Northwest of Syria Cholera Outbreak

Situation Report No.15

Epidemiological Week - 1 (1 Jan – 7 Jan 2023)

Date of Onset of Outbreak: 16 September 2022

Reporting Date of outbreak: 17 September 2022

Confirmation Date: 19 September 2022

Suspected Cases: 34856

Confirmed Cases: 552

Cholera Deaths : 19

Case Fatality Rate: 0.05%

NWS Attack Rate: 0.75%

Key Highlights

Cumulatively, a total of **34856 suspected** cases (**13827** in Aleppo governorate, **21029** in Idleb governorate) including **552 confirmed** have been reported by EWARN team since 16 September, including **19 deaths** case.

- The highest number of cases were reported in Harim district (10913) and Idleb district (6217) in Idleb governorate, then Jarablus district (3322), Jebel Saman (3271), and Azaz district (3260) in Aleppo governorate.
- 6277 total suspected cases (including 433 new cases in Epi week 01 - 2023) were reported from camps.
- 44.55 % Of the suspected cases are in the age group <5 years. Males are 52% of the total and females are 48%.
- Since the outbreak started, surveillance and reporting from facilities are being supported and strengthened. For better understanding of the background and context, please read pervious sitreps.
- Line list is shared with WHO and WASH team to aid Targeted response at a household level being conducted for identified cases.
- Active case search is ongoing, especially in the camps.

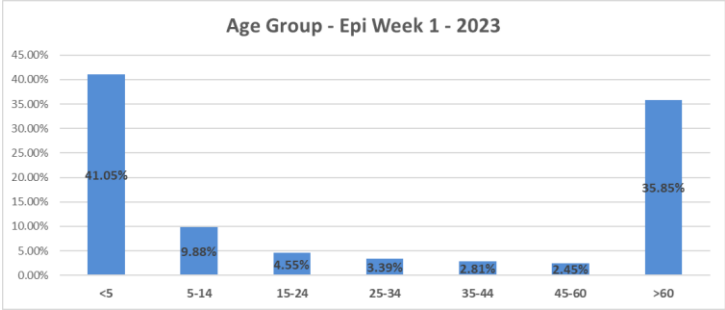
Situation Updates

1. Epidemiology

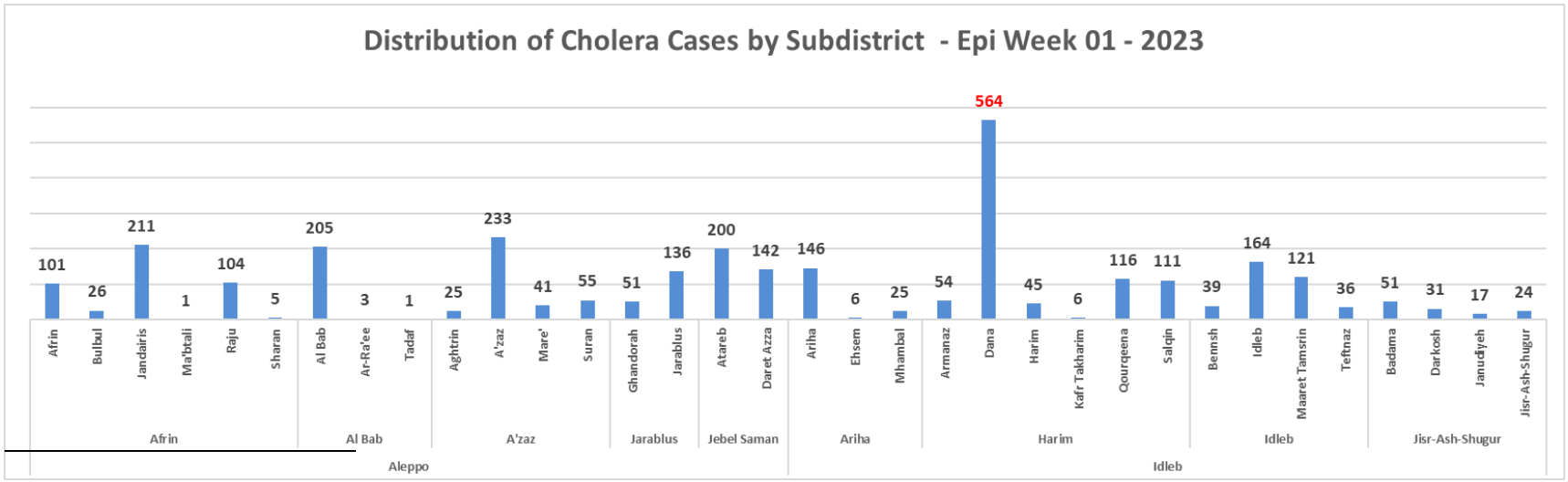
Updated case definition: A resident of outbreak areas with sudden onset of acute watery diarrhea with or without vomiting.[1]

In Epi week 01 - 2023, **3096 suspected cases of cholera were reported, including 8 positive cases**. The affected governorates are Aleppo (1540 suspected, 3 confirmed), and Idleb (1556 suspected, 5 confirmed).

The age group less than 5 reported 41. %, while the age group more than 60 reported 35.85 % of the total



Dana subdistrict in Idled governorate reported the highest number of cases (564), then Azaz subdistrict (233) and Jandairis subdistrict (211) in Aleppo governorate.



In epi week 01 - 2023, two new deaths were reported (total 19 deaths).

An eight-year-old male

Qubbet Elsheikh community, Al-Bab subdistrict, Al-Bab district, Aleppo governorate.

Date of onset: 31-Dec-2023 at night

Date of death: 1-Jan-2023 at 12.00 pm.

A seven-month-old male infant

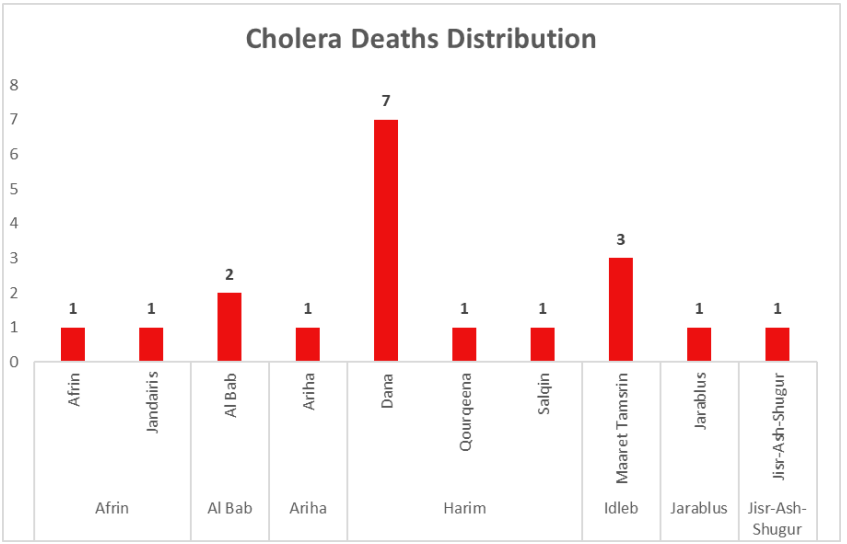
Jarablus city, Jarablus district, Aleppo governorate.

