccination for 700 children two weeks ago, and we are currently carrying out a mop-up vaccination campaign in the Likoni area," the head of Vaccine Remuneration in the Department of Health in Mombasa, Isaac Jiwa said. The cases have prompted the launch of a vaccination campaign.

On 04/10/2022, there was a measles and mumps outbreak in the same county. Measles, as described by the World Health Organization (WHO), is a highly contagious and serious viral disease that can lead to rapid deaths. Despite the availability of a safe and cost-effective vaccine, an estimated 128,000 people, mostly children under the age of five, died from measles in 2021. <https://ntvkenya.co.ke/news/measles-outbreak-in-mombasa-health-officials-launch-vaccination-campaign/>

3. **Egypt confirms dengue outbreak in southern country with "mild cases"; EGYPT DENGUE**

In a statement, the ministry said that Health Ministry teams have been dispatched to the village of Al-Aleqat to follow up on the situation and carry out field investigations to compare suspected cases. take environmental samples, determine the possible cause of the disease, and take preventive measures, the statement added. The Ministry of Health teams examined cases and took samples from those who that showed symptoms of disease, the statement explained, alongside taking environmental samples from water sources. They also took samples from mosquitoes and mosquito larvae for examination at the central laboratories of the Ministry of Health and Population.

These results confirmed the presence of mosquitos transmitting the dengue fever. The ministry said all infected cases were mild and received treatment at home, assuring that thus far no one has been hospitalized due to the outbreak. <https://www.egyptindependent.com/health-ministry-investigates-dengue-fever-outbreak-in-qena/>

WEEKLY UPDATES ON INDICATOR BASED SURVEILLANCE (IBS) EPIDEMIOLOGICAL WEEK 29

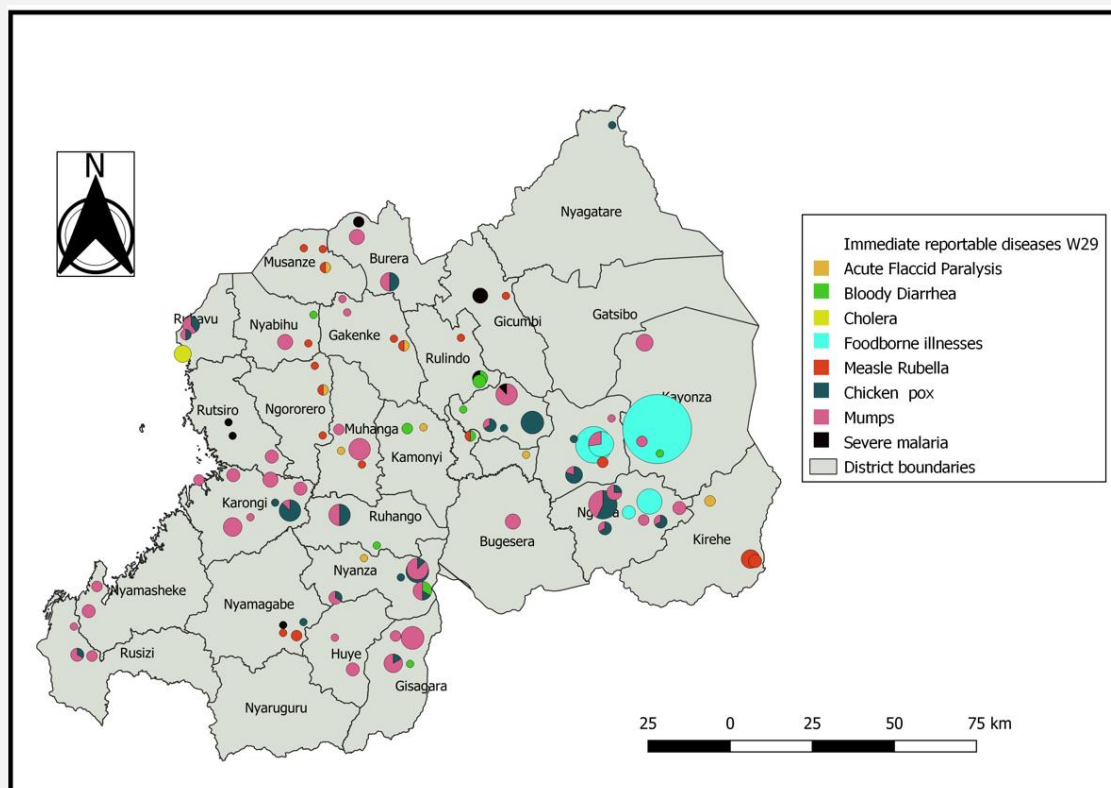
Description: Rwanda has been implemented Indicator Based Surveillance according to the IDSR 3rd guidelines where approximately 45 priority diseases, health conditions and public health events are being monitored and reported from health facilities countrywide on a regular basis. Diseases that are prone to outbreaks are being reported immediately within 24 hours after detection while diseases that are considered as endemic are reported on a weekly basis, every Monday before midday.

