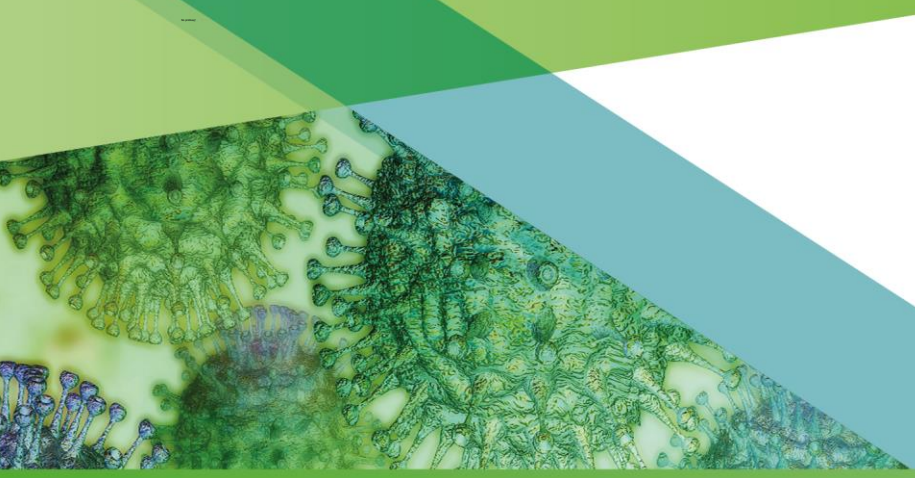

ECDC TECHNICAL REPORT

Infection prevention and control and surveillance for coronavirus disease (COVID-19) in prisons in EU/EEA countries and the UK

3 July 2020

Scope of this document

This document provides principles of surveillance, infection prevention and control (IPC) and management of COVID-19 infection in prisons in European Union (EU) and European Economic Area (EEA) countries and the United Kingdom (UK).

Target audience

The target audience for this guidance includes national regional and international policy makers, public health and healthcare planners, prison health authorities, staff working in prison settings, health researchers and civil society organisations working with prisons in EU/EEA countries and the UK.

Definitions

People in prison for the purpose of this guidance include people who are kept in police custody, pre-trial or post-trial detention. In certain instances, the term may include people visiting correctional facilities, intervening in various capacities, or prison staff working also in various capacities.

The following establishments are included within the definition of prisons used in this guidance:

- Prisons and places of detention (all institutions, publicly and privately managed, where a state holds adults deprived of their liberty (e.g. prison and police custody cells), either sentenced or on pre-trail detention (remand);
- Young offender institutions, secure training centres and secure children's homes.

Information relating to migrant detention centres is not included in this document but covered in a separate guidance [1].

Background

On 31 December 2019, a cluster of pneumonia cases of unknown aetiology was reported in Wuhan, Hubei Province, China. On 9 January 2020, China CDC reported a novel coronavirus as the causative agent of this outbreak, coronavirus disease 2019 (COVID-19). Since then, COVID-19 has become a pandemic that has affected all continents.

Suggested citation: European Centre for Disease Prevention and Control Infection prevention and control and surveillance for coronavirus disease (COVID-19) in prisons in EU/EEA countries and the UK – July 2020. ECDC: Stockholm; 2020.

Common symptoms of COVID-19 include fever, cough and shortness of breath but many other symptoms have been reported and these vary in frequency and severity (Box 1). COVID-19 presents with a spectrum of symptoms and severity from completely asymptomatic (estimated 3-5%), pauci-symptomatic and mild symptoms (up to 80%), moderate to severe disease (15%) and critical illness (5%) [2]. In the most severe cases, pneumonia, acute respiratory distress syndrome, sepsis and septic shock have been reported.

Box 1. Symptoms of COVID-19 [3,4]

Respiratory cluster	Musculoskeletal cluster	Gastrointestinal cluster
• Fever/chills • Dry or productive cough • Sore throat • Anosmia and ageusia or dysgeusia • Shortness of breath	• Myalgia • Arthralgia (joint pain) • Headache • Fatigue	• Abdominal pain • Vomiting • Diarrhoea

Elderly people above 70 years of age and those with underlying health conditions (e.g. hypertension, diabetes, cardiovascular disease, chronic respiratory disease, cancer and obesity) are considered to be at higher risk of developing severe symptoms (see box 2). Men in these groups also appear to be at a slightly higher risk than females [5].

The current evidence indicates that COVID-19 may be transmitted from person-to-person through several different routes. Although the contribution of each route is not clear yet, it is understood that transmission is mainly driven by respiratory droplets containing the SARS-CoV-2 virus inhaled or deposited on mouth and eye mucosa. Other routes implicated in transmission of coronaviruses include inhalation of aerosols and contact with contaminated fomites. Viral RNA has also been detected in blood and faecal specimens but there is no evidence of transmission through contact with blood [2] and the contribution of faecal-oral route is not certain.

The exact level of protection provided by the different components of personal protective equipment (PPE) and the transmissibility of the virus at different stages of the disease remain unclear. Over the course of infection, the virus has been identified in respiratory tract specimens up to 1–2 days before the onset of symptoms, and it persists for up to eight days after the onset of symptoms in mild cases [6], and for longer periods in more severe cases, peaking in the second week after infection [6,7]. The high viral load close to symptom onset suggests that SARS-CoV-2 is more efficiently transmitted at the early stages of infection [6,8]. There is already considerable evidence that persons with mild or no symptoms contribute to the spread of COVID-19 [9]. The implications of this observation for the prevention of COVID-19 are significant.

The risk of transmission is influenced by different factors (e.g. whether exposure happens indoors or outdoors, whether the infected individual is coughing, sneezing or talking, duration of exposure and ventilation of the exposure area) that together make each contact situation unique.

Up-to-date disease background information on COVID-19 is available online (ECDC [10], WHO [11]) and in ECDC's Rapid Risk Assessment [12].

COVID-19 and prison population

According to the Council of Europe Annual Penal Statistics (SPACE), on 31 January 2019 approximately 1.5 million inmates were in penal institutions with available data in the European region [13]. The median age of this population was 35 years old, with 15% aged over 50, and 95% male. Fifteen countries reported overcrowding, of which 10 (8/10 EU Member States) reported serious over-crowding [13].

Prisons and general detention settings necessitate a strong and tailored surveillance and public health response to infectious diseases to limit spread and reduce the impact among prisoners and staff. Prisons are an intricate environment where public health and prison authorities and other stakeholders interact, and have a dynamic population and staff with significant daily turnover. Whilst prisons are by definition closed environments, the connections with the local community mean that progress in addressing infectious diseases in the community will be hampered if prisons are not addressed.

A setting-based approach is recommended and responses should be carefully developed in light of the environmental factors that may increase risk of transmission, such as overcrowding and unsanitary facilities, and the demographic profile of the prison population including proportion of population belonging to risk group for developing severe disease. Compared with the general public, people in prison in the EU/EEA have a higher burden of communicable diseases such as human immunodeficiency virus (HIV), hepatitis B, hepatitis C, and tuberculosis [14]. WHO recommends the development of prison preparedness and response plans to manage communicable disease outbreaks and respond to influenza pandemics and has recently developed interim guidance relating to the control of COVID-19 [15].

In the context of COVID-19 and taking into consideration the abovementioned demographics, prisons comprise significantly vulnerable populations. Male sex (57%) and co-morbidities such as cardiovascular and pulmonary disease, as well as immune suppression are seen in the majority of COVID-19 reported deaths (95%). In addition, limited access to highly specialised healthcare and the potential delays in transfers means that people in prison are at higher risk for poorer outcomes. Concrete evidence from prison case series are lacking [16,17].

There are challenges that exist for the successful control of prison clusters which include unavoidable close human-to-human contact, poor ventilation, sub-optimal healthcare services, multi-morbidities of people in prison and the often high turnover of people coming in and out of the prison from the community, including the prison staff. Outbreaks in prison settings can be serious for public health as they can quickly overburden prison and community health services and, given the high turnover in many prisons, can result in increased transmission within, or re-introduction into, marginalised communities.

The media have also reported on protests [18-20], riots [21], and hunger strikes [22] by people in prisons in the context of COVID-19 outbreaks. These actions were mainly motivated by dissatisfaction with the implemenation of control measures (e.g. ban on visitors) or by the disruption of usual prison activities in the corresponding prison settings. In the US and Canada, people in prison have taken legal action against local authorities, citing the authorities' failure to protect their health during the pandemic [23-25]. Staff in one prison complained of the perceived lack of implementation of prevention and control measures by local authorities [26].

COVID-19 in prisons in EU/EEA countries and the UK

Epidemiological situation

There is currently limited data in the public domain on the number of cases of COVID-19 in prisons in EU/EEA countries and the UK [27].

At the beginning of April 2020, a number of cases were reported in prison settings in Italy (131 staff and 21 inmates), Spain (69 staff and 6 inmates), France (114 staff and 48 inmates), Belgium, Germany, and Portugal [28].