Date of onset: 27-Dec-2022

Date of visit at a health facility: 31-Dec-2022

Date of death: 3-Jan-2023

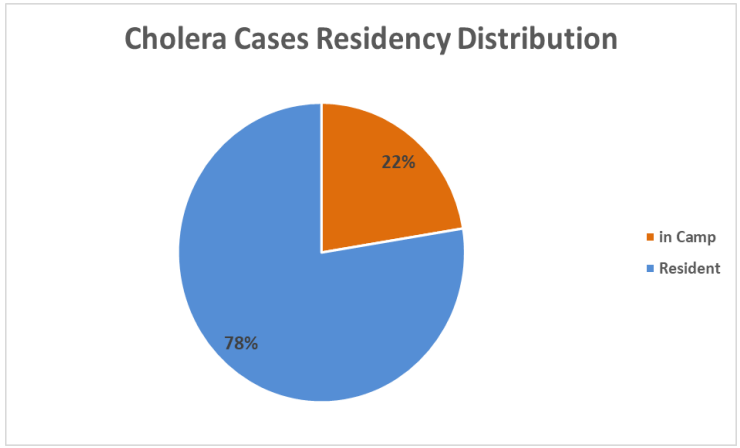
for More Details about These Deaths Click Here

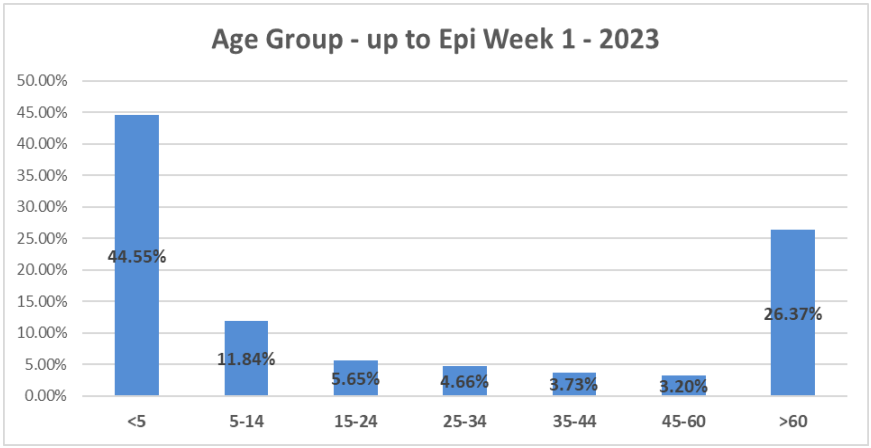


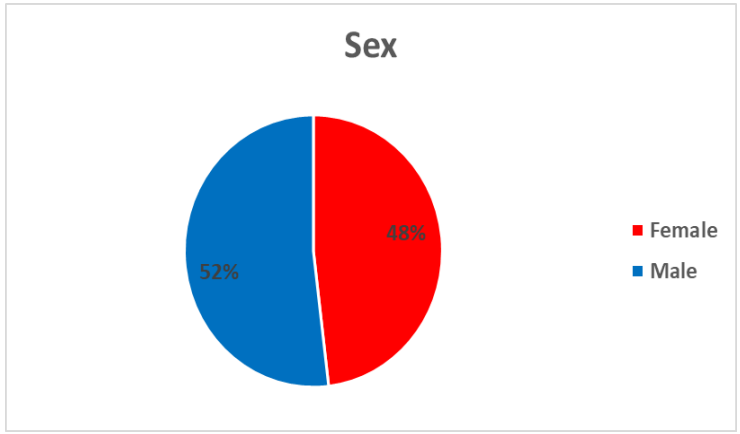
The overall sex distribution of the suspected cases is 52% Male, and 48% Female.

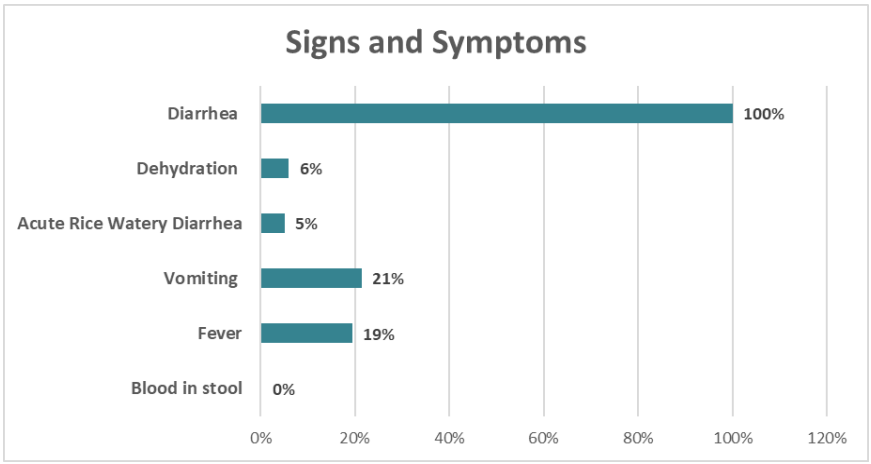
100% of the line listed cases were presented as Acute Diarrhea, 21% with vomiting, 5% as rice watery diarrhea, and 6% were dehydrated.

