



WEEKLY EPIDEMIOLOGICAL BULLETIN

WEEK 33 – 2023

(14-20 August 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 33

Event Based Surveillance (EBS) Highlights:

- During the epidemiological week 33, two alerts were notified through the electronic Community Event Based Surveillance System (eCBS), there were 2 human deaths (reported in Rwamagana district).
- One alert was identified through the Epidemic Intelligence from Open Source (EIOS):
Diseases, mortality and crises: serious climatic consequences caused by the El Niño phenomenon.
Facing an epidemic without a vaccine: the case of monkeypox in Congo-Kinshasa.

Indicator Based Surveillance (IBS) Highlights:

- 285 immediate reportable diseases were notified by health facilities countrywide. They included the cases of acute flaccid paralysis (AFP), foodborne illness, mumps, severe malaria; bloody diarrhea, measles/rubella, cholera, chicken pox, bacterial meningitis and typhoid fever.
- 8 weekly reportable diseases and health events are being reported on weekly basis, they 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. A thorough analysis conducted for Epi Week 33 revealed that, non-bloody diarrhea for under 5 years crossed the epidemic threshold.
- A total of 63 deaths were reported through the electronic Integrated Disease Surveillance and Response (eIDSR) system. The majority of deaths were classified as perinatal deaths and deaths of children under 5 years.

Outbreaks reported in week 33

In the Epi Week 33, there was six outbreaks in Rwanda:

- Ongoing Measles outbreak in Kirehe District
 - Ongoing Cholera outbreak in Rubavu district
- Four foodborne illness outbreaks occurred respectively in Bugesera, Gatsibo, Burera and Ngoma districts.

Completeness and timeliness

In Epi Week 33, the overall completeness and timeliness of surveillance data reporting in Rwanda was 97% and 95%, respectively.

WEEKLY UPDATES ON EVENT BASED SURVEILLANCE (EBS) EPIDEMIOLOGICAL WEEK 33

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 BASED SURVEILLANCE

During the Epi week 33, two deaths were received from community:

On 19/8/2023; two children of 10 years and 3 years old died suddenly after arriving at Rwamagana HC. Both children were received by the health facility, one died immediately and the second died being transferred to Rwamagana PH. Their guardian reported that the same day in the morning, they presented with weakness, headache, and chest pain.

MEDIA SCAN

During the Epi week 33, two alerts were received through Epidemic Intelligence from Open Source (EIOS):

- **Diseases, mortality and crises: serious climatic consequences caused by the El Niño phenomenon.**

PARIS, FRANCE.- The **El Niño weather phenomenon**, which has just started, is generally linked to **rising global** temperatures. The natural rise in temperatures in the Pacific Ocean occurs at intervals ranging from 2 to 7 years, and the episodes generally last from nine to twelve months. And according to scientists, its consequences could go beyond the exclusively climatic sphere.

Diseases

It has been shown that vector-borne diseases, such as malaria and dengue fever, expand their areas of contamination as temperatures rise.

Mortality

"The arrival of El Niño will considerably increase the probability of breaking temperature records and triggering more extreme heat in many regions of the world and in the oceans," stressed the Secretary General of the World Meteorological Organization (WMO), Petteri at the beginning of July. Taalas.

Heat waves are "silent killers" and "de facto kill more people than any other type of violent weather event," said Gregory Willenius, director of a center on climate and health at Boston University. It is estimated that more than 61,000 people died from the heat in Europe last summer, when there was no El Niño phenomenon.

Food insecurity

"In a year with an El Niño phenomenon, there are countries that are more likely to have bad harvests. This is the case in South and Southeast Asia," said Walter Baethgen of the International Research Institute for Climate and Society. This could especially affect world rice production, which is highly sensitive to weather conditions.

<https://www.elheraldo.hn/mundo/graves-consecuencias-climaticas-causadas-por-fenomeno-nino-MF14889720>

- Facing an epidemic without a vaccine: the case of monkeypox in Congo-Kinshasa.