A. IMMEDIATE REPORTABLE DISEASES – EPI WEEK 29

During Epi week 29; 401 cases of immediate reportable diseases were notified. They include 137 cases of mumps, 69 cases of chicken pox, 127 cases of foodborne illness, 27 suspect cases of measles/rubella, 12 confirmed cases of severe malaria, 15 suspected cases of bloody diarrhea, 9 suspected cases of acute flaccid paralysis, 5 cases of cholera confirmed by RDT. (See figure below).

Notes:

- For the diseases requiring laboratory confirmation, the samples were collected and sent to the National Reference Laboratory for testing. For 19 samples of measles/rubella sent to NRL in the previous week, all were tested negative.
- All confirmed cases and suspected cases have been managed at the health facility level.

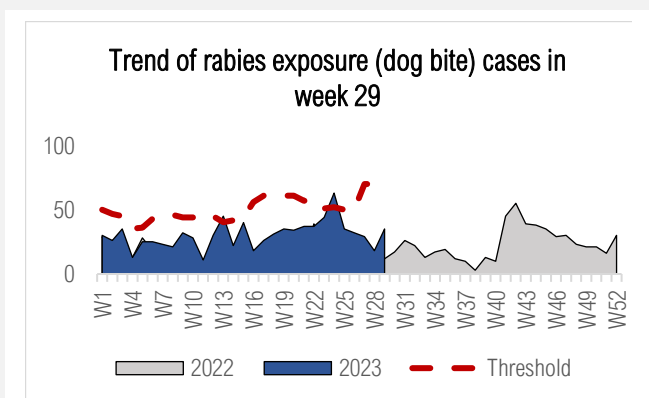
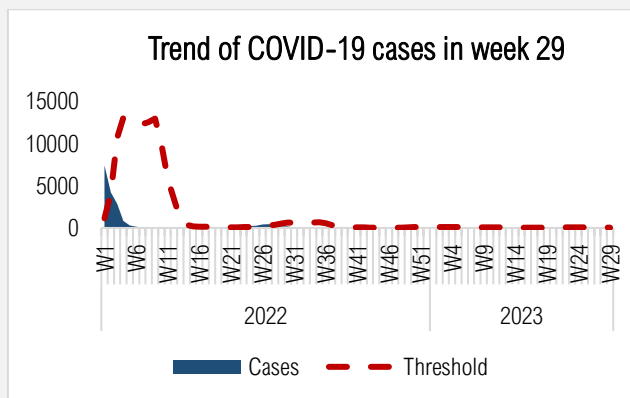
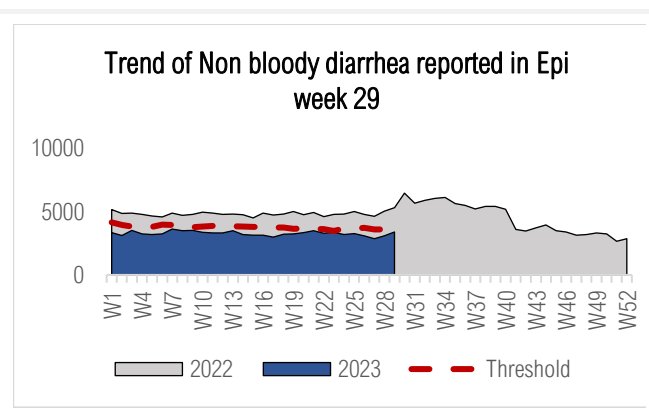
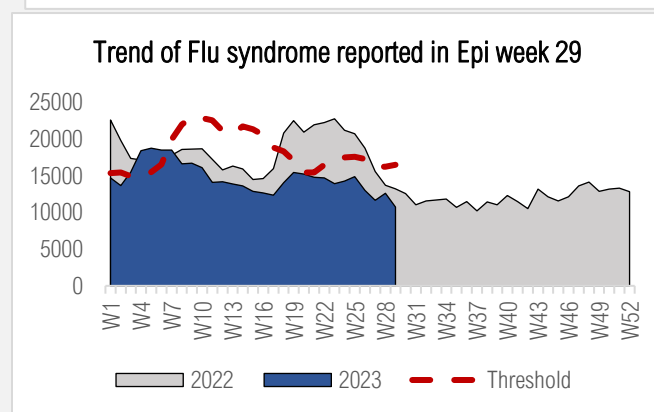
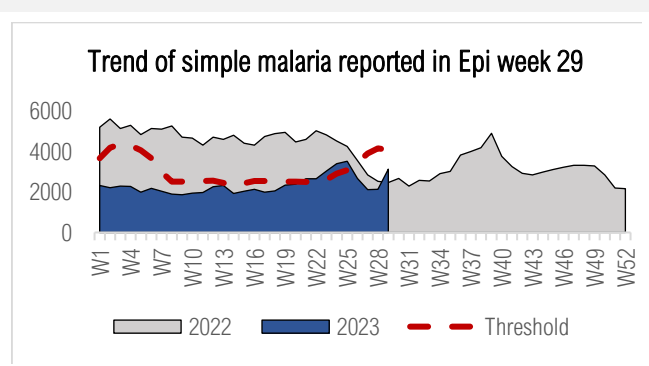
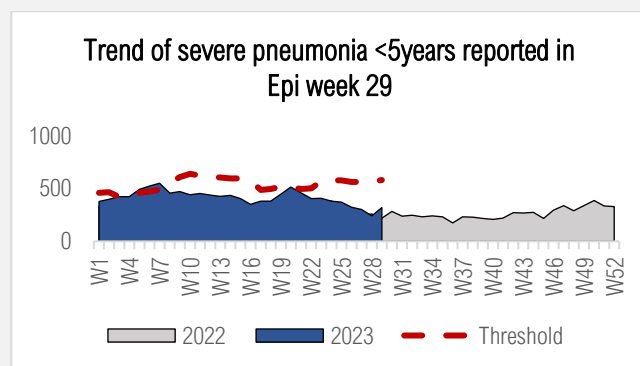