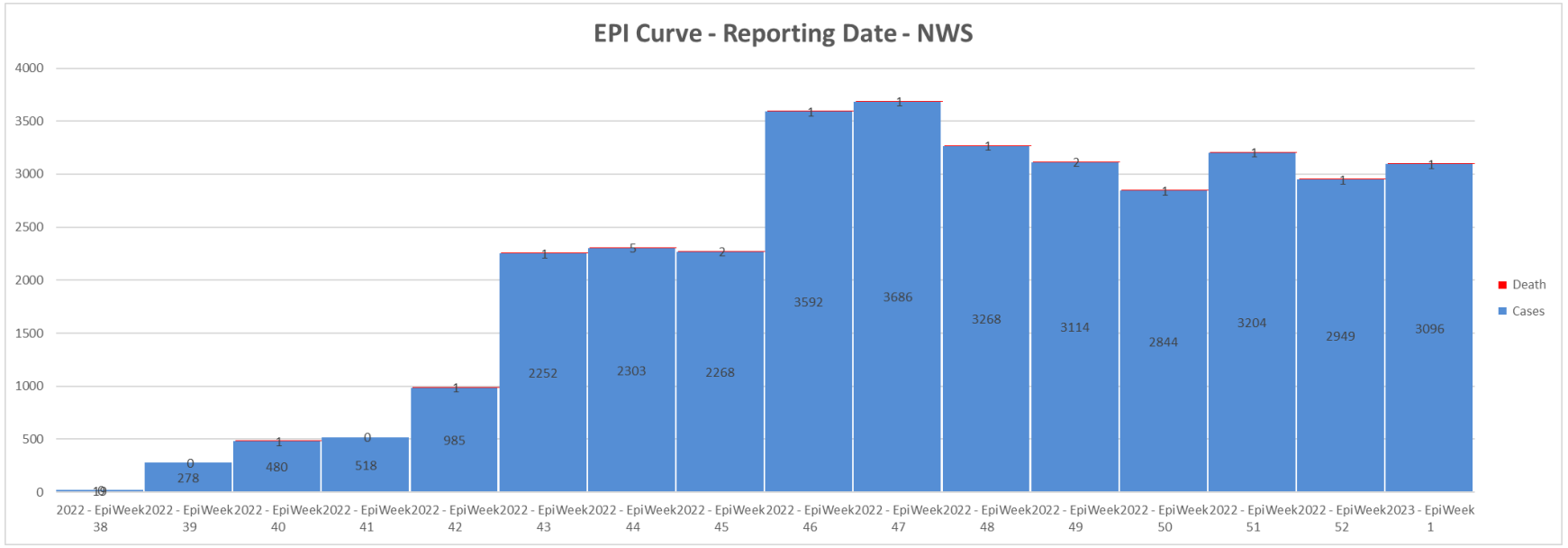
As the outbreak progresses, sensitivity should be increased by including smaller age groups and mild/moderate symptom groups in order to estimate the burden of the outbreak. According to WHO, in areas where a cholera outbreak has been confirmed, any person presenting with or dying from acute watery diarrhea is considered a suspected cholera case.[2] The age group less than 5 years was 45.27%.

