

UPDATE WHO RECOMMENDATION ON COVID-19 FOR HOSPITAL

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10 April 2020

Updates:

- Infection Prevention and Control
- Case Definition and Surveillance
- Laboratory
- Case Management

Infection Prevention and Control

Rational use of personal protective equipment for coronavirus disease (COVID-19) and considerations during severe shortages

Interim guidance
6 April 2020



Background

This document summarizes WHO's recommendations for the rational use of personal protective equipment (PPE) in health care and home care settings, as well as during the handling of cargo. It also assesses the current disruption of the global supply chain and considerations for decision making during severe shortages of PPE.

This document does not include recommendations for members of the general community. See here for more information about [WHO advice of use of masks in the general community](#).

In this context, PPE includes gloves, medical/surgical face masks – hereafter referred to as “medical masks”, goggles, face shield, and gowns, as well as items for specific procedures: filtering facepiece respirators (i.e. N95 or FFP2 or FFP3 standard or equivalent) – hereafter referred to as “respiratory” – and aprons. This document is intended for those involved in distributing and managing PPE, as well as public health authorities and individuals in health care and home care settings involved in decisions about PPE use and prioritization; it provides information about when PPE use is most appropriate, including in the context of cargo handling.

This document has been updated to address key considerations for decision making processes during severe shortages of PPE.

Preventive measures for COVID-19 disease

Based on current evidence, the COVID-19 virus is transmitted between people through close contact and droplets. Airborne transmission may occur during aerosol-generating procedures and support treatments (e.g. tracheal intubation, non-invasive ventilation, tracheostomy, cardiopulmonary resuscitation, manual ventilation before intubation, bronchoscopy); thus, WHO recommends airborne precautions for these procedures.

For all, the most effective preventive measures include:

- maintaining physical distance (a minimum of 1 metre) from other individuals;
- performing hand hygiene frequently with an alcohol-based handrub if available and if your hands are not visibly dirty or with soap and water if hands are dirty;

- avoiding touching your eyes, nose, and mouth;
- practicing respiratory hygiene by coughing or sneezing into a bent elbow or tissue and then immediately disposing of the tissue;
- wearing a medical mask if you have respiratory symptoms and performing hand hygiene after disposing of the mask;
- routine cleaning and disinfection of environmental and other frequently touched surfaces.

In health care settings, the main infection prevention and control (IPC) strategies to prevent or limit COVID-19 transmission include the following:¹

1. ensuring triage, early recognition and source control (isolating suspected and confirmed COVID-19 patients);
2. applying standard precautions² for all patients and including diligent hand hygiene;
3. implementing empiric additional precautions (droplet and contact and, wherever applicable for aerosol-generating procedures and support treatments, airborne precautions) for suspected and confirmed cases of COVID-19;
4. implementing administrative controls;
5. using environmental and engineering controls.³

Standard precautions are meant to reduce the risk of transmission of bloodborne and other pathogens from both recognized and unrecognized sources. They are the basic level of infection control precautions to be used, as a minimum, in the care of all patients.

Additional transmission-based precautions are required by health care workers to protect themselves and prevent transmission in the health care setting. Contact and droplet precautions should be implemented by health workers caring for patients with COVID-19 at all times. Airborne precautions should be applied for aerosol-generating procedures and support treatments.

Although use of PPE is the most visible control used to prevent the spread of infection, it is only one of the IPC measures and should not be relied on as a primary prevention strategy. In the absence of effective administrative and engineering controls, PPE has limited benefit, as described in WHO's [Infection prevention and control of epidemic- and pandemic-prone acute respiratory infections in health care](#). These controls are summarized here.

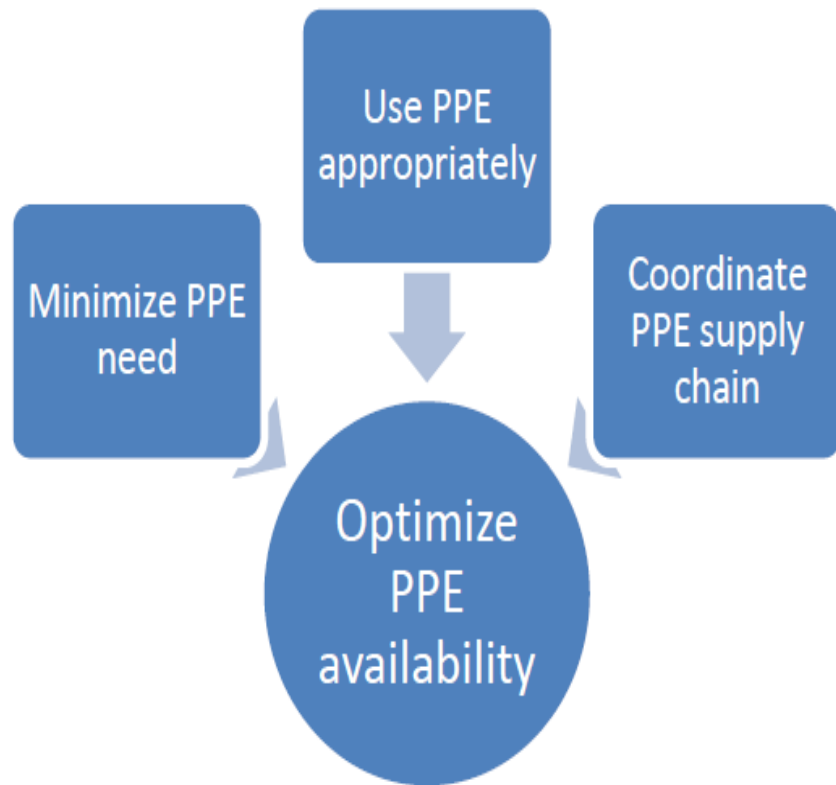
- This updated version guidelines includes a section on considerations for decision making processes and a summary of temporary measures in the context of severe PPE shortage (6 April)
- This updated version guidelines includes a section on Advice to decision makers on the use of masks for healthy people in community settings (date 6 April).
- Technical brief available in the existing IPC documents by referring to and summarizing WHO guidance on water, sanitation and health care waste. This Technical Brief is written in particular for water and sanitation practitioners and providers (date 19 March)