It is without vaccines at its disposal that the Democratic Republic of Congo (DRC) tries to control a long epidemic of monkey pox (Mpox). Sabrina El Faiz Written on 08/14/2023. In Congo-Kinshasa, where the first human case of the disease was discovered in 1970, the epidemic is currently affecting several provinces of the country. 6,914 cases, including 328 deaths have been recorded since the beginning of the year in the DRC. According to the latest figures, 17 of the country's 26 provinces are affected by the epidemic.

No vaccines against the disease

The Democratic Republic of Congo (DRC) is one of the countries endemic to the disease. It even faces the deadliest variant of Mpox. Despite this, it does not yet have specific treatments or vaccines. To cope with the increase, Kinshasa has reinforced active surveillance of cases. As for the patients, "the care is essentially symptomatic, but we also combine antibiotics which have nevertheless been proven to prevent secondary bacterial infections", explained recently Professor Mbala Placide, head of the epidemiology department at the Institute. national biomedical research center to our colleagues from Gavi, the Vaccine Alliance.

August 22, 2023

Kinshasa, August 23, 2023 (ACP).- A case of Monkey Pox, otherwise known as monkey pox, has been reported to the Kinshasa General Reference Hospital (HGRK, ex Mama Yemo) in the Democratic Republic of Congo, learned the ACP Tuesday from local health source.

Prevention measures to adopt against Monkeypox

Dr. Kacita has published certain preventive measures, in particular the wearing of masks, personal hygiene and the monitoring of entry and exit points (ports, airports, etc.). "Monkeypox is a disease like any other. In case of symptoms, including fever, cough and rash, go to the Hospital for care," he said, announcing: "The care is free. It is ensured in the specialized services of the HGRK". Monkey pox or Monkeypox, caused by a virus transmitted to humans by animals, most often rodents, is a zoonotic disease. Until June 2023, the Democratic Republic of Congo had recorded more than 3,000 cases of this disease, it is recalled. CPA/
<https://flutrackers.com/forum/forum/africa-ac/monkeypox/967771-drc-mpox-outbreak-2023#post978037>