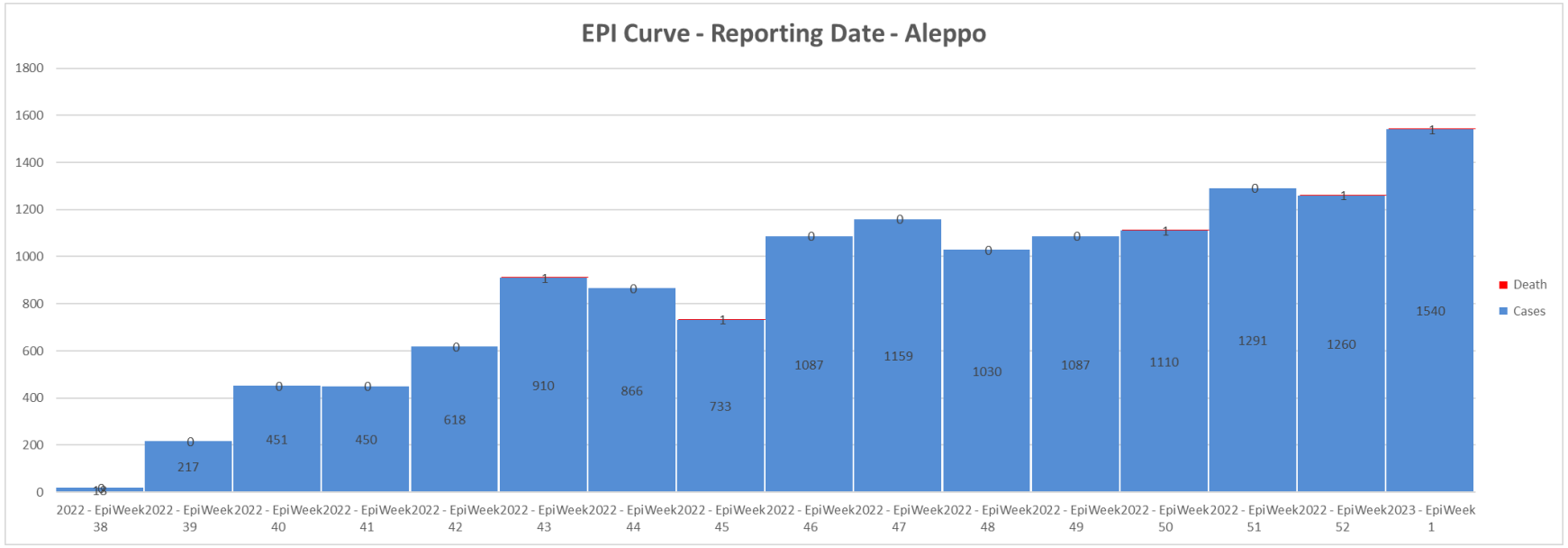

Cholera Cases Residency Distribution
22%
78%
in Camp
Resident

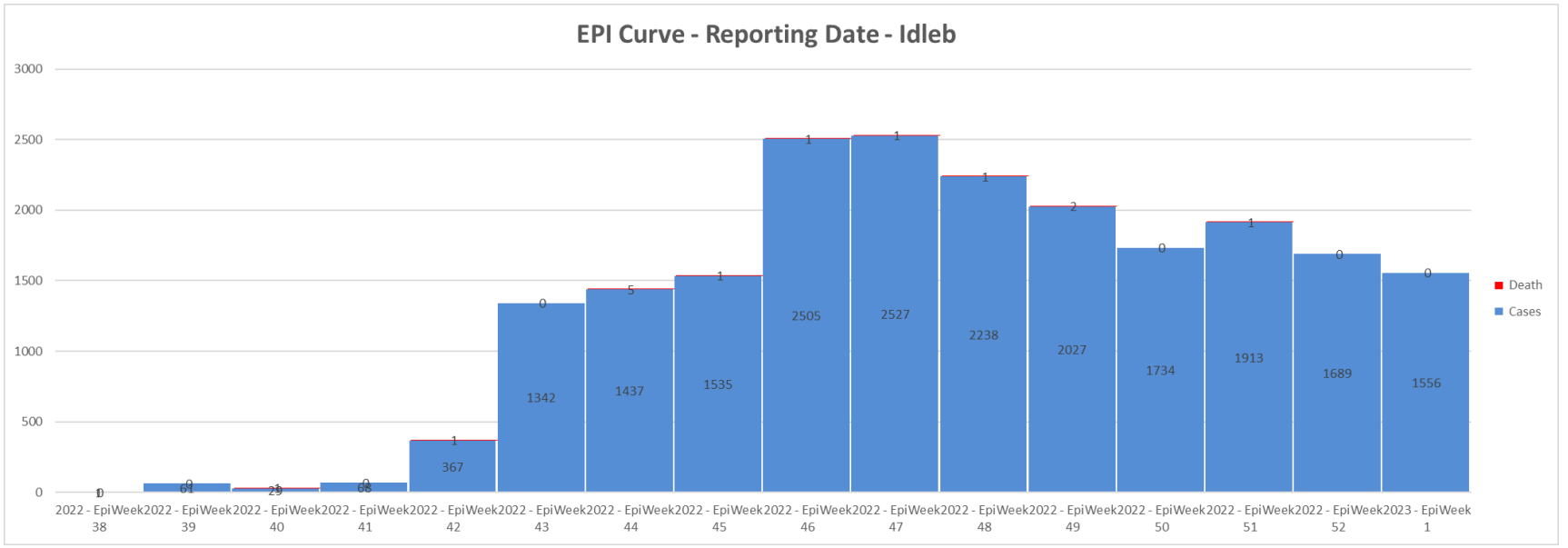

Age Group - up to Epi Week 1 - 2023
50.00%
45.00%
40.00%
35.00%
30.00%
25.00%
20.00%
15.00%
10.00%
5.00%
0.00%
44.55%
11.84%
5.65%
4.66%
3.73%
3.20%
26.37%
<5
5-14
15-24
25-34
35-44
45-60
>60

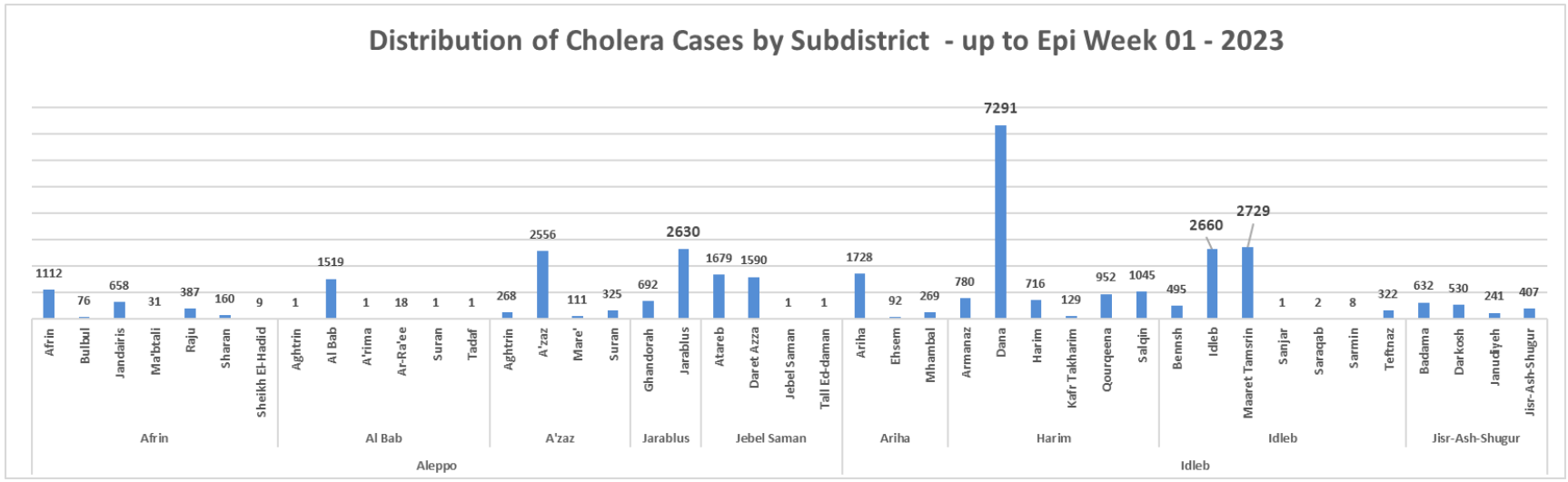

Sex
48%
52%
Female
Male


Signs and Symptoms
Diarrhea
100%
Dehydration
6%
Acute Rice Watery Diarrhea
5%
Vomiting
21%
Fever
19%
Blood in stool
0%
0%
20%
40%
60%
80%
100%
120%