Advice to decision makers on the use of mask for healthy people in community settings

- The wide use of masks by healthy people in the community setting is not supported by current evidence and carries uncertainties and critical risks.
- There are potential advantages of the use of mask by healthy people in the community setting because it can reduce the risk of transmission of disease from pre-symptomatic patients; and can also reduce stigmatization of individuals who are wearing mask.
- WHO provides advice to decision makers to apply a risk-based approach looking at:
 - Purpose of mask use
 - Risk of exposure (cluster vs community transmission)
 - Vulnerability of population (risk, comorbidity, age)
 - Setting in which people live
 - Feasibility (availability vs cost)
 - Type (medical vs non medical masks)

PPEs in Shortage Setting



- The protection of our frontline health workers is paramount and PPE, including medical masks, respirators, gloves, gowns, and eye protection, must be prioritized for health care workers and others caring for COVID-19 patients.
- Strategies that can facilitate optimal PPE availability include minimizing the need for PPE in health care settings, ensuring rational and appropriate use of PPE, and coordinating PPE supply chain management mechanisms.

What WHO does and does NOT recommend:

- Gloves should be worn when providing direct care for a COVID 19 case and then removed, followed by hand hygiene between COVID-19 patients. **Using the same gloves for a cohort of COVID-19 cases (extended use) must not be done.** Changing gloves between dirty and clean tasks during care to a patient and when moving from a patient to another, accompanied by hand hygiene, is absolutely necessary. Double gloving is not recommended, except for surgical procedures that carry a high risk of rupture.
- **The reuse of masks, gowns, or eye protection without appropriate decontamination/sterilization is strongly discouraged.** The removal, storage, re-donning, and reuse of the same, potentially contaminated PPE items without adequate reprocessing is one of the principal sources of risk to health care workers.

What WHO does and does NOT recommend:

- **The use of cotton cloth masks as an alternative to medical masks or respirators is not considered appropriate for protection of health care workers.** Fabric thickness and weaving standards vary widely; hence, the barrier (filtration efficiency) against microorganisms passing through the fabric is unknown. Cotton cloth masks are not fluid-resistant and thus may retain moisture, become contaminated, and act as a potential source of infection. As for other PPE items, if production of masks for use in health care settings is proposed locally in situations of shortage or stock out, a local authority should assess the proposed PPE according to specific minimum standards and technical specifications.

Example of WHO Standard for PPEs

Fit test kit	To evaluate effectiveness of seal for tight fitting respiratory protection devices	OSHA 29 CFR 1910.134 Appendix A
Particulate respirator, grade N95 or higher	N95 or FFP2 respirator, or higher Good breathability with design that does not collapse against the mouth (e.g. duckbill, cup-shaped)	<ul style="list-style-type: none"> • Minimum "N95" respirator according to FDA Class II, under 21 CFR 878.4040, and CDC NIOSH, or • Minimum "FFP2" according to EN 149, EU PPE • Regulation 2016/425 Category III, or equivalent
Mask, surgical - healthcare worker	Surgical mask, good breathability, internal and external faces should be clearly identified Type II or higher	<ul style="list-style-type: none"> • EU MDD Directive 93/42/EEC Category III or equivalent • EN 14683 Type II, IR, IIIR • ASTM F2100 minimum level 1 or equivalent
Mask, surgical - patient	Surgical mask, good breathability, internal and external faces should be clearly identified Type I	<ul style="list-style-type: none"> • EN 14683 any type including Type I • ASTM F2100 minimum level 1 or equivalent

IPC - WASH in Healthcare Settings To Response to COVID 19

Key Points:

The following actions are particularly important:

1. Managing excreta (faeces and urine) safely, including ensuring that no one comes into contact with it and that it is treated and disposed of correctly;
2. Engaging in frequent hand hygiene using appropriate techniques;
3. Implementing regular cleaning and disinfection practices;
4. Safely managing health care waste.
5. Providing sufficient safe drinking-water
6. Regularly laundering bedsheets and patients' clothing;
7. Providing adequate and accessible toilets (including separate facilities for confirmed and suspected cases of COVID-19 infection);



WHO link guideline for IPC

- Rational use of personal protective equipment for coronavirus disease (COVID-19) and considerations during severe shortages [https://www.who.int/publications-detail/rational-use-of-personal-protective-equipment-for-coronavirus-disease-\(covid-19\)-and-considerations-during-severe-shortages](https://www.who.int/publications-detail/rational-use-of-personal-protective-equipment-for-coronavirus-disease-(covid-19)-and-considerations-during-severe-shortages)
- Disease Commodity Package <https://apps.who.int/iris/rest/bitstreams/1272076/retrieve>
- [https://www.who.int/publications-detail/advice-on-the-use-of-masks-in-the-community-during-home-care-and-in-healthcare-settings-in-the-context-of-the-novel-coronavirus-\(2019-ncov\)-outbreak](https://www.who.int/publications-detail/advice-on-the-use-of-masks-in-the-community-during-home-care-and-in-healthcare-settings-in-the-context-of-the-novel-coronavirus-(2019-ncov)-outbreak)
- <https://www.who.int/emergencies/diseases/novel-coronavirus-2019/advice-for-public/when-and-how-to-use-masks>
- <https://www.who.int/publications-detail/water-sanitation-hygiene-and-waste-management-for-covid-19>

Case Definition And Surveillance

Global surveillance for COVID-19 caused by human infection with COVID-19 virus

Interim guidance
20 March 2020



Background

This document summarises current WHO guidance on global surveillance for COVID-19 in humans, caused by infection with COVID-19 virus. This guidance should be read in conjunction with WHO's guidance on [preparedness, readiness and response activities](#), which strongly recommends active case finding and testing as well as contact tracing in all transmission scenarios. Aggregate reporting should be considered a temporary stop-gap measure only when individual case reporting is not possible. WHO will continue to update this guidance as new information about COVID-19 becomes available.

Updated information and other guidance on COVID-19 can be found on the WHO [COVID-19 website](#).

What is new:

- Updated case definition for a probable case
- Definition of transmission pattern
- Revision of the definition of a contact
- Update on global surveillance with aggregated data reporting

Purpose of this document

This document provides guidance to Member States on implementation of global surveillance for COVID-19.