WEEKLY UPDATES ON INDICATOR BASED SURVEILLANCE (IBS) EPIDEMIOLOGICAL WEEK 33

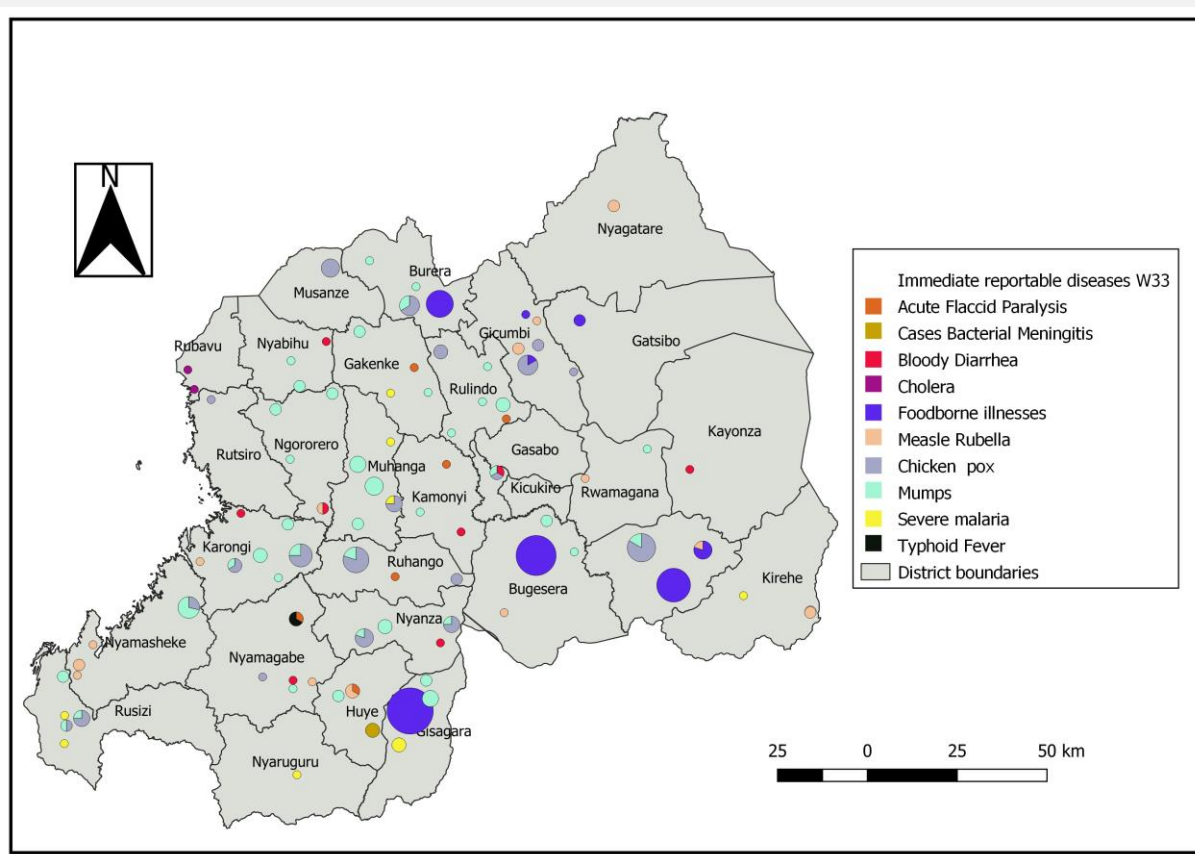
Description: *Rwanda has been implemented Indicator Based Surveillance according to the IDSR 3rd guidelines where approximately 45 priority diseases, health conditions and public health events are being monitored and reported from health facilities countrywide on a regular basis. Diseases that are prone 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 33

During Epi week 33; 285 cases of immediate reportable diseases were notified. They included 92 cases of foodborne illness, 74 cases of mumps, 67 cases of chicken pox, 8 suspected cases of bloody diarrhea, 21 suspected cases of measles/rubella, 10 confirmed cases of severe malaria, 6 suspected cases of acute flaccid paralysis, 2 case of cholera confirmed by RDT, 3 cases of suspected bacterial meningitis, 2 cases of typhoid fever. (See figure below)

Notes:

- For the diseases requiring laboratory confirmation, the samples were collected and sent to the National Reference Laboratory for testing. For the samples of VHF, it was tested negative.
- All confirmed cases and suspected cases had been managed at health facility level.

