



# **Early warning, alert and response to acute public health events in refugee-hosting countries**

**Ukraine crisis**

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31 May 2022

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WHO document number: WHO/EURO:2022-5506-45271-64773

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## Acknowledgements

The report was written and coordinated by Lauren E. MacDonald (WHO Regional Office for Europe) and Dr. Julien Beaute and Dr. Gianfranco Spiteri (European Centre for Disease Prevention and Control (ECDC)).

Review and production support was provided by Dr. Leonidas Alexakis<sup>1</sup>, Dr. Brett Archer<sup>2</sup>, Dr. Luis Lucenca Baeza<sup>1</sup>, Dr. Jon Bilbauta<sup>1</sup>, Marie-amelie Degail Chabrat<sup>2</sup>, Dr. Silviu Ciobanu<sup>3</sup>, Dr. Orla Condell<sup>1</sup>, Dr. Tarik Derrough<sup>1</sup>, Dr. James Fielding<sup>3,4</sup>, Pernille Jorgensen<sup>3</sup>, Dr. Niluka Wijekoon Kannangarage<sup>2</sup>, Dr. Favelle Lamb<sup>1</sup>, Dr. Olivier Le Polain<sup>2</sup>, Dr. Teymur Noori<sup>1</sup>, Dr. Boris Pavlin<sup>2</sup>, Dr. Heather Popowitz<sup>3</sup>, Dr. Gerald Rockenshaub<sup>3</sup>, Dr. Jonathan Suk<sup>1</sup>

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## Background and rationale

The crisis in Ukraine has led to over five million Ukrainians being displaced to neighbouring European countries as of May 2022 (1). The daily number of refugees peaked in early March 2022 before decreasing and plateauing since late March. However, other waves of influx may occur, should there be a further deterioration of the situation in Ukraine.

Several European countries now host from hundreds of thousands to up to millions of Ukrainians in various settings.

Displaced people entering neighbouring countries in the WHO European Region from Ukraine may be vulnerable to developing urgent health conditions and subject to specific risks due to the increased incidence of various communicable diseases in their country of origin, the disrupted living conditions before and during their displacement, and difficulties accessing health care in the host country. Reception centres may be associated with a further increased risk for infectious disease outbreaks that may rapidly spread, especially in overcrowded facilities with poor hygiene conditions (2). For people living in the community, the risk of infectious disease outbreaks may be similar to other residents, but there may also be situations of increased risk, such as vaccine-preventable disease outbreaks among under-immunized refugees and immunization coverage gaps in local communities.

It is crucial that detection or suspicion of public health events be notified to authorities to prompt verification, investigation, and preventive and control measures. The early detection of, and response to, priority public health events in both settings is critical for early detection of epidemic-prone diseases (or other health threats) in order to protect refugee and local population health.

Yet, many existing national surveillance systems, however strong, are not well-equipped to serve an early warning, alert and response (EWAR) function for refugee settings, for one or more of the following reasons:

- insufficient timeliness of reporting (e.g. monthly reporting, or reporting linked to requirement for laboratory confirmation);
- lack of surveillance system coverage in newly established settings with large refugee populations (i.e. high occupancy settings) or among populations that may not regularly interact with the formal health system (e.g. marginalized minority groups);
- inability to disaggregate by refugee status<sup>\*</sup>; and
- limited capacity to investigate and respond.

EWAR has been defined as the organized mechanism to rapidly detect and respond to signals that might indicate potential acute public health events (3). It facilitates mitigation of the effects of acute public health events through rapid response. EWAR utilizes multiple sources of information for timely detection of public health events, including routine indicator-based surveillance but also ad hoc systems developed to enhance surveillance structures already in place in a given population.

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<sup>\*</sup> As refugees make up a relatively small proportion of the population (e.g. 1–5%) in comparison to the host community, an EWAR system that cannot distinguish between refugees and the host community will not be able to detect a public health event among refugees until it reaches a scale so large that it is detected at the host community level. For example, a 50% rise in diarrhea among refugees that make up 2% of a local population would only appear as a 1% increase in diarrhea overall and would go unnoticed.