Distribution of immediate reportable diseases in Epi week 29

WEEKLY REPORTABLE DISEASES – EPI WEEK 29

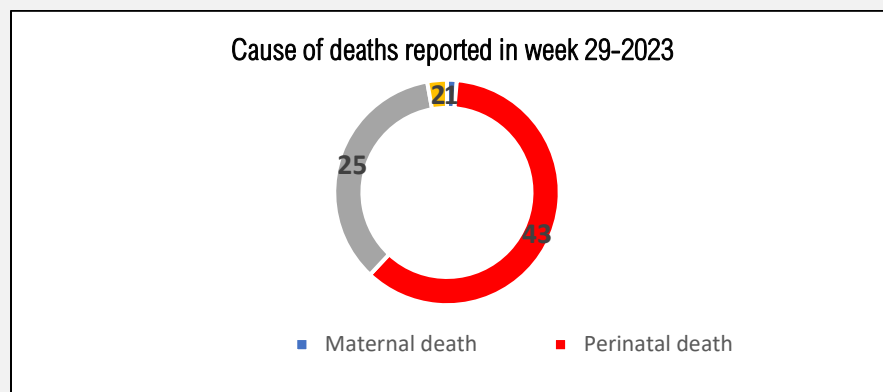
Description: In Rwanda, after the adaptation of the IDSR 3rd edition, eight diseases & events are being reported and analyzed on a weekly basis. These include flu syndrome, simple malaria, severe pneumonia for under 5 years, non-bloody diarrhea for under 5 years, COVID-19, dog bites, brucellosis, and trypanosomiasis. The monitoring trends of these weekly reportable diseases or health events helps to detect an unusual increase early.

In Epi Week 29, a thorough analysis was conducted, comparing the number of reported cases of the eight diseases monitored on a weekly basis to their respective epidemic thresholds. The results of the analysis revealed that no weekly reportable disease, crossed the epidemic thresholds.



