

Home care for patients with suspected or confirmed COVID-19 and management of their contacts

Interim guidance

12 August 2020



Background

This document is an update of the guidance published on 17 March 2020 entitled “Home care for patients with COVID-19 presenting with mild symptoms and management of their contacts”. This interim guidance has been updated with advice on safe and appropriate home care for patients with coronavirus disease 2019 (COVID-19) and on the public health measures related to the management of their contacts. The main differences from the previous version include:

- Considerations for clinicians when identifying and supporting patients who could receive care at home;
- Considerations regarding the IPC requirements for the household to be suitable for caring for COVID-19 patients in the home;
- Clinical monitoring and treatment of COVID-19 patients at home;
- Waste management in the home setting in the context of COVID-19 and;
- An appendix on the effective implementation of home-care policies and guidelines for patients with COVID-19

Purpose of the guidance

This rapid advice is intended to guide public health and infection prevention and control (IPC) professionals, health facility managers, health workers^a and other trained community-based providers when addressing issues related to home care for patients with suspected or confirmed COVID-19, and thus refers to a patient with suspected or confirmed COVID-19 throughout the document.

In many contexts, health services are delivered at community level and in the home by community health workers, traditional medicine practitioners, social care workers, or a variety of formal and informal community-based providers, including caregivers. For the purpose of this document, “caregivers” refers to parents, spouses and other family members or friends providing informal care as opposed to the care provided by formal health-care providers (1).

It is therefore critical to ensure that caregivers have appropriate training and guidance on how to care for patients as well as how to minimize the risk of infection, including

training on important hygiene procedures and on recognizing signs that the COVID-19 patient’s condition is worsening and that he or she needs to be sent to a health facility.

In addition, health workers and caregivers providing support in the home should be provided with the appropriate personal protective equipment (PPE) for the tasks that they are expected to perform and trained in PPE use and removal.

This guidance is based on the latest available evidence on the clinical management of COVID-19, the feasibility of implementing safe care at home, including IPC measures, the capacity for communication between home-based caregivers and community health providers, as well as home-based patients’ access to health facilities. The appendix provides implementation strategies for care in the home setting.

Decision to care for COVID-19 patients at home

Home care may be considered for an adult or child with confirmed or suspected COVID-19 when inpatient care is unavailable or unsafe (e.g. when capacity is insufficient to meet the demand for health-care services). Such patients who have been discharged from hospital may also be cared for at home, if necessary.

Caring for an infected person in the home, rather than in a medical or other specialized facility, increases the risk of transmitting the virus to others in the home. However, the isolation of people who are infected with SARS-CoV-2 that causes COVID-19 can make an important contribution to breaking the chains of transmission of the virus. The decision as to whether to isolate and care for an infected person at home depends on the following three factors: 1) clinical evaluation of the COVID-19 patient, 2) evaluation of the home setting and 3) the ability to monitor the clinical evolution of a person with COVID-19 at home.

1. Clinical evaluation of COVID-19 patient

The decision to isolate and monitor a COVID-19 patient at home should be made on a case-by-case basis. Their clinical evaluation should include:

- clinical presentation
- any requirement for supportive care

^a WHO defines health workers as follows: “Health workers are all people engaged in actions whose primary intent is to enhance health. (2,3)

- risk factors for severe disease (i.e. age (> 60 years), smoking, obesity and noncommunicable diseases such as cardiovascular disease, diabetes mellitus, chronic lung disease, chronic kidney disease, immunosuppression and cancer) (4)

Patients who are asymptomatic or those with mild^b or moderate^c disease without risk factors for poor outcome may not require emergency interventions or hospitalization, and could be suitable for home isolation and care, provided the following two requirements are fulfilled in the home setting:

1. conditions for implementing appropriate IPC as outlined in this document are met;
2. close monitoring for any signs or symptoms of deterioration in their health status by a trained health worker is feasible (4).

These two requirements also apply to pregnant and postpartum women, and to children. Ensure adequate provisions for appropriate PPE for both patients and caregivers (4,5).

2. Evaluation of the home setting

A trained health worker should assess whether the home in question is suitable for the isolation and the provision of care^d of a COVID-19 patient, including whether the patient, caregiver and/or other household members have all they need to adhere to the recommendations for home care isolation. For example, they need hand and respiratory hygiene supplies, environmental cleaning materials, the ability to impose and adhere to restrictions on people's movement around or from the house. The ability to address safety concerns such as accidental ingestion of and fire hazards associated with alcohol-based hand rubs and cleaning products should also be

considered in the assessment (see Box 1: Factors to consider when assessing a household).

