



## **TECHNICAL DOCUMENT**

# **Handbook on using the ECDC preparedness checklist tool to strengthen preparedness against communicable disease outbreaks at migrant reception/detention centres**

**ECDC TECHNICAL DOCUMENT**

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reception/detention centres**



This report was commissioned by the European Centre for Disease Prevention and Control (ECDC), coordinated by Jonathan Suk and Laura Espinosa, and produced by the Italian Institute of Public Health (ISS team), led by Silvia Declich.

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# Contents

Abbreviations .....	iv
Executive summary .....	1
1. Introduction .....	2
2. Scope of the preparedness checklist tool .....	4
3. Preparedness dimensions assessed by the checklist tool .....	6
3.1 Human resources .....	6
3.2 Physical infrastructure and Sanitation .....	6
3.3 Medicines and Vaccines .....	6
3.4 Health financing and Health information .....	6
3.5 Overcrowding and Coordination .....	6
4. Strategic objectives and structure of the checklist tool .....	7
5. Performance indicators in the checklist tool .....	9
5.1 Capacity assessment upon entry in the hosting country .....	10
5.2 Capacity assessment upon entry to the assessed reception/detention centre .....	11
5.3 Assessment of capacity in an outbreak situation .....	12
5.4 Assessment of capacity during a large sudden influx of migrants .....	13
6. Using and interpreting the results from the Checklist Tool .....	15
6.1 Sections that need to be completed by users .....	15
6.2 Sections that do not need to be completed by users .....	16
6.3 Discussion and interpretation of findings .....	18
References .....	19
Annex 1. Methodology and main findings of the scoping review .....	22
Annex 2. Stakeholder analysis .....	30

# Figures

Figure 1. Aim, strategic objectives and capacity assessment critical phases of the tool .....	7
Figure 2. Hierarchy and construction of the indicators and performance measures proposed for capacity assessment .....	9
Figure 3. Example of a capacity assessment section of the tool in Excel format .....	16
Figure 4. Example of a summary analysis by key performance indicator .....	17
Figure 5. Example of a summary analysis by key dimension indicator .....	16
Figure 6. Example of a summary section of the tool in Excel format .....	18
Figure 7. Scientific literature search strategy diagram .....	23
Figure 8. Flow diagram of the scoping review .....	25
Figure 9. Assessment frameworks used in the IOM and WHO situation assessments in relation to the scoping review dimensions .....	27

# Tables

Table 1. Stakeholder analysis tool .....	31
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## Abbreviations

BBV	blood-borne viruses
CD	communicable diseases
CM	cultural mediators
EU/EEA	European Union/European Economic Area
HCW	healthcare workers
ID	infectious diseases
IHR	International Health Regulations
IOM	International Organization for Migration
MeSH	medical subject heading
MSF	Médecins Sans Frontières
OCO	Outbreak Control Officer
PHAME	Public Health Aspects of Migration in Europe (WHO newsletter)
PPE	personal protective equipment
STD	sexually transmitted diseases
TB	tuberculosis
WHO	World Health Organization

## Executive summary

The increasing number of people entering the European Union/European Economic Area (EU/EEA) as asylum seekers and irregular migrants has challenged public health authorities to provide relevant, proportionate and appropriate services, including communicable disease-related services. As a consequence, migrant reception facilities in many EU/EEA Member States have the potential to be overwhelmed by higher numbers of migrants than the sites were originally designed for. Although migrants entering the EU/EEA tend to be in relatively good health, crowded living situations could favour the spread of communicable diseases.

As in other institutional settings, migrant holding centres face specific challenges in preventing and controlling communicable disease transmission, although there is no clear indication as to which communicable diseases are more likely to occur. In addition, there is no consensus on whether it is more urgent to invest in human resources, medicines and vaccines, sanitation and disinfection or physical infrastructure in order to prevent/control communicable disease outbreaks in the context of sudden large influxes of migrants.

In order to support EU/EEA Member States in improving preparedness at migrant hosting sites where there is the potential for sudden influxes of migrants, ECDC has commissioned the development of a preparedness checklist tool. The tool will help establish a quick and flexible evidence-based approach to assessing reception/detention centre needs for communicable disease control, particularly in the event of a sudden influx of migrants.

The checklist tool described in this handbook is intended for EU/EEA public health authorities who need to assess the capacity for communicable disease prevention and control at migrant reception/detention centres hosting migrants for weeks/months (medium-term) in order to identify gaps and set priorities for development.

Using this tool, the aim is to monitor and support capacity development to prevent the onset and improve the management of communicable disease outbreaks at medium-term migration reception/detention centres, both on a day-to-day basis and in the event of a sudden influx of migrants.

This handbook is published jointly with an Excel prototype of the tool. The prototype comes with pre-designed indicators and embedded automated analysis functions. Both have been designed to be easily adaptable to the requirements of Member States.

# 1. Introduction

The increasing number of people entering the European Union/European Economic Area (EU/EEA) as asylum seekers and irregular migrants has challenged public health authorities to provide relevant, proportionate and appropriate services, including communicable-disease related services [1]. Migrant reception facilities in many EU/EEA Member States may be overwhelmed if they receive higher numbers of migrants than the sites were originally designed for. In addition, although migrants entering the EU/EEA tend to be in relatively good health, crowded living situations can cause the spread of communicable disease.

ECDC has produced a number of reports analysing the risk of communicable disease introduction/spread in the context of the current migration crisis [5-12]. Meanwhile, many organisations, including Médecins Sans Frontières (MSF) [2] in 2010 and, more recently, the International Organization for Migration (IOM) [3] and the World Health Organization (WHO) [4] have conducted situational analysis studies in migrant reception/detention centres.

As in other institutional settings, centres face specific challenges in preventing and controlling communicable disease transmission, although there is no clear indication as to which communicable diseases are more likely to occur. In addition, there is no consensus on whether it is more urgent to invest in human resources, medicines and vaccines, sanitation and disinfection or physical infrastructure in order to prevent/control communicable disease outbreaks in the context of sudden large influxes of migrants.

In order to support EU/EEA Member States in improving preparedness [13] where there is the potential for sudden influxes of migrants, ECDC has commissioned the development of a [preparedness checklist tool](#). The tool will help establish a quick and flexible evidence-based approach to assessing reception/detention centre needs for communicable disease control, particularly in the event of a sudden influx of migrants.

## ECDC preparedness checklist tool for strengthening preparedness at migrant reception/detention centres

The checklist tool described in this handbook is intended for EU/EEA public health authorities who need to assess the capacity for communicable disease prevention and control at reception/detention centres hosting migrants for weeks/months (medium-term) in order to identify gaps and set priorities for development.

Using this tool, the aim is to monitor and support capacity development to prevent the onset and improve the management of communicable disease outbreaks at medium-term migrant reception/detention centres, both on a day-to-day basis and in the event of a sudden influx of migrants.

In order to achieve this aim we distinguished three stages. Firstly, preventing the outbreak from occurring in the first place by assessing the vulnerabilities/susceptibilities of the population hosted at the reception/detention centre. This involves the rapid identification and clinical/public health management (isolation if appropriate, or treatment) of any contagious individual who could potentially become an index case of an outbreak.

Medium-term migrant reception/detention centres do not always receive migrants immediately upon arrival. If migrants are not offered clinical health assessment services in short-stay centres at their point of entry into Europe, it is even more important to have capacity for the early detection of contagious diseases at medium-term migrant reception/detention centres. For this reason, the outbreak prevention stage also addresses clinical health assessment services which might not be offered at the centres being assessed. The aim is not to externally assess these services, but to support public health officers interpreting the assessment findings on the medium-term migration reception/detention centres in order to prioritise capacity-building investments.

The second stage involves optimal control of outbreaks through rapid detection and implementation of control measures (i.e. limiting further disease transmission through rapid detection, reporting new cases and clinical/public health management of existing cases).

Finally, given the specific setting, we distinguished a third stage focussing on both prevention and control of outbreaks during a large sudden influx of migrants at a reception/detention centre.

The tool aims to assess capacity based on three general objectives (Figure 1):

- Outbreak prevention (covering communicable disease prevention, rapid case detection, and case management)
- Outbreak control (covering outbreak detection and control in the reception/detention centre being assessed)
- Outbreak management during a large sudden influx of migrants (communicable disease prevention, detection and control during a large sudden influx of migrants at the reception/detention centre being assessed).

On the basis of these three general objectives, and of a set of key dimensions described later in this handbook, the tool builds a set of specific objectives. Each specific objective is described by a set of indicators. Each indicator is then assessed using a set of performance measures that are presented as statements against which assessing authorities can measure capacity.

## How to use this handbook

This handbook accompanies the checklist tool. It describes the scientific basis for the development of the tool and provides guidance on how to use it.

The methodological approach presents the general objectives, and the dimensions for assessment are selected on the basis of a scoping review of scientific and grey literature.

This handbook is structured as follows: Chapter 2 provides an overview of the main methodological orientation of the tool. Chapter 3 describes which dimensions of preparedness were identified and included in the checklist tool. Chapter 4 describes the strategic objectives of the checklist tool. Chapters 5 and 6 describe the tool in detail. Chapter 5 lists the capacity performance indicator hierarchy by specific objective and preparedness dimensions addressed, and Chapter 6 briefly describes a possible approach to data analysis, discussion and interpretation of findings. Annex 1 synthesises the methodology and main findings of the scoping review. Annex 2 provides an instrument that can be adapted and used by countries wishing to conduct a stakeholder analysis ahead of the actual capacity assessment.



## 2. Scope of the preparedness checklist tool

In order to develop a tool with the predefined objective of assessing reception/detention centre needs for communicable disease control, a scoping review of scientific and grey literature was conducted (Box 1). This study focussed on communicable disease transmission routes and documented outbreaks in migrant centres and other 'semi-open' (e.g. migrant reception centres) or 'closed' institutional settings (i.e. prisons, military bases/barracks; migrant detention centres, etc.). It also reviewed existing tools for needs assessment within such institutional settings to prevent, detect and control communicable disease (details on the scoping review methodology and main findings are available in Box 1). The scope and structure of the tool described in this document are based on the review.

One of the first elements adopted from the scoping review was the identification of the appropriate scope for the tool. The tool assesses preparedness capacity in relation to the medium-term accommodation of migrants within centres, thereby complementing an existing tool developed by the WHO PHAME project [14]. The WHO PHAME project tool focuses on responding to large influxes of migrants, from the pre-arrival period until the migrants are placed in temporary accommodation facilities. ECDC's tool focusses on migrant reception and detention centres hosting migrants for weeks or months (medium-term).

The second general element adopted from the scoping review was to choose a methodological approach that would not assess against a given standard but would be based on capacity, using a health system strengthening approach. Therefore the tool described in this document refers to the International Health Regulations (IHR) [15] as a framework, focussing on capacity development. In terms of methodology, the tool refers to the WHO Assessment Tool for Core Capacity Requirements at Designated Airports, Ports and Ground Crossings [16], adapted to the context of medium-term migrant reception/detention facilities.

The reason for choosing this methodological approach is that the scoping review highlighted considerable variability in the reference standards used to measure adequacy within migration reception/detention centres within the dimensions explored. A number of different guidance documents and tools are quoted in the EU guidance and situation analysis reviewed. These findings suggest the lack of an agreement on what standards and reference tools to use for the assessment of needs and requirements in EU migration reception/detention centres, with diverse reference tools even being applied within the same country.

**Box 1. Scoping review on communicable disease transmission in contained settings**

Migrant reception/detention centres host 'semi-open'/'closed' communities. In order to identify the most frequent communicable disease transmission routes and outbreak prevention/management issues, and to develop a tool to assess reception/detention centre needs in the area of communicable disease control during sudden influxes of migrants, a scoping review of scientific and grey literature was conducted (further details on the methodology can be found in Annex 1).

Studies and reports from 2000–2015 published in English/French/Italian focussing on communicable disease transmission routes in closed settings (educational, correctional, and military facilities) were considered. Articles were retrieved through PubMed and from official websites. Only articles and reports considered to be relevant were reviewed in full text. Each included article was evaluated to determine whether it addressed human resources, physical infrastructure, sanitation and disinfection, medicines and vaccines or any other dimension of preparedness critical for the prevention and management of communicable disease outbreaks.

A total of 522 article titles and abstracts were assessed. In all, 476 articles were excluded and 46 were included. There were 62 grey literature reports retrieved, and seven reports were excluded from the analysis. The 55 remaining reports were examined in full and were all included. Among them were twenty situation analysis studies on reception of migrants in European countries, describing the following types of migrant holding centres:

- Short term holding centres, often at points of entry: the place where initial administrative procedures and clinical health assessments are generally conducted.
- Detention centres: *de facto* prison environments where irregular migrants who have not requested asylum or have seen their asylum claim refused, are generally detained pending repatriation.
- Reception centres for asylum seekers: non-secure centres, most often hosting migrants while their asylum claim is being processed.

The main findings of the literature review were as follows.

- Although migrants entering Europe tend to be in relatively good health, there is evidence that crowded living situations in migrant holding centres can be responsible for the transmission of a wide range of communicable diseases. As in jails/prisons, specific challenges, such as blood-borne viruses and sexually transmitted infections, may also apply to migrant detention centres.
- Institutional settings, including migrant holding centres, host a resident population that relies on internal housing, food and healthcare services. For this reason:
  - Migrant holding centres need to have an internal surge capacity during outbreaks, as well as during a large sudden influx of migrants. It was recommended that these two aspects be included as specific objectives of the tool.
  - Reception/detention centres become a hub for many different actors working within and outside the centres themselves. Therefore there is the need to establish functional coordination among the different actors involved, both within and outside the institution, from a health perspective in order to be better prepared to manage outbreaks.
- All the dimensions assessed in the study were found to be major challenges at migrant holding centres. Other dimensions were also identified. On this basis, ECDC recommended including statements in the tool to address the following dimensions: human resources; medicines and vaccines; sanitation and disinfection and physical infrastructure, health financing and health information. It also recommended that overcrowding and coordination should be considered.
- Given the lack of consensus on quality standards for the dimensions studied within migrant reception/detention centres in Europe, it was recommended that the tool be developed to assess capacity rather than to make comparisons with pre-defined standards.

These findings were used to shape the tool described in the handbook (details on the scoping review methodology and main findings are available in Annex 1).

## 3. Preparedness dimensions assessed by the checklist tool

The tool was designed to assess capacity in relation to the following dimensions:

- Human resources
- Medicines and vaccines
- Physical infrastructure
- Sanitation
- Health financing
- Coordination
- Health information.

In addition, two statements were included to explore overcrowding (as further detailed in Chapter 5).

