

# After-care needs of inpatients recovering from COVID-19

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# 1. Introduction

This guidance<sup>1</sup> supports primary care and community health services to meet the immediate and longer-term care needs of patients discharged following an acute episode of COVID-19, by describing the typical expected health care needs of these patients, post-discharge. More than 95,000 COVID positive patients have been looked after in hospitals across England, and most have been able to recover and leave hospital.

However, it is clear that for many of those who have survived, the virus and the treatment required to combat it will have a lasting impact on their health.

As we move past the first peak of this virus, and as set out in the letter of 29 April 2020 on the [second phase of NHS response to COVID-19](#) from Simon Stevens and Amanda Pritchard, we are going to see increased demand for aftercare and support in community health services, primary care, and mental health.

Community health services – working together with other providers of physical and mental health care – will need to support the increase in patients who have recovered from COVID-19 and who, having been discharged from hospital, need ongoing health support that rehabilitates them both physically and mentally. Meeting these challenges will be a joint endeavour, working seamlessly together including through, for example, multidisciplinary teams and/or virtual ward arrangements.

It is important to note that the impact of COVID-19 on patients is a rapidly-evolving picture and comprehensive data is not yet available on all aspects. Following publication of this guidance, local areas should continue to consider further information published to support management of issues raised in this document.

Work is underway to understand the relationship between health inequalities and COVID-19, which must be taken into account in considering the care and support for patients.

<sup>1</sup> Guidance originally published on 19 March 2020 set out the [hospital discharge service requirements for all NHS trusts](#), community interest companies and private care providers of acute, community beds and community health services and social care staff in England. It also set out requirements around discharge for health and social care commissioners (including clinical commissioning groups and local authorities).

Patients with pre-existing health conditions may require immediate or longer-term changes to the management of those conditions as a result of their COVID-19 episode, however, that is not the focus of this guidance.

The guidance is focused on the clinical interventions that the NHS will lead on. However holistic care is impossible without the partnership with adult social care professionals and social care providers and we will be working with the Department for Health and Social Care to support them in their roles.

## 2. Healthcare needs of COVID-19 patients following discharge

This section describes the expected immediate and longer-term health needs of COVID-19 patients, following discharge from hospital (whether or not they received intensive care) into home and community settings, focused on new conditions following an episode of COVID-19.

For patients receiving palliative care, information can be found [here](#).

See Appendix 1 for further COVID-19 related guidance and information.

Below is a brief summary of the most significant issues a patient recovering from COVID-19 may present with on discharge from hospital. These issues should inform the patient's new or amended personalised care and support plan, including what they will be able to do for themselves to manage their needs, and what wider support they will need from services including social care and the voluntary sector. These should be considered in the context of either immediate or longer-term needs, and we have further categorised them as physical, neuro-psychological and social, though patient needs and symptom management should always be considered holistically.

- **Physical:** many patients will leave the acute facility needing care and rehabilitation from allied health professionals (AHPs), re-ablement services, community/care home nurses and other care professionals, to deliver and monitor respiratory interventions or wound/pressure area care or help regain lost muscle mass and physical functioning.
- **Psychological and neuro-psychological:** a significant proportion of patients recovering from severe COVID-19 disease may have developed persistent psychological difficulties as a result of their experiences of illness and treatment. Some may also present with varying degrees of communication and/or cognitive impairment.
- **Social:** patients' social needs and circumstances may be impacted by the pandemic, for example, if they require care support from a member of their household who is shielding. Potential impact of changes throughout lockdown should also be considered.

Primary and community health services should work with families, care homes and domiciliary care to support the provision of holistic care for patients discharged from hospital after COVID-19.

## 2.1 Combination: physical, cognitive and psychological needs

Issue: **Post-intensive care syndrome (PICS)** describes an amalgamation of persistent physical, cognitive and psychological impairments present in 56% of patients at 12 months following prolonged ventilation.

- **Considerations:** Individual symptoms may be recognised in isolation without the overall syndrome being identified.
- **Resources:** There are critical care follow-up clinics in some areas of the country, and these are typically multidisciplinary but often do not include all members of the multidisciplinary team (MDT). Some areas are covered by a hub and spoke arrangement, where the critical care clinic will take referrals from other areas of the country. The referral criteria of these clinics vary; for example, length of stay over 72 hours in ICU, length of mechanical ventilation, delirium, referral by another clinician, self or family.
- It is not routine to review all patients following a critical illness, and there is little current evidence regarding which patient cohorts should be reviewed, though the [BTS has published helpful guidance](#). NICE guideline CG83 require that patients are reviewed at two to three months post-discharge by an appropriately skilled healthcare professional(s) who is familiar with the patient's critical care problems and rehabilitation care pathway. Critical care clinics will also review patients again at 6 and 12 months, if required. A full functional assessment should be completed during this review, including discussion of sexual dysfunction if appropriate. The benefits of early physical rehabilitation following intensive care unit (ICU) discharge (mostly home-based and/or solely exercise training) for quality of life and mortality are unclear. However, capacity and quality of life improved significantly following an eight-week pulmonary rehabilitation programme in survivors of acute respiratory disease syndrome (ARDS) due to severe influenza A (H1N1) pneumonitis.

## 2.2 Physical

### 2.2.1 Respiratory

Issue: **Management of patients requiring oxygen**

- **Prevalence and relevance:** Increased numbers of patients requiring oxygen support in hospital in both critical care and non-critical care environments, though there is a lack of data on this. Anecdotally at a local level, more patients are being discharged with a temporary need for oxygen.
- **Considerations:** Home oxygen services, community respiratory teams and telehealth already exist in all clinical commissioning groups and some local authorities. However, scale is likely to be an issue.
- **Resources:** MDTs with specialist respiratory skills focused on admission avoidance and supporting early discharge could have the skills to support patients requiring oxygen and needing specialist respiratory input at home, and potentially in care homes. Appropriately trained staff and patients will need rapid access to equipment and technology to enable home monitoring and follow-up (e.g. oxygen concentrators and/or cylinders, oxygen saturation monitors) either via face-to-face or technologically facilitated review. Community-based intravenous therapy teams for antibiotic therapy (OPAT) already exist in some areas that support patients with certain respiratory conditions, e.g. bronchiectasis and pneumonia, and could potentially support the care of COVID-19 patients at home. Pathways to standardise these processes would currently need to be developed with existing oxygen at home services at local level.

Issue: **Pulmonary rehabilitation (PR)**

- **Prevalence and relevance:** Need for pulmonary rehabilitation will depend on the severity of COVID-19 infection, existing co-morbidity and functional status. A majority of patients will be significantly functionally impacted: most will recover without formal intervention, but some could benefit from a formal exercise rehabilitation programme.
- **Considerations:** A robust evidence base suggests that, where appropriate, PR should be started early (within 30 days) to maximise benefit. However, specifically for COVID-19 patients, the [British Thoracic Society](#) and several equivalent societies internationally recommend waiting 6-8 weeks post-discharge, particularly due to unknowns about the patient's infectiousness .

PR services exist in all areas and are usually delivered in the community. Capacity and demand for PR services is likely to be stretched when business as usual recommences, given that many were already operating with waiting lists before the pandemic, and some community therapists, e.g. occupational therapists and physiotherapists, are currently redeployed in acute settings. Further guidance on restarting PR services is expected from the British Thoracic Society in coming weeks. Risk factors should be identified and flagged, such as avoidance of flammable lotions, e.g. paraffin-based products, in these patients when using oxygen.