Objectives of the surveillance

The objectives of the global surveillance are to:

1. Monitor trends in COVID-19 disease at national and global levels.
2. Rapidly detect new cases in countries where the virus is not circulating, and monitor cases in countries where the virus has started to circulate.
3. Provide epidemiological information to conduct risk assessments at the national, regional and global level.
4. Provide epidemiological information to guide preparedness and response measures.

Case definitions for surveillance

Case and contact definitions are based on the current available information and are regularly revised as new information accumulates. Countries may need to adapt case definitions depending on their local epidemiological situation and other factors. All countries are encouraged to publish definitions used online and in regular situation reports, and to document periodic updates to definitions which may affect the interpretation of surveillance data.

Suspect case

A. A patient with acute respiratory illness (fever and at least one sign/symptom of respiratory disease, e.g., cough, shortness of breath), AND a history of travel to or residence in a location reporting community transmission of COVID-19 disease during the 14 days prior to symptom onset;

OR

B. A patient with any acute respiratory illness AND having been in contact with a confirmed or probable COVID-19 case (see definition of contact) in the last 14 days prior to symptom onset;

OR

C. A patient with severe acute respiratory illness (fever and at least one sign/symptom of respiratory disease, e.g., cough, shortness of breath, AND requiring hospitalization) AND in the absence of an alternative diagnosis that fully explains the clinical presentation.

- ILI and Pneumonia surveillance have to be strengthened AND ensure all ILI and/or pneumonia cases being asked for travel history, residences and possible close contact→ meet case definition
- If suspected case found, immediately contact local authority for further follow up on case investigation and contact tracing as containment measure.

Case Definitions:

Case Definition Surveillance

Close Contact:

- Face-to-face contact with a probable or confirmed case within 1 meter and for more than 15 minutes;
- Direct physical contact with a probable or confirmed case;
- Direct care for a patient with probable or confirmed COVID-19 disease without using proper personal protective equipment;
- Other situations as indicated by local risk assessments.

Suspect:

- Patient with acute respiratory illness (fever and at least one sign/symptom of respiratory disease, e.g., cough, shortness of breath), AND a history of travel to or residence in a location reporting community transmission of COVID-19 disease during the 14 days prior to symptom onset
- Patient with any acute respiratory illness AND having been in contact with a confirmed or probable COVID-19 case in the last 14 days prior to symptom onset
- Patient with severe acute respiratory illness (fever and at least one sign/symptom of respiratory disease, e.g., cough, shortness of breath; AND requiring hospitalization) AND in the absence of an alternative diagnosis that fully explains the clinical presentation

Case Definitions:

Case Definition After Testing Performed	
Confirmed:	<ul style="list-style-type: none">• A person with laboratory confirmation of COVID-19 infection, irrespective of clinical signs and symptoms
Probable:	<ul style="list-style-type: none">• A suspect case for whom testing for the COVID-19 virus is inconclusive.• A suspect case for whom testing could not be performed for any reason

WHO link guideline for Case Definition and Surveillance

- Global surveillance for COVID-19 caused by human infection with COVID-19 virus: interim guidance
<https://www.who.int/emergencies/diseases/novel-coronavirus-2019/technical-guidance/surveillance-and-case-definitions>

Laboratory

- At present, based on current evidence, WHO recommends the use of the new point-of-care immunodiagnostic tests only in research settings. They should not be used in any other setting, including for clinical decision-making, until evidence supporting use for specific indications is available.
 - WHO does not currently recommend the use of antigen-detecting rapid diagnostic tests for patient care, although research into their performance and potential diagnostic utility is highly encouraged.
 - WHO does not recommend the use of antibody-detecting rapid diagnostic tests for patient care but encourages the continuation of work to establish their usefulness in disease surveillance and epidemiologic research.
- Molecular (e.g. PCR) testing of respiratory tract samples is the recommended method for the identification and laboratory confirmation of COVID-19 cases.

Examples of new RT PoC PCR

	Abbott	GeneXpert	Roche
	Abbott	GeneXpert	Roche
Method	A qualitative real-time reverse transcription polymerase chain reaction (rRT-PCR)	A Qualitative Rapid, real-time RT-PCR	A Qualitative real-time RT-PCR t
Machine	Abbott M2000	GeneXpert	Cobas 6800/8800
Samples	nasal,nasopharyngealandoropharyngeal swabs	nasopharyngeal swab and/or nasal wash/ aspirate specimens.	nasopharyngeal and oropharyngeal swab samples
Amplification targets	(SARS-CoV-2 RdRp,SARS-CoV-2N, and IC)	RNA Targets SARS COV-2 Gen N & Gen E	Robust, conserved regions for ORF-1a and E-gene regions
Processing Time	3 hours 30 min	45 minutes	3 hours 30 minute
Status	US FDA-EUA - CE-IVD	US FDA-EUA	US FDA-EUA - WHO EUL

WHO link guideline for Laboratory

- <https://www.who.int/news-room/commentaries/detail/advice-on-the-use-of-point-of-care-immunodiagnostic-tests-for-covid-19>
- <https://www.who.int/emergencies/diseases/novel-coronavirus-2019/technical-guidance/laboratory-guidance>
- https://www.finddx.org/covid-19/pipeline/?section=molecular-assays#diag_tab

Clinical syndromes associated with COVID-19

Mild	<ul style="list-style-type: none">• Patients with uncomplicated URT viral infection with non-specific symptoms such as fever, fatigue, cough (with or without sputum production), anorexia, malaise, muscle pain, sore throat, dyspnea, nasal congestion, or headache. Rarely, patients may also present with diarrhoea, nausea and vomiting.• The elderly and immunosuppressed may present with atypical symptoms.	
Moderate	Pneumonia	<ul style="list-style-type: none">• Adult with pneumonia but no signs of severe pneumonia and no need for supplemental oxygen.• Child with non-severe pneumonia who has cough or difficulty breathing + fast breathing
Severe	Severe Pneumonia	<ul style="list-style-type: none">• Adolescent or adult: fever or suspected respiratory infection, plus one of: respiratory rate > 30 breaths/min; severe respiratory distress; or SpO2 ≤ 93% on room air.• Child with cough or difficulty in breathing, plus at least one of the following: central cyanosis or SpO2 < 90%; severe respiratory distress; signs of pneumonia with a general danger sign: inability to breastfeed or drink, lethargy or unconsciousness, or convulsions