In the UK, as of 31 May 2020, 466 inmates across 79 prisons and 949 staff members across 105 prisons have been confirmed with COVID-19 in England and Wales; 23 inmates and 11 staff people have died [29]. A media source reported that on 15 April, inmates at a Lancashire prison were transferred to another prison after a serious outbreak of COVID-19 and the death of a member of staff [30].

Measures undertaken in prisons in EU/EEA countries and the UK

The COVID-19 situation poses a major challenge for prison services, and in the EU, has had a marked impact across various aspects of the justice sector including crimes, court processes, the probation service and prisons [31]. Prisons are under pressure to limit the impact of the disease and keep it out of the prison environment and have implemented different prevention and control measures in response to the evolving situation [32].

According to the last update of the European Prison Observatory (EPO) on 5 June 2020, diverse measures have been implemented in EU/EEA countries and the UK [33]. For example, since March 2020 around 14 000 inmates were released early in France, in Germany, face masks were distributed in prison settings and several countries have reported the use of technologies (e.g. Skype calls) to avoid contact with visitors and reducing the duration of outdoor exercise.

In the UK, the temporary release of prisoners who are within two months of their release date, or who are pregnant or considered medically vulnerable, has been part of the national approach to managing public services [34]. In Italy, triage areas were set-up, including in the outside areas of prison premises to allow for testing of staff and of incoming people in prison [35] and the opportunities for contact between staff were minimised [36].

In Italy, during the lifting of containment measures, in many prisons only visits from relatives have resumed, while other visits (e.g. from volunteers) are still suspended. In England, population management strategies – including the cohorting of the prison population to facilitate physical distancing – were implemented [37]. In the UK, visits from relatives will restart in July in England and Wales, and when they do, inmates and visitors will need to keep physical distance and to wear PPE. In Portugal, around 1 300 inmates were released early, around 700 benefited from 45-day renewable parole release and prisons required visits to be pre-scheduled and limited to one person per visit with maximum duration 30 minutes. Measures implemented follow the evolution and progression of transmission of COVID-19 in both prisons and the wider community based on dynamic risk assessment.

Measures to contain COVID-19 transmission in prisons

Infection prevention and control measures

Each prison should have contingency plans in place and should designate a team or at least a designated staff member in each prison to be the lead for COVID-19 infection prevention and control (IPC) procedures. This person/team should:

- be familiar with local/national public health advice around COVID-19;
- be aware of the IPC requirements relating to COVID-19:
- be responsible for ensuring that all staff are trained in IPC procedures, including physical distancing and hand hygiene and respiratory etiquette;
- ensure that prisoners are provided with appropriate information on the measures implemented including physical distancing and hand hygiene and respiratory etiquette;
- maintain communication with local public health authorities to understand the COVID-19 activity in the community and to inform public health authorities of COVID-19 activity in the prison.

Currently, no specific treatment or vaccine is available for COVID-19. In terms of treatment, moderate to severely ill patients require supportive care and oxygen supplementation. A number of pharmaceuticals and vaccine candidates are undergoing clinical trials to assess their safety and efficacy [38,39].

The prompt and decisive application of non-pharmaceutical measures can assist significantly in mitigating the risk of transmission of SARS-CoV-2 and reducing the burden of COVID-19 in prisons and other places of detention [15]. Physical distancing, hand and respiratory hygiene are the main non-pharmaceutical measures that should be considered and implemented in these settings. Although the implementation of physical distancing measures may vary depending on the local epidemiological situation, respiratory and hand hygiene measures and the recommendation for the staff to stay at home if they have symptoms should be applied at all times.

Specific signage (information/infographics) should be available for people in prison about the symptoms of COVID-19, providing instructions on what to do in case they develop symptoms and the rationale behind any restrictive control measures implemented. Leaflets or other means of information dissemination like group meetings to explain and demonstrate the instructions could also be considered. Meetings should also address staff needs and provide information on the new procedures in the prison environment. Translation to other languages and use of pictograms is strongly recommended to cover language and literacy needs. The prison should also ensure there are signs at all entrances describing the symptoms compatible with COVID-19 informing visitors and staff with any of these symptoms not to enter the prison [40]. The WHO regional office for Europe has issued factsheets on Preparedness, prevention and control of COVID-19 in prisons and other places of detention for people in prisons [41] and for visitors [40].

Hand hygiene

Hand hygiene is an essential control measure for reducing the spread of COVID-19, and other respiratory viruses.

- Signage (information infographics) that promote the importance of hand hygiene and explain how to perform effective hand hygiene should be available in different areas.
- Easy access to hand washing facilities with soap for all prisoners, staff and visitors, single use paper towels, and alcohol-based hand rub solutions (containing at least 70% of alcohol) are valuable options, although the latter can pose safety risks due to potential for abuse [42].
- Rigorous hand hygiene should be advised; especially after contact with frequently touched surfaces, before and after preparing food, before eating, drinking or smoking, after being outside for exercise and after using the toilet or handling garbage.

Respiratory hygiene

- Strict respiratory etiquette should be advised: nose and mouth should be covered with a paper tissue when sneezing or coughing. If tissues are not available, coughing or sneezing into the elbow is recommended.
- Paper tissues should be disposed of immediately after use, ideally into bins with covers, and hands should be washed/sanitised immediately after disposal of the used tissue.
- Paper tissues and bins with covers should be available and easy to access for use by prisoners, staff and visitors.

Cleaning and disinfection

Cleaning and disinfection addresses the risk of transmission of COVID-19 through fomites. The same principles apply in prisons and detention settings as the ones outlined for the community in the relevant ECDC technical document [43]. Particular attention should be placed to these processes due to the closed environment, possible overcrowding and the centralised provision of services within prison settings which promote clustering as mentioned above.

In premises where no COVID-19 cases have been identified

- Frequently touched surfaces should be cleaned as often as possible (at least daily and if possible, more frequently). Examples of these surfaces are doorknobs and door bars, chairs and armrests, table-tops, light switches, computer screens, keyboards, telephones, etc.
- The use of a neutral detergent and careful cleaning is sufficient in premises where no COVID-19 cases have been identified.
- The cleaning of shared toilets, bathroom sinks and sanitary facilities should be carefully performed. Consider the use of a disinfectant effective against viruses, such as 0.1% sodium hypochlorite, or other licensed virucidal products following the instructions for use provided by the manufacturer.
- People engaged in cleaning should wear work clothes (e.g. uniform – which is removed and frequently washed in warm water) and use gloves when performing cleaning activities.
- Non-disposable cleaning material should be properly cleaned at the end of every cleaning section using virucidal disinfectant or 0.1% sodium hypochlorite.
- Hand hygiene should be performed each time PPE, such as gloves, are removed.
- Waste material produced during the cleaning should be placed in the unsorted garbage.

In premises where COVID-19 cases have been identified

- In the event a case of COVID-19 has been identified in the prison, the rooms/areas where the case has stayed should be first well ventilated with fresh air, ideally for one hour.
- After ventilation, the above-mentioned areas should be carefully cleaned with a neutral detergent, followed by decontamination of surfaces using a disinfectant effective against viruses. Several products with virucidal activity are licensed in the national markets and can be used following the manufacturer's instructions. Alternatively, 0.05-0.1% sodium hypochlorite (dilution 1:50, if household bleach is used, which is usually at an initial concentration of 2.5-5%) is suggested. For surfaces that can be damaged by sodium hypochlorite, products based on ethanol (at least 70%) can be used for decontamination after cleaning with a neutral detergent.
- Cleaning of toilets, bathroom sinks and sanitary facilities need to be carefully performed, avoiding splashes. Disinfection should follow normal cleaning using a disinfectant effective against viruses, or 0.1% sodium hypochlorite.
- The use of single-use disposable cleaning equipment (e.g. disposable towels) is recommended. If disposable cleaning equipment is not available, the cleaning material (cloth, sponge etc.) should be placed in a disinfectant solution effective against viruses, or 0.1% sodium hypochlorite. If neither solution is available, the material should be discarded and not reused.
- In addition to uniforms – which are removed and frequently washed in warm water – and gloves, people engaged in cleaning cells, rooms or areas where COVID-19 case(s) were present should wear a medical face mask and a single-use plastic apron over the uniform.
- Hand hygiene should be performed each time after removing gloves or face mask.
- Waste material produced during the cleaning and the used mask, gloves and plastic apron should be placed in a separate bag, which can be disposed in the unsorted garbage.
- All textiles (e.g. towels, bed linens, curtains, etc.) from the patient's cell should be washed using a hot-water cycle (60-90°C) with regular laundry detergent. If a hot-water cycle cannot be used due to the characteristics of the materials, bleach or other laundry products for decontamination of textiles need to be added to the wash cycle.