- **Resources:** Some patients and carers will prefer [web-based/directed](#) training at home. The [British Thoracic Society has released guidance and a resource pack](#) which may support remote delivery. In addition, a new online post-COVID-19 rehabilitation platform called “My Covid Recovery Programme” expected to be launched mid-July.

#### Issue: **Pulmonary vascular disease**

- **Prevalence and relevance:** There is evidence that patients with COVID-19 experience a high prevalence of thromboembolic disease. Furthermore, some patients treated in ICUs with severe COVID-19 develop pulmonary arterial hypertension.
- **Considerations:** Patients with pulmonary embolic disease will require treatment based upon review by appropriate teams to define the optimal duration of anticoagulation and long-term follow-up.
- **Resource:** More detail on venous thromboembolic disease is provided in the BTS COVID-19 VTE guidance and more information will be available in the BTS guidance on [COVID-19 associated venous thromboembolism](#).

#### Issue: **Tracheostomy (in place)**

**Prevalence and relevance:** The number of patients requiring a tracheostomy is becoming clearer,<sup>2,3</sup> though with some different views on timing, indications and

<sup>2</sup> Brodsky, M. B., Huang, M., Shanholtz, C., Mendez-Tellez, P. A., Palmer, J. B., Colantuoni, E., & Needham, D. M. (2016). Recovery of Dysphagia Symptoms after Oral Endotracheal Intubation in ARDS Survivors: A 5- Year Longitudinal Study. *Ann Am Thorac Soc*. oi:10.1513/AnnalsATS.201606-455OC

<sup>3</sup> Brodsky, M. B., Levy, M. J., Jedlanek, E., Pandian, V., Blackford, B., Price, C. . . . Akst, L. M. (2018). Laryngeal Injury and Upper Airway Symptoms after Oral Endotracheal Intubation With Mechanical Ventilation During Critical Care: A Systematic Review. *Crit Care Med*, 46(12), 2010-2017.doi:10.1097/ccm.0000000000003368



outcome. Tracheostomy-related laryngeal injury may occur causing vocal cord palsy. Laryngotracheal stenosis may impact on swallow function.

- **Considerations:** Very few services support the weaning of patients with tracheostomies in the community. It requires an integrated MDT approach with clear accountability. Even where community services exist, secondary care is frequently required to facilitate decannulation. The presence of a tracheostomy tube places a significant burden on the patient, their family, carers or healthcare institutions.<sup>4</sup> Patients may have ongoing swallowing difficulties including secretion management and aspiration risk. They will need alternative communication strategies or safe management of one-way speaking valves. Patients will require support with airway management: evaluation of voice and swallowing including use of fiberoptic endoscopic evaluation of swallow (FEES) as well as advice before, during and after reconstructive surgery.<sup>5,6, 7,8,9</sup>
- **Resources:** Physiotherapy; speech and language therapy; ear, nose and throat (ENT); community nursing, dietetics, occupational therapy and specialist nurses, including those with learning disabilities, autism and mental health training. There are some [existing resources available through the National Tracheostomy Safety Project](#) and the newly published NHS Improvement guidance on MDT tracheostomy care. While protocols/pathways can be developed to facilitate weaning, this relies on an experienced MDT and often the need for secondary care input. This would provide an opportunity to work between acute and community settings to allow upskilling of staff and facilitate early discharge.

<sup>4</sup> A series of videos about prevention of pressure ulcers under devices is about to be published by the Stop the Pressure team. Guidance on factors to consider when caring for patients with a device around the STARR acronym available from the Stop the Pressure team and is due to be put on the Stop the Pressure website.

<sup>5</sup> Clunie GM, Kinshuck AJ, Sandhu GS, Roe JWG. Voice and swallowing outcomes for adults undergoing reconstructive surgery for laryngotracheal stenosis. *Curr Opin Otolaryngol Head Neck Surg* 2017; Jun; 25(3),195-199. DOI: 10.1097/MOO.0000000000000362.

<sup>6</sup> Lennon CJ, Gelbard A, Bartow C, Garrett CG, Netterville JL, Wootten CT. Dysphagia following airway reconstruction in adults. *JAMA Otolaryngol Head Neck Surg*. 2016; Jan; 142(1), 20-4. DOI: 10.1001/jamaoto.2015.2562.

<sup>7</sup> McGrath B, Wallace S. The UK National Tracheostomy Safety Project and the role of speech and language therapists. *Curr Opin Otolaryngol Head Neck Surg* 2014; Jun; 22(3), 181-7. DOI: 10.1097/MOO.0000000000000046 <https://www.ncbi.nlm.nih.gov/pubmed/24670488>.

<sup>8</sup> Ng FK, Wallace S, Khalil U, McGrath BA. Duration of trans-laryngeal intubation before tracheostomy is associated with laryngeal injury when assessed using FEES. *BJA* 2019. Epub [https://bjanaesthesia.org/article/S0007-0912\(19\)30412X/pdf](https://bjanaesthesia.org/article/S0007-0912(19)30412X/pdf)

<sup>9</sup> Hales PA, Drinnan MJ, Wilson JA. The added value of fiberoptic endoscopic evaluation of swallowing in tracheostomy weaning. *Clinical Otolaryngology* 2008; 33/4, 319-324.

## Issue: Tracheostomy wounds

- **Prevalence and relevance:** The expectation is that more tracheostomies will be undertaken surgically rather than percutaneously. These tend to be slower to heal and have a higher incidence of infections. This will increase demand for community nursing as early supported discharge and care in the community become best practice and business as usual.
- **Considerations:** Community nurses are already used to caring for those with tracheostomy wounds, but not in the numbers that may be required over such a short space of time. Additional training for community and practice nurses may be required.
- **Resources:** Community nurses with specialist skills and expertise in wound care, as above. Access to ENT services are likely to be more challenging due to hospital clinics currently not running, but this could be an opportunity to move clinicians with these skills to work in the community to support patients at home.

## Issue: Dysphagia

- **Prevalence and relevance:** Post critical care, patients with ongoing respiratory conditions will be at increased risk of aspiration pneumonia, poor quality of life and mortality. Dysphagia is common and persistent but treatable if not overlooked, which it often is.<sup>10,11</sup> Some of these patients may have non-invasive ventilation (NIV), which can compromise their swallowing function.
- **Considerations:** Patients will have difficulties with swallowing (see prevalence and relevance above for aspiration risk). These patients are also at risk of fatigue during meal times and will potentially require assessment and compensatory strategies, e.g. a modified diet. These patients may also benefit from dysphagia exercises to rehabilitate the swallow function. Texture modified diets can have implications on nutritional intake, which could impact on already nutritionally compromised patients.

<sup>10</sup> Hafner G, Neuhuber A, Hirtenfelder S, Schmedler B, Eckel HE. FEES in intensive care unit patients. *Eur Arch Otol Rhino Laryngol* 2008; 265(4), 441–446.

<sup>11</sup> Kruser, JM, Prescott, HC. Dysphagia after Acute Respiratory Distress Syndrome: Another Lasting Legacy of Critical Illness. *Annals of the American Thoracic Society* 2016; 14(3).  
<https://doi.org/10.1513/AnnalsATS.201612-1040ED>

- **Resources:** Dietitians are experts in assessing and reviewing nutritional needs to ensure adequate nutrition and hydration and prevent malnutrition. Speech and language therapists (SLTs) are experts in using instrumental assessments, including fiberoptic endoscopic evaluation of the swallow (FEES) and videofluoroscopic swallowing studies (VFSS), which are essential in managing dysphagia in a range of presentations following COVID-19.<sup>12,13</sup>

### Longer-term respiratory needs

The long-term consequences of COVID-19 will likely have implications for all parts of the health and care system including primary, secondary and community care. The suggestions below are based on early data which is emerging; causality will depend on future research.