Clinical syndromes associated with COVID-19

Critical	Acute respiratory distress syndrome	<ul style="list-style-type: none"> Respiratory failure not fully explained by cardiac failure or fluid overload. Oxygenation impairment in adults: <ul style="list-style-type: none"> ➤ Mild ARDS: $200 \text{ mmHg} < \text{PaO}_2/\text{FiO}_2 \leq 300 \text{ mmHg}$ ➤ Moderate ARDS: $100 \text{ mmHg} < \text{PaO}_2/\text{FiO}_2 \leq 200$ ➤ Severe ARDS: $\text{PaO}_2/\text{FiO}_2 \leq 100 \text{ mmHg}$ ➤ When PaO_2 is not available, $\text{SpO}_2/\text{FiO}_2 \leq 315$ suggests ARDS
	Sepsis	<ul style="list-style-type: none"> Adults: life-threatening organ dysfunction caused by a dysregulated host response to suspected or proven infection. Children: suspected or proven infection and ≥ 2 aged based systemic inflammatory response syndrome criteria, of which one must be abnormal temperature or white blood cell count.
	Septic Shock	<ul style="list-style-type: none"> Adults: persisting hypotension despite volume resuscitation, requiring vasopressors to maintain $\text{MAP} \geq 65 \text{ mmHg}$ and serum lactate level $> 2 \text{ mmol/L}$. Children: any hypotension or two or three of the following: altered mental state; tachycardia or bradycardia; prolonged capillary refill; tachypnea

Summary of Case Management Update for Covid-19 (13 March 2020):

- Screen and isolate all patients with suspected COVID-19 at first point of contact with health care system (such as the emergency department or outpatient department/clinic). Consider COVID-19 as a possible etiology of patients with ARI under certain conditions. Triage patients using standardized triage tools and start first-line treatments.
- Patients with **mild disease do not require hospital interventions**; but **isolation is necessary** to contain virus transmission and will depend on national strategy and resources.
- Patients with mild disease may not have indications for hospitalization, there is need to implement appropriate IPC to contain and mitigate transmission. This can be done either in hospital, or in repurposed, non-traditional settings; or at home.

Summary of Case Management Update for Covid-19 (13 March 2020):

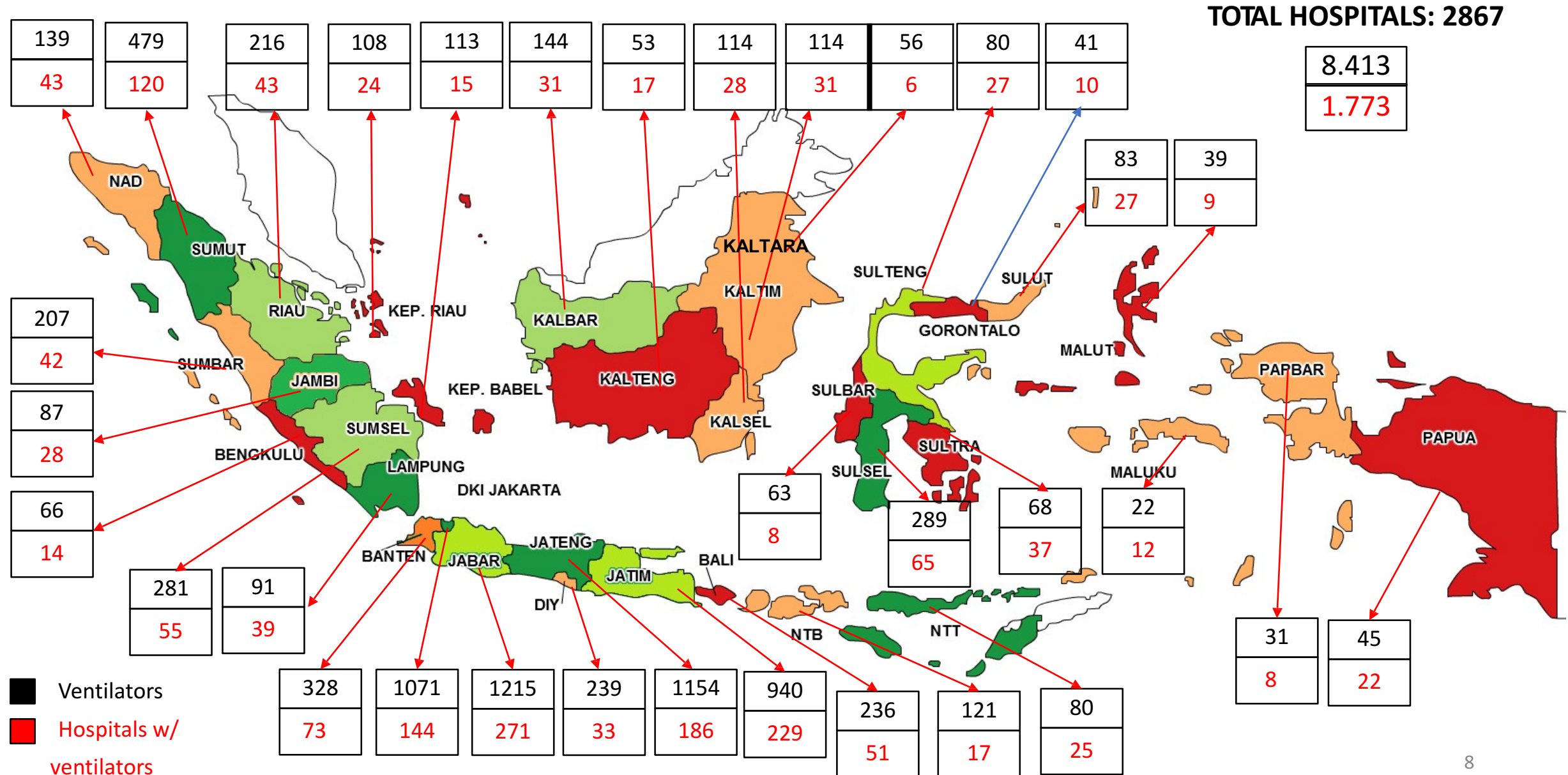
- Provision of **supplemental oxygen therapy immediately** to patients with SARI and respiratory distress, hypoxaemia or shock and **target Sp.O₂ > 94%**.
- Provision **empiric antimicrobials** to treat all likely pathogens causing SARI and sepsis as soon as possible, within 1 hour of initial patient assessment for **patients with sepsis**.
- Detail management of critical conditions: ARDS, avoid complication, Sepsis and Septic Shock
- No specific anti viral therapy recommended up to now

