Repurposing facilities for quarantine or isolation and management of mild COVID-19 cases

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1. Introduction

1.1 Background

The World Health Organization (WHO) has issued guidance for self-isolation of patients with mild symptoms at home [1]. However, in cases where safe and appropriate home care is not available, vulnerable people¹ are present at home, or asymptomatic patients or patients with mild symptoms have risk factors² for severe disease, the contact person should be guarantined or isolated and managed elsewhere to prevent further community transmission. Quarantine also applies to persons entering points of entry into countries. For these purposes, countries have effectively transformed public facilities and other accommodations into temporary quarantine and isolation facilities.

This interim guidance updates the guidance published on 1 June 2020 entitled "Repurposing facilities for isolation and management of mild COVID-19 cases" on recommended minimum standards of repurposing existing premises into isolation facilities. In addition to updating Infection Prevention and Control (IPC) and other management recommendations based on new evidence and best practices, this guidance expands to repurposing facilities for quarantine and includes protection and provision of care for children, prevention and management of health care workers (HCW) infections and a monitoring and evaluation framework for quality improvement (Annex 1)³.

Key definitions:

Quarantine is "the restriction of activities for the separation of persons who are not ill but who may be exposed to an infectious agent or disease, with the objective of monitoring their symptoms and ensuring the early detection of cases".

Isolation is "the separation of ill or infected persons from others to prevent the spread of infection or contamination." In this document, "non-health isolation facility" refers to facilities designated for suspected or confirmed cases of COVID-19 that do not require in-patient medical treatment.

1.2 Target audience

National, subnational, provincial and district health managers involved in responding to the COVID-19 outbreak and coordinating local health systems, especially in low-resource settings.

¹ Such as people with disabilities, mental health concerns, people living in unsafe conditions such as domestic violence. Vulnerable populations also include persons with 1) risk factors such as advanced age or co-morbidities; 2) frequent exposure such as health workers; 3) poor access to health care.

² Older age, smoking, and underlying noncommunicable diseases, such as diabetes, hypertension, cardiac disease, chronic lung disease, cerebrovascular disease, dementia, mental disorders, chronic kidney disease, immunosuppression, obesity and cancer [2]

³ The tool is applicable for IPC quality measurement in both quarantine and isolation non-health isolation facilities. It is recommended that Members States adapt the tool to local context.

Recommendations

1.3 Eligible groups for quarantine and non-health isolation facilities

Quarantine:

 for contacts of individuals with confirmed or probable SARS-CoV-2 infection (WHO continues to recommend quarantine in a designated facility or in a separate room in the household). [3]

Isolation:

- confirmed COVID-19 patients with mild symptoms who are evaluated as low risk, with no impending need for hospitalization but needing basic health care and monitoring.
- confirmed COVID-19 patients with no or mild symptoms who are evaluated as low risk but not fit for home isolation and meeting one or more of the following criteria:
 - Household contains high-risk family members (elderly, infants and young children, pregnant women, and immunosuppressed patients).
 - Household lacks basic isolation facilities and means to support livelihood needs, such as a singleperson bedroom, individual toilet, isolation measures, and food, access to safe drinking water, hand washing facilities or other necessities.
 - 3. Household is in a remote area with limited access to health facilities.
 - Patients are experiencing homelessness and cannot be discharged to a congregate setting.
 - 5. Hospitalized COVID-19 patients who have recovered, with no or minimal symptoms, but who do not fulfill the discharge criteria. [4]

1.4 Demand estimation and capacity review

- Review the epidemiological projections of COVID-19 transmission inside the country, region and municipalities.
- Calculate the expected number of mild cases over the course of the outbreak at national and subnational levels. Consider cross- jurisdiction collaboration to alleviate the burden on the health system.
- Obtain the number and spaces of existing facilities possible for repurposing. In doing so, collaborate with relevant public and private sectors including social services, civil affairs, tourism, commerce and municipal/ provincial/regional governments.

1.5 Identification, selection and requisition of facilities

Non-health-care facilities could be repurposed into quarantine or isolation facilities if the minimum requirements are met:

- Large space with leveled floors to enable a rapid construction, roof and installation of essential accommodation facilities such as temporary beds, mattresses, and essential medical and livelihood supplies including water, toilets, electricity and adequate ventilation.
- Able to cope with a surge in patient inflow and outflow on a massive scale, ranging from hundreds to thousands.
- Able to isolate patients in either single rooms or with a spatial distance of at least 1 metre (if possible, 2 metres) to facilitate access and movement of health-care workers. [5]
- Able to house distinct clean zones, semiclean zones and contaminated zones.
- Located in areas with road connection, security, and telecommunications signal coverage.