#### Issue: **Chronic cough**

- **Prevalence and relevance:** Chronic cough is defined, in adults, as having a cough lasting over eight weeks. A meta-analysis estimated the global prevalence of chronic cough in the general adult population as ~10%.<sup>14</sup> Cough is one of the most common clinical features in patients with COVID-19. However, no data exists on chronic cough post-COVID-19 infection.
- **Considerations:** Few community services for chronic cough management exist. Despite extensive assessments and medical management, in up to 20% of chronic cough cases the cough persists and does not respond to medical treatment.<sup>15</sup> There is emerging evidence to show that non-pharmacological treatment approaches and specifically physiotherapy and speech and language therapy interventions can improve/eliminate chronic cough. Primary care should work with other providers to ensure appropriate care pathways exist.

<sup>12</sup> Wallace S, McLaughlin C, Clayton J, Coffey M, Ellis J, Haag R, Howard A, Marks H, Zorko R. Fiberoptic Endoscopic evaluation of Swallowing (FEES): The role of speech and language therapy. London: Royal College of Speech and Language Therapists, position paper 2020.

<sup>13</sup> Royal College of Speech and Language Therapists. Videofluoroscopic evaluation of oropharyngeal swallowing function (VFS): The role of speech and language therapists. RCSLT position paper 2013. London: RCSLT.

<sup>14</sup> Morice et al. ERS guidelines on the diagnosis and treatment of chronic cough in adults and children. *European Respiratory Journal* 2020 55: 1901136; DOI: 10.1183/13993003.01136-2019.

<sup>15</sup> Chamberlain Mitchell SAF, Garrod R, Clark L et al. Physiotherapy, and speech and language therapy intervention for patients with refractory chronic cough: a multicentre randomised control trial, *Thorax* 72 (2017) 129–136.

- **Resources:** A [factsheet](#) was created by the Royal College of Speech and Language Therapists for treatments of upper airway disorder, including chronic cough.

#### Issue: **Long-term risk of lung fibrosis**

- **Prevalence and relevance:** Approximately 30% of survivors of the global SARS outbreak caused by SARS-CoV and the Middle East respiratory syndrome coronavirus (MERS-CoV) experienced persistent physiological impairment and abnormal radiology consistent with fibrotic lung disease.<sup>16,17</sup> It is envisaged that pulmonary fibrosis is likely to be an important sequela/condition which is the consequence of COVID-19
- **Considerations:** Local areas should be aware of the possible increased morbidity and the resource implications on services to provide diagnostic and management support. The British Thoracic Society post-COVID-19 respiratory follow-up guidance recommends lung function testing and CT scanning for patients with persistent respiratory symptoms, physiological impairment or a chest x-ray which remains abnormal 12 weeks after hospital discharge
- **Resources:** The [British Thoracic Society post-COVID-19 respiratory follow-up guidance](#).

#### Issue: **Pulmonary physiology investigations to determine effect on lung function**

- **Prevalence and relevance:** As above
- **Considerations:** There is a need for pulmonary physiology – e.g. spirometry and more detailed pulmonary function tests such as lung volumes, gas transfer and exercise capacity – to determine the physiological impact of the effect of COVID-19. The timing and nature of the tests to be done needs to be determined once we have data from discharges. Potential pulmonary scarring and resulting fibrosis cannot be managed without these investigations which are as important as imaging in this context.

<sup>16</sup> Hui DS, Joynt GM, Wong KT, et al. Impact of severe acute respiratory syndrome (SARS) on pulmonary function, functional capacity and quality of life in a cohort of survivors. *Thorax*. 2005;60(5):401-409.

<sup>17</sup> Das KM et al. Follow up chest radiographic imaging in patients with MERS-CoV after recovery. *Indian J Radiol Imaging*. 2017;27(3)342-349.

- **Resources:** Local areas should remain aware of whether any official national guidance is produced specific to which demographics of COVID-19 patients will require pulmonary physiology investigation post discharge.

Issue: **Long-term risk of bronchiectasis**

- **Prevalence and relevance:** No clear figure available, but estimates suggest up to 5% of people with COVID-19 pneumonia may go on to develop bronchiectasis. However, causality is not yet established.
- **Considerations:** Local areas should be aware of the possible increased morbidity and consider the need this may place on services to provide diagnostic and management support.

Issue: **Chest X-ray to ensure resolution of X-ray abnormalities**

- **Prevalence and relevance:** The indication to repeat the chest X-ray in patients with radiologically confirmed COVID-19 is not to exclude an underlying lung cancer, rather to ensure the satisfactory resolution of pneumonic changes. In a longitudinal CT study, 94% of patients with radiologically confirmed COVID-19 had persistent CT abnormalities at the time of discharge.<sup>18</sup>
- **Considerations:** The [British Thoracic Society post-COVID-19 respiratory follow-up guidance](#) recommends a follow up chest X-ray 12 weeks after discharge. However, if there is any suggestion of an underlying malignant process, the chest x-ray should be performed 6 weeks after discharge with referral to cancer services if appropriate.

**Resources:** [British Thoracic Society post-COVID-19 respiratory follow-up guidance](#).

<sup>18</sup> Wang Y, Dong C, Hu Y, et al. Temporal Changes of CT Findings in 90 Patients with COVID-19 Pneumonia: A Longitudinal Study. *Radiology*. 2020:200843.

## 2.2.2 Cardiology

### Issue: Cardiac rehabilitation and urgent follow-up for COVID-19 related cardiac complications

- **Prevalence and relevance:** Acute myocardial injury is the most commonly described cardiovascular complication in COVID-19, occurring in 8-12% of all those discharged; 12% heart failure is reported in those recovered and discharged (52% in those who died); 16.7% arrhythmia is reported.<sup>19</sup> Peripheral arterial disease (PAD) is known to be generally under-diagnosed and under-treated, resulting in avoidable heart attacks, strokes, amputation and early death.<sup>20</sup>
- **Considerations:** Many patients will require cardiac assessment pre-discharge plus plan – with echocardiography (usually), optimisation of medications and cardiology follow-up. A smaller number may require further investigation for specific issues such as possible cardiomyopathy or coronary artery disease. They may require ongoing input from heart failure services and referral for further investigation and management in secondary care (e.g. chest pain services, CT scans or cardiac MR scans). GPs should liaise with local cardiology services for advice and support. There is robust evidence that rehabilitation should be started early in this population to maximise benefit.
- **Resources:** Virtual sessions using online services such as [Activate your Heart](#) or [The Heart Manual](#). These web-based rehabilitation programmes can be supported remotely and the British Association for Cardiovascular Prevention and Rehabilitation and British Heart Foundation have [guidelines](#) in this area. Patients can also be directed to [charity resources](#) such as [Pumping Marvellous](#) and [Cardiomyopathy UK](#) (as referenced in NICE guidance). In addition, NHSE/I, is developing a new online post-COVID-19 rehabilitation platform called “My Covid Recovery Programme” expected to be launched mid-July. Podiatry teams have close links with vascular services, can diagnose severe peripheral arterial disease and critical limb

