Oxford University Hospitals
NHS Foundation Trust

PILOT COVID-19 Virtual Ward COVIDCARE@HOME

Standard Operating Procedure

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Purpose:

To deliver a standardised pathway of care via a virtual ward for patients with clinically suspected or confirmed COVID-19 who have been:

1. discharged after an acute assessment from the Emergency Department (ED), Emergency Assessment Unit (EAU) or Ambulatory Assessment Unit (AAU)/Rowan Assessment Unit (RAU).
2. discharged after an in-patient admission (any OUH site) in whom there is risk of further deterioration from acute COVID-19 but are currently stable and not requiring oxygen.

Synopsis of process of care:

This will entail daily monitoring of symptoms, oxygen saturation and medication delivery where relevant with options for OUH based telephone callers to de-escalate (leave the virtual ward) or escalate (return to AAU/EAU/Resus OR 'in residence' visit for further assessment by the Acute Hospital at Home service).

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Summary service description - OUH COVIDCARE@HOME

This pilot service is for patients with clinically suspected or confirmed COVID-19 who are defined to be at greater risk of clinical deterioration (see entry criteria which includes clinician concern as well as definition of 'Vulnerable Groups')

Patients could be be discharged from:

1. ED or from Acute Medicine after an initial assessment
2. An in-patient specialty (usually AGM, respiratory or ID) after an admission within the acute phase when further deterioration is possible (usually the first 10-14 days of illness).

For patients discharged after an initial acute assessment, these will usually be from an OUH assessment area
i. JR site – ED, EAU, AAU
ii. HGH site – ED, EAU, RAU

For patients discharged from an in-patient stay with COVID-19 (confirmed or suspected despite negative PCR), this will from any OUH site (JR, HGH, CH, NOC).

Patients and/or carers will be given an oxygen saturation monitor and be shown how to use it prior to going home, both at rest and after the exertion test relevant to their circumstances,

Patients or carers will receive a telephone call in the morning, with core data collected on oxygen saturations at rest/on exertion and symptom trajectory.

Patients showing signs of deterioration during the call will, depending on the severity of deterioration be directed to: call 999; re-attend an OUH acute assessment site; have a face to face assessment in the home via the OUH Acute Hospital at Home team; receive a further monitoring call later in the day.

A COVID Virtual Ward MDT will meet weekly to discuss all patients on the virtual ward, as well as any incidents or events that have been fed back from ED, AGM, ID or from outside OUH (SCAS, CCG, Primary Care). Patients not triggering an admission to OUH will remain on the virtual ward until day 14 after symptom onset. The oxygen saturation monitor will then be returned to OUH (either posted in the jiffy bag provided or handed back to ED in the jiffy bag) and cleaned, ready to be re-used.

Entry Criteria

1. Entry after acute assessment

Patients should be assessed as suitable for discharge in the opinion of the senior clinical decision maker, recognising that no single physiological marker should drive all decisions on location of care.

Discharging clinicians can refer any patient aged >16 years to the virtual ward if they have a concern that they may deteriorate – however, we recommend that patients in the following groups are referred as a standard of care, given the evidence of greater risks of clinical deterioration:

- Age >50
- Pre-existing co-morbidity (cardiac disease, respiratory disease, diabetes, malignancy, renal disease including CKD, cancer, obesity, immunosuppression, any other chronic condition that the referring clinician considers to elevate risk)
- Black or Asian minority ethnicity

The following are essential criteria for entry onto the virtual ward

- >16 years of age
- Clinically suspected COVID-19
    - Fever, cough, anosmia, headache, myalgia, fatigue
    - Imaging may be indicative of interstitial changes from COVID-19 assessed through CXR/CT or lung ultrasound (findings recorded using template in EPR)
- **Not requiring oxygen**. A pragmatic guide to admission in patients without chronic hypoxia: Patients with saturations of 92% or less would usually require admission for oxygen Patients with saturations 93-94% who desaturate to 90% or below on exertion (40 rapid steps or 1 minute repetitions of sit to stand from chair) would usually require admission.
- Able to use an oxygen saturation monitor OR have a formal or informal carer living with the patient who can use an oxygen saturation monitor with the patient
- Exertional test that would be carried out in the home (depending on walking, 40 steps or 1 minute sit to stand from chair) is carried out by the referring clinician and level of desaturation recorded.
- Able to be contacted by telephone and communicate daily with a caller from OUH COVIDCare@Home team.

