

Syrian Arab Republic: WHO Syria Situation Report #7

Cholera Outbreak

Total AWD cases	Total positive cholera cases / RDTs	Total confirmed cholera cases/culture	Total AWD deaths	Case Fatality Rate	Attack Rate
4,138	602	31	36	0.8	0.02

Background and situation overview

 The first cholera case was detected on 22 August 2022 in Aleppo and confirmed on 25 August 2022.

World Health

Syrian Arab Republic

ganization

- On 10 September 2022, the Syrian Ministry of Health declared 15 cholera laboratory-confirmed cases in Aleppo governorate and one death.
- By the end of August, AWD was extended to other governorates; Ar-Raqqa, and Deir-ez-Zor. Later in September, AWD cases were reported from new governorates in Hassakeh, Lattakia, Damascus, Hama, Homs, and Rural Damascus.
- As of 1 October 2022, MoH reported 2,541 AWD cases in 12 governorates and confirmed cholera cases in 11 governorates namely Aleppo, Hassakeh, Deir-ez-Zor, Ar-Raqqa, Lattakia, Damascus, Hama, Homs, Daraa, Qunitera, and As-Swieda, with a total of 524 cases, confirmed by RDTs and 31 cases confirmed by culture tests.
- 36 deaths were related to acute watery diarrhoea.
- As of 1 October, cases of AWD were also reported through the EWARS teams. The total number of reported cases was 1,579 and 78 cases were confirmed by the RDTs in Deir Ez-Zor, Ar-Raqqa, and Hassakeh.



MoH standard Case Definitions

Acute watery diarrhoea

Acute watery diarrhoea is an illness characterized by three or more loose or watery (non-bloody) stools within 24 hours.

Suspected cholera case

- In areas where a cholera outbreak has not yet been declared, any person aged 2 years or older presenting with acute watery diarrhoea and severe dehydration or dying from acute watery diarrhoea.
- In areas where a cholera outbreak has been declared, any person presenting with or dying from acute watery diarrhoea.
- Confirmed cholera case: a suspected case with Vibrio Cholerae O1 or O139, confirmed by culture or PCR.

Cholera alert

A cholera alert (suspected cholera outbreak) is defined by the detection of at least one of the following:

- two or more people aged 2 years or older with acute watery diarrhoea and severe dehydration, or dying from acute watery diarrhoea, from the same area within 1 week of one another.
- one death from severe acute watery diarrhoea in a person aged 5 years or older, and/or one case of acute watery diarrhoea testing positive for cholera by rapid diagnostic test (RDT) in an area that has not yet been detected a confirmed case of cholera (including areas at risk for extension from a current outbreak).

Cholera outbreak

A cholera outbreak is defined by the occurrence of at least one confirmed case of cholera and evidence of local transmission.

Description of the outbreak

 The situation of AWD cases is evolving alarmingly in the affected governorates and expanding to new governorates (12 governorates), Figure 2 shows the surge of AWD cases since 25 August 2022.

Figure 2: Epidemic curve of Acute watery Diarrhoea in Syria, as of 1 October 2022



- Between 25 August and 1 October 2022, MoH reported an increase in acute watery diarrhoea (n=2,541) distributed as follows:
 - Aleppo 61%, Ar-Raqqa 20.3%, Deir-ez-Zor 9.5%, Hassakeh 3.6%, Lattakia 1.9%, Damascus 1.3%, Homs 0.6%, Rural Damascus 0.8%, As-Sweida 0.4%, Daraa 0.3%, Hama 0.2% and Qunitera 0.1%, Figure 3.

Figure 3: Distribution of AWD by governorate as of 1 October 2022



 Distribution of cases by age groups: ages range from 1 to 90 years (median 40), 69% of all cases among adults, while 31 % of cases were children under 15 years marked increase from last week.
Figure 4.



Figure 4: Distribution of AWD cases by age groups

- The AWD cases among females are higher than among males (56%, 44%). Figure 5, which might conclude an increased exposure of females to the suspected source of the outbreak or simply because the female absolute number is higher than the male.



- Thirty-six deaths were reported (31 from Aleppo, 3 from Hassakeh, and 2 from Deir-ez-Zor). The majority of deaths are 30 years plus (CFR 0.8 %).
- The current differential diagnosis of acute watery diarrhoea cases is infection with vibrio cholera.
- The source of infection could be linked to people drinking water from untreated sources or the Euphrates River in Deir-ez-Zor and Ar-Raqqa governorates. While in other governorates, it could be linked to food contamination due to irrigating plants with contaminated water.