<sup>19</sup> <https://cks.nice.org.uk/coronavirus-covid-19#!scenario:1>

<sup>20</sup> Belch J, Stansby G, Shearman C et. al. Peripheral arterial disease – a cardiovascular time bomb. *British Journal of Diabetes & Vascular Disease* 2007; 7: 236–239.) If the condition has progressed, pain may be felt in the feet, even when not walking. This is known as rest pain or ischaemic pain and is an indicator for critical limb ischaemia (CLI), which can result in necrosis/gangrene, limb loss and early death. Koch M, Trapp R, Kulas W., Grabensee B. Critical limb ischaemia as a main cause of death in patients with end-stage renal disease: a single-centre study. *Nephrology Dialysis Transplantation* 1 October 2004; 19(10): 2547–2552. <https://doi.org/10.1093/ndt/gfh404> (NICE. CG147 - Peripheral arterial disease: diagnosis and management, 2012.

ischemia and can manage cardiovascular risk to reduce avoidable heart attacks and strokes by ensuring timely referrals to vascular services. Tissue viability nurses and community nursing teams could, perform arterial assessments- if appropriately trained. Given similarities in the impact on both cardiac and respiratory rehabilitation professionals and services, there may be opportunities to pool resource to meet need locally. Dietitians are able to provide dietary advice on reducing hypertension and hypercholesterolaemia.

### 2.2.3 Urology

Issue: **Urinary catheters**

- **Prevalence and relevance:** Anecdotally, very few COVID-19 patients are currently leaving hospital with catheters in situ.<sup>21</sup>

Issue: **Acute kidney injury (AKI) and chronic kidney disease (CKD)**

- **Prevalence and relevance:** Evidence from the setting of ARDS in general indicates that AKI is the most frequently occurring organ failure complication and affects an estimated 68.3% of all patients with ARDS.<sup>22</sup> However, evidence specific to the COVID-19 setting suggests that the risk of AKI may be lower in patients hospitalised with COVID-19 than in the wider ARDS population and therefore post-AKI monitoring in discharged COVID-19 patients is not expected to become a major burden for primary or specialty care.<sup>23</sup>

### 2.2.4 Neuromuscular

Issue: **Hospital-acquired muscle weakness**

- **Prevalence and relevance:** The incidence of intensive care acquired weakness (ICU-AW) is recorded as between 25% and 50% in a general critical care population. ICU-AW is associated with rapid early muscle mass loss (up to 20%), which worsens in the presence of multi-organ failure.

<sup>21</sup>Informal survey of 75 London area urologists.

<sup>22</sup> Factors associated with acute kidney injury in acute respiratory distress syndrome Panitchote A, Mehkri A et al. *Annals of Intensive Care*, 9: 74 (2019).

<sup>23</sup> Wang L, Li X, Chen H, et al. Coronavirus disease 19 infection does not result in acute kidney injury: An analysis of 116 hospitalized patients from Wuhan, China [published online 31 March 2020]. *Am J Nephrol*. doi: 10.1159/000507471.

Patients experiencing ICU-AW have prolonged lengths of hospital stay and are likely to require greater support on hospital discharge. While not COVID-19 specific, patients admitted with ARDS may continue to experience physical difficulties up to five years post-critical care discharge.

Physical weakness will also occur in those not admitted to critical care as a result of deconditioning; this is particularly apparent in the frail and pre-frail population. The resulting decline in muscle mass and strength has been linked to falls, functional decline, increased frailty and immobility, all of which significantly increase the risk of pressure ulcers.

Among patients who have myopathy 91% have swallowing difficulties.<sup>24</sup> Dysphagia assessment, therapy and rehabilitation are needed to ensure safe swallow strategies. These patients may need long-term alternative feeding, e.g. percutaneous endoscopic gastrostomy.

- **Considerations:** The impact of COVID-19 on incidences of ICU-AW, in-hospital deconditioning and long-term physical weakness is not yet known. However, anecdotal evidence from the UK and Europe suggests a higher than usual incidence of ICU-AW compared to the usual critical care population. The benefits of early physical rehabilitation following ICU discharge (mostly home-based and/or solely exercise training) on quality of life and mortality are variable (mainly due to heterogeneity of population). However, exercise capacity and quality of life improved significantly following an eight-week pulmonary rehabilitation programme in survivors of ARDS due to severe influenza A (H1N1) pneumonitis. Follow-up services available to those experiencing weakness as a result of deconditioning are variable and rely on existing community-based services, e.g. community physiotherapy, day hospitals.
- **Resources:** Critical care follow-up clinics; musculoskeletal post-critical care rehabilitation programmes; physiotherapy; speech and language therapy; dietetics; orthotics; occupational therapy; community rehabilitation/reablement; NICE CG83; GPICS v2.

<sup>24</sup> Ponfick M, Linden R, Nowak D. Dysphagia – a common, transient symptom in critical illness polyneuropathy: a fiberoptic endoscopic evaluation of swallowing study.



## Issue: **Neuropathy**

- **Prevalence and relevance:** The incidence of neuropathies varies widely in the literature, with few studies highlighting issues post-critical care discharge. Neuropathies and muscle atrophy (more frequently termed intensive care-acquired weakness (ICU-AW) are frequently managed in combination. Distal symmetrical poly-neuropathy is the primary cause of foot ulceration and unrecognised infection leading to sepsis amputation.
- **Considerations:** Similar to those for physical weakness. The effect of COVID-19 on the incidence of neuropathies is not known. One of the main treatments for respiratory failure associated with COVID-19 is prone positioning (in both ventilated and non-ventilated patients) for up to 16 hours per day. This position potentially places patients at increased risk of compression neuropathies and neural damage. Additionally, the use of neuromuscular blockades may increase incidence but again this is unknown. There is a possibility of pressure damage to heels and other areas due to prolonged bed rest and lack of sensation, lack of proprioception and increased falls risk.
- **Resources:** Physiotherapy and occupational services provide assessment and treatment for neuropathies, including specialist neurology physiotherapy and occupational therapy. The services vary depending on local authority; orthotics;<sup>25</sup> podiatry; pain management and local pain teams.

## 2.2.5 Endocrinology

### Issue: **Diabetes**

- **Prevalence and relevance:** A recent study<sup>26</sup> has shown the onset of the COVID-19 epidemic in England has been associated with a doubling of the weekly rate of mortality among people with diabetes. Though there is no data yet on the proportions of people potentially affected, there is emerging clinical experience in the UK and internationally that COVID-19 infection in people with or without previously recognised diabetes increases the risk of

<sup>25</sup>[http://www.healthcareimprovementscotland.org/our\\_work/cardiovascular\\_disease/programme\\_resources/ankle-foot\\_orthoses\\_stroke.aspx](http://www.healthcareimprovementscotland.org/our_work/cardiovascular_disease/programme_resources/ankle-foot_orthoses_stroke.aspx) Importance of inclusion of an orthotist as part of the MDT and use of AFOs in rehab of neuro conditions.