Other factors to consider in location of care decisions:

Note that these are just a guide and there may be other clinical factors that influence clinical decision making about the most appropriate location for care of a patient.

- Respiratory rate – normal saturations can be defended by a high RR, so saturations alone many not be the only guide to location of care. RR≥25 should prompt admission, 21-24 consider admission
- For patients with chronic respiratory disease, change in oxygen saturations from usual baseline. (Note that patients with COPD can have normal oxygen saturations at baseline, so a history of COPD is not as informative as a record of baseline pre-morbid saturations).
- Patient preference for location of care – An NHS England/Improvement convened clinical advisory group has developed a consensus guideline on treatment of COVID-19 in

community settings (imminent publication expected over next 2 weeks, this SOP will be updated with a link). The Acute Hospital at Home team can provide advice.

VTE prophylaxis

COVID-19 is associated with an increased risk of venous thromboembolism (VTE).

Patients admitted to the virtual ward after acute assessment will be at risk of VTE during the acute phase of their illness.

All patients will have an EPR documented VTE risk assessment by the referring clinician.

1. **For patients who are not pregnant** in whom there is no contraindication for VTE prophylaxis, offer the following

- Dalteparin prophylaxis, as per usual OUH weight based prescribing schedule, once daily for 7 days

  OR

- If patients are unable to administer dalteparin, Rivaroxaban 10mg once daily for 7 days (unlicensed) is an alternative. If eGFR < 50 ml/min/1.73m^2, use Cockroft-Gault equation to estimate creatinine clearance. Do not use if creatinine clearance estimated to be less than 50 ml/min. Note that rivaroxaban is contraindicated with potent inhibitors and inducers of both CYP3A4 and P-gp such as some anti-retrovirals, anti-fungals and anti-convulsants.

2. **For patients who are pregnant**, use the OUH maternity VTE prophylaxis dosing schedule and offer 10 days of dalteparin.

See COVID-19 VTE prevention guideline, for further details.

No other medications are specified as routinely delivered through this pathway, and additional acute treatments are at the discretion of the senior clinical decision maker.

Referral Mechanism

Responsibility of the referring clinical team

- Ensure essential criteria are met for referral to the Virtual Ward
- Explain the Virtual Ward to patient and/or carer if present
- Undertake VTE prophylaxis risk assessment
- Prescribe VTE prophylaxis if no contra-indication using appropriate dalteparin PowerPlan or rivaroxaban 10mg
- Give leaflet on virtual ward to patient and/or carer if present
- Give TTO to patient and/or carer if present
- Take oxygen saturation monitor and Jiffy bag from store in local clinical environment (ED or AAU at the JR, EAU at HGH)
- Give oxygen saturation monitor to patient and/or carer if present. Record the tracking number on the saturation monitor to include in the referral.
- Give pre-labelled Jiffy bag for return of monitor (post or drop off in ED).
- Demonstrate use of oxygen saturation monitor with exertional test that patient/carer will undertake at home (40 rapid steps or 1 minute repetitions of sit to stand from chair)
- Record baseline and exertional oxygen saturations for referral template.
- Send message through EPR to the **COVID-19 Care at Home team** message pool, using the **Covidcare@home referral template**, including
    - Two telephone numbers for the patient (which may differ from the one recorded in Demographic section of EPR) – a **main contact number** and a **back up number.**
    - Number of days since symptom onset
    - Tracking number of the oxygen saturation monitor