Examples of facilities

Example 1: Stadiums, exhibition centres, museums and other premises that have an open layout to accommodate a surge in the number of patients and that allow limited numbers of health-care personnel to monitor and manage patients needing care, including referrals.

Recommended characteristics include:

- large space;
- flat and level floor(s);
- water, sanitation and hygiene (WASH) facilities;
- easy to move patients on trolleys;
- parking space available for patient referral and logistic arrangements;
- appropriate ventilation, preferably natural.

1.6 General principles of repurposing facilities

Operational plans should be developed with dedicated budget and identified funding source. It should include the minimum requirements for ensuring patient/users safety and IPC, as follows.

1.6.1 Space allocation and infrastructure

- Clearly define and distance respective entrances for patients and staff.
- Allocate zones by functions and degrees of contamination. For example, have a "contaminated zone" for patients, a "clean zone" for receiving supplies and a "semiclean zone" for health-care workers and support staff to put on, take off and dispose of personal protective equipment (PPE). [5][6]
- Separate staff toilets and amenities from those designated for patients to prevent cross-contamination.

Example 2: Hotels, hostels, inns, schools, student dormitories and other facilities with existing accommodation conditions and WASH facilities.

These facilities should be allocated to patients who can take care of themselves without extensive assistance due to limited monitoring or access by medical staff.

In addition to IPC, isolation facilities should be equipped with staff capable to perform basic health-care functions, including:

- monitoring vital signs –temperature, pulse rate, respiratory rate, blood pressure and oxygen saturation using pulse oximeter;
- 2. detecting deteriorating patients early and conducting timely communication;
- 3. referral to higher-level health facilities;
- providing symptom-relieving aids antipyretics, cooling packs, and nutrition and fluid intake advice.
- Designate separate passages or corridors by functions:
 - 1. patient entry, referral and exit
 - 2. movement of health workers
 - 3. escape passages for emergencies.
- In multistoried accommodation facilities such as hotels and dormitories, clearly distinguish stairways and elevators for patients and staff.
- Install fire extinguishers in abundance per local requirements.
- Ensure privacy considerations. For example, partitions that separate bed units into spaces resembling hospital rooms and wards are recommended to provide basic privacy between patients. Accommodate people by gender identify, families, and unaccompanied children in separate areas on the same floor, or on separate floors, including separate toilets and amenities for personal hygiene.
- Develop a system for reporting any abuse or violence and ensure safety plans are in place for protection.

1.6.2 Essential supplies and equipment

- Bed linens adapted to local preference and availability.
- On top of a clean work uniform, essential PPE for health-care workers, including [7]:
 - 1. disposable gowns
 - 2. medical masks, or respirators if supply is sufficient
 - 3. eye protection
 - 4. gloves
- Essential PPE for non-healthcare staff, including:
 - 1. medical masks
 - 2. gloves
 - 3. disposable gowns,
 - 4. closed shoes
 - if doing procedures that generate splashes (e.g. while washing surfaces), additional protection such as face shields and impermeable aprons.
- Safe and clean water for drinking and personal hygiene with appropriate drainage should be easily accessible at all times. If piped water is not available, water trucks, buckets and other means can be utilized; however, these must meet IPC standards.
- Basic and essential medical supplies and equipment, such as pulse oximeters, thermometers, blood pressure monitors, stethoscopes, emergency kits⁴ and antipyretics.
- Provisions for safely dispensing personal medication such as insulin for diabetics etc.
- Stress-relieving aids adapted to local context, such as books, television sets and toys for children. IPC precautions should be observed when exchanging and sharing such objects.
- Mosquito nets and insect repellent in areas affected by malaria and dengue diseases.
 (see Annex 1 – checklist 3 for Review of essential equipment and supplies).

 Essential personal hygiene products (including menstrual, baby products).

1.6.3 Human resources

- Develop standard operating procedures, team compositions and work rosters for continuous operation (see Annex 1).
- Record staff presence and work logs at the beginning and end of each shift.
- Screen, monitor and record staff temperature and symptoms daily [8].
- Ensure health-care workers are present who can monitor the conditions of patients on a regular basis.
- Provide sufficient information and training about COVID-19 to non-health-care workers so that they can carry out assigned tasks with minimum risks and prevent the possible spread of COVID-19 within the establishment. These include concierge staff, receptionists,

dormitory managers, cleaners, drivers, cooks and security guards.

 Leverage existing networks and groups in the community to staff ancillary positions such as faith-based organizations and local women's or youth unions and networks.