These dimensions and additional statements were formulated on the basis of the recommendations that emerged from the scoping review (Box 1, Annex 1). By using this cross-cutting approach, the tool is not only able to account for all the above dimensions in the assessment of each of its specific objectives, but can also conduct an analysis separately by dimension across all its objectives. Both of these analytical approaches are described in Chapter 6 of this handbook.

### 3.1 Human resources

The dimension 'Human resources' was found to be the most frequently critical dimension for improvement in migrant reception/detention centres in Europe. This was mainly due to the lack of availability of cultural mediators but, in some cases, also of healthcare workers.

### 3.2 Physical infrastructure and sanitation

Poor physical infrastructure, poor environmental hygiene conditions, lack of clean clothing, bedding and personal hygiene equipment were recurrent challenges. Unsurprisingly, more critical conditions for these dimensions were found in the context of migration surge emergencies and consequent overcrowding of facilities.

### 3.3 Medicines and vaccines

Shortfalls in the availability of medicines and vaccines were described less frequently but were still present in some settings.

### 3.4 Health financing and health information

Health financing and health information were recurrently found to be critical. In particular, lack of sustained funding in reception and detention centres was found to affect all the dimensions described above and possibly result in the need for out-of-pocket payment. It can explain the lack of human resources, running out of stock of all types of commodities including pharmaceuticals, inadequate infrastructure, inadequate infrastructure maintenance and sub-optimal hygiene/sanitation levels. Furthermore, health financing sustainability has been found to provide an indication of how fragile the response system is to migration emergencies, in terms of its viability and surge capacity. Several EU/EEA governments are highly dependent on EU Commission project and emergency funds for migration-related issues. NGOs and international organisations have been described as frequently supporting national governments by providing unavailable services, including health services, within migrant reception/detention centres. Health authorities have recurrently expressed concerns about the sustainability of funding, both in relation to the uncertainty of being awarded further EU-funding and to the need for funding after the emergency phase.

### 3.5 Overcrowding and coordination

Finally, given the recurring relevance of overcrowding for communicable disease transmission, and for coordination of outbreak response in institutional settings, statements were also included in the tool to focus on these aspects.

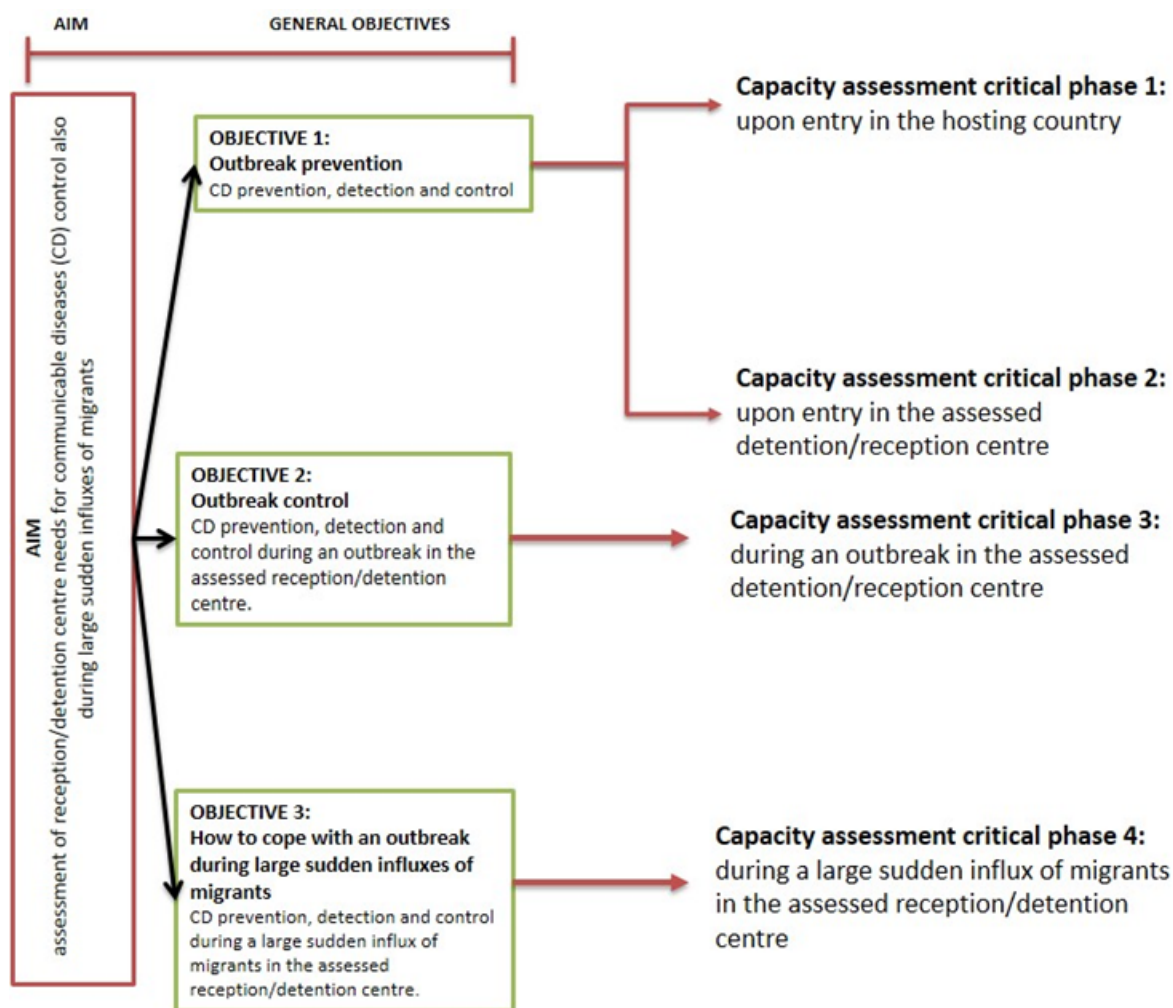
## 4. Strategic objectives and structure of the checklist tool

As described in Chapter 2, the scope of the tool is to assess reception and/or detention centre needs for communicable disease control, particularly during a sudden influx of migrants.

As shown in Figure 1, the following strategic objectives were identified based on the scoping review (Box 1, Annex 1):

- Objective 1: Outbreak prevention (covering CD prevention, rapid case detection and case management).
- Objective 2: Outbreak control (covering outbreak detection and control in the reception/detention centre being assessed).
- Objective 3: Outbreak management during a large sudden influx of migrants (CD prevention, detection and control during a large sudden influx of migrants at the reception/detention centre being assessed).

**Figure 1. Aim, strategic objectives and capacity assessment critical phases of the tool**



The first strategic objective was divided in two capacity assessment phases by distinguishing between public health risks that derive from exposure before reaching the receiving country and public health risks arising after the migrants reach the receiving country. This distinction was made on the basis of the scoping review findings (Annex 1).

The first capacity assessment phase might appear unusual because, as mentioned in Chapter 2, the scope of this checklist tool is medium-term reception/detention facilities. The assessment does not go beyond the stated scope because:

- if the medium-term migration reception/detention centre being assessed receives migrants immediately upon arrival, it will offer entry screening/clinical health assessment services to newly-arrived migrants and these will be rightfully assessed with the tool;
- if the medium-term migration reception/detention centre being assessed does not receive migrants immediately upon arrival it would be because newly-arrived migrants are offered entry screening/clinical health assessment services at other centres (e.g. short-term centres at points of entry). The aim of assessing these services in the tool is to support public health officers interpreting the assessments of the medium-term migration reception/detention centres conducted in order to prioritise capacity building investment. For example, if migrants are not offered adequate entry screening/clinical health assessment services in short-stay centres at points of entry, it might be more appropriate to invest in capacity for the early detection of possibly contagious individuals entering medium-term migration reception/detention centres in order to offer timely and appropriate healthcare and limit the possibility of disease spread.

Thus, assessing capacities 'upon entry into the host country' provides health authorities with additional elements to consider when prioritising areas for capacity improvement at the centre.

To summarise, the tool is structured according to three strategic objectives (outbreak prevention, outbreak control and outbreak management during large sudden influxes of migrants) which can be assessed at four critical phases: upon entry into the host country, upon entry to the reception/detention centre being assessed, during an outbreak at the reception/detention centre being assessed, and during a large sudden influx of migrants at the reception/detention centre being assessed.

The specific objectives of the assessment (Figure 2) have been organised on the basis of these four capacity assessment phases.

## 5. Performance indicators in the checklist tool

This chapter focusses on the identification of the specific objectives based on the capacity assessment phases and the set of indicators addressing capacities (performance indicators), hierarchically designed to measure each specific objective. Each indicator is itself measured through a set of performance measures. These measures are presented as statements against which the assessing authorities can measure capacity.

Moving beyond the three overarching strategic objectives, the preparedness checklist tool assesses the following specific objectives:

- 1A. By means of early detection and case management, to prevent the introduction of disease from an index case upon arrival into the country so as to prevent further spread/transmission (exposure before arrival into the host country).
- 1B. To prevent the introduction of disease from an index case into the reception/detention centre.
- 1C. To prevent communicable disease transmission within a reception/detention centre.
- 2. To manage an outbreak.
- 3. The capacity to prevent, detect and manage CD outbreaks, particularly during large sudden influxes of migrants.

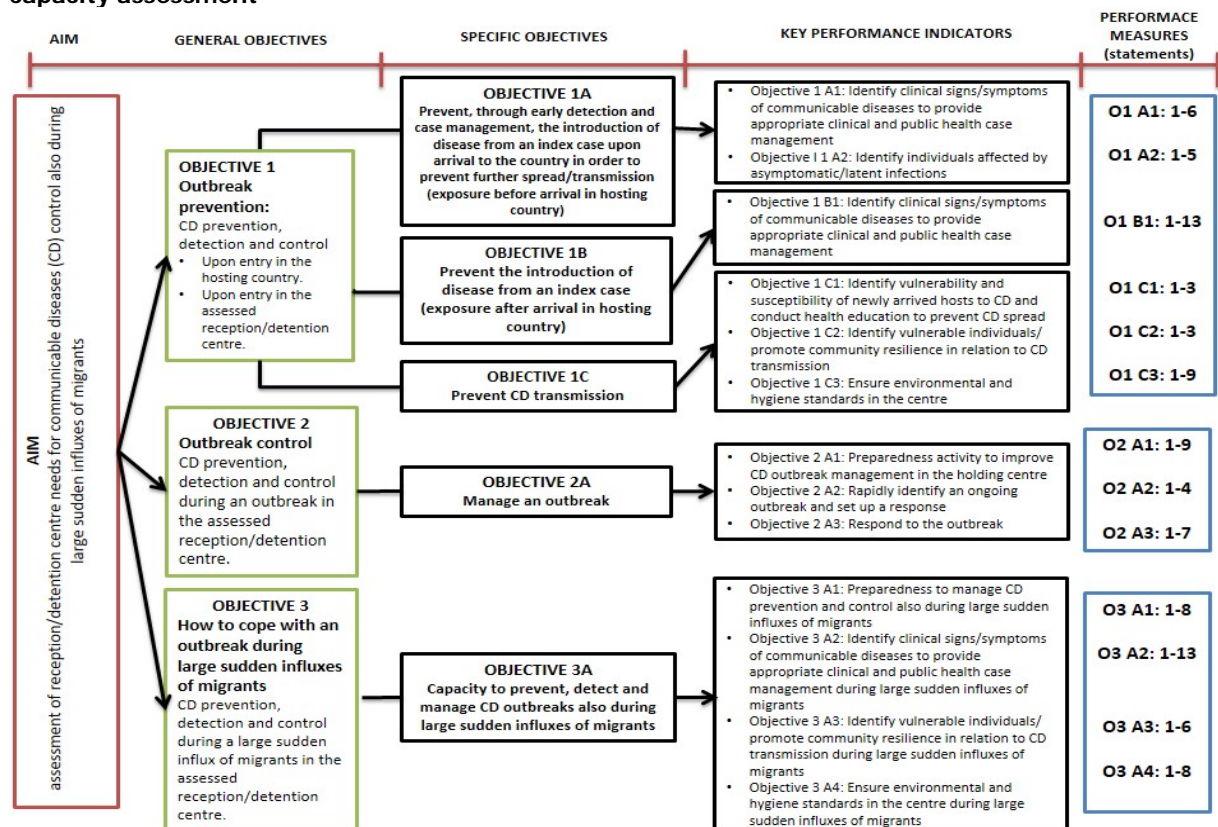
Specific objectives 1A, 1B and 1C correspond to the first specific objective. Specific objectives 2 and 3 correspond to the second and third strategic objectives, respectively.

Key performance indicators for each specific objective were selected hierarchically. For example, the first specific objective is described through two indicators (Objectives 1.A1 and 1.A2). Each indicator is then measured according to several corresponding performance measurements (statements), as shown in Figure 2.

Each of these statements addresses one or more of the key preparedness dimensions to be assessed (see Chapter 3 and the subsequent sections of this chapter), thus performance measures can be also aggregated into indicators by dimension (e.g. human resources).

Figure 2 sets out the key performance indicator(s) and the related performance measures for each specific objective. The subsequent sections also indicate which dimension/s are assessed by each performance measure.

