# COVID-19 Scientific Advisory Group Rapid Response Report

**Key Research Question: Are there criteria or simple tools that can be used to determine which patients with suspected / confirmed COVID-19 are stable and appropriate for safe discharge from hospital or an alternate care centre? What follow-up is required?**

## Context

- Questions have arisen from several areas of AHS including inpatient medicine, respiratory, and primary care.
- The review recommendations related to discharge/follow-up care reflect **non-surge capacity** at acute care sites, with limited additional pressure on staffing, and laboratory facilities (but noting possible resource limitations for confirmatory COVID-19 swabs testing). Modification to these recommendations may be required in the event of surge capacity, shortage of staff, beds or laboratory capacity.
- The rapid review was based upon limited literature and existing published guideline documents. Due to the limited primary research, the review provides a summary of existing guidelines and recommendations available.
- This review does not address the discharge/follow-up of individuals with COVID-19 that are discharged to a setting other than a private home residence (such as long term care, group home environments etc.), special populations (immunocompromised etc.), or those who are not admitted but instead have had repeated visits to the emergency department.
- The information in this rapid review is meant to be used in addition to clinical judgment

## Key Messages from the Evidence Summary

- There is limited evidence for specific discharge criteria, and follow-up care for individuals with suspect or confirmed COVID-19. Policy statements and guideline documents provide recommendations in absence of primary data.
- No studies were identified that have examined the risk of readmission after discharge for patients with COVID-19, a significant limitation.
- Common criteria for discharge for COVID-19 patients within guidelines from health organizations and health regions include; afebrile status without the use of fever-reducing medications (for 24-72 hours); improved respiratory symptoms; two negative SARS-CoV-2 NP tests 24 hours apart; and improvement of inflammation on imaging, but these criteria do not appear to be based on high quality evidence.
- With respect to self-isolation after hospital discharge for patients returning home, AHS IPC and Alberta Health guidance is that patients who are not immunosuppressed should continue to self-isolate until their predominant symptoms and fever are completely resolved or until 10 days (14

days for patients returning to long term care facilities or other congregate group homes) after illness onset (whichever is longer).

- Household contacts of the patient should be reminded they need to self-isolate for 14 days from the last contact with the patient during the patient's period of communicability since the period of incubation may extend for up to 14 days
- The rationale for the distinction between self-isolation protocol for individuals recovering and their household contacts is important. The self-isolation period for recovering individuals is to ensure they are no longer infectious to others; while the self-isolation period for household contacts is to isolate individuals that have been exposed and are at risk of developing COVID-19 during its 14 day incubation period.
- General principles for follow-up care for COVID-19 patients in the community include ensuring the home environment is suitable for continued recovery, and the provision of health monitoring/wellness calls, particularly for those at high risk of readmission.

## Committee Discussion

This report was discussed at two committee meetings. At the first meeting, there was general consensus on the recommendations and the practical guidance provided with modifications. The committee agreed with the lack of specific evidence to inform these decisions, and suggested adding a section to incorporate 'research gaps.' There may be consideration for a future review to evaluate the evidence for factors associated with readmission/return to emergency department (although out of scope for this review – we have expanded on timelines for illness (such as onset of symptoms to severe outcomes). Committee revised order of recommendations/practical guidance. With respect to when patients could safely be taken off self-isolation (felt to be outside the context of this report), we have linked directly to AHS resources to ensure alignment. The question was modified to focus on ensuring it was safe for the patient to be discharged, rather than focus on the safety of others (such as household members) – since that is a separate question that has been addressed in existing AHS / IPC policy.

At the second committee meeting (April 21, 2020), the changes implemented based on the April 17, 2020 SAG meeting were discussed. It was noted that patients with recurrent emergency department visits were not in scope for this review, and this was added to the context. The SAG discussed the importance of clarifying the distinction of self-isolation protocols for those that are recovering, and those that have been exposed (household contact). This was addressed in Recommendation #4. There was general discussion regarding the potential for confusion regarding the self-isolation recommendations and suggested this should be discussed with the teams from Alberta Health-Public Health and Provincial IPC. The first recommendation was modified to reduce confusion regarding self-isolation. Additional input has been provided by primary care colleagues, in particular related to both the Home to Hospital to Home draft guidelines, and the draft COVID-19 discharge protocols within AHS.

