NHS London Clinical Networks

Primary Care and Community Respiratory Resource pack for use during COVID-19

Version 1
Circulated date:
Agreed date: Friday 27th March 2020
Review date: Thursday 2 April 2020

NHS England and NHS Improvement

NHS London Clinical Networks

Contents

1. Introduction

Unprecedented times require an unprecedented response. To mount a co-ordinated response and communicate consistently will require primary care and community staff to work as one team – 111, Integrated Urgent Care, Primary Care (both in and out of hours), Community Respiratory Teams, and a pool of staff responding to the call for extra help. This requires the redesign of the entire community pathway and the establishment of new methods of working.

This guidance has been co-authored at pace (contributors list at P16). We anticipate it will change as we learn about COVID19 and as we see how things change in the system over the coming weeks and months. We will review and make necessary updates weekly.

2. Out of Hospital

2.1. Primary and Community Care

2.1.1. Respiratory Pathway diagrams

Triage should be carried out by experienced clinicians. See Box 1 below for guidance **and** Appendix 2 for the Oxford COVID19 Evidence Service.

Box 1. Remote Assessment/Telephone Triage with Patient or Carer

1. **Screen for symptoms of COVID-19 infection**
   - Do they have fever **>37.8?**
   - If no thermometer, have they felt shivery, achy, or are they hot to touch?
   - Do they have a new continuous cough, different to their usual settings?

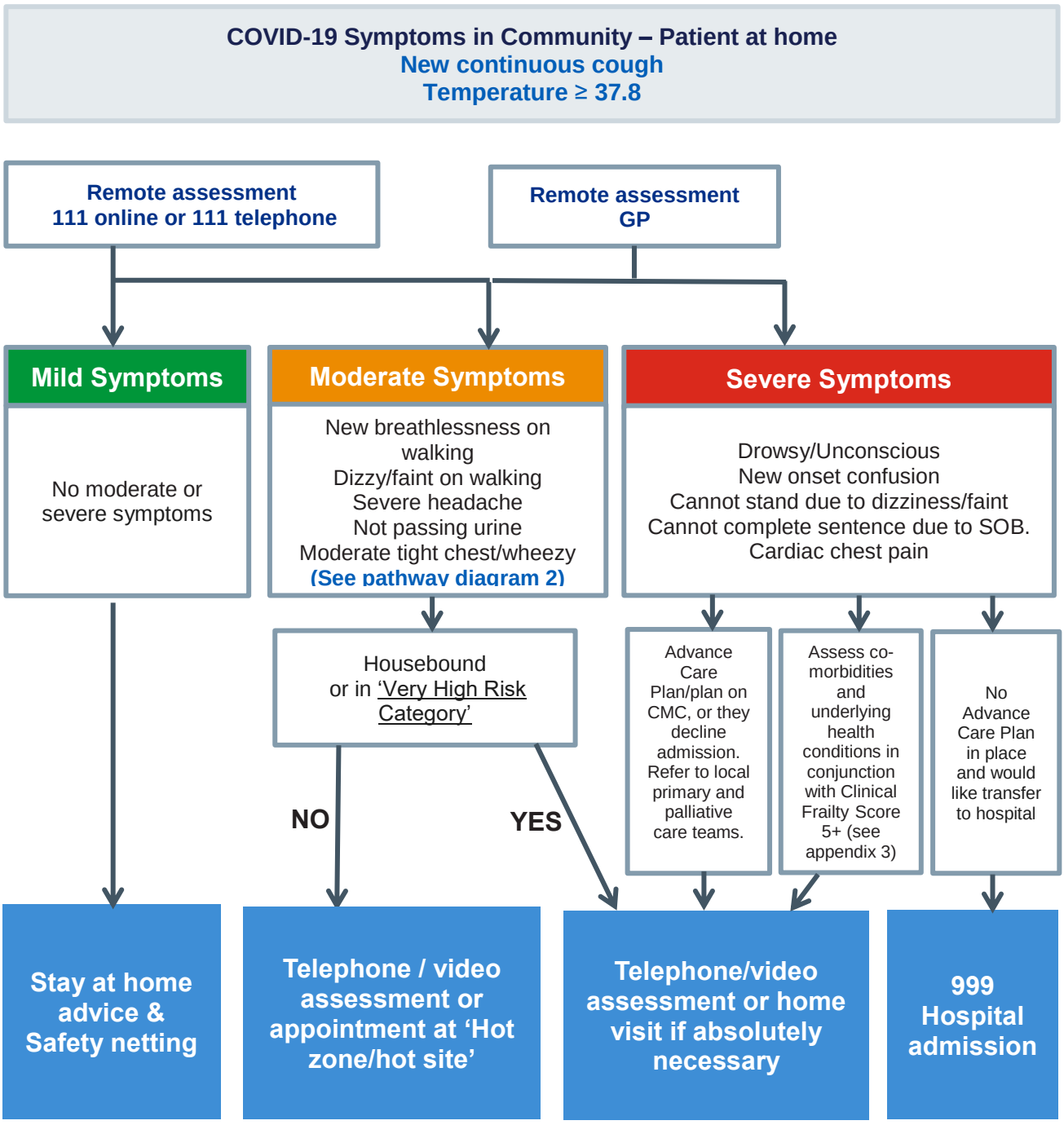
2. **Screen for severity of illness.** Suggested questions:
   - *"How is your breathing is today?"*
   - "*Do you have an oximeter at home or have you noticed any blue discolouration of your lips?"*
   - *"Are you so breathless that you are unable to speak more than a few words?"*
   - *"Are you more breathless than usual on walking or climbing stairs?*
   - "*Do you feel dizzy, faint or have a headache?"*
   - *"When was the last time you went to the toilet and passed urine?"*
   - Ask about other symptoms of severity e.g. collapse, chest pain, signs of sepsis, confusion?