Information sources may go beyond the health care system, often involving non-health sectors and local communities.

EWAR systems can be effective for early identification and rapid control of outbreaks. The early detection of, and response to, priority public health events in the settings described above is critical for the control of epidemic-prone diseases, or other health threats, and the protection of refugee and local population health.

The core EWAR functions include:

- Early Warning (indicator-based surveillance, event-based surveillance, syndromic surveillance)
- Alert management (alert thresholds, verification, risk assessment and characterization)
- Response linked to risk-assessed events.

While refugee living conditions in each country vary and may be subject to change as the situation evolves, this document will focus on two key settings important for EWAR systems: 1) refugee reception centres or temporary shelter facilities, taken together as ‘high occupancy settings’, where refugees congregate overnight in close conditions, and 2) the community, or settings with living conditions similar to those of other residents.

## Objectives

This document serves as an advocacy and quick assessment tool for public health responders in refugee-hosting countries to evaluate and strengthen EWAR capacities in the two aforementioned principal settings relevant to refugee and population health. It does not intend to propose that new structures be established in parallel to replicate already well-functioning systems, but rather to look at opportunities to strengthen core capacities and ensure epidemic threats are appropriately monitored to allow for timely detection and response – especially in scenarios where new health care settings may need to be assessed, scaled up and linked to already established systems.

A checklist for important EWAR considerations in both high occupancy refugee settings and the community are provided below. In addition, a number of featured EWAR tools available from both WHO and the European Centre for Disease Control (ECDC) are described, which could be used by countries in the assessment and strengthening of EWAR capacities. International reporting protocols are described and potential opportunities for country support from WHO and ECDC in EWAR assessment are proposed in the later sections of this document. Finally, key EWAR and surveillance reference guides are listed herein for reference by practitioners and policy-makers.

## EWAR Assessment Checklist: High occupancy refugee settings

This checklist is not meant to be an encyclopaedic list of all possible EWAR elements within high occupancy refugee settings, but rather a select list of core features and questions public health policy-makers and practitioners should consider in their assessment of EWAR capacity. While these elements are described for their application in a high occupancy setting, some could also be extrapolated to the community setting.

- **Are health care points available in high occupancy settings?** Health care points are points or places, from a first aid tent to a hospital emergency room, where refugees may interact with a health care provider. Refugees arriving to reception centres may have urgent health needs or chronic conditions that require care (4). For refugees staying in reception centres for longer periods or residing in temporary shelters, on-site medical teams for rapid response could reduce delays in access to appropriate care and treatment and support EWAR to acute health threats.

Refer to *Information to Guide Individual Health Assessment of Refugees Fleeing the War in Ukraine: Considerations for Healthcare Workers (5)*

- **What is the current EWAR capability of these sites?** Health care point EWAR infrastructure and capabilities may need to be assessed in high occupancy settings. Key considerations include:
  - ensuring that detection, alert and response core functions are established and operational;
  - ensuring that health care points include trained health care workers and human resource capacity to recognize unusual events and collect and report surveillance data to public health authorities based on standard operating procedures (SOPs) – this would include immediate reporting of critical events, routine weekly or more frequent reporting of surveillance data, and zero reporting when nothing identified in order to verify functionality of reporting; and staff surge capacity to prepare for rapid scale-up of EWAR functions in an outbreak or exacerbating event;
  - the availability of IT infrastructure, cellular or internet connectivity, for purposes including enabling immediate reporting available through basic (e.g. mobile text messages, hotlines) or more advanced electronic health information systems.
- **Has a list of priority public health threats and/or associated syndromes been established for monitoring?** A list of priority health threats based on appropriate risk assessments, including potential risks among the emergency-affected population under surveillance (refugees) and considering the local or national epidemiology, should be established. These threats should prioritize epidemic-prone diseases, conditions and environmental hazards that have potential to cause an outbreak/public health emergency, and/or severe morbidity or mortality. A list of priority health threats may also be pertinent in the community setting although, depending on risk assessments, the threats may differ.

