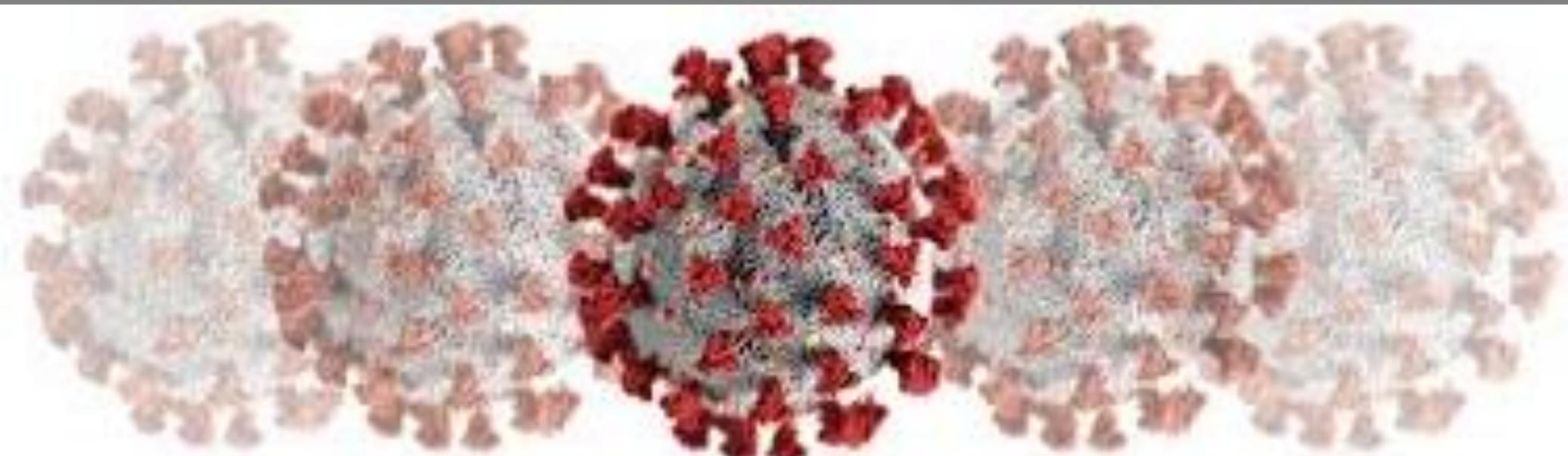




TONY BLAIR  
INSTITUTE  
FOR GLOBAL  
CHANGE

# COVID-19: Operational Advice on the Set-Up of Makeshift Isolation and Treatment Centres

April 2020





# As Covid-19 transmission increases, the WHO recommends countries surge their health systems

## Scenarios for the spread of Covid-19 and mitigations to minimise pressure on the health system

### Scenario 1:

#### No cases

Set up screening, triage, and Covid-19-designated wards in health facilities.



### Scenario 2:

#### Imported cases

Covid-19-designated treatment areas should be set up in addition to the interventions in Scenario 1.



### Scenario 3:

#### Clusters

Repurpose existing buildings and community facilities in addition to the interventions in Scenario 2.



### Scenario 4:

#### Community transmission

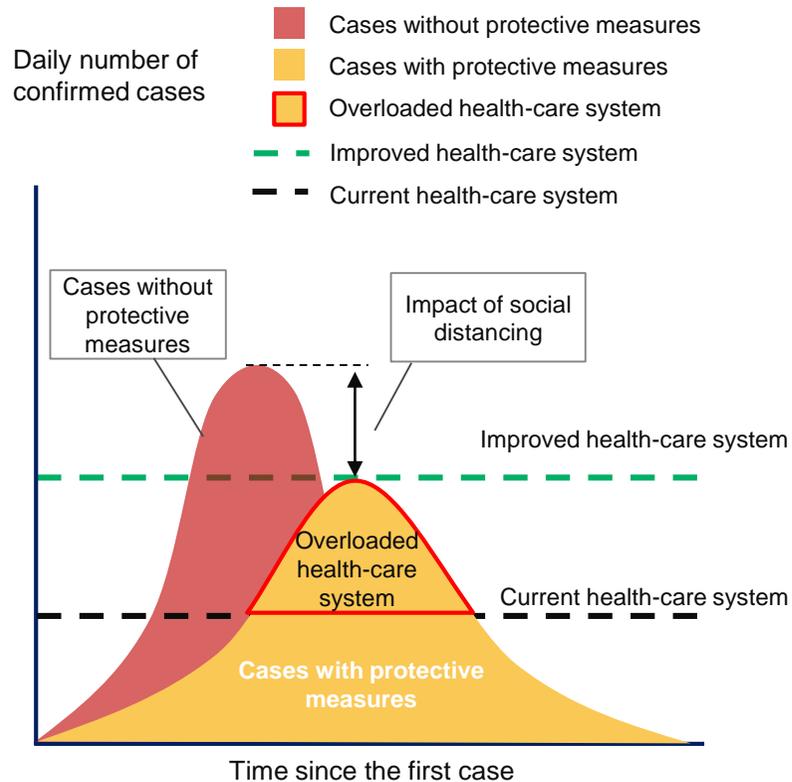
Recommend new Covid-19 facilities in addition to the interventions in Scenario 3.

- **Surge by repurposing wards or putting up tents** to create Covid-19 wards and hospitals.
- Where health facilities can no longer manage patients with mild or moderate disease, **isolate asymptomatic patients at home**. Isolate **patients who are not high risk at home or in makeshift community facilities**, with access to rapid health advice.
- **Plan for new structures** to augment the health system, assuming that number of cases will double every three to seven days.
- **Surge the health system with new structures**, including rapid extension of designated hospitals.
- New hospitals or temporary structures can serve to augment Covid-19 patient care or essential health services.
- Depending on testing strategy and capacity, **mild and moderate patients may not be tested, and advised to self-isolate either in community facilities or at home**.