Laboratory confirmation

- MoH reported that a total of 937 cases were tested with RDTS of which 524 cases were positive by RDTs for cholera (346 in Aleppo, 72 in Deir-ez-Zor, 34 in Hassakeh, 36 in Ar-Raqqa, 20 in Lattakia, 6 in Homs, 6 in Swieda, 5 in Damascus, 5 in Hama, 3 in Daraa, and 1 case in Qunitera).
- The results of culture tests were positive for 31 patients' samples, Aleppo (25), Damascus (3), Hama (2), and Homs (1).
- The results of (205) water samples and environment samples (drinking water: 168, sewage: 21, raw vegetables 12).
- The results are as follows:
 - Aleppo: one positive sample from the sewage network, and two positive samples from an ice factor.
 - Deir-ez-Zor: three samples from drinking water (tanks and network) were positive in the east of Deir-ez-Zor.
 - Ar-Raqqa: three positive samples, one from a tank, one from the Euphrates River, and one from a household.

- Thirty-two samples were tested for antibiotic sensitivity (27 patients' samples and 5 water and sewage samples) resulting in the following:
 - high level of resistance to Ampicillin, Furazolidone, and Nalidixic acid.
 - Sensitive for Ciprofloxacin, Azithromycin, Doxycycline and Trimethoprim+ sulfamethoxazole as per the below table.

AWD reports by health partners in NES

- The reported data of AWD received from WHO EWARS focal points in NES as of 1 October 2022:
- A total of 1,597 AWD cases were reported as follows: 985 in Deir ez-Zor, 496 in Hassakeh, and 116 in Ar-Raqqa.
- The number of confirmed cholera cases by RDTs is 78, Deir-ez-Zor (61), Hassakeh (13), and Ar-Raqqa (4).

1	Ampicillin 10	29	1	28
2	Chloramphenicol	27	23	4
3	Furazolidone 100	31	6	26
4	Nalidixic acid 30	32	2	30
5	Ciprofloxacin 5	32	29	3
6	Tetracycline 30	31	17	10
7	Trimethoprim+ sulfamethoxazole	16	14	2
8	Azithromycin	16	15	1
9	Doxycycline	4	4	0







Antibiotics	samples tested	sensitive	resistant

Table of acute watery diarrhoea cases and deaths, confirmed cholera cases by RDTs and culture:

Governorate	AWD	RDTs	RDT +	culture +	deaths	Source of reporting
Aleppo	1,551	370	346	25	31	МоН
Deir-ez-Zor	241	196	72	0	2	МоН
Ar-Raqqa	517	164	26	0	0	МоН
Hassakeh	91	90	34	0	3	МоН
Lattakia	48	27	20	0	0	МоН
Damascus	32	30	5	3	0	МоН
Homs	16	15	6	1	0	МоН
Rural Damascus	21	21	0	0	0	МоН
Daraa	7	7	3	0	0	МоН
Qunitera	2	2	1	0	0	МоН
As-Sweida	11	11	6	0	0	МоН
Total	2,541	<i>937</i>	524	31	36	МоН
EWARS Focal Points						
Deir-ez-Zor	985	163	61	0	0	EWARS Sites in NES
Hassakeh	496	26	13	0	0	EWARS Sites in NES
Ar-Raqqa	116	5	4	0	0	EWARS Sites in NES
Total	1,597	194	78	0	0	EWARS Sites in NES
Total AWD						
Total	4,138	1,131	602	31	36	

WHO Response

WHO is working to respond to the outbreak by scaling up surveillance and testing capacity, training healthcare workers, and delivering IV fluids and ORS, in addition to adopting the multisectoral approach to control the outbreak.

Pillar 1: Coordination and leadership

- Daily contacts are maintained with the MoH and DoHs on operational and technical issues of the response.
- WOS Health sector situation updates are produced and shared weekly.
- WHO Syria AWD/cholera situation report is produced weekly.
- WHO Syria works with other hubs and the EMRO team on consolidation, updating and streamlining data/mapping of all registered/reported cases at community/sub-district/district/governorate levels, and information is shared with the WASH sector.
- The health sector disseminated broadly the MoHapproved specific cholera prevention and response communication materials.

The Syria AWD/Cholera Response Plan:

- 12 health sector partners: WHO, UNICEF, UNHCR, UNFPA, SARC, IMC, Intersos, Medair, Al-Bir Wa Al-Ehsan Association in Ras Al Ain, Al Aamany, Mawada, Youth Charity). ICRC is actively engaged in the response (not reflected in the plan due to its status).
- The plan is mainstreamed with inputs received from Education and GBV sectors.
- RCCE operational plan is being updated.
- The draft of the Emergency Allocations under SHF is under final review. USD 7 million will be allocated for the integrated Health and WASH emergency response.