3. **Assess whether increased risk of severe illness** with COVID-19 against the list of conditions which lead to increased risk (see appendix 1)

4. **Do they have an established advance care plan? Is it documented on Co-ordinate My Care? If not, and it is appropriate, explore wishes and consider capacity.**

5. **Decide** whether for home management (see pathway diagram 1 below)

Pathway diagram 1. Categorising patients with COVID-19 symptoms in the Community

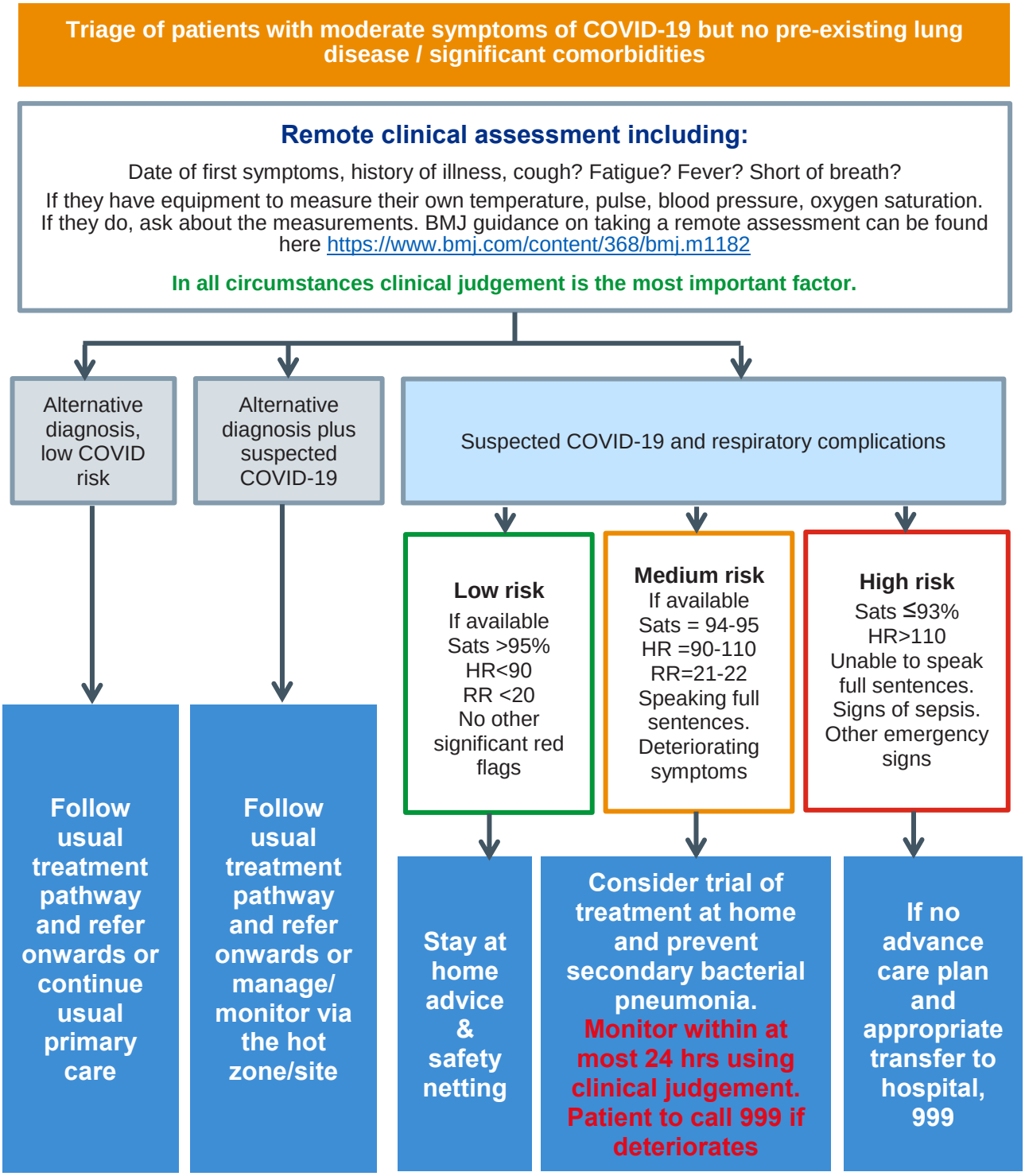


For advice re: mild or moderate symptoms, patients / carers should be directed to the link below: https://www.nhs.uk/conditions/coronavirus-covid-19/

Practices and services should maintain a list of known / suspected COVID-19 patients who they have agreed can stay at home. They should be followed up proactively if they had moderate symptoms in case they deteriorate. Use your clinical judgement about how frequently they should be followed up by telephone or video consultation. We would expect this would be every 12- 24 hours for 7-10 days since developing symptoms. Frequency and method of contact with these patients should be recorded. This list should be reviewed at least daily, highlighting through buddying and/or huddles where difficult decisions might have been made. In your thinking about the patient and their current health and history, keep in mind what would be the most appropriate pathway. Is a conversation about end of life care planning appropriate? Should the palliative care team be involved? We appreciate these conversations would usually happen face to face. These conversations will need to take place over the phone or in video consultation as will any psychological support. We recommend having regular team meeting/buddy conversations to support you in these challenges.

As a reminder: the consultation should be by telephone or video in the first instance. If an ambulance is required, the clinician should call 999 and handover and include COVID-19 status. **A home visit should only be done if it is agreed by at least 2 clinicians.** If a home visit has been agreed minimise the time of exposure to the patient. Therefore take the history remotely and discuss planning of next steps remotely with the patient. Only the examination is to be done face to face.

Pathway diagram 2. Triaging patients with moderate symptoms of COVID-19 but NO pre-existing lung disease or significant comorbidities



Pathways for **patients with PRE-EXISTING lung conditions or comorbidities**

Asthma – most patients with asthma have mild to moderate disease and normal underlying lungs. They should be treated for wheeze or bronchospasm in a conventional manner. If they have a peak flow meter at home they can monitor this themselves. They can be given one for self-monitoring if they have mild/moderate COVID-19 symptoms. They can be treated according to their normal asthma management plan including oral corticosteroids. The physiological parameters from pathway 2 should apply to asthmatic patients as to others when considering admission for COVID-19 symptoms.