B. DISTRIBUTION OF REPORTED DEATHS IN eIDSR – EPIDEMIOLOGICAL WEEK 29

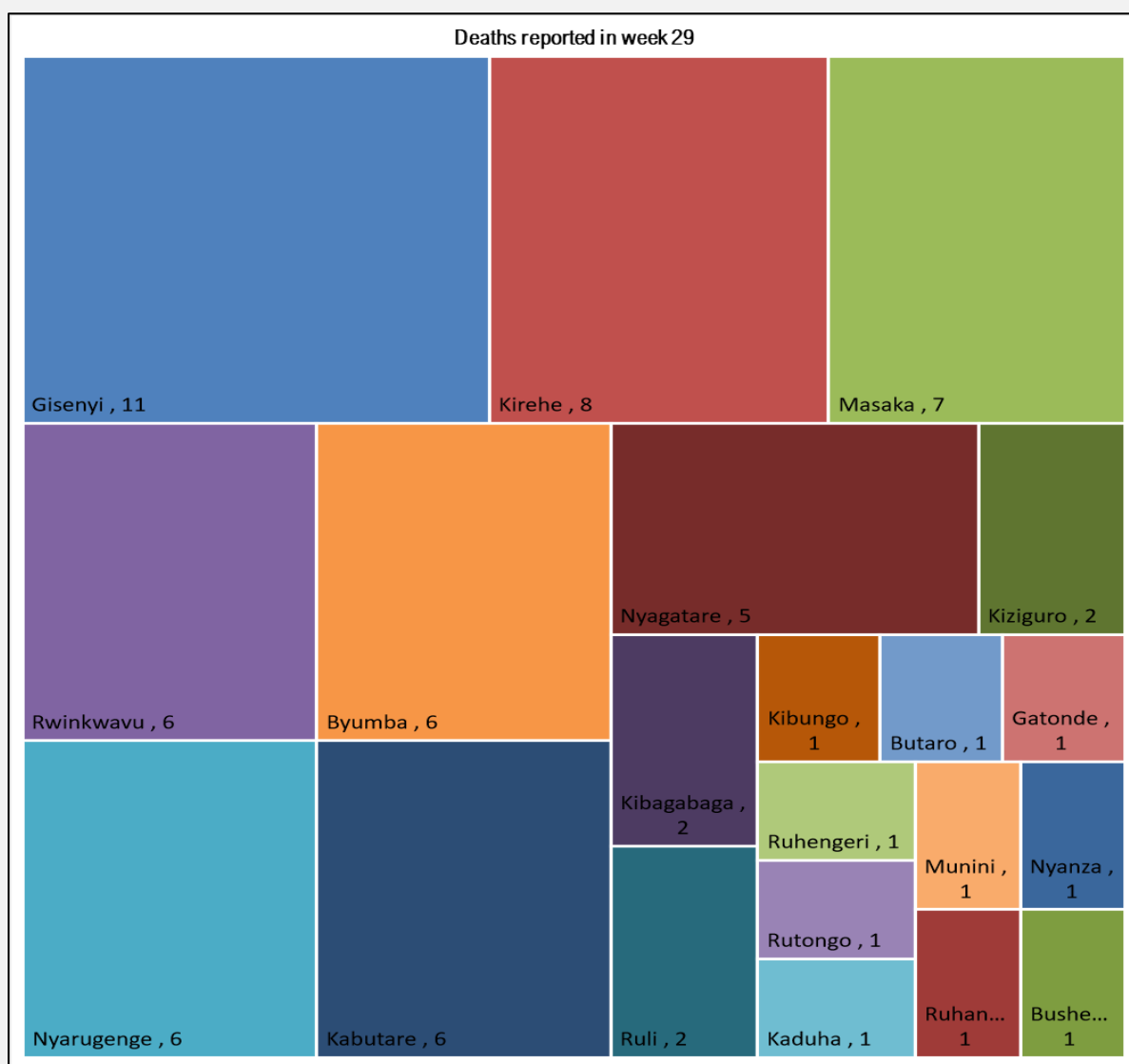
In Epi week 28, as summarized in the Pie Chart below, a total number of 71 deaths were reported through the electronic Integrated Disease Surveillance and Response (eIDSR) system. Among these deaths, 43 (61%) were classified as perinatal, 25 (35%) are deaths of children under 5 years old, 1 (1%) maternal deaths and 2(2%) deaths due to severe malaria.



Cause of deaths declared in epi week 29

Deaths were reported from various catchment areas as follow:

- 11 deaths were reported Gisenyi DH
- 8 deaths were reported in Kirehe DH
- 7 deaths were reported Masaka DH
- 6 deaths were reported respectively in Rwinkwavu DH, Nyarugenge DH, Byumba DH, Kabutare DH
- 5 deaths were reported Nyagatare DH
- 2 deaths were reported respectively by Kibagabaga DH, Kiziguro DH, Ruli DH
- 1 death was reported respectively in Gatonde DH, Kibungo RH, Ruhengeri RH, Butaro DH, Kaduha DH, Munini DH, Nyanza DH, Ruhango PH, Bushenge PH and Rutongo DH.



OUTBREAK AND EVENT UPDATES EPIDEMIOLOGICAL WEEK 29

1. ONGOING MEASLES OUTBREAK IN MAHAMA REFUGEE CAMP, KIREHE DISTRICT

Confirmed cases	24	Date reported:	February 27, 2023	Risk assessment	Low
Epi link cases	69	Source:	NRL, eIDSR		
Death(s)	0	District/HFs:	Kirehe/Mahama Refugee Camp		
Total cases	93	Geoscope:	Low		

Outbreak description: The measles outbreak is still ongoing in Kirehe district since 27th February 2023. During Epi Week 29; no additional confirmed case was found in Mahama Refugee camp. As of 23 July 2023, there are 24 laboratory confirmed cases, 69 cases confirmed by epidemiological link and no death.

Ongoing interventions

- Continuous active cases search
- Case management (treatment, isolation)

2. ONGOING CHOLERA OUTBREAK IN RUBAVU DISTRICT

Confirmed cases	42	Date reported:	June 14, 2023	Risk assessment	Low
Suspected cases	0	Source:	eIDSR		
Death(s)	1	District/HFs:	Rubavu/ Kigufi HC,		
Total cases	42	Geoscope:	Low		

Outbreak description: On 13/06/2023, Kigufi health center, in Rubavu district recorded 2 suspected cases of cholera. This was followed by notification of other 2 cases on June 14 and 15, 2023, respectively. Six stool samples were taken for culture, and all tested positive by pre-culture rapid test. Of them, three were tested positive for *Vibrio Cholerae*/ Inaba on 18/06/2023.