Personal protective equipment

Personal protective equipment (PPE) refers to all equipment designed to protect mainly workers against one or more hazards likely to endanger his safety and health at work.

The use of medical or non-medical face masks by people in prison and staff can be considered as a means of source control (i.e. to prevent the spreading of droplets from infected people with minimal or without any symptoms), particularly in crowded situations, where physical distancing cannot be maintained or properly implemented [44].

- The use of face masks should be considered only as a complementary measure, not replacing core preventive measures such as physical distancing, hand hygiene and respiratory etiquette.
- Appropriate use of face masks is important. The face mask should completely cover the face from the bridge of the nose down to the chin.

- Information about the proper use (putting on and taking off) of face masks should be available highlighting the importance of cleaning hands with soap and water or alcohol-based hand rub solutions before wearing and after removing the face mask. Translation to other languages and pictograms are strongly encouraged.
- Medical and non-medical face masks are acceptable in prisons, taking into account issues of availability and ensuring that medical face masks are prioritised for use when providing health care in the prison and in healthcare settings, in general.

The use of filtering face piece (FFP) respirators is not recommended for prisoners. Healthcare workers providing healthcare for patients showing COVID-19 compatible symptoms in prisons should use respirators. When performing high-risk procedures (e.g. physical examination of the oropharynx or nasopharyngeal swabbing), the use of respirators should also be considered in the care of patients without COVID-19 compatible symptoms. Goggles or face shield, and gloves should be used with a respirator when providing healthcare to patients showing COVID-19 compatible symptoms or when performing high-risk procedures. Consider the use of a long-sleeved gown, especially if there is a risk of exposure to body fluids.

During periods of widespread community transmission, because of the importance of asymptomatic and pre-symptomatic transmission of COVID-19, all healthcare workers in prisons should continuously wear a medical mask during their routine activities.

Staff involved with the transfer of probable or confirmed cases of COVID-19 to other prisons or hospitals should wear medical face masks or FFP2 respirator, based on an assessment of possible contact with the case. During the transport, the probable or confirmed COVID-19 inmate should wear a medical face mask.

During periods of widespread local community transmission, prisons should consider asking visitors to wear face masks. During outbreaks in the prison, all staff (including guards) should be required to wear medical face masks. If close/prolonged contact with probable or confirmed COVID-19 cases is expected, the use of FFP2 respirator should be considered.

Table 1. Use of personal protective equipment in prisons settings according to the epidemiological situation of COVID-19;✓, recommended; ✖, not recommended; S, suggested.

	No or sporadic COVID-19 cases in the surrounding community				Clusters or widespread transmission of COVID-19 in the surrounding community or case(s) inside the prison			
	Prisoners	**Visitors**	**Prison Staff**	**Prison health professionals**	**Prisoners**	**Visitors**	**Prison Staff**	**Prison health professionals**
Non-medical face mask	✓[1]	**S**	✓[1]	✖	✓	✓	✖	✖
Medical face mask	✓[1]	**S**	✓[2]	✓	✓	✓	✓	✓
FFP2/3	✖	✖	✖/✓[3]	✓[4]	✖	✖	✖	✓[5]
Eye protection (goggles or visor)	✖	✖	✖	✓[4]	✖	✖	✓[5]	✓[5]
Gloves	✖	✖	✖	✓[4]	✖	✖	✓[5]	✓[5]
Body/clothes protection	✖	✖	✖	✓[4]	✖	✖	✓[5]	✓[5]

1 If the person belongs to a vulnerable group for COVID-19 or if physical distancing cannot be maintained;
2 For contact with inmates <2m, security and health checks;
3 If close/prolonged contact with probable or confirmed COVID-19 cases is expected, the use of FFP2 respirator should be considered;
4 For sampling for COVID-19 or aerosol-generating procedures;
5 For any close contact with inmates that may entail exposure to body fluids in areas with widespread transmission of COVID-19; or any contact with suspected or known COVID-19 cases during care in prison, transfers etc. PPE should be changed between inmates following completion of tasks.

General measures

Physical distancing

The term 'physical distancing'[1] refers to efforts that aim to decrease or interrupt transmission of COVID-19 in a population and is an important strategy in the control of COVID-19. This is accomplished by minimising the number of contacts and increasing physical distance between potentially infected individuals and healthy individuals, or between population groups with high rates of transmission and population groups with no or low level transmission. Physical distancing measures should be combined with other IPC measures including rigorous hand hygiene and respiratory etiquette.

There exists much scientific uncertainty regarding the distance that the virus can travel after its release from an infected host, and the association between proximity to an infected person and risk of virus transmission. The application of a 2-metre distance between persons will not eliminate transmission risk; however, it is likely to significantly reduce the risk from droplets arising in speech, laughing, coughing or sneezing falling near the source and, hence, is a pragmatic risk reduction measure.

As SARS-CoV-2 transmission can occur from persons with few or no symptoms, prisons should ensure that physical distancing measures are continuously implemented by staff, prisoners, and visitors (if admitted) particularly in prisons located in areas experiencing widespread local community transmission.

Avoid overcrowding

The implementation of physical distancing in prison settings can be challenging and this needs to be strategically addressed even at the government level, as statistics mentioned above indicate serious overcrowding in prisons in several EU countries. Reducing overcrowding in prisons can be addressed at various points along the pathway that a person takes through the justice system. Preventing population increases in prison would take into account working with the judicial system to reduce prison as a sentence disposal, managing populations in prisons through cohorting and 'fire-break' procedures (see below) or by temporarily expanding prison accommodation (e.g. use of older or temporary buildings, etc.), and finally implementing early or temporary releases from prison. Non-custodial measures as well as a reduction of incarceration time for low-risk and non-violent inmates, as well as for the most vulnerable inmates, has been adopted in some countries as an approach for reducing over-crowding to help minimise the risk of spreading of COVID-19 in prisons [45].

The centralised provision of services within prison settings has the effect of clustering individuals, who often have to queue or congregate to access food, healthcare, hygiene facilities, and legal services. The application of physical distancing measures in a prison environment will depend upon the local prison environment and available staff, and may require changes in regimes to accommodate such measures e.g. staggered exercise or meal times to limit the number of prisoners in one place at a point in time. Floor markings in communal areas can help encourage people keeping two metres apart. A careful consideration of the prison environment, taking into account the ability to shield or cohort prisoners and to implement isolation and quarantine measures (see below), is needed to inform the most practical way to implement physical distancing in each prison.

In prisons where physical distancing measures are challenging to implement, a 'fire-break' approach could be used, whereby the population of a prison, including the workforce is divided into different groups who are then restricted from encountering each other. This may involve having small groups of prisoners eating together in shifts, exercising together and accessing hygiene or healthcare facilities at the same time. It may also involve certain staff members working in small groups with the same prison population group to minimise cross infection with others. This approach aims to limit the potential spread of COVID-19 should an outbreak occur, by containing it to one section of the prison's population.

Inter-personal physical distance cannot always be maintained in some settings (e.g. during prisoner transfers) or when physical contact is necessary (such as during the provision of health care). In these situations, the stringent application of other preventive measures (e.g. use of PPE) is essential for the reduction of the transmission risk.

For legal, ethical, social, equitable and public health reasons every effort should be made to apply the same standards, if not higher, of physical distancing as those that are applied in the wider community in order to protect the health of people in prisons and the wider community, recognising that prisons are a high-risk setting for transmission.

[1] The term 'physical distancing' is often used interchangeably with the term 'social distancing'. However, it is increasingly recognised that 'social distancing' as a term does not reflect the actual intention of the actions taken, which is to create physical distance between people as a means of reducing infection risk, while not separating them socially. ECDC is now therefore using the term 'physical distancing' to describe these measures.

Adherence to guiding principles in the human rights framework should underpin all approaches and the COVID-19 outbreak should not in any way undermine adherence to fundamental safeguards regarding rights for people in prison outlined in the United Nationals Standard Minimum Rules for the Treatment of Prisons (the Nelson Mandela Rules) [46].

Restricting visitors

Restricting visitors to prisons can help reduce the risk of introduction of COVID-19 from the community into a prison and should be especially considered during periods of widespread local community transmission. The restriction of visitors for people in prison should be carefully balanced against the psychological and mental needs and rights of people in prison. Special balance should be considered in particular situations, e.g. special needs in case of children and in case of women separated from minor infants. If visitors are restricted, alternative non-contact options for maintaining social connections between prisoners and their family or friends could be explored. Technology solutions could be considered for maintaining social connections, and if visits in person take place physical distancing, hand and respiratory hygiene should be done.