COPD – Oral corticosteroids should be avoided in COVID-19 suspected infection. Infective exacerbations should be treated with antibiotics in the conventional manner. Oral corticosteroids can be considered if known concomitant asthma and / or history of eosinophils ≥ 0.3 or known steroid responsiveness. Consider admission according to algorithm physiological parameters but if baseline O2 pulse oximetry sats are available:

- Mild deterioration would be defined as up to 2% below their baseline
- Moderate deterioration would be defined as between 3-4% below their baseline
- Severe deterioration would be defined as 5% or more below their baseline

If on Long Term Oxygen Therapy (LTOT) discuss ceiling of care and consider admission if sats <88% on their standard dose of LTOT.

Interstitial Lung Disease – Consider ceiling of care. Many patients who have established pulmonary fibrosis, of any cause, will not do well with intubation and mechanical ventilation. Patients are likely to become hypoxic very quickly as they will not have much reserve. They will have often had advance care planning as part of their specialist care. Consider admission according to pathway 2 physiological parameters but if baseline saturations are available:

- Mild deterioration would be defined as up to 2% below their baseline
- Moderate deterioration would be defined as between 3-4% below their baseline
- Severe deterioration would be defined as 5% or more below their baseline

Pirfenidone and nintedanib antifibrotic therapy can be safely paused for 4-8 weeks during illness. Do not stop long term prednisolone and consider increasing baseline doses. Mycophenolate, mofetil and azathioprine and other immune suppressive medication would normally be paused during significant infective illnesses and restarted two weeks after recovery. Patients with interstitial lung disease should be following self-isolation guidance and if also on immune suppression consider extending this to the shielding approach.

Obstructive Sleep Apnoea – Most patients will have normal lungs but require CPAP overnight to correct daytime sleepiness. This does not affect their gas exchange and should be managed as there is no pre-existing lung disease. If they need admission for hypoxia, they should take their CPAP machine with them as they may need to use it on the wards.

Bronchiectasis – During exacerbations of bronchiectasis with purulent sputum, we do not recommend routine collection of sputum samples for culture and sensitivities. If thought to be a usual exacerbation, treat with standard antibiotics (doxycycline or amoxycillin for 10-14 days) or guided by previous sputum cultures. If no response, then try empirical course of ciprofloxacin/levofloxacin and obtain specialist advice. If suspected COVID infection, treat according to pathway.

2.1.2. Zoning or Hot and Cold Sites

Activity should be carried out remotely. "Face to face" should be reserved for only when the benefit outweighs the risk. An example could include examination of a patient with suspected acute abdomen. Decision for face to face must be made by 2 or more clinicians. Until testing is available, we need to assume all people could be COVID positive. Patients must be triaged remotely.

Zoning – this approach **manages both cohorts (high suspicion of COVID-19 and lower suspicion of COVID-19) within all practices but with designated areas and workforce to maintain separation**. This requires designating a specific zone within each practice to manage those with COVID symptoms. This option reduces the need for significant reconfiguration of existing patient flows, acknowledging that flows have already changed to remote consultations. The interface between the zones requires careful management to minimise cross contamination with strict decontamination protocols in place. Not all premises are likely to have separate entry/exits point to help maintain separation. When seeing patients, physical separation by isolating patient in a specified room with a video/phone link to a healthcare professional in another room may be possible.

Hot & Cold Sites – Practices may wish to adopt such a model to better manage increasing demand as infection rates increase. In practice, this **means dividing groups of practices into 'hot' sites that manage high suspicion COVID-19 patients only and 'cold sites' that manage lower suspicion of COVID-19 patients only**. Workforce capacity constraints means pooling of staff may be required.

Mixed Model – Each PCN/CCG may have a mixture of the two models.

We are expecting more national guidance about this very soon.

2.1.3. Home-visits (including admission avoidance)

Box 2. Management of home visit / face to face contact in suspected COVID-19 +ve patients

- Only visit at home if there is no remote alternative. Discuss need to visit with senior colleague/peer. Consider what information will be gained from it that cannot be ascertained remotely and how this will change the outcome
- Review PPE guidance daily and adhere to the recommendations
- Ask the patient to wear a mask during the consultation to protect them and the case worker- Suggest passing mask through letterbox to patient prior to entry
- Minimise physical contact with the patient and carer and keep 2m distance if possible
- Do not perform for chest physiotherapy, spirometry, PEFR, CO monitoring or FeNO or any other aerosol generating procedure
- Sputum samples for management of bronchiectasis should be discussed with specialist
- Viral swabs should not be collected
- Monitor patients using SpO2, RR, HR (and BP if required)
- Discuss advanced care plans if appropriate and document on CMC that day
- Escalate by calling 999 if required and appropriate
- Otherwise, make a plan for future monitoring e.g. telephone / video or face to face
- Dispose of all PPE at visit end according to national guidance

2.1.4. Cardiopulmonary resuscitation

Please refer to any established records of resuscitation decisions that may be present in home or recorded on other systems including Coordinate My Care.

We advise that as in all basic life support situations, the clinician carries out a risk assessment first. The government's guidance for first responders states (https://www.gov.uk/government/publications/novel-coronavirus-2019-ncov-interim-guidance-for-first-responders/interim-guidance-for-first-responders-and-others-in-close-contact-with-symptomatic-people-with-potential-2019-ncov):

"If you are required to perform cardiopulmonary resuscitation (CPR), you should conduct a **risk assessment** (in the Police this would be a "dynamic risk assessment") and **adopt appropriate precautions for infection control**. Where possible, it is recommended that you do not perform rescue breaths or mouth-to-mouth ventilation; perform chest compressions only."

Chest compressions and defibrillation (as part of resuscitation) are not considered AGPs; first responders can commence chest compressions and defibrillation without the need for AGP PPE while awaiting the arrival of other personnel who will undertake airway manoeuvres. On arrival of the team, the first responders should leave the scene before any airway procedures are carried out and only return if needed and if wearing AGP PPE.