Refer to [Annex A: Syndromes and events for EWAR priority consideration](#).

In high-occupancy settings, monitoring of signs or symptoms, namely syndromic surveillance, may be most appropriate to increase sensitivity of priority event detection and ensure rapid implementation of control measures, at the first indication of disease or illness and before a confirmatory diagnosis is confirmed.

Refer to the *Handbook on Implementing Syndromic Surveillance in Migrant Reception/Detention Centres and Other Refugee Settings (6)*

Case definitions for priority health threats should be adapted to the current context from those used by national public health authorities, or equivalent, where possible.

- **Are priority public health threats and/or syndromes monitored actively in high occupancy settings?** It will be important to consider the surveillance approach(es) implemented in high occupancy settings, and their timeliness of event detection and representativeness for monitoring the target population. Health care points may decide on passive surveillance to await the presentation of symptomatic or ill patients as a means to detect events or syndromes, or on active surveillance to regularly monitor, such as on a daily or weekly basis, selected high priority symptoms, including fever, cough and rash, among residents of the shelter facility. If detection is passive, are clinicians sensitized to the syndromes for which to be on alert, or in other words, to include in their differential diagnosis? Depending on the setting, the EWAR capacity in place, and further risk assessments, active surveillance approaches may be best to early detect threats and implement immediate response measures; however, this may not be feasible or appropriate in all settings.

Initial health assessments for incoming refugees could be implemented to have early identification of current priority syndromes and triage to appropriate care, or assess vaccination status, for example.

Refer to *Information to Guide Individual Health Assessment of Refugees Fleeing the War in Ukraine: Considerations for Healthcare Workers (5)*

- **Are data on syndromes and events tabulated in a data collection tool? Does the data collection tool facilitate rapid and accurate reporting?** Data collection tools are recommended for systematically capturing all detected priority syndromes or events to assist in zero reporting, trend analysis and outbreak investigation. Both paper-based and electronic tools enable rapid tabulation and summarization of health events. However, where possible, electronic tools should be prioritized to allow for efficient and accurate analysis, electronic reporting to local health authorities and rapid querying of needed information. Refugee health information data collection is equally important in the community setting and is elaborated further below.

Digital tools for EWAR include 'EWARs in a Box' and 'Go Data' and can be rapidly deployed to affected areas with support from WHO.

Refer to the section on [Featured EWAR Tools](#).

- **Are collected EWAR data routinely transmitted from health care points to the appropriate public health authorities?** Are processes in place to routinely report EWAR and/or case health information to appropriate public health authorities? Is this done using paper or electronically, such as through a phone, tablet or online? Are reports transmitted at least weekly? And is there a mechanism to immediately report any immediately notifiable conditions, such as acute flaccid paralysis? Is there an identified person or persons responsible for data analysis and aberration detection?
- **Is there a process for the analysis of collected tabulated data? Are the data analyzed on a routine basis in order to assess trends in syndromes and events? What is the frequency of analysis?** Health data should be analyzed for trends across the key epidemiological domains – such as host, agent, environment and time – to early detect outbreaks or clustering of events. Comparisons of observed events, through counts or rates during the current day/ week, to expected events, through historical counts or rates, may be appropriate for outbreak detection depending on alert thresholds (see next point below), event-type and data availability. This capacity is particularly relevant in the community setting.

Refer to *EpiSignalDetection Tool (7)*

- **Have alert thresholds and standard operating procedures (SOPs) for notification and confirmation of events been established?** A key requirement of EWAR is the establishment of alert thresholds for suspected disease, priority events or outbreaks, including for morbidity or mortality of unknown aetiology/cause or unusual or unexpected disease patterns. In some cases, an alert would be triggered for a single suspected case of a particular syndrome or group of syndromes, such as acute flaccid paralysis, while in other instances a relevant spike would require detection of a larger number of cases. SOPs should be in place that outline these alert thresholds and also include notification procedures for reporting to local and/or national public health authorities, and procedures for confirmatory testing, including sample collection, packing, and specimen transport to identified mobile or regional laboratories.