Limited or no access to water and sanitation, as well as to resources for cleaning and disinfection and hygiene pose risks for caregivers and community members for transmission of COVID-19. Health ministries and intersectoral partners at national and subnational levels should engage with communities and other actors to identify and provide the resources needed, implement risk communication strategies to provide support, and look to other contexts for possible solutions to ensure that IPC measures, as described in the next section of this document, can be met to provide safe, clean care in the home (6).

Children should remain with their caregivers wherever possible and this should be decided in consultation with the caregiver and the child. To prepare families with children for potential illness within a family, community protection focal points and caseworkers should help families plan and agree in advance on how they will care for children in case the primary caregivers become ill. Children living with primary caregivers who are elderly, disabled or have underlying health conditions should be prioritized (7-9).

If these or other vulnerable persons are present in the home setting and cannot be kept apart from the patient, then the health worker should offer to arrange for an alternative location for isolation for the patient if available (10).

If adequate isolation and IPC measures cannot be ensured at home, then isolation may need to be arranged, with consent from the patient, and agreement from the caregiver, and members of the household in designated and equipped community facilities, (such as repurposed hotels, stadiums or gymnasiums) or in a health facility (1,5,10-12).

Box 1-Factors to consider when assessing households

- Is the person with COVID-19 living alone? If so, what support network do they have? If not, who is living in the household with them?
- How is the person with COVID-19 and their family living? How feasible and practical would it be to implement recommendations? What alternative options are available?
- What are the needs related to disability, caring responsibilities for adults, older adults or children? What are the needs of other household members?
- How feasible is it for one caregiver to be identified to support the person with COVID-19 at home?
- What do household members know about COVID-19 and preventing transmission in the home? What are their information needs about COVID-19 and transmission prevention? Does the household know where to seek additional support or information related to care for the person with COVID-19 if needed?
- What does the person with COVID-19 and/or their household members think they need to be able to cope at home?
- Does the family understand when to call for medical assistance? Do they have the means to call for medical assistance?
- What are the psychosocial needs of the person with COVID-19 and household members? What support is available to them related to coping with the emotional impact or fear of stigma?
- What is the economic impact on the household? Who is the primary provider financially? What is the impact if that person needs to be isolated and/or to carry additional household or care responsibilities?
- Which health facility and, if possible, named professional is responsible for following up the care of the person with COVID-19? How will follow up of this care be maintained?

^b Symptomatic patient meeting the case definition for COVID-19 without evidence of viral pneumonia or hypoxia.

^c Moderate illness may include (i) in an adult or adolescent: clinical signs of pneumonia (fever, cough, dyspnoea, fast breathing) but no signs of severe pneumonia, including SpO₂ ≥ 90% on room air, (ii) in a child: clinical signs of non-severe pneumonia (cough or

difficulty breathing + fast breathing and/or chest indrawing) and no signs of severe pneumonia

^d A sample checklist for assessing environmental conditions in the home is available in the Annex C of Infection prevention and control of epidemics and pandemic prone acute respiratory diseases (13)

3. Ability to monitor the clinical evolution of a patient with COVID-19 at home

Ensure that the patient can be adequately monitored at the home. Home-based care should be provided by health workers if possible. Lines of communication between the caregiver and trained health workers or public health personnel, or both, should be established for the duration of the home-care period, that is, until the patient's symptoms have completely resolved. Monitoring patients and caregivers in the home can be done by trained community workers or outreach teams by telephone or email (1,6).

Advice for health workers providing care in a private home

1. IPC measures for health workers

Health workers should take the following measures when providing care in the home:

- Carry out a risk assessment to determine the appropriate PPE they need when caring for the patient and follow the recommendations for droplet and contact precautions (5,14).
- Patient must be placed in adequately ventilated rooms with large quantities of fresh and clean outdoor air to control contaminants and odours (15).
- Consider using natural ventilation, by opening windows if possible and safe to do so.
- For mechanical systems, increase the percentage of outdoor air, using economizer modes of HVAC operations and potentially as high as 100% (16).
- If heating, ventilation and air-conditioning (HVAC) systems are used, they should be regularly inspected, maintained, and cleaned. Rigorous standards for installation and maintenance of ventilation systems are essential to ensure that they are effective and contribute to a safe environment (16).
- Use of fans for air circulation should be avoided if possible unless it is in a single occupancy room when there are no other individuals present. If the use of fans is unavoidable, increase outdoor air exchange by opening windows and minimize air blowing from one person directly to another (15,16).
- Limit the number of household members present during any visits and request that they maintain a distance of at least 1 metre (m) from the health worker.
- When providing care or working within 1m of the patient request that the patient wear a medical mask.^e Individuals who cannot tolerate a medical mask should practise rigorous respiratory hygiene; that is, coughing or sneezing into a bent elbow or tissue and then immediately disposing of the tissue followed by hand hygiene (5,17).
- Perform hand hygiene after any type of contact with the patient or his/her immediate environment and according to the WHO 5 moments (18). Health workers should have with them a supply of alcohol-based hand rub for their use.

- When washing hands with soap and water, use disposable paper towels to dry hands. If paper towels are not available, use clean cloth towels and replace them frequently (18,19).
- Provide instructions to caregivers and household members on how to clean and disinfect the home, as well as on the safe and correct use and storage of cleaning materials and disinfectants (19).
- Clean and disinfect any reusable equipment used in the care of the patient before using on another patient according to standard precautions and established protocols (20).
- Remove PPE and perform hand hygiene before leaving the home and discard disposable PPE. Clean and disinfect reusable items (i.e. eye protection) or store reusable items for decontamination later according to established protocols (20).
- Do not reuse single use PPE (21).
- Dispose of waste generated from providing care to the patient as infectious waste in strong bags or safety boxes as appropriate, close completely and remove from the home (14).
- For more guidance on waste management in community settings, please refer to the [Water, sanitation, hygiene and waste management for the COVID-19 virus](#).

2. Clinical considerations for home-based care of patients with mild or moderate COVID-19

Symptomatic treatment

WHO recommends that patients with COVID-19 receive treatment for their symptoms, such as antipyretics for fever and pain (according to manufacturers' instructions) as well as adequate nutrition and appropriate rehydration (4).

WHO advises against antibiotic prophylaxis or treatment for patients with mild COVID-19. For patients with moderate COVID-19, antibiotics should not be prescribed unless there is clinical suspicion of a bacterial infection (4).

For details on prescribing antimicrobials, please refer to the guideline from WHO: [Clinical management of COVID-19](#).

In areas with other endemic infections that cause fever (such as influenza, malaria, dengue, etc.), febrile patients should seek medical care, be tested and treated for those endemic infections in accordance with routine protocols, irrespective of the presence of respiratory signs and symptoms.

Drug supply management for patients with chronic diseases

COVID-19 patients with non-communicable diseases or other chronic conditions receiving home-based care should have an adequate supply of medication (i.e. 6-month drug supply in lieu of the usual 60-90 day supply). Older people should have at least a 2-week supply of critical medicines and supplies. Repeat prescriptions and mechanisms for delivering refills should be readily available (6).

^e Medical masks are surgical or procedure masks that are flat or pleated (some are shaped like a cup); they are held in place by strings that tie around the back of the head

Monitor for worsening symptoms regularly

Advise the COVID-19 patients and their caregivers about the signs and symptoms of complications or how to recognise a deterioration in their health status that require medical attention. Monitor these regularly, ideally once a day. For example, if a patient's symptoms become much worse (such as light headedness, difficulty breathing, chest pain, dehydration, etc.) from the initial clinical assessment, he or she should be directed to seek urgent care (4).

Caregivers of children with COVID-19 should also monitor their patients for any signs and symptoms of clinical deterioration requiring an urgent re-evaluation. These include difficulty breathing/fast or shallow breathing, blue lips or face, chest pain or pressure, new confusion as well as an inability to wake up, interact when awake, drink or keep liquids down.

For infants these include: grunting and an inability to breastfeed (4).

Home pulse oximetry is a safe, non-invasive way to assess oxygen saturation in the blood and can support the early identification of low oxygen levels in patients with initially mild or moderate COVID-19 or silent hypoxia, when a patient does not appear to be short of breath but his or her oxygen levels are lower than expected. Home pulse oximetry can identify individuals in need of medical evaluation, oxygen therapy or hospitalization, even before they show clinical danger signs or worsening symptoms (22,23).