As of 24/07/2023; 42 cases meeting cholera case definition have been recorded with 3 confirmed by stool culture and 39 confirmed by RDTs. For the outcome of patients, 40 were cured, 1 died (a female aged of 14) and 1 case was referred from Kigufi HC to Gisenyi DH. He is a child aged of 10 months old, from Kigufi village, Kiraga cell, Nyamyumba sector was admitted at Kigufi HC on 18.07.2023 and discharged on 23.07.2023 as he was stable. He came back to Kigufi HC on 24.07.2023 with vomiting, diarrhea (watery stool, the cholera RDT became positive again and has been referred to Gisenyi Hospital for better. The source of infection was the use of unsafe water, poor hygiene and sanitation.

Interventions:

- Field investigation.
- Case management
- Enhance risk communication and community engagement on prevention and control measures
- Reinforce community awareness on IPC, hygiene and sanitation and wash strategies toward cholera prevention
- Improve the reporting mechanisms and the effective communication and provide interim reports (update on daily basis including the line list)
- Reinforce community surveillance for early detection and active search of new cases

3. FOODBORNE ILLNESS IN NGOMA DISTRICT, GASHANDA SECTOR

Confirmed cases	0	Date reported:	July 16, 2023	Risk assessment	Low
Suspected cases	48	Source:	eIDSR		
Death(s)	0	District/HFs:	Gashanda HC/ Kibungo RH,		
Total cases	48	Geoscope:	Low		

Outbreak description: On 14/07/2023, people attended a wedding in Gashanda sector, and consumed banana juice (umutobe). On the 16/07/2023, 37 of them presenting diarrhea and abdominal pain and headache consulted Gashanda HC and 11 consulted Kibungo RH. There are no critical cases recorded. Currently, all cases are treated, and discharged.

Interventions:

- outbreak investigation.
- Active case finding in the community
- community education on hygiene and safe preparation of food and drinks was conducted by Gashanda HC.

4. FOODBORNE ILLNESS IN RWAMAGANA DISTRICT, MUHAZI SECTOR, KADUHA CELL

Confirmed cases	0	Date reported:	July 18, 2023	Risk assessment	Low
Suspected cases	82	Source:	eIDSR		
Death(s)	0	District/HFs:	Munyaga HC/ Rwamagana PH		
Total cases	82	Geoscope:	Low		

Outbreak description: On the 18/07/2023, 82 people from Munyaga sector, Kaduha cell, Rwimbogo village consulted Munyaga HC presenting diarrhea and abdominal pain and vomiting. On 16/07/2023, they attended a wedding ceremony and consumed sorghum brew (ubushera) in Rwimbogo village, which is the probable cause of the outbreak. Currently, all cases are treated, and discharged.

Interventions:

- Monitoring the cases
- Finding additional related cases
- Community education on hygiene

5. FOODBORNE ILLNESS IN RWAMAGANA DISTRICT, MUHAZI SECTOR, KARITUTU CELL

Confirmed cases	0	Date reported:	July 20, 2023	Risk assessment	Low
Suspected cases	9	Source:	eIDSR		
Death(s)	0	District/HFs:	Rwamagana district/Avega Rwamagana HC/ Rwamagana PH		
Total cases	9	Geoscope:	Low		

Outbreak description: On the 20/07/2023, 9 persons from Rwamagana district, Muhazi sector, Karitutu cell, Cyeru Village consulted Avega Rwamagana HC, presenting diarrhea and abdominal pain and vomiting. Among them, 2 were transferred for further management. On 17/07/2023, they consumed sorghum brew (ubushera) which is the probable cause of this outbreak. Currently, all cases are treated and discharged.

Interventions:

- Case management of patients

- Outbreak investigation
- Sample of the Sorghum brew (ubushera) was collected and was sent to the Rwanda Forensic Laboratory

6. FOODBORNE ILLNESS IN RUTONGO SECONDARY SCHOOL (E.S. DE RUTONGO), RULINDO DISTRICT

Confirmed cases	1	Date reported:	July 18, 2023	Risk assessment	Low
Suspected cases	18	Source:	eIDSR		
Death(s)	0	District/HFs:	Rulindo district / Masoro HC		
Total cases	19	Geoscope:	Low		




Outbreak description: On 18/07/2023, Masoro HC received students complaining of diarrhea and abdominal pain after consuming the food during a farewell party for O' Level students. The total cases recorded are 19 cases. The probable cause of the outbreak is consumption of contaminated food during the party. Stool samples tested at HC revealed mucous-blood stools and red blood cells with white blood cells. Three stool specimens were sent to NRL for culture, among them 1 tested positive for shigella flexneri and 2 others are still pending. No death or severe case were recorded, and all cases were treated and discharged.

Interventions:

- Case management
- Recommendation was made to improve hygiene and sanitation in the school kitchen and dining hall
- Recommendation was made to avail adequate clean water within the school

eIDSR REPORTS COMPLETENESS & TIMELINESS EPIDEMIOLOGICAL WEEK 29

In Rwanda, eIDSR reports completeness and timeliness are scored as follow:

-  **Greater or equal to 80%: High,**
-  **Between 60% and 79%: Moderate,**
-  **Less than 60%: Low.**

In the Epi Week 29, the overall completeness and timeliness of disease surveillance data reporting in Rwanda were 98% and 94%, respectively.