**Figure 2. Hierarchy and construction of the indicators and performance measures proposed for capacity assessment**



## 5.1 Capacity assessment upon entry into the host country

Specific objectives, performance indicators and performance measures	Dimension(s) addressed
<b>Objective 1A: Through early detection and case management, to prevent the introduction of disease from an index case upon arrival into the country so as to prevent further spread/transmission (exposure before arrival in host country)</b>	
Objective 1.A1: Identify clinical signs/symptoms of communicable diseases to provide appropriate clinical and public health case management	
1.A1.1 Clinical health assessments are performed for all migrants upon arrival in the host country	Human resources (healthcare workers – HCW), Physical infrastructure, Health financing
1.A1.2 Data on clinically suspected/confirmed cases of CD are reported according to existing surveillance requirements	Health information
1.A1.3 Rapid collection and dissemination of data from clinical health assessments is in place (syndromic surveillance/other)	Health information
1.A1.4 Data on the health status of incoming migrants in relation to CD is known in the reception/detention centre	Health information
1.A1.5 Adequate case management is offered when needed.	Medicines and vaccines, Human resources (HCW), Physical infrastructure, Health financing
1.A1.6 Social distancing/isolation measures are in place to avoid introduction of contagious cases in closed residential reception/detention centres	Sanitation, Physical infrastructure
Objective 1.A2: Identify individuals affected by asymptomatic/latent infections	
1.A2.1 CD Screening activities are in place for newly-arrived migrants	Human resources (HCW), Physical infrastructure, Health financing
1.A2.2 Data on confirmed cases of CD identified through screening are reported according to existing surveillance requirements	Health information
1.A2.3 Health education and promotion activities are performed alongside screening activities to provide information on its usefulness and follow-up opportunities	Human resources (HCW, cultural mediators CM), Health financing
1.A2.4 Adequate clinical management is provided when CD cases are detected through screening activities	Medicines and vaccines, Human resources (HCW), Physical infrastructure, Health financing
1.A2.5 Social distancing/isolation measures are activated if contagious cases are detected	Sanitation, Physical infrastructure

## 5.2 Capacity assessment upon entry to the assessed reception/detention centre

Specific objectives, performance indicators and performance measures	Dimension(s) addressed
<b>Objective 1B: To prevent the introduction of disease from an index case into the reception/detention centre (exposure after arrival in host country)</b>	
Objective 1.B1: Identify clinical signs/symptoms of communicable diseases to provide appropriate clinical and public health case management	
1.B1.1 Internal dedicated health services are accessible to individuals hosted in reception/detention centres	Human resources (HCW, CM), Physical infrastructure
1.B1.2 External health services are accessible to individuals hosted in reception/detention centres	Coordination
1.B1.3 Consultations and treatments are provided free of charge	Human resources (HCW), Physical infrastructure, Health financing
1.B1.4 Data on detected clinically suspected/confirmed cases of CD are reported according to existing surveillance requirements	Health information
1.B1.5 Social distancing/isolation measures are activated if contagious cases are detected	Sanitation, Physical infrastructure
1.B1.6 Medicines in health facilities accessed by hosted migrants are sufficient to treat the cases of CD detected	Medicines and vaccines
1.B1.7 The infrastructure of health facilities accessed by migrants is adequate	Physical infrastructure
1.B1.8 Health facilities accessed by the hosted migrants are provided with adequate furniture and instruments for the provision of health assistance	Physical infrastructure
1.B1.9 Health facilities accessed by the hosted migrants are provided with adequate disposables (e.g. gloves, syringes, etc.) to adequately provide health assistance	Medicines and vaccines
1.B1.10 Health facility environments and instruments adequately cleaned and disinfected	Sanitation
1.B1.11 The number and profile of HCW working in health facilities accessed by the hosted migrants is adequate to provide health assistance	Human resources (HCW)
1.B1.12 The number and profile of cultural mediators working in health facilities accessed by the hosted migrants are adequate to provide health assistance	Human resources (CM)
1.B1.13 Adequate and sustainable funding is available to ensure the functioning of health services accessed by the hosted migrants	Health financing
<b>Objective 1C: To prevent CD transmission</b>	
Objective 1.C1: Identify vulnerability and susceptibility of newly arrived hosts to CD and conduct health education to prevent CD spread	
1.C1.1 During health assessments incoming migrants are asked about their vaccination status and prior communicable diseases	Human resources (HCW, CM)
1.C1.2 During health assessments incoming migrants are screened for vulnerabilities related to age, sex, physiological conditions such as pregnancy, and co-morbidities that could increase vulnerability to CD	Human resources (HCW, CM)
1.C1.3 Health education and promotion activities are performed in the reception/detention centre to prevent CD spread	Human resources (HCW, CM), Physical infrastructure
Objective 1.C2: Identify vulnerable individuals/ promote community resilience in relation to CD transmission	
1.C2:1 Vaccination is offered to incoming migrants (based on their immunisation history/serology/ pre-defined protocols)	Medicines and vaccines, Human resources (HCW, CM)
1.C2:2 CD vulnerabilities are taken into account in defining the allocation of individuals to the reception/detention centre	Human resources (HCW, health management), Coordination
1.C2:3 Vaccines available in the health services accessed by hosted migrants are sufficient	Medicines and vaccines
Objective 1.C3: Ensure appropriate environmental and hygiene standards in the centre	
1.C3.1 The reception/detention centre is not hosting more migrants than it is designed for (avoid overcrowding)	Overcrowding
1.C3.2 The reception/detention centre physical infrastructure is adequate to host the number of migrants it is designed for.	Physical infrastructure
1.C3.3 The reception/detention centre environment is adequately cleaned and disinfected to host the number of migrants it is designed for.	Sanitation
1.C3.4 The number of toilet facilities per person is adequate for the number of migrants the reception/detention centre is designed to host.	Sanitation, Physical infrastructure
1.C3.5 The reception/detention centre is provided with adequate bedding (linens, blankets), hygiene kits (toothbrush/paste, soap, towels, change of clothing, etc.) and eating utensils (cutlery, dishes, napkins) to adequately cater for the number of migrants it is designed to host.	Sanitation
1.C3.6 The number and profile of service staff (cleaning/cooking staff) working in the reception/detention centre is adequate to cater for the number of migrants the centre is designed to host.	Human resources (service staff), Sanitation
1.C3.7 The number and profile of cultural mediators working in the reception/detention centre is adequate to cater for the number of migrants the centre is designed to host.	Human resources (CM)
1.C3.8 The number and profile of security staff working in the reception/detention centre is adequate to cater for the number of migrants the centre is designed to host.	Human resources (service staff)
1.C3.9 Adequate and sustainable funding is available to ensure the functioning of the reception/detention centre.	Health financing



## 5.3 Assessment of capacity in an outbreak situation

Specific objectives, performance indicators and performance measures	Dimension(s) addressed
<b>Objective 2: To manage an outbreak</b>	
Objective 2.1: Preparedness activity to improve CD outbreak management in the reception/detention centre	
2.1.1 Protocols/procedures/plan are available for the management of outbreaks within the reception/detention centre	Human resources (HM), Coordination
2.1.2 Staff are trained on how to manage outbreaks within the reception/detention centre	Human resources (HM)
2.1.3 A centre staff member (Outbreak Control Officer – OCO) is recognised as the authority in charge of coordinating outbreak response in the centre	Human resources (HM)
2.1.4 Procedures are in place to rapidly convene a multi-sectorial outbreak response team in the event that an outbreak occurs at the reception/detention centre	Human resources (HM), Coordination
2.1.5 Should an outbreak occur at the reception/detention centre, stakeholders to involve are known to the reception/detention centre OCO.	Coordination
2.1.6 Collaboration and communication mechanisms with external stakeholders in outbreak notification and control (health authorities, judiciary authorities, etc.) are in place for rapid alert and involvement.	Coordination
2.1.7 Procedures for communication with staff and guests during an outbreak have been defined.	Human resources (HM), Coordination
2.1.8 The reception/detention centre has a contingency plan to cover any possible staff shortage during an outbreak event	Human resources (HM), Coordination
2.1.9 The reception/detention centre required its staff to be vaccinated against VPD that can cause outbreaks in institutional settings, according to existing national/sub-national guidelines	Medicines and vaccines, Human resources (HM)
<b>Objective 2.2: Rapidly identify an ongoing outbreak and set up a response</b>	
2.2.1 Data on detected clinically suspected/confirmed cases of CD are analysed in order to rapidly detect unusual increases in the number of cases.	Health information
2.2.2 The OCO is informed rapidly if an unusual increase in cases of a CD in the centre is detected	Coordination
2.2.3 If the outbreak is confirmed, an outbreak response team is rapidly convened	Human resources (HM), Coordination
2.2.4 It is possible to transfer/otherwise protect susceptible vulnerable individuals when an outbreak is initially recognised	Physical infrastructure, Coordination
<b>Objective 2.3: Respond to the outbreak</b>	
2.3.1 The reception/detention centre physical infrastructure is adequate to enable social distancing/isolation of contagious individuals during an outbreak event.	Physical infrastructure
2.3.2 The reception/detention centre environments are cleaned and disinfected with increased frequency/more active products if deemed necessary by the outbreak response team	Sanitation
2.3.3 The number and profile of cultural mediators working at the centre are adequate to support outbreak communication activities.	Human resources (CM)
2.3.4 The number and profile of HCW working at the centre can be increased to support case management during an outbreak.	Human resources (HCW)
2.3.5 Vaccination can be offered as an outbreak control measure if deemed necessary.	Medicines and vaccines
2.3.6 Referral systems are in place to transfer infected individuals in need of hospital care.	Coordination
2.3.7 Adequate funding can be made available to support outbreak response in the reception/detention centre.	Health financing

## 5.4 Assessment of capacity during a large sudden influx of migrants

Specific objectives, performance indicators and performance measures	Dimension (s) addressed
<b>Objective 3: Capacity to prevent, detect and manage CD outbreaks, particularly during large sudden influxes of migrants</b>	
Objective 3.1: Preparedness to manage CD prevention and control, particularly during large sudden influxes of migrants	
3.1.1 Protocols/procedures/plans are available for the management of sudden large influxes of migrants at the reception/detention centre	Human resources (HM), Coordination
3.1.2 Staff are trained on how to manage sudden large influxes of migrants within the reception/detention centre	Human resources (HM)
3.1.3 Procedures are in place to rapidly convene a team for the management of sudden large influxes of migrants at the reception/detention centre	Human resources (HM), Coordination
3.1.4 Stakeholders, including healthcare providers, to involve in the event of a sudden large influxes of migrants are known to the director of the reception/detention centre.	Coordination
3.1.5 Collaboration and communication mechanisms with concerned external stakeholders during sudden large influxes of migrants are in place for rapid alert and involvement.	Coordination
3.1.6 Procedures for communication with staff and guests during a sudden large influx of migrants are defined.	Human resources (HM), Coordination
3.1.7 The reception/detention centre has a contingency plan to address staff shortages during sudden large influxes of migrants.	Human resources (HM), Coordination
3.1.8 The reception/detention centre has a contingency plan in the event of shortages of materials (bedding/hygiene kits/ clothing, etc.) during sudden large influxes of migrants.	Human resources (HM), Coordination, Sanitation
Objective 3.2: Identify clinical signs/symptoms of CD to provide appropriate clinical and public health case management during large sudden influxes of migrants	
3.2.1 Internal dedicated health services have surge capacity to cope with service delivery, particularly during sudden large influxes of migrants.	Human resources (HCW, HM), Physical infrastructure, Medicines and vaccines
3.2.2 External health services have surge capacity to cope with service delivery, particularly during sudden large influxes of migrants.	Coordination
3.2.3 Consultations and treatments are provided free of charge, particularly during sudden large influxes of migrants	Human resources (HCW), Physical infrastructure, Health financing
3.2.4 Data on detected clinically suspected/confirmed cases of CD are reported according to existing surveillance requirements, particularly during sudden large influxes of migrants.	Health information
3.2.5 Social distancing/isolation measures are activated if contagious cases are detected, particularly during sudden large influxes of migrants.	Human resources (HCW, HM), Physical infrastructure
3.2.6 Medicines in health facilities accessed by migrants are sufficient to treat the cases of CD detected, particularly during sudden large influxes of migrants.	Medicines and vaccines
3.2.7 The infrastructure of health facilities accessed by migrants is adequate, particularly during sudden large influxes of migrants.	Physical infrastructure
3.2.8 Health facilities accessed by the hosted migrants are provided with adequate furniture and instruments to provide health assistance, particularly during sudden large influxes of migrants.	Physical infrastructure
3.2.9 Health facilities accessed by the hosted migrants are provided with adequate disposables (e.g. gloves, syringes, etc.) to provide health assistance, particularly during sudden large influxes of migrants.	Medicines and vaccines
3.2.10 Health facility environments and instruments are adequately cleaned and disinfected, particularly during sudden large influxes of migrants.	Sanitation
3.2.11 The number and profile of HCW working in health facilities accessed by the hosted migrants is sufficient/can be increased to support case management, particularly during sudden large influxes of migrants.	Human resources (HCW)
3.2.12 The number and profile of cultural mediators working in health facilities accessed by the hosted migrants is sufficient/can be increased to support case management, particularly during sudden large influxes of migrants.	Human resources (CM)
3.2.13 Adequate funding is available to ensure the functioning of health services accessed by the hosted migrants, particularly during sudden large influxes of migrants.	Health financing
Objective 3.3: Identify vulnerable individuals/promote community resilience in relation to CD transmission during large sudden influxes of migrants.	
3.3.1 Incoming migrants are asked about their vaccination status and prior communicable diseases, particularly during large sudden influxes of migrants.	Human resources (HCW, CM)
3.3.2 Vaccination is offered to incoming migrants (based on their immunisation history/serology/pre-defined protocols), particularly during large sudden influxes of migrants.	Medicines and vaccines, Human resources (HCW, CM)

Specific objectives, performance indicators and performance measures	Dimension (s) addressed
3.3.3 During health assessments incoming migrants are screened for vulnerabilities related to age, sex, physiological conditions such as pregnancy, and co-morbidities that could increase vulnerability to CD, particularly during large sudden influxes of migrants.	Human resources (HCW, CM)
3.3.4 CD vulnerabilities are taken into account in defining the allocation of individuals to the reception/detention centre, particularly during large sudden influxes of migrants.	Human resources (HCW, HM), Coordination
3.3.5 Health education and promotion activities are performed in the reception/detention centre to prevent CD spread also during large sudden influxes of migrants	Human resources (HCW, CM), Infrastructure
3.3.6 Sufficient vaccines are available at the health services accessed by migrants, particularly during large sudden influxes of migrants.	Medicines and vaccines
<b>Objective 3.4: Ensure appropriate environmental and hygiene standards in the centre during large sudden influxes of migrants</b>	
3.4.1 The centre is able to limit the time in which it needs to host more migrants than it is designed to host (limit overcrowding) during large sudden influxes of migrants.	Overcrowding
3.4.2 The reception/detention centre infrastructure is adequate to host an increased number of migrants during large sudden influxes	Infrastructure
3.4.3 The reception/detention centre environment is adequately cleaned and disinfected, particularly during large sudden influxes of migrants	Sanitation
3.4.4 The number of toilet facilities per person is adequate, particularly during large sudden influxes of migrants.	Sanitation
3.4.5 The reception/detention centre is provided with adequate bedding (linens, blankets), hygiene kits (toothbrush/paste, soap, towels, change of clothing, etc.) and eating utensils (cutlery, dishes, napkins) to adequately cater for the number of migrants, particularly during large sudden influxes of migrants.	Sanitation
3.4.6 The number and profile of service staff (cleaning staff and if applicable cooking staff) working in the hosting centre is adequate to cater for the number of migrants, particularly during large sudden influxes of migrants.	Human resources (service staff), Sanitation
3.4.7 The number and profile of cultural mediators working at the hosting centre are adequate to cater for the number of migrants, particularly during large sudden influxes of migrants.	Human resources (CM)
3.4.8 The number and profile of security staff working at the hosting centre are adequate to cater for the number of migrants, particularly during large sudden influxes of migrants.	Human resources (service staff)

## 6. Using and interpreting the results from the checklist tool

During the assessment visit to a reception/detention centre, the public health authority officer should engage with all stakeholders involved in communicable disease prevention, detection and control, both within the centre and outside (e.g. local health units, NGOs, other).