2.2. PPE Requirements

For guidance on the latest advice for the use of PPE or where to get it please see:

https://www.england.nhs.uk/coronavirus/publication/guidance-supply-use-of-ppe/

Aerosol generating procedures (AGP's) should not be performed during any home visits as aerosols generated by medical procedures are one route for the transmission of the COVID-19 virus. The following procedures are considered to be potentially infectious AGPs:

- Intubation, extubation and related procedures;
- Tracheotomy/tracheostomy procedures;
- Manual ventilation;
- Open suctioning;
- Non-invasive ventilation (NIV) e.g. Bi-level Positive Airway Pressure (BiPAP) and Continuous Positive Airway Pressure ventilation (CPAP)

Certain other procedures/equipment may generate an aerosol from material other than patient secretions but are **not** considered to represent a significant infectious risk. Procedures in this category include:

- Administration of pressurised humidified oxygen;
- Administration of medication via nebulisation.

During nebulisation the aerosol is created from the liquid medication in the medication chamber and does not carry patient derived viral particles. If a particle in the aerosol coalesces with contaminated mucous, it will be too dense to become airborne and therefore will not be part of the aerosol. Advice from PHE and HPS is that nebulisation is considered to be a 'viral' aerosol generating procedure (https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/874316/Infection_prevention_and_control_guidance_for_pandemic_coronavirus.pdf). However, this information may change and we would still recommend caution and use standard PPE (fluid resistant mask, eye protection, apron and gloves) if a nebuliser is used. Alternatively, large doses of bronchodilator can be delivered with a large volume spacer (4 - 10 puffs salbutamol). Staff should use appropriate hand hygiene when helping patients to remove nebulisers and oxygen masks.

2.3. Treatment to consider at home

- Antibiotics for prevention of secondary bacterial pneumonia (Amoxicillin 500mg tds plus Clarithromycin 500mg BD for 7 days OR Doxycycline 200mg day 1 then 100mg for 6 days)
- Prednisolone for exacerbation of asthma (not responding to escalation of inhaled therapies) but not for COPD unless known concomitant asthma, history of raised eosinophils ≥ 0.3 or known steroid responsiveness.
- High dose bronchodilators (4-8 puffs salbutamol via large volume spacer) at home or nebuliser if patient already has one.

2.4. Post-discharge

The circumstances of each discharge will vary but it is expected that patients may have residual symptoms of breathlessness and potentially hypoxaemia on discharge. They should receive telephone or video follow-up from primary care or specialist community respiratory service if available according to local arrangements.

https://www.england.nhs.uk/coronavirus/wp-content/uploads/sites/52/2020/03/covid-19-discharge-guidance-hmg-format-v4-18.pdf

If patients require review post discharge from secondary care, this should be done remotely and treated as a potential COVID+ve patient according to the algorithms. Patients may continue to shed virus for several weeks after the onset of symptoms so should be treated as potentially infectious.

3. Palliative Care

Some patients may already be known to local Specialist Palliative Care services.
Some patients will have established Advance Care Plans. In London many of these will have been recorded on Coordinate My Care (CMC) and be accessible to those working in urgent and emergency care. These plans may contain:

- Information about their medical history
- Contact information of their next of kin or those with Lasting Powers of Attorney
- Professionals who are involved in their care
- Records of their wishes and preferences regarding place of care
- Established Treatment Escalation Plans and cardiopulmonary resuscitation decisions
- Symptom control guidance

3.1. Home care

For patients who have severe symptoms and are deteriorating, consider urgent referral to primary care and local specialist palliative care services, with appropriate consent. This will include patients with an established wish to be cared for at home at end of life, and those who have capacity and decide to remain at home in the current situation. It may also include patients that are considered to be actively dying and do not have capacity, and for whom transfer to hospital is considered not be in their best interest by the professionals involved.

3.2. Non-pharmacological control of symptoms

Breathlessness, anxiety, cough and fever have all been reported as a result of COVID-19. A number of non-pharmacological treatments exist which, can be used in any patient reporting distress from these symptoms, but which may be particularly important in palliation.

Local services may have their own breathlessness packs, otherwise the Cambridge Breathlessness Intervention Service leaflets are available for use:

https://www.cuh.nhs.uk/breathlessness-intervention-service-bis/resources/patient-information-leaflets

These include:

- The breathing thinking functioning approach to breathlessness
- Hand-held fan. **NB: this is NOT recommended for patients with COVID-19**
- Breathing techniques to ease breathlessness
- Relaxation
- Mindfulness

3.3. Pharmacological control of symptoms

Use local symptom control guidelines and advice from local Palliative Care teams to guide the use of medication to control symptoms. Recommendations may change over time due to availability of medications and equipment. Check NICE (www.nice.org.uk) for coronavirus rapid guidelines on symptom control (likely to be published by end of March 2020)

Consider the following symptoms and prescribe appropriate medications (adapted from Association for Palliative Medicine COVID-19 guidelines (22 March 2020) :

Symptom	Clinical scenario	Recommendation
Breathlessness (at rest or minimal exertion)	Opioid naïve (i.e. no previous opioids) and able to swallow	Morphine sulphate modified release 5mg bd (titrate up to maximum 30mg daily) Morphine sulphate immediate release 2.5-5mg PO 4hrly prn
	Patients who are on regular opioids for pain relied	Morphine sulphate immediate release 5-10mg PO 4hrly prn, or one twelfth of the 24hr dose for pain, whichever is greater
	Patients who are unable to swallow	Morphine sulphate 2.5-5mg SC 4hrly PRN. If on regular opioids for pain or if needed regularly, consider a continuous infusion via syringe pump
Anxiety	Patients who are able to swallow	Lorazepam 0.5mg SL 6hrly PRN
	Patients who are unable to swallow	Midazolam 2.5-5mg SC 4hrly PRN If needed regularly, consider a continuous infusion via syringe pump
Cough	Patients who are able to swallow	Simple linctus 5-10mg PO QDS If ineffective: Codeine linctus 30-60mg PO QDS Or Morphine Sulphate immediate release solution 2.5mg PO 4Hrly
Fever	N/A	Paracetamol 1g PO QDS NB: NSAIDs are contraindicated

N.B. Sedation and opioid use should not be withheld because of an inappropriate fear of causing respiratory depression.

4. Oxygen

At the time of writing, patients admitted with COVID-19 and respiratory failure remain in hospital until their hypoxia improves and they return to their baseline target oxygen saturations without an ongoing oxygen requirement. There is no current recommended home oxygen pathway for supporting unselected patients with COVID-19 with oxygen therapy at home. Patients with COVID-19 complicating COPD or another long term respiratory disease may be considered for hospital discharge with oxygen, if clinically appropriate, as part of a supported discharge pathway in which case BTS Home Oxygen and NICE COPD guidance should be followed.