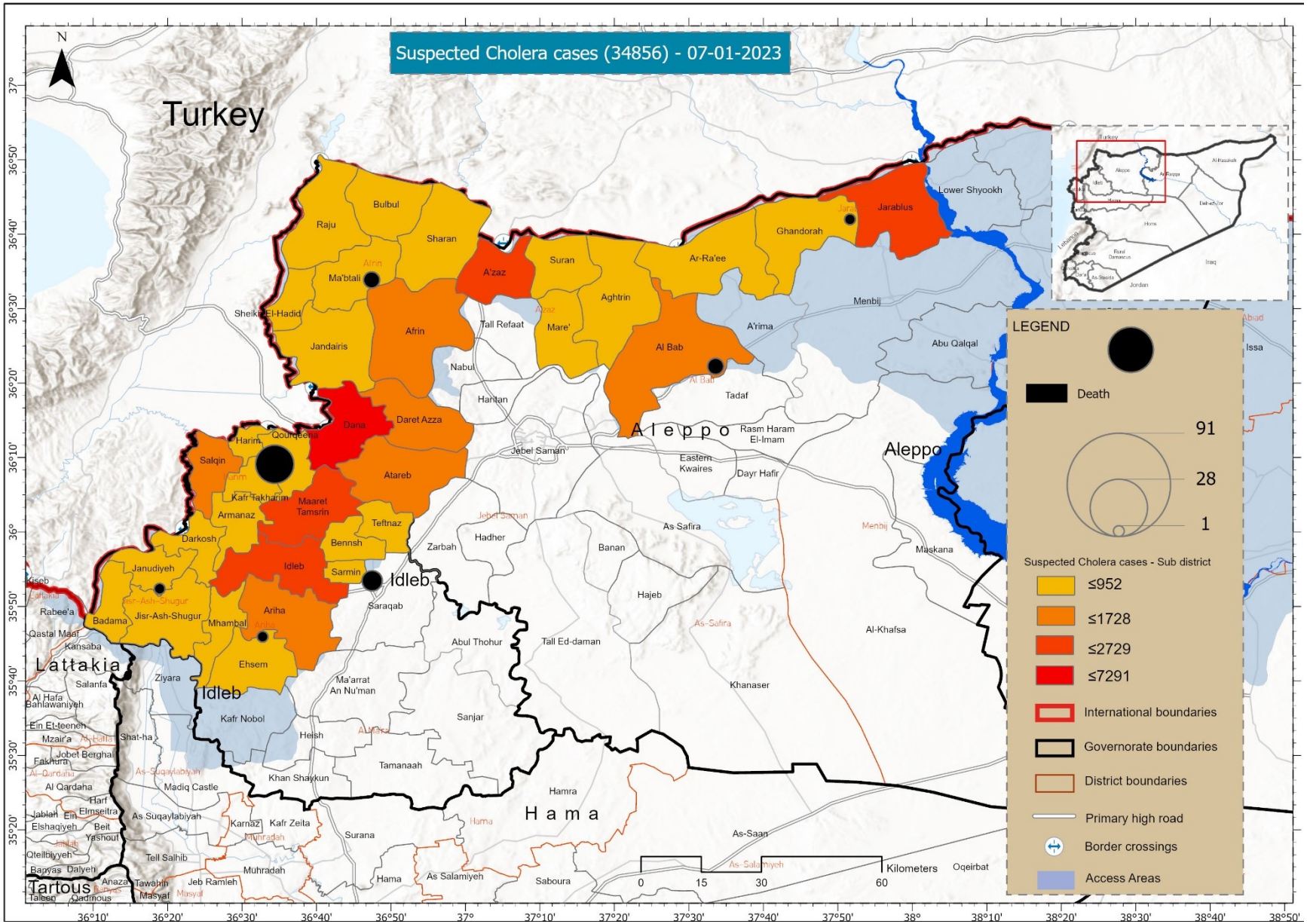

EPI Curve - Reporting Date - NWS
4000
3500
3000
2500
2000
1500
1000
500
0
0
278
1
480
0
518
1
985
1
2252
5
2303
2
2268
1
3592
1
3686
1
3268
2
3114
1
2844
1
3204
1
2949
1
3096
2022 - EpiWeek 38
2022 - EpiWeek 39
2022 - EpiWeek 40
2022 - EpiWeek 41
2022 - EpiWeek 42
2022 - EpiWeek 43
2022 - EpiWeek 44
2022 - EpiWeek 45
2022 - EpiWeek 46
2022 - EpiWeek 47
2022 - EpiWeek 48
2022 - EpiWeek 49
2022 - EpiWeek 50
2022 - EpiWeek 51
2022 - EpiWeek 52
2023 - EpiWeek 1
Death
Cases


EPI Curve - Reporting Date - Aleppo
1800
1600
1400
1200
1000
800
600
400
200
0
0
217
0
451
0
450
0
618
1
910
0
866
1
733
0
1087
0
1159
0
1030
0
1087
1
1110
0
1291
1
1260
1
1540
2022 - EpiWeek 38
2022 - EpiWeek 39
2022 - EpiWeek 40
2022 - EpiWeek 41
2022 - EpiWeek 42
2022 - EpiWeek 43
2022 - EpiWeek 44
2022 - EpiWeek 45
2022 - EpiWeek 46
2022 - EpiWeek 47
2022 - EpiWeek 48
2022 - EpiWeek 49
2022 - EpiWeek 50
2022 - EpiWeek 51
2022 - EpiWeek 52
2023 - EpiWeek 1
Death
Cases


EPI Curve - Reporting Date - Idleb
3000
2500
2000
1500
1000
500
0
Death
Cases
2022 - EpiWeek 38
2022 - EpiWeek 39
2022 - EpiWeek 40
2022 - EpiWeek 41
2022 - EpiWeek 42
2022 - EpiWeek 43
2022 - EpiWeek 44
2022 - EpiWeek 45
2022 - EpiWeek 46
2022 - EpiWeek 47
2022 - EpiWeek 48
2022 - EpiWeek 49
2022 - EpiWeek 50
2022 - EpiWeek 51
2022 - EpiWeek 52
2023 - EpiWeek 1
0
61
23
68
367
1342
1437
1535
2505
2527
2238
2027
1734
1913
1689
1556

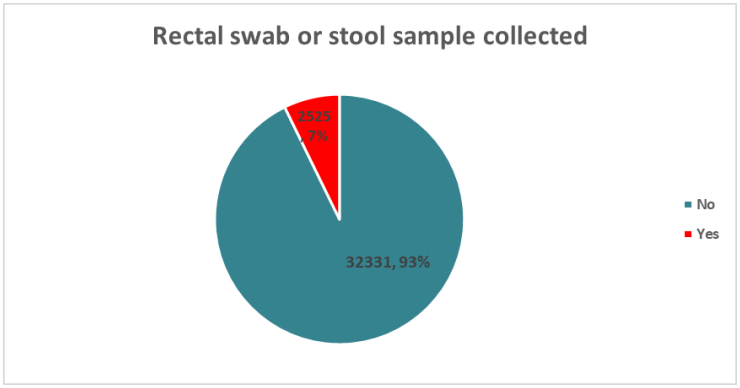

Distribution of Cholera Cases by Subdistrict - up to Epi Week 01 - 2023
Afrin
Bulbul
Jandairis
Ma'btali
Raju
Sharan
Sheikh El-Hadid
Aghtrin
Al Bab
A'rima
Ar-Ra'ee
Suran
Tadaf
Aghtrin
A'zaz
Mare'
Suran
Ghandorah
Jarablus
Atareb
Daret Azza
Jebel Saman
Tall Ed-daman
Ariha
Ehsem
Mhambal
Armanaz
Dana
Harim
Kafr Takharim
Qourqeena
Salqin
Bennsh
Idleb
Maaret Tamsrin
Sanjar
Saraqab
Sarmin
Teftnaz
Badama
Darkosh
Janudiyeh
Jisr-Ash-Shugur
1112
76
658
31
387
160
9
1
1519
1
18
1
1
268
2556
111
325
692
2630
1679
1590
1
1
1728
92
269
780
7291
716
129
952
1045
495
2660
2729
1
2
8
322
632
530
241
407
Afrin
Al Bab
A'zaz
Jarablus
Jebel Saman
Ariha
Harim
Idleb
Jisr-Ash-Shugur
Aleppo
Idleb