Any visitor restrictions should not affect the availability of medical services, legal counsel, or other essential services for persons in prisons. Technology solutions could also be considered for medical or legal staff working in the prison to limit unnecessary face-to-face contact, if appropriate and possible

Stay at home advice for staff with symptoms

Maintaining the health of prison staff can also help reduce the risk of introduction of COVID-19 into a prison. Members of the prison staff who are experiencing COVID-19 compatible symptoms should be discouraged to present for work. In order to minimise the risk of staff coming to work when potentially sick, measures should be put in place to ensure that appropriate advice is carefully communicated and that they do not lose out financially for missing work under these circumstances [1]. Particular attention should be paid to the fact that prison staff may work in multiple facilities or have additional occupations/jobs. Testing for COVID-19 should be made accessible to prison staff, in collaboration with a health facility and local public health authorities. In the event testing is not available, a staff member with COVID-19 compatible symptoms should remain off work for eight days from the onset of symptoms AND until there is clinical improvement AND three days without fever [47].

Prison staff may also be identified as high-risk contacts of COVID-19 cases either in the workplace or in their community. They should also be allowed to self-quarantine at home for 14 days after the last exposure to the COVID-19 case, without fear of financial or job loss. Staff in quarantine should self-monitor on a daily basis for the appearance of COVID-19 compatible symptoms, and if sufficient testing capacity is available, a test should be carried out promptly, especially for those with symptoms.

'Cocooning' of people at high-risk of severe disease

Medically vulnerable prisoners (e.g. older people and those with underlying health conditions (Box 2)) should be kept as physically isolated ('cocooned') from others as is feasible in order to minimise their risk of infection. The 'cocooning' of vulnerable prisoners should be strongly considered and promptly implemented; if COVID-19 cases are detected in the prison, if prisoners with COVID-19 compatible symptoms are detected or if widespread community transmission is reported in the geographical area surrounding the prison.

A medical risk assessment should be undertaken for every new prisoner upon their arrival to the prison to assess their vulnerability and a relevant list/registry of the prison population should be maintained as part of the prison preparedness plan. The practical application of 'cocooning' of vulnerable persons is dependent upon the local prison environment and cohorting of vulnerable inmates in one building unit/section could be an option.

Box 2. Underlying health conditions frequently reported among hospitalised, ICU-admitted and fatal COVID-19 cases [3]

- cardiovascular disease
- chronic respiratory disease
- diabetes
- hypertension
- chronic kidney disease
- immune compromised status, including cancer
- obesity (BMI >35)

Ventilation

Poor ventilation of indoor spaces is related to increased transmission of respiratory infections, including COVID-19. The role of aerosols (small droplets that remain airborne for longer periods and can travel further) in the transmission of COVID-19 remains unclear and therefore the relative role of ventilation for the prevention of COVID-19 transmission is not well defined. However, numerous events of COVID-19 transmission have been linked to prolonged presence in closed spaces with an infected person [48-51]. Increasing the number of air exchanges per hour, if possible, and supplying as much outdoor air as possible is likely to decrease any potential risk of aerosol transmission and this can be achieved by natural or mechanical ventilation, depending on the structure of prison establishments. When mechanical closed ventilation systems are in use, maintenance of ventilation systems, especially in relation to cleaning and change of filters, in accordance with the manufacturer's instructions, is essential.

Management of possible, probable or confirmed cases of COVID-19

Case definition

The EU case definition for COVID-19 is available on the ECDC webpage [52]

Box 3. COVID-19 case definitions

Case classification

- Possible case:
  Any person meeting the clinical criteria
- Probable case:
  Any person meeting the clinical criteria with an epidemiological link
  OR
  Any person meeting the diagnostic criteria
- Confirmed case:
  Any person meeting the laboratory criteria

Clinical criteria

Any person with at least one of the following symptoms*:

- cough
- fever
- shortness of breath
- sudden onset of anosmia (loss of smell), ageusia (loss of taste) or dysgeusia (altered sense of taste)

Diagnostic imaging criteria

- Radiological evidence showing lesions compatible with COVID-19

Laboratory criteria

- Detection of SARS-CoV-2 nucleic acid in a clinical specimen**

Epidemiological criteria

At least one of the following two epidemiological links:

- close contact*** with a confirmed COVID-19 case in the 14 days prior to onset of symptoms
- having been a resident or a staff member, in the 14 days prior to onset of symptoms, in a residential institution for vulnerable people where ongoing COVID-19 transmission has been confirmed

**Additional less specific symptoms may include headache, chills, muscle pain, fatigue, vomiting and/or diarrhoea.*
***Further guidance on laboratory issues on the page: Laboratory support*
****Close contact defined according to the ECDC guidance document 'Contact tracing: Public health management of persons, including healthcare workers, having had contact with COVID-19 cases in the European Union'*

Testing strategy

All people in prison with symptoms compatible with COVID-19, should be tested for SARS-CoV-2 according to the ECDC testing strategy [47]. This includes the situations where the symptoms occur upon entry to prison, during their detention or before their release. Contact tracing should commence promptly and according to the national policy as soon as a COVID-19 case is diagnosed (see below) [47].

The following groups could also be considered/prioritised for testing given the potential for outbreaks in prison settings, which can then have significant effects on the prison population, especially if there is widespread community transmission:

- Incoming prisoners (new, transferred from other institutions or going in and out of the premises), to reduce the risk of introduction of COVID-19 cases in the prison. Inmates returning from any hospital stay or medical procedure, including psychiatric treatments, should also be tested as a priority group.
- Asymptomatic persons identified as high-risk exposure (close) contacts of cases during contact tracing. This allows for prompt isolation of new cases (if in group quarantine and not already in individual quarantine) and early contact tracing of the contacts of these new cases. A negative test should however not be an indication to stop quarantine as the incubation period can be up to 14 days.
- Wider testing of all prisoners and staff after a case is detected in staff/inmates, to identify asymptomatic cases and those in the early stages of infection to help guide isolation, contact tracing, infection control, implement 'cocooning' strategies and early clinical care to minimise severe disease and fatal outcomes.

If there is insufficient capacity for testing, the strategy can be modified as follows:

- Testing of the first few symptomatic individuals in the prison setting, to quickly identify clusters, implement containment measures and undertake contact tracing;
- Testing of symptomatic staff; self-isolation should be implemented, staff should refrain from returning to their duties according to the end-isolation criteria (eight days from the onset of symptoms AND until there is clinical improvement AND three days without fever) [47].

When testing capacity is very limited, a syndromic approach could be used following the confirmation of the first cases, where the presence of symptoms compatible with COVID-19 guide the clinical management of cases, contact tracing, isolation, and IPC measure implementation. In this situation, presumed cases should be managed as COVID-19 cases in terms of IPC measures [53].

Sample collection and testing method

Respiratory diagnostic specimens (ideally nasopharyngeal or oropharyngeal (throat) swab) should be collected as soon as possible after symptom onset from all individuals with symptoms. Sample collection should ideally be performed by a healthcare worker on site. There should be adequate specimen collection and packaging supplies, as well as PPE for the protection of the specimen collector according to biosafety guidelines [5,54]. The transport of specimens and access to a laboratory that performs validated molecular diagnostics should be proactively planned in collaboration with local public health authorities to ensure sufficient capacity and timeliness of results and notification of positive cases. In a situation where a nasopharyngeal or other above mentioned specimen is not acceptable, saliva could be considered as an alternative specimen [55]. Saliva offers a non-invasive specimen that can also be considered for self-sampling.

Currently, the preferred method of viral diagnosis is RT-PCR, and it is performed by specialised laboratories designated by local/national authorities. It is critical to use clinically well-validated diagnostic RT-PCR detection assays or point of care tests. At present, there are no rapid antigen tests that have been clinically validated. Laboratory diagnostics should focus on SARS-CoV-2 and include influenza (including the determination of the viral type and subtype) when influenza is circulating. For further information, see ECDC Strategies for the Surveillance of COVID-19 [56] and WHO's Laboratory testing for coronavirus disease 2019 (COVID-19) in suspected human cases: Interim guidance [57].

In situations of widespread community transmission and a wider testing policy, the pooling of specimens from asymptomatic persons for RT-PCR can be considered for cost-effectiveness, after validation of the methodology by the testing laboratory. The original specimens must be stored until the pool result is available; positive pools can be re-tested to get individual results. Pooling should not be used for symptomatic patients. If resources allow, serological specimen collection for antibody detection can be considered for later assessment of seropositivity.

General management of COVID-19 cases

Procedures for the management of COVID-19 cases should be developed and agreed upon in collaboration with local public health authorities. A focal point liaison with local public health services should be considered by each prison.

Medical staff should evaluate individuals with COVID-19 compatible symptoms to determine whether they should be tested or further medical action taken.

A team of dedicated staff and health professionals taking samples and caring exclusively for COVID-19 cases can minimise transmission within the facility.