Palliative care at home

Palliative care includes but is not limited to end-of-life care. Palliative care is a multifaceted, integrated approach to improving the quality of life of adults and paediatric patients and their families facing the problems associated with life-threatening illness. All health workers caring for COVID-19 patients should be able to offer basic palliative care, including relief of shortness of breath (dyspnoea) or other symptoms, and social support, when such care is required (4). Efforts should be made to ensure that palliative interventions are accessible for patients, including access to medicines, equipment, human resources and social support at home. Palliative care interventions are described in detail in the WHO guidance entitled [Integrating palliative care and symptom relief into the response to humanitarian emergencies and crises](#).

3. Releasing COVID-19 patients from isolation at home

COVID-19 patients who have been discharged from hospital may continue to be cared for at home. This may include individuals who have clinically recovered from severe or critical illness and who may no longer be infectious.

Patients who are cared for at home should be isolated until they are no longer infectious (5,8):

- For asymptomatic persons: 10 days after testing positive.

- COVID-19 patients who receive home-based care or have been discharged from hospital should remain in isolation for a minimum of 10 days after symptom onset, plus at least 3 additional days without symptoms (including without fever and without respiratory symptoms) (4,24).
- Health workers need to establish a means of communicating with the caregivers of individuals with COVID-19 for the duration of the isolation period.

4. Management of contacts

A contact is a person who has experienced any one of the following exposures during the two days before and the 14 days after the onset of symptoms of a probable or confirmed case: 1. face-to-face contact with a probable or confirmed case within 1 metre and for at least 15 minutes; 2. direct physical contact with a probable or confirmed case; 3. direct care for a patient with probable or confirmed COVID-19 disease without using recommended personal protective equipment; 4. other situations as indicated by local risk assessments.

Contacts should remain in quarantine at home and monitor their health for 14 days from the last day of possible contact with the infected person (12). Guidance on follow up and management of contacts can be found in the [Public health surveillance for COVID-19](#).

IPC advice for caregivers providing care at home

Caregivers, household members and individuals with probable or confirmed COVID-19 should receive support from trained health workers. Caregivers and household members should receive guidance from a trained health worker on how to adhere to the IPC recommendations for health workers as well as the following additional recommendations:

- Limit the patient's movement around the house and minimize shared space. Ensure that shared spaces (e.g. kitchen, bathroom) are well ventilated.(5,15).
- Household members should avoid entering the room where the patient is located or, if that is not possible, maintain a distance of at least 1m from the patient (e.g. sleep in a separate bed)^f (5).
- Limit the number of caregivers. Ideally, assign one person who is in good health and has no underlying chronic conditions (4,5).
- Visitors should not be allowed in the home until the person has completely recovered, shows no signs or symptoms of COVID-19 and has been released from isolation.
- Perform hand hygiene according to the WHO 5 moments (18). Hand hygiene should also be performed before and after preparing food, before eating, after using the toilet, and whenever hands look dirty. If hands are not visibly soiled, an alcohol-based hand rub can be used. For visibly soiled hands, always use soap and water.

^f An exception may be made for breastfeeding mothers. Considering the benefits of breastfeeding and the insignificant role of breast milk in the transmission of other respiratory viruses, a mother can continue breastfeeding. The mother should wear a medical mask

when she is near her baby and perform hand hygiene before and after having close contact with the baby. She will also need to follow the other hygiene measures described in this document.