OXYGEN NEEDS: Volume

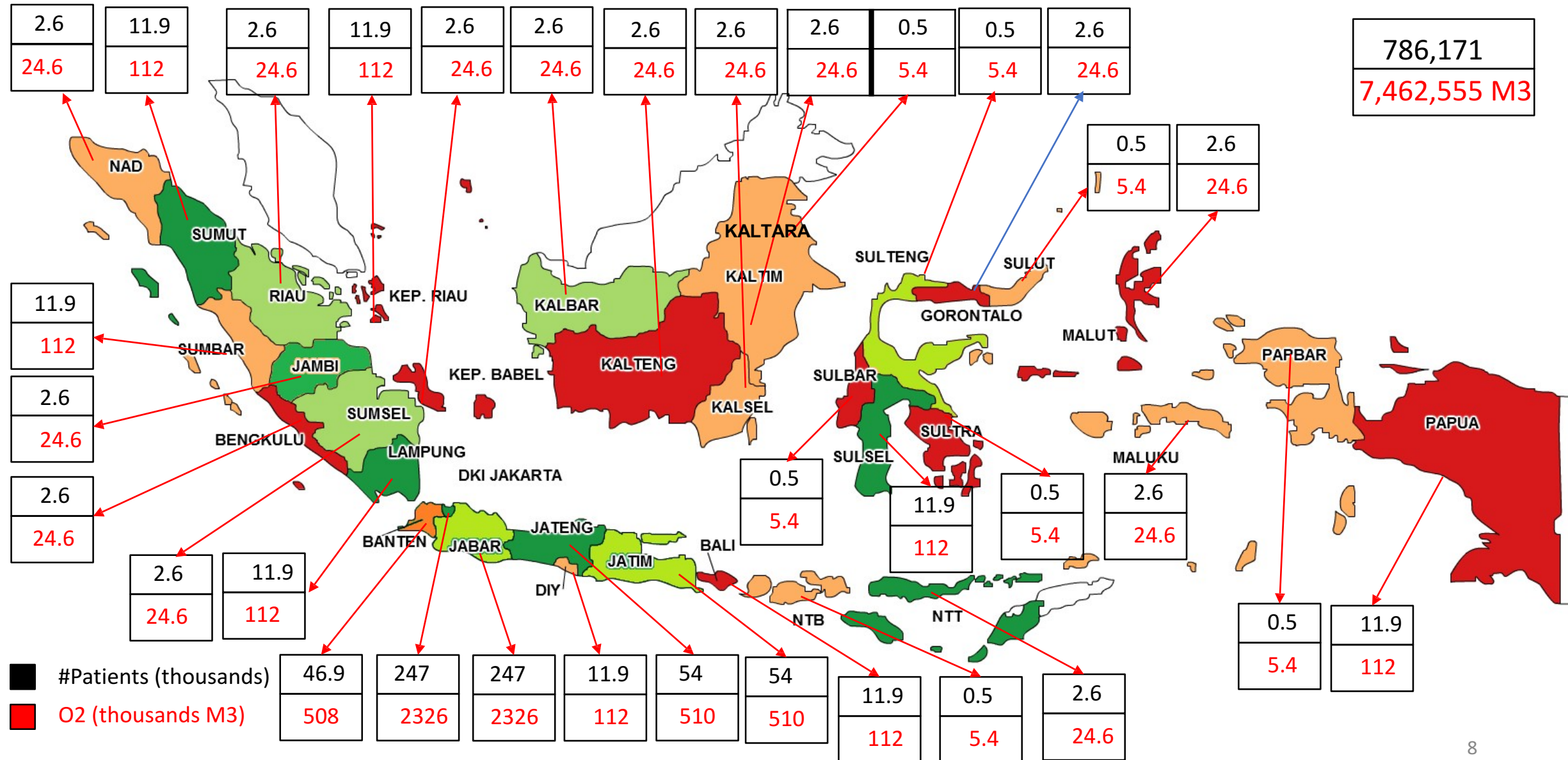
Number of patients	First week of forecast	Week 2 of forecast	Week 3 of forecast	Week 4 of forecast	Week 5 of forecast	Week 6 of forecast
Severe cases (@ need 5 litres/min)	274	1,246	5,672	25,837	117,690	536,098
Critical cases (@needs 10 litres/min)	68	311	1,418	6,459	29,423	134,025
Mild cases (10% @needs 2 litres/min)	588	1,065	3,242	8,334	26,711	116,048
Volume of Oxygen needs (litres/day)	3,126,938	13,761,917	62,194,363	281,437,434	1,278,750,073	5,823,283,919
Volume of Oxygen needs (M3/day)	3,127	13,762	62,194	281,437	1,278,750	5,823,284

Assumption: Attack rate 3.6%

NUMBER OF MECHANICAL VENTILATOR PER HOSPITALS



Provinces Oxygen Needs per day (in Cubic Metres)