# Makeshift isolation and treatment facilities increase the capacity of health-care systems and reduce the strain on resources

## Spread of virus vs health system capacity



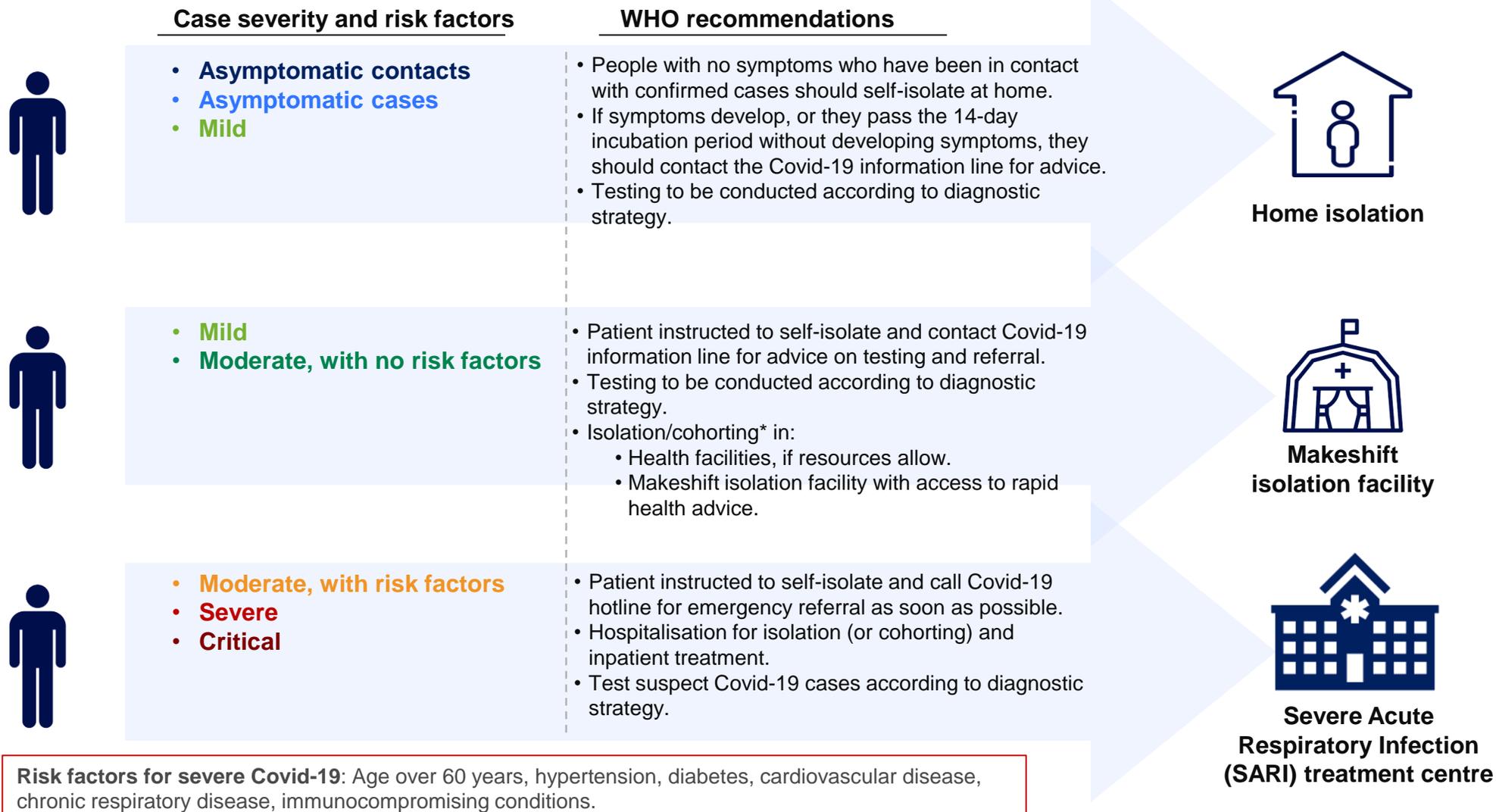
## Measures to support health-care system

1 Home isolation	2 Makeshift isolation	3 Treatment centres
Increasing medical intervention		
<ul style="list-style-type: none"> <li><span style="color: green;">+</span> No cost to government</li> <li><span style="color: green;">+</span> Protects people who have contact with confirmed cases or with symptoms that can be treated at home</li> <li><span style="color: red;">-</span> Puts patients' family members at risk and puts psychological strain on patients</li> <li><span style="color: red;">-</span> Difficult to implement isolation – requires behavioural change</li> <li><span style="color: red;">-</span> Difficult to organise medical care, frequent monitoring of disease progression, and timely referral to hospital care</li> </ul>	<ul style="list-style-type: none"> <li><span style="color: red;">-</span> Small investment required</li> <li><span style="color: green;">+</span> Repurposes existing large buildings into isolation areas, minimising exposure of family and friends</li> <li><span style="color: green;">+</span> Strictly isolates mild and moderate (with no risk factors) cases</li> <li><span style="color: green;">+</span> Organises medical care, frequent monitoring of disease progression, and timely referral to hospital care</li> </ul>	<ul style="list-style-type: none"> <li><span style="color: red;">-</span> Medium investment required</li> <li><span style="color: green;">+</span> Repurposes existing large buildings into treatment centres, minimising exposure of family and friends</li> <li><span style="color: green;">+</span> Provides patient care for moderate (with risk factors), severe and critical cases</li> <li><span style="color: green;">+</span> Provides appropriate medical care, without burdening the established hospitals</li> </ul>

Patients should be moved from home isolation to makeshift isolation centres when their temperature is equal to, or above, 38°C and they display coughing/shortness of breath beyond the incubation period, i.e. 14 days



# Makeshift isolation should be considered alongside home isolation and medical treatment facilities based on case severity and risk factors



Source: WHO. [Operational considerations for case management of Covid-19 in health facility and community. Interim guidance \(19 March 2020\).](#)

Note: \*Cohorting – placing patients infected with the same lab-confirmed pathogens in the same designated ward.