- A medical mask⁴ should be provided to the patient, worn as much as possible by the patient and changed daily and whenever wet or dirty from secretions. Individuals who should practice rigorous respiratory hygiene; that is, coughing or sneezing into a bent elbow or tissue and then immediately disposing of the tissue followed by hand hygiene (5,17).
- Materials used to cover the mouth and nose should be discarded or cleaned appropriately after use (e.g. wash handkerchiefs, using regular soap or detergent and water).
- Caregivers should wear a medical mask that covers their mouth and nose when they are in the same room as the patient. Masks should not be touched or handled during use. If the mask gets wet or dirty from secretions, it must be replaced immediately with a new clean, dry mask. Remove the mask using the appropriate technique, which is to untie it, rather than touching the front of the mask, to discard it immediately after use and then to perform hand hygiene (17,21).
- Avoid direct contact with the patient's body fluids, particularly oral or respiratory secretions, and stool. Use disposable gloves and a mask when providing oral or respiratory care, and when handling stool, urine and other waste. Perform hand hygiene before putting on the mask and gloves and after removing gloves and the mask (5).
- Do not reuse medical masks or gloves (unless the gloves are a reusable product such as a utility glove) (19,21).
- Gloves and protective clothing (e.g. plastic aprons) should be used when cleaning surfaces or handling clothing or linen soiled with body fluids. Depending on the context, wear either utility or single-use gloves (19).
- Clean and disinfect surfaces that are frequently touched in the room where the patient is being cared for, such as bedside tables, bedframes, and other bedroom furniture at least once daily. Clean and disinfect bathroom and toilet surfaces at least once daily. Regular household soap or detergent should be used first for cleaning, and then, after rinsing, regular household disinfectant containing 0.1% sodium hypochlorite (i.e. equivalent to 1000 ppm) should be applied by wiping surfaces (19).
- Use dedicated linen and eating utensils for the patient; these items should be cleaned with soap and water after use and may be re-used instead of being discarded (8).
- Place contaminated linen in a laundry bag. Do not shake soiled laundry and avoid contaminated materials coming into contact with skin and clothes (19).
- Clean the patient's clothes, bed linen, and bath and hand towels using regular laundry soap and water, or machine wash at 60–90 °C (140–194 °F) with common household detergent, and dry thoroughly (19).
- After use, utility gloves should be cleaned with soap and water and decontaminated with 0.1% sodium hypochlorite solution. Single-use gloves (e.g. nitrile or latex) should be discarded after each use. Perform hand hygiene before putting on and after removing gloves (19).
- Waste generated at home while caring for a COVID-19 patient during the recovery period should be packed in strong bags and closed completely before disposal and eventual collection by municipal waste

services. If such a service does not exist, waste may be buried. Burning is the least preferred option, as it is bad for human health and the environment (5,19).

- Avoid other types of exposure to contaminated items from the patient's immediate environment (e.g. do not share toothbrushes, cigarettes, cutlery, crockery, towels, washcloths or bed linen) (5).

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References

1. Macgregor H, Hrynck T. COVID-19: Strategies to support home and community-based care. Social Science in Humanitarian Action Platform: 2020 (<https://www.socialscienceinaction.org/resources/covid-19-strategies-to-support-home-and-community-based-care/> accessed 20 July 2020).
2. World Health Organization. Health employment and economic growth: an evidence base. Geneva: World Health Organization; 2017 (<https://apps.who.int/iris/handle/10665/326411>. accessed 25 June 2020)
3. Vita-Finzi L, Campanini B, editors. Working together for health: the world health report: 2006. Geneva: World Health Organization; 2006 (<https://apps.who.int/iris/handle/10665/43432> accessed 25 June 2020)
4. World Health Organization. Clinical management of COVID-19:interim guidance. Geneva: World Health Organization; 2020 (<https://apps.who.int/iris/handle/10665/332196> accessed 8 June 2020)
5. World Health Organization. Home care for patients with Middle East respiratory syndrome coronavirus (MERS-CoV) infection presenting with mild symptoms and management of contacts: interim guidance. Geneva: World Health Organization; 2018 (<https://apps.who.int/iris/handle/10665/272948> accessed 26 January 2020)
6. World Health Organization & United Nations Children's Fund (UNICEF). (2020). Community-based health care, including outreach and campaigns, in the context of the COVID-19 pandemic: interim guidance. Geneva: World Health Organization; 2020 (<https://apps.who.int/iris/handle/10665/331975> accessed 26 June 2020)
7. Better Care Network, The Alliance for Child Protection in Humanitarian Action, United Nations Children's Fund (UNICEF). Protection of children during the COVID-19 Pandemic 2020 (<https://www.unicef.org/sites/default/files/2020-05/COVID-19-Alternative-Care-Technical-Note.pdf> accessed 21 July 2020)
8. The Alliance for Child Protection in Humanitarian Action. Technical Note: Protection of children during the coronavirus pandemic v.2 2020 (https://reliefweb.int/sites/reliefweb.int/files/resources/the_alliance_covid_19_tn_version_2_05.27.20_final.pdf accessed 21 July 2020)
9. Fischer, HT, Elliott L, Bertrand SL. Guidance Note: Protection of children during infectious disease outbreaks. The Alliance for Child Protection in Humanitarian Action 2019 (https://alliancecpha.org/en/system/tdf/library/attachments/cp_during_ido_guide_0.pdf?file=1&type=node&id=30184 accessed 21 July 2020)
10. Chan EYY, Gobat N, Hung H et al. A review on implications of home care in a biological hazard: The case of SARS-CoV-2/COVID-19. Collaborating Centre for Oxford University and CUHK for Disaster and Medical Humanitarian Response CCOUC 2020 (Health-Emergency and Disaster Risk Management Technical Brief Series #202001 <http://www.ccouc.ox.ac.uk/asset/file/a-review-on-implications-of-home-care-in-a-biological-hazard.pdf>. accessed 21 July 2020)
11. World Health Organization. Severe acute respiratory infections treatment centre: practical manual to set up and manage a SARI treatment centre and SARI screening facility in health care facilities. Geneva: World Health Organization; 2020 (<https://www.who.int/publications/i/item/10665-331603> accessed 21 July 2020)
12. World Health Organization. Considerations for quarantine of individuals in the context of containment for coronavirus disease (COVID-19) Geneva: World Health Organization; 2020 (<https://apps.who.int/iris/handle/10665/331497> accessed 26 June 2020)
13. World Health Organization. Infection prevention and control of epidemic- and pandemic prone acute respiratory diseases in health care. Geneva: World Health Organization; 2014 <https://apps.who.int/iris/handle/10665/112656> accessed 26 January 2020)
14. World Health Organization. Infection prevention and control during health care for probable or confirmed cases of Middle East respiratory syndrome coronavirus (MERS-CoV) infection: interim guidance. Geneva: World Health Organization; 2019. (<https://apps.who.int/iris/handle/10665/174652> accessed 26 January 2020)
15. World Health Organization. Natural ventilation for infection control in health-care settings. Geneva: World Health Organization; 2009. (<https://apps.who.int/iris/handle/10665/44167> accessed 26 January 2020)
16. American Society of Heating, Refrigeration and Air-Conditioning Engineers (ASHRAE)[Internet]. Reopening of schools and universities. 2020 (<https://www.ashrae.org/technical-resources/reopening-of-schools-and-universities> accessed 10 Aug 2020)