Flow chart for referral onto COVIDCARE@HOME Virtual Ward

- Patient > 16 years with clinically suspected COVID-19
- Clinician has concern or patient in high risk group
- No indication for admission for oxygen

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- Check virtual ward criteria are met
- Explain virtual ward to patient/carer and give information leaflet

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- Prescribe VTE prophylaxis
- Take sat monitor from store and Jiffy bag for subsequent return
- Demonstrate sat monitor use at rest and after appropriate test of exertion

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- Send message to **COVID-19 Care at Home Team** pool in EPR
- Include 2 telephone numbers, baseline saturation readings, sat monitor tracking number

Daily Monitoring

All patients on the Covidcare@home Bed Board will have a daily telephone call. In the phase 1 (pilot) of this service, Acute Hospital at Home nurses will make the telephone calls in the morning.

The calls will monitor overall symptoms, oxygen saturations and any issues with adherence to medication or side effects (e.g. bleeding).

Data to be collected in the telephone call:

- Confirm that patient record open corresponds with the patient being called using positive patient identification.

- Confirm the day since symptom onset.

Then record in EPR on a PowerNote with title **COVID Virtual Ward**:

1. Change in symptoms (noting worsening, stable or improving)
Breathlessness
Chest tightness/chest pain

2. Oxygen saturations at rest and on exertion (if needed, as below)

3. Any reported problems taking VTE prophylaxis or episodes of bleeding

These will be recorded in a proforma on EPR and entered as a PowerNote with title **COVID Virtual Ward.**

Actions to be taken by the OUH caller will be to record the outcome of the call, with guidance on action below (summarised in flow diagram).

To minimise nosocomial transmission of COVID-19 and ensure acute care pathway flow is maintained at acute assessment sites, where appropriate, face to face assessments may be conducted by the Acute Hospital at Home team.

- **Sats ≥ 95% at rest. If symptoms stable,** remain at home, call the following day, unless day 14 since symptom onset and can then be discharged, with return of sat monitor to OUH in Jiffy Bag. **If symptoms worsening,** a second call will be undertaken that afternoon.

- **Sats 93 – 94 % at rest. Exertional sats drop to ≥ 91%. If symptoms stable**, remain at home and a further monitoring call will be undertaken in the afternoon. **If symptoms worsening**, face to face assessment at home via AHAH (or AAU/RAU)

- **Sats 93 - 94% at rest. Exertional sats drop to ≤ 90% -** Escalate to AAU or RAU for acute assessment with message to the relevant pool on EPR so that patient is expected

- **Sats ≤ 92 % or less at rest** - Escalate to AAU or RAU for acute assessment, with message to the relevant pool on EPR so that patient is expected by medicine. If sats ≤ 90% then patient should dial 999.