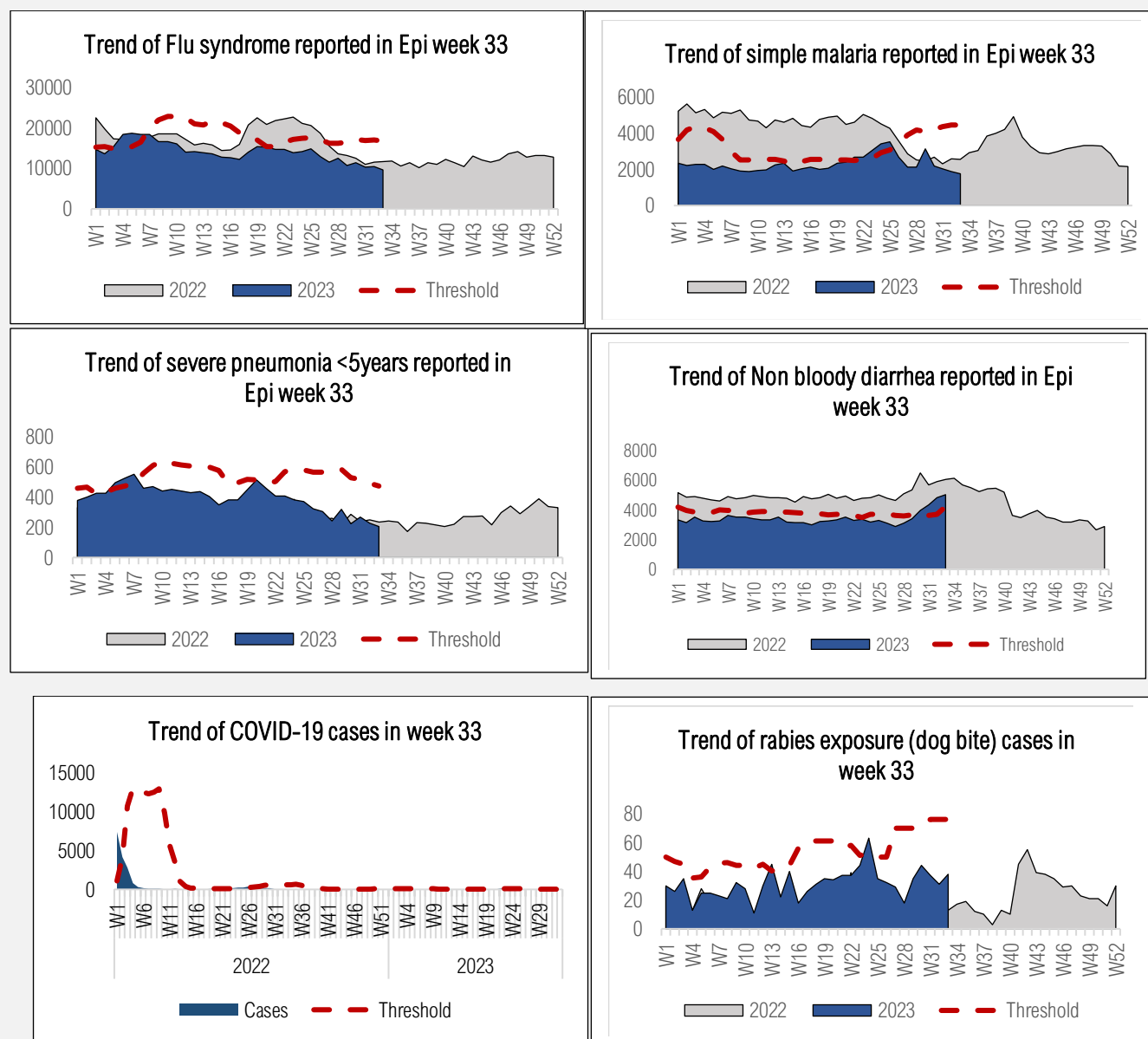


Distribution of immediate reportable diseases in Epi week 33

WEEKLY REPORTABLE DISEASES – EPI WEEK 33

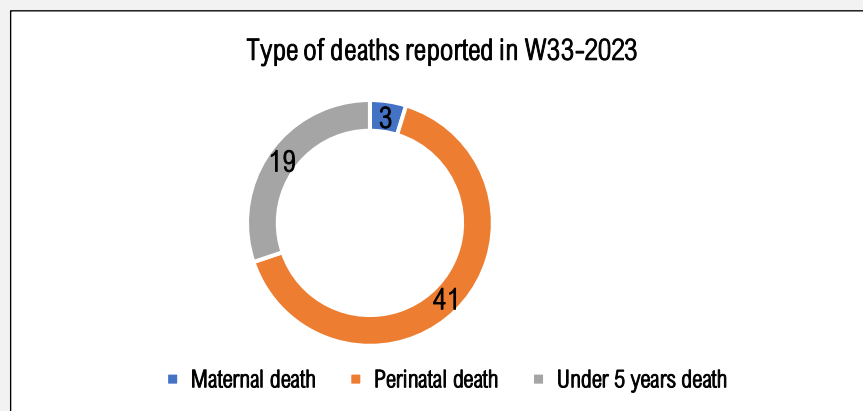
Description: In Rwanda, after the adaptation of the IDSR 3rd edition, eight diseases & events are being reported and analyzed on a weekly basis. These include flu syndrome, simple malaria, severe pneumonia for under 5 years, non-bloody diarrhea for under 5 years, COVID-19, dog bites, brucellosis, and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