17. World Health Organization Advice on the use of masks in the context of COVID-19. Geneva: World Health Organization; 2020 (<https://apps.who.int/iris/handle/10665/331693> accessed 26 Jun 2020)

18. World Health Organization and WHO Patient Safety. WHO guidelines on hand hygiene in health care. Geneva: World Health Organization; 2009 (<https://apps.who.int/iris/handle/10665/44102> accessed 20 January 2020).

19. World Health Organization & United Nations Children's Fund (UNICEF). Water, sanitation, hygiene and waste management for SARS-CoV-2, the virus that causes COVID-19: interim guidance Geneva: World Health Organization; 2020 (<https://apps.who.int/iris/handle/10665/333560> accessed 17 July 2020).

20. World Health Organization. Aide-memoire for infection prevention and control in a health care facility. Geneva: World Health Organization; 2004 (<https://apps.who.int/iris/handle/10665/130165> accessed 17 July 2020)

21. World Health Organization. (2020). Rational use of personal protective equipment for coronavirus disease (COVID-19) and considerations during severe shortages: interim guidance. Geneva: World Health Organization; 2020 (<https://apps.who.int/iris/handle/10665/331695> accessed 18 June 2020)

22. Jouffroy R, Jost D, Prunet B. Prehospital pulse oximetry: A red flag for early detection of silent hypoxemia in COVID-19 patients. *Critical Care*. 2020; 24:313 (<https://doi.org/10.1186/s13054-020-03036-9> accessed 26 July 2020)

23. Shah, S, Majmudar K, Stein A, Gupta N, Suppes S, Karamanis M, Capannar J, Sethi S, Patte C. Novel Use of Home Pulse Oximetry Monitoring in COVID-19 Patients Discharged From the Emergency Department Identifies Need for Hospitalization. *Academic emergency medicine: official journal of the Society for Academic Emergency Medicine*, 17 June 2020 (<https://doi.org/10.1111/acem.14053> accessed 26 July 2020)

24. World Health Organization. Criteria for releasing COVID-19 patients from isolation: scientific brief. Geneva: World Health Organization; 2020 (<https://apps.who.int/iris/handle/10665/332451> accessed 26 June 2020)

25. Van Bavel JJ, Baicker K, Boggio PS, Capraro V, Cichocka A, Cikara M, et al. Using social and behavioural science to support COVID-19 pandemic response. *Nature Human Behaviour*. 2020 4:460-471 (<https://doi.org/10.1038/s41562-020-0884-z> accessed 21 July 2020)

