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Novel coronavirus (COVID-19) Guidance note

COVID Oximetry @home

19 July 2022, Version 1.3

This guidance is correct at the time of publishing. However, as it is subject to updates, please use the hyperlinks to confirm the information you are disseminating to the public is accurate.

Updates to the standard operating procedure published on 9 September 2021 are highlighted in yellow.

This document has been renamed as a guidance note.

1.1 Requirement

In November 2020, clinical commissioning groups (CCGs) were recommended to put in place a 'COVID Oximetry @home' model as rapidly as possible. ICBs/Providers should ensure that COVID Oximetry @home services remain available to support COVID-19 patients.

This document sets out a base standard based on patient self-monitoring. It should not supplant existing arrangements where these are already established and working.

COVID Oximetry @home should be offered as a self-monitoring, self-escalation pathway unless there is a clinical need for additional support.

1.2 Entry criteria

The COVID Oximetry @home pathway should be available to people who are:

i. Diagnosed with COVID-19: either clinically or positive test result **AND**
ii. Symptomatic **AND EITHER**
iii. Aged 65 years or older **OR**
iv. Under 65 years and at higher risk from COVID-19, or where clinical judgement applies considering individual risk factors such as pregnancy, vaccination status, learning disability, caring responsibilities and/or deprivation. Further information about clinical judgement can be found on our website.
Pregnant women being referred to a COVID Oximetry @home service should also be asked to contact their maternity team for specific advice around pregnancy and COVID-19.

1.3 Staffing and oversight

Implementation should be led by integrated care boards (ICBs) and may be offered by a range of providers, including general practice, COVID Medicines Delivery Units (CMDUs), hospital emergency departments, community teams, maternity services and ambulance services.

Legal responsibility, including ensuring appropriate clinical governance, remains with the relevant ICB/Provider. Each ICB/Provider should have a named person responsible for the establishment of the service in their area. Clinical, governance and administrative responsibilities included in the pathway can be provided by any appropriately trained person and best use of resources should be made, including local volunteer services, where available, to transport oximeters and patient guidance.

1.4 Patient journey

Referral (Stage 1)

- Systems should ensure timely referral of patients that may meet the entry requirements from all relevant providers operating within their area including when considering COVID therapeutics.
- Arrangements will vary depending on how the pathway is delivered, eg through individual primary care networks or a single community health service.
- Patients should be advised to try to stay at home and avoid contact with others in line with current government guidance.

Triage (Stage 2)

- Patients referred to the service should have a standard assessment (with potential for face-to-face clinical assessment if deemed necessary), with shared decision-making prior to entry onto the pathway and a discussion about any support requirements for patients or carers. This should happen as soon as possible, and ideally the same day as the referral.
- During assessment a baseline pulse oximetry reading should be taken; consider home oximetry monitoring if oxygen saturation levels are 95% or higher and proceed to stage 3. If oxygen levels are 94% or less, consider further clinical assessment, or proceeding to stage 3 with the option of more intense clinical assessment and oversight in the community, or hospital admission e.g. if 92% or less. If a pregnant woman records pulse oximeter readings of 94% or less they require clinical review and should be advised to attend their hospital immediately or call 999.

Onboarding (stage 3)

- Patients entering the pathway should be provided with a pulse oximeter and supporting information including a paper diary available in accessible formats and a variety of languages, and clear safety netting instructions both in and out of hours. This should be supplied immediately if the patient is seen face to face or within 12 hours if the patient is assessed remotely. Patients should be instructed to attend their nearest emergency department within an hour, or call 999 if their saturation reading is 92% or less, or to contact 111/GP if 93% or 94%. Pregnant woman should be advised to contact their midwife, maternity team or GP if their blood oxygen levels are dropping. Pregnant women with pulse oximeter readings of 94% or less require clinical review and should be advised to attend their hospital immediately or call 999.
- Patients should be encouraged to record oximetry readings daily, usually three times a day.
- Where deemed clinically appropriate and through a shared decision-making conversation, patients may also be given the option of a prompt at days 2, 5, 7, 10 and 12, either by (a) text message or (b) by e-mail, or instead (c) a non-clinician led check-in phone call.

- Patients should have clear instructions regarding the recognition of deterioration and instructions on the appropriate course of action, with 24/7 access to advice and support. Contact details must be communicated clearly to patients.
- Patients should agree in advance how they will return the oximeter, eg to the practice or service that provided the oximeter or the patient arranging through family. Local volunteer services may be available to support this.