With regards to completeness of surveillance reports, all hospitals had the high completeness (>80%), that was to be appreciated. For the timeliness the overall score was 94%, almost all hospitals had the high timeliness (>80%), except three hospitals that had a moderate score: Kinyihira PH, Ruhango PH and Nyanza DH.

Notes: There was an improvement of completeness. However, for the timeliness, the health facilities that had not a high score had been recommended to improve the reporting by submitting weekly surveillance reports not later than Monday before 12:00.

Details, on completeness and timeliness for all health facilities are showed in the figure below.

Hospital catchment area	Completeness																												
	W01	W02	W03	W04	W05	W06	W07	W08	W09	W10	W11	W12	W13	W14	W15	W16	W17	W18	W19	W20	W21	W22	W23	W24	W25	W26	W27	W28	W29
Nyagatare	100	100	100	100	100	86	93	93	100	93	100	100	86	93	100	100	100	94	86	100	86	100	100	100	100	93	100	100	100
Gatunda	100	100	100	100	100	100	100	100	100	78	100	100	89	100	100	100	100	100	100	100	100	100	100	100	100	89	100	100	100
Ngarama	88	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Kiziguro	100	100	100	100	100	100	100	100	100	100	100	100	100	92	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Gahini	100	100	100	100	100	100	89	89	78	100	100	78	100	100	100	100	100	78	100	100	100	100	89	100	100	100	100	100	100
Rwinkwavu	100	100	100	100	100	100	100	100	100	100	100	88	100	88	88	88	100	100	100	100	100	100	100	100	100	100	100	100	100
Kibungo	94	100	94	100	100	100	100	100	100	100	100	100	100	94	100	100	100	94	100	100	100	100	100	94	100	100	100	100	100
Kirehe	100	100	100	100	100	100	100	100	100	90	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Rwamagana	76	71	88	100	100	94	100	100	94	100	88	94	100	100	100	100	100	100	94	100	100	100	100	100	100	100	100	100	100
Nyamata	100	94	100	94	100	100	100	100	100	100	100	100	100	100	100	100	88	88	100	94	100	94	100	100	88	88	88	94	100
Kinihira	100	100	100	100	100	100	89	89	100	89	89	100	89	89	89	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Rutongo	93	87	93	87	100	100	100	100	100	93	93	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Gatonde	100	86	100	100	100	100	100	100	100	86	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Butaro	80	85	95	95	75	90	95	95	95	100	95	100	95	100	100	95	100	95	100	90	100	100	100	100	95	75	100	100	100
Ruli	100	100	100	100	100	100	100	100	100	100	90	90	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Nemba	100	100	100	100	100	89	100	100	100	89	100	100	89	100	100	100	100	89	100	100	100	89	100	100	100	100	100	100	100
Ruhengeri	94	94	94	100	83	89	89	89	100	94	83	94	89	94	89	94	89	94	94	100	100	89	100	100	100	100	100	100	100
Byumba	96	100	100	96	96	96	100	100	100	96	100	96	96	92	100	100	100	96	100	96	100	100	96	100	100	100	100	100	100
CHUB	0	100	100	100	100	100	100	100	0	0	100	100	100	0	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Kabutare	84	95	100	100	95	95	95	95	89	95	95	100	89	100	100	100	89	95	100	100	100	100	89	100	89	100	100	100	100
Kabagayi	100	100	92	85	100	92	92	92	92	100	92	92	85	100	100	92	100	100	100	92	100	100	100	92	100	92	100	100	100
Kibilizi	100	100	100	100	100	100	100	100	100	100	100	82	91	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Gakoma	83	100	100	100	83	100	100	100	83	100	100	100	67	100	100	100	83	83	67	100	100	100	100	100	100	83	100	100	100
Gitwe	100	100	89	100	100	78	100	100	100	100	100	100	100	89	100	100	78	89	100	100	89	100	89	100	100	67	100	100	100
Ruhango	88	100	100	100	88	88	75	88	88	100	100	63	75	63	63	75	50	88	75	63	88	63	100	100	100	75	100	100	88
Remera	100	100	100	93	100	100	100	100	100	100	100	93	100	100	100	100	100	100	93	100	100	93	93	93	100	100	100	100	100
Rukoma	84	84	89	79	95	100	89	89	74	95	100	79	79	89	100	100	95	89	100	100	84	100	95	100	100	89	100	100	84
Nyanza	77	77	100	92	100	92	100	100	100	100	92	100	92	85	100	100	100	100	100	92	100	100	100	100	100	100	100	100	100
Kaduha	100	90	100	100	100	100	100	100	100	100	100	100	90	100	100	100	90	90	90	90	90	100	100	80	100	90	100	100	100
Munini	100	94	100	100	100	94	100	100	100	100	100	100	100	100	100	100	94	88	94	100	94	100	100	94	100	100	100	100	100
Bushenge	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	88	100	88	100	100	100	100	100	100	100	88	75	100
Kibogora	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	93	100	100	93	100	100	100	100	100	100	100	100	100
Kibuye	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	92	92	100	100	100	100	100	100	100
Kirinda	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	83	100	100	100	100	100	100	100	100	100	100
Mugonero	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	86	100	100	100	100	100	100	100	100	100	100	100	100
Shyira	100	100	100	100	100	88	100	100	100	100	100	100	94	94	100	100	94	100	76	100	94	100	76	88	100	100	100	94	82
Muhororo	100	100	100	100	100	100	100	100	100	100	100	100	100	90	100	100	100	80	100	100	90	100	100	100	100	90	100	100	100
Kabaya	86	100	100	100	100	100	100	100	86	100	100	100	100	100	100	100	100	86	100	100	100	100	100	100	100	100	100	100	100
Gihundwe	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	90	100	100	100
Mibilizi	100	100	100	100	100	100	100	100	100	100	100	100	92	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Gisenyi	100	100	100	100	100	100	100	100	100	94	100	100	100	100	100	100	94	100	100	100	100	100	94	100	100	100	100	100	88
Murunda	89	100	100	100	100	95	100	100	100	100	100	100	95	95	100	100	95	89	89	95	100	100	100	100	100	100	100	100	100
CHUK	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Nyarugenge	100	100	89	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	89	100	100	100
Muhima	100	100	100	100	100	100	100	100	100	75	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	75	100	100	100
RMH	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	0	100	100	100	100	100	100	100	100	0	0	100	100
Masaka	100	100	100	92	100	100	100	100	100	100	100	100	100	100	100	100	92	100	100	100	100	100	100	100	100	92	92	100	100
Kigababaga	90	86	95	95	90	95	100	100	90	100	100	100	95	95	100	95	100	100	90	100	95	95	86	95	95	81	100	100	95
Kacyiru	0	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	0	0	100	100	100	100	100	100	100	100	100	100
KFH	0	0	100	100	100	100	100	100	0	100	100	100	100	100	100	100	100	0	0	100	0	100	0						