Case Management: Health Outcome from hospital

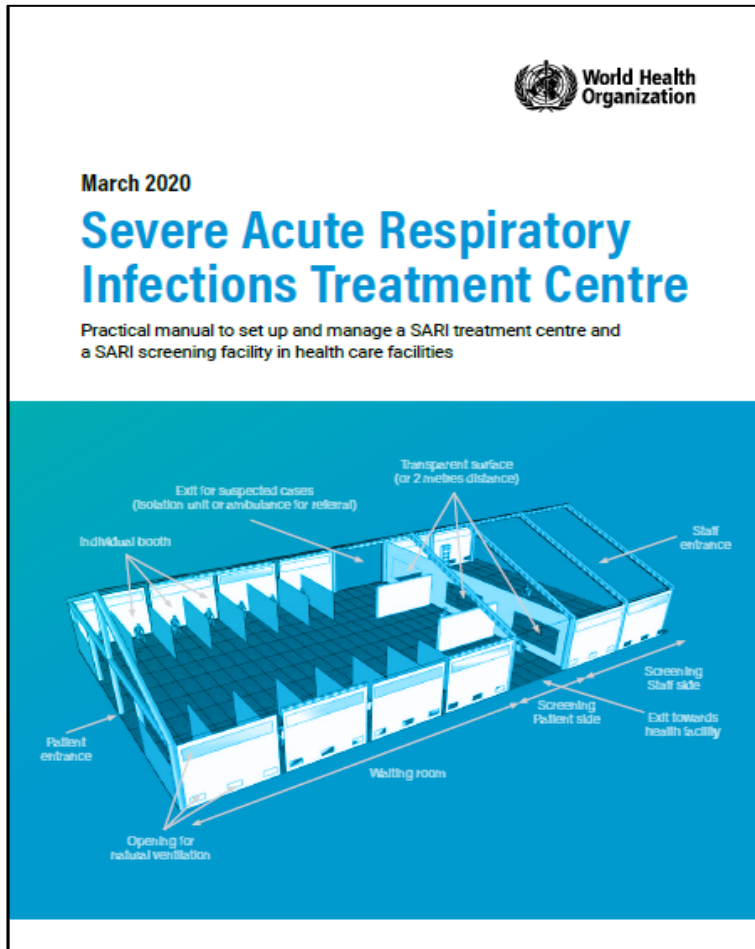
- Live discharged
 - For confirmed case with clinical improvement and 2 consecutive negative PCR results (over a period of 24 hours) is defined as cured → recovered/healthy
 - In the case of absence of PCR results, patient can be discharged from the hospital if clinically recovered. Patient to continue additional 14 days of self-isolation → recovered/healthy
- Transferred to other facility
 - For any reason, e.g. deteriorating clinical condition, unavailability of equipment. Etc.
- Death

Note: also apply for probable cases

Case Management: ICD 10 related issue

- An emergency ICD-10 code of 'U07.1 COVID-19, virus identified' is assigned to a disease diagnosis of COVID-19 confirmed by laboratory testing.
- An emergency ICD-10 code of 'U07.2 COVID-19, virus not identified' is assigned to a clinical or epidemiological diagnosis of COVID-19 where laboratory confirmation is inconclusive or not available.
- Both U07.1 and U07.2 may be used for mortality coding as cause of death

Guideline for setting and layout of Health Facilities



- Practical manual to set up and manage a SARI treatment centre and a SARI screening facility in health care facilities
- Deals treatment centre design and flow, water supply (quality, quantity, access), excreta disposal, health-care waste management, cleaning, building design (including ventilation), construction and management, and hygiene.
- It is designed primarily for use in health-care settings in precarious situations and in situations where simple and affordable measures can improve hygiene and health significantly.

2: Waiting room

The waiting room is composed of different individual booths with separated entrance and exit.

This facility is completely open [no doors] to allow a proper natural ventilation and equipped with dedicated toilets

Key elements in Patient's flow

1: Patient entry

NOTE:

At this point all patients:

- Receive a mask
- Hand washing
- Addressed to a dedicated individual booth in the waiting room

3: Screening

Patients are investigated in the individual triage booth. A fence with 2 m distance and of 1.2 m height separates patients from staff.

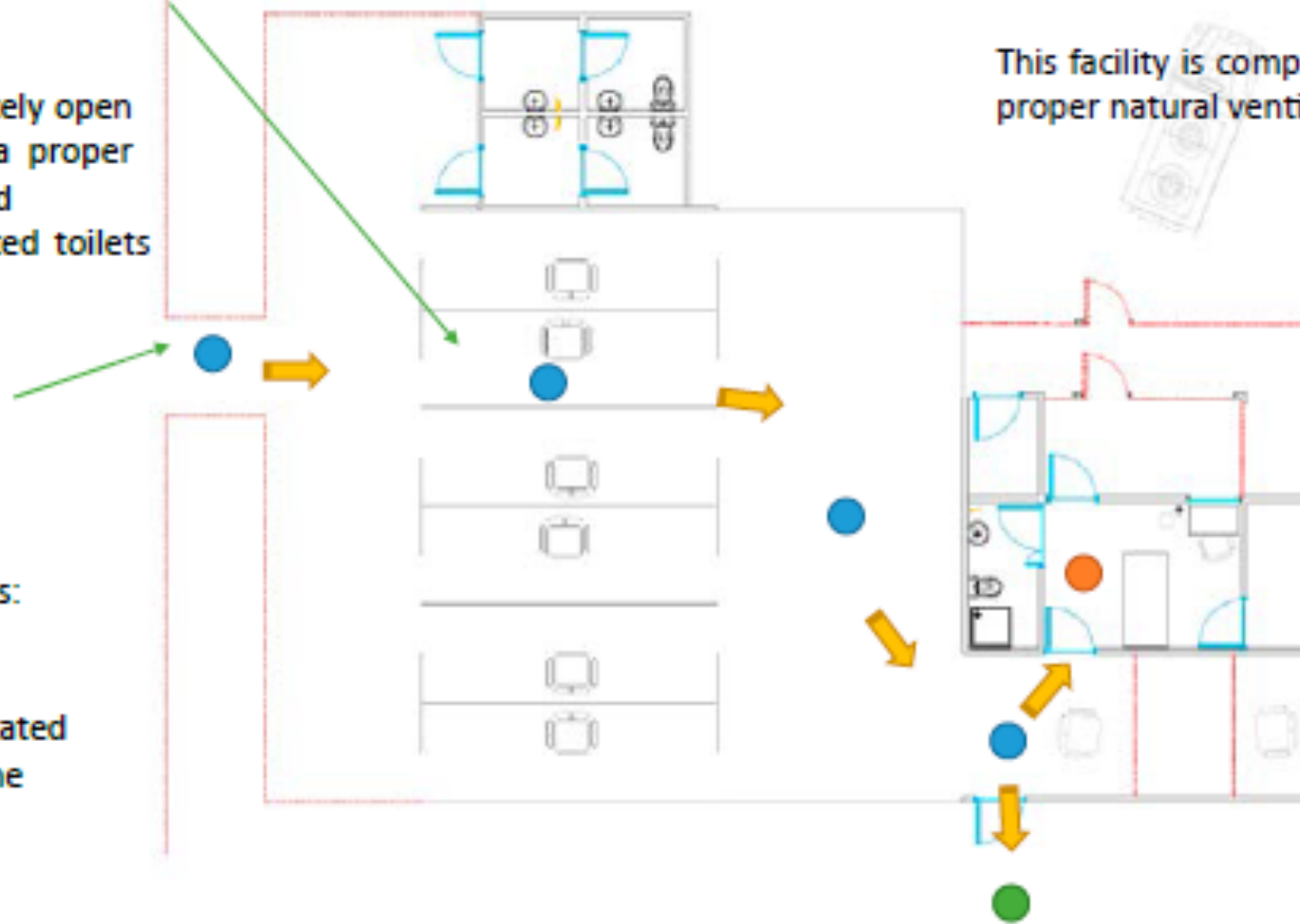
This facility is completely open [no doors] to allow a proper natural ventilation.