The structure and analysis approach described in this chapter is very simple. The aim was to propose a method and a tool that can be flexible and adaptable to the context. It is very easy to add and remove statements/indicators and to aggregate the analysis by dimensions, as appropriate.

### 6.1 Sections that need to be completed by users

The tool is divided in two parts that need to be completed by the public health authority officer assessing the centre:

- Reception/detention centre identification
- Capacity assessment

#### 6.1.1 Reception/detention centre identification and preliminary description

Quantitative information on the migrant reception/detention centre being assessed is collected via the reception/detention centre identification part of the tool. This collects basic information on the centre holding capacity, current population hosted, and staff.

On the basis of the information collected, it should be possible to evaluate whether the centre was overcrowded at the time of assessment and to obtain some basic quantitative indicators, such as the number of guests/inmates per toilet facility.

On the basis of the information provided by the director of the centre and his/her staff, the public health authority officer conducting the assessment should be able to fill out the 'Centre identification' section with the following information:

- Reception centre name (text field)
- Reception centre type (1. Detention centre 2. Reception centre for asylum seekers 3. Other (please specify))
- Contact details of agency/authority responsible for health at the reception centre
  - Name
  - Address
  - Telephone
  - Fax
  - E-mail
  - Web address (if available)
  - Contact details of the person interviewed.
- The centre conducts initial health assessments of migrants upon arrival (yes/no)
- The centre has an internal health service (yes/no)
- The centre has experienced large sudden influxes of migrants (yes/no)
- Defined maximum hosting capacity (number of migrants)
- Current number of migrants hosted (number of migrants)
- Presence of an internal health facility (yes/no)
- Number of toilets in the centre (number of toilets)
- Number of healthcare workers employed at the centre (number of healthcare workers)
- Number of cultural mediators (number of cultural mediators)
- Number of cleaning staff (number of cleaning staff)
- The centre has a kitchen and prepares the food eaten by the migrants (yes/no)
- Number of kitchen staff (number of kitchen staff of appropriate).

#### 6.1.2 Capacity assessment

The capacity assessment is composed of four sections that correspond to the five specific objectives described in Chapter 5 of this report. Each section includes the statements and indicators of one specific objective.

The assessment of capacity upon entry may need to be compiled by the public health authority officer conducting the assessment after consulting with stakeholders involved in entry medical screenings who are not necessarily part of the staff at the migrant reception/detention centre.

All the other sections should be compiled by the public health authority officer conducting the assessment after interviewing all actors involved in providing hosting and medical services to those living at the reception/detention centre. In addition to the migrant reception/detention centre staff, this may involve people working in local health units, NGOs providing services at the centre, and others.

In order to identify the stakeholders to interview for each specific objective/dimension, it might be useful for the public health authority officer conducting the assessment to perform a stakeholder analysis before selecting the interviewees. An example of an instrument to help conduct this type of analysis appears in Annex 2.

The four specific objectives (see Chapter 4–5) have been set up in the ECDC Excel Tool as individual spreadsheets (Figure 3).

**Figure 3. Capacity assessment section of the ECDC Excel tool**

Capacity assessment upon entry into the host country			
Objective 1.A: Through early detection and case management, to prevent the introduction of disease from an index case upon arrival into the country so as to prevent further spread/transmission (exposure before arrival in host country)	Answer	Score (individual)	Comments
<b>Objective 1.A1: Identify clinical signs/symptoms of communicable diseases to provide appropriate clinical and public health case management</b>			
1.A1.1 Clinical health assessments are performed for all migrants upon arrival in the host country	Y	100	
1.A1.2 Data on clinically suspected/confirmed cases of communicable diseases are reported according to existing surveillance requirements	N	0	
1.A1.3 Rapid collection and dissemination of data from clinical health assessments is in place (syndromic surveillance/other)	N	0	
1.A1.4 Data on the health status of incoming migrants in relation to communicable diseases is known at the reception/detention centre	Partial	50	
1.A1.5 Adequate case management is offered when needed	Not applicable		
1.A1.6 Social distancing/isolation measures are in place to avoid introduction of contagious cases in closed residential reception/detention centres	Partial	50	
<b>Objective 1.A2: Identify individuals affected by asymptomatic/latent infections</b>			
1.A2.1 CD Screening activities are in place for newly-arrived migrants	Not applicable		
1.A2.2 Data on confirmed cases of communicable diseases identified through screening are reported according to existing surveillance requirements	Partial	50	
1.A2.3 Health education and promotion activities are performed alongside screening activities to provide information on usefulness and follow-up opportunities	Y	100	
1.A2.4 Adequate clinical management is provided when communicable disease cases are detected through screening activities.	Partial	50	
1.A2.5 Social distancing/isolation measures are activated if contagious cases are detected.	Partial	50	

For each statement proposed in Chapter 5, four answers are possible (Yes, No, Partial, Not applicable).

- ‘Yes’ will be automatically assigned as 100 score capacity present
- ‘No’ as 0
- ‘Partial’ as 50
- If ‘Not applicable’ is selected the statement will not be considered in the final scoring.

Automatic colour coding has been applied to immediately highlight the responses provided (Figure 3 proposes an example where ‘No’ is automatically coded red, ‘Partial’ is automatically coded orange and ‘Yes’ is automatically coded yellow. ‘Not applicable’ is automatically coded grey).

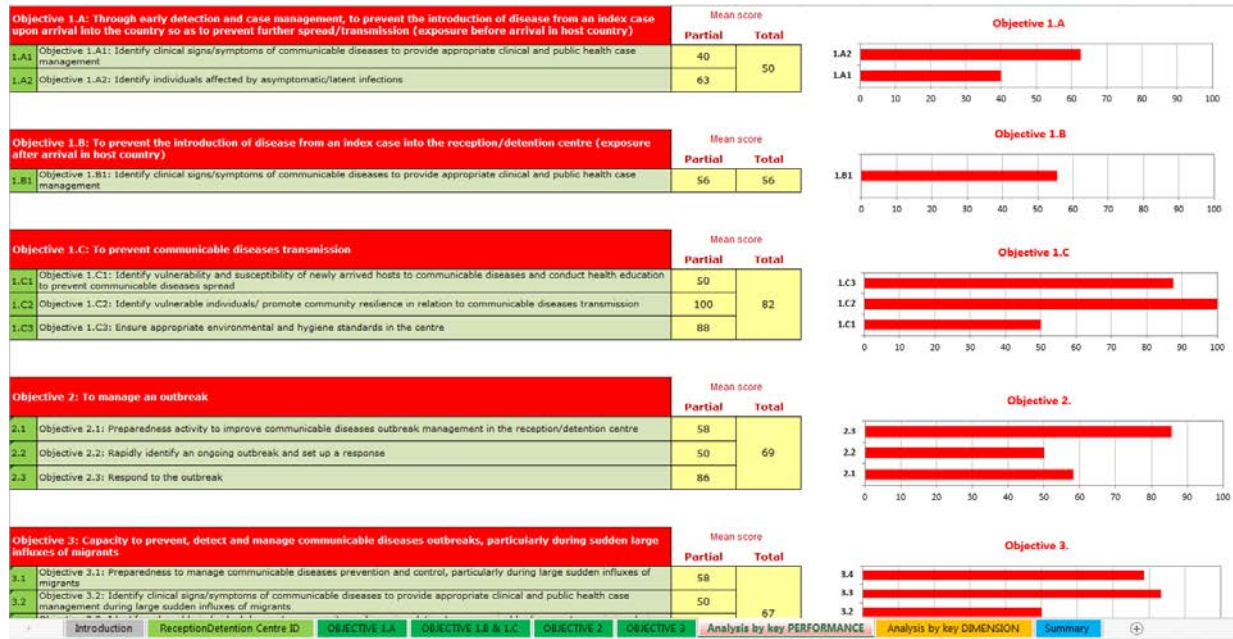
A mean of the scoring is automatically calculated for each section. This score, expressed as a %, provides a rough indication of the % of capacity in place for each specific objective.

## 6.2 Sections that do not need to be completed by users

### 6.2.1 Summary tables by key indicator

For each key performance indicator and specific objective, key summary scorings can be automatically generated to assess gaps in individual sections and sub-sections across all the dimensions, as shown in Figure 4.

**Figure 4. Example of a summary analysis by key performance indicator**

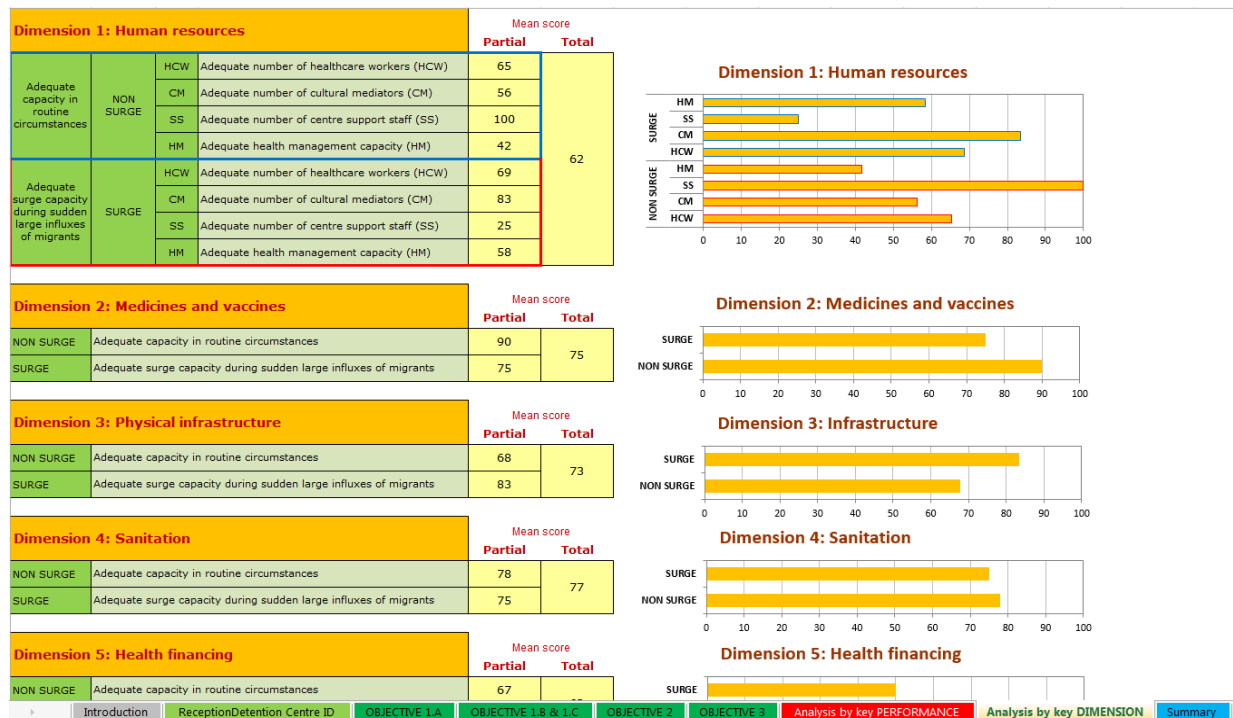


### 6.2.2 Summary tables by dimension

For each dimension (see Chapter 3), key summary scorings can also be automatically generated by aggregating the mean scores of capacity assessment statements by dimension (see Section 4.1–4.4). This approach enables gaps in individual dimensions to be assessed across the four sections (specific objectives) of the tool.

In particular, these mean scorings provide a cross-sectional view of issues related to ‘Human resources’, ‘Medicines and vaccines’, ‘Infrastructure’, ‘Sanitation’, ‘Health financing’, and ‘Health information’ and on aspects related to ‘Overcrowding’ and ‘Coordination’, both in routine and sudden influx contexts. Summary scorings can also be provided by human resource sub-groups (Figure 5).

**Figure 5. Example of a summary analysis by key dimension indicator**

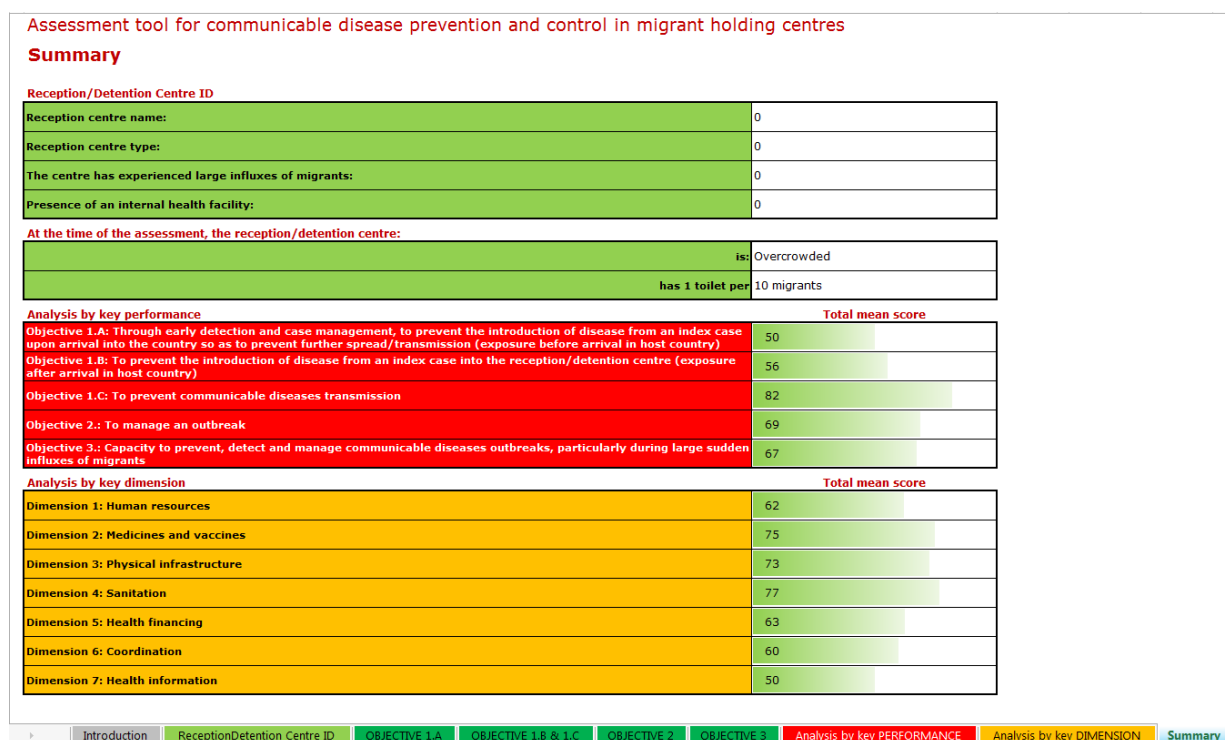


### 6.3. Discussion and interpretation of findings

This tool enables gaps in capacity at migrant reception/detention centres for communicable disease prevention and control to be rapidly identified. Depending on the tool structure described, results can be provided both by dimension and by specific objective.