26. Chan EYY, Gobat N, Kim JH, Newnham EA, Huang Z, Hung H, et al. Informal home care providers: the forgotten health-care workers during the COVID-19 pandemic. *The Lancet*. 2020 395(10242):1957-1959 (DOI: 10.1016/s0140-6736(20)31254-x accessed 21 July 2020)

27. CORE Group. Home-based care: Reference guide for COVID-19. 2020 (<https://coregroup.org/home-based-care-reference-guide-for-covid-19/> accessed 21 Jul 2020)

Further references

Tips for engaging people in low-resource settings remotely and in-person. World Health Organization, the United Nations Children's Fund (UNICEF), The Global Alert and Response network (GOARN) and The International Federation of the Red Cross and Red Crescent (IFRC). 2020

COVID-19: Strategies to Support Home and Community - Based Care. Social Science in Humanitarian Action Platform (SSHAP), 2020.

Integrating palliative care and symptom relief into the response to humanitarian emergencies and crises: a WHO guide. Geneva: World Health Organization; 2018 (<https://apps.who.int/iris/handle/10665/274565> accessed 11 August 2020).

Operational considerations for case management for COVID-19 in health facility and community. Geneva: World Health Organization; 2020 (<https://apps.who.int/iris/handle/10665/331492> accessed 11 August 2020).

Guidance on COVID-19 for the care of older people and people living in long-term care facilities, other non-acute care facilities and home care. World Health Organization, Regional office for the Western Pacific; 2020 (<https://apps.who.int/iris/handle/10665/331913> accessed 11 August 2020).

Chan JF, Yuan S, Kok KH, To KK, Chu H, Yang J, et al. A familial cluster of pneumonia associated with the 2019 novel coronavirus indicating person-to-person transmission: a study of a family cluster. *Lancet*. 2020. doi: 10.1016/S0140-6736(20)30154-9.

Drosten C, Meyer B, Müller MA, Corman VM, Al-Masri M, Hossain R, et al. Transmission of MERS-coronavirus in household contacts. *N Engl J Med*. 2014;371:828-35. doi:10.1056/NEJMoa1405858.

Health Protection Agency (HPA) UK Novel Coronavirus Investigation Team. Evidence of person-to-person transmission within a family cluster of novel coronavirus infections, United Kingdom, February 2013. *Euro Surveill*. 2013; 18(11): 20427. doi:10.2807/ese.18.11.20427-en.

Hung C, Wang Y, Li X, Ren L, Yhao J, Hu Y, et al. Clinical features of patients infected with 2019 coronavirus in Wuhan, China. *Lancet*. 2020. doi:10.1016/S0140-6736(20)30183-5.

Li Q, Guan X, Wu P, Zhou L, Tong Y, Ren R, et al. Early transmission dynamics in Wuhan, China, of novel coronavirus-infected pneumonia. *N Engl J Med*. 2020. doi:10.1056/NEJMoa2001316.

Omrani AS, Matin MA, Haddad Q, Al-Nakhli D, Memish ZA, Albarrak AM. A family cluster of Middle East respiratory syndrome coronavirus infections related to a likely unrecognized asymptomatic or mild case. *Int J Infect Dis*. 2013;17(9):e668-72. doi:10.1016/j.ijid.2013.07.001.

Ren LL, Wang YM, Wu YQ, Xiang YC, Guo L, Xu T, et al. Identification of a novel coronavirus causing severe pneumonia in human: a descriptive study. *Chin Med J (Engl)*. 2020. doi:10.1097/CM9.0000000000000722.

Appendix: Implementation of home care policies and guidelines

Policies and guidelines related to home care for patients with confirmed or suspected COVID-19 will of course be interpreted and implemented at national and local levels in countries. The contexts and needs of households will vary; therefore, tailored approaches to information and support packages for home care are recommended.

Health and social systems

Implementation of guidelines and policies for home-based care of people with COVID-19 should, as far as possible, build on community and hospital health services and other sectors of society, including the social and private sectors. In this way, policy implementation can draw on assets that already exist. Innovative examples of service adaptations from other parts of the world can and should be widely shared (See box 2).