In Epi Week 33, 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 non-bloody diarrhea for under 5 years cases crossed the epidemic threshold. The hospital catchment areas that crossed the thresholds were 22/46 (48%), included Butaro, Byumba, Gakoma, Gisenyi, Kabgayi, Kabutare, Kaduha, Kibungo, Kigeme, Kinihira, Kirinda, Kiziguro, Munini, Nemba, Nyagatare, Nyanza, Remera Rukoma, Ruhengeri, Ruli, Rutongo, Rwinkwavu and Shyira DHs. A deep follow up is recommended.



B. DISTRIBUTION OF REPORTED DEATHS IN eIDSR – EPIDEMIOLOGICAL WEEK 33

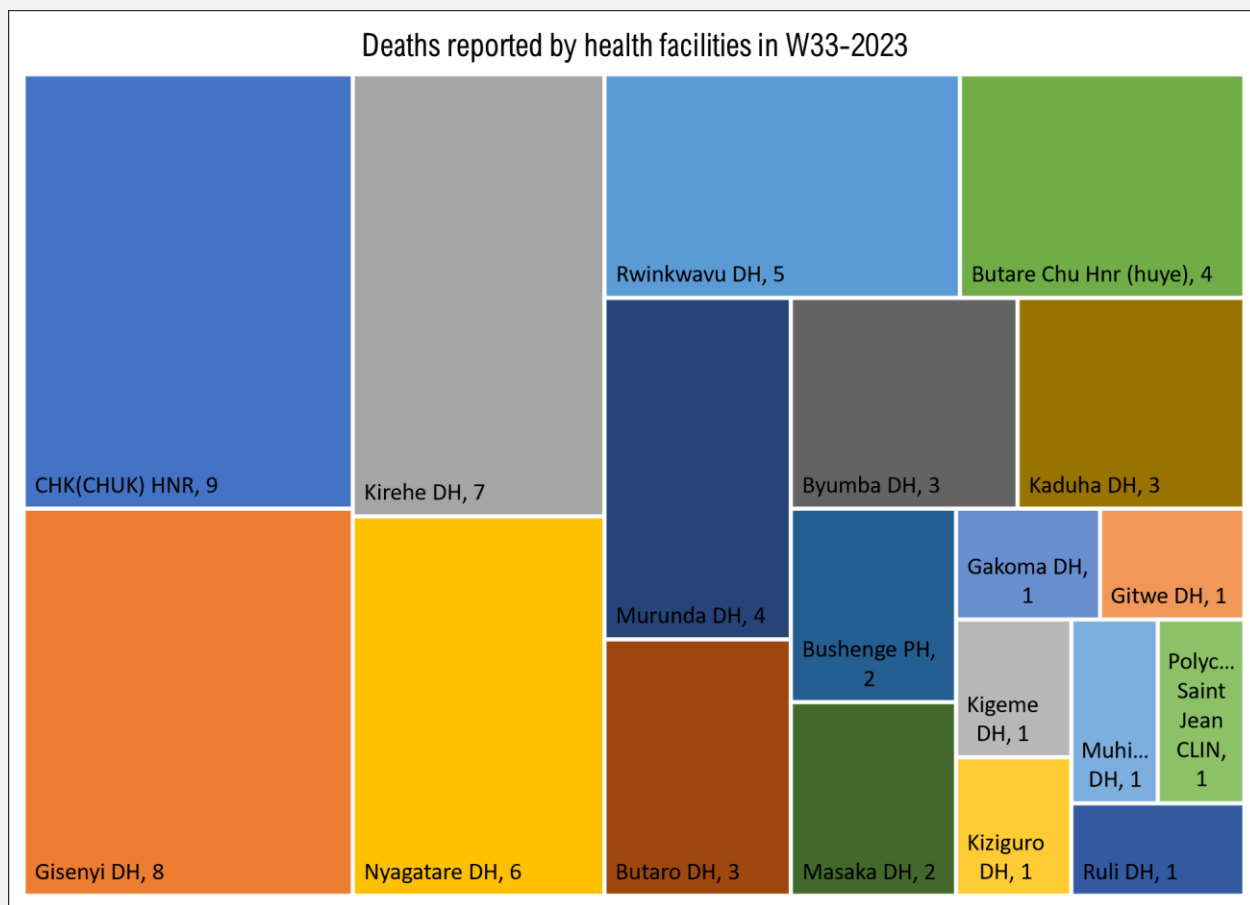
In Epi week 33, as summarized in the Pie Chart below, a total number of 63 deaths were reported through the electronic Integrated Disease Surveillance and Response (eIDSR) system. Among these deaths, 41(65%) were classified as perinatal, 19 (35%) were deaths of children under 5 years old (included 1 death due to non-bloody diarrhea) and 3(5%) maternal deaths.