<https://journals.sagepub.com/doi/pdf/10.1177/0309364614545422> neuropathic care with MDT approach – orthotic intervention: <https://www.ncbi.nlm.nih.gov/pubmed/31746242>

<sup>26</sup> <https://www.england.nhs.uk/wp-content/uploads/2020/05/Valabhji-COVID-19-and-Diabetes-Paper-2-Full-Manuscript.pdf>

the emergency states of hyperglycaemia with ketones, diabetic ketoacidosis (DKA), and hyperosmolar hyperglycaemic state (HHS). Also, more people with pre-existing type 2 diabetes are progressing to insulin therapy with severe COVID-19 infections, and therefore requiring insulin post-discharge. This phenomenon can manifest as atypical presentations with type 2 diabetes (new onset or in those with pre-existing type 2 diabetes), although it may be associated with greater risk of DKA in those with pre-existing type 1 diabetes as well. Such presentations are atypical, different to what would be expected with viral infections generally, and it is as yet unclear what future insulin requirements in affected individuals will be.

- **Considerations:** The implications are that these individuals will require insulin post-discharge, as well as regular capillary glucose monitoring, associated care packages, and follow-up. Such new diagnoses of type 2 diabetes, and individuals requiring insulin treatment following discharge who did not require insulin previously, should be clearly highlighted by discharging teams to enable appropriate care post-discharge. Patients should be facilitated to self-administer insulin whilst in hospital.
- **Resources:** These issues are outlined on the [Association of British Clinical Diabetologists website](#) in the acute phase, which can also be read as implications for care post-discharge. Dietitians are able to support with dietary management, and insulin dose adjustment, for type 1 and type 2 diabetes.

## 2.2.6 General function and wellbeing

Issue: **Dietary/nutrition**

- **Prevalence and relevance:** Nutrition is a vital part of the recovery process for all patients with COVID-19, particularly those who have suffered cardiac distress, pulmonary distress, or those who have been critically ill due to the weight loss, frailty or sarcopenia associated with these conditions.<sup>27</sup> These patients require individually tailored nutrition support, started early in their journey that is sufficient and timed alongside activity, to enable metabolic

<sup>27</sup> [Canadian Critical Care Trials Group](#). One-year outcomes in survivors of the acute respiratory distress syndrome. *N Engl J Med*. 2003 Feb 20;348(8):683-93. doi: 10.1056/NEJMoa022450. Available from: <https://pubmed.ncbi.nlm.nih.gov/12594312/>

utilisation for recovery.<sup>28</sup> Nutritional rehabilitation needs to be central to community management pathways post-hospital discharge to ensure efficient and effective recovery and to reduce the risk of hospital re-admissions. There is some concern that patients requiring ongoing nutrition rehabilitation in the community will not be identified, as previous research highlighted that only 15% of discharge communications included information on nutrition.<sup>29</sup>

- **Considerations:** The anticipated need for ongoing nutritional rehabilitation as part of recovery will place an increased demand on primary care services with the potential for readmissions. Although diet enrichment should suffice for most, there seems to be an increased need to use oral nutritional supplements alongside this in malnourished patients to achieve measurable improvements. There may also be some increased need for dietetic expertise to support community enteral tube feeding in light of early supported discharge, to manage dysphagia as a result of ventilation and a need to facilitate resolution of eating while treating malnutrition. Data suggests that over 70% of patients with COVID-19 are in the overweight or obese category, despite significant muscle loss indicating sarcopenic obesity, which carries the potential for misidentification of malnutrition.<sup>30</sup>
- **Resources:** As obesity, diabetes and heart disease are major risk factors, there is expected to be an increased need for dietary counselling on disease management alongside ongoing recuperation. For many patients, individualised nutritional advice or counselling are required to enable fat-free mass improvement as opposed to overall weight gain, which is informed by their co-morbidities and nutritional status. Nutritional care plans should be included on all discharge summaries, and screening for signs of malnutrition should be encouraged by all. Nutrition support needs to continue in the community, with a focus on protein adequacy and not just energy. Community dietitians will be vital members of the MDT.

<sup>28</sup> Ingadottir AR, Beck AM et al. Oral nutrition supplements and between-meal snacks for nutrition therapy in patients with COPD identified as at nutritional risk: a randomised feasibility trial. *BMJ Open Respir Res.* 2019 Jan 3;6(1):e000349. doi: 10.1136/bmjresp-2018-000349. Available from: <https://www.ncbi.nlm.nih.gov/pubmed/30687503>

<sup>29</sup> Russell CA, Elia M. Nutrition screening surveys in hospitals in the UK, 2007-2011. Available from: <https://www.bapen.org.uk/pdfs/nsw/bapen-nsw-uk.pdf>

<sup>30</sup> ICNARC. 10 April 2020. Available from: <https://www.icnarc.org/DataServices/Attachments/Download/76a7364b-4b76-ea11-9124-00505601089b>

## Issue: **Pressure ulcers**

- **Prevalence and relevance:** Evidence specific to COVID-19 is lacking, and it is not yet known how many patients are likely to be discharged from hospital with existing pressure damage or in need of pressure ulcer prevention interventions in line with NICE guidelines.<sup>31</sup> There is some anecdotal evidence that pressure ulcers are occurring on the sternum and hip bones due to being nursed in a prone position.
- **Considerations:** It is likely that all COVID-19 discharged patients who need ongoing clinical care will also need ongoing pressure ulcer risk assessment and appropriate therapeutic intervention that includes pressure relieving equipment. This equipment will be the same as currently provided to patients receiving care from community services. Patients who continue to require oxygen support will also be at risk of facial device-related pressure damage and may require clinical input for dressing changes. Carers will need access to information about pressure ulcer prevention.
- **Resources:** Integrated care team nursing care, dietitian, [podiatry](#), orthotic services, integrated care team occupational therapy. Using [SKINN to manage and prevent pressure damage](#), a standardised way of managing and delivering pressure area care and thinking, aimed at all health and care professionals. Information and support for carers, [React to Red](#) online resources.

## Issue: **Fatigue**

- **Prevalence and relevance:** Fatigue is already reported by people following a critical care admission or any severe illness. However, the clinical picture is that patients who have had COVID-19 are reporting extreme fatigue beyond the usual reported levels. This is likely to impact on the length of both recovery and need for supportive care packages and equipment. It is also likely to have an impact on return to activities and return to work. Of people who have been critically ill, 10% could develop chronic fatigue. Therefore, it is important to ensure a gradual return to activities and exercise and to teach pacing methods.
- **Considerations:** Early identification of fatigue and implementation of fatigue management strategies into daily life are very important. Fatigue management consists of sleep hygiene, energy conservation techniques,

<sup>31</sup> <https://www.nice.org.uk/guidance/cg179>

pacing, prioritisation, gradual activity engagement, graded exercise and appropriate nutrition. Early fatigue management techniques embedded in recovery could help to reduce the impact and the likelihood of fatigue becoming persistent or chronic.

- **Resources:** The Royal College of Occupational Therapists have developed practical advice for people who have been [treated in hospital](#), for those [managing post-COVID fatigue at home](#), as well as for those in need of [conserving energy during and after COVID](#). In addition to this, there are numerous [resources related to critical care and other conditions](#) Occupational therapy, dietetics, physiotherapy, including specialist neuro-rehabilitation physiotherapy, MS Society online fatigue management course, [specialist outpatient respiratory physiotherapy](#).

#### Issue: **Oral health and dental care**

- **Prevalence and relevance:** Hospitalisation and illness can impact a patient's oral hygiene routine and oral health. This may mean that pre-existing oral conditions can deteriorate, or new oral conditions develop, while a patient is in hospital. Intubation will also affect mouth care and oral health, and may cause damage to teeth and/or soft tissues.
- **Considerations:** Poor oral health can impact a patient's general health, hydration and nutrition. Healthcare professionals should be aware that poor oral health may have an adverse effect on the progression and management of chronic systemic disease (e.g. diabetes, cardiovascular disease). Patients should be supported to re-establish daily preventive mouth care to promote good oral health.
- **Resources:** To support daily mouth care for patients with confirmed or suspected COVID-19, [guidance](#) can be found at the 'support mouth care' tab. If advice or care is required from a dental professional for urgent dental problems, patients should be referred to their usual dentist if they have one, NHS 111, or a locally published dental helpline for further assessment. If a dental practice is closed due to reconfiguration in the context of COVID-19, their phone lines/website/answerphone will be able to signpost patients to the nearest available service.