Recommendations

1. A Covid-19 patient meeting the following criteria can be considered for discharge:
    - afebrile without use of fever-reducing agents for at least 48 hours
    - improving hypoxia and respiratory symptoms (particularly shortness of breath, since up to 29% of patients may have persistent cough for up to 3 weeks)

        - able to adhere to self-isolation recommendations until predominant symptoms and fever are completely resolved.
2. Factors such as frailty, advanced age, comorbidities, and lack of social supports or the ability to self-care and self-isolate after discharge should also be considered.
3. Household contacts of a Covid-19 patient should be quarantined for 14 days after their last contact with the patient while infectious.
4. After discharge, Covid-19 patients should be monitored via telephone follow-up. According to specialist link guidelines all patients stepping down from tertiary care are considered high risk and should be monitored daily for 14 days from onset of symptoms. (https://www.specialistlink.ca/files/COVID_PathwayV2_April62020.pdf). In-person follow-up and re-assessment should occur if symptoms worsen, to include oxygen saturation testing and chest x-ray.

Practical Guidance

- Evidence-based guidelines for the discharge of suspect/confirmed COVID-19 patients is limited; therefore requiring the integration of existing policies/consensus guidelines and clinical expertise to develop an AHS specific approach.
- While some patients might be able to be discharged on home oxygen (eg; <2L/min by NP), this should only be considered in patients who meet all other criteria, particularly for those who have not reached 12 days after illness onset, since some patients may experience late deterioration. Consideration could be given to transfer to an alternate care centre, or virtual ward, where possible, and if not available, close outpatient follow-up is required as recommended above.
- Due to the need for ongoing precautions to reduce transmission, appropriate patient/family education and clear and consistent messaging is required when discharging patients with COVID-19 back to their community. Given the importance of these precautions, both verbal and written instructions should be provided, and the patient/family understanding should be confirmed.
- Individuals that have co-morbidities such as cardiovascular disease, chronic pulmonary disease, hypertension, diabetes, pregnancy, and other immunocompromised conditions (such as cancer, use of immunosuppressant medications, or immunodeficiency syndromes) require more careful follow-up in the community. Additionally, individuals that are returning to home with high risk family members (such as those with the above co-morbidities) require strict adherence to isolation protocols, or ideally, discharge to alternative housing temporarily
- Based on Alberta's Home to Hospital to Home Transitions Guideline it is suggested (https://www.albertahealthservices.ca/info/Page15353.aspx):
    - Hospital teams should ensure that the patient's primary care provider (PCP) agrees to accept responsibility for care upon discharge. If there is not an established relationship with a primary care provider (or the PCP is not able to assume responsibility) the team should work the appropriate Primary Care Network to establish a connection. The discharge note and transition plan should be provided to the PCP, patient, family and caregivers.
    - A transition plan should be developed that includes all members of the team (including patient, family and caregivers) and either in-person or virtual follow-up should be arranged, if appropriate, prior to discharge.

    - At patient follow-up visits post-discharge the following should be reviewed: medication, patient goals, test results, need for additional test(s), isolation measures, and community supports should be arranged as needed.
- AHS is currently developing the COVID Provincial Pandemic Flowsheet: Patient Discharge from Hospital, and the COVID-19 Safe Discharge Checklist. As these documents are finalized and approved they will be linked to this document.

## Research Gaps

- Data on patient characteristics and outcomes should be collected in a consistent manner to test and validate discharge prognostic tools in Alberta, or other applicable settings (such as NEWS2)
- Research regarding community follow-up approaches and readmission would better inform the above recommendations.
- Discharge criteria has not been adequately validated, particularly in the Canadian/Albertan context.
- CT scan results offer some insight into disease progression, however further studies are required to validated the findings.

## Summary of Evidence

Information sources were identified through a rapid online search. Nine retrospective cohort studies, four case reports/rapid reviews, two review articles (including pre-print publications) and one research letter were included. Ten guideline/recommendation documents are included that were produced by local, national and international health organizations and/or authorities in response to managing the COVID-19 pandemic. These sources use a range of information and likely rely on expert consensus.