Information and communication

The provision of clear, consistent information about COVID-19, including how it spreads and how to prevent transmission in the home, is a key part of implementing this guidance. Such information should be tailored to different groups, available in local languages, expressed in simple, clear text and attractive images that speak to local populations. These images should include older and younger people, people from different ethnic groups, and people with disabilities. Real-life images may be preferred. Such information should also include details of where people can get further reliable information about COVID-19 and home care, as well as where caregivers and household members can access support for themselves. This public information should include advice on how to follow the WHO recommendations and is often best provided through two-way interaction.

Understand support needs of households

Information alone is not enough to ensure good infection control practices and adherence to recommended measures and behaviour in the home to prevent transmission. Several factors affect people's ability to follow recommended guidance, including their perception of the risk of becoming infected, their beliefs about COVID-19 and COVID-19 care, their attitudes and beliefs about the effectiveness of recommendations, and the extent to which recommendations are practical and feasible in their living environment (25). These factors may also change over time. Furthermore, becoming ill or living with a household member who is ill may trigger a strong emotional response. Household members report feeling anger, fear and resentment, which affects the way they relate to each other and their mental health. Households may need practical support, such as help with obtaining food, water and medicines. Understanding these factors will help authorities develop tailored support

packages for affected households. For example, authorities can consider home delivery of medical supplies, food, etc. to reduce household movement.

Needs of care providers

The primary caregiver of a COVID-19 patient may have their own specific needs that require support. These caregivers may also be responsible for caring for other household members, such as older adults, adults or children with disabilities, or with young children (26). Furthermore, they may have their own responsibilities, such as work or school, and their own vulnerabilities, such as chronic conditions (10). Women disproportionately bear the burden of unpaid care work, including for providing care to those sick at home and to their extended family members. This includes elderly women providing care for very young children or for older adults. Particular attention should be paid to households headed by a single woman who has had to give up remunerated work to care for sick relatives. Implementing home-care policies and guidance should account for the needs of these caregivers. For example, the initial household assessment should address the support needs of the primary caregiver (1,2,6).

Needs of health workers

Community health workers will be the primary point of contact between households and health-care facilities (6). To provide effective support to households, these health workers should be provided with training and practical tools to assist them (1). For example, these tools could include user friendly information packages, assessment tools, check lists, and context specific hygiene kits. Community health workers can also support households by ensuring they continue to receive social assistance on time. In addition, equipping community health workers with simple approaches to providing psychosocial support also helps to meet patient needs. At the same time, the mental health needs of community health workers should also be supported, especially when they face stigma, burnout and distress.

Environmental factors and constraints

When formulating national and local guidance in countries, recommendations on infection control and transmission prevention in the home should be feasible in the home environment. For example, in many parts of the world, where clean running water is not easily accessible, alternative approaches to hand hygiene, such as home built tippy taps, are needed (27).

Isolation of the person with COVID-19 may not be physically possible in multiple-occupancy households. Moreover, in intergenerational households, vulnerable members may need to be shielded or alternative arrangements sought for the person who is ill or for these vulnerable household members.

Box -2 Examples of home-care approaches in countries	
France	<p>A group of university hospitals in Paris, France organizes teams comprising a health professional and social worker to visit COVID-19 patients and their caregivers. The aim is to:</p> <ul style="list-style-type: none"> • provide screening and testing of family and close social contacts • provide guidance on isolation at home • provide a protection kit, such as masks and alcohol-based hand rub • provide ongoing monitoring
Haiti	<p>Teams including clinical health workers and water, sanitation and hygiene (WASH) public health specialists are sent to homes by the health department and in agreement with the household. They seek to:</p> <ul style="list-style-type: none"> • conduct a basic clinical assessment of the COVID-19 patient, assesses the home and WASH conditions to determine if home isolation is feasible • inform the family or household members about COVID-19, explain how to follow isolation procedures and provide training on hygiene measures • provide the family with a hygiene and cleaning kit, as well as household cleaning and disinfection
Mauritania	<p>Confirmed COVID-19 patients receive a home visit to:</p> <ul style="list-style-type: none"> • provide education about infection prevention measures at home, including use of masks and household cleaning and disinfection • provide hygiene kits (to households who cannot afford such items) consisting of local hand washing system, bleach and reusable mask • follow-up care is provided by community surveillance teams

WHO continues to monitor the situation closely for any changes that may affect this interim guidance. Should any factors change, WHO will issue a further update. Otherwise, this interim guidance document will expire 2 years after the date of publication.

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