Out of Hours

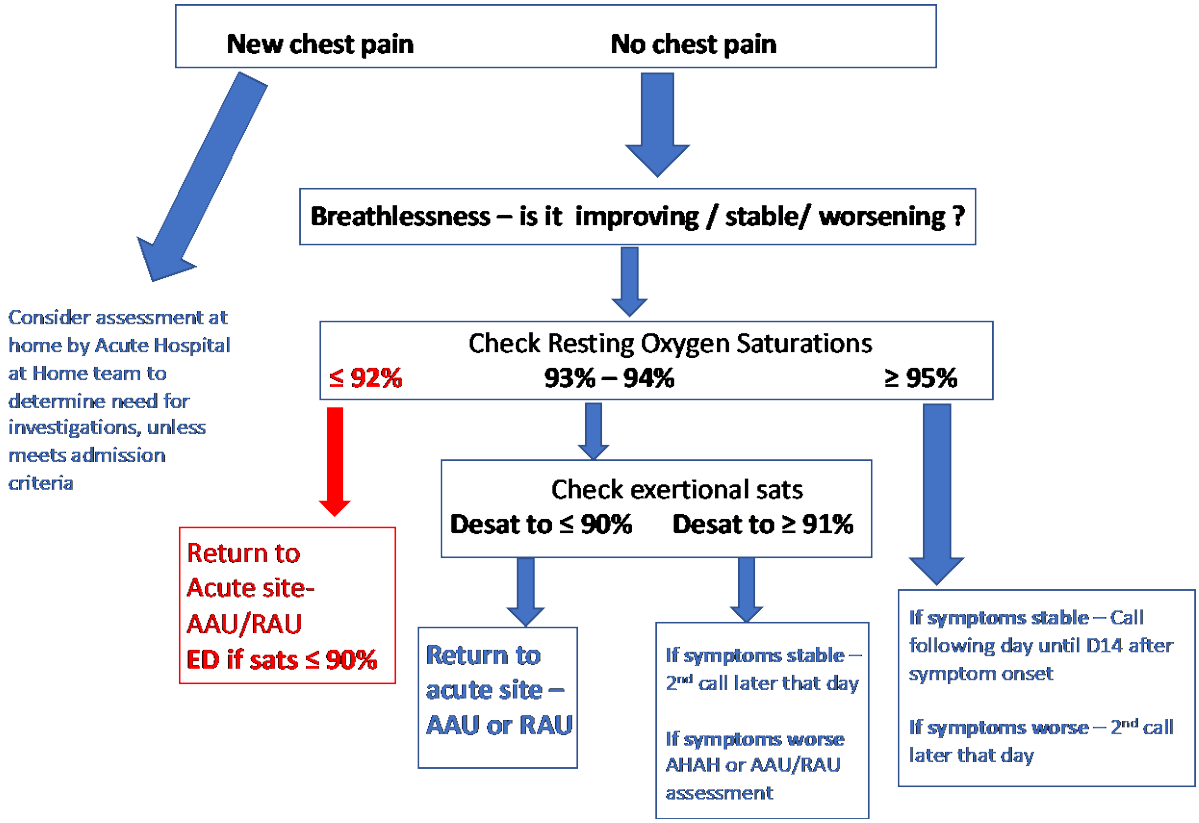
Telephone monitoring will be undertaken 7 days a week, between 08:00 and 20:00.

In the Out of Hours period, if patients feel unwell, they will be advised to check their saturations

If saturations ≤ 92%, attend ED or ring 999. If saturations ≥ 93% call 111.

This advice is summarised in the patient leaflet.

Flowchart to summarise monitoring phone call and outcomes



Governance

Weekly MDT

A weekly MDT will be convened by the Clinical Lead for Hospital at Home, with input from senior nursing staff from Ambulatory Outreach as well as clinicians from Infectious Diseases, Ambulatory Care and Acute Medicine.

Patients on the virtual ward will be discussed, with the Hospital at Home lead implementing any changes to clinical management.

Any feedback from primary care, SCAS and Oxford Health will be discussed, as well as any incidents or learning from within OUH (fed back from ED, Acute Medicine, ID, Respiratory Medicine, ICU).

When the prevalence of COVID-19 reduces to the point of no new referrals, the MDT will recommend to Divisional Management that the COVID virtual ward be stopped, and will remain in readiness for subsequent waves of COVID-19.

Tracking of Saturation Monitors

Jiffy bags with labels/postage will be handed out to patients alongside their saturation monitor (labels are for AOT offices at the JR).

Each saturation monitor has a unique identifier, which will be recorded when handed out to the patient/carer, and included in the referral template Covidcare@home.

The Acute Hospital at Home team will keep a record of which saturation monitor identifier is associated with each patient.

When a patient is discharged from the virtual ward, they will be reminded to post the monitor back to the JR or drop off their Jiffy bag into a box provided at the level 2 entrance at the JR (internal post to AOT offices).

The Jiffy bags will be opened after 48 hours in AOT offices, and the oximeters cleansed, ready for re-use.