1.6.4 Infection prevention and control

Managers of quarantine or isolation facilities should provide to the staff the latest IPC updates for IPC measures toward COVID-19. [7]

- Ensure all staff are trained and strictly apply IPC precautions as per local guidance. This includes: appropriate selection and use of PPE, hand hygiene, respiratory hygiene, environmental cleaning, managing medical devices and equipment, laundry, food service utensils, and medical waste in accordance with safe routine procedures. [8]
- Restrict staff from entering patient rooms when not providing care, environmental cleaning or other essential functions.
 Encourage patients to perform personal hygiene and ensure environmental hygiene within their own rooms/spaces. Staff can provide additional assistance, if required.
- Restrict visitors. Telecommunication with close connections is recommended.

⁴ Oxygen supply, masks, Ambu bag, intubation kit, epinephrine, automated external defibrillator (AED), syringe, normal saline, gloves, etc.

- Place soiled linens in clearly labeled leak- proof bags or containers after carefully removing solid excrement.
- Allocate waste zones, including cleaning and disinfection points, temporary waste storage, organic pits and sharp pits. All wastes from isolated patients are infectious waste and must be managed accordingly. Ensure three categories of medical waste containers (household, infectious and sharps) at point of care.
- Routinely clean and disinfect frequently touched surfaces, such as switches, door handle, and furnishings (e.g. alcohol 70%, 0.1% sodium hypochlorite solution)
- Mop floor with detergent, followed by disinfectants routinely (e.g. 0.1% (1000 ppm) hypochlorite solution. As for blood and body fluids large spills (i.e. more than about 10mL), a concentration of 0.5% (5000 ppm) of sodium hypochlorite is recommended.
 [7]

1.6.5 Information, communication and social engagement

- Governments are advised to engage in two- way communication with the public to inform about quarantine and isolation facilities with detailed explanations of the purpose and function and to alleviate community concerns. This will help elicit public awareness and support.
- Each facility should keep a clear and complete logbook on user/patient registration, medical records and discharge records.
- Local coordination bodies and quarantine or isolation facilities should communicate on a timely basis to exchange information. This could include the number of newly admitted, discharged and referred users/patients in each quarantine, isolation facility, the number of beds occupied, the number of vacant beds, the

operational status, and adverse events, if applicable.

- Social engagement and support are vital to patients recovering and alleviating their anxiety during quarantine or isolation.
 Health workers, non- health-care workers and patients can provide emotional support to each other:
 - providing access to mental health and psychosocial support services (on-site, telephone-based and other remote options);
 - ensure client safety procedure is in place for emergencies and other crises.

1.6.6 Prevention, identification and management of COVID-19 among health workers

- The interim technical guidance for the *Prevention, identification and management of health worker infection in the context of COVID-19* recommends active or passive syndromic surveillance and testing in HCWs, depending on the local transmission scenario.
- Administrators should encourage HCW to continue following recommended IPC and public health and social measures, in communities, homes and workplaces. They should be supported and monitored for any long-lasting post-SARS-CoV-2 infection effects and any potential psychological implications. [8]

1.6.7 Strengthen IPC quality improvement through robust monitoring and evaluation

- A checklist is developed for local adaption. This is aiming at identifying IPC lapses in facility environment in three high risk areas: check-in, medical assessment, and specimen collection.
- The assessor conducts a walk-through observation in each of the three areas using the checklist (Annex 1).

2. Protection and provision of care for children

When implementing quarantine and isolation, authorities should avoid family separation and weigh in the welfare of the child against the potential risk of SARS-CoV-2 transmission within the family. [6] A child under 18 should be under the care of a legal guardian.

- In settings where children are isolated without caregivers, sufficiently trained care staff must be provided to support children with a safe, caring and stimulating environment that also meets their needs for psychosocial support and education (e.g. online access to learning).
- Each quarantine or isolation facility that receives children should assign one staff member as a focal point for child protection issues. The child protection focal point will need to be familiarized with risks of violence, exploitation, abuse or neglect.
- A strict child safeguarding policy must be in place. Staff who monitor the health of quarantined children should be trained to recognize the symptoms of COVID-19 in children, as well as signs that they need immediate medical assistance. Referral pathways should be established in advance.

3. Guidance development

3.1 Acknowledgements

This document was developed by a guideline development group composed of staff and consultants from the Division of Health Systems and Services of the WHO Regional Office for the Western Pacific. It serves as an integrated section of a series of health systems preparedness and response guidance issued by the Regional Office.

3.2 Guidance development methods

This document was developed based on a review of relevant literature and WHO guidelines. The guideline development group reached consensus on the recommendations through group discussion.

3.3 Declaration of interests

Interests have been declared in line with WHO policy, and no conflicts of interest were identified from any of the contributors.

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Annex 1 - Making Quarantine and Non-Health Isolation Facilities Safe from COVID-19: A Quality Assessment Tool

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