In addition, at the national level, SOPs should be in place in order to facilitate the international sharing of signals with other WHO Member States, ECDC and WHO. Events which reach the criteria for reporting to the European Union's Early Warning and Response System and/or to WHO according to the International Health Regulations (2005) should be reported in a prompt manner to enable appropriate international response.

Refer to the section on [International Reporting](#).

- **Are necessary monitoring and investigation tools available for use at these sites?** Event monitoring and investigation tools, such as case investigation forms, line list forms,



epidemiological summary templates, and SOPs, should be available onsite or quickly accessible, for use in the investigation of an alert or confirmed outbreak. These EWAR / surveillance tools in the community setting are also important and include all of those mentioned here.

- **Is the collection and storage of contact details for incoming and outgoing refugees carried out?** Response to an alert of priority events or syndromes may require case investigation, contact tracing and management. Locating and communicating with cases and identified contacts is important to ensure access to health care and implement containment measures to prevent further illness. For these reasons, the collection and documentation of refugee contact information, such as email, phone number and address, is critical to ensure timely follow-up, and should consider refugee mobility, in that an address or even phone number may be only temporary.

## EWAR Assessment Checklist: Community setting

As above, the community setting checklist does not represent a comprehensive list of relevant features of community and/or national surveillance systems. It aims to describe key features that may need to be adapted in already established systems in light of the unique refugee crisis.

- **Are the methods used by refugees to access the health care system, and the extent to which they are used, known?** It is important to remove any barrier to access to health care for Ukrainian refugees. Barriers could include health insurance coverage, language of service, and limited means of transport to visit health care sites, among other less tangible but equally important factors, such as fear, stigma or discrimination. Access barriers prevent timely treatment of illness, which can lead to worsened health outcomes among refugees, and greater likelihood of delays in detecting priority events and further delays to initiate rapid response to health emergencies. Understanding access among this population will allow practitioners to target EWAR assessments and potential scale-up.
- **Are refugee health data reported into the routine local, regional or national surveillance system?** Since routine surveillance systems rely on reporting from health care professionals, it is imperative that health care professionals report relevant data on clinical encounters with refugees, especially when health care professionals work outside of the regular system, such as nongovernmental organizations (NGOs). All professionals providing care to refugees should be either granted access to the reporting system or instructed to report to nominated health authorities that would report on their behalf.
- **Is it possible to disaggregate refugee health data?** Is individual-level health information for refugees collected and transmitted in a manner that allows for disaggregation from the non-refugee population? Without the ability to disaggregate refugee data from the rest of the population, it will be not be possible to identify outbreaks in this special population. Furthermore, without knowing that cases are occurring among refugees, risk assessments will not accurately reflect the population affected and it is difficult to develop and target appropriate

response strategies, including immunization campaigns and treatment measures. Data flags associated with refugee records can be used, but it may also be important to collect information on migration status, such as country of birth and date of entry into the country, and possibly on the setting of infection, such as a reception centre or a community.

- **Are population denominators representative?** Ideally, analyses should be carried out with adapted population denominators when necessary. Refugees living in the community are de facto part of the population under surveillance and, given that they may contribute a significant increase to population numbers in the community and at the national level, this should be reflected in population estimates used to generate epidemiological metrics. In order to appropriately quantify disease rates in the overall population or sub-populations, accurate denominators are needed. In addition, adapted denominators should reflect the age and gender distribution of refugees. According to reports of refugee demographics, the majority of refugees are of younger age groups and female. The update of denominators is likely to only include people that will stay for a longer period and may not be immediate. In addition, this may be challenging since the number of refugees may fluctuate over time, especially at the subnational level.
- **Is environmental surveillance for polio- and non-polio enteroviruses in place?** Environmental surveillance, such as wastewater surveillance, can help early detection of outbreaks, especially if other types of surveillance are suboptimal with, for example, under-ascertainment of cases among refugees. This could also be considered for application in high-occupancy settings.
- **Are there regular surveillance data analyses – possibly automated – to detect signals or outbreaks?** The use of statistical tools can help identify aberrations beyond the expected counts or rates in disease incidence, which might indicate early warning signs for outbreaks.