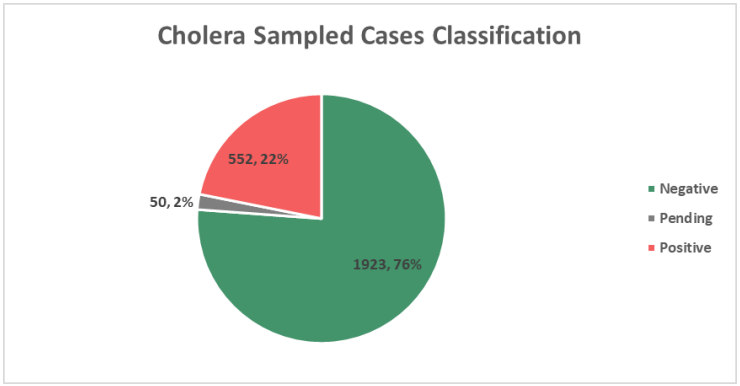
Epi Week	Governorate	District	Date of Onset	Population	New cases	Cumulative Cases	New Death	Cumulative Deaths	Case Fatality Rate	Incidence Rate	Attack Rate
Up to W01 - 2023	Idleb	Ariha	20-Sep	185,668	177	2089	0	1	0.05%	95.33	1.13%
		Harim	6-Sep	1,586,820	896	10913	0	9	0.08%	56.47	0.69%
		Idleb	14-Sep	713,933	360	6217	0	3	0.05%	50.42	0.87%
		Jisr-Ash-Shugur	25-Sep	310,973	123	1810	0	1	0.06%	39.55	0.58%
	Aleppo	A'zaz	9-Sep	648,600	354	3260	0	0	0.00%	54.58	0.50%
		Afrin	21-Sep	467,090	448	2433	0	2	0.08%	95.91	0.52%
		Al Bab	17-Sep	339,812	209	1541	1	2	0.13%	61.50	0.45%
		Jarablus	12-Sep	121,938	187	3322	1	1	0.03%	153.36	2.72%
		Jebel Saman	10-Sep	251,785	342	3271	0	0	0.00%	135.83	1.30%
	Total			4,626,619	3096	34856	2	19	0.05%	66.92	0.75%


Suspected Cholera cases (34856) - 07-01-2023
N
Turkey
Lattakia
Idleb
Aleppo
Hama
Tartous
Bulbul
Raju
Sharan
Afrin
Ma'btali
Sheikh El-Hadid
Jandairis
A'zaz
Suran
Aghtrin
Ar-Ra'ee
Ghandorah
Jarablus
Lower Shyookh
Menbij
A'rima
Abu Qalqal
Al Bab
Tall Refaat
Mare'
Nabul
Hantan
Tadaf
Dana
Daret Azza
Atareb
Harim
Qourqeena
Salqin
Kafr Takharim
Armanaz
Maaret Tamsrin
Teftnaz
Darkosh
Bennsh
Idleb
Sarmin
Saraqab
Janudiyeh
Jisr-Ash-Shugur
Rabee'a
Badama
Mhambal
Ariha
Ehsem
Qastal Maaf
Kansaba
Ziyara
Salanfa
Al Hafa
Bahlawaniyeh
Ein Et-teneh
Mzair'a
Shat-ha
Jobet Berghal
Fakhura
Al Qardaha
Madiq Castle
Harf
Elmseitra
Jablah
Ein
Elshaqiyeh
Beit
Yashout
Qteilbiyyeh
Bayyas
Dalyeh
Anaza
Tawahin
Jeb Ramleh
Masyaf
Taleen
Qadmous
Kafr Nobol
Ma'arrat An Nu'man
Heish
Sanjar
Tamanaah
Khan Shaykun
Madiq Castle
As Suqaylabiyah
Karnaz
Kafr Zeita
Muhradah
Surana
Tell Salhib
Hama
As Salamiyeh
Saboura
Abul Thohur
Tall Ed-daman
Zarbah
Hadher
Banan
Hajeb
As Safira
Khanaser
Al-Khafsa
Maskana
Dayr Hafir
Eastern Kwaires
Rasm Haram El-Imam
Jebel Saman
Aleppo
Hamra
As-Saan
Oqeirbat
Issa
Abiad
LEGEND
Death
91
28
1
Suspected Cholera cases - Sub district
≤952
≤1728
≤2729
≤7291
International boundaries
Governorate boundaries
District boundaries
Primary high road
Border crossings
Access Areas
Kilometers
0
15
30
60
36°10'
36°20'
36°30'
36°40'
36°50'
37°
37°10'
37°20'
37°30'
37°40'
37°50'
38°
38°10'
38°20'
38°30'
38°40'
38°50'
37°
36°50'
36°40'
36°30'
36°20'
36°10'
36°
35°50'
35°40'
35°30'
35°20'

2. Laboratory:

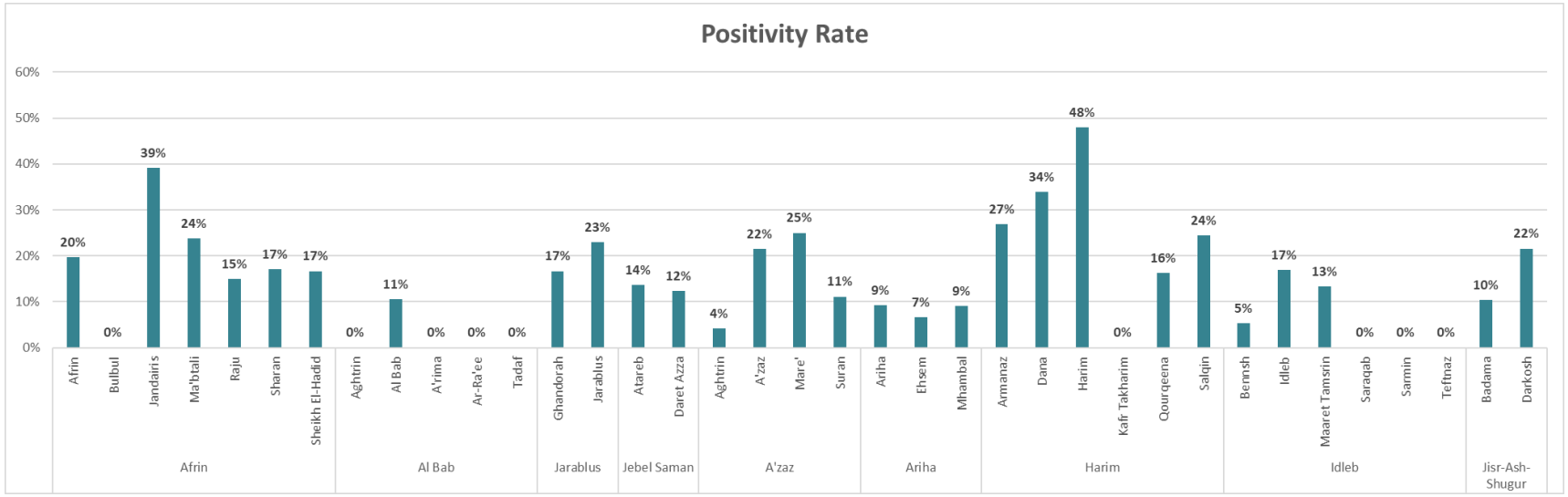
- **In Epi week 01 - 2023**, the total number of stool specimens or rectal swabs is 139, **of which 8 have tested positive for Vibrio Cholera.**
- A **cumulative of 2525 samples were collected** since the start of the outbreak (7 % of overall line listed cases), **of which 552 have tested positive by stool culture. The positivity rate in NWS is 22 %.**
- The Total number of negative cases by stool culture is 1923, and the remaining 50 are still pending.

