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# Preparing for the storm: impact of the COVID-19 pandemic on rehabilitation services

In December 2019 several cases of acute respiratory distress syndrome were reported in Wuhan City in China. A novel coronavirus was soon identified as the cause of these cases and the syndrome was called Coronavirus disease (COVID-19). It is caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV2), which belongs to the same family coronaviridae which caused the SARS and MERS outbreaks in 2002 and 2012 respectively. The WHO, on 11th March 2020, declared the rapidly spreading COVID-19 as a pandemic. According to the World Health Organization (WHO