Key limitations of this review:

- Rapid turnaround time resulted in a limited time to conduct a thorough search of the research and grey literature.
- Given the limited research on this topic, the literature available is limited primarily to guideline documents, published letters, and descriptive papers

### *Research Question 1*

#### *Are there criteria / simple tools that can be used to determine which patients with suspected / confirmed COVID-19 can safely be discharged from hospital or an alternate care centre?*

No simple tools were identified in the literature to determine which patients with suspect/confirmed COVID-19 may be safely discharged from hospital or alternative care centre. However, the review did identify eight policy/guideline documents outlining criteria for discharge from inpatient/acute care to the home setting.

#### *Evidence from existing policies and guidelines*

Table 1 provides an overview of the documents and their recommendations. In summary, five of the guidelines suggested laboratory evidence of SARS-CoV-2 clearance in respiratory samples; 2 RT-PCR tests for respiratory tract samples with sampling interval ≥ 24 hours (ECDC, 2020); three indicated the patient should be afebrile (while the time varied from 24-72 hours), three specified improved respiratory symptoms; three indicated improved signs of inflammation on imaging; one specified six or more days

since onset of illness; one stated when hospital care was no longer required (based upon clinical presentation), one stated when appropriate care and isolation measures could be followed at home (in addition to clinical indication), one guideline suggested with the appearance of specific IgG when the appropriate test is available, and one advised that if recovery occurred quickly, there should be at least 7 days between the first and final test. Michigan guidelines specify considerations for assessing the suitability of the home environment for discharge including: availability of "a separate bedroom where the patient can recover without sharing immediate space with others", "resources for access to food and other necessities," presence of "household members who may be at increased risk of complications from COVID-19 infection (e.g., older people and people with severe chronic health conditions…)."

In regards to hospital discharge requirements for self-isolation, Alberta Health indicate in the Alberta Public Health Disease Management Guidelines Coronavirus-COVID-19 (2020) state:

- "Hospitalized cases that are discharged to their own home before hospital isolation is complete, should remain on home isolation for 10 days from onset of symptoms or until symptoms have resolved, whichever is longer, after arrival at home.
- Hospitalized cases being discharged/transferred to long-term care facilities/continuing care/group homes/shelters etc. before their isolation period is complete should remain on isolation for 14 days from onset of symptoms or until symptoms have resolved, whichever is longer.
- This additional length of time (4 more days from the 10 days) is recommended as the case had severe disease (i.e., hospitalized) and will be re-entering a facility with other vulnerable persons (i.e., long-term care facilities/continuing care/group homes/shelters)."

*Evidence from the primary literature*

Evidence on hospital discharge:

A total of eight studies from China indicated the Chinese Centre for Disease Control (CDC) discharge protocol was used to determine when patients should leave acute care settings (Chen 2020; Jin 2020; Huang 2020; Ma 2020; Wang 2020; Xing 2020; Zhang 2020; Zhou 2020). Huang (2020) stated that repeated tests for 2019-nCoV were conducted to demonstrate viral clearance before hospital discharge or discontinuation of isolation. Chen (2020) indicated that the same Chinese CDC discharge protocol was also used for paediatric population.

Wang (2020) followed 131 patients post-discharge to assess the Chinese CDC discharge protocol. The team determined based upon the recovery of patients discharged that the discharge protocol was sufficient. This was demonstrated by the resolution of overall symptoms, and improved chest CT imaging. Symptoms including fever, fatigue and dyspnea were resolved at discharged. Cough (29.01%), expectoration (6.11%) and chest tightness (6.11%), remained present, but diminished 2-3 weeks post-discharge. Post discharge they found that three patients required readmission while seven received home oxygen therapy. Wang(b) (2020) reviewed final CT scans of 70 patients discharged for COVID-19. Only 4 patients had final scans that showed complete resolution of lung abnormalities. The remaining 66 patients had residual evidence of disease

However Ma (2020) suggests that due to the possibility of SARS-CoV-2 RNA shedding in stool and the possibility of a lag in viral detection in NPS specimens, the assessment of both fecal and respiratory

specimen may facilitate discharge decision. In a rapid communication of a case study, Nicastri and colleagues (2020) state “consecutive multiple-site biological samples may be required in settings with limited community transmission for discontinuation of infection control and transmission-based isolation precautions” due to findings of positive SARS-CoV-2 RNA in stools, and nasopharyngeal and oropharyngeal swabs at different time points.