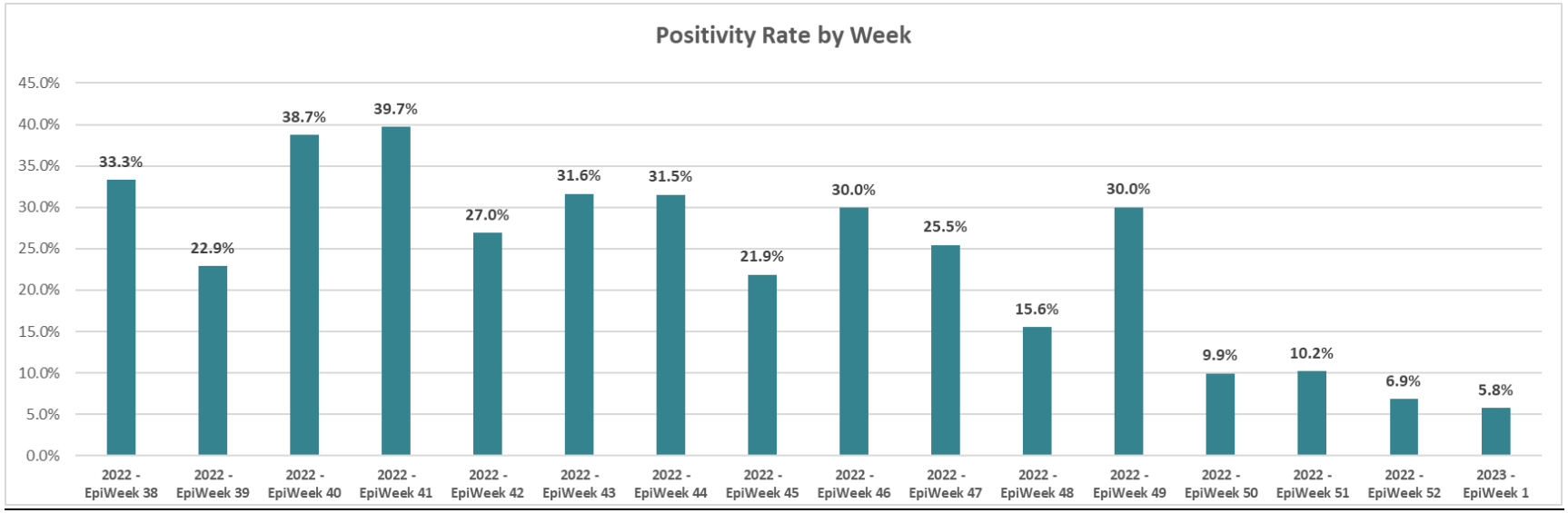


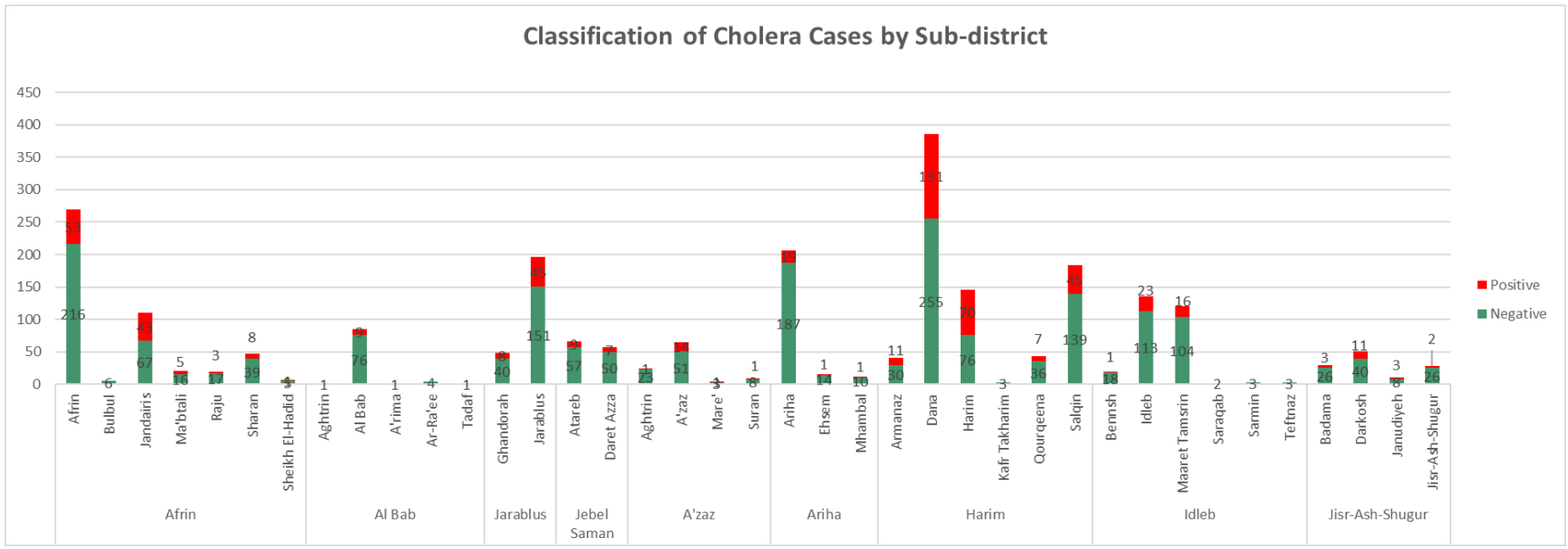


- Diagnostic delays may result in higher case numbers and case fatality rates, without quick and effective diagnosis and treatment, case fatality maybe 50%.
- Isolation and identification of V. cholerae serogroup O1 or O139 by a culture of a stool specimen remain the gold standard for laboratory diagnosis.
- Currently, at EWARN laboratories (Idleb, Afrin, Jarablus, Raqqa, and Tal-Abiad) Fecal specimens are subcultured onto selective and nonselective media, including Nutrient agar and TCBS agar, for detection of V. cholerae O1.
- Suspicious, oxidase-positive isolates are serotyped in polyvalent antisera raised against the O1 Antigen.
- Antimicrobial-susceptibility testing is performed to detect resistance
- The culture sensitivity results came sensitive for the following antibiotics: Azithromycin, Imipenem, Chloramphenicol, Ciprofloxacin, and Norfloxacin.
- The resistance is to Tetracycline, Doxycycline, and Sulfamethoxazole Trimethoprim.
- The laboratory team handles the specimens and waste management according to infection control standards.
- The samples collection protocol is 5-10 stool samples per subdistrict, and 5 samples from the admitted cholera suspected cases in the CTC /CTU per week.

