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Hospital In The Home
HITH Society Australasia Ltd.

Role of Hospital in the Home for COVID-19

Contents

1 The Role of HITH

The role of Hospital-in-the-Home (HITH) is to provide hospital-level patient-centred care that can safely and effectively be delivered at home to keep patients out of hospital. The COVID-19 pandemic does not change this, but the role of HITH may be impacted in two ways:

- increased numbers of patients who do not have COVID-19 referred to HITH from the ward or ED to maximise hospital inpatient capacity for those that do have COVID-19

- new referrals of patients suspected or proven to have COVID-19 with clinical features on the less severe end of the spectrum but requiring some element of hospital care

These may occur through existing or development of new clinical pathways, with increases in service requiring appropriate resourcing. Maintaining care for non-COVID-19 patients will be a challenge for all health services during the pandemic. As HITH resources are often limited, each service should actively engage their executive in where resources are best allocated, in line with health department messaging about care provision at home. This document aims to summarise the current and potential role of HITH during the COVID-19 pandemic to assist institutions in planning for the likely increase in need for HITH. It should be used in conjunction with health department and infection control guidelines. It will be updated as necessary.

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Challenges Posed by the COVID-19 Pandemic

- HITH is unique in *proactively* trying to increase patient workload while at the same time managing the increase alongside other impacts of the COVID-19 pandemic (duelling priorities)
- Maximising inpatient hospital beds for COVID-19 patients will result in more referrals to HITH of predominantly non-COVID-19 patients (increased workload)
- Referrals for COVID-19 (increased workload, risk of transmission to staff and other patients)
- Staff may become unwell, need quarantine or to provide home care (reduced workforce)
- Cleaning and care of equipment and cars outside of the hospital environment (infection risk)
- Shortages elsewhere may cause outsourced services to close (inability to provide HITH care)

Overall Goals of HITH During COVID-19 Pandemic

1 To continue to provide safe, effective patient-centred care at home for all HITH patients, while managing increased demand for HITH services (and align with DHHS and Infection Control guidelines)
2 To plan for new clinical pathways to care for COVID-19 patients
3 To minimise the impact of staff shortages
4 To minimise the risk of COVID-19 exposure to staff and patients

2 Issues to Consider in Planning for HITH Preparedness for COVID-19

It is recommended that all HITH services consider up front what is achievable within current HITH patient capacity, and the triggers and responses for increased demand for HITH services with potentially decreased staff and other resources.

Managing Staffing

All staff

- Determine the impact of staff sick leave due to suspected (awaiting test results) and proven COVID-19 on other staff capacity and patient load, both numbers and competencies required
- Determine the impact of school closures for staff with school-age children
- Identify staff in organisation who have previously worked on HITH (permanent or casual) to limit upskilling needs if staff redeployed due to decrease in elective admissions
- Discuss with other ambulatory departments use of their staff if able to be redeployed
- Identify triggers up front for limiting patient numbers
- Consider lines and methods of communication for accepting no more patients on HITH without additional resources
- Make a plan to prioritise clinical work over admin
- Discuss with Human Resources cancellation of imminent annual leave for HITH staff – risk is burnout and backlog of leave later in the year
- Minimise meeting numbers and requirement for attendance to only those clinically needed
- Consider different timing of shifts eg late evening/night

Nursing/allied health/medical staff who need to visit patients or see patients in clinics

- Consider other methods of working to facilitate more flexible arrangements eg staff leaving from home for first visits, different shift durations, handover via videoconference, flexible start/finish times to accommodate school hours or other family members' work hours.
- For staff with increased risk of morbidity from COVID-19, consider how best to decrease risk of exposure.

Medical/nursing/allied health/admin office-based staff

- Consider other methods of working to facilitate more flexible arrangements eg working from home, telecommunications, zoom meetings
- Consider how to use well staff at home (child care, quarantine) eg telehealth reviews

Managing HITH equipment use and availability

HITH equipment use

- Consider accessibility and location of telehealth for staff, accessibility for patients
- Consider what does and does not need to be taken into the household
- Consider wearing of scrubs to be washed daily
- Discuss with infection control handling of equipment, disinfecting of equipment, disposables and waste from patients positive or awaiting test results for COVID-19 infection; education to institutional and community staff
- Consider developing observation kits to be lent to patients relevant to clinical scenario, to assist in telehealth reviews eg thermometers, oximeters
- IT – prioritise laptop/handheld device use for on-road staff for safe clinical care

Equipment stock availability

Plan to ensure stock of high-use HITH items sufficient in advance of need:

- Elastomeric infusers and antibiotics – liaise with hospital pharmacy department
- Other high-use items depending on patient population eg dressings, testing kits
- Ensure stock of PPE sufficient for majority of visits – masks, long-sleeved gowns, gloves, glasses per infection control droplet precaution guidelines