5. Business as Usual for Non-COVID-19 Respiratory Patients or Smokers

There are a number of tasks which should be performed to reduce the risk from COVID-19 in this group. They are:

- Identify the respiratory patient cohort at risk
- Provide them with the local respiratory advice line number
- Reinforce government guidance on social shielding for at least 12 weeks, see links. British Lung Foundation - https://www.blf.org.uk/support-for-you/coronavirus/what-is-social-shielding and Asthma UK - https://www.asthma.org.uk/advice/triggers/coronavirus-covid-19/
- If they have no support at home, ensure they have registered on the government's extremely vulnerable list or register for them https://www.gov.uk/coronavirus-extremely-vulnerable
- Ensure they have sufficient medications and that they can be delivered to their homes as required
- For COPD patients, unless contraindicated, prescribe a rescue pack and ensure it is delivered to them at home
- Advise them to get a home thermometer and pulse oximeter if possible (or issue them if you have access to stock)
- Avoid use of prednisolone for AECOPD unless severe wheeze/concomitant asthma or eosinophilia on FBC previously >0.3. Use antibiotics as per current guidance.
- Ensure they have an advance care plan and offer to record this on CMC. If one is not in place, offer to explore their wishes.
- Pulmonary rehab services are currently closed due to COVID-19 but costs for online pulmonary rehab and cardiac rehab courses have been waived for 3 months. Patients can be directed to http://www.spaceforcopd.co.uk or http://www.activateyourheart.org.uk
- There is concern around the use of inhaled corticosteroids (ICS) in asthma and COPD. Patients have started to take their preventative therapies more regularly during the COVID outbreak. ICS are not thought to increase the risk of COVID infection. However, high dose ICS (2000micorgram beclomethasone equivalent/day or more) may increase risk of pneumonia and are not necessary in many patients. There is opportunity to remotely review the need for high dose ICS in asthma and COPD patients and further suggested guidance on how to do this safely is in **appendix 4**.

6. References

- Asthma UK. 2020. Coronavirus COVID-19. Shielding advice for very high risk groups. Asthma UK. Viewed 25.3.20. https://www.asthma.org.uk/advice/triggers/coronavirus-covid-19/
- British Lung Foundation. 2020. Coronavirus and COVID-19- What is social shielding and who needs to do it? British Lung Foundation. Viewed 25.3.20. https://www.blf.org.uk/support-for-you/coronavirus/what-is-social-shielding
- BTS. BTS Guidelines for Home Oxygen Use in Adults.2015. Viewed 26.3.20 https://www.brit-thoracic.org.uk/quality-improvement/guidelines/home-oxygen/
- Cambridge University Hospitals. 2020. Patient information leaflets- Breathing techniques to ease breathlessness. Cambridge University Hospitals. Viewed 25.3.20. https://www.cuh.nhs.uk/breathlessness-intervention-service-bis/resources/patient-information-leaflets
- COVID-19: Guidance for infection prevention and control in healthcare settings. Version 1.0. Issued jointly by the Department of Health and Social Care (DHSC), Public Health Wales (PHW), Public Health Agency (PHA) Northern Ireland, Health Protection Scotland (HPS) and Public Health England as official guidance. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/874316/Infection_prevention_and_control_guidance_for_pandemic_coronavirus.pdf
- Greenhalgh T, Koh G, Car J. *COVID-19: a remote assessment in primary care. BMJ* 2020; 368
- Greenhalgh T, Kotze K and Van Der Westhuizen HM. 2020. Centre for Evidence Based Medicine. Are there any evidence-based ways of assessing dyspnoea (breathlessness) by telephone or video. Viewed 25.3.20. https://www.cebm.net/are-there-any-evidence-based-ways-of-assessing-dyspnoea-breathlessness-by-telephone-or-video/
- NHS. 2020. Advice for everyone. Coronavirus (COVID-19). NHS. Viewed 25.3.20. https://www.nhs.uk/conditions/coronavirus-covid-19/
- NHSE/I. 2020. Guidance on supply and use of personal protective equipment (PPE). NHSE/I. Viewed 25.3.20. https://www.england.nhs.uk/coronavirus/publication/guidance-supply-use-of-ppe/
- NHSE/I and HM Government. 2020. Guidance for first responders and others in close contact with symptomatic people with potential COVID-19. Viewed 25.3.20. https://www.gov.uk/government/publications/novel-coronavirus-2019-ncov-interim-guidance-for-first-responders/interim-guidance-for-first-responders-and-others-in-close-contact-with-symptomatic-people-with-potential-2019-ncov
- NHSE/I and HM Government. 2020. COVID-19 Hospital Discharge Service Requirements. Viewed 25.3.20. https://www.england.nhs.uk/coronavirus/wp-content/uploads/sites/52/2020/03/covid-19-discharge-guidance-hmg-format-v4-18.pdf
- NICE. 2018. Chronic obstructive pulmonary disease in over 16s: diagnosis and management. Viewed 26.2.20. https://www.nice.org.uk/guidance/ng115
- PHE and HM Government. 2020. Guidance on social distancing for everyone in the UK. PHE and HM Government. Viewed 25.3.20. https://www.gov.uk/government/publications/covid-19-guidance-on-social-distancing-and-for-vulnerable-people/guidance-on-social-distancing-for-everyone-in-the-uk-and-protecting-older-people-and-vulnerable-adults
- Rockwood K, Song X, MacKnight C, et al. A global clinical measure of fitness and frailty in elderly people. *CMAJ* 2005; 173: 489-495.

7. Acknowledgements

The pathway diagrams are based on those drawn up by Knowsley Community Team.
The home visit guidance is based on a draft document from NCL.
The palliative care guidance is based on King's College Hospital guidance.