Epi Week	Governorate	District	Samples Collected on current week	Stool Culture Positive	Stool Culture Negative	Positivity Rate
Up to W01 - 2023	Idleb	Ariha	16	21	209	9%
		Harim	22	264	539	33%
		Idleb	19	40	243	14%
		Jisr-Ash-Shugur	2	19	100	16%
	Aleppo	Al Bab	25	9	83	10%
		Jarablus	14	53	191	22%
		Jebel Saman	5	16	107	13%
		A'zaz	10	17	85	17%
		Afrin	25	113	366	24%
	Total		138	**552**	**1923**	**22%**




Positivity Rate by Week
45.0%
40.0%
35.0%
30.0%
25.0%
20.0%
15.0%
10.0%
5.0%
0.0%
33.3%
22.9%
38.7%
39.7%
27.0%
31.6%
31.5%
21.9%
30.0%
25.5%
15.6%
30.0%
9.9%
10.2%
6.9%
5.8%
2022 - EpiWeek 38
2022 - EpiWeek 39
2022 - EpiWeek 40
2022 - EpiWeek 41
2022 - EpiWeek 42
2022 - EpiWeek 43
2022 - EpiWeek 44
2022 - EpiWeek 45
2022 - EpiWeek 46
2022 - EpiWeek 47
2022 - EpiWeek 48
2022 - EpiWeek 49
2022 - EpiWeek 50
2022 - EpiWeek 51
2022 - EpiWeek 52
2023 - EpiWeek 1


Classification of Cholera Cases by Sub-district
450
400
350
300
250
200
150
100
50
0
Positive
Negative
Afrin
Bulbul
Jandairis
Ma'btali
Raju
Sharan
Sheikh El-Hadid
Aghtrin
Al Bab
A'rima
Ar-Ra'ee
Tadaf
Ghandorah
Jarablus
Atareb
Daret Azza
Aghtrin
A'zaz
Mare'
Suran
Ariha
Ehsem
Mhambal
Armanaz
Dana
Harim
Kafr Takharim
Qourqeena
Salqin
Bennsh
Idleb
Maaret Tamsrin
Saraqab
Sarmin
Teftnaz
Badama
Darkosh
Janudiyeh
Jisr-Ash-Shugur
Afrin
Al Bab
Jarablus
Jebel Saman
A'zaz
Ariha
Harim
Idleb
Jisr-Ash-Shugur

3. WASH:

The WASH team works closely and in high coordination with RRT (Rapid Response Team), formed from EWARN staff.

The team, after receiving any alert, focuses on the investigation of WASH services in the hotspot areas.

The investigation includes:

1. Taking samples from drinking water resources (main stations, wells, water trucks, water taps…. etc.).
2. Investigate sewage networks and septic tanks' locations and other sanitation services.
3. Identify Hygienic practices…. etc.
4. Assessing agriculture markets (Identify irrigation water and resource of agricultural products if applicable).

Total number of investigations: 2, distributed as follows:

- **Afrin district:** The number of Investigations is **1**

Jandairis Sub-district / Jandairis Community: the community is being supplied with water through two main stations connected to water networks, which cover 80% of houses. The remaining part of the city secures its needs for water through water trucking, supplying water from private wells.

Different samples were taken from different points, as follows:

1. Three points from the networks (water stations): the result showed that water is safe to drink and FRC value ranged from 0.16 to 0.33 ppm.
2. Two private wells—Shukri and Muhammad Amin wells; the result showed that water isn't safe to drink and is contaminated.

There is a sewer network, conveying wastewater out of the community.

- **Al-Bab district:** The number of Investigations is **1**

Al-Bab Sub-district / Al-Bab Community: Full investigation covering Al-Bab communities was conducted. The community is supplied with water through a water network (pipes, collective tanks, wells) connected to water stations which are supported by local authorities. The water network

meets the needs of almost 60 % of residents. The remaining portion is supplied with water through water trucking which is supported by an organization. 21 samples were taken from different points, as follows:

1. Two points from the networks, the result showed that water is safe to drink as the FRC values were (0.2-0.3) ppm.
2. Collective tank, the result showed that water is safe to drink.
3. Three hospitable (Al-Farabi, Al-Bab, Al-Umuma), water is safe to drink and not contaminated.
4. Four schools, 3 of which (Ali Karaz, Arzum, water isn't safe to drink. Tarek bin Ziad was safe to drink. Regarding Munir Al-Najar school, the result showed that physical tests are within an acceptable range of water quality standards but that is higher than normal limits, which may cause harm to the children's health. These schools use a private well (not supported by any organization).
5. 11 from private wells; water is safe to drink with exception of wells—Ahmad Alwaki, Abu Yousef and Abu Zakour—the water is contaminated.

The sewer networks cover 75% of the community with small damage to some parts of the networks. The agricultural lands mainly are irrigated with wastewater coming from the sewer networks of the community.

Actions taken

- The response teams conducted an extensive investigation of the deaths that occurred since the beginning of the outbreak (19 deaths), where some possible causes were identified, and the teams made appropriate recommendations.
- Strengthening surveillance to collect cases from all HFs
- ACU teams conduct regular awareness sessions about Cholera, prevention, and control measures for local authorities and affected people during the investigation. Besides, the result of investigations is shared with the WASH cluster and acting organization in the area to take immediate action.
- The results of the water of Al-Bab's schools were shared with local authorities providing recommendations to find substitutable resources for these schools.
- The Assistance Coordination Unit is currently conducting health awareness sessions about cholera, methods of infection, and its prevention through the Zoom application (online), as it is scheduled to complete 40 sessions during the current month (so far 13 sessions have been implemented)

Challenges

- Continuing movements of population.
- Supplies of laboratory reagents and consumables are not enough for reliable testing services.
- The number of WASH officers is low and needs to be increased, particularly in Harim district, where the number of cases surges, and the number of camps and population is higher than in other locations.

Recommendations

- Initiate reporting from functioning treatment centers (CTCs, CTUs, and ORPs).
- Support the laboratory with more consumables and supplies, especially for O139 and O1 Antisera.
- Enhancement coordination mechanisms with WHO and Taskforce members.
- Strengthening the community's role in reporting cases
- Enhancing the potential sources of Cholera death reporting.
- Increase efforts to educate the population about cholera and encourage them to go to medical centers to receive medical services
- Emphasis on health centers to immediately notify any suspected case of cholera
- Training CTC and CTU personnel to prepare the different types of chlorine solutions and where to use them properly. Moreover, providing them with a pool tester to measure the FRC of the water supplied to these centers.
- Provide the cholera treatment center with free resident chlorine (FRC) testers.
- Periodic testing of drinking water in schools, with the implementation of general hygiene campaigns