Hospital catchment area	W01	W02	W03	W04	W05	W06	W07	W08	W09	W10	W11	W12	W13	W14	W15	W16	W17	W18	W19	W20	W21	W22	W23	W24	W25	W26	W27	W28	W29
Nyagatare	100	100	100	100	100	86	93	93	93	93	100	100	86	79	86	94	79	94	94	86	79	93	86	93	100	79	100	100	93
Gatunda	100	100	100	100	100	100	100	100	100	78	89	100	89	100	100	100	78	100	100	100	89	89	100	100	100	67	100	100	100
Ngarama	88	100	100	100	100	100	88	100	100	100	100	100	100	100	100	100	75	100	100	100	100	100	100	100	100	88	100	100	100
Kiziguro	100	100	100	100	100	100	100	100	100	100	100	100	100	92	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Gahini	100	100	100	100	100	89	89	89	78	100	100	78	100	100	100	100	100	78	78	100	100	100	100	89	100	67	78	100	89
Rwinkwavu	100	88	100	100	100	100	100	100	100	88	88	88	100	63	75	100	88	100	100	100	100	100	100	100	100	100	88	88	100
Kibungo	94	100	94	100	100	100	100	100	100	100	100	100	100	94	100	100	100	94	94	100	100	100	100	94	100	100	100	100	94
Kirehe	100	100	100	100	95	95	100	100	100	90	95	100	100	90	100	100	85	95	95	100	100	100	100	95	100	85	100	100	95
Rwamagana	76	65	53	82	76	88	100	100	94	100	100	94	94	94	100	88	71	94	94	100	100	94	88	88	88	89	100	94	100
Nyamata	100	88	76	94	88	94	94	100	88	100	88	100	94	76	100	100	76	100	100	82	94	88	100	94	88	47	76	94	82
Kinihira	100	100	100	100	89	100	89	67	100	89	78	89	100	89	89	89	89	89	89	100	100	100	67	100	89	100	100	89	78
Rutongo	93	87	93	73	100	100	100	100	100	93	93	100	93	100	100	100	100	100	100	93	100	93	93	93	100	100	100	93	100
Gatonde	100	86	100	100	100	100	100	100	100	100	86	100	100	100	86	100	100	71	100	100	100	100	100	71	100	100	100	100	100
Butaro	80	85	80	75	65	90	85	95	90	95	90	90	85	75	85	95	75	85	85	85	90	85	85	90	95	60	100	95	90
Ruli	100	100	100	100	100	100	90	100	100	100	90	90	100	100	100	90	100	100	100	100	100	100	100	100	100	90	100	100	100
Nemba	100	100	89	100	100	89	100	100	100	89	78	100	100	78	100	100	67	89	89	100	100	89	100	89	89	89	89	100	100
Ruhengeri	94	89	89	100	83	89	83	72	94	94	94	78	94	83	89	89	89	100	100	94	89	89	100	100	100	89	100	94	89
Byumba	96	100	96	96	88	96	100	100	100	96	96	96	96	81	96	96	96	96	96	96	100	96	96	100	96	96	100	100	100
CHUB	0	100	100	100	100	100	100	0	0	0	0	100	100	0	100	100	0	100	100	100	100	100	0	100	100	100	100	100	100
Kabutare	84	89	89	95	84	89	89	89	84	95	74	100	100	79	100	100	53	95	95	100	100	100	84	89	95	79	95	100	95
Kabgayi	100	92	92	85	92	77	92	85	85	100	92	92	92	69	92	92	69	100	100	100	92	100	92	92	100	92	100	100	92
Kibilizi	100	100	100	100	100	100	82	100	100	100	100	82	91	82	91	91	91	100	100	100	100	100	100	100	100	91	100	100	100
Gakoma	83	100	100	100	83	67	83	100	83	100	100	100	67	50	83	67	50	83	83	83	67	100	83	50	100	83	100	100	100
Gitwe	100	100	89	89	89	78	100	78	100	100	89	89	100	67	100	78	44	89	89	100	89	89	89	100	100	56	89	100	89
Ruhango	88	88	88	100	88	88	75	88	88	88	100	63	75	50	63	50	38	75	75	63	75	63	100	63	100	75	100	100	75
Remera																													