# Makeshift isolation facilities might be required in a Clusters scenario to mitigate strain on the health-care system

## Definition of makeshift isolation facilities

- Temporary hospitals built by putting up tents or repurposing public venues, such as schools, conference halls, stadiums and exhibition centres with good natural ventilation.
- Used to isolate patients with mild to moderate symptoms of an infectious disease.
- Provide medical care, disease monitoring, food, shelter and social activities.

## Key characteristics

- **Rapid construction:** built quickly because they are based inside existing physical infrastructure or tents that are easy to procure with good natural ventilation (avoid shipping containers, which require air conditioning and a constant power source).
- **Massive scale:** leverage large-scale public venues.
- **Low cost:** avoids costly construction of new physical infrastructure.

## Essential functions



**Isolation:** patients with mid to moderate symptoms are isolated.



**Triage:** patients who meet additional admission criteria are isolated and treated.



**Basic medical care provision:** medication; oxygen supplementation and intravenous fluids; mental health counselling.



**Frequent monitoring and rapid referral:** patients who need intensive care identified through monitoring and referred to hospitals.



**Essential living and social engagement:** provision of shelter, food, sanitation, hygiene and social engagement.



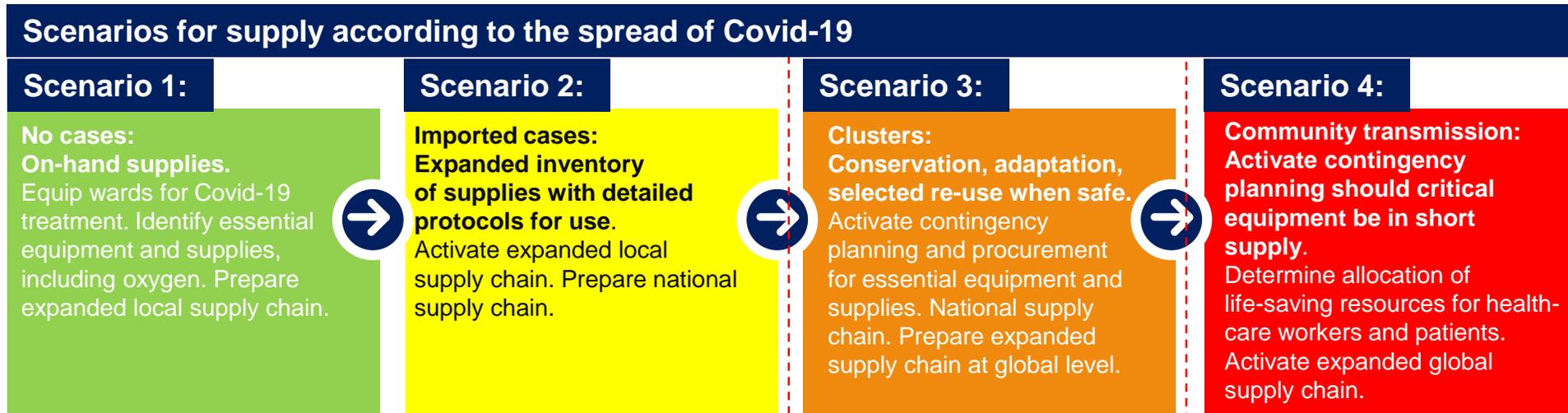
Makeshift isolation centre in converted stadium.  
Wuhan, China



Makeshift isolation centre in tents, Central Park New York, United States



# Inventory of health-system supplies needs to be ready and ensure that isolation facilities conserve, adapt and reuse supplies