*Evidence about timeline of illness*

Zhou and colleagues (2020) conducted a retrospective cohort study of 191 patients with COVID-19. They determined that mean days from onset of symptoms to diagnosis of sepsis was 9 days, while the mean days from onset of symptoms to development of ARDS was 12 days, and mean days from onset of symptoms to ICU admission was also 12 days, raising important considerations for discharge timelines and risk of deterioration. A comparison of 113 patients in China that died and 161 that recovered found that mean time from onset of symptoms to hospitalization was 10 days for those that did not survive, and 9 days for the survivors-showing little difference (Chen(b), 2020). This study demonstrated a mean time of onset of symptoms to death (n=113) was 16 days; while hospitalization to death was five days, suggesting a rapid decline. Of the recovered patients (n=161), mean time from onset of symptoms to discharge was a mean of 26 days; and admission to hospital to discharge was a mean of 15 days (Chen(b), 2020). In Korea a cohort of 16 patients that died from COVID-19 had a mean of 10 days from onset of symptoms to death (Korean Society of Infectious Diseases and Korea Centers for Disease Control and Prevention, 2020).

Tian and colleagues (2020) reported on 262 cases of COVID-19 in Beijing, China. They reported a mean time of illness onset to hospitalization to be 4.5 days; 5.2 days for the 46 severe cases, and 4.4 days for the 216 mild/moderate cases. Huang (2020) indicated no difference in onset of symptoms to hospital admission for ICU patients (13 cases) and non-ICU patients (28 cases), with a mean of 7 days. These studies suggest little difference in severe and non-severe cases during the early disease state.

Radiologic progression of lung injury may also be helpful in assessing the timeline of illness in patients with COVID-19. Wang and colleagues (2020) in a pre-print article described the temporal changes of CT findings for 90 patients with COVID-19. The lung abnormalities increased quickly after the onset of symptoms and peaked around 6-11 days. This was followed by persistence of high levels in extent for a long duration. Mild to substantial residual lung abnormalities on final CT scans prior to discharge was found in 94% (66/70) of patients. The sensitivity of using CT for SARS-CoV-2 infection was 84% for days 0-5 (53 of 63 patients) and 99% for days 6-11 (74/75 patients). Li and colleagues (2020) similarly found in 91 patients that had repeated CT scans (average of 3.5 days apart) that 73% showed rapid decline, while 27% remained stable.

Similarly, Pan and team (2020) evaluated the CT results of 21 patients and found the maximum lung involvement peaked at 10 days from onset of symptoms. They suggested a possible pattern of: Stage 1 (0-4 days): ground glass opacities (GGO); (2) Stage-2 (5-8d days): increased crazy-paving pattern; (3) Stage-3 (9-13days): consolidation; (4) Stage-4 (≥14 days): gradual resolution of consolidation. Zhao (2020) explored differences in CT results from emergent (14 patients) and non-emergent cases (87 patients) of COVID-19. Four of the 14 imaging features—architectural distortion, traction bronchiectasis, intrathoracic lymph node enlargement, and pleural effusions occurred more frequently in the emergent patients.

Few studies report on imaging post-discharge. One study indicated of six COVID-19 patients that received a CT scan in their first week post-discharge two showed deterioration, while none of 24 patients that receive a CT by the second week post-discharge had deterioration on imaging (Wang, 2020).

### *Research Question 2*

#### *What follow-up is required?*

There is limited literature on the follow-up of individuals with suspect/confirmed COVID-19 once they are discharged from the hospital to the community. For detailed information regarding infectivity and self-isolation see AHS policy

#### *Evidence from existing policies and guidelines*

Seven of the guideline documents provided some degree of follow-up recommendations: Six indicated patient to remain in isolation for up to 14 days; four indicated health monitoring or wellness calls should occur and two suggested education for household members related to reducing transmission risk. Additional recommendations included wearing a mask in the home, medical follow-up within 2-4 weeks; and verification that the home is suitable and the residents will adhere to isolation/hygiene and care requirements. Table 2 provides a summary of the policy/guideline documents that offer suggestions for follow-up criteria for individuals with COVID-19 post-discharge.