Cars

- All cars to have PPE sufficient for every patient visit per shift
- All cars to have viral test (flocked) swabs in equipment bag
- Equipment and cars to be checked and restocked with the above after every shift
- Consider use of other cars in ambulatory service if increased needs, or own cars and compensated for use
- All cars to have wipes for cleaning to ensure surfaces are clean for next user

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Managing Patient Workload

Managing interventions

- Minimise numbers of simple referrals eg straightforward wound dressings that could be done by patient/family member/GP.
- Minimise frequency of interventions eg once versus twice daily antibiotics, wound dressings that can be changed alternate daily (eg through post-acute care).
- Defer elective referrals
  - determine which cohorts possible (eg some CF tune-ups, ambulatory blood pressure, iron infusions)
  - pre-plan criteria for patient deferral
  - communicate plan and reasoning clearly with patients
  - make a plan to review these deferrals based on the patient and required intervention
- Consider situations in which patients can be educated and supported remotely in their care, especially if same intervention/pathway done for other cohorts eg subcut medication, self-monitoring of drain volumes, long term IV antibiotics.
- Consider using patient leave days on HITH to see other patients.
- Liaise with inpatient teams/Infectious Diseases for earlier change to non-HITH interventions eg switch from intravenous (IV) to oral antibiotics – there are adult and paediatric trials supporting much earlier switch than traditional for eg osteomyelitis, endocarditis.

Managing need for in-home visits

- Consider role of telehealth for patients needing review without physical intervention; some may be able to be done by phone although many patients voice a preference for video calls.
- Consider reducing kilometre radius of visits so staff have less driving time and can visit more patients.
- If patients are outside geographical area and need more than telehealth, consider subcontracting to local services if available, patients visiting designated HITH clinic if they are able to (not ideal but preferable to an inpatient bed), or even rehousing patients locally. This may include a role for under-used hotels close to the hospital for patients both with and without COVID-19, potentially different locations for each.

Outsourced/contracted patients

- Determine whether these services will continue, and how any changes will be communicated to your team as early as possible.

Managing patient expectations

- Scheduling visits to ensure maximum ability for HITH means patient requests for flexibility around timing may have to be denied. Clear communication to patients at referral about this.
- Consider development of HITH-specific COVID-19 patient leaflet, including child-orientated language or pictures as appropriate.

Minimising risk of exposure to and transmission of COVID-19 infection

All staff to use screening scripts to identify possible cases at referral.
Follow current department of health guidelines for screening, testing and personal protective equipment (PPE).

For staff in physical contact with patients (on-road, wards, clinic):

- They should receive education about risk and mode of virus transmission.
- They should receive training about donning, doffing and disposal of PPE (videos, online modules, reminder guides in cars).
- For those at increased risk of morbidity (medical co-morbidities, increased age) from COVID-19, consider telehealth or non-clinical duties

For patients referred to HITH

- Consider a HITH-specific communication leaflet about the precautions being taken to reduce transmission of COVID-19 infection, including staff donning of PPE outside the home when necessary.

At the home

- On-road staff to contact patient prior to each visit and use screening script, including about other family members.
- Consider HITH patients taking own temperature prior to visit to inform screening.
- If HITH patient and family members well and no epidemiological criteria, use standard precautions for care.
- If HITH patient or family members unwell with fever and/or respiratory symptoms, and/or awaiting test results or positive for COVID-19, staff member to don PPE prior to entering the home.
- If HITH patient suspected or proven to have COVID-19, consider delivery of observation kit (thermometer, pulse oximeter) to front door to inform telehealth review rather than in-person visit.
- If HITH patient or family member newly unwell with fever and/or respiratory symptoms, don PPE and follow current department of health guidelines for testing and advice.
- Limit number of family members present during visit; social distancing 1.5 m in the home.
- Ensure any unwell family members are not in the same room as visiting HITH staff member.

In HITH clinic if running

- Aim to consult with as many patients as possible via telehealth.
- Follow hospital procedures as per other clinics eg taking temperature on arrival.
- Limit number of accompanying family members.
- Consider having them wait elsewhere (eg in car, outside weather permitting) and phone them when ready.
- The majority of patients with suspected or proven to have COVID-19 should remain at home but if any happen to attend clinic, cleaning of clinic areas per infection control guidelines.
- Consider other infection control management in clinic eg chair distancing, single rooms.

Special populations

- Consider needs of more vulnerable special populations eg elderly, oncology, CF, other co-morbidities – greater need to stay out of hospital, may need PPE at home.

Communications

To HITH staff

- Regular communication to all HITH staff (even brief) to provide updates and ensure that staff feel well-supported and listened to.
- Ensure open-door policy for staff concerns.
- Emphasise importance of hand hygiene with all patients.
- Ensure staff feel confident in training with PPE and updated as necessary; consider using online modules.