Furthermore, assessment of capacity can be cross-referenced, with the basic quantitative indicators collected through the reception/detention centre identification part (see Chapter 6.1.1). For example, the assessment of the adequacy of toilet facilities per person can be cross-linked to the actual number of facilities per person at the centre. This information can be provided in a summary sheet of the tool together with the main findings of the assessment (Figure 6).

**Figure 6. Example of a summary section of the tool in Excel format**



The gaps that emerge from this analysis can rapidly identify needs (and thus priorities for preparedness) at the migrant reception/detention centre being assessed. However, if implemented on a wider scale, this tool could also contribute to the analysis of strengths and gaps for managing communicable disease outbreaks in the specific sector. This information could then be used to modify and improve national or sub-national preparedness plans.

The findings of the exercise could be used during a debriefing meeting with the stakeholders at reception/detention centre level and brought to the attention of the public authorities and funding bodies concerned at national/sub-national level in order to plan resource distribution and prioritise activities for better management of migrant reception/detention centres in the country. The assessment could also be performed again after a certain period (at the centre or more widely) to see how capacities had developed and to re-prioritise action.

## References

1. Riccardo F, Giorgi Rossi P, Chiarenza A, Noori T, Declich S. Letter to the editor: Responding to a call for action – where are we now? *Euro Surveill.* 2015;20(50):pii=30096. Available at: <http://www.eurosurveillance.org/ViewArticle.aspx?ArticleId=21339>
2. Medici Senza Frontiere, Italy. Al di là del muro. Viaggio nei centri per migranti in Italia, 2010. Available at: <http://www.medicisenzafrotiere.it/sites/italy/files/allegati/immagini/file/pubblicazioni/atti-convegno-aldiladelmuro-2010-bassa.pdf>
3. International Organization for Migration [website] EquiHealth Project. Available at: <http://equi-health.eea.iom.int/> (accessed 26 May 2016)
4. World Health Organization Regional Office for Europe [website]. Migrant health in the European Region. Available at <http://www.euro.who.int/en/health-topics/health-determinants/migration-and-health/migrant-health-in-the-european-region> (accessed 26 May 2016)
5. European Centre for Disease Prevention and Control. Assessing the burden of key infectious diseases affecting migrant populations in the EU/EEA. Stockholm: ECDC; 2014. Available at: <http://ecdc.europa.eu/en/publications/Publications/assessing-burden-disease-migrant-populations.pdf>
6. European Centre for Disease Prevention and Control. Risk assessment: Louse-borne relapsing fever in the Netherlands – 24 July, Stockholm, 2015. Available at: <http://ecdc.europa.eu/en/publications/Publications/louse-borne-relapsing-fever-netherlands-rapid-risk-assessment.pdf>
7. European Centre for Disease Prevention and Control. Risk assessment: Cutaneous diphtheria among recently arrived refugees and asylum seekers in the EU, 30 July 2015. Stockholm: ECDC; 2015. Available at: <http://ecdc.europa.eu/en/publications/Publications/Diphtheria-cutaneous-EU-July-2015.pdf>
8. European Centre for Disease Prevention and Control. Expert Opinion on the public health needs of irregular migrants, refugees or asylum seekers across the EU's southern and south-eastern borders. Stockholm: ECDC; 2015. Available at: <http://ecdc.europa.eu/en/publications/Publications/Expert-opinion-irregular-migrants-public-health-needs-Sept-2015.pdf>
9. European Centre for Disease Prevention and Control. Risk of importation and spread of malaria and other vector-borne diseases associated with the arrival of migrants to the EU – 21 October 2015, Stockholm, 2015. Available at: <http://ecdc.europa.eu/en/publications/Publications/risk-malaria-vector-borne-diseases-associated-with-migrants-october-2015.pdf>
10. European Centre for Disease Prevention and Control. Communicable disease risks associated with the movement of refugees in Europe during the winter season – 10 November 2015, Stockholm: ECDC; 2015. Available at: <http://ecdc.europa.eu/en/publications/Publications/refugee-migrant-health-in-european-winter-rapid-risk-assessment.pdf>
11. European Centre for Disease Prevention and Control. Risk assessment: Louse-borne relapsing fever in the EU – 17 November 2015. Stockholm: ECDC; 2015. Available at: <http://ecdc.europa.eu/en/publications/Publications/louse-borne-relapsing-fever-in-eu-rapid-risk-assessment-17-nov-15.pdf>
12. European Centre for Disease Prevention and Control. Infectious diseases of specific relevance to newly arrived migrants in the EU/EEA – 19 November 2015. ECDC: Stockholm; 2015. Available at: <http://ecdc.europa.eu/en/publications/Publications/Infectious-diseases-of-specific-relevance-to-newly-arrived-migrants-in-EU-EEA.pdf>
13. European Migration Network Glossary and Thesaurus. Available at [http://ec.europa.eu/dgs/home-affairs/what-we-do/networks/european\\_migration\\_network/glossary/index\\_a\\_en.htm](http://ec.europa.eu/dgs/home-affairs/what-we-do/networks/european_migration_network/glossary/index_a_en.htm)
14. WHO Regional Office for Europe. Large influxes of refugees and migrants. Toolkit for assessing health system capacity to manage large influxes of refugees and migrants in the acute phase, 2015. World Health Organization, Copenhagen, Denmark.
15. WHO International Health Regulations 2005 (second edition) World Health Organization 2008. Available at: [http://apps.who.int/iris/bitstream/10665/43883/1/9789241580410\\_eng.pdf](http://apps.who.int/iris/bitstream/10665/43883/1/9789241580410_eng.pdf)
16. WHO International Health Regulations (2005): Assessment tool for core capacity requirements at designated airports, ports and ground crossings. World Health Organization. Geneva: WHO; 2009. Available at: [http://www.who.int/ihr/ports\\_airports/PoE/en/](http://www.who.int/ihr/ports_airports/PoE/en/)
17. Moher D, Liberati A, Tetzlaff J, Altman DG. The PRISMA Group. Preferred Reporting Items for Systematic Reviews and Meta-Analyses: the PRISMA statement. *PLoS Med.* 2009 Jul 21;6(7) e1000097.
18. OSCE. Self-assessment tool for nations to increase preparedness for cross-border implications of crises. OSCE Secretariat Transnational Threats Department Borders Unit 2013. Available at: <http://www.osce.org/borders/104490?download=true>
19. WHO Regional Office for Europe. Strengthening health-system emergency preparedness. Toolkit for assessing health-system capacity for crisis management. Part 1. User manual, 2012. World Health Organization, Copenhagen, Denmark.
20. WHO Regional Office for Europe. Hospital emergency response checklist. An all-hazards tool for hospital administrators and emergency managers, 2011. World Health Organization, Copenhagen, Denmark.
21. Médecins Sans Frontières. Rapid Health Assessment of Refugee and Displaced Populations. 3<sup>rd</sup> edition, 2006. Available at [http://refbooks.msf.org/msf\\_docs/en/rapid\\_health/rapid\\_health\\_en.pdf](http://refbooks.msf.org/msf_docs/en/rapid_health/rapid_health_en.pdf)
22. Council of Europe Visiting immigration detention centres – A guide for parliamentarians, 2013. Available at: <http://www.refworld.org/publisher/COE,,,530735ef4,0.html>
23. Public Health England. Health and Justice Health Needs Assessment Template: Adult Prisons, 2014. Available at [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/331628/Health\\_Needs\\_Assessment\\_Toolkit\\_for\\_Prescribed\\_Places\\_of\\_Detention\\_Part\\_2.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/331628/Health_Needs_Assessment_Toolkit_for_Prescribed_Places_of_Detention_Part_2.pdf)
24. United Nations Office on Drugs and Crime. HIV in prisons: Situation and needs assessment toolkit 2010. Available at: [http://www.unodc.org/documents/hiv-aids/publications/HIV\\_in\\_prisons\\_situation\\_and\\_needs\\_assessment\\_document.pdf](http://www.unodc.org/documents/hiv-aids/publications/HIV_in_prisons_situation_and_needs_assessment_document.pdf)



25. WHO Regional Office for Europe. Serbia: assessing health-system capacity to manage sudden large influxes of migrants. Joint report on a mission of the Ministry of Health of Serbia and the WHO Regional Office for Europe with the collaboration of the International Organization for Migration, 2015. Available at [http://www.euro.who.int/\\_\\_data/assets/pdf\\_file/0010/293329/Serbia-Assessment-Report-en.pdf?ua=1](http://www.euro.who.int/__data/assets/pdf_file/0010/293329/Serbia-Assessment-Report-en.pdf?ua=1)
26. WHO Regional Office for Europe. Cyprus: assessing health-system capacity to manage sudden large influxes of migrants. Joint report on a mission of the Ministry of Health of Cyprus, the International Centre for Migration, Health and Development and the WHO Regional Office for Europe, 2015. Available at [http://www.euro.who.int/\\_\\_data/assets/pdf\\_file/0020/293330/Cyprus-Assessment-Report-en.pdf?ua=1](http://www.euro.who.int/__data/assets/pdf_file/0020/293330/Cyprus-Assessment-Report-en.pdf?ua=1)
27. Lee MB, Greig JD. A review of gastrointestinal outbreaks in schools: effective infection control interventions. *J Sch Health*. 2010;80:588-598.
28. Greig JD, Lee MB, Harris JE. Review of enteric outbreaks in prisons: effective infection control interventions. *Public Health*. 2011 Apr;125(4):222-8.
29. Rapporto di Medici Senza Frontiere Sulle condizioni di accoglienza nel CPSA Pozzallo. November 2015. Available at [http://archivio.medicisenzafrontiere.it/pdf/Rapporto\\_CPI\\_CPSA\\_Pozzallo\\_final.pdf](http://archivio.medicisenzafrontiere.it/pdf/Rapporto_CPI_CPSA_Pozzallo_final.pdf)
30. Tsalik EL, Cunningham CK, Cunningham HM, Lopez-Marti MG, Sangvai DG, Purdy WK, et al. An Infection Control Program for a 2009 influenza A H1N1 outbreak in a university-based summer camp. *J Am Coll Health*. 2011;59(5):419-26.
31. Leung J, Lopez AS, Tootell E, Baumrind N, Mohle-Boetani J, Leistikow B et al. Challenges with controlling varicella in prison settings: experience of California, 2010 to 2011. *J Correct Health Care*. 2014 Oct;20(4):292-301.
32. Jongcherdchootrakul K, Henderson AK, Iamsirithaworn S, Modchang C, Sirirayapon P. First pandemic A (H1N1) pdm09 outbreak in a private school, Bangkok, Thailand, June 2009. *J Med Assoc Thai*. 2014 Feb;97 Suppl 2:S145-52.
33. Guthrie JA, Lokuge KM, Levy MH. Influenza control can be achieved in a custodial setting: pandemic (H1N1) 2009 and 2011 in an Australian prison. *Public Health*. 2012 Dec;126(12):1032-7.
34. Kadlubowski M, Wasko I, Klarowicz A, Hryniewicz W. Invasive meningococcal disease at a military base in Warsaw, January 2007. *Euro Surveill*. 2007;12(9) :pii=3147. Available at: <http://www.eurosurveillance.org/ViewArticle.aspx?ArticleId=3147>
35. Matthews E, Armstrong G, Spencer T. Pertussis infection in a baccalaureate nursing program: clinical implications, emerging issues, and recommendations. *J Contin Educ Nurs*. 2008 Sep;39(9):419-26.
36. Haas EJ, Dukhan L, Goldstein L, Lyandres M, Gdalevich M. Use of vaccination in a large outbreak of primary varicella in a detention setting for African immigrants. *Int Health*. 2014 Sep;6(3):203-7.
37. Bonačić Marinović AA, Swaan C, Wichmann O, van Steenberg J, Kretzschmar M. Effectiveness and timing of vaccination during school measles outbreak. *Emerg Infect Dis*. 2012 Sep;18(9):1405-13.
38. Kay D, Roche M, Atkinson J, Lamden K, Vivancos R. Mumps outbreaks in four universities in the North West of England: prevention, detection and response. *Vaccine*. 2011 May 17;29(22):3883-7.
39. Wolfe MI, Xu F, Patel P, O'Cain M, Schillinger JA, St Louis ME, et al. An outbreak of syphilis in Alabama prisons: correctional health policy and communicable disease control. *Am J Public Health*. 2001 Aug;91(8):1220-5.
40. Hellard ME, Aitken CK. HIV in prison: what are the risks and what can be done? *Sex Health*. 2004;1(2):107-13.
41. Wohl DA, Rosen D, Kaplan AH. HIV and incarceration: dual epidemics. *AIDS Read*. 2006 May;16(5):247-50, 257-60.
42. Elias AF, Chaussee MS, McDowell EJ, Huntington MK. Community-based intervention to manage an outbreak of MRSA skin infections in a county jail. *J Correct Health Care*. 2010 Jul;16(3):205-15.
43. Riccardo F, Napoli C, Bella A, Rizzo C, Rota MC, Dente MG, et al. Syndromic surveillance of epidemic-prone diseases in response to an influx of migrants from North Africa to Italy, May to October 2011. *Eurosurveillance* 2011;16(46):pii=20016.
44. Napoli C, Riccardo F, Declich S, Dente MG, Pompa MG, Rizzo C, et al. An early warning system based on syndromic surveillance to detect potential health emergencies among migrants: Results of a two-year experience in Italy. *International Journal of Environmental Research and Public Health* 2014, 11:8529-8541
45. United Nations interagency health-needs-assessment mission Southern Turkey, 4–5 December 2012 Available at [http://www.euro.who.int/\\_\\_data/assets/pdf\\_file/0006/189213/United-Nations-interagency-health-needs-assessment-mission-final.pdf?ua=1](http://www.euro.who.int/__data/assets/pdf_file/0006/189213/United-Nations-interagency-health-needs-assessment-mission-final.pdf?ua=1)
46. WHO Regional Office for Europe. Health Needs Assessment, Malta, 2012. Available at [http://www.euro.who.int/\\_\\_data/assets/pdf\\_file/0011/144011/Malta\\_report.pdf?ua=1](http://www.euro.who.int/__data/assets/pdf_file/0011/144011/Malta_report.pdf?ua=1)
47. International Organization for Migration (IOM) EquiHealth Assessment Report: The Health Situation at EU Southern Borders Migrant Health, Occupational Health and Public Health Malta, 2013 Available at: [https://publications.iom.int/system/files/pdf/sar\\_malta.pdf](https://publications.iom.int/system/files/pdf/sar_malta.pdf)
48. WHO Regional Office for Europe. Increased influx of migrants in Lampedusa, Italy. Joint report from the Ministry of Health, Italy and the WHO Regional Office for Europe mission of 28–29 March 2011. Copenhagen: WHO, 2011. Available at [http://www.euro.who.int/\\_\\_data/assets/pdf\\_file/0004/182137/e96761.pdf?ua=1](http://www.euro.who.int/__data/assets/pdf_file/0004/182137/e96761.pdf?ua=1)
49. WHO Regional Office for Europe. Second assessment of migrant health needs Lampedusa and Linosa, Italy. Joint report on a mission of the Ministry of Health of Italy, the Regional Health Authority of Sicily and the WHO Regional Office for Europe, 16–19 May 2012. Available at [http://www.euro.who.int/\\_\\_data/assets/pdf\\_file/0010/184465/e96796.pdf?ua=1](http://www.euro.who.int/__data/assets/pdf_file/0010/184465/e96796.pdf?ua=1)
50. WHO Regional Office for Europe. Sicily, Italy: Assessing health-system capacity to manage sudden large influxes of migrants Joint report on a mission of the Ministry of Health of Italy, the Regional Health Authority of Sicily and the WHO Regional Office for Europe, 2014. Copenhagen: WHO, 2014. Available at [http://www.euro.who.int/\\_\\_data/assets/pdf\\_file/0007/262519/Sicily-Italy-Assessing-health-system-capacity-manage-sudden-large-influxes-migrantsEng.pdf?ua=1](http://www.euro.who.int/__data/assets/pdf_file/0007/262519/Sicily-Italy-Assessing-health-system-capacity-manage-sudden-large-influxes-migrantsEng.pdf?ua=1)
51. International Organization for Migration (IOM) EquiHealth Assessment Report: The Health Situation at EU Southern Borders Migrant Health, Occupational Health and Public Health Italy, 2013. Available at: [http://equi-health.eea.iom.int/images/SAR\\_Italy\\_Final.pdf](http://equi-health.eea.iom.int/images/SAR_Italy_Final.pdf)