8. Contributors

Dr Noel Baxter	GP and Executive Policy Lead, Primary Care Respiratory Society
Victoria Brookman	Project manager, NHS NEL Healthcare Consulting
Dr Helene Brown	Medical Director System Improvement and Professional Standards, NHSE/I
Helen Cutting	Programme Lead – Cardiac, Stroke and Respiratory Clinical Networks
Dr Sam Edwards	Palliative Care Consultant and End of Life Care network lead
Dr Sarah Elkin	Consultant in Respiratory and General Medicine, NW London STP Respiratory Lead
Sir Sam Everington	GP and Chair of Tower Hamlet's CCG
Dr Jane Fryer	Medical Director System Improvement and Professional Standards, NHSE/I
Laura Graham	Respiratory Lead Physiotherapist, Senior Clinical Project Manager London Respiratory Network
Dr Lisa Harris-Rothwell	DR Lisa Harris-Rothwell GP and medical director for LMC
Dr Jonty Heaversedge	GP Chair Southwark CCG
Dr Melissa Heightman	Consultant Respiratory Physician, NC London STP Respiratory Lead
Eleanor Hood	Project manager, NHS NEL Healthcare Consulting
Dr Vince Mak	Consultant Integrated Care Physician & Clinical Director, London Respiratory Network
Professor Andrew Menzies - Gow	NHS England National Clinical Director for Respiratory
Dr Andrew Murray	COVID-19 Clinical Lead for the South West London (SWL) Health and Care Partnership/STP Chair of NHS Merton Clinical Commissioning Group (CCG) & Chair-Designate of NHS SWL CCG Co-Chair of SWL Clinical Senate & SWL Clinical Lead for Children and Young People's Mental Health GP Partner and Executive Management Team Chair at The Nelson Medical Practice
Lynn McDonnell	Senior Clinical Project Manager, London Respiratory Network

Dr Agatha Nortley-Meshe	Assistant Medical Director and Head of Integrated Urgent Care (clinical) London Ambulance Service
Dr Mohini Parmar	GP and Chair of Ealing CCG
Dr Andrew Parson	GP Clinical Chair Bromley CCG
Dr Irem Patel	Consultant Respiratory Physician, SE London STP Respiratory Lead
Kara Renno	Assistant Director, NHS NEL Healthcare Consulting
Dr Josephine Sauvage	NCL GP and Chair of Islington CCG
Dr Elliot Singer	Dr Elliot Singer GP and medical director for LMC
Eileen Sutton	Head of Urgent and Emergency Care, Healthy London Partnership and London Regional IUC Lead, NHS England
Dr Payam Torabi	SEL GP and Clinical Lead for Clinical effectiveness approach , Southwark
Dr Malti Varshney	Deputy Director, Clinical Networks and Senate

Appendix 1. Those considered to be at 'increased risk'.

- aged 70 or older (regardless of medical conditions)
- under 70 with an underlying health condition listed below (ie anyone instructed to get a flu jab as an adult each year on medical grounds):
- chronic (long-term) respiratory diseases, such as asthma, chronic obstructive pulmonary disease (COPD), emphysema or bronchitis
- chronic heart disease, such as heart failure
- chronic kidney disease
- chronic liver disease, such as hepatitis
- chronic neurological conditions, such as Parkinson's disease, motor neurone disease, multiple sclerosis (MS), a learning disability or cerebral palsy
- diabetes
- problems with your spleen – for example, sickle cell disease or if you have had your spleen removed
- a weakened immune system as the result of conditions such as HIV and AIDS, or medicines such as steroid tablets or chemotherapy
- being seriously overweight (a body mass index (BMI) of 40 or above)
- those who are pregnant

Appendix 2. Oxford COVID-19 Evidence Service Findings

Are there any evidence-based ways of assessing dyspnoea (breathlessness) by telephone or video?

We found no validated tests for assessing breathlessness in an acute primary care setting. We found no evidence that attempts to measure a patient's respiratory rate over the phone would give an accurate reading, and experts do not use this test in telephone consultations. Our search identified a potentially promising test (the Roth score), which needs further research.

Pending further research, the recommendations below are based on expert opinion. A rapid survey of 50 clinicians who regularly assess patients by phone (on 20.3.20) recommended not using the Roth score (though opinions were mixed) and gave the following advice:

Ask the patient to describe the problem with their breathing in their own words, and assess the ease and comfort of their speech. Ask open-ended questions and listen to whether the patient can complete their sentences.
"How is your breathing today?“

Align with NHS111 symptom checker, which asks three questions (developed through user testing but not evaluated in formal research):
Are you so breathless that you are unable to speak more than a few words?“
Are you breathing harder or faster than usual when doing nothing at all?
" Are you so ill that you've stopped doing all of your usual daily activities?"

Focus on change. A clear story of deterioration is more important than whether the patient currently *feels* short of breath. Ask questions like
is your breathing faster, slower or the same as normal?"
"What could you do yesterday that you can't do today"
"What makes you breathless now that didn't make you breathless yesterday?“

Interpret the breathlessness in the context of the wider history and physical signs. For example, a new, audible wheeze and a verbal report of blueness of the lips in a breathless patient are concerning.

Appendix 3. Clinical Frailty Scale (Rockwood, 2005)

Clinical Frailty Scale

1 Very Fit – People who are robust, active, energetic and motivated. These people commonly exercise regularly. They are among the fittest for their age.

2 Well – People who have no active disease symptoms but are less fit than category 1. Often, they exercise or are very active occasionally, e.g. seasonally.

3 Managing Well – People whose medical problems are well controlled, but are not regularly active beyond routine walking.

4 Vulnerable – While not dependent on others for daily help, often symptoms limit activities. A common complaint is being "slowed up", and/or being tired during the day.

5 Mildly Frail – These people often have more evident slowing, and need help in high order IADLs (finances, transportation, heavy housework, medications). Typically, mild frailty progressively impairs shopping and walking outside alone, meal preparation and housework.

6 Moderately Frail – People need help with all outside activities and with keeping house. Inside, they often have problems with stairs and need help with bathing and might need minimal assistance (cuing, standby) with dressing.

7 Severely Frail – Completely dependent for personal care, from whatever cause (physical or cognitive). Even so, they seem stable and not at high risk of dying (within ~ 6 months).

8 Very Severely Frail – Completely dependent, approaching the end of life. Typically, they could not recover even from a minor illness.