To hospital staff

- Develop a policy for your HITH and hospital situation, which can be updated as necessary; need to strike a balance between collaboratively including all stakeholders and urgency – consider videoconferences.
- Contribute through hospital pandemic planning channels to hospital-wide updates as necessary to reflect changes in HITH capacity/situation.

To GPs and other healthcare workers

- Communicate regularly via video or phone with GPs and other healthcare workers who are providing supportive care to patients while they are under HITH care.

To patients

- Use screening scripts with patients at referral and prior to every home visit.
- Consider developing a patient leaflet for all patients on HITH during COVID-19 pandemic to explain eg nurses in PPE before entering house, potential changes in the service they may be used to. This could be 2 handouts – one general and one COVID-specific.

Supporting each other

In times of uncertainty it is important that we show leadership, treat each other with kindness and respect and support each other.

- We support our colleagues looking after inpatients by decreasing their patient load through proactively seeking referrals for HITH.
- We support our own HITH teams by inclusion, regular communication, understanding of natural anxiety, reassurance and advocacy for infection protection for them in their role as front-line carers.

3 Clinical Role of HITH for COVID-19

The clinical role of HITH will depend on the patient HITH cohorts and pathways that already exist and what capacity the HITH service has to expand or modify services to current patient groups and to develop pathways to incorporate new cohorts.

Provision of safe effective HITH care to meet increased hospital demand

Maximise referral of usual HITH patients
Aim to take all patients of cohorts that the institutional HITH currently takes – this is dependent on which patients and conditions each institution's HITH currently manages.

- Consider discussing with department heads or other communication strategies to communicate widely to all clinical staff.
- Update education about role of HITH to clinical staff.
- Consider advertising signage around clinical areas of hospital to remind staff to refer to HITH.

Modify usual referral pathways to provide care for additional HITH patients

Consider ways in which the envelope can be pushed, especially when there is experience in the literature or from other HITH services that this can be done safely.

- Patient groups eg patients with similar conditions and treatment needs to patients that the HITH service usually takes.
- Patient acuity/severity eg patients who are stable but whose condition is slightly more acute than usual
- Referral timing eg consider taking patients even one day earlier than usual.
- Intervention frequency eg change usual antibiotics from twice daily to a once daily option, dressing changes from daily to alternate daily (should not change effective level of care).
- Reviews eg alternate daily medical review instead of daily.

Opportunities to develop new HITH clinical pathways

Doing more of the same and better is the initial priority, rather than developing new pathways. However, there may be opportunities if/as the pandemic continues to think more broadly about the role of HITH for more patient groups. This needs to be done collaboratively and safely, mindful that workloads have already increased throughout the healthcare system. Other HITHs may already be doing the below suggestions, so seek information from them rather than starting from scratch. New opportunities may include:

- New locations: eg from ED/clinic/GP/home.
- New patient cohorts: eg with conditions and/or under teams that don't traditionally use HITH services.
- New interventions: eg chemotherapy.
- New HITH services: eg outsourcing to new service providers, shared care with other centres.

Research for this and future pandemics

- Consider ways that HITH can contribute to research studies to better understand models of care for COVID-19 in the population who are ambulant.
- Opportunity to collect patient experience of this model of care to inform future outbreak management.

Referral of new patients to HITH with suspected or proven to have COVID-19

The role of HITH for patients suspected or proven to have COVID-19 is untested and is likely to evolve with experience. Case definition criteria defined by the department of health should be used to determine which patients should be treated as having suspected COVID-19, and all of these patients should be treated in the same way as those with proven COVID-19.

Referral processes and HITH criteria

- Referral requests for COVID-19 patients should fulfil HITH criteria of hospital bed replacement, although specific modifications for COVID-19 patients may be considered during this pandemic; simple follow-up should be avoided at this stage.
- Ensure processes for referral to HITH from eg new respiratory/fever clinics are clear in hours and after hours.
- Consider which teams are responsible for patients suspected or proven to have COVID-19 while on HITH; may need to consider a specific HITH physician to oversee this increased patient workload.
- When reviewing patients suspected or proven to have COVID-19 via telehealth, consider doing this in conjunction with inpatient team, so deterioration needing readmission to hospital can be streamlined.
- Duration of HITH admission will depend on clinical progress but the patient should be clearly improving before discharge; experience has been that deterioration may occur at 5-7 days.