Cause of deaths declared in epi week 33

Deaths were reported from various catchment areas as follow:

- 9 deaths were reported in CHUK
- 8 deaths were reported in Gisenyi DH
- 7 deaths were reported in Kirehe DH
- 6 deaths were reported in Nyagatare DH
- 5 deaths were reported in Rwinkwavu DH
- 3 deaths were reported respectively in Butaro DH, Byumba DH and Kaduha DH
- 2 deaths were reported respectively in Bushenge PH and Masaka DH
- 1 death was reported respectively in Gakoma DH, Gitwe DH, Kigeme DH, Kiziguro DH, Muhima DH, Ruli DH and Polyclinic Saint Jean (located in Nyarugenge DH).



OUTBREAK AND EVENT UPDATES EPIDEMIOLOGICAL WEEK 33

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

Confirmed cases	30	Date reported:	February 27, 2023	Risk assessment	Low
Epi link cases	72	Source:	NRL, eIDSR		
Death(s)	0	District/HFs:	Kirehe/Mahama Refugee Camp		
Total cases	102	Geoscope:	Low		

Outbreak description: The measles outbreak is still ongoing in Kirehe district since 27th February 2023. As of August 21, 2023, no additional cases were identified in Mahama Refugee camp by laboratory confirmation, which makes it a total of 30 laboratory confirmed cases, while 4 suspected cases were reported during Epi week 33, then there was 72 cases confirmed by epidemiological link. The samples were taken and sent to NRL; results are pending.

Ongoing interventions:

- Vaccination campaign

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

2. ONGOING CHOLERA OUTBREAK IN RUBAVU DISTRICT

Confirmed cases	53	Date reported:	June 14, 2023	Risk assessment	Low
Suspected cases	0	Source:	eIDSR		
Death(s)	1	District/HFs:	Rubavu/ Kigufi HC,		
Total cases	53	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 21/08/2023; 53 cases meeting cholera case definition have been recorded with 4 confirmed by stool culture and 49 confirmed by RDTs, (including 1 new cases registered). For the outcome of patients, 52 were cured, 1 died (a female aged of 14) and no cases are admitted and no critical case reported. The source of infection was the use of unsafe water, poor hygiene and sanitation.