4: Suspected case

Patient moves to the isolation room waiting to be referred to the specific treatment centre

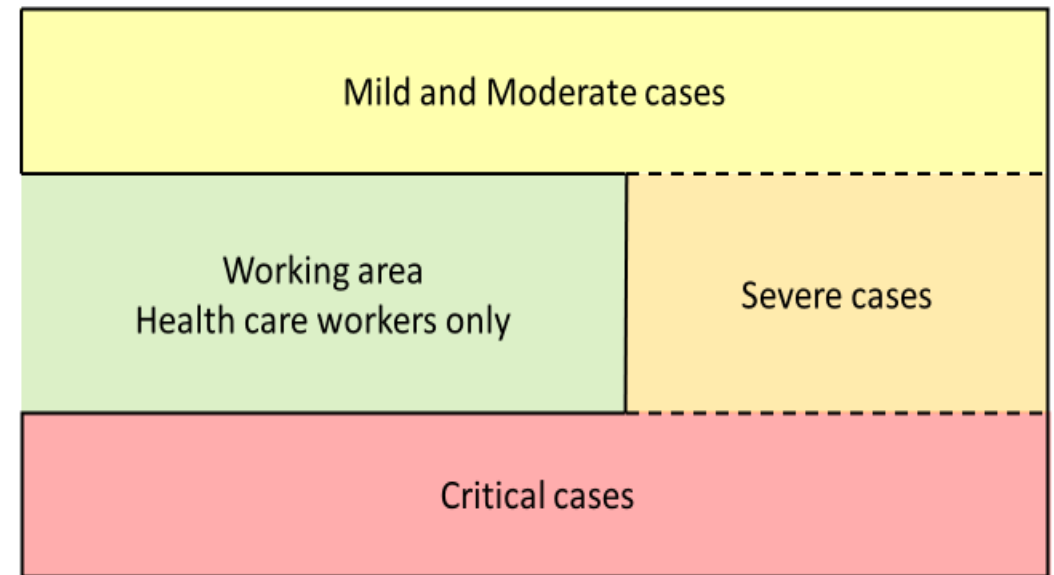
5: Non case

Patient moves to the health facility



Basic layout principle for COVID-19 Facility Design

Based on the clinical definition of patients with SARI, suspected of COVID-19, the clinical syndromes associated with COVID-19 infection and related medical conditions: mild, moderate and severe illness [including critical patients].



Key elements in layout principles

Short stay ward

Mild/Moderate cases

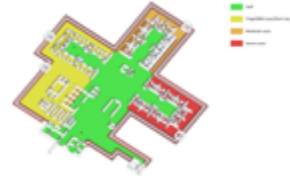
Ward: Spatial separation

Ventilation: Natural ventilation

Short stay ward

Mild/Moderate cases

- ☐ Uncomplicated illness
- ✓ E.g. Isolation /community facility
- Droplet & Contact precautions