9 Terminally Ill – Approaching the end of life. This category applies to people with a life expectancy <6 months, who are not otherwise evidently frail.

Appendix 4. Remote Assessment for Asthma and COPD medication review

Based on 4C-ABLE (Foreseeable) framework

The availability of primary care records of patients with asthma and COPD has transformed consultations for review of their disease. We know that many patients may have the incorrect diagnosis, may not have had evidenced based value interventions, or be on medications that are not appropriate for their stage of disease (either too much or too little).

Thus patient s are at risk of being teated for the wrong condition, be at risk of side effects from the wrong medications or may not receive the best evidenced based treatment.
The 4C-ABLE approach is an attempt to structure a consultation using the electronic records of the patient to prepare before seeing the patient. This 2 step approach ensures that the information necessary to conduct a meaningful review has already been obtained before the patient enters the room. This then maximises the time spent with the patient to explore their understanding of the disease, their aims for the treatment, the barriers that may exist to prevent them achieving those aims, and then finally an agreed plan of action.

The first step (4C) involves interrogating the electronic primary care record to determine if the patient has the correct diagnosis, their stage of disease, and how effective their current treatment is in controlling their disease. The second step (ABLE) involves consulting with the patient if they are available to determine what they understand of the disease, what they would like to achieve, the barriers that may prevent this from happening and then agreeing a way forward to help achieve those goals.

The 4C steps should be clearly documented to save time repeating this process, and the results of the ABLE consultation can be easily recorded on a template to inform the next consultation.

We are adapting the 4C-ABLE approach to do remote respiratory medication reviews in the light of the COVID experience to reduce potential harm from patients using unnecessary high dose inhaled corticosteroids. Many patients may have been stepped up to high dose treatment because of poor technique or poor compliance, or if under control, may not have been stepped down again. We will give some general principles of treatment.

The 4C-ABLE approach consists of:
1. **C**onfirm diagnosis and stage disease
2. **C**urrent treatment (pharmacological and non-pharmacological)
3. **C**ontrol - assess level
4. **C**ompliance - assess level
5. **A**gree Aims
6. **B**arriers to success
7. **L**earning and self efficacy
8. **E**mend and agree management

High dose inhaled corticosteroid inhalers (source BTS/SIGN Asthma guidelines 2019)

Table 12: Categorisation of inhaled corticosteroids by dose – adults (see also Figure 2)*

ICS	Dose		
	Low dose	**Medium dose**	**High dose#**
Pressurised metered dose inhalers (pMDI)			
Beclometasone dipropionate			
Non-proprietary	100 micrograms two puffs twice a day	200 micrograms two puffs twice a day	200 micrograms four puffs twice a day
Clenil Modulite pMDI	100 micrograms two puffs twice a day	200 micrograms two puffs twice a day	250 micrograms two puffs twice a day 250 micrograms four puffs twice a day
Kelhale pMDI (extrafine)	50 micrograms two puffs twice a day	100 micrograms two puffs twice a day	100 micrograms four puffs twice a day
Qvar pMDI (extrafine) Qvar Autohaler (extrafine) Qvar Easi-Breathe (extrafine)	50 micrograms two puffs twice a day	100 micrograms two puffs twice a day	100 micrograms four puffs twice a day
Soprobec pMDI	100 micrograms two puffs twice a day	200 micrograms two puffs twice a day	250 micrograms two puffs twice a day 250 micrograms four puffs twice a day
Ciclesonide			
Alvesco pMDI	80 micrograms two puffs once a day	160 micrograms two puffs once a day	160 micrograms two puffs twice a day
Fluticasone propionate			
Flixotide Evohaler	50 micrograms two puffs twice a day	125 micrograms two puffs twice a day	250 micrograms two puffs twice a day
Dry powder inhalers (DPI)			
Beclometasone			
Non-proprietary Easyhaler	200 micrograms one puff twice a day	200 micrograms two puffs twice a day	n/a
Budesonide			
Non-proprietary Easyhaler	100 micrograms two puffs twice a day	200 micrograms two puffs twice a day	400 micrograms two puffs twice a day
Budelin Novolizer	n/a	200 micrograms two puffs twice a day	200 micrograms four puffs twice a day
Pulmicort Turbohaler	100 micrograms two puffs twice a day 200 micrograms one puff twice a day	200 micrograms two puffs twice a day 400 micrograms one puff twice a day	400 micrograms two puffs twice a day
Fluticasone propionate			
Flixotide Accuhaler	100 micrograms one puff twice a day	250 micrograms one puff twice a day	500 micrograms one puff twice a day
Mometasone			
Asmanex Twisthaler	200 micrograms one puff twice a day	400 micrograms one puff twice a day	n/a

* Different products and doses are licensed for different age groups and some are not licensed for use in children. Prior to prescribing, the relevant summary of product characteristics (SPC) should be checked (www.medicines.org.uk/emc).

High doses (shaded boxes) should only be used after referring the patient to specialist care.

(Table 12 continues on next page)

Table 12 (continued): Categorisation of inhaled corticosteroids by dose – adults (see also Figure 2)*