#### Issue: **Speech and language issues**

##### **Communication:**

- **Prevalence and relevance:** The ability to communicate is essential for patients' health and wellbeing, choice, quality of life and participation in daily life. Key clinical presentations include dysphonia, disruption to language processing and cognitive-communication difficulties. More information on the [speech and language therapy rehabilitation pathway](#) can be found on the Royal College of Speech and Language Therapists website.
- **Considerations:** Speech and language therapists (SLTs) lead the assessment and management of a range of communication impairments. Where patients have voice difficulties, this would include working jointly with ENT colleagues and carrying out specialist interventions, e.g. endoscopy. They develop and deliver strategies to meet ongoing communication needs in the community, including supporting patients to access rehabilitation provided by other members of the MDT. SLTs can conduct mental capacity assessment related to swallowing and communication issues, e.g. determining a patient's capacity to make decisions around eating and drinking. They can also help to provide communication support to facilitate other members of the MDT to conduct mental capacity assessment regarding other medical issues and decisions. Patients may need counselling and support with respect to longer-term issues around communication, including strategies to enable them to return to work. SLTs also have skills in training and developing the wider MDT (including volunteers) to help deliver key interventions.

## 2.3 Psychological and neuro-psychological

### Immediate need

Issue: **Delirium**<sup>32</sup>

- **Prevalence and relevance:** The prevalence of delirium in all hospitalised patients is 20-30%, while about 70% of those in intensive care will have delirium. [Around a quarter of patients who develop delirium have persistent delirium at three months and a fifth have persistent delirium at six months](#), by which point it almost always represents established cognitive impairment (although case reports have suggested sporadic incidence of later recovery).

<sup>32</sup> Delirium (sometimes called 'acute confusional state') is a common clinical syndrome characterised by disturbed consciousness, cognitive function or perception, which has an acute onset and fluctuating course.

While the presence of severe delirium may delay discharge, fluctuating symptoms may persist for many weeks, and hence some patients may be expected to be discharged with symptoms.

- **Considerations:** A comprehensive discharge and support plan will be crucial in discussion with family/carers as this condition can fluctuate. A behaviour and care needs chart, conducted either in hospital or a step-down facility, can help establish the level of supervision and care provided. It is possible to discharge patients with persistent cognitive impairment following an acute episode of delirium home with a care package, once their care needs have been identified – 24-hour supervision at home, in a community bed or in a care home until symptoms have resolved substantially is not always necessary. It will not be possible to know whether the patient is experiencing mild cognitive impairment until they have had delirium for three to six months post-discharge. Delirium is also associated with post-traumatic stress disorder (PTSD) and alcohol dependence, see below.
- **Resources:** NICE guidance on delirium,<sup>33</sup> states that patients with delirium should be followed up in a local memory service according to local protocol. However, it is important to note that some advice – for example, regarding friends and families visiting – is not appropriate during this stage of the pandemic. The British Geriatric Society has also published [guidance](#) on delirium.

#### Issue: **Mild cognitive impairment**

- **Prevalence and relevance:** Mild cognitive impairment is very common on discharge from hospital after acute respiratory distress syndrome and may persist at one year in about a quarter of patients.<sup>34,35</sup> However, data is limited for viral pneumonia. A major risk factor is the duration of delirium, and such impairment may affect all ages. It is unclear how many patients have persisting severe cognitive impairment.
- **Considerations:** Mild cognitive impairments may go unidentified without appropriate cognitive assessment. However, attention, memory and executive function are often affected and even though mild, can impact on higher-level occupations such as managing finances, driving a car and returning to work. This may have great influence on safety in the community

<sup>33</sup> <https://www.nice.org.uk/guidance/cg103>

<sup>34</sup> Sasannejad s et al. *Crit Care*. 2019; 23: 352.

<sup>35</sup> Pandharipande PP et al *N Engl J Med*. 2013 Oct 3; 369(14): 1306–1316.

and societal participation. Assessment of cognition should be completed around (ideally before) discharge from hospital. A score of <24 on the mini mental state examination (MMSE) and <26 on the Montreal Cognitive Assessment (MoCA) would indicate further assessment at two to three months post-discharge from hospital. This assessment should be considered alongside an interview with the patient and their family about the impact on their functional activities. Increased prevalence of cognitive changes may result in an increase in referrals to both assessment clinic and neurological rehabilitation services in the community or hospital outpatients.

- **Resources:** There has been limited, but promising data for post-ICU cognitive rehabilitation. In one randomised control trial, a 12-week cognitive and physical rehabilitation programme delivered by occupational therapists (OTs) improved patients' cognitive executive functioning at three months. OTs can also assist with learning cognitive strategies and planning return to work, in liaison with occupational health services or Jobcentre Plus.

#### Issue: **Dementia and severe cognitive impairment**

- **Prevalence and relevance:** The prevalence of cognitive difficulties following COVID-19 is not yet known. There is evidence from basic science studies that coronavirus can affect the hippocampus, which can lead to impairments of memory and may predispose to the development of neurodegenerative conditions such as Alzheimer's disease.<sup>36</sup> From reports in practice, there is a higher incidence than usual of cognitive deficits related to hypoxia and encephalopathies causing more severe cognitive impairments. In practice, people are reported to have changes to their personality and cognitive impairments such as reduced attention, impulsivity, disinhibition, disorientation and reduced working memory.
- **Considerations:** Consideration must be given to the impact on both patients and carers of patients with delirium.

Communication assessments conducted by SLTs can help inform differential diagnosis, e.g. delirium versus communication/cognitive impairment. SLTs can conduct mental capacity assessment – e.g. determining a patient's capacity to make decisions. This includes supporting patients with dysphagia around decisions regarding safe eating and drinking. They can also support

<sup>36</sup> Jacomy H, Fragoso G, Almazan G, Mushynski WE, Talbot PJ. Human coronavirus OC43 infection induces chronic encephalitis leading to disabilities in BALB/C mice. *Virology* 2006; 349: 335-346.



other members of the MDT to conduct mental capacity assessment regarding other medical issues and decisions.

People with dementia are much more prone to develop delirium and to experience the impact of separation. Care plans should reflect this and include updated lasting power of attorney documentation and advance directives. There will be an additional burden on carers, many of whom are in a high-risk group themselves and may become ill and unable to care. If services can help plan so that friends/relatives/volunteers maintain daily phone or other contact, this should reduce the need for emergency calls on the NHS and social care. Use of digital technology may help improve communication between families both at home and in care homes. Patients need a cognitive assessment and interview undertaken with patient and family, with links made to memory assessment services, neuro-psychiatry and neuro-rehab clinics. The care burden on both paid professionals and informal carers can be expected to increase.

- **Resources:** Neuro-rehabilitation, both inpatient and in communities, including occupational therapists and psychologists. Memory clinics, neuro-psychiatry/ neuropsychological clinics; speech and language therapy.