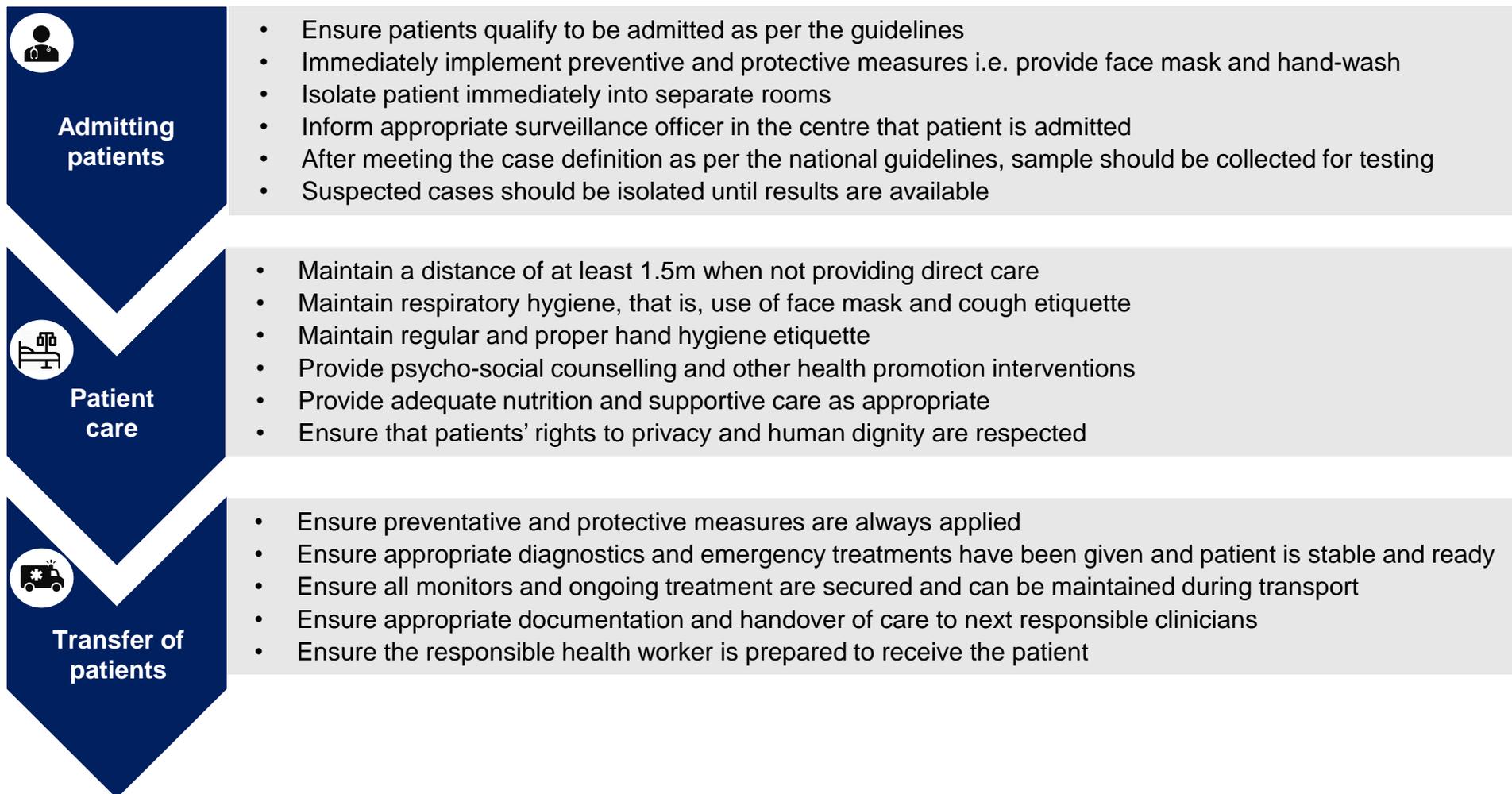


## Checklist for isolation rooms equipment

- Eye protection (visor or goggles)
- Face shield (provides eye, nose and mouth protection)
- Gloves:
  - Reusable vinyl or rubber gloves for environmental cleaning
  - Latex single-use gloves for clinical care
- Hair covers
- Particulate respirators (N95, FFP2, or equivalent)
- Medical (surgical or procedure) masks
- Gowns and aprons:
  - Single-use, long-sleeved, fluid-resistant or reusable non-fluid-resistant gowns
  - Plastic aprons (for use over non-fluid-resistant gowns if splashing is anticipated and if fluid-resistant gowns are not available)
- Alcohol-based hand rub
- Plain soap (liquid if possible, for washing hands in clean water)
- Clean, single-use towels (e.g. paper towels)
- Sharps containers
- Appropriate detergent for environmental cleaning and disinfectant for disinfection of surfaces, instruments or equipment
- Large plastic bags
- Appropriate clinical waste bags
- Linen bags
- Collection container for used equipment
- Standard IEC
- Standard protocols for hand hygiene, sample collection and biomedical waste displayed clearly
- Standard Clinical management protocols



# Isolation guidelines need to be followed when admitting, treating and transferring patients to contain the virus

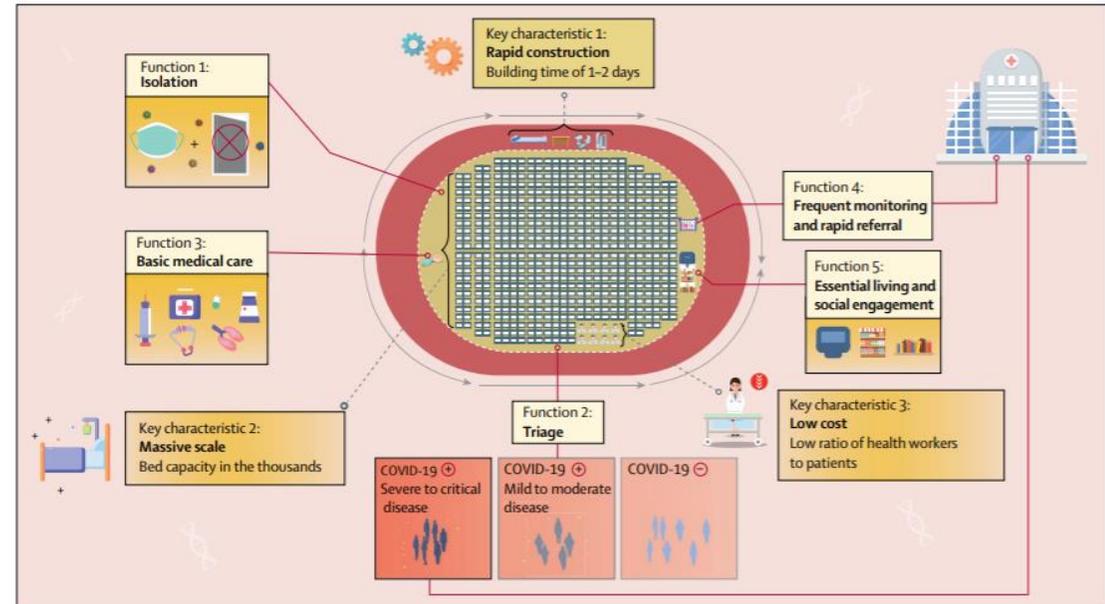




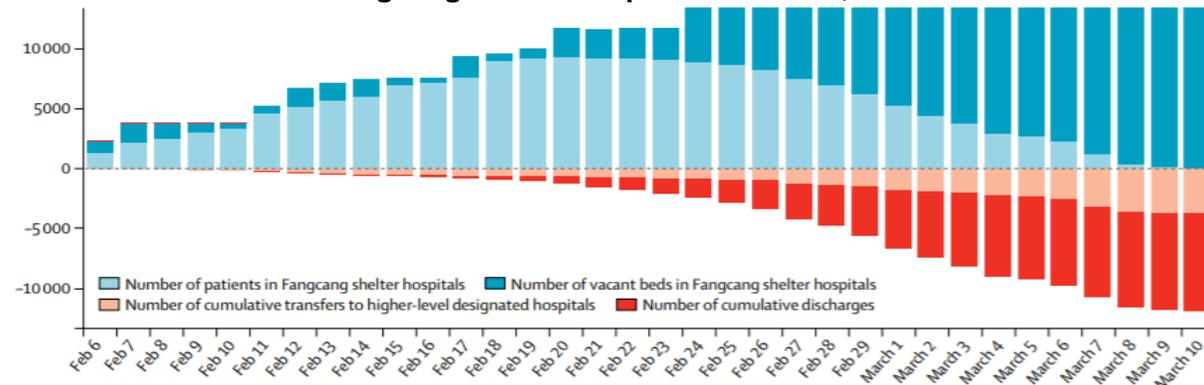
# China set-up “Fangcang shelter hospitals” to isolate patients with mild to moderate symptoms from their families and communities