Breakdown of health sector partners engaged (and planning) in AWD/Cholera response across the country:

- Damascus: WHO, UNICEF, UNHCR, UNFPA, SARC, IMC, Intersos, Medair, Youth Charity, ICRC.
- Aleppo / NWS: WHO, UNICEF, UNHCR, UNFPA, OXFAM, AAH, SARC, ICRC. WHO RCCE IPs, UNHCR IPs:
 - PRC, SSSD, SFPA, Al-Ihsan, Al-Ihsan, ASSLS, Al-Bir & Al-Ihsan, Nour Al-Ihsan, CCS, SYC, Franciscan, GOPA, Namaa, SCOUT, Dorcas, MSJM, Nama'a, Al Ihsan, SSSD, Al Ta'alouf, SARC, GOPA, COOPI, and ST.
- Lattakia / Tartous: WHO, UNICEF, UNHCR, UNFPA, ICRC, UNDP, SARC.
- Homs: WHO, UNICEF, UNHCR, ICRC, SARC, Al Bir, SFPA.
- Hama: WHO, UNICEF, UNHCR, ICRC, SARC, Al Bir, AKDN, BCAD, Jad Mesyaf.
- Idleb: WHO, UNICEF, UNHCR, ICRC, SARC, AAH, SFPA.

- Qamishli: WHO, UNICEF, UNFPA, ICRC, SARC
- Deir-ez-Zor: WHO, UNICEF, UNHCR, UNDP, SARC, FAO, Medair, GVC, Oxfam

Pillar 2: Disease surveillance

- WHO case definition of AWD was printed and distributed to all MoH health facilities and RRTs.
- Intensified surveillance activities and conducted active case finding especially in high-risk areas in Aleppo, Deir-ez-Zor, Ar-Raqqa, and Hassakeh.
- Supported RRTs in all governorates with 6,800 rapid diagnostic tests.
- Supported the operational costs of 101 rapid response teams at central and governorate levels (transportation, samples shipping, and communications).
- Supported transporting of samples collected from patients, and different sources of water (drinking water, tanks, sewage,) to reference lab in Damascus.
- 6 IDP camps in NES and 1 in Deir-ez-Zor are closely monitored, and from 30 reported AWD cases only 2 were confirmed by RDT in the Serykanie camp.

Pillar 3: Laboratory diagnostics

- WHO provided the CPHL with lab supplies to do culture testing (3000 tests) in addition to the supplies required for antibiotics sensitivity testing which will be further distributed to all functional labs in Syria. Moreover, WHO is procuring additional supplies to support 7000 tests in laboratories across the country.
- Al Hassakeh DOH received 130 RDTs so far while Homs and Hama got 850, and they were distributed to concerned DOHs. A new batch of RDTs is on the way to Syria and the distribution plan is ready for immediate dispatch to different governorates.

Pillar 4: Case Management

- Supported MoH-designated hospitals for the treatment of cholera cases (27 hospitals) and distribution of 60-tonne of cholera kits and supplies.
- 20 cholera central kits (drug module), 20 community kits (drug module), 100 cholera kit periphery module renewable supplies, and ORS 1,338,400 sachets, those quantities will provide treatment for 2000 cholera cases with severe dehydration and 190,000 mild diarrhoea cases.
- Supported MoH and health partners with doxycycline 105,000 tablets, azithromycin, 2400

bottle, Sodium Chloride & GLUCOSE intravenous infusion 6,000 bottles, and PARACETAMOL 90,000 tablets.

- Conducted three training for 75 community health workers on cholera case definition, epidemiology, and case management.
- Completed establishing CTC in Aleppo with 30 patients' beds and furniture.

Pillar 6: Water sanitation and hygiene (WASH)

- Samples are being collected from different water sources (main network, wells, tanks, ice factories), environment samples from the sewage system, and the Euphrates River. All samples are tested at the central public health laboratory (CPHL). 11 IDP camps, 38 collective shelters in Hassakeh, 23 collective shelters in Tabaqa, 19 boreholes and 41 drinking stations in Eastern Deir-ez-Zor are monitored; in total 977 samples are collected.
- One million chlorine aqua tabs 67mg, were delivered to partners in NES, as follows: 700,000 AQUA Tabs to Hassakeh and 300,000 AQUA Tabs in Ar-Raqqa (Tabaqa city).
- Coordination with the WASH sector to undertake WASH interventions and improve the water quality through chlorination of drinking water in highly affected locations.
- Supported health directorates with 100 kg of chlorine NaDCC, powder for purification of water at stations.