Rukoma	100	100	100	93	100	100	100	100	100	100	93	100	93	93	93	100	93	93	93	100	100	93	93	87	100	93	100	100	93
Nyanza	84	84	89	79	74	100	89	84	63	89	84	74	68	47	89	95	47	89	89	89	84	95	89	95	95	74	84	95	79
Kigeme	77	69	92	92	100	92	100	92	100	100	92	100	92	46	100	85	46	100	100	92	92	100	92	100	100	92	100	100	100
Kaduha	100	90	90	100	100	100	100	100	90	100	100	90	90	80	90	100	60	90	90	90	90	100	90	80	100	70	90	100	100
Munini	100	94	100	100	100	94	94	100	100	94	88	94	100	82	100	100	88	82	82	88	94	88	100	88	100	100	100	94	100
Bushenge	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	63	100	100	100	100	100	100	100	88	88	88	75	100
Kibogora	100	100	100	100	100	100	93	100	100	100	100	100	100	100	93	93	86	100	100	93	100	100	100	100	100	93	100	100	93
Kibuye	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	92	92	100	92	85	100	92	100	100	100	100	92
Kirinda	100	100	100	100	100	100	100	100	100	100	100	100	100	83	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Mugonero	100	100	100	100	86	100	100	100	100	100	86	100	100	86	100	100	86	100	100	100	100	86	100	86	86	86	100	100	100
Shyira	100	100	100	100	100	88	100	100	100	100	100	100	94	88	94	100	79	100	100	100	94	94	76	88	100	82	100	94	82
Muhororo	100	100	90	100	100	100	100	100	100	100	100	100	100	80	70	100	30	80	80	100	90	90	90	70	80	70	100	100	80
Kabaya	86	100	100	86	100	100	71	100	71	100	100	100	100	71	100	86	100	86	86	100	100	100	100	100	100	100	100	100	100
Gihundwe	100	100	90	100	80	100	90	90	90	100	100	100	100	90	90	100	70	100	100	100	100	100	100	100	100	70	100	100	100
Mibilizi	100	100	100	100	100	100	100	100	100	83	100	100	92	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Gisenyi	100	100	94	100	100	100	100	100	100	94	94	100	100	100	88	100	88	100	100	94	100	94	88	100	94	94	100	100	81
Murunda	89	100	95	100	100	95	100	95	100	95	95	100	84	95	100	89	95	89	89	95	100	95	89	100	95	95	100	89	95
CHUK	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Nyarugenge	100	100	100	100	100	100	100	89	100	100	100	100	100	100	100	100	78	100	100	100	100	100	100	100	100	89	100	100	100
Muhima	100	100	100	100	100	100	100	100	100	75	100	100	100	100	100	90	75	100	100	100	100	100	100	100	100	75	100	100	100
RMH	100	100	0	100	100	0	100	100	100	100	100	100	100	0	0	100	0	100	100	100	100	100	0	100	0	0	0	100	100
Masaka	100	100	100	92	100	92	100	100	100	92	100	100	92	92	92	100	92	100	100	100	100	100	92	100	100	92	92	100	100
Kigababaga	90	81	100	90	90	95	90	100	86	100	90	90	95	76	95	90	57	100	100	100	95	95	81	95	100	67	90	100	95
Kacyiru	0	100	100	100	100	100	100	100	100	100	0	0	100	0	0	0	0	100	100	0	100	100	100	100	100	0	100	100	100
KFH	0	0	100	100	100	100	0	100	0	100	100	100	100	0	100	100	0	100	100	0	100	0	0	0	100	0	100	100	100
Caraes Ndera	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	0	100	100	100	100	100	100	100	0	0	100	100	100
Nyabikenke	80	80	80	60	80	80	80	80	100	100	100	100	100	60	100	100	80	100	100	100									