#### *Evidence from the primary literature*

None.

## Evolving Evidence (if applicable)

Evidence on discharge criteria and patient follow-up post discharge in the community is evolving as we increase our understanding of viral shed, transmission, and the needs of patients in the community within the Alberta health care context.

Date question received by advisory group: April 14, 2020

Date report submitted to committee: April 16, 2020

Date of first assessment: April 22, 2020

(If applicable) Date of re-assessment:

## Authorship & Committee Members

This review was written by Heather Sharpe and Patrick McLane, and scientifically reviewed by Finlay McAlister (external reviewer), Braden Manns (co-chair), Greg Hrynchyshyn (external reviewer), Michelle Grinman (external reviewer), Kerri Johannson (external reviewer), and Joseph Kim (external reviewer). The full Scientific Advisory Group was involved in discussion and revision of the document: Lynora Saxinger (co-chair), John Conly, Alexander Doroshenko, Shelley Duggan, Nelson Lee, Elizabeth MacKay, Andrew McRae, Jeremy Slobodan, James Talbot, Brandie Walker, and Nathan Zelyas.

**Table 1: Comparison of current guidelines on discharge of COVID-19 cases**

| | |
|---|---|
| **China CDC**<br>Diagnosis and treatment protocol for COVID-19 patients (trial version 7, revised) | Patients meeting the following criteria can be discharged:<br>-Afebrile for >3 days,<br>-Improved respiratory symptoms,<br>-pulmonary imaging shows obvious absorption of inflammation, and<br>-nucleic acid tests negative for respiratory tract pathogen twice consecutively (sampling interval ≥ 24 hours). |
| **National Centre for Infectious Diseases (NCID) Singapore**<br>De-isolation of COVID-19 suspect cases | Discharge patient under the following conditions:<br>-Afebrile ≥ 24 hours,<br>-2 respiratory samples tested negative for SARS-CoV-2 by PCR in ≥ 24 hours,<br>-Day of illness from onset ≥ 6 days<br>-OR<br>-Alternative aetiology found (e.g. influenza, bacteremia)<br>-OR<br>-Not a close contact of a COVID-19 case<br>-Does not require in-patient care for other reasons. |
| **CDC USA**<br>Interim guidance for discontinuation of transmission-based precautions and disposition of hospitalized patients with COVID-19 | Patients can be discharged from the healthcare facility whenever **clinically indicated**. |
| **WHO**<br>Clinical management of severe acute respiratory infection (SARI) when COVID-19 disease is suspected | For hospital discharge, in a clinically recovered patient two negative tests, at least 24 hours apart, is recommended. |
| **Europe Centre for Disease Prevention & Control**<br>Novel coronavirus (SARS-CoV-2) Discharge criteria for confirmed COVID-19 cases – When is it safe to discharge COVID-19 cases from the hospital or end home isolation? | COVID-19 patients may be discharged from hospital and moved to home care (or other types of non-hospital care and isolation) based on:<br>-clinical criteria (e.g. no fever for > 3 days, improved respiratory symptoms, pulmonary imaging showing obvious absorption of inflammation, no hospital care needed for other pathology, clinician assessment)<br>-laboratory evidence of SARS-CoV-2 clearance in respiratory samples; 2 to 4 negative RT-PCR tests for respiratory tract samples (nasopharynx and throat swabs with sampling interval ≥ 24 hours). Testing at a minimum of 7 days after the first positive RT-PCR test is recommended for patients that clinically improve earlier.<br>-Serology: appearance of specific IgG when an appropriate serological test is available. |
| **Michigan Government**<br>COVID-19 Guidance for Healthcare Facilities for Discharge of Residents | The decision to discharge to home should consider if:<br>•The patient is stable enough to receive care at home.<br>•The patient's ability to adhere to isolation recommendations.<br>•Appropriate caregivers are available at home.<br>•There is a separate bedroom where the patient can recover without sharing immediate space with others.<br>•Resources for access to food and other necessities are available.<br>•The patient and other household members have access to appropriate, recommended personal protective equipment (at a minimum, gloves and facemask) |