Pillar 7: RCCE

Co-leading the RCCE response efforts to the Cholera outbreak with UNICEF. During the reporting period, WHO:

- Supported UN agencies, INGOs, and NGOs, as well as health sector partners with MOH-approved flyers, brochures, key messages on cholera, and social media cards.
- Distributed more than 100,000 IEC materials on cholera across governorates. In addition, 600 000 flyers and posters are in the process of being printed and distributed to MOH, DOHs, NGOs and other partners across Syria.
- Updated partners on the latest distribution of acute watery diarrhoea cases in the four most affected governorates to guide the RCCE response.
- Engaged with almost 700 community health workers from different governorates in Syria with raising-awareness sessions to communicate key

messages on AWD/Cholera prevention to vulnerable communities, as well as to ensure that the response is timely, credible, and going through reliable channels.

- In Aleppo, WHO engaged with 170 community workers from UNHCR, outreach volunteers as well as community leaders targeting hard-toreach areas with high levels of infected cases.
- In Lattakia & Tartous, an online RCCE session was conducted targeting 73 community health workers from 11 NGOs who will assist in conveying key messages on cholera sources of infection and prevention measures.
- In Damascus, WHO technically supported 55 SARC health promoters to strengthen their knowledge of cholera epidemiology, simple case management, as well as key messages and community engagement interventions to reach vulnerable communities.
- In Deir-ez-Zor, WHO supported more than 250 volunteers from different UN agencies, INGOs and NGOs, providing them with the technical knowledge as well as WHO-developed RCCE material to support their awareness-raising campaigns.
- In Al-Qamishli, daily community awarenessraising continued through 147 volunteers from supported NGOs.
- Through WHO's effort to mitigate the spread of infections, WHO volunteers, and community health workers reached over 70,000 individuals with cholera key messages.

Challenges

- The unavailability of microbiology labs in some governorates for the culture tests.
- Poor WASH situation due to the high price of safe water (availability, accessibility, and affordability); people are getting drinking water directly from the Euphrates River in Deir-ez-Zor and Ar-Raqqa.
- The fragile health system affects health services and reporting quality.
- Limited access to some areas due to conflict and/or insecurity, including in camps.
- Delays in implementing WASH interventions in the highest affected localities (village level).
- Delay in the reporting of daily cases leads to an unclear EPI picture and impacts timely, local response.

Governorate	Facility	affiliation	Facility type	cholera Treatment beds
Damascus	Ibn Al-Nafees Hospital	МОН	Hospital	13
Damascus	Damascus Hospital	МОН	Hospital	16
Damascus	Al Hilal al Ahmar Hospital	МОН	Hospital	4
Rural Damascus	Qatana Hospital	MOH	Hospital	6
Rural Damascus	Qutaifa Hospital	МОН	Hospital	20
Rural Damascus	Zabadani Hospital	MOH	Hospital	10
Homs	Al-Waleed General Hospital	MOH	Hospital	25
Homs	Karm Alloz General Hospital	MOH	Hospital	4
Homs	Al-Basel Hospital	MOH	Hospital	4
Homs	Almuhajreen Field Hospital in Homs	МОН	Hospital	100
Hama	Al-Assad Medical Complex	MOH	Hospital	8
Hama	Salamieah National Hospital	МОН	Hospital	8
Hama	Mousyaf National Hospital	МОН	Hospital	8
Hama	Sqelbeyah National Hospital	МОН	Hospital	8
Hama	National Hospital in Hama	MOH	Hospital	27
Latakia	National Hospital in Latakia	МОН	Hospital	24
Tartous	Al-Basel Hospital in Tartous	MOH	Hospital	20
Aleppo	Zahi Azrak Hospital	МоН	Hospital	60
Aleppo	Aleppo University Hospital	MoHE	Hospital	60
Ar-Raqqa	The Polyclinic in Ar-Raqqa city	Other	PHC	40
Ar-Raqqa	Tabaka National Hospital	Other	Hospital	16
Ar-Raqqa	Alsharida Alsharkyia PHC	MOH	PHC	10
Ar-Raqqa	Almokla Health Center	МоН	PHC	10
Hassakeh	Hassakeh National Hospital	Other	Hospital	18
Deir-ez-Zor	Al Madina Hospital	NGO	Hospital	30
Deir-ez-Zor	Al kasra Hospital	NGO	Hospital	27
Deir-ez-Zor	Al Hamydiah PHC	МоН	РНС	25
	27			601

Number of facilities providing support for AWD by governorate in Syria