Isolation

The isolation of individuals with COVID-19 compatible symptoms is one of the most important measures for reducing disease transmission and limiting the spread of the virus [58]. Possible or probable COVID-19 cases should be immediately isolated and tested. They should remain isolated until testing results become available. If tested positive, prisoners with confirmed COVID-19 infection who do not need hospitalisation should remain isolated – ideally in a single, dedicated, adequately ventilated cell, which ideally has its own dedicated toilet and handwashing facilities. Non-essential contacts between cases and other persons should be prohibited or minimised as much as possible. If in contact with other people in prison, they should maintain physical distance as much as possible, and wear a medical face mask. They should be provided with instructions on hand hygiene, respiratory etiquette and how to safely put on and discard the medical face mask. If medical masks are not available, a face cover or tissue to cover their mouth should be provided, with instructions to practise appropriate hand hygiene.

Cases should remain isolated for eight days after the onset of symptoms, and until resolution of fever and clinical improvement of other symptoms for at least three days. After that period and if no deterioration in symptoms is noted, persons can come out of isolation.

Given what is known about SARS-CoV-2 transmission and the advice for physical distancing to prevent transmission combined with evidence from multiple studies that higher cell density may be associated with more infectious disease transmission in prison settings, single cell occupancy is recommended for SARS-CoV-2-positive cases [60]. In case the prison is overwhelmed by the number of cases or single occupancy cells are not available, then 'cohorting' cases can be an alternative solution. Cohorting is a strategy that gathers all those who are possible, probable or confirmed cases into different areas each in order to keep some prisoners separate. Multiple occupancy for mixed status cases is the last option and considered to provide a high risk of spread to negative individuals.

If possible, dedicated toilet facilities should be made available for use by COVID-19 cases and meals should be served separately.

Clinical management of COVID-19 cases

The prison coordinator or director should contact the local or national public health services and arrange for diagnostic testing and, if appropriate, following initial assessment, safe transfer to a designated acute care facility for further diagnostic evaluation and care. For mild cases treated in the prison, supportive care should be provided as necessary (antipyretics/analgesics, hydration, O_2 monitoring).

There should be a plan in place to ensure the transfer of prisoners to healthcare facilities as necessary in a timely manner, taking into account local facility capacities, security measures and personnel needed for the task.

Additional information on clinical care is provided in the WHO guidance document on Clinical Management of COVID-19 [60].

Cases with mild symptoms can end their isolation, eight days after the onset of symptoms and after resolution of fever and clinical improvement of other symptoms for at least for three days.

Management of cases returning to the community

The duration of infectivity for COVID-19 patients has not been fully clarified. SARS-CoV-2 can persist in the respiratory tract for several days and up to several weeks in some cases. Detection of viral RNA in respiratory samples is not equivalent to infectiousness [61]. In faeces, viral RNA has been detected in up to 30% of patients from day five after onset for up to four to five weeks after onset of symptoms [2].

If a person in prison with probable or confirmed COVID-19 is due to be released, while still exhibiting COVID-19 compatible symptoms, they should be evaluated by prison healthcare staff to assess the need for continued healthcare. In that case, transfer to a healthcare facility under the jurisdiction of local health authorities can be arranged. If healthcare is not considered necessary, they should ideally be released if they can continue appropriate home isolation and follow up by local medical services, as necessary. Ideally, the individual should be isolated in a single room with good ventilation, have access to medical face masks if in contact with others, reduce close contact with family members, have separate meals and maintain good hand sanitation in order to protect family members and the community from infection and further spread of SARS-CoV-2. Due to increasing evidence of virus shedding through faeces by convalescent patients, recommendations for careful personal hygiene precautions after de-isolation are warranted. If no community residence is guaranteed for the released prisoner, and remaining in the prison may be a better option until end-isolation criteria can be fulfilled.

Transport of prisoners with COVID-19

It is important that there is a clear procedure for the safe transfer of prisoners during the COVID-19 pandemic and in particular those who are possible, probable or confirmed cases of COVID-19. The transfer of probable or confirmed COVID-19 prisoners to other prisons should be avoided to limit onward transmission. The transfer to hospital should be undertaken based on the decision of the treating physician and in consideration of the regional/national guidelines for the management of COVID-19 cases.

For the safe transfer of prisoners with COVID-19 compatible symptoms or confirmed infection, it is important that staff wear adequate PPE, and undertake careful cleaning, disinfection and safe waste management of the vehicle and their equipment after the transfer of the prisoner in accordance with the recommendations on environmental cleaning (see above). If decontamination of the vehicle is not practical, consideration should be given to using dedicated vehicles for COVID-19 suspected prisoners. Appropriate PPE for staff accompanying/monitoring a prisoner during transport includes a medical face mask or, if available, an FFP 2/3 in addition to eye protection (visor or goggles), and gloves. A medical face mask should be provided to the prisoner to reduce the spreading of infectious droplets. Persons sitting in the front of the vehicle, including the driver, should preferably not come into contact with the prisoner. If there is no physical separation between the front and the back of the vehicle, the driver should consider wearing a medical face mask [62,63]. The receiving facility should be notified of the person's COVID-19 status to ensure that it is prepared to provide proper isolation.

Management of contacts

Contact tracing, an effective public health measure in the control of COVID-19, should be undertaken also in prisons. It aims to rapidly identify persons who have been in contact with a case in order to reduce further onward transmission. The prompt identification and management of contacts of COVID-19 cases makes it possible to rapidly identify secondary cases that may arise after transmission from the primary cases. This is achieved through:

- prompt identification of contacts of a case of COVID-19;
- providing contacts with information on self-quarantine, proper hand hygiene and respiratory etiquette measures, and advice around what to do if they develop symptoms;
- timely laboratory testing for all contacts with symptoms.

Definition of a contact

A contact of a COVID-19 case is any person who has had contact with a COVID-19 case within a timeframe ranging from 48 hours before the onset of symptoms of the case to 14 days after the onset of symptoms. If the case had no symptoms, a contact person is defined as someone who has had contact with the case within a timeframe ranging from 48 hours before the sample which led to confirmation was taken, to 14 days after the sample was taken.

The associated risk of infection depends on the level of exposure, which will, in turn, determine the type of management and monitoring.

Table 2. Classification of contact based on level of exposure

High-risk exposure (close contact)	Low-risk exposure
A person: • having had face-to-face contact with a COVID-19 case within two metres for more than 15 minutes; • having had physical contact with a COVID-19 case; • having unprotected direct contact with infectious secretions of a COVID-19 case (e.g. being coughed on); • who was in a closed environment* (e.g. meeting room, same prison cell, etc.) with a COVID-19 case for more than 15 minutes; • travelling in close proximity (within two metres) with a COVID-19 case in any kind of conveyance. A healthcare worker or other person providing care to a COVID-19 case, without recommended PPE or with a possible breach of PPE.	A person: • having had face-to-face contact with a COVID-19 case within two metres for less than 15 minutes; • who was in a closed environment* with a COVID-19 case for less than 15 minutes. A healthcare worker or other person providing care to a COVID-19 case, wearing the recommended PPE.

**An individual risk assessment should be undertaken of the physical environment to assess the likely risk posed by any physical barriers between individuals (e.g. glass divider) in the same room.*

Contact identification

Contact tracing should begin immediately after a possible case has been identified in a prison without waiting for the laboratory result, to avoid any delays in reducing transmission through public health action. If the possible case subsequently tests negative contact tracing may be stopped. Contact tracing among people in prison should be conducted by prison staff under the supervision of the local public health authorities and according to local outbreak and preparedness plans.

The management of contacts who are outside the prison (e.g. visitors or staff) is the responsibility of local public health authorities however communication and collaboration between local public health authorities and the prison will be important to facilitate effective contact tracing.

Key actions for management of contacts

The key steps include:

- Interviewing the case to collect information on clinical history and possible contacts that occurred from 48 hours before symptom onset until they were isolated.
- Identifying contacts and classifying them, where possible, into high-risk exposure ('close contact') or low-risk exposure.
- Communicating with local public health authorities in relation to contacts who may need follow up in the community.
- Arranging for testing of all symptomatic contacts as well as any asymptomatic close contacts for SARS-CoV-2 if possible.
- Providing information to contacts about infection control measures and symptom monitoring.

All high-risk exposure contacts in the prison setting should be actively monitored on a daily basis for symptoms by prison staff and should be quarantined, ideally in a cell on their own. If symptoms of illness occur, contacts should immediately be isolated, if not already, and provided with medical attention. Prisoners who are released whilst in quarantine should continue to quarantine in the community.

Low-risk exposure contacts could self-monitor for symptoms (supported by staff), while observing physical distancing measures and strict hand hygiene and respiratory etiquette. Group quarantine to be considered where possible for low risk exposure contacts.

Quarantine of the contacts of COVID-19 cases

Contact tracing is a core public health measure that plays an important role in the control of COVID-19 in all environment [64]. It refers to promptly identifying and managing the contacts of probable or confirmed COVID-19 cases through personal interviews with the confirmed case. Contact tracing and prompt quarantine of contacts has proven that it can substantially decrease transmission.