- China converted public spaces in Wuhan – such as sports venues and exhibition centres – over a **three-week period into 16 hospitals with 13,000 beds.**
- Their specific purpose was to **isolate patients with mild to moderate symptoms.** These patients were most likely to transmit the virus because they were active.
- They were an alternative to sending patients home for isolation, **reducing intra-family transmission** and ensuring government-mandated patient behaviour.
- Health workers could transfer patients to higher-level hospitals if their conditions worsened.
- The **low ratio of health workers to patients** was appropriate care for patients who did not have severe or critical symptoms.
- Provided **an efficiency gain**, by releasing low risk patients from highly staffed traditional hospitals, lessening health worker shortfalls.
- Became a **national standard of care**, supported by rigorous quality control and improvement routines.
- Served as a **temporary community for patients** with mild to moderate Covid-19.

## Key characteristics and essential functions of Fangcang shelter hospitals



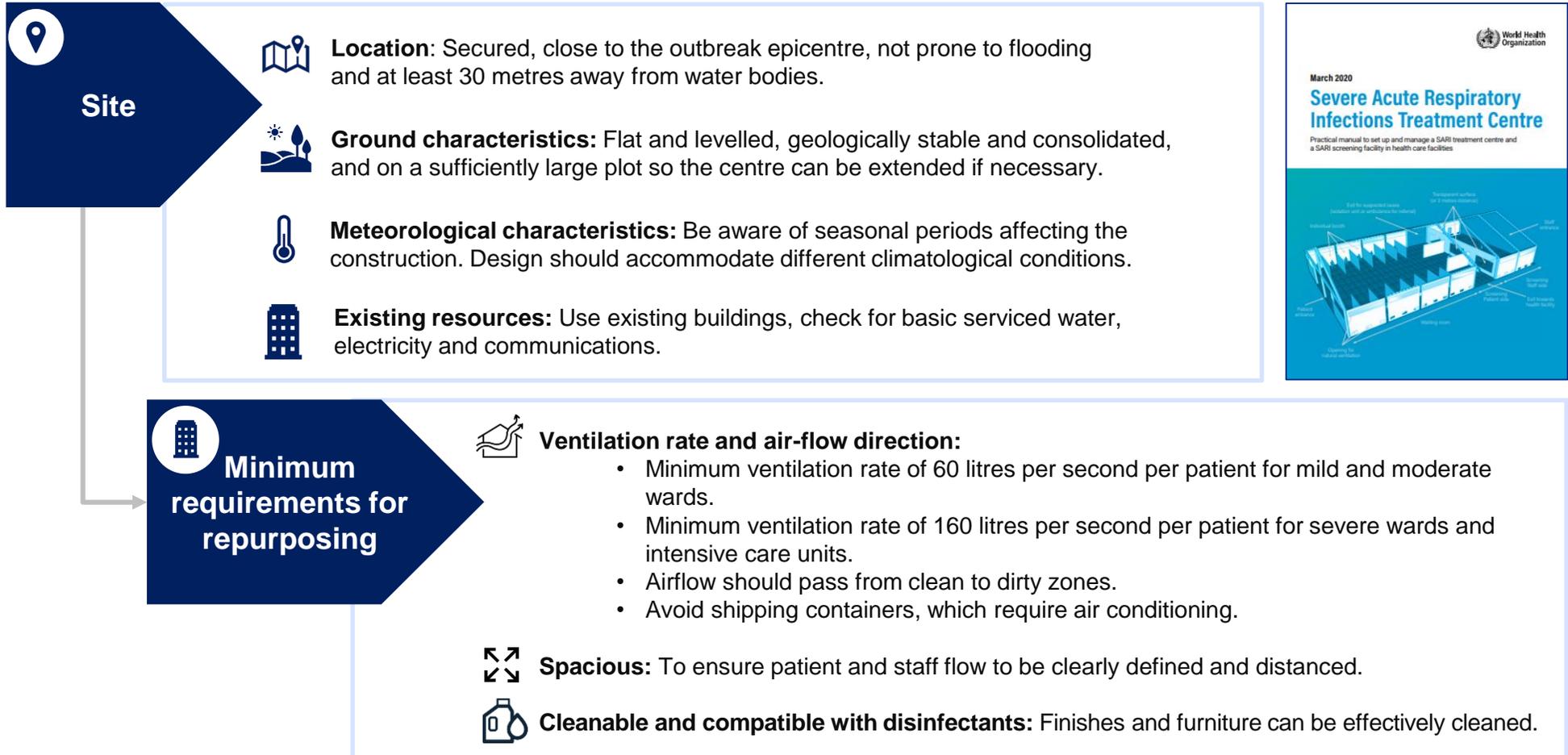
## Patient flows in Fangcang shelter hospitals in Wuhan, China