Monitoring (stage 4)

- As agreed during onboarding, patients should receive support to self manage and escalate. Resources for patients, carers and families can be found on our website. Some patients may require check in calls or additional support.
- Where check-in calls are needed, the calls should confirm that the patient is using the oximeter and diary correctly. If the phone call is clinician led, they may also be used to confirm the readings are 95% or above. The frequency of these calls can be reviewed with the patient if appropriate. If a pregnant woman records pulse oximeter readings of 94% or less they require clinical review and should be advised to attend their hospital immediately or call 999.

Recovery and discharge (stage 5)

- Patients generally recover within 10-14 days of onset of symptoms and should be actively discharged at this point if they have not shown signs of deterioration and supplied with leaving information, safety netting advice.
- Patients may be on the pathway for a shorter period either if they have been awaiting a test result and this is negative, or subject to clinical review.
- Patients who remain symptomatic at 14 days should receive a further clinical assessment and action taken as clinically appropriate.
- If symptoms become chronic and extend past 12 weeks, referral to Post COVID clinics should be considered.
- Upon recovery, a friend or family member, or local volunteer service may, collect and return the oximeter for decontamination and reuse, as agreed as part of the onboarding conversation.

1.5 Oximeter supply and safe re-use

Oximeters for home use must meet ISO 80601-2-61:2017 and be CE marked.

Particular care needs to be given to ensuring reliable arrangements are in place for same day oximeter distribution to patients, and their subsequent decontamination and reuse. Cleaning procedures for oximeters must follow manufacturers' instructions. Liquids should generally not be used on these devices due to the risk of fluid ingress damaging circuits. Disinfectant wipes should be used where possible.

A supply of pulse oximeters is available to ICBs, acute trusts (including CMDUs) and ambulance trusts based on national modelling assumptions of case demand. Oximeters can be requested from NHS Supply Chain in batches of 100, to be stored locally as appropriate for anticipated demand. Oximeters can be requested by emailing england.home@nhs.net. Once the order is agreed, delivery should be made within three working days.

Prior to being distributed to patients, and on return from them, oximeters must be decontaminated in line with infection control policies for reusable electronic equipment. They must be checked that they are functional and safe for re-use prior to being allocated to new patients. This should be done in line with local and national guidance for reusable electronic clinical monitoring equipment.

It is important to note that ICBs must ensure there are wholly reliable local arrangements in place for timely distribution, decontamination, and re-use of sufficient oximeters.

Oximeters must be available for same day distribution to patients, including out-of-hours. Patients should ideally not to have to wait more than 12 hours to receive an NHS oximeter.

1.6 Care homes

People living in care homes should receive the same standard of care as someone in their own home. This should be facilitated by care home staff and other supporting services. This should include full escalation or emergency admission or potential emergency home oxygen treatment and palliative treatments where appropriate.

Training and support for using pulse oximetry is available via the Care Provider Alliance and e-Learning for Healthcare resources. Any further support required in setting up the pathway within the care home can be provided through the care home's named Clinical Lead in the first instance.

Care homes can order oximeters via their local ICB.

1.7 Coding, record keeping and data requirements

SNOMED codes specific to home monitoring of COVID-19 patients can be accessed on the NHS Digital website. A number of templates have been created by Ardens, EMIS, TPP, Cegedim and accuRx. .

All relevant information should be recorded in the patient record including if a patient declines the pathway.

1.8 Further support

Details of further advice, guidance and training materials is available on the NHS @home website and FutureNHS platform.

Any safety concerns regarding oximeters should be reported to the MHRA via the COVID yellow card scheme (select 'other devices/equipment') https://coronavirus-yellowcard.mhra.gov.uk/ and NHS England informed (england.home@nhs.net). Local clinical engineering departments and medical device safety officers (MDSOs) should also be informed.

The MHRA have detailed factors affecting the accuracy of pulse oximeters, including skin colour. Pulse oximeters work by shining a light into the skin and measuring how this is absorbed by the blood to estimate how much oxygen is present. Because of this, it is possible that patients with lighter skin may have small differences in the result reported when compared to those with darker skin. This is just one factor that can alter the result produced.

Other well-known factors include: low perfusion, movement, nail polish, henna dye, tattoos, probe mispositioning, ambient lighting hitting the sensor.

The MHRA is not aware of any incidents where skin colour has had an adverse effect on the use of pulse oximeters when providing effective clinical care. Wherever possible it is recommended that patients record a baseline oxygen saturation at onboarding, and subsequent changes in saturation readings are then compared to this established baseline.

If there are any issues accessing links or for further queries, please email england.home@nhs.net.