High risk exposure (close) contacts of COVID-19 cases (see Table 2) – who may have been exposed to infection but who remain well – must be separated from unexposed people in order to avoid transmission if disease develops. If at all possible, low risk exposure contacts should also be quarantined. Quarantine should be implemented for a period of 14 days after the last exposure to a COVID-19 case and should continue even if the person in prison is released to the community.

Prisoners in quarantine should be monitored by prison staff on a daily basis for the appearance of COVID-19 compatible symptoms, and if sufficient testing capacity is available, a test should be carried out promptly, especially for those with symptoms, and in turn contact tracing triggered again. Individual quarantine may be difficult to implement in a prison setting and prisons may need to consider pragmatic solutions such as 'group quarantine'. Contacts should be managed in accordance with national guidance and/or ECDC's technical document Public health management of persons having had contact with novel coronavirus cases in the European Union [64].

If symptoms of illness occur, the quarantined persons should be isolated (if not already) and medical advice should be sought.

For receptions (new or transferred inmates) to the prison, a system of 'reverse cohorting' could be considered, where single cell accommodation is provided for newcomers to the prison (including those returning from hospital) or grouping new receptions from the same entry date together to prevent the introduction of infection from the community to prison. Reverse cohorting units should quarantine new receptions or transferred inmates for a period of 14 days to detect any cases before allowing them to enter the general prison population.

Outbreak management

As mentioned, preparedness planning should be in place for the response and management of infectious diseases and particularly for a COVID-19 outbreak in the prison environment. This should be activated promptly, if a probable or confirmed case of COVID-19 is detected [65].

In most countries, local public health authorities will provide support regarding outbreak investigation and management.

A confirmed outbreak of COVID-19 in a prison is defined as:

- Two or more people in prison, including prisoners and staff, with symptoms compatible with COVID-19 infection within 72 hours
  And
- At least one confirmed case COVID-19 in the prison, either in prisoners or staff (including prison officers, healthcare workers and cleaning staff).

An outbreak management team should be established to manage the outbreak in conjunction with local public health services. The team will usually consist of the prison governor, prison medical staff, prison officers and staff from the local public health services.

During an outbreak the prison should consider implementing early on the following general measures [66]:

- Isolation or cohorting of symptomatic prisoners with COVID-19 symptoms or who are probable cases. Only designated staff should care for these prisoners and avoid moving in different prison sections. This staff designation should continue until the end of the outbreak.
- Contact tracing of prisoners and staff who have been in contact with COVID-19 cases.
- Physical distancing measures, including:
  - Restricting visitors;
  - Suspending group activities e.g. team sports, work;
  - 'Cocooning' strategy for vulnerable inmates;
  - Postponing visits from non-essential external carers e.g. podiatrist, hairdresser, etc.;
  - Reducing movement of people in prison between prisons and within the prison;
  - Communicating to visitors, staff and prisoners (including new arrivals to the prison) about the outbreak.
- During an outbreak all staff should be vigilant to any symptoms of COVID-19 infection and should not attend work if they have symptoms.

During an outbreak, prisons should carefully consider the processes for new admissions and transfers of inmates and where possible avoid them or keep these to a minimum. New admissions should be quarantined (see above) and should ideally not be admitted to an affected section of the prison during an outbreak. Consider a system of reverse cohorting of new receptions into the prison, depending on the epidemiology of COVID-19 and community transmission.

Monitoring outbreak progress

During an outbreak there should be increased monitoring among prisoners with regards to symptoms of COVID-19 to facilitate early identification of cases [66]. The prison should ensure that there is regular monitoring of cases of COVID-19 among prisoners and staff and recording of this information. A line listing should be maintained by the prison and shared with the outbreak management team, who should make decisions about the necessary measures. Various epidemiological graphical representations (e.g. epi-curves and 7-day rolling average curve) of

new cases can be helpful in understanding the development and course of the outbreak in the prison, supporting this decision making process and can be undertaken by local public health authorities.

An outbreak may be declared over if no new cases occur within 28 days following the date of isolation of the last case. A decision to declare the outbreak over should be made by the outbreak management team.

After an outbreak is declared to be over, after action reviews can facilitate the identification of lessons and decide on possible modifications of the preparedness plans for future outbreaks [66].

A COVID-19 free prison

To avoid the introduction of COVID-19 in prison settings, very strict implementation of the principles above should be ensured. This could potentially be achieved through a combination of approaches including continuous risk assessment, strict enforcement of IPC measures, ongoing education programmes for all persons in the prison and clear communications within the prison environment and between prison staff and the local public health authorities.

However, since COVID-19 pre-symptomatic and asymptomatic transmission of COVID-19 has been documented, this target presents significant challenge if the virus circulates in the community around the prison, where the staff and visitors usually come from.

COVID-19 surveillance and monitoring

Notifications

Each prison should appoint a staff member responsible for daily active monitoring of the occurrence of symptoms of COVID-19 in people in prison (including staff members) and for keeping a track of all cases of SARS-CoV-2 infections. This staff member should be responsible for the notification of cases and outbreaks to local prison and public health authorities, in line with local reporting pathways.

Confirmed and probable cases of COVID-19 should be notified immediately to local public health authorities in accordance with locally agreed protocols. Outbreaks of influenza-like illness should also be notified immediately to local public health authorities.

Surveillance

The objectives of COVID-19 surveillance in prisons is to inform the measures to protect the health of prisoners and staff, at local and national, as well as EU/EEA level are as follows:

- To monitor the number of COVID-19 cases in prisons, to provide up to date information on the COVID-19 situation;
- To monitor the COVID-19 situation in prisons with time, to assess prevention and control efforts;
- To monitor the impact and severity of COVID-19 in prisons, including hospitalisations and mortality, to provide awareness of the burden of disease and to inform mitigation measures.

All prisons should develop a system of weekly reporting of cases in prisoners and staff. Data should be reported to local public health authorities and this data should be collated at national level. The suggested weekly time period for reporting may need to be adjusted depending upon the respective epidemiological situation overall and the ability of the prisons to report this data.

Countries that are not able to immediately implement surveillance across all prisons could develop a phased approach to implementation. A phased approach might include:

- A voluntary system that does not aim for national representativeness, such as a convenience sample of prisons;
- A sentinel system, based on a country-wide selection of facilities, to serve as indicators for their area.

Data on cases of COVID-19 should be collected by prisons and sent to public health authorities using local agreed protocols covering the format for the data, frequency of reporting and data sharing method. The minimum data that should be collected for COVID-19 surveillance, including data on cases, hospitalisations and deaths, is shown in table 3.

Table 3. Minimum COVID-19 data to be collected for the surveillance of COVID-19 in prisons

Description of data	Notes
Number of possible, probable and confirmed COVID-19 cases among prisoners in past week	Includes all possible, probable and confirmed cases (See ECDC case definition for COVID-19)
Number of confirmed COVID-19 cases among prisoners in past week	Includes confirmed cases (See ECDC case definition for COVID-19)
Number of confirmed COVID-19 cases among all staff members in past week	Includes confirmed cases (See ECDC case definition for COVID-19)
Number of prisoners hospitalised for COVID-19 in a hospital in past week	Hospitalised outside the prison
Number of COVID-19 related deaths have occurred among prisoners in past week	Deaths among probable and confirmed COVID-19 cases, even if the attributed cause of death is different; all deaths should be considered regardless of where these occurred (e.g., prison, hospital, etc.).

Prisons should also report number of prisoners (and if possible staff) tested for COVID-19 in the past week as well as data on the size of the prison population and the prison operational capacity.

Monitoring the response to COVID-19 in prisons

In addition to the surveillance data, prisons may consider developing a broader monitoring system to provide information on:

- IPC measures for COVID-19 in prisons;
- Areas where surveillance, prevention and control can be improved.

A number of indicators could be collected which need to be adapted to the local situation and developed in conjunction with local public health authorities. Possible indicators may include:

- Surveillance system in place to address surveillance objectives;
- Median time from date of onset of COVID-19 symptoms among prisoners to date of diagnosis;
- Proportion of prisoners with possible, probable or confirmed COVID-19 infection who are isolated.

WHO has developed a checklist for use by policy makers and prison administrators to evaluate their level of preparedness to prevent and control COVID-19 in prisons [65]. The checklist includes items that are specifically designed or adapted to deal with the current COVID-19 pandemic.

Contributing ECDC experts (in alphabetical order)

ECDC experts: Leonidas Alexakis, Agoritsa Baka, Eeva Broberg, Orlando Cenciarelli, Stefania De Angelis, Erika Duffell, Margot Einöder-Moreno, Angeliki Melidou, Lina Nerlander, Anastasia Pharris, Senia Rosales-Klintz, Gianfranco Spiteri

External experts: Jesca Beneda (DG Justice and Consumers); Ana Carina Ferreira Borges (WHO Europe); Filipa Costa (WHO Europe), Linda Montanari (EMCDDA), Sunita Sturup-Toft (Public Health England); Lara Tavoschi (University of Pisa).