# Sites for Severe Acute Respiratory Infection (SARI) treatment centres are required at the community transmission phase

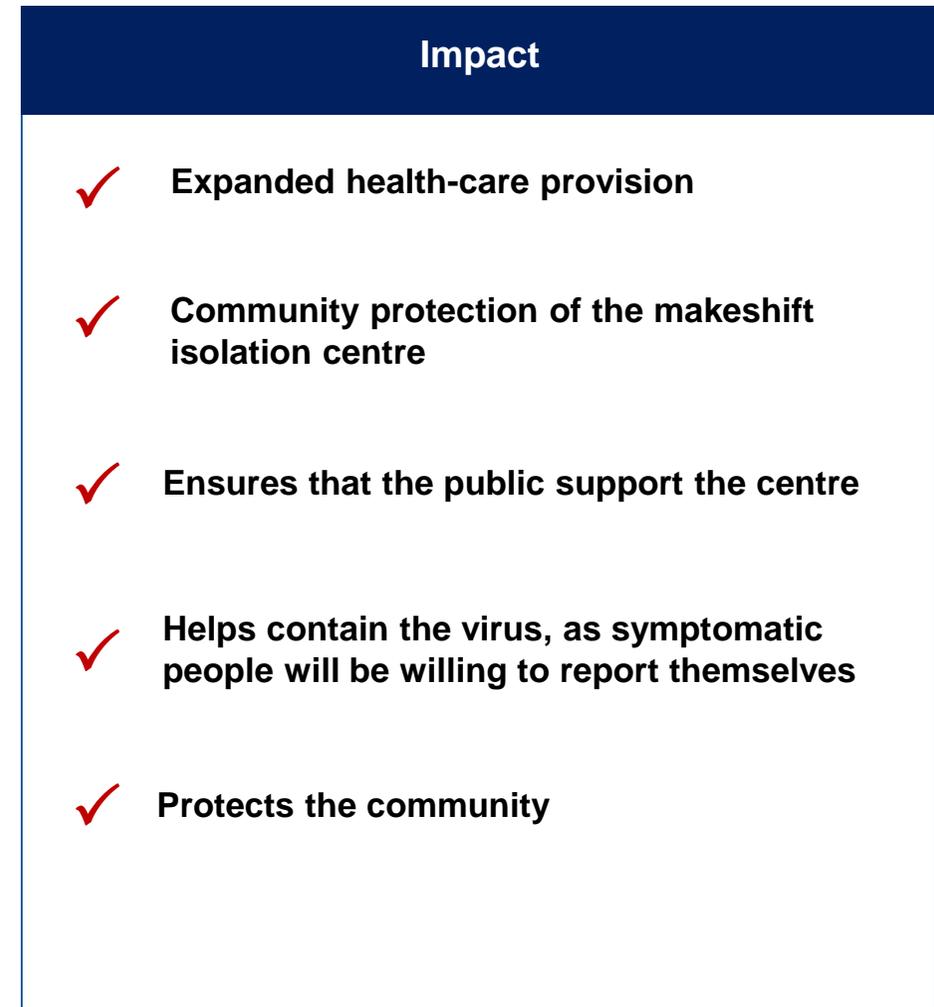


## WHO guidelines to set up and manage a Severe Acute Respiratory Infection treatment centre:





# To create awareness and mobilise the community, a communication and public-engagement strategy is required



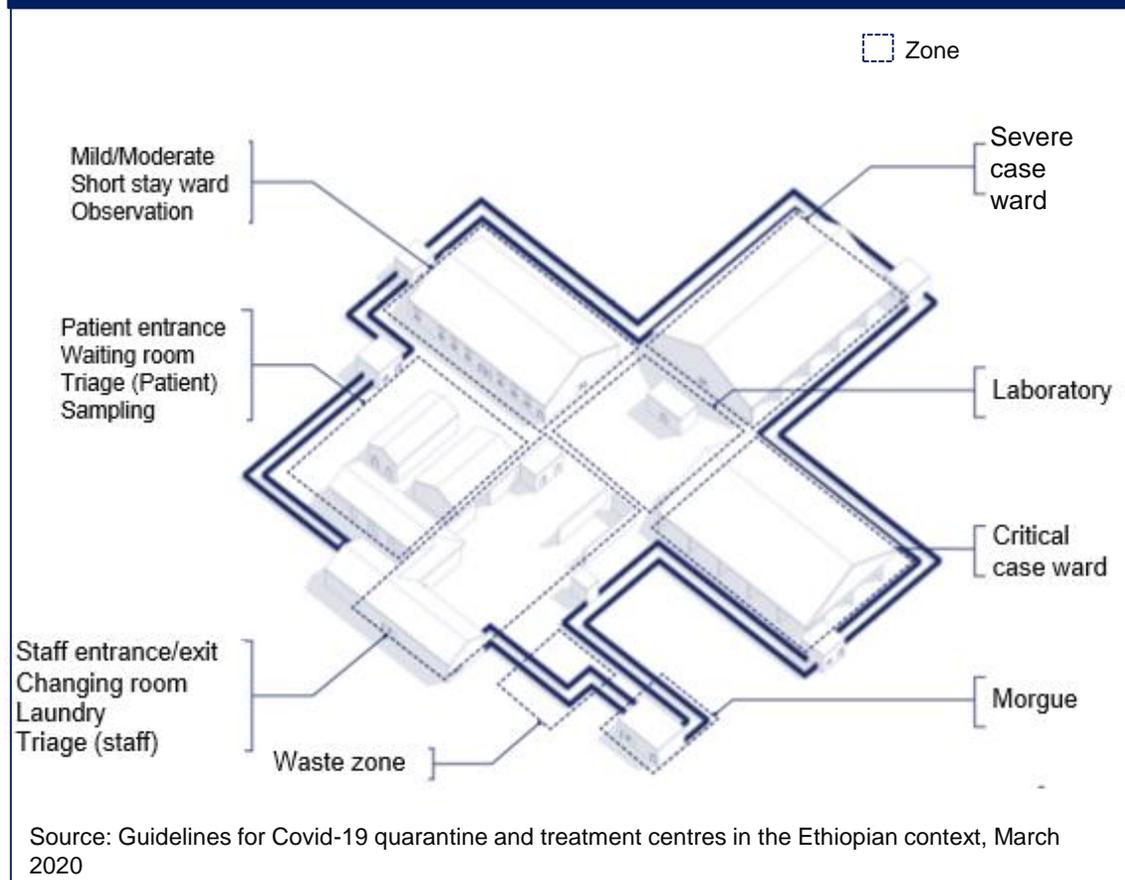
# Annex





# Zoning, finishing items and ventilation are important elements of planning a SARI treatment centre

## SARI treatment centre zone categorisation



### Characteristics of furniture and finishing items

- Cleanable
- Easy to maintain and repair
- Resistant to microbial growth
- Non-porous
- Seamless

### Ventilation

- Provide healthy air by both diluting the pollutants originating in the building and removing the contaminants from it.