Refer to *EpiSignalDetection Tool (7)*

- **Have early warning systems incorporated event-based surveillance?** Event-based surveillance (EBS) consists of the use of alternative sources to capture public health events of interest in a timely manner. Monitoring for local events from unofficial information sources could serve to detect events of concern in the context of the displaced population earlier than through traditional surveillance. Are mechanisms in place to capture informal, qualitative data related to priority events, such as from media monitoring, community volunteer mechanisms, or hotlines?

Refer to *Early detection, assessment and response to acute public health events: implementation of early warning and response with a focus on event-based surveillance – interim version (3)*.

Refer to the section on [Featured EWAR Tools](#).

## Featured EWAR Tools

The tools featured here offer a range of technologies that can be adapted to a variety of contexts and settings. They include tools which can support the scale-up of EWAR in new health care settings, including hardware and software equipment, as well as data collection and analysis tools needed to assess and visualize trends. Also listed are event-based surveillance technologies which help to aggregate media and non-traditional information sources for early warning. Other tools in the EWAR space exist – please contact WHO or ECDC for further support.

**EWARS in a Box** (8) is an early warning, alert and response package that contains all the equipment needed to establish surveillance and response activities, particularly in difficult and remote field settings where tools are not already in place and without reliable internet or electricity. It has been used in dozens of emergency settings. The box contains mobile phones, laptops, surveillance tools and a local server to collect, report and manage disease data. It uses solar power to charge the equipment, and a single kit can support surveillance/EWAR for 50 fixed or mobile clinics serving roughly 500 000 people. EWARS in a Box can also be used as a software package without the hardware, taking advantage of available national infrastructure. It is fully customizable to align with national reporting structures and disease priorities. It allows end-to-end routine monitoring, alert, verification, risk assessment, case investigation, line listing and outbreak monitoring; it is the only tool to feature this end-to-end functionality.

**GoData** (9) is an outbreak investigation software tool for field data collection during public health emergencies. The tool includes functionality for case investigation, contact follow-up, and visualization of chains of transmission including secure data exchange, and is designed for flexibility in the field to adapt to the wide range of outbreak scenarios. The tool is an initiative developed by a group of public health partners and is managed by the Global Outbreak and Response Network coordinated by WHO.

**Epidemic Intelligence from Open Sources (EIOS)** (10) is a fit-for-purpose but constantly evolving web-based system that collates hundreds of thousands of articles from a broad range of sources, including traditional online media and specific social media sources, government and official websites, news aggregators, blogs and expert groups. Through the global EIOS initiative and community of practice, it is designed to augment and accelerate epidemic intelligence activities, in particular event-based surveillance (EBS). EIOS has been implemented globally in 33 countries and organizations and is used routinely at both ECDC and WHO. Member States interested in receiving access to the system, and training and support in establishing EIOS 'boards' and SOPs for signal monitoring, can contact the WHO Regional Office EIOS team at [EIOS-EURO@who.int](mailto:EIOS-EURO@who.int).

**Epitweetr** (11) is a free software available as an R package under the European Union Public License v.1.2. EUPL ©. Epitweetr allows users to automatically monitor trends of tweets in multiple languages, by time, place, and topic, with the aim of early detecting public health threats. To do so, Epitweetr collects, geolocates and aggregates tweets to identify signals, and then emails them. Epitweetr has been shown to have sufficient performance (12) as an early warning tool for public health threats using data from Twitter.

A GitHub (13) repository and further documentation is also available for Epitweetr users.