References

1. European Centre for Disease Prevention and Control (ECDC). Guidance on infection and prevention control of coronavirus disease (COVID-19) in migrant and refugee reception and detention centres in the EU/EEA and the United Kingdom. Stockholm: ECDC; 2020.
2. World Health Organization (WHO). Report of the WHO-China Joint Mission on Coronavirus Disease 2019 (COVID-19) 2020 [09 June 2020]. Available from: https://www.who.int/docs/default-source/coronaviruse/who-china-joint-mission-on-covid-19-final-report.pdf.
3. Docherty AB, Harrison EM, Green CA, Hardwick HE, Pius R, Norman L, et al. Features of 20 133 UK patients in hospital with covid-19 using the ISARIC WHO Clinical Characterisation Protocol: prospective observational cohort study. bmj. 2020;369.
4. Haehner A, Draf J, Draeger S, Hummel T. Predictive value of sudden olfactory loss in the diagnosis of COVID-19. medRxiv. 2020.
5. European Centre for Disease Prevention and Control (ECDC). COVID-19 2020 [cited 2020 8 March]. Available from: https://www.ecdc.europa.eu/en/novel-coronavirus-china.
6. Wölfel R, Corman VM, Guggemos W, Seilmaier M, Zange S, Müller MA, et al. Virological assessment of hospitalized patients with COVID-2019. Nature. 2020 1 April, 2020.
7. Liu Y, Yan L-M, Wan L, Xiang T-X, Le A, Liu J-M, et al. Viral dynamics in mild and severe cases of COVID-19. The Lancet Infectious Diseases. 2020.
8. Lavezzo E, Franchin E, Ciavarella C, Cuomo-Dannenburg G, Barzon L, Del Vecchio C, et al. Suppression of COVID-19 outbreak in the municipality of Vo, Italy. medRxiv. 2020. 2020.04.17.20053157]. Available from: https://www.medrxiv.org/content/medrxiv/early/2020/04/18/2020.04.17.20053157.full.pdf.
9. Health Information and Quality Authority (HIQA). Evidence summary for asymptomatic transmission of COVID-19. 21 April 2020. Dublin: HIQA; 2020. Available from: https://www.hiqa.ie/sites/default/files/2020-04/Evidence-summary-for-asymptomatic-transmission-of-COVID-19.pdf.
10. European Centre for Disease Prevention and Control (ECDC). Disease background of COVID-19 Stockholm: ECDC; 2020. Available from: https://www.ecdc.europa.eu/en/2019-ncov-background-disease.
11. World Health Organization (WHO). Coronavirus disease (COVID-19) pandemic: WHO; 2020. Available from: https://www.who.int/emergencies/diseases/novel-coronavirus-2019.
12. European Centre for Disease Prevention and Control (ECDC). Coronavirus disease 2019 (COVID-19) in the EU/EEA and the UK – tenth update 2020 [19 June 2020]. Available from: https://www.ecdc.europa.eu/sites/default/files/documents/RRA-COVID19-update10-2020-06-11.pdf.
13. Aebi MF, Tiago MM. Prisons and Prisoners in Europe 2019: Key Findings of the SPACE I report [09 June 2020]. Available from: http://wp.unil.ch/space/files/2020/04/Key-Findings-2019_200406.pdf.
14. European Centre for Disease Prevention and Control (ECDC) and European Monitoring Centre for Drugs and Drug Addiction (EMCDDA). Public health guidance on active case finding of communicable diseases in prison settings Stockholm and Lisbon: ECDC and EMCDDA; 2018. Available from: https://www.ecdc.europa.eu/sites/default/files/documents/Active-case-finding-communicable-diseases-in-prisons.pdf.
15. World Health Organisation (WHO). Preparedness, prevention and control of COVID-19 in prisons and other places of detention - Interim guidance [19 June 2020]. Available from: http://www.euro.who.int/__data/assets/pdf_file/0019/434026/Preparedness-prevention-and-control-of-COVID-19-in-prisons.pdf?ua=1.
16. World Health Organisation (WHO). COVID-19 weekly surveillance report [updated 19 June 2020]. Available from: https://www.euro.who.int/en/health-topics/health-emergencies/coronavirus-covid-19/weekly-surveillance-report.
17. Kinner SA, Young JT, Snow K, Southalan L, Lopez-Acuña D, Ferreira-Borges C, et al. Prisons and custodial settings are part of a comprehensive response to COVID-19. The Lancet Public Health. 2020 2020/04/01/;5(4):e188-e9.
18. Bertelli M. Coronavirus sets Italian prison ablaze: Deutsche Welle; 2020 [updated 12 March 2020]. Available from: https://www.dw.com/en/coronavirus-sets-italian-prison-ablaze/a-52742593.
19. Warren J. Tensions over coronovirus boil over in violent weekedn in Andalucia prison: The Olive Press; 2020 [updated 26 May 2020]. Available from: https://www.theolivepress.es/spain-news/2020/05/26/tensions-over-coronavirus-boil-over-in-violent-weekend-in-andalucia-prison/.

20. Romania-insider.com. Three dead after riot at prison in northwestern Romania amid Covid-19 restrictions [19 June 2020]. Available from: https://www.romania-insider.com/riot-prison-romania.

21. ekathimerini.com. Riot in women's prison in Thiva after detainee dies [19 June 2020]. Available from: https://www.ekathimerini.com/251519/article/ekathimerini/news/riot-in-womens-prison-in-thiva-after-detainee-dies.

22. Ewald E. 30 inmates embark on hunger strike following protests: RTL Today; 2020 [updated 31 March 2020]. Available from: https://today.rtl.lu/news/luxembourg/a/1493481.html.

23. The Canadian Press. Convicted murderer sues feds over prison conditions during COVID-19: CP24; 2020 [updated 12 May 2020]. Available from: https://www.cp24.com/news/convicted-murderer-sues-feds-over-prison-conditions-during-covid-19-1.4935680.

24. CBS 19 News. Inmates sue state over conditions in prisons during pandemic 2020 [updated 8 April 2020]. Available from: https://www.cbs19news.com/story/41987990/inmates-sue-state-over-conditions-in-prisons-during-pandemic.

25. USA Today. Texas Inmates Sue Over Coronavirus Concerns at Prisons [19 June 2020]. Available from: https://classifieds.usatoday.com/press/texas-inmates-sue-over-coronavirus-concerns-at-prisons/.

26. Casey L. Guards at Ottawa jail refuse to work over lack of COVID-19 screening protocols: The Canadian Press; 2020 [updated 1 April 2020]. Available from: https://globalnews.ca/news/6761103/guards-ottawa-jail-refuse-work-covid-19-screening/.

27. Centre for Crime and Justice Studies. Covid-19 in prisons: Focus on England and Wales [19 June 2020]. Available from: https://www.crimeandjustice.org.uk/news/2020-06-05/covid-19-prisons-focus-england-and-wales.

28. European Public Service Union (EPSU). Fighting covid19 in prisons and detention centres in Europe: Protected prison workers – protected inmates: EPSU; 2020 [updated 15 April 2020]. Available from: https://www.epsu.org/article/fighting-covid19-prisons-and-detention-centres-europe-protected-prison-workers-protected.

29. Grierson J. Prison visits could resume in July in England and Wales [20 June 2020]. Available from: https://www.theguardian.com/world/2020/jun/02/prison-visits-resume-july-england-wales-coronavirus.

30. British Broadcasting Corporation (BBC). Coronavirus: HMP Wymott prisoners transferred due to outbreak: BBC News; 2020 [updated 14 April 2020]. Available from: https://www.bbc.com/news/uk-england-lancashire-52286711.

31. European Justice. Impact of COVID-19 on the justice field [20 June 2020]. Available from: https://beta.e-justice.europa.eu/37147/EN/impact_of_covid19_on_the_justice_field

32. Europris. Prevention measures in European prisons [20 June 2020]. Available from: https://www.europris.org/covid-19-prevention-measures-in-european-prisons/.

33. European Prison Observatory. COVID-19: WHAT IS HAPPENING IN EUROPEAN PRISONS?. UPDATE #9 June 5th 2020 2020. Available from: http://www.prisonobservatory.org/upload/05062020European_prisons_during_covid19n9.pdf.

34. gov.uk. Covid-19: Prison releases [20 June 2020]. Available from: https://www.gov.uk/government/publications/covid-19-prison-releases.

35. La gazzetta del mezzogiorno. Coronavirus, tende pre triage davanti a carceri di Potenza, Matera e Melfi [20 June 2020]. Available from: https://www.lagazzettadelmezzogiorno.it/news/potenza/1210253/coronavirus-tende-pre-triage-davanti-a-carceri-di-potenza-e-matera.html.

36. World Health Organisation (WHO). Experience of health professionals, police staff and prisoners in Italy informs WHO COVID-19 guidelines for prisons [updated 28 May 2020]. Available from: https://www.euro.who.int/en/countries/italy/news/news/2020/5/experience-of-health-professionals,-police-staff-and-prisoners-in-italy-informs-who-covid-19-guidelines-for-prisons.