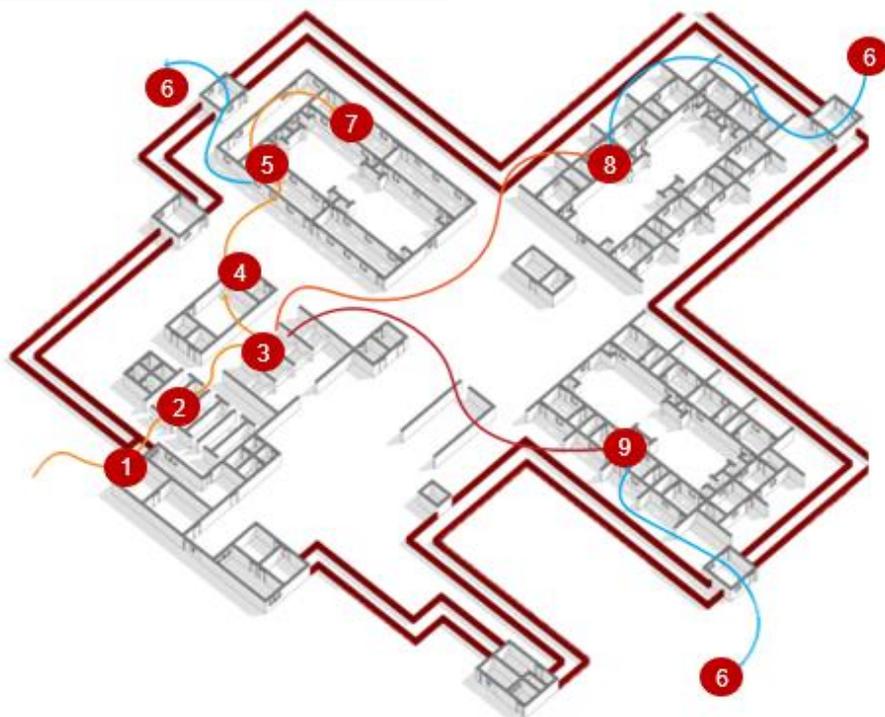
Area of service	Ventilation
Staff	Natural
Triage, waiting room	Natural
Sampling room	Hybrid and mechanical
Mild and moderate cases ward	Natural
Severe and critical cases	Hybrid and mechanical
Waste zone and morgue	Natural ventilation



# Patient flow inside a SARI treatment centre varies according to symptoms and test results

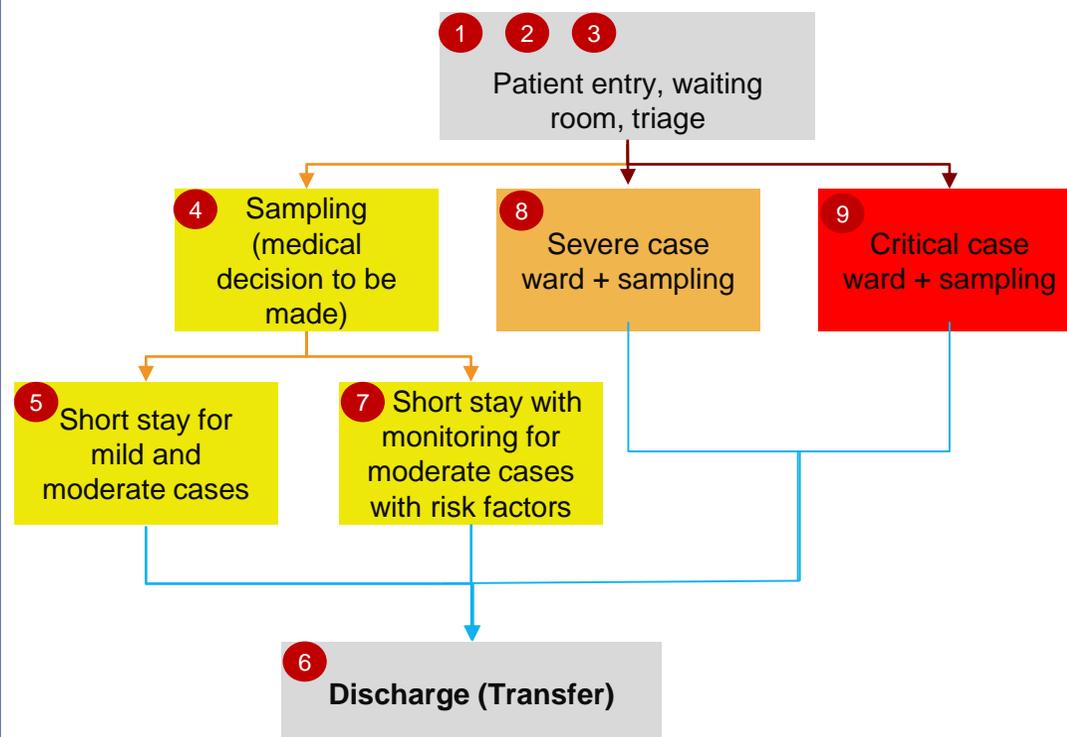
## Flow of patients inside an isolation centre

- Mild and moderate cases
- Severe cases
- Critical cases
- Discharge (transfer)



Source: Guidelines for Covid-19 quarantine and treatment centres in the Ethiopian context, March 2020