## International Reporting

Some public health events are of international interest for the protection of global health security and should be alerted to the appropriate international organizations. In other cases, Member States may utilize international reporting tools to facilitate information exchange.

### International Health Regulations (2005)

Under the International Health Regulations (IHR) (2005) (14), WHO Member States are required to report public health events of international concern to WHO Regional IHR Contact Points. Annex 2 of the IHR (2005) provides a decision instrument for which events should be reported to WHO. Public health events of international concern must meet at least two of the four following criteria.

- (i) The public health impact of the event is serious.
- (ii) The event is unexpected or unusual.
- (iii) It poses a significant risk of international spread.
- (iv) It poses a significant risk of international travel or trade restrictions.

The IHR (2005) encompasses all public health hazards, not limited to infectious disease threats, and thereby includes chemical, environmental or radionuclear hazards as well. These regulations also emphasize the importance of bilateral information sharing between Member States. Information on health events in refugee-hosting countries or Ukraine may be shared directly with National IHR Focal Points in other WHO Member States who may benefit from receiving such information directly.

### EpiPulse

EpiPulse (15) is an online portal for European public health authorities and global partners to collect, analyse, share and discuss infectious disease data for threat detection, monitoring, risk assessment and outbreak response. EpiPulse integrates different surveillance systems to facilitate information and accelerate decision-making between appointed users and countries.

Reporting under EpiPulse is strongly recommended to facilitate the exchange of information among European Union/European Economic Area (EU/EEA) Member States. EU/EEA Member States may use EpiPulse for reporting on cases, clusters, outbreaks, or public health risk situations that are assessed to pose or may pose a public health risk for the EU/EEA. Where relevant, informal reports of signals of potential public health events will also be shared with WHO for situational awareness and risk assessment purposes.

In addition, EU/EEA Member States are encouraged to use EpiPulse to share relevant documentation or information, such as surveillance or early warning protocols, in order to increase collaboration and awareness about ongoing activities.

## ECDC and WHO Support to Member States

At the request of a national ministry of health, and together with relevant public health authorities, ECDC and WHO can support Member States in the assessment and strengthening of EWAR functions of the public health surveillance system to timely detect priority public health events and initiate rapid response.

The role of EWAR in emergencies will be context-dependent and will always take into account the needs of the refugee-receiving country, existing country capacity – including national EWAR and surveillance structures – and the needs of the refugee populations. In the context of the Ukraine crisis, and in refugee-receiving countries, EWAR assessment and implementation will aim to identify gaps in event detection and response, and prioritize those areas most pertinent for strengthening in order to protect the health of refugee and national populations.

Within the scope of the WHO emergency appeal listed on this WHO website – Emergency appeal - Ukraine & refugee receiving and hosting countries (16) – a set of technical services can be provided at different geographical levels to support public health institutions and partners for:

- rapid assessments of EWAR functions of the public health surveillance system targeted to the emergency context;
- the management of alerts received through EWAR systems;
- support in outbreak response of priority epidemic-prone diseases and vaccine-preventable diseases;
- public health data analysis and reporting;
- access, training and scale-up of digital health information tools, such as EWARS in a Box<sub>2</sub>, GoData<sub>2</sub> and EpiTweetr; and
- strengthening laboratory detection systems for priority infections.

## Relevant Risk Assessments and Technical Guidance by ECDC and WHO

**International Health Regulations (2005).** 3rd ed. Geneva: World Health Organization; 2016 (<https://apps.who.int/iris/handle/10665/246107>).

**Ukraine Crisis – Public Health Situation Analysis, Refugee-hosting countries.** Copenhagen: WHO Regional Office for Europe; 17 March 2022 (<https://apps.who.int/iris/handle/10665/352494>).

**Early detection, assessment and response to acute public health events: Implementation of Early Warning and Response with a focus on Event-based Surveillance.** Geneva: World Health Organization; 2014 (WHO/HSE/GCR/LYO/2014.4: <https://apps.who.int/iris/handle/10665/112667>).