**Table 1: Comparison of current guidelines on discharge of COVID-19 cases**

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|---|---|
| | and are capable of adhering to precautions recommended as part of home care or isolation (e.g., respiratory hygiene and cough etiquette, hand hygiene).<br>•There are household members who may be at increased risk of complications from COVID-19 infection (e.g., older people and people with severe chronic health conditions, such as heart disease, lung disease, and diabetes). In this instance additional considerations such as alternative discharge locations, relocating the household member, or ensuring strict adherence to isolation measures may be required. |
| **International Pulmonologist's Consensus on COVID-19** Chaired by: Dr. Tinku Joseph (India), Dr. Mohammed Ashkan Moslehi (Iran) | When to discharge a patient:<br>• Resolution of symptoms<br>• Radiological improvement<br>• Documented virological clearance in 2 samples at least 24 hours apart |
| **National Health Service** COVID-19 Hospital Discharge Service Requirements | For patients on a general ward it is suggested that a patient with a NEWS2 score of less than 3 may be considered for discharge (not a COVID-19 specific tool).<br>*Determines the degree of illness of a patient and prompts critical care intervention |

**Table 2: Comparison of current guidelines on follow-up of COVID-19 cases post discharge**

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| **China CDC** Diagnosis and treatment protocol for COVID-19 patients (trial version 7, revised) | After discharge, patients are recommended to continue 14 days of isolation management and health monitoring, wear a mask, live in a single room with good ventilation, reduce close contact with family members, eat separately, keep hands clean and avoid outdoor activities.<br>It is recommended that discharged patients should have follow-up visits after 2 and 4 weeks. |
| **National Centre for Infectious Diseases (NCID) Singapore** De-isolation of COVID-19 suspect cases | Discharge patient with advisory and clinic follow-up if indicated and with daily wellness calls until day 14 after last possible exposure |
| **CDC USA** Interim guidance for discontinuation of transmission-based precautions and disposition of hospitalized patients with COVID-19 | Isolation should be maintained at home if the patient returns home before discontinuation of Transmission-Based Precautions. Transmission-Based Precautions have been discontinued, but the patient has persistent symptoms from COVID-19 (e.g., persistent cough), they should be placed in a single room, be restricted to their room, and wear a facemask during care activities until all symptoms are completely resolved or until 14 days after illness onset, whichever is longer. Transmission-Based Precautions have been discontinued and the patient's symptoms have resolved, they do not require further restrictions, based upon their history of COVID-19. |
| **WHO** Home care for patients with COVID-19 presenting with mild symptoms and management of their | In cases in which care is to be provided at home, if and where feasible, a trained HCW should conduct an assessment to verify whether the residential setting is suitable for providing care; the HCW must assess whether the patient and the family are capable of adhering to the precautions that will be recommended as part of home care isolation |

**Table 2: Comparison of current guidelines on follow-up of COVID-19 cases post discharge**

| | |
|---|---|
| contacts Interim guidance 17 March 2020 | If and where feasible, a communication link with health care provider 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<br><br>Patients and household members should be educated about personal hygiene, basic IPC measures, and how to care as safely as possible for the person suspected of having COVID-19 to prevent the infection from spreading to household contacts. |
| **Europe Centre for Disease Prevention & Control**<br>Novel coronavirus (SARS-CoV-2) Discharge criteria for confirmed COVID-19 cases – When is it safe to discharge COVID-19 cases from the hospital or end home isolation? | The discharged patient should self-isolate at home or in a safe place until resolution of fever for at least three days and clinical improvement of other symptoms AND until eight days after the onset of symptoms for mild cases or for 14 days (severe cases) if these criteria have not been fulfilled in hospital.<br><br>Follow-up visits, or monitoring via phone or other electronic device can be considered. These patients should be prioritised for testing. |
| **Ministry of Health Ontario**<br>COVID-19 Quick Reference Public Health Guidance on Testing and Clearance | -If discharged home within 14 days of symptom onset, follow advice for individuals at home where viral clearance swabs are not required. |
| **County of Los Angeles**<br>Home Discharge Rules for Patients with Laboratory Confirmed COVID-19 | - Provide guidance on self-isolation until end of infectious period<br>- Advise any household members that they will need to self-quarantine for at least 14 days after last contact with this patient. Provide home quarantine instructions<br><br>If the patient lives with others and is not able to adequately self-isolate advise that:<br>-The self-quarantine period of all household members will be extended to 14 days after the end of the patient's isolation period<br>-Every effort should be made to relocate household members at risk for experiencing severe illness if infected (e.g., age>65 years, pregnant, and/or medical co-morbidities) |