Support in the community is key – Dementia Connect and Dementia UK are examples of where bespoke advice is available.<sup>37,38</sup> The six-item cognitive impairment test for dementia and the ‘GP Cog’ are also widely used in primary care.

## 2.4 Mental health

**Issue: Post-traumatic stress disorder (PTSD), depression, anxiety disorders, psychosis or recurrence of longstanding mental health problems**

- **Prevalence and relevance:** The literature suggests that patients admitted to critical care with ARDS experience resulting anxiety (40%), depression (30%) and PTSD (20%).<sup>39</sup> Prevalence at these levels continued at 24-month follow-up and may be confounded by [alcohol use](#). Psychosis and recurrence of more longstanding mental health problems are rarer.

<sup>37</sup> <https://www.alzheimers.org.uk/dementiaconnect>

<sup>38</sup> <https://www.dementiauk.org>

<sup>39</sup> <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4336582/>

- **Considerations:** All patients and their families should be given written and verbal information at discharge detailing the potential psychological impact of critical illness and critical care treatment, including details of rehabilitation support and how to seek additional help if psychological problems persist, including the possibility of psychosis and more longstanding mental health problems. For patients with pre-existing mental conditions, already under the care of a secondary mental health team, that team should be involved in discharge planning to ensure continuity of care between mental and physical health services and to anticipate a likely exacerbation of their pre-existing condition.

Increased prevalence will place increased demand on local IAPT and other mental health services for adults and children to receive the appropriate evidence-based psychological therapy in line with NICE guidance. Local commissioners and providers should therefore pre-emptively consider how to create psychological input into COVID-19 rehabilitation programmes and meet possible increased demand for IAPT and other mental health services.

Clinicians should actively follow up and encourage patients and family members to seek help from IAPT or other appropriate services if psychological problems persist one month post-discharge as people may not come forward seeking this help without prompting.

- **Resources:** [Intensive care guide for patients and families](#), including information on common psychological difficulties and how to address them. Find and self-refer to your [local IAPT service](#) for NICE-recommended psychological therapy for anxiety, depression and PTSD for adults, and for [children](#). PTSD after intensive care: [information](#) for healthcare professionals. British Psychological Society guidance on [meeting the psychological needs of people recovering from severe coronavirus disease](#).

Peer support groups have been set up around the country, but not all areas have these. Some are patient-led and some are provided by clinicians. They can occur in the hospital or in the community, but there is agreement they are best set up in the community to avoid patients having to return to hospital in case of PTSD or other psychological difficulties. The groups can be beneficial for patients and their families. It is recommended that they are increased following COVID-19, particularly as it is unusual that patients have the same condition. These groups are usually for patients who have been admitted to ICU but may be beneficial for a wider group of patients who have difficulties following COVID-19. They could also be carried out virtually.

## Issue: **Insomnia**

- **Prevalence:** Sleep disturbance is common in critically ill patients up to 12 months after hospital discharge with prevalence ranging between 10-60% at six months.<sup>40</sup> Both subjective and objective studies, however, suggest that sleep disturbance improves over time.
- **Considerations:** Increased prevalence may place increased pressure on primary care (presenting as typical insomnia or as a consequence of 'flashbacks' and survivor guilt, along the lines of PTSD) and, in turn, on local IAPT services that may provide the appropriate evidence-based psychological therapy (CBT). Sleep clinics should also be considered if a respiratory cause is suspected. Patients should be provided with advice on sleep hygiene.
- **Resources:** NHS Choices [guidance on sleep and tiredness](#) and [insomnia](#). For those with [existing mental health conditions](#) and [autism](#).

## 2.5 Social

### Immediate need

#### Issue: **Impaired activities of daily living**

- **Prevalence:** Patients may have difficulties with any of their daily activities, including personal care (washing, dressing, toileting, feeding), domestic tasks (cooking, cleaning), leisure activities and instrumental activities of daily living (paying bills, catching public transport, shopping, child care roles) and many others.
- **Considerations:** There may be people requiring short and/or long-term packages of care, family support or equipment to improve their functional ability or independence. This could place increased pressure on occupational therapy, care, community rehabilitation and equipment services, and MDT community rehabilitation, and social care providers when the long term needs of an individual are agreed.

There are specific considerations relating to COVID-19. There is proving to be a greater risk of deterioration even when people look as if they are

<sup>40</sup> <https://www.atsjournals.org/doi/full/10.1513/AnnalsATS.201702-148SR>

recovering. This is a particular difficulty if the person lives alone as they would have no ready assistance if they were to deteriorate. The use of remote monitoring and digital assessment may help to reduce the risk of those who are isolated.

There also needs to be consideration for community discharge pathways in line with DHSC / PHE's latest guidance.

Evidence shows that people who are admitted to critical care have restrictions in returning to work due to the physical, cognitive and psychological symptoms. Patients who require support with work should be provided with information about their legal rights, discussion with employers and phased return to work through discussions with occupational health, Citizens Advice Bureau (CAB), Jobcentre Plus or occupational therapy if required. This input could be provided by the critical care clinics if occupational therapists are part of the MDT. This will also have a financial impact. Patients should be signposted to support services, or if they appear in need of enhanced support for their wellbeing or safety, referred to social work services as appropriate or be given guidance on contacting CAB with any financial issues or for sickness/benefits advice. This is particularly important due to the changes in government benefits recently and the furlough option available to employers.

The specific needs of people who have a learning disability and/or autism, and those who have mental health needs must also be considered. The trusted assessor will need to consider any specialist support that may be required on discharge, along with adapted communication to aid understanding. A speech and language therapist will be able to support assessment of communication needs and strategies required.

Many people with learning disabilities and/or autism will have a social support structure already, with family or via social care. Ongoing dialogue and connection into these structures is important to ensure best outcomes on discharge.

- **Resources:** <https://www.england.nhs.uk/personalisedcare/social-prescribing/>  
<https://www.england.nhs.uk/personal-health-budgets/phb-support-and-resources-for-professionals/>

### 3. Next steps/actions to take

Many aspects of treatment for discharged COVID-19 patients will be normal care for primary and community providers. However, there are new challenges, primarily:

- increased number of patients with post-intensive care syndrome or similar
- maintaining [infection control](#)
- pressures on equipment (e.g. oxygen cannisters, personal protective equipment) and staffing
- increased number of patients experiencing persistent psychological difficulties post-discharge.

Local commissioners and providers should therefore pre-emptively consider how to meet possible increased demand, and clinicians should be aware of the potential psychological morbidity that patients may experience. Patients discharged from hospital may require monitoring and tracking symptoms. This might include remote monitoring using pulse oximetry.

Once at home, the support for a patient should be kept under review as the person's situation changes and agreed with them in a personalised care and support plan. The safe and rapid discharge and reception of these patients into the community should be in line with the principles below:

- **Using existing services:** As far as possible, patients should be supported through adapting or strengthening existing local arrangements (e.g. MDTs or ICU follow-up clinics) according to the primary care, community health services and mental health services standard operating models during the pandemic (see Appendix 1).
- **Risk of infection:** All care in the community should adhere to the [PHE guidance on infection control](#).
- **Minimising steps:** The number of steps in the pathway (including step-down discharge within hospital) and number of professionals involved should be minimised (i.e. making every contact count) as is clinically appropriate to reduce the number of times patients are moved and to reduce the risk of infection.
- **Voluntary and care sector organisations:** Make best use of voluntary and care sector organisations to support people, including through social prescribing.