**Operational public health considerations for the prevention and control of infectious diseases in the context of Russia’s aggression towards Ukraine.** Stockholm: European Centre for Disease Prevention and Control; 2022 (<https://www.ecdc.europa.eu/en/publications-data/operational-public-health-considerations-prevention-and-control-infectious>).

**Guidance for the prevention and control of COVID-19 in temporary reception centres in the context of the large numbers of people fleeing Ukraine.** Stockholm: European Centre for Disease Prevention and Control; 2022 (<https://www.ecdc.europa.eu/en/publications-data/guidance-prevention-control-covid-19-temporary-reception-centres-people-fleeing-ukraine>).

**The UN Refugee Agency, European Centre for Disease Prevention and Control, IOM and WHO Regional Office for Europe. Information to guide individual health assessment of refugees fleeing the war in Ukraine: Considerations for healthcare workers.** Stockholm: European Centre for Disease Prevention and Control; 2022 (<https://www.ecdc.europa.eu/en/publications-data/information-guide-individual-health-assessment-refugees-fleeing-war-ukraine>).

**European Centre for Disease Prevention and Control and WHO Regional Office for Europe. Testing for tuberculosis infection and screening for tuberculosis disease among refugees arriving in European countries from Ukraine.** Information note. Stockholm: European Centre for Disease Prevention and Control; 2022 (<https://www.ecdc.europa.eu/en/publications-data/testing-tuberculosis-infection-and-screening-tuberculosis-disease-among-displaced>).

**Handbook on implementing syndromic surveillance in migrant reception/detention centres and other refugee settings.** Stockholm: European Centre for Disease Prevention and Control; 2016 (<https://www.ecdc.europa.eu/en/publications-data/syndromic-surveillance-migrant-centres-tool>).

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- (5) Information to Guide Individual Health Assessment of Refugees Fleeing the War in Ukraine: Considerations for Healthcare Workers – Joint Report from UN Refugee Agency, ECDC, UN Migration, and WHO Regional Office for Europe; 2022 (<https://www.ecdc.europa.eu/sites/default/files/documents/Individual-Health-Assessment-Final-April-05-2022.pdf>, accessed 30 May 2022)
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## Annex A. Syndromes and events for EWAR priority consideration

The below list of syndromes and events should be considered priority events in an EWAR system; however, it is not prescriptive. Health authorities may decide to apply some or all of these, or to include others not listed below. This serves as a guide to inform discussion and decision-making in the EWAR assessment phase or planning process. The syndromes and events have also been indicated by those which would warrant immediate reporting.

Syndromes and events for EWAR priority consideration	Suspected illness associated with syndrome	
Syndromes	Acute flaccid paralysis (AFP)*	Poliomyelitis
	Acute watery diarrhoea†	Cholera
	Bloody diarrhoea	Viral or bacterial gastroenteritis
	Prolonged productive cough	Tuberculosis
	Acute respiratory infection	COVID-19, influenza, pneumonia
	Acute Fever with rash*	Measles
	Acute Jaundice	
	Meningitis‡ or encephalitis	Neisseria meningitidis
	Sore throat, fatigue, fever, difficulty breathing and/or skin lesions*	Diphtheria
Events	Confirmed measles	n/a
	Confirmed COVID-19	n/a
	Confirmed diphtheria or pseudomembranous pharyngitis	n/a
Other events	Any other unusual event (cluster of unusual symptoms. e.g. suspected chemical exposure, cluster of unexplained death)*	n/a
	Total deaths	n/a
	Total (out)patient consultations (for denominator)	n/a

\* immediate reporting

† immediate reporting if cholera confirmed

‡ immediate reporting if *N. meningitidis* confirmed



## The WHO Regional Office for Europe

The World Health Organization (WHO) is a specialized agency of the United Nations created in 1948 with the primary responsibility for international health matters and public health. The WHO Regional Office for Europe is one of six regional offices throughout the world, each with its own programme geared to the particular health conditions of the countries it serves.

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