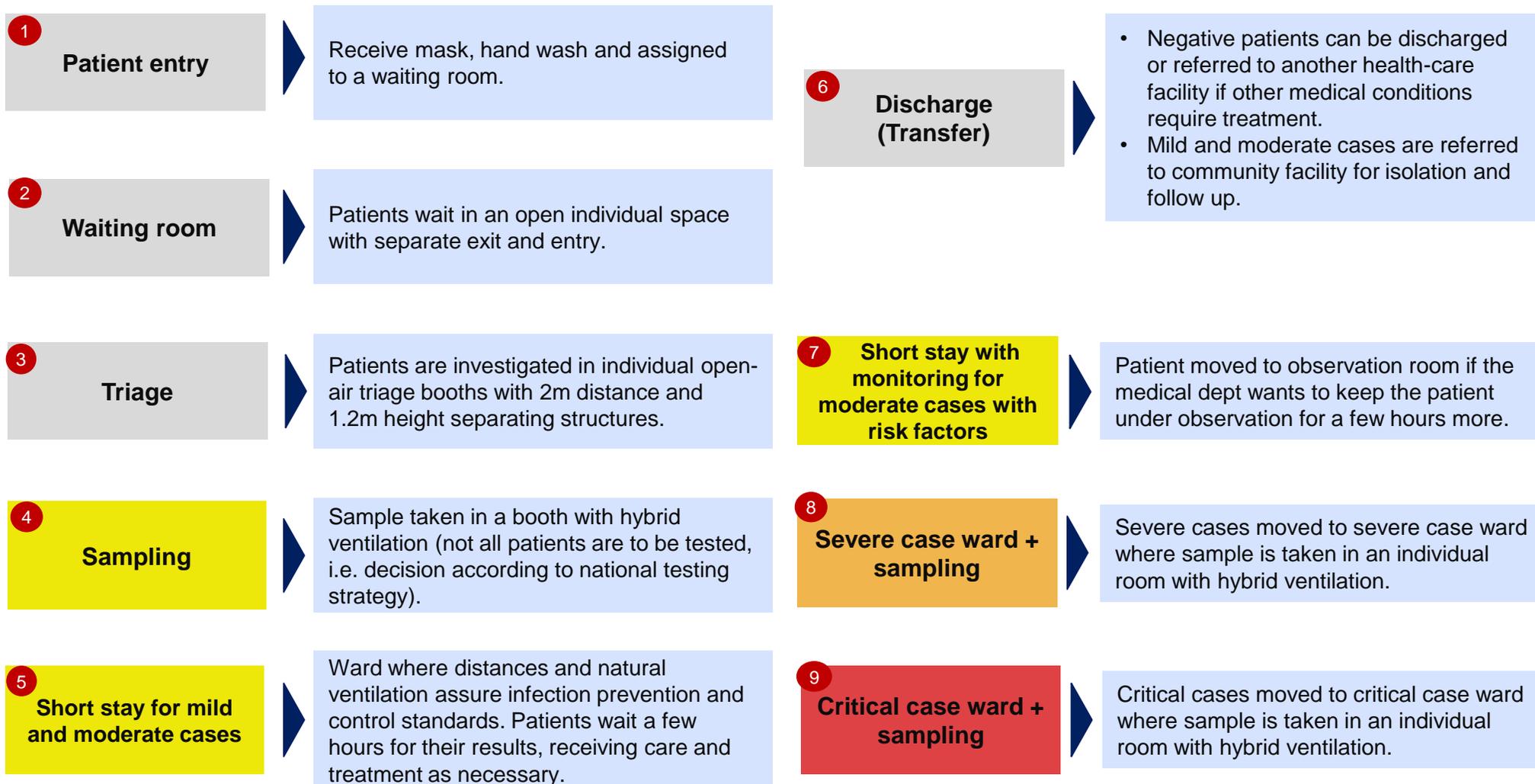
- Entry or exit areas
- Triage (mild and moderate cases)
- Severe cases
- Critical cases



Source: TBI analysis, Severe Acute Respiratory Infections Treatment Centre Practical manual to set up and manage a SARI treatment centre and a SARI screening facility in health care facilities, March 2020, last accessed on April 15 [https://apps.who.int/iris/bitstream/handle/10665/331603/WHO-2019-nCoV-SARI\\_treatment\\_center-2020.1-eng.pdf?sequence=1&isAllowed=y](https://apps.who.int/iris/bitstream/handle/10665/331603/WHO-2019-nCoV-SARI_treatment_center-2020.1-eng.pdf?sequence=1&isAllowed=y)



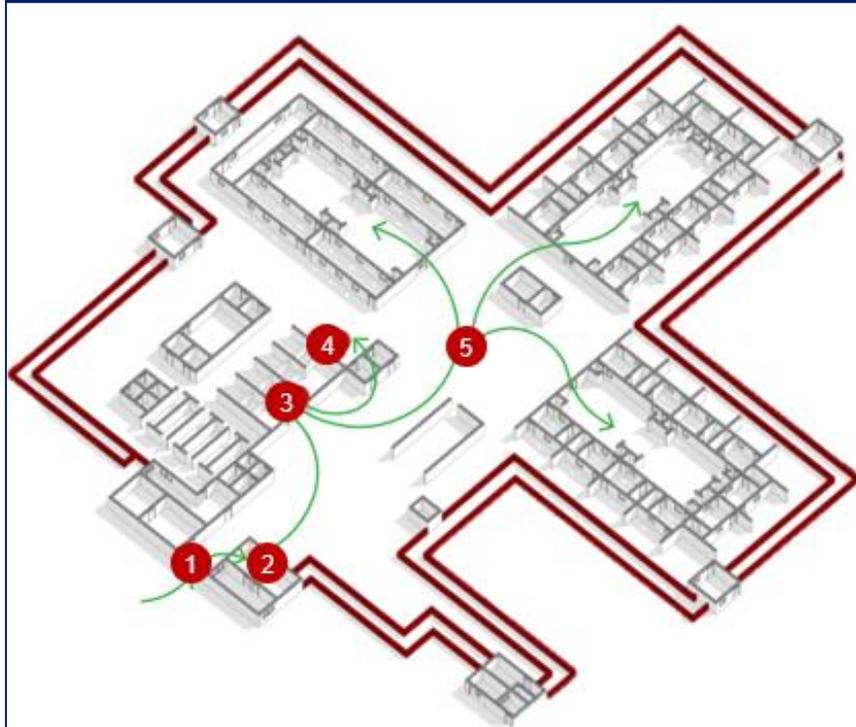
# Patient care in a SARI treatment centre varies according to symptoms and test results





# Staff flow inside a SARI treatment centre

## Flow of staff inside an isolation centre



Source: Guidelines for Covid-19 quarantine and treatment centres in the Ethiopian context, March 2020

Only authorised staff to enter due to high risk of exposure