52. International Organization for Migration (IOM) EquiHealth Assessment Report: The Health Situation at EU Southern Borders Migrant Health, Occupational Health and Public Health Croatia, 2014. Available at: <https://publications.iom.int/books/assessment-report-health-situation-eus-southern-borders-migrant-occupational-and-public-health-2?language=en>
53. WHO Regional Office for Europe. Assessing health-system capacity to manage sudden large influxes of migrants Bulgaria. Joint Report on a mission of the Ministry of Health of Bulgaria and the WHO Regional Office for Europe, 2015. Copenhagen: WHO, 2015
54. IOM EquiHealth Assessment Report: The Health Situation at EU Southern Borders Migrant Health, Occupational Health and Public Health Bulgaria, 2014-15. Available at: [http://equi-health.eea.iom.int/images/SAR\\_Bulgaria\\_Final.pdf](http://equi-health.eea.iom.int/images/SAR_Bulgaria_Final.pdf)
55. WHO Regional Office for Europe. Portugal: assessing health-system capacity to manage sudden large influxes of migrants Joint report on a mission of the Ministry of Health of Portugal, the International Centre for Migration, Health and Development and the WHO Regional Office for Europe, 2014. Copenhagen: WHO, 2014. Available at [http://www.euro.who.int/\\_\\_data/assets/pdf\\_file/0016/265012/Portugal-assessing-health-system-capacity-to-manage-sudden-large-influxes-of-migrants.pdf?ua=1](http://www.euro.who.int/__data/assets/pdf_file/0016/265012/Portugal-assessing-health-system-capacity-to-manage-sudden-large-influxes-of-migrants.pdf?ua=1).
56. European Centre for Disease Prevention and Control. Joint ECDC/WHO Regional Office for Europe mission report: Increased influx of migrants at the Greek–Turkish border. Greece, 04–08 April 2011. Stockholm: ECDC; 2011 Available at [http://www.euro.who.int/\\_\\_data/assets/pdf\\_file/0012/144012/Greece\\_mission\\_rep\\_2011.pdf?ua=1](http://www.euro.who.int/__data/assets/pdf_file/0012/144012/Greece_mission_rep_2011.pdf?ua=1)
57. WHO Regional Office for Europe. Greece: assessing health-system capacity to manage sudden large influxes of migrants. Joint report on a mission of the Ministry of Health of Greece, Hellenic Centre for Disease Control and Prevention and WHO Regional Office for Europe, 2015. Copenhagen: WHO, 2015
58. IOM EquiHealth Assessment Report: The Health Situation at EU Southern Borders Migrant Health, Occupational Health and Public Health Greece, 2013. Available at: [http://equi-health.eea.iom.int/images/SAR\\_Greece\\_Final.pdf](http://equi-health.eea.iom.int/images/SAR_Greece_Final.pdf)
59. IOM EquiHealth Assessment Report: The Health Situation at EU Southern Borders Migrant Health, Occupational Health and Public Health Spain, 2013. Available at: [http://equi-health.eea.iom.int/images/SAR\\_Spain\\_Final.pdf](http://equi-health.eea.iom.int/images/SAR_Spain_Final.pdf)
60. Bradby H, Humphris R, Newall D, Phillimore J. Public health aspects of migrant health: a review of the evidence on health status for refugees and asylum seekers in the European Region. Copenhagen: WHO Regional Office for Europe; 2015 (Health Evidence Network synthesis report 44). Available at: [http://www.euro.who.int/\\_\\_data/assets/pdf\\_file/0004/289246/WHO-HEN-Report-A5-2-Refugees\\_FINAL.pdf?ua=1](http://www.euro.who.int/__data/assets/pdf_file/0004/289246/WHO-HEN-Report-A5-2-Refugees_FINAL.pdf?ua=1)
61. Basu S, Stuckler D, McKee M. Addressing institutional amplifiers in the dynamics and control of tuberculosis epidemics. *Am J Trop Med Hyg.* 2011 Jan;84(1):30-7.
62. Arinaminpathy N, Raphaely N, Saldana L, Hodgekiss C, Dandridge J, Knox K, et al. Transmission and control in an institutional pandemic influenza A(H1N1) 2009 outbreak. *Epidemiol Infect.* 2012 Jun;140(6):1102-10.
63. Schwartz RD. The impact of correctional institutions on public health during a pandemic or emerging infection disaster. *Am J Disaster Med.* 2008 May-Jun;3(3):165-70.
64. Harwood JL, LaVan JT, Brand GJ 2nd. Two aircraft carriers' perspectives: a comparative of control measures in shipboard H1N1 outbreaks. *Disaster Med Public Health Prep.* 2013 Feb;7(1):29-35.
65. Tiwari A, Tarrant M, Yuen KH, Chan S, Kagan S, Ching P, et al. Preparedness for influenza pandemic in Hong Kong nursing units. *J Nurs Scholarsh.* 2006;38(4):308-13.

# Annex 1. Methodology and main findings of the scoping review

To facilitate the development of the tool described in this report, a literature scoping review of peer-reviewed papers and grey literature was conducted to obtain background data on existing international (in particular European) protocols/check-lists to conduct needs assessments within migrant reception/detention centres. The aim of this study was to facilitate the development of the tool described in this report.

Four critical dimensions were pre-identified by ECDC as relevant: human resources, medicines and vaccines, sanitation and disinfection and physical infrastructure. Each of these dimensions was assessed by considering its role in the prevention and control of infectious diseases in the literature identified.

## 1. Study question, aim and selection criteria

Study question: How can relevant dimensions be appropriately translated in a needs assessment check list for infectious disease prevention and control during sudden influxes at migrant reception/detention centres?

General aim: To gather any documented experience in applying protocols/check-lists internationally, and particularly within Europe, to conduct needs assessments for infectious disease control at migrant reception/detention centres.

Search restrictions: Publication date from 2000 to present. Publication language in English, French or Italian.

### 1.1 Inclusion

Descriptive and analytical studies (articles/reports) focussing on:

- infectious disease prevention, control and emergency preparedness needs in centres hosting 'closed' or 'semi-open' communities (i.e. prisons, military bases/barracks; migration reception/detention centres, etc.) in the relevant dimensions;
- assessment of needs for infectious disease prevention, control and emergency preparedness in centres hosting 'closed' or 'semi-open' communities (i.e. prisons, military bases/barracks; migration reception/detention centres, etc.) in the relevant dimensions.

### 1.2 Exclusion

Documents for which abstracts/full texts are not retrievable from open source and journal subscriptions available through the Italian Institute of Public Health and ECDC. Documents for which abstracts/full texts are not relevant to the inclusion criteria for the study.

Studies and reports not addressing human health issues.

### 1.3 Selection of documents and flow of information through the different phases of the scoping literature review

Following the structure provided in the PRISMA Statement (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) [17], the document selection process in this scoping review was conducted in four phases: identification, screening, eligibility and inclusion.

## 2. Search strategy for the identification of articles and reports

This review combined a scientific literature review with a grey literature review conducted by means of an automated search process using online databases or the active search of selected websites.

Five search axes were defined: exposure, population, outcome, methods and the predefined dimensions. Based on these axes we defined a set of common search roots for the scientific literature search. The same search axes were also used to guide the grey literature search.

### 2.1 Indexing terms

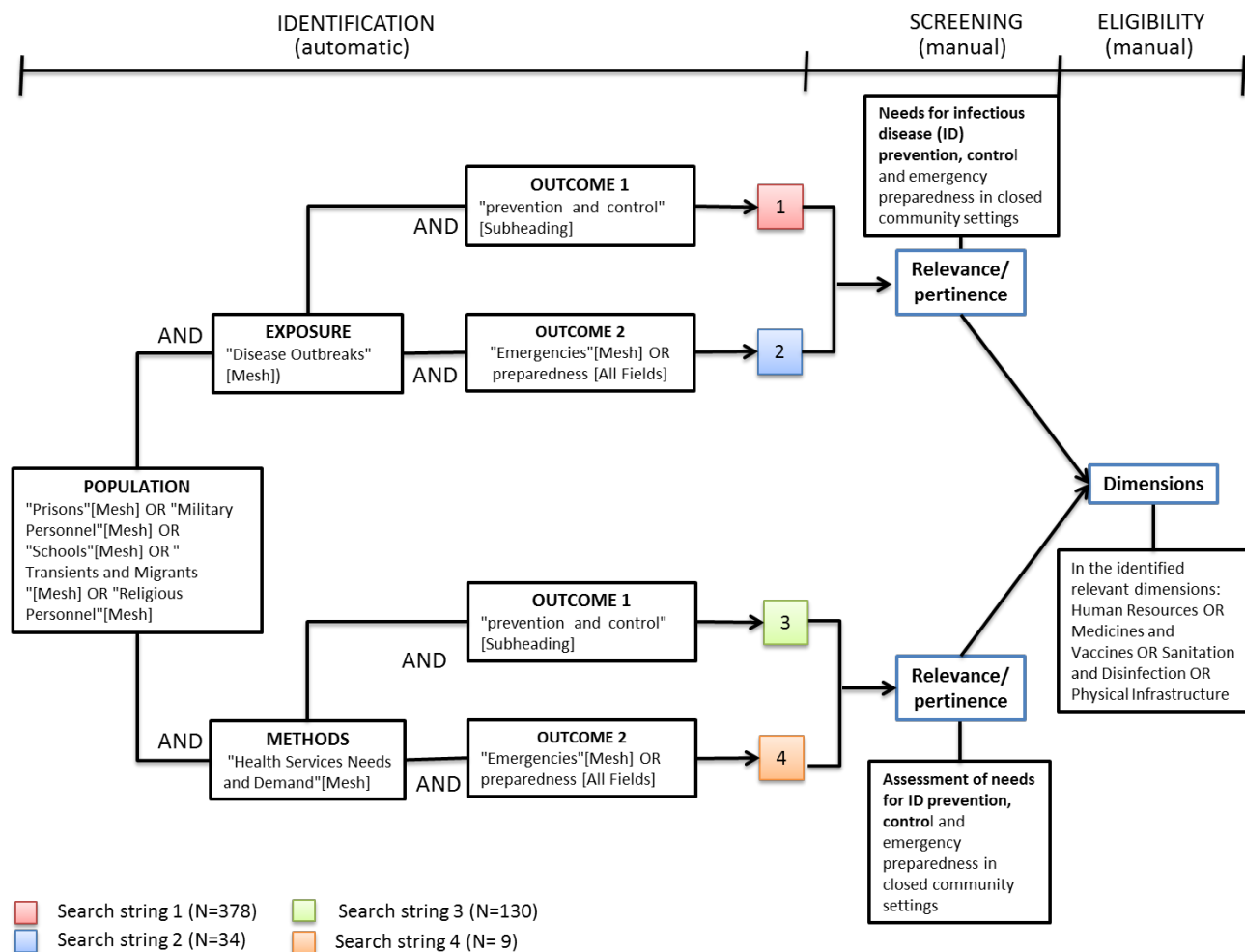
The first step in developing the automated scientific literature search was the identification within each search axis of Medical Subject Heading (MeSH) terms. Using the embedded 'PubMed Search Builder' function, a final pool of search terms was defined. When MeSH term definitions were unrelated to the meaning of the term in our search context, non-MeSH terms were preferred.

### 2.1.1 Scientific literature search strategy

Based on the search axes, MeSH and non-MeSH key words were identified on the basis of their relevance to the study scope and selection criteria. Preference was systematically given to search terms and combinations that provided a greater article yield.

Given the scarcity of results for scientific literature when creating a search common root combining all axes, a wider search approach was chosen. This involved not including the dimensions in the search strings but instead describing if any dimension was specifically addressed when assessing full text articles in the eligibility phase (Figure 7).

Figure 7. Scientific literature search strategy diagram



This approach led to the formulation of four search strings. Literature was extracted for all the search strings on 18 October 2015.