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## Appendix

### List of Abbreviations

CDC Centre for Disease Control

ECDC Europe Centre for Disease Prevention & Control

WHO World Health Organization

### Literature Search Details

The literature search was done by Nicole Loroff from the AHS Knowledge Resource Service.

| **Search Strategy Concept** | **Synonyms/Related terms** |
|---|---|
| Discharge Criteria | Patient Dischare [MeSH]; dischar* [Keyword]; discharge adj2 criteria [Keyword]; discharge* adj2 instruct* [Keyword]; post-discharg* [Keyword]; post discharge* [Keyword]; postdischarg* [Keyword]; recover* adj2 home [Keyword]<br>Related terms: Patient Education as Topic [MeSH]; Consumer Health Information [MeSH]; Health Education [MeSH]; recover* [Keyword] |
| Follow-up Care | Aftercare [MeSH]; follow-up [Keyowrd]; follow up [Keyword]; after care [Keyword]; aftercare [Keyword]; after treat* [Keyword]; after-treat* [Keyword]<br>Related terms: Rehabilitation [MeSH] |
| COVID-19 | *Use prepared search filters* |

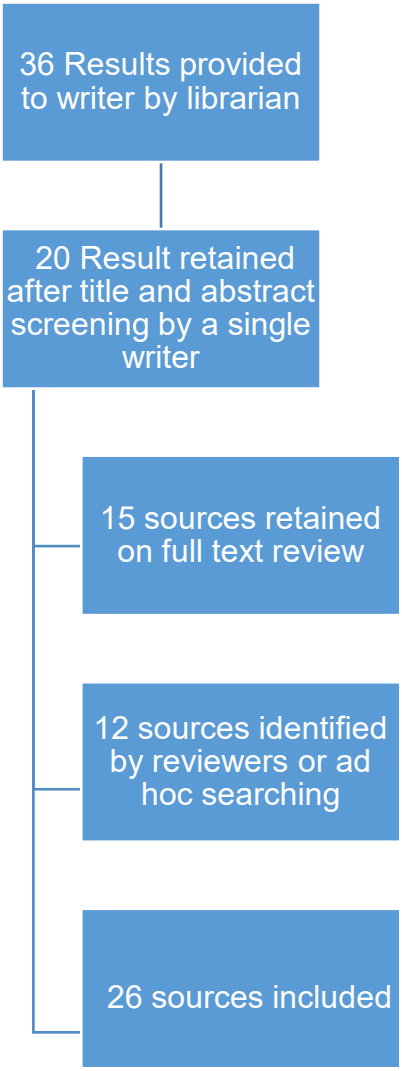
Limiters: English language, since 2019

Databases: MEDLINE (via OVID), PubMed, Trip Pro, LitCOVID, Google Scholar, Google, DynaMed, UptoDate

Table 3. Inclusion and exclusion criteria for results of the literature search

| Inclusion Criteria | Exclusion Criteria |
|---|---|
| - Guidelines and credible academic writing on discharge/follow-up criteria for COVID-19 patients.<br>- Systematic reviews of Covid-19 clinical characteristics, imaging and outcomes.<br>- Individual studies reporting on application of discharge criteria or follow-up studies | - News articles.<br>- Opinion pieces.<br>- Studies of unique populations (e.g. patients with cancer diagnoses, populations with high HIV rates, asymptomatic patients, seniors, low income settings).<br>- Sources focused on pregnant persons.<br>- Animal studies.<br>- Studies proposing criteria for resource allocation when a health system is overwhelmed or operating at surge capacity |

Figure 1: PRISMA Diagram




- PRISMA Citation:

  Moher D, Liberati A, Tetzlaff J, Altman DG, The PRISMA Group (2009). *Preferred Reporting Items for Systematic Reviews and Meta-Analyses:* The PRISMA Statement. PLoS Med 6(7): e1000097. doi:10.1371/journal.pmed1000097

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