Clinical criteria suggested for children <18 years old currently appropriate for HITH
The below are considerations for the first cohort of patients to be managed via HITH and will be updated
Admission criteria for HITH are based on those of other acute respiratory viral infections. Those who meet current case definition criteria (either suspected or proven) who:

- Require admission to HITH for ongoing assessment and/or management for the following clinical features (more severe=hospital, moderate=HITH, mild=discharge):
  - visible work of breathing but no current oxygen requirement
  - decreased fluid intake but no current requirement for NG or IV fluid support
  - moderate secondary bacterial pneumonia requiring IV antibiotics but no current oxygen requirement
- Are potentially at higher risk of deterioration, including those with respiratory, cardiac and oncological co-morbidities, and neonates – these patients should all be considered on an individual basis.

Clinical criteria for adults ≥18 years old currently appropriate for HITH
Usual localised HITH processes should be followed. Those who meet current case definition criteria (either suspected or proven) who:

- Require admission to HITH based on existing criteria for ongoing assessment and/or management for moderate clinical features (more severe=hospital, moderate=HITH, mild=discharge).
- Consider specific COVID-specific modifications eg tolerance of fevers and/or mild hypoxia in otherwise suitable patients.
- Are potentially at higher risk of deterioration, including those with respiratory, cardiac and oncological co-morbidities – these patients should all be considered on an individual basis.

Interventions that may increase applicability of HITH for children or adults
The ability to provide HITH care depends on staff, equipment and pathway development.

- Equipment kits (thermometer, oxygen saturation monitor): for patient self-observation to inform telehealth reviews.
- Nasogastric (NG) hydration in children: need rapid training protocol for parents to manage NG tube (eg video education with telehealth support); not considered aerosol-generating.
- IV hydration: may need midline/long line insertion, or tolerate faster infusion through a cannula, point of care blood testing (eg I-stat machine) and in-person reviews to monitor electrolytes/line site.
- Low flow oxygen: via oxygen concentrators up to 2 L/min using existing protocols.
- Remote monitoring: may be feasible if existing system in place.

Mode of HITH interventions for patients suspected or proven to have COVID-19

Consider risk of exposure and transmission of COVID-19 infection.

Telehealth assessment for clinical assessment/medical review if no clinical intervention required

- Review of symptomatic management, assessment for potential signs of escalating illness (eg hydration/respiratory) and patient psychological status.
- Review of existing comorbidities and modifications of medication (in the setting of acute illness).
- Semi-urgent triage/review of new symptoms or concerns to decide on the need for a return to hospital.
- If need to review clinical signs (eg respiratory effort), the best telehealth images occur in natural light, so ask the patient to sit by a window.
- Some allied health support eg physiotherapy.
- Consider frequency of consults depending on patient stability and resources eg 2 x /day (1 x medical, 1 x nursing) and extra as required.
- Clear communication to referring team that assessments will be via telehealth .
- Consider delivery of observation kit (thermometer, pulse oximeter) to front door to inform telehealth review rather than in-person visit.
- Consider having one mobile unit that can respond to the need for an in-person visit after a telehealth review that doesn't disrupt other in-person visits.

In-person assessment if clinical intervention is required

- Measurement of observations (if this can't be done by patient or family remotely).
- Assessment of hydration/fluid- status if unclear on telehealth.
- Clinical examination for signs of increasing pneumonic change or respiratory failure.
- IV antibiotics if necessary (limited group for secondary pneumonia).
- Further clinical review of concerns of deterioration from telehealth assessment or patient/family member phone call.
- Further COVID-19 testing if required.
- Staff to don PPE before entering home – details above.

Transfer of deteriorating patient back to hospital

Escalation of care

- Use of standard escalation procedure for deteriorating patient on HITH.
- Consider specific clinical criteria in patients suspected or proven to have COVID-19:
  - worsening respiratory status eg oxygen saturations <92%
  - poor urinary output or other ongoing concerns about fluid status
  - any other clinical concerns on telehealth or in-person review
- Communication between referring and HITH teams about any divergence from standard escalation of deteriorating patient criteria.

Transfer to hospital

- Ensure process and contact staff for escalation of care and transfer back to hospital in hours and after hours are clear: this should include phone numbers for patients and staff for initial contact, who makes the

decision about return to hospital, location of review, which clinical staff review the patient, etc. This will be different for every hospital.

- Ensure escalation of care process and contact numbers documented clearly on patient handout
- Determine where patients transferred back from HITH will be reviewed depending on level of clinical care required eg ED, separate clinical area, and whether patients needed to be cohorted for this; ensure this is communicated to patients and staff.
- Determine which clinical staff will review patients eg HITH, ED, COVID/fever/respiratory infection clinic
- Determine in advance which is the most appropriate team that the patient will be admitted under if transferred back to hospital

Review of HITH policy for patients suspected or proven to have COVID-19

- Consider timing of regular review as pandemic progresses
- Consider method of interim reviews to keep abreast of changes in recommendations from department of health and infection control