### 2.1.2 Grey literature search strategy

The search for relevant grey literature was performed on the websites of key organisations such as ECDC, World Health Organization (WHO), International Organization for Migration (IOM), United Nations High Commissioner for Migrants (UNHCR), Médecins Sans Frontières (MSF), the International Committee of the Red Cross (ICRC), and the UN Office for the Coordination of Humanitarian Affairs (OCHA).

In addition, documents were included that were suggested by ECDC and other relevant documents listed by EU Member States during the ECDC expert consultation on 'Prevention and control measures for vaccine-preventable diseases in asylum seekers and refugees' in August 2015 and circulated on the ECDC Epidemic Intelligence Information System on vaccine preventable diseases (EPIS VPD).

## 2.2 Document selection and data extraction procedure

Following the identification of reports through the automated and manual literature searches, the first stage of document selection was the screening of abstracts/executive summaries for relevance to the selection criteria.

All relevant documents were downloaded in full text and underwent an eligibility assessment for inclusion in the review. This was performed by one reviewer.

All articles included matched the criteria listed in Section 1.1 of this annex and were analysed extrapolating the following information, included in an Excel data collection grid: title, database/repository/search engine, authors, journal, year, country, type of study/report, type of intervention (outbreak report, tool, situation analysis, etc.), type of outcome [application for infectious disease control in 'closed' or 'semi-open' centres; emergency/preparedness strategies in 'closed' or 'semi-open' centres], type of exposure (when applicable), dimensions addressed, needs/gaps identified, limits, comments or methodological notes.

## 3. Main findings

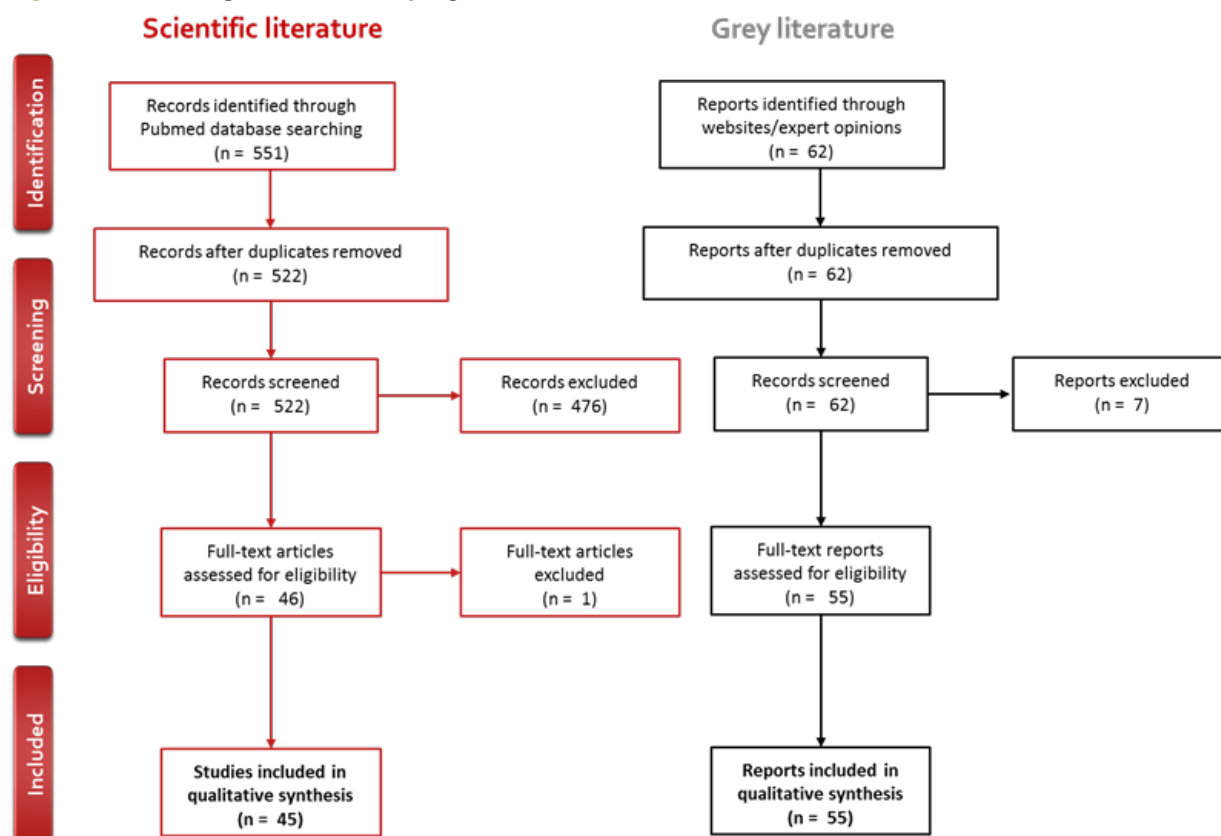
The four search strings defined led to the identification of 551 articles. Of those, 29 were duplicates and were excluded. A total of 522 article titles and abstracts were assessed. Of these, 476 articles were excluded and 46 were included in the review (41 articles from search string 1, one article from search string 2 and four articles from search string 3). All the articles selected were assessed in full text. One article was excluded in the eligibility phase because it did not report actual interventions, but the application of mathematical models. Forty-five studies were finally included in the review.

Most articles (35; 78%) addressed the first inclusion criterion 'Needs identification for infectious disease prevention, control and emergency preparedness in 'closed'/semi-open' communities'. Two articles addressed this aspect, although one focussed on the role of external actors and the other on the design of national policy in the context of the institutional setting explored. As it was not possible to analyse the review dimensions in these two articles, they were classified as 'other'. Eight articles complied with the second inclusion criterion 'Assessment of needs for infectious disease prevention, control and emergency preparedness in centres hosting 'closed' or 'semi-open' communities'. This included articles describing tools for preparedness and tools for needs assessment.

Sixty-two grey literature reports were retrieved (Figure 8). The three most frequent sources were WHO (32% of all retrieved reports), Italy (16%) and IOM (13%). Forty-eight percent of all reports were published in 2014 and 2015.

All reports were assessed by means of their executive summaries to define which were to be analysed in full text. Seven reports were excluded from the analysis. The 55 remaining reports were examined in full text and were all included in the analysis. Twenty-one reports addressed the first inclusion criterion 'Needs identification for infectious disease prevention and control in 'closed'/semi-open' communities and 34 addressed the second inclusion criterion 'Assessment of needs for infectious disease control and emergency preparedness in centres hosting 'closed' or 'semi-open' communities'. The latter included reports on tools, guidance documents and protocols.

Overall, nine tools were included in the scoping review [14, 16, 18-24]. Most of the tools were based on checklists. The focus of the tools was quite diverse. WHO tools were mainly oriented towards assessing health systems, but also included instruments specifically targeting hospital administrators and emergency managers [20]. Other tools included instruments to: assess the magnitude of ongoing migrant/displaced population emergencies through rapid health assessments [21]; conduct health needs assessments in prison settings [23, 24], or support European parliamentarians visiting immigration detention centres [22]. Only one was a self-assessment tool [18]. In addition, while some were clearly oriented to emergency preparedness [14, 19, 20], another adopted a health system capacity building approach in the framework of the international health regulations (IHR) [16]. The described dimensions were only applicable in some cases.

**Figure 8. Flow diagram of the scoping review (modified from PRISMA statement) [17]**


Migration poses a broad range of health risks which vary according to the stage of migration, age and legal status of the migrant [14]. From the stand-point of a receiving country, public health risks related to migration have been classified in two main groups.

The first group comprises public health risks that derive from exposure before reaching the receiving country (i.e. risks that arise from health issues in the migrant's country of origin, from the conditions experienced during the journey and from conditions in transit countries prior to arrival).

The second group comprises public health risks arising after the migrants reach the receiving country (i.e. related to living conditions in reception/detention centres, in the host country community, etc.).

### 3.1 Communicable disease risks deriving from exposure before reaching the receiving country

The migrant populations arriving in the EU/EEA are not a homogenous group and have diverse health needs, depending on their country of origin, transit and conditions of travel [8].

Based on their country of origin, newly-arriving migrants may or have not been offered immunisations during their childhood. Therefore vaccine-preventable diseases are identified as a risk for people coming from countries with low vaccination coverage [25]. Different transit routes may also lead to a higher or lower probability of disease exposure.

While the majority of migrants are in good health at the time of departure, health risks have been associated with land as well as sea travel, such as physical and psychological trauma, dehydration, nutrition disorders, hypothermia and infectious diseases.

With regard to travel by land, the following health problems have been described: exhaustion, respiratory and diarrhoeal diseases, scabies, lice, blisters and small injuries, for example on the feet [25].

With regard to travel by sea, health problems are due to the lengthy and unsafe crossings in overcrowded boats, exposing migrants to trauma/burns, dehydration, nutritional disorders, hypothermia and infectious diseases [26].

Expert opinions and risk assessments published by ECDC in the context of increased migration have identified general and specific infectious disease transmission risks in relation to the ecological and epidemiological conditions in receiving European countries [5-12].

### 3.2 Communicable disease risks deriving from exposure after reaching the receiving country: mainly within 'closed' or 'semi-open' communities

Confined environments, such as migration reception/detention centres, educational, correctional and military facilities can encourage the transmission of infectious diseases. Both direct and indirect transmission of gastro-intestinal infections has been frequently described in these settings [27,28], also at migration reception/detention centres [29].

Close physical congregation of individuals has also been associated with a higher probability of human-to-human transmission of infections such as influenza, mumps, measles, varicella, meningococcal disease and pertussis [30-38].

There is also reported to be a higher risk of transmission for sexually-transmitted diseases (STD) [39] and blood-borne viruses (BBV) [40,41], particularly in correctional settings.

Outbreaks of skin infection have been also described in correctional facilities as a result of inadequate hygiene measures and poor surveillance practices [42]. Scabies is one of the most frequent infections diagnosed and treated in Italian migration reception/detention centres and is described as being acquired by migrants during their migratory journey [43,44].

A recurring aspect in detection of infectious diseases and their prevention and control in institutional settings was the presence of a resident population that relies on internal housing, food and healthcare services. This context highlights the need for good coordination and clear responsibility allocation among the various actors working in the institution.

### 3.3 Challenges faced in reception/detention centres within the EU/EEA by dimension

Twenty situation analysis studies were made in the context of this scoping review. These studies were performed by collecting expert opinions or carrying out site visits for health system and/or reception/detention centre assessments. All studies focussed on health and multiple infectious disease exposures and most were conducted in the context of sudden influxes of migrants.

The studies focussed on Europe [8] and were carried out for the following countries: Bulgaria [53,54], Cyprus [26], Croatia [52], Greece [56-58], Italy [2, 29,48-51], Malta [46,47], Portugal [55], Serbia [25], Spain [59] and Turkey [45]. Most studies (80%) were conducted by the WHO PHAME and the IOM EquiHealth Projects between 2013 and 2015. Some regions or countries were the subject of more than one study. The most frequently described types of holding centre were as follows:

- Short-term holding centres, often at points of entry: the place where initial administrative procedures and clinical health assessments are generally conducted.
- Detention centres: de facto prison environments where irregular migrants who have not requested asylum or have had their asylum claim refused, are generally detained pending repatriation.
- Reception centres for asylum seekers: these are non-secure centres, most often hosting migrants while their asylum claim is being processed.

In some countries there were management challenges associated with the sudden increased influx of people to the country, combined with the return of migrants under the terms of the Dublin Regulation. This contributed to delays in asylum claim processing [53]. At the same time, other countries have described migration less as an unexpected emergency, with a clear beginning and end, and more as a repeated phenomenon, with peaks during the summer months. One of the recurring themes that emerged from the studies reviewed was the need to shift from emergency response to planning and capacity building [25].

The security focus of migration-related activities was another recurring theme in the national situation analysis reports. In several EU countries migration and asylum issues, including the management of reception/detention centres, are the responsibility of the Ministry of Interior. Even if criminal and administrative detention in relation to irregular migration is applied differently in the various countries, in most cases detention and open migration centres coexist.

Fifteen situation analysis reports (75%) identified human resources as a critical dimension for improvement. This was mainly due to the lack of availability of cultural mediators but, in some cases, also healthcare workers. The topic of human resources in relation to health provision in reception/detention centres is particularly relevant because the services need to be 'culturally competent' [60]. In this context, cultural mediators are professionals who are considered essential to culturally competent services. However, they are frequently described as being insufficient in number or unavailable in the situation reports reviewed.

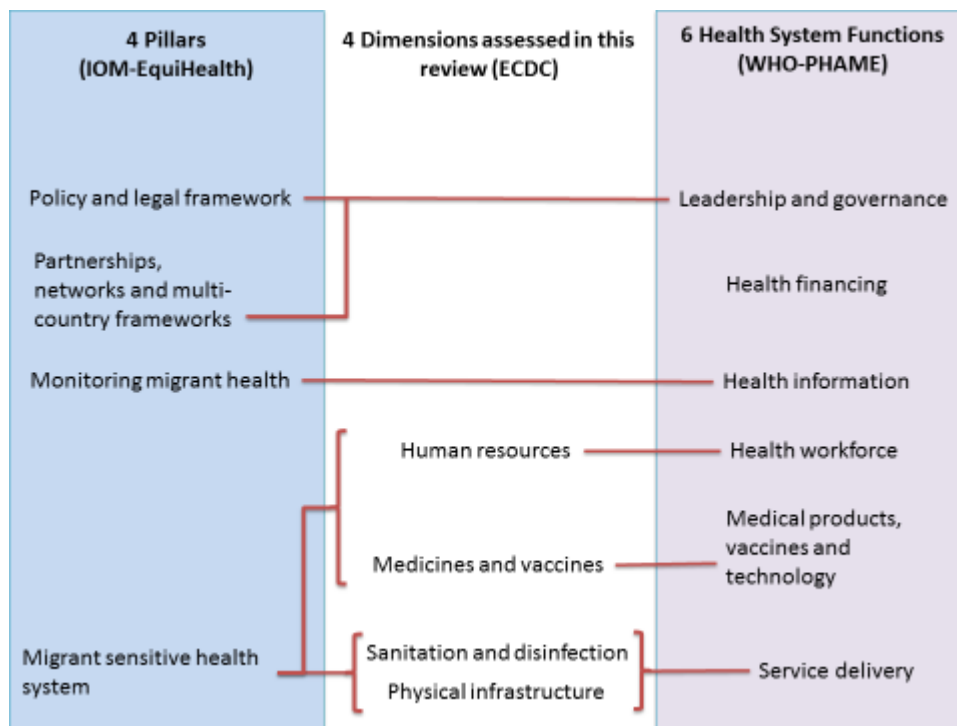
Thirteen reports (65%) and 12 reports (60%) identified issues related to physical infrastructure and sanitation, respectively. Poor physical infrastructure, poor environmental hygiene conditions, lack of clean clothing, bedding and personal hygiene equipment were recurrent challenges [47, 53]. It should be noted, however, that this was not always the case [59]. This variability was also observed in a report by MSF on the situation in Italy [2]. Unsurprisingly, the conditions were more critical in settings where the situation analysis was conducted during the context of a migration surge emergency.