ICS	Dose		
	Low dose	Medium dose	High dose#
Combination inhalers			
Beclometasone dipropionate (extrafine) with formoterol			
Fostair (pMDI)	100/6 one puff twice a day	100/6 two puffs twice a day	200/6 two puffs twice a day
Fostair (NEXThaler)	100/6 one puff twice a day	100/6 two puffs twice a day	200/6 two puffs twice a day
Budesonide with formoterol			
DuoResp Spiromax	160/4.5 one puff twice a day	160/4.5 two puffs twice a day 320/9 one puff twice a day	320/9 two puffs twice a day
Symbicort Turbohaler	100/6 two puffs twice a day 200/6 one puff twice a day	200/6 two puffs twice a day 400/12 one puff twice a day	400/12 two puffs twice a day
Fobumix Easyhaler	80/4.5 two puffs twice a day 160/4.5 one puff twice a day	160/4.5 two puffs twice a day 320/9 one puff twice a day	320/9 two puffs twice a day
Fluticasone propionate with formoterol			
Flutiform MDI	50/5 two puffs twice a day	125/5 two puffs twice a day	250/10 two puffs twice a day
Flutiform K-haler	50/5 two puffs twice a day	125/5 two puffs twice a day	n/a
Fluticasone propionate with salmeterol			
Aerivio Spiromax	n/a	n/a	500/50 one puff twice a day
AirFluSal Forspiro	n/a	n/a	500/50 one puff twice a day
AirFluSal pMDI	n/a	125/25 two puffs twice a day	250/25 two puffs twice a day
Aloflute pMDI	n/a	125/25 two puffs twice a day	250/25 two puffs twice a day
Combisal pMDI	50/25 two puffs twice a day	125/25 two puffs twice a day	250/25 two puffs twice a day
Fusacomb Easyhaler	n/a	250/50 one puff twice a day	500/50 one puff twice a day
Sereflo pMDI	n/a	125/25 two puffs twice a day	250/25 two puffs twice a day
Seretide Accuhaler	100/50 one puff twice a day	250/50 one puff twice a day	500/50 one puff twice a day
Seretide Evohaler	50/25 two puffs twice a day	125/25 two puffs twice a day	250/25 two puffs twice a day
Sirdupla pMDI	n/a	125/25 two puffs twice a day	250/25 two puffs twice a day
Stalpex Orbicel	n/a	n/a	500/50 one puff twice a day
Fluticasone furoate with vilanterol			
Relvar Ellipta	n/a	92/22 one puff once a day	184/22 one puff once a day

* Different products and doses are licensed for different age groups and some are not licensed for use in children. Prior to prescribing, the relevant summary of product characteristics (SPC) should be checked (www.medicines.org.uk/emc).

High doses (shaded boxes) should only be used after referring the patient to specialist care.

Asthma

Examine patient electronic record beforehand:

1. **Confirm diagnosis** and stage disease using:
    1. Spirometry/Peak flow – look for variability in FEV1 or peak flow (>20% variation)
    2. Secondary care review/letters stating diagnosis and evidence for diangosis
    3. Recent RCP questions/ACT score and exercise tolerance to ascertain control
    4. Current treatment level

2. **Current treatment** (pharmacological and non-pharmacological)
    1. Smoking status – support to stop if current smoker
    2. Triggers
    3. Atopy
    4. Current medication – are they prescribed high dose ICS?

3. Assess level of **Control**
    1. Number of admissions/A&E visits for asthma in last 2 years – should be 0
    2. Number of courses of steroids for asthma in last 2 years – should be 0
    3. Number of salbutamol inhalers in last 12 months – should be less than 3 if well contolled and taking regular preventer

4. **Compliance/Concordance** - assess level
    1. Number of ICS/LABA+ICS in last 12 months – ideally 75% (8-12 inhalers in a year)
    2. Spacer used if appropriate
    3. Inhaler technique last checked?

Stepping down ICS in asthma.

If patient has been prescribed a high dose ICS but has received less than 50% of their inhalers in last 12 months, it should be safe to reduce their dose immediately by 50% or switch to a MART/SMART approach.

If patient is on high dose ICS and has been compliant with medication and well controlled (no exacerbations or ED visits, using salbutamol less than 3 times a week), reducing the overall daily dose of ICS by 25% every three months is a safe and effective strategy, reviewing control as part of an agreed self-management and clinical partnership. In patients on ICS and Long-Acting Beta-Agonists (LABA) combination, the ICS dose should be reduced to practical minimum (usually 400mcg BDP equivalent in adults, 200mcg in children), or consider if suitable for MART/SMART regimen.

Patients with high risk may be less amenable to dose reduction, but a holistic review including self management, concordance, inhaler technique and anticipatory/emergency care planning should be considered, recognising that this patient group are characteristically difficult to contact, but that contingency planning and practice processes can be effective despite difficulties in patient review.

COPD

1. **Confirm diagnosis** and stage disease using:
    1. Age – COPD highly unlikely <40 years unless alpha-1 anti-trypsin def or heavy cannabis use
    2. Spirometry/lung function available – should have FEV1/FVC ratio <0.7 or <LLN for age or repeated occasions. Look for any variation in FEV1 as >20% may suggest asthmatic compoment.
    3. Secondary care review/letters – with spirometry
    4. MRC score and exercise tolerance – O2 sats
    5. Historical eosinophilia

2. **Current treatment** (pharmacological and non-pharmacological)
    1. Smoking status (<20 pack year history of smoking with COPD would suggest chronic asthma or cause other than smoking related COPD). Support to stop if current smoker
    2. Flu/pneumonia vaccination
    3. Pulmonary rehab within last 18 months
    4. Current medication

3. **Control -** assess level
    1. Number of admissions/A&E visits for chest conditions in last 2 years
    2. Number of courses of antibiotics for chest infections in last 2 years
    3. Number of courses of steroids for chest condition in last 2 years
    4. Any episodes of pneumonia in last 2 years if on ICS/LABA

4. **Compliance/Concordance** - assess level
    1. Number of salbutamol inhalers in last 12 months
    2. Number of LAMA/LABA/LABA+ICS in last 12 months
    3. Spacer used if appropriate
    4. Inhaler technique last checked?

Stepping down ICS in COPD.

Indications for ICS in COPD are:

- Features of asthma (variability in FEV1 and large response to bronchodilator with reversibility testing (>15% or 400ml), features of atopy).
- Historical eosinophilia (>0.3) with at least one documented exacerbation a year.
- More than 2 exacerbations a year or one exacerbation and one admission with AECOPD in last 12 months.

There is no indication for high dose ICS in smoking related COPD in absence of asthma. High dose ICS increases risk of pneumonia and other steroid related side effects. If patients with COPD need ICS, they can be managed on a moderate dose (usually 800micrograms of beclomethasone equivalence a day using a fixed triple (Trimbow or Trelegy) or combination ICS/LABA. Patients on high dose ICS who need to remain on ICS can step down to lower dose immediately. Patients who do not require any ICS:

- If on moderate dose ICS/LABA – can switch to LAMA/LABA combination inhaler immediately and review after 3 months

- If on high dose ICS/LABA – can switch to moderate dose ICS/LABA for 3 months and review – if stable can stop ICS/LABA and switch to LAMA/LABA as above and review after further 3 months.