Interventions:

- 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
- Reinforce community surveillance for early detection and active search of new cases

3. FOODBORNE ILLNESS OCCURRED IN BUGESERA DISTRICT, MAYANGE SECTOR

Confirmed cases	0	Date reported:	August 13, 2023	Risk assessment	Low
Suspected cases	30	Source:	eIDSR		
Death(s)	0	District/HFs:	Mayange HC/ Nyamata DH		
Total cases	30	Geoscope:	Low		

Outbreak description:

On 13/08/2023, patients consulted in Mayange HC after consuming sorghum beer in a wedding ceremony. They presented abdominal pain, diarrhea, and vomiting. A total of 30 cases was counted, among them 22 cases have been hospitalized and 8 treated as ambulant at Mayange HC. Currently, all patients are treated and discharged.

Interventions conducted:

- Case management of the patients
- Stool sample collected at the health center and revealed a white blood cell and yeast (levures).

4. FOODBORNE ILLNESS OCCURRED IN GATSIBO DISTRICT, GATSIBO SECTOR

Confirmed cases	0	Date reported:	August 16, 2023	Risk assessment	Low
Suspected cases	5	Source:	eIDSR		
Death(s)	0	District/HFs:	Gatsibo HC/ Kiziguro DH		
Total cases	5	Geoscope:	Low		

Outbreak description:

On the 16/08/2023, 5 patients from the same household consulted Gatsibo HC with diarrhea, vomiting and abdominal pain following a dinner consumed, composed of rice and banana. They were treated by the health center; recovered and discharged. The possible cause of the food poisoning was the food consumed that was prepared two days ago.

Interventions conducted:

- Case management of the patients
- Stool sample collected at health center and revealed a white blood cell and intestinal parasites

5. FOODBORNE ILLNESS OCCURRED IN BURERA DISTRICT, RWERERE SECTOR

Confirmed cases	0	Date reported:	August 18, 2023	Risk assessment	Low
Suspected cases	5	Source:	eIDSR		
Death(s)	0	District/HFs:	Rwerere HC/ Butaro DH		
Total cases	5	Geoscope:	Low		

Outbreak description:

On 18/08/2023, 11 patients have consulted Rwerere HC with similar symptoms of abdominal pain, fever, diarrhea, and vomiting after attending a local wedding ceremony on 17/08/2023. Traditional sorghum drinks were served, no raw foods were served. Approximately, 250 people attended the ceremony, no severe cases and no deaths were recorded. Currently, all patients were treated and discharged.

Interventions conducted:

- Case management of the patients
- Active case finding in the community

6. FOODBORNE ILLNESS OCCURRED IN NGOMA DISTRICT, MUTENDERI SECTOR

Confirmed cases	0	Date reported:	August 20, 2023	Risk assessment	Low
Suspected cases	21	Source:	eIDSR		
Death(s)	0	District/HFs:	Mutenderi HC/ Kibungo RH		
Total cases	21	Geoscope:	Low		

Outbreak description:




On 20/08/2023, a total of 21 cases consulted Mutenderi HC presenting fever, abdominal pain, vomiting and diarrhea after attending a ceremony (premiere communion) held in this village on 19/08/2023. No critical cases were reported. The possible cause of the food poisoning was the consumption of contaminated food and beverage during the ceremony.

Interventions conducted:

- Case management of the patients
- Health education and sensitization about food hygiene

eIDSR REPORTS COMPLETENESS & TIMELINESS EPIDEMIOLOGICAL WEEK 33

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 33, the overall completeness and timeliness of disease surveillance data reporting in Rwanda were 97% and 95%, respectively.

With regards to completeness of surveillance reports, almost all hospitals had the high completeness (>80%), except one hospital which had the low score (Rwanda Military Hospital). For the timeliness, the overall score was 95%, almost all hospitals had the high timeliness (>80%), except two hospitals that had the moderate score (Kibagabaga DH and Gahini DH) and one hospital with low score (Rwanda Military Hospital).

Notes: The health facilities that did not have 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.

