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# Rehabilitation after critical illness

## Essential for all intensive care patients, not just people recovering from covid-19

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Covid-19 has raised public awareness about critical illness, but there has been less focus on establishing the services and infrastructure required to support patients in their recovery after hospital discharge. The burden experienced by patients who survive critical illness is well documented.<sup>1,2</sup> The symptoms are collectively known as post-intensive care syndrome and can include long term physical impairments such as muscle weakness, weight loss, breathlessness<sup>3</sup>; cognitive impairment such as problems with memory, attention, and executive function<sup>4</sup>; and psychological symptoms such as depression<sup>5</sup> or anxiety.<sup>6</sup> Those recovering from covid 19 are also more likely to have additional respiratory sequelae.<sup>7-9</sup> Furthermore, deficits in quality of life can persist for up to 12 years after critical illness<sup>10</sup> with many people unable to return to work.<sup>11</sup> Families of patients can also be deeply affected by their experience.<sup>12</sup>

In 2009 guidance from the National Institute for Health and Care Excellence (NICE)<sup>13</sup> outlined the requirements for optimum rehabilitation services after critical illness. These included structured rehabilitation programmes, continuity of care, information provision, and follow-up clinics. However, these guidelines failed to translate into improved support for all patients, with national survey data from 2014 indicating that less than a third of intensive care units offered follow-up when recommended, and even fewer hospitals offered post-hospital discharge rehabilitation programmes.<sup>14</sup> In the absence of robust and widespread community based recovery and rehabilitation services, patients and families must cope alone or rely on their primary care professionals, who may have limited experience supporting patients after critical illness.

There is much to admire in how the patient voice has highlighted the longer term effects of covid-19 and made the case for community rehabilitation. NHS England has invested heavily, establishing 60 multidisciplinary clinics nationwide to support patients recovering from covid-19.<sup>15</sup> However, a recent study identified no discernible difference between the rehabilitation needs of patients with covid-19 and those admitted to intensive care with other critical illnesses.<sup>16</sup> The authors highlight this inequality of access for patients with and without covid-19 and suggest that heightened awareness of healthcare staff or the wider public may be contributing to better rehabilitation services for patients with covid-19.<sup>16</sup>

Providing consistent rehabilitation services is challenging. Lack of high quality evidence about the most effective approach is a problem for commissioners and service managers, for example.<sup>14 17 18</sup> New services need adequate funding

and staffing with experienced clinicians from multiple specialties. Robust processes and tools are required to screen all patients for post-intensive care syndrome. Enhanced links between hospitals and primary care are essential to facilitate the transition to community settings and to deliver seamless continuity of care that includes ongoing rehabilitation. Engagement from NHS management and other stakeholders such as commissioners, clinicians, and integrated care systems is key to successful delivery.

## Better care

Lack of adequate rehabilitation has serious consequences for individuals and risks increasing costs to the NHS, particularly from unplanned readmissions to intensive care units.<sup>19</sup> Consistent with the 2009 NICE guidance,<sup>13</sup> rehabilitation should be provided to all patients after critical illness, not just those with covid-19. Follow-up is essential to identify enduring impairments and facilitate referral to specialist rehabilitation services when required.

Services should include healthcare professionals who recognise the diversity of physical and mental health problems that can follow a critical illness and be supplemented by high quality, comprehensive, and individually tailored information for patients and relatives to guide recovery.<sup>20</sup> Research to determine the most clinically and cost effective rehabilitation strategies should be a priority, with collaboration between patients, funders, and researchers to identify and address evidence gaps.

Many guidelines on rehabilitation for patients with covid-19 have been published in the past year, but just two have considered broader services for people recovering from critical illness following discharge from intensive care. Firstly, the National Post-ICU Rehabilitation Collaborative developed a framework for assessing the needs of patients stepping down from intensive care.<sup>21</sup> Embedded in the framework is the "post-ICU presentation screen," a validated tool that identifies individual rehabilitation requirements and can be adapted as patients' needs change.<sup>16 22</sup> Secondly, the Faculty of Intensive Care Medicine published provisional guidance from its "life after critical illness" programme, recommending follow-up, including assessment of rehabilitation needs.<sup>23</sup> Both provide clinicians with some direction for clinical practice, but their effect must be maximised by provision of funding and further work on UK-wide implementation, with meaningful patient input to inform and develop models based on user experience.

Management of critically ill patients in intensive care units requires highly skilled and expert

**multidisciplinary teams to ensure best outcomes. The same approach is needed to support the rehabilitation of all patients after discharge from intensive care and hospital, with consistent pathways of care across the country to ensure all patients achieve their best possible recovery.**

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