- **Education and training:** The education and training needs of primary and community staff will need to be reviewed based on feedback – with the potential for signposting to existing or commissioning new resources where appropriate.
- **Social care:** Domiciliary, personal assistants and care homes may need to be included in multidisciplinary support for people recovering from COVID (at home or in a care home).
- **Staff support:** Demand for IAPT services may be increased where the workforce has been impacted through the pandemic from the fear of infection, whether for themselves or passing it to others including their families, even if they did not have their own acute COVID-19 episode. Staff will also experience grief as a result of the death of patients, colleagues or members of their families. NHS England and NHS Improvement have created a comprehensive support offer for staff health and wellbeing. NHS staff now have free access to psychological and practical support, in line with [NICE guidance](#).

# Appendix 1: COVID-19 related guidance and information

Coronavirus specialty guides	<a href="https://www.england.nhs.uk/coronavirus/secondary-care/other-resources/specialty-guides/#palliative">https://www.england.nhs.uk/coronavirus/secondary-care/other-resources/specialty-guides/#palliative</a>
COVID-19 hospital discharge service requirements	<a href="https://www.gov.uk/government/publications/coronavirus-covid-19-hospital-discharge-service-requirements">https://www.gov.uk/government/publications/coronavirus-covid-19-hospital-discharge-service-requirements</a>
Community health services prioritisation	<a href="https://www.england.nhs.uk/coronavirus/publication/covid-19-prioritisation-within-community-health-services-with-annex_19-march-2020/">https://www.england.nhs.uk/coronavirus/publication/covid-19-prioritisation-within-community-health-services-with-annex_19-march-2020/</a>
Community health services standard operating procedure	<a href="https://www.england.nhs.uk/coronavirus/wp-content/uploads/sites/52/2020/04/C0198-community-health-services-sop.pdf">https://www.england.nhs.uk/coronavirus/wp-content/uploads/sites/52/2020/04/C0198-community-health-services-sop.pdf</a>
Mutual aid between community health services and primary care	Publication TBC
Primary care standard operating procedure	GP SOPs: <a href="https://www.england.nhs.uk/coronavirus/publication/managing-coronavirus-covid-19-in-general-practice-sop/">https://www.england.nhs.uk/coronavirus/publication/managing-coronavirus-covid-19-in-general-practice-sop/</a>  Community pharmacy SOPs: <a href="https://www.england.nhs.uk/coronavirus/wp-content/uploads/sites/52/2020/03/Novel-coronavirus-COVID-19-standard-operating-procedure-Community-Pharmacy-v2-published-22-March-2020.pdf">https://www.england.nhs.uk/coronavirus/wp-content/uploads/sites/52/2020/03/Novel-coronavirus-COVID-19-standard-operating-procedure-Community-Pharmacy-v2-published-22-March-2020.pdf</a>
NICE guidelines	<a href="https://www.nice.org.uk/guidance/ng163">https://www.nice.org.uk/guidance/ng163</a> (managing COVID-19 symptoms in community) <a href="https://www.nice.org.uk/guidance/cg83/evidence/full-guideline-pdf-242292349">https://www.nice.org.uk/guidance/cg83/evidence/full-guideline-pdf-242292349</a> (rehab after critical illness) <a href="https://www.nice.org.uk/guidance/cg179">https://www.nice.org.uk/guidance/cg179</a> (Pressure ulcers) <a href="https://www.nice.org.uk/guidance/cg90">https://www.nice.org.uk/guidance/cg90</a> (Depression) <a href="https://www.nice.org.uk/guidance/cg113">https://www.nice.org.uk/guidance/cg113</a> (Generalised anxiety disorder and panic disorder) <a href="https://www.nice.org.uk/guidance/cg115">https://www.nice.org.uk/guidance/cg115</a> (General alcohol-use disorders) <a href="https://www.nice.org.uk/guidance/ng116">https://www.nice.org.uk/guidance/ng116</a> (Post-traumatic stress disorder) <a href="https://www.nice.org.uk/guidance/qs147">https://www.nice.org.uk/guidance/qs147</a> (Healthy workplaces)
NICE shared learning – critical care clinics	<a href="https://www.nice.org.uk/sharedlearning/development-of-a-multidisciplinary-post-critical-care-clinic-at-guy-s-st-thomas-nhs-foundation-trust">https://www.nice.org.uk/sharedlearning/development-of-a-multidisciplinary-post-critical-care-clinic-at-guy-s-st-thomas-nhs-foundation-trust</a>
Faculty of Intensive Care Medicine	<a href="https://www.ficm.ac.uk/standards-research-revalidation/guidelines-provision-intensive-care-services-v2">https://www.ficm.ac.uk/standards-research-revalidation/guidelines-provision-intensive-care-services-v2</a>
European Respiratory Society: COVID-19 and post-ITU rehabilitation	<a href="https://www.ersnet.org/covid-19-blog/covid-19-and-rehabilitation">https://www.ersnet.org/covid-19-blog/covid-19-and-rehabilitation</a>
PHE: COVID-19 infection prevention and control	<a href="https://www.gov.uk/government/publications/wuhan-novel-coronavirus-infection-prevention-and-control">https://www.gov.uk/government/publications/wuhan-novel-coronavirus-infection-prevention-and-control</a>

Chartered Society of Physiotherapy: resources to support discharge of patients at risk from inactivity	<a href="https://www.csp.org.uk/news/coronavirus/clinical-guidance/resources-support-patient-discharge">https://www.csp.org.uk/news/coronavirus/clinical-guidance/resources-support-patient-discharge</a>
Asthma UK: COVID-19 resource hub	<a href="https://www.post-covid.org.uk/resource-hub/">https://www.post-covid.org.uk/resource-hub/</a>
DHSC: direct payment guidance	<a href="https://www.gov.uk/government/publications/coronavirus-covid-19-guidance-for-people-receiving-direct-payments">https://www.gov.uk/government/publications/coronavirus-covid-19-guidance-for-people-receiving-direct-payments</a>
Personalised wellbeing plan for shielded patients	<a href="http://www.socialprescribingacademy.org.uk/helpful-new-covid-19-resource-personalised-wellbeing-plan-template/">http://www.socialprescribingacademy.org.uk/helpful-new-covid-19-resource-personalised-wellbeing-plan-template/</a>
Home oxygen guidance	<a href="https://www.england.nhs.uk/coronavirus/publication/home-oxygen-order-form-hoof-letters-and-guidance/">https://www.england.nhs.uk/coronavirus/publication/home-oxygen-order-form-hoof-letters-and-guidance/</a>
RCOG: COVID-19 and pregnancy	<a href="https://www.rcog.org.uk/en/guidelines-research-services/guidelines/coronavirus-pregnancy/">https://www.rcog.org.uk/en/guidelines-research-services/guidelines/coronavirus-pregnancy/</a>
ICUsteps: intensive care guide for patients and families, including information on common psychological difficulties and how to address them	<a href="https://icusteps.org/guide">https://icusteps.org/guide</a>
Suite of resources for mental health learning disability and autism services including IAPT	<a href="https://www.england.nhs.uk/coronavirus/community-social-care-ambulance/mental-health/">https://www.england.nhs.uk/coronavirus/community-social-care-ambulance/mental-health/</a>
Risk assessments for NHS staff	<a href="https://www.nhsemployers.org/covid19/health-safety-and-wellbeing/risk-assessments-for-staff">https://www.nhsemployers.org/covid19/health-safety-and-wellbeing/risk-assessments-for-staff</a>