Severe cases

Ward or individual self-contained room

Ventilation: Ventilation at least 160 l/s/patient

Severe case ward

- ☐ Severe pneumonia
- ✓ E.g. Oxygen
- Airborne & Contact precautions

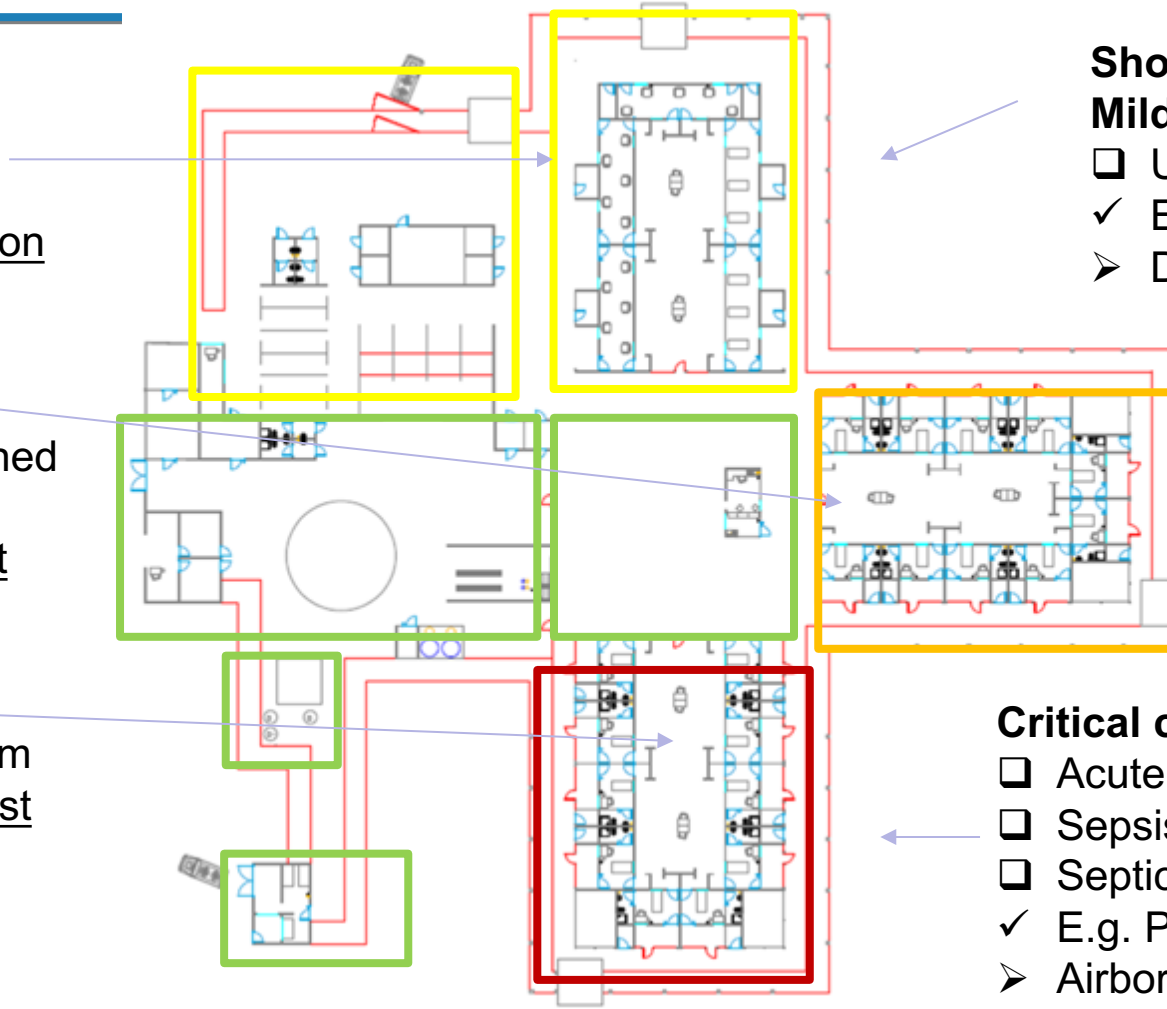
Critical cases

Individual self-contained room

Ventilation: Ventilation at least 160 l/s/patient

Critical case ward

- ☐ Acute Respiratory Distress Syndrome [ARDS]
- ☐ Sepsis
- ☐ Septic shock
- ✓ E.g. Patient ventilation
- Airborne & Contact precautions



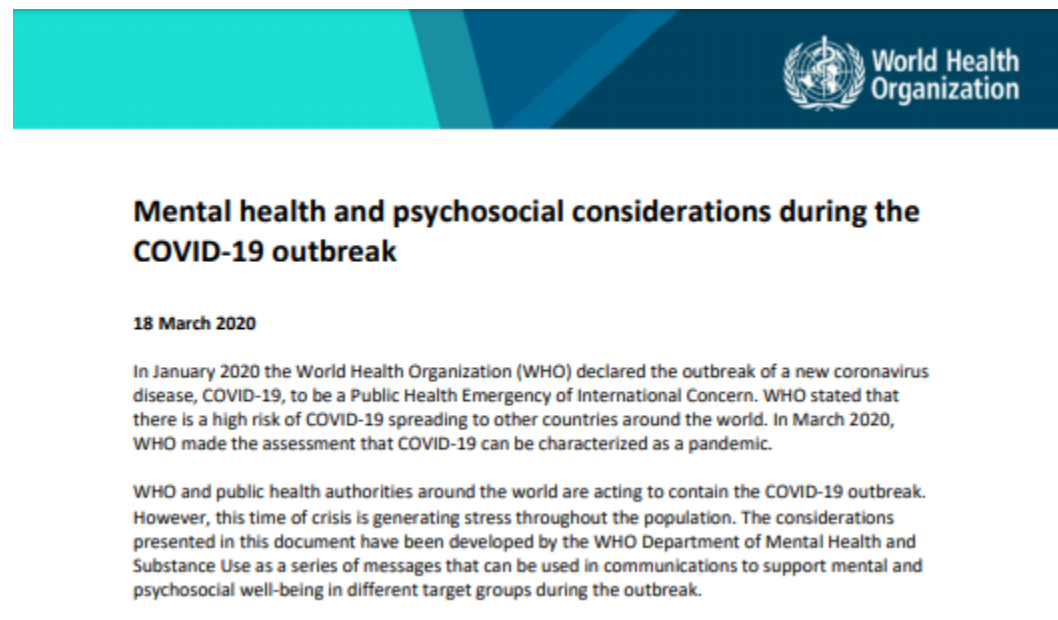
Ventilation consideration in each area of service

The decision whether to use mechanical or natural ventilation for infection control should be based on needs, the availability of the resources and the cost of the system to provide the best control to counteract the risks.

Area or service	Proposed ventilation system	Proposed exhausted air treatment
Staff area	Natural ventilation	Dilution
Triage	Natural ventilation	Dilution
Waiting room	Natural ventilation	Dilution
Sampling room	Natural ventilation	Dilution
	Hybrid ventilation	HEPA filter
Mild and Moderate cases ward	Natural ventilation	Dilution
Severe and critical cases ward	Hybrid ventilation	Dilution
	Mechanical ventilation	HEPA filter
Waste zone	Natural ventilation	Dilution
Morgue	Natural ventilation	Dilution

Mental Health and Psychosocial Support

- WHO and public health authorities around the world are acting to contain the COVID-19 outbreak. However, this time of crisis is generating stress throughout the population. The considerations presented in this document have been developed by the WHO Department of Mental Health and Substance Use as a series of messages that can be used in communications to support mental and psychosocial well-being in different target groups during the outbreak.



Target Groups :

1. Health care workers
2. General population
3. Carers of the children
4. Team leaders / managers at the health care facilities
5. People in isolation
6. Messages for older adults, people with underlying health conditions and their carers

WHO link guideline for Case Management

- Clinical management of severe acute respiratory infection (SARI) when COVID-19 disease is suspected https://www.who.int/docs/default-source/searo/indonesia/covid19/clinical-management-of-novel-cov-english.pdf?sfvrsn=1bab401e_2
- Emergency use ICD codes for COVID-19 disease outbreak <https://www.who.int/classifications/icd/covid19/en/>
- Severe Acute Respiratory Infections Treatment Centre <https://www.who.int/publications-detail/severe-acute-respiratory-infections-treatment-centre>
- Mental health support <https://www.who.int/publications-detail/mental-health-and-psychosocial-considerations-during-the-covid-19-outbreak>

Thank You