Lack of availability of medicines and vaccines was described less frequently (seven reports – 35%) but still occurred in some settings [57]. On the other hand, concerns were raised in an MSF report on the ready availability and utilization of psychotropic drugs within reception/detention centre medical services [2].

Overcrowding was another recurring challenge. Among the 20 situation analysis reviewed, 13 indicated overcrowding to be an issue in at least one of the reception/detention centres visited.

The situation analysis studies conducted by WHO PHAME and the IOM EquiHealth Projects between 2011 and 2015 adopted two different assessment frameworks. The IOM framework was structured around four pillars: 1- Policy and legal framework, 2 -Partnerships, networks and multi-country frameworks, 3- Monitoring migrant health, 4- Migrant-sensitive health system. The framework adopted by WHO in the situation analysis conducted during the PHAME project was structured around six functions of the health system: 1- Leadership and governance, 2- Health workforce, 3- Medical products, vaccines and technology, 4- Health information, 5- Health financing, 6 – Service delivery.

**Figure 9. Assessment frameworks used in the IOM and WHO situation assessments in relation to the scoping review dimensions**



As shown in Figure 9, the pre-defined dimensions assessed in the scoping review only partly matched the pillars and functions considered by IOM and WHO. More specifically, the following dimensions were not considered: ‘Leadership/governance’; ‘Health financing’ and ‘Health information’.

Therefore, these dimensions were qualitatively appraised on the basis of the situation analysis performed by IOM and WHO, as shown below, to decide whether they should be also considered among the tool dimensions.

In developing the tool, the ‘Leadership/governance’ dimension was not included because legal and governance frameworks guiding the organisation of migration reception/detention centres have been described, with a certain level of homogeneity, in the situation analysis reports reviewed. Furthermore, the lack of a national policy was not identified as a critical factor for providing adequate health assistance at reception/detention centres.

‘Health financing’ and ‘Health information’, on the other hand, were dimensions not initially considered that were found to be critical in a number of documents. For this reason, statements addressing certain aspects of health financing and health information were included in the tool (see Chapter 2 and 5).



In particular, lack of sustained funding in reception/detention centres was found to affect all the dimensions described and possibly lead to the need for out-of-pocket payment. It can explain the lack of human resources, unavailability of all types of commodities including pharmaceuticals, inadequate infrastructure, inadequate infrastructure maintenance and hygiene/sanitation levels. Furthermore, health financing sustainability has been found to indicate the strength of the response system to migration emergencies in terms of viability and surge capacity. Several EU governments are highly dependent on EU project and emergency funds in facing migration related issues. NGOs and international organisations have been frequently described as supporting national governments by providing unavailable services, including health services, within migrant reception/detention centres. Health authorities have repeatedly expressed concerns about the sustainability of funding in relation to both the uncertainty of being re-awarded EU projects and the need for funding after the emergency phase.

A final aspect to consider is the significant variability in the reference standards being used to measure adequacy in migration holding centres in relation to the dimensions explored in this review. We also noted that different guidance documents and tools are being referred to in the guidance and situation analysis studies assessed.

## 4. Conclusions

Although migrants entering the EU/EEA tend to be in relatively good health, there is evidence that crowded living conditions in migrant holding centres can favour the transmission of a wide range of infectious diseases. As in jails/prisons, specific challenges, such as blood-borne viruses and STDs, may also apply to migrant detention centres.

Migration reception/detention centres also pose specific challenges that can increase the risk of communicable disease transmission:

- The possible emergence of highly transmissible diseases such as primary varicella among adults in closed residential settings, especially when centres host migrants from tropical areas where infection during childhood is less likely [36].
- The possible presence of people with lower immunity, either because they come from countries with higher HIV prevalence and/or because they are suffering from other conditions that could lead to immune depression (e.g. malnutrition, physical and psychological stress related to the migration journey).
- The possible presence of people originating from, or having transited through, areas with higher prevalence of resistant TB strains [61].
- The rapid turnover at migration centres in Europe and the frequent inter-facility transfers with longer-term reception/detention facilities. Rapid turn-over creates an inflow of people in rapidly consecutive cohorts. There is evidence that the inflow of susceptible people within a 'closed' or 'semi-open' community experiencing an outbreak slows the creation of herd immunity and acts as a transmission amplifier [62-64]. In addition, inter-facility mobility (transfers) has been linked to an increased risk of infectious disease transmission [63].

An additional aspect relevant for infectious disease detection, prevention and control in institutional settings, is the presence of a resident population that relies on internal housing, food and healthcare services. This has two implications:

- Firstly, that reception/detention centres need to have an internal surge capacity during outbreaks as well as during a large sudden influx of migrants. It was recommended to include these two aspects as specific objectives of the tool.
- Secondly, that reception/detention centres become a hub of many different actors working within and outside the centre itself. We should consider this implication alongside another issue that emerged from the review, although it is beyond the scope of this document: the security focus of migration-related activities and the lack of connection between the security and health-related priorities. This implies the need to establish functional coordination among the different actors involved, both within and outside the institution, from a health perspective in order to be better prepared to manage outbreaks and large sudden influxes of migrants at the reception/detention centre being assessed.

For this reason, a preliminary stakeholder analysis exercise was recommended before starting the capacity assessment itself. It may be possible to use an instrument known as the modified Haddon Matrix, a self-assessment tool that has been used for pandemic preparedness planning [65], and an adapted version is proposed in Annex 2.

All the dimensions assessed in the study were found to be major challenges at migrant holding centres, in particular human resources and physical infrastructure. Other non-pre-defined dimensions were identified by analysing the situation analysis studies included in the review.

On the basis of this analysis, we recommended that ECDC tool statements should address the following dimensions: Human resources, Medicines and vaccines, Sanitation and disinfection, Physical infrastructure, Health financing and Health information.

In addition, given the relevance of overcrowding in increasing the risk of infectious disease transmission, and the need to coordinate outbreak response in institutional settings, it was recommended that tool statements should also be included to focus on these aspects.

Given the lack of consensus on quality standards for the dimensions studied within migrant reception/detention centres in Europe, the checklist tool was developed to assess capacity rather than using a pre-defined standard. For this reason, the tool was developed in line with the framework for the International Health Regulations (IHR) [15], focussing on capacity development. This was done by using WHO's Assessment Tool for Core Capacity Requirements at Designated Airports, Ports and Ground Crossings [16] as a methodological reference since this tool was adapted to the context of medium-long term migrant reception/detention facilities.

## Annex 2. Stakeholder analysis

Before conducting the checklist-based assessment described in this document, it is advisable to arrange a preliminary meeting with all actors involved in healthcare provision and public health action at the reception/detention centre. This ensures that the roles and responsibilities of each actor are defined before, during and after outbreaks and that there is a clear understanding of the services, activities and roles that will be assessed.

This is particularly relevant in the context of migration reception/detention centres where healthcare can be the responsibility of numerous and diverse actors, including public institutions such as ministries (interior/health/etc.) as well as local health authorities, and private for-profit/not-for-profit actors such as NGOs, international organisations and confessional charities. This stakeholder analysis exercise could be conducted in several ways. By way of example in this annex we propose the model of a modified Haddon Matrix [65].

Table 2 is intended as a tool that could guide discussion. It could be completed by the public health authority performing the capacity assessment during a meeting with all relevant stakeholders providing health services for the people hosted at the centre being assessed.

Using this instrument the assessing health authorities can obtain an initial understanding of the stakeholders involved in providing health services, the training provided and the way in which information is communicated before, during and after an outbreak.

**Table 1. Stakeholder analysis tool**

Phase	Principles	Human factor within reception/detention centre (human resources and guests)	Physical environment of the reception/detention centre	Internal healthcare provision (only if applicable)	Socio-cultural environment within the reception/detention centre
Pre-outbreak	Training and communication on infectious disease (ID) risks	Indicate if training and communication activities are in place at the reception/detention centre (e.g. to promote outbreak preparedness of staff and guests based on the centre protocols/procedures.) Indicate the lead stakeholder/s for this work.	Indicate if there are communication systems to exchange information in real time on communicable diseases (CD); availability of information on CD (e.g. information tools based on seasonality, risks in institutional settings, and country of origin of guests, etc.) through websites or emails. Indicate the lead stakeholder/s for this work.	Indicate if migrant-friendly communication activities to increase resilience against CD are being conducted in the context of internal health services (e.g. leaflets, posters, others.) Indicate the lead stakeholder/s for this work.	Indicate if training and communication activities are in place within the reception/detention centre (e.g. to promote CD knowledge and resilience against CD transmission among staff and guests.) Indicate the lead stakeholder/s for this work.
	Case prevention	Indicate if vaccination is offered to susceptible/vulnerable staff and guests. Indicate the lead stakeholder/s for this work.	Indicate the stakeholder/s in charge of ensuring infrastructure, sanitation and disinfection standards are maintained to prevent CD transmission within the reception/detention centre.	Indicate the stakeholder/s in charge of ensuring infrastructure, sanitation and disinfection standards are maintained to prevent CD transmission within the internal health service.	
	Case detection	Indicate if staff/guests are willing and able to self-refer in case of early symptoms that could be due to a CD and seek early medical attention. Indicate if funding ensures sustainable access to healthcare workers (HCW) in health facilities catering for migrants, indicate which stakeholder/s ensure funding and HCW deployment.	Indicate if medical devices (rapid test kits, imaging) to support HCW in the rapid diagnosis of CD cases are available. Indicate the lead stakeholder/s involved in their provision and maintenance.	Indicate if there are the conditions for early diagnosis of CD both internally and through referral systems. Indicate the lead stakeholder/s for this work.	
	ID surveillance and early warning	Indicate if HCW have been trained on the implementation of a surveillance system for early warning. Indicate the lead stakeholder/s for this work.	Indicate if the conditions are appropriate for the implementation of CD surveillance and early warning (e.g. Internet connection for a web-based system, archiving and consulting areas for a paper-based system). Indicate the lead stakeholder/s involved.	Indicate if there are the conditions for the implementation of CD surveillance and early warning – e.g. compilation of clinical records (paper or digital) with codified syndromic case definitions.) Indicate the lead stakeholder/s for this work.	Indicate if a surveillance system for early warning (syndromic or other) is implemented for early detection of any unusual increase in case load at the reception/detention centre. Indicate the lead stakeholder/s for this work.
	Infection control measures at the centre	Indicate if a monitoring system is in place to ensure the compliance of staff with the use of personal protective equipment (PPE), as indicated during their duties. Indicate the lead stakeholder/s for this work.	Indicate if a system to ensure availability of adequate supplies of PPE (disposable gloves, masks, gowns, etc.) is in place. Indicate the lead stakeholder/s for this work.	Indicate if a system to ensure availability of adequate supplies of disposable medical devices (e.g. syringes, drips) and other materials such as disinfectants, gauze, and cotton is in place. Indicate if a system to ensure availability of medicines and vaccines is in place. Indicate the lead stakeholder/s for this work.	Indicate if unusual clusters of CD at the reception/detention centre are being reported and investigated. Indicate the lead stakeholder/s for this work.

<b>During an outbreak</b>	Leadership	Indicate if there is a staff member to provide leadership during outbreak investigation and control at the reception/detention centre (Outbreak Control Officer - OCO). Indicate the lead stakeholder/s for this work.	Indicate if procedures/plans defining clear lines of responsibility, accountability and communication have been defined and if training is being conducted to ensure everyone knows their roles. Indicate the lead stakeholder/s for this work.	Indicate if there is a staff member in charge of following coordination, communication and reporting guidelines, linking the centre's internal health services with other concerned actors within and outside the health system. Indicate the lead stakeholder/s for this work.	Indicate if a senior management team ensures overall organisation and coordination of activities. Indicate the lead stakeholder/s for this work.
	Communication	Indicate if spokespeople are identified in compliance with outbreak communication procedures at the reception/detention centre. Indicate if staff and guests are made aware of the communication briefings to expect during the outbreak. Indicate the lead stakeholder/s for this work.	Indicate if an internal communication plan is in place to ensure timely and coordinated response. Indicate the lead stakeholder/s for this work.		Indicate if accurate information briefings to staff and guests are provided on a regular basis (daily briefings, other). Indicate the lead stakeholder/s for this work.
	Outbreak control measures	Indicate if monitoring of staff compliance with prescribed social distancing/use of PPE during an outbreak is planned. Indicate the lead stakeholder/s for this work.	Indicate if the availability of adequate supplies of PPE (disposable gloves, masks, gowns, etc.) is ensured, as well as the availability of environments for temporary isolation of contagious cases. Indicate the lead stakeholder/s for this work.	Indicate if availability of adequate supplies of disposable medical devices (e.g. syringes, drips) and other materials such as disinfectants, gauze, and cotton is ensured. Indicate if availability of medicines and vaccines is ensured. Indicate the lead stakeholder/s for this work.	Indicate if investigation and reporting of breaches in outbreak control measures at the reception/detention centre is planned. Indicate the lead stakeholder/s for this work.
	Capacity Management	Indicate if the compliance of staff with deployment policies to meet operational needs during contingency is monitored during outbreaks. Indicate the lead stakeholder/s for this work.	Indicate if a staff deployment policy based on service needs, experience, knowledge and skills of staff is available. Indicate the lead stakeholder/s for this work.	Indicate if a staff deployment policy for internal health services based on service needs, experience, knowledge and skills of staff is available. Indicate the lead stakeholder/s for this work.	Indicate if there is a staff deployment policy to enhance surge capacity in outbreak response. Indicate the lead stakeholder/s for this work.
	Restoration of core functions	Indicate if modalities for the return to staff deployment as per pre-outbreak level are agreed/discussed. Indicate the lead stakeholder/s for this work.	Indicate if there are plans to restore reception/detention centre services to pre-event levels if changes have been made to the centre infrastructure (e.g. to ensure isolation of cases, to increase spaces dedicated to the treatment of cases etc.). Indicate the lead stakeholder/s for this work.	Indicate if there is a system to assess the health needs of staff and guests unattended to during the outbreak and to restore clinical services to pre-outbreak levels. Indicate the lead stakeholder/s for this work.	Indicate how social aggregation activities (if discontinued during the outbreak phase) would be re-started. Indicate the lead stakeholder/s for this work.
<b>Post-outbreak</b>					

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