Completeness																																					
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	W30	W31	W32	W33				
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	100	100	100	93				
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	100	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	100	100	100	100				
Kiziguro	100	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	92	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	100	89	100	100	100	100	100	100	100	100	89				
Rwinkwavu	100	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	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	94	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	95	95	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	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	100	88	100	88				
Kinhihira	100	100	100	100	100	100	89	89	100	89	89	100	100	89	89	89	100	100	100	100	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	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	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	100	85	95	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	100	100	100	100	100			
Nemba	100	100	100	100	100	89	100	100	100	89	100	100	100	89	100	100	100	89	100	100	100	100	89	100	100	100	100	100	100	100	100	100	100	100			
Ruhengeri	94	94	94	100	83	89	89	89	100	94	94	83	94	89	94	89	94	94	100	100	89	100	100	100	100	100	100	100	100	94	100	100	94	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	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	100	100	100	100	100			
Kabutare	84	95	100	100	95	95	95	95	89	95	95	100	100	89	100	100	89	95	100	100	100	100	89	100	100	89	100	100	100	95	100	100	100	100			
Kabgayi	100	100	92	85	100	92	92	92	92	100	100	92	92	85	100	100	92	100	100	100	92	100	100	100	100	92	100	100	100	100	100	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	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	100	100	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	100	100	100	89	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	88	100	75	88	100			
Remera	100	100	100	93	100	100	100	100	100	100	100	100	93	100	100	100	100	100	93	100	100	93	93	93	100	100	100	100	100	100	93	100	100	100			
Rukoma	100	100	100	93	100	100	100	100	100	100	100	100	93	100	100	100	100	100	93	100	100	93	93	93	100	100	100	100	100	100	93	100	100	100			
Nyanza	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	100	100	95	95	100			
Kigeme	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	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	100	100	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	94	100	100	100	100	100	100	100	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	100	88	88	100	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	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	100	100	100	100	92	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	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	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	94	88	94	100	100			
Muhororo	100	100	100	100	100	100	100	100	100	100	100	100	100	90	100	100</																					

Hospital catchment area	Timeliness																																	
	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	W30	W31	W32	W33	
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	100	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	89	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	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	100	92	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	100	89	100	78	
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	88	88	88	100	100	100	100	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	100	94	100	100	100	94	100	94	100	100	
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	95	85	100	100	
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	100	94	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	76	82	94	88	
Kinihira	100	100	100	100	100	89	100	89	67	100	89	78	89	100	89	89	89	89	89	100	100	100	100	67	100	89	100	89	78	100	89	100	100	
Rutongo	93	87	93	73	100	100	100	100	100	93	93	100	93	100	93	100	100	100	100	93	100	93	93	93	93	100	100	93	100	100	100	100	100	100
Gatonde	100	86	100	100	100	100	100	100	100	86	100	100	86	100	100	100	71	100	100	100	100	100	100	100	71	100	100	100	100	100	100	100	86	
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	100	85	90	100	
Ruli	100	100	100	100	100	100	90	100	100	100	90	90	100	100	100	100	90	100	100	100	100	100	100	100	100	90	100	100	100	100	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	100	100	100	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	94	100	89	100	
Byumba	96	100	96	96	88	96	100	100	100	96	96	96	96	81	96	96	96	96	96	96	100	96	96	96	96	96	100	100	100	100	100	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	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	95	100	100	100	
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	100	92	100	100	100
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	100	100	100	100	100
Gakoma	83	100	100	100	83	67	83	100	83	100	100	100	100	67	50	83	67	50	83	83	83	67	100	83	50	100	83	100	100	100	100	100	100	83
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	100	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	88	100	63	88	
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	100	93	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	95	95	95	95	
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	100	85	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	100	100	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	94	100	94	94	100	100	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	100	88	88	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	100	100	100	100	
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	100	92	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	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	100	100	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	94	88	94	100	
Muhororo	100	100	90	100	100	100	100	90	100	100	100	100	100	80	70	100	30	80	80	100	90	90	90	70	80	70	100	80	70	80	100	100	100	
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	100	100	86	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											