37. O'Moore E. Briefing paper- interim assessment of impact of various population management strategies in prisons in response to COVID-19 pandemic in England. [updated 24 April 2020]. Available from: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/882622/covid-19-population-management-strategy-prisons.pdf.

38. World Health Organisation (WHO). Draft landscape of COVID-19 candidate vaccines [updated 18 June 2020]. Available from: https://www.who.int/who-documents-detail/draft-landscape-of-covid-19-candidate-vaccines

39. World Health Organisation (WHO). Coronavirus disease (COVID-19) technical guidance: Patient management [21 June 2020]. Available from: https://www.who.int/emergencies/diseases/novel-coronavirus-2019/technical-guidance/patient-management.

40. World Health Organisation (WHO). Preparedness, prevention and control of COVID-19 in prisons and other places of detention - Information for visitors [21 June 2020]. Available from: http://www.euro.who.int/__data/assets/pdf_file/0003/442416/COVID-19-prisons-visitors-eng.pdf?ua=1.

41. World Health Organisation (WHO). Preparedness, prevention and control of COVID-19 in prisons and other places of detention - Information for people in prison [21 June 2020]. Available from: https://www.euro.who.int/__data/assets/pdf_file/0019/442414/COVID-19-people-in-prison-eng.pdf?ua=1.

42. Doyon S, Welsh C. Intoxication of a Prison Inmate with an Ethyl Alcohol–Based Hand Sanitizer. New England Journal of Medicine. 2007;356(5):529-30.

43. European Centre for Disease Prevention and Control (ECDC). Disinfection of environments in healthcare and nonhealthcare settings potentially contaminated with SARS-CoV-2. . Stockholm: ECDC; 2020. Available from: https://www.ecdc.europa.eu/sites/default/files/documents/Environmental-persistence-of-SARS_CoV_2-virus-Options-for-cleaning2020-03-26_0.pdf.

44. European Centre for Disease Prevention and Control (ECDC). Using face masks in the community - Reducing COVID-19 transmission from potentially asymptomatic or pre-symptomatic people through the use of face masks. Stockholm: ECDC; 2020. Available from: https://www.ecdc.europa.eu/en/publications-data/using-face-masks-community-reducing-covid-19-transmission.

45. Henry BF. Social Distancing and Incarceration: Policy and Management Strategies to Reduce COVID-19 Transmission and Promote Health Equity Through Decarceration. Health Education & Behavior. 2020;0(0):1090198120927318.

46. United Nations (UN). Resolution adopted by the General Assembly on 17 December 2015 [on the report of the Third Committee (A/70/490)] 70/175. United Nations Standard Minimum Rules for the Treatment of Prisoners (the Nelson Mandela Rules) [21 June 2020]. Available from: https://undocs.org/A/RES/70/175.

47. European Centre for Disease Prevention and Control (ECDC). Guidance for discharge and ending isolation in the context of widespread community transmission of COVID-19 – first update. Stockholm: ECDC; 2020 [21 April, 2020]. Available from: https://www.ecdc.europa.eu/en/publications-data/covid-19-guidance-discharge-and-ending-isolation.

48. Böhmer MM, Buchholz U, Corman VM, Hoch M, Katz K, Marosevic DV, et al. Investigation of a COVID-19 outbreak in Germany resulting from a single travel-associated primary case: a case series. The Lancet Infectious Diseases. 2020 2020/05/15/.

49. World Health Organisation (WHO). Natural Ventilation for Infection Control in Health-Care Settings Geneva: WHO; 2009. Available from: https://apps.who.int/iris/bitstream/handle/10665/44167/9789241547857_eng.pdf?sequence=1.

50. Lu J, Gu J, Li K, Xu C, Su W, Lai Z, et al. COVID-19 Outbreak Associated with Air Conditioning in Restaurant, Guangzhou, China, 2020. Emerging infectious diseases. 2020 Apr 2;26(7).

51. Rothe C, Schunk M, Sothmann P, Bretzel G, Froeschl G, Wallrauch C, et al. Transmission of 2019-nCoV Infection from an Asymptomatic Contact in Germany. New England Journal of Medicine. 2020;382(10):970-1.

52. European Centre for Disease Prevention and Control (ECDC). Case definition for coronavirus disease 2019 (COVID-19), as of 29 May 2020 Stockholm: ECDC; 2020 [updated 29 May 2020]. Available from: https://www.ecdc.europa.eu/en/covid-19/surveillance/case-definition.

53. European Centre for Disease Prevention and Control (ECDC). Infection prevention and control and preparedness for COVID-19 in healthcare settings- third update. Stockholm: ECDC; 2020. Available from: https://www.ecdc.europa.eu/sites/default/files/documents/Infection-prevention-control-for-the-care-of-patients-with-2019-nCoV-healthcare-settings_third-update.pdf.

54. World Health Organisation (WHO). WHO Laboratory biosafety guidance related to coronavirus disease (COVID-19): WHO; 2020. Available from: https://www.who.int/publications/i/item/laboratory-biosafety-guidance-related-to-coronavirus-disease-(covid-19).

55. Czumbel LM, Kiss S, Farkas N, Mandel I, Hegyi AE, Nagy AK, et al. Saliva as a Candidate for COVID-19 Diagnostic Testing: A Meta-Analysis. medRxiv. 2020.

56. European Centre for Disease Prevention and Control (ECDC). Strategies for the surveillance of COVID-19. Stockholm: ECDC; 2020 [21 April, 2020]. Available from: https://www.ecdc.europa.eu/en/publications-data/strategies-surveillance-covid-19.

57. World Health Organisation (WHO). Laboratory testing for 2019 novel coronavirus (2019-nCoV) in suspected human cases: WHO; 2020. Available from: https://www.who.int/publications/i/item/10665-331501.

58. European Centre for Disease Prevention and Control (ECDC). Coronavirus disease 2019 (COVID-19) pandemic: increased transmission in the EU/EEA and the UK – ninth update. Stockholm: ECDC; 2020. Available from:

https://www.ecdc.europa.eu/sites/default/files/documents/covid-19-rapid-risk-assessment-coronavirus-disease-2019-ninth-update-23-april-2020.pdf.

59. Simpson PL, Simpson M, Adily A, Grant L, Butler T. Prison cell spatial density and infectious and communicable diseases: a systematic review. BMJ open. 2019 Jul 23;9(7):e026806.

60. World Health Organisation (WHO). Clinical management of COVID-19. Interim guidance.: WHO; 2020. Available from: https://www.who.int/publications/i/item/clinical-management-of-covid-19.

61. van Kampen JJ, van de Vijver DA, Fraaij PL, Haagmans BL, Lamers MM, Okba N, et al. Shedding of infectious virus in hospitalized patients with coronavirus disease-2019 (COVID-19): duration and key determinants. medRxiv. 2020.

62. World Health Organization (WHO). Rational use of personal protective equipment for coronavirus disease 2019 (COVID-19): Interim guidance - 27 February 2020. Geneva: WHO; 2020 [March 11, 2020]. Available from: https://apps.who.int/iris/bitstream/handle/10665/331215/WHO-2019-nCov-IPCPPE_use-2020.1-eng.pdf.

63. European Centre for Disease Prevention and Control (ECDC). Personal protective equipment (PPE) needs in healthcare settings for the care of patients with suspected or confirmed novel coronavirus (2019-nCoV) 2020 [6 April 2020]. Available from: https://www.ecdc.europa.eu/sites/default/files/documents/novel-coronavirus-personal-protective-equipment-needs-healthcare-settings.pdf.

64. European Centre for Disease Prevention and Control (ECDC). Contact tracing: Public health management of persons, including healthcare workers, having had contact with COVID-19 cases in the European Union – second update (8 April 2020). Stockholm: ECDC; 2020 [21 April, 2020]. Available from: https://www.ecdc.europa.eu/en/covid-19-contact-tracing-public-health-management.

65. World Health Organization (WHO). Checklist to evaluate preparedness, prevention and control of COVID-19 in prisons and other places of detention, 9 April 2020 [09 June 2020]. Available from: http://www.euro.who.int/en/health-topics/health-emergencies/coronavirus-covid-19/technical-guidance/prevention-and-control-of-covid-19-in-prisons-and-other-places-of-detention/checklist-to-evaluate-preparedness,-prevention-and-control-of-covid-19-in-prisons-and-other-places-of-detention,-9-april-2020.

66. Communicable Diseases Network of Australia (CDNA). Coronavirus Disease 2019 (COVID-19) Outbreaks in Correctional and Detention Facilities: CDNA; 2020. Available from: https://www.health.gov.au/sites/default/files/documents/2020/03/cdna-guidelines-for-the-prevention-control-and-public-health-management-of-covid-19-outbreaks-in-correctional-and-detention-facilities-in-australia.pdf.