

# Guidance for health system contingency planning during widespread transmission of SARS-CoV-2 with high impact on healthcare services

## Scope of this document

This document aims to support public health preparedness planning and response activities when advising healthcare services on approaches on how to increase capacity for managing COVID-19 cases in the context of widespread sustained SARS-CoV-2 transmission in a particular community.

The guidance is based on expert opinion, on the publication 'Potential scenarios for the progression of a COVID-19 epidemic in the European Union and the European Economic Area, March 2020' [1], on the ECDC 'Rapid risk assessment: Outbreak of novel coronavirus disease 2019 (COVID-19): increased transmission globally – sixth update' [2], the ECDC 'Checklist for hospitals preparing for the reception and care of coronavirus 2019 (COVID-19) patients' [3] and the ECDC 'Health emergency preparedness for imported cases of high-consequence infectious diseases' [4].

## Target audience

Public health authorities and healthcare administrators in the EU/EEA Member States and the United Kingdom.

## Background

The COVID-19 pandemic has spread rapidly across the globe, causing localised clusters and outbreaks of disease – mostly at the regional level – in many countries, including EU/EEA Member States and the United Kingdom [2]. COVID-19 is rapidly spreading and the number of cases in Europe is rising at an increasing pace, which calls for immediate targeted action. Due to the disease's rapid spread and its establishment in the community, similar problems with healthcare system capacity as seen in China and Italy could soon arise in other EU/EEA countries or the UK.

A rapid, proactive and comprehensive approach is essential in order to delay transmission because containing all transmission to local epidemics is no longer considered feasible. A rapid shift from a containment to a mitigation approach is required.

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In the current phase of the epidemic in the EU/EEA, where sustained widespread transmission is expected, along with overburdened healthcare systems [1,2], the objective of actions is to mitigate the impact of the outbreak by:

- protecting populations at risk of severe disease
- decreasing the acute burden on healthcare services
- reducing excess mortality

As described in the most recent rapid risk assessment [2], priority response measures should focus on reinforcing the capacity of healthcare systems in order to ensure rapid detection and diagnosis of cases. Priority response measures should also focus on healthcare workers – especially those caring for mild, sub-intensive, and intensive care patients – and on protecting staff, patients and other contacts from exposure. Measures to ensure the functioning of the healthcare system (including laboratories), which is facing increasing pressure due to rapidly rising case numbers, should be implemented.

Hospital preparedness is an absolute priority at this moment. In healthcare settings, surge capacity plans should be developed and/or revised to address the expected high demand for care of increased numbers of patients with moderate or severe respiratory distress requiring a large number of ventilators. Accumulating anecdotal evidence from northern Italy points to significant pressure on emergency departments and critical care services, specifically with regard to the availability of ventilator equipment and personal protective equipment (PPE). Evidence from China, South Korea and Italy underlines the need to:

- design an overall strategy of discouraging symptomatic patients from presenting to healthcare facilities without prior instructions
- designate treatment facilities for mild, sub-intensive and intensive care needs; COVID-19 cases may require critical care capabilities, for example extracorporeal membrane oxygenation (ECMO). This implies the activation of hospital contingency plans to be able to cancel elective diagnostic and operative procedures and re-assign human resources. For mild cases, temporary treatment facilities should be created. Alternatively, advising self-isolation until symptoms improve or worsen may be appropriate for mild cases.
- deny access to hospitals for family and friends of admitted patients
- decrease the administrative workload for healthcare workers. Providing sick leave certificates electronically or by phone, for example, would free up resources
- prepare or adapt business continuity plans for healthcare facilities in accordance with the latest public health risk assessment and guidance from national, regional or local health authorities to ensure continuity of essential services.

For more details, please refer to the related hospital preparedness checklist [3].

It is important that planned response strategies, including diagnostic testing, can be adapted according to case finding strategies and adjusted to a surge of cases by de-escalating procedures that might no longer be feasible and/or beneficial.

## Guiding principles for contingency planning

- Frontline healthcare workers are the most important asset in the prevention and control of COVID-19. All measures taken should reflect this. However, support staff within the health system also play a vital role by facilitating healthcare activities and therefore should be part of all plans and arrangements. The implementation of business continuity measures to support all staff is therefore vital.
- Related to the above point is the need for a functioning supply chain and the flexibility to quickly increase the volumes of certain key equipment and products. If not already in place, supply chain management systems should be established.
- Essential healthcare system services should not suffer because of the additional demands brought about by the management of COVID-19 cases; non-essential services need to be reviewed regularly against other pressing demands that may be more urgent.
- Referring to pandemic influenza plans may be useful, but COVID-19 is different, particularly in the distribution of cases across age groups and the uncertainties surrounding treatment options. Therefore, impact and mitigation measures suggested in pandemic plans should be carefully reviewed and adjusted to the current situation.

## Contingency planning within the primary care setting

Primary care is a vital part of the healthcare system and has a role in minimising the burden of COVID-19 cases presenting at hospital facilities. At the same time, primary care needs to maintain its normal activities. It needs to be appropriately engaged and advised to work effectively as gatekeeper to acute care.

The list below provides advice to primary care facilities that want to prepare for sustained widespread SARS-CoV-2 transmission, with the aim to prevent an overload of the healthcare system. The suggested actions apply to public and private primary care services. Primary care facilities should ideally have response mechanisms and systems in place well before widespread community transmission is observed in order to ensure the continued availability of services and enable rapid upscaling of services as required.

- Clearly define the role of the primary care services within the overall management of COVID-19 [5].
- Provide information to patients and persons on how, when and why to access the particular facility:
  - Where to go or what to do if a patient is experiencing COVID-19-related symptoms
  - Where to go or what to do for other health-related issues
  - Ensure staff are trained and informed on where to refer suspected cases and how to do so in accordance with the national plan for managing COVID-19
- Establish a triage system (brief exploration why patient is attending a healthcare facility) at the facility's entrance to minimise the risk of exposure to COVID-19 in the facility
  - It is essential to provide support and advice to patients with suspected COVID-19 symptoms so they access appropriate care and take appropriate infection control measures
- If suspected patients are admitted to primary care facilities, implement rigorous infection control measures [6-8] to prevent transmission to staff and other patients. This includes:
  - good quality personal protection equipment (PPE) and its proper use
  - cleaning of the facility
  - enforced hand hygiene procedures for patients and staff
  - safe treatment of waste
- Establish dedicated teams for receiving and managing non-COVID-19-related patients. This could, for example, be done by designating a dedicated medical and administrative team
- Establish dedicated teams for receiving and managing COVID-19-related patients if relevant to the facility. This could, for example, be done by designating a dedicated medical and administrative team
- Include roster/back-up teams in the event that staff members get sick
- Primary care might support the COVID-19 effort by taking charge of subgroups of non-acute COVID-19-patients. Clear procedures have to be in place, for example on home visits versus patients visiting the health centre
- Clear procedures must be established for any staff member developing COVID-19-related symptoms in or outside service
- Ensure appropriate communication plans:
  - Internal – clear line of communication with relevant authorities
  - External – information campaign for patients about COVID-19
- Facilities should be prepared for an increased number of incoming calls from patients who have to be referred to appropriate services (dedicated hotline). Hotlines should be independently and sufficiently staffed and kept separate from normal healthcare advice services (in accordance with the national plan for management of COVID-19). Additional call centres at the local or regional levels could be established for this purpose. The use of hotlines for syndromic surveillance purposes should be considered.
- Primary care clinics involved in influenza sentinel surveillance should be prepared to extend their surveillance activities beyond week 20 and ensure that sufficient materials are available for swabbing patients who have acute respiratory infections and/or influenza-like illness, even if this falls outside the scope of their routine activities. Clinics should ensure that they have sufficient capacity to timely report syndromic surveillance data to national public health institutes.

## Contingency planning within the hospital setting

Sustained widespread SARS-CoV-2 transmission will severely challenge hospital capacities. Measures must be taken ahead of time in order to be prepared for an increased number of cases in need of hospital care.

The list below provides advice to hospitals that want to be prepared for the high-pressure situation caused by sustained widespread SARS-CoV-2 transmission. The suggested actions apply to public and private hospital services. Ideally, hospitals have response procedures in place well before widespread community transmission begins in order to ensure the functionality of services and enable rapid upscaling if required [9].

### Outpatient facilities

- Reschedule non-urgent outpatient visits as necessary.
- Proactively reach out to out-patients who may be at a higher risk of COVID-19-related complications, such as the elderly and those with medical co-morbidities; provide specific advice and support in relation to their medical condition.

## Inpatient facilities

- Cancel all non-essential activities (but review regularly)
- Dedicate facilities or parts of facilities to manage known or suspected COVID-19 cases
  - Establish a separate location for laboratory testing
  - Cohort COVID-19 patients
  - Concentrate severe cases to one location within the hospital
  - Separate mild cases and keep them in one location within the hospital if there was a decision made to continue managing mild cases in an acute setting
  - Repurpose non-intensive care unit wards as intensive care units (ICU); consider, for example, the use of surgical rooms as isolation rooms
- Plan for optimising the use of PPE in case of shortages
  - Use of surgical masks if the supply of FFP2/3 respirators is limited
  - Reserve FFP2/FF3 respirators for airborne-generating procedures
  - Keep using the same FFP2/FFP3 respirator when performing the same activity (e.g. swabbing) (up to 4 hours if not damaged, soiled or contaminated) when managing or caring for multiple COVID-19 patients [10]
- Appoint designated staff members to the care of COVID-19 patients
  - Appoint designated staff members to testing
  - Appoint designated staff members to the care of cases
  - Include roster/back-up teams if staff members are getting sick
  - Enable rapid registering, appropriate training and reallocation of medical support staff to frontline roles (e.g. assistant nurses, physiotherapists)
  - Voluntary recruitment of inactive healthcare workers (retired personnel, students, private hospital staff, agency staff, NGO staff)
- Limit the number of visitors to COVID-19 patients and restrict access to the hospital overall
- Triage patients based on ventilation capacity
- Reduce the moving of patients in the hospital
- Avoid moving vulnerable patients within the hospital; restrict access to these patients
- Repurpose buildings such as military hospitals and hostels/hotels
- Build new facilities:
  - prefabricated buildings
  - tents
  - mobile military hospitals

## Long-term care facilities

- Limit the number of visitors and ensure that only essential visits take place.
- Provide information on hand hygiene, respiratory hygiene, and cough etiquette to all people accessing the facility
- Ensure tissues, waste bins, and hand sanitizers are available at strategic points throughout the facility.
- Limit patient transport and patient movement of suspected COVID-19 patients, e.g. try to keep suspected cases in their room.
- Confirmed COVID-19 cases should be separated from other patients and ideally be transferred to a separate facility, regardless of the severity of the disease, until fully recovered.
- Appoint designated staff to care for COVID-19 patients.
- Train all staff in the signs and symptoms of COVID-19, and advise them to stay home if they or any close family members develop COVID-19 symptoms.
- Monitor newly arrived patients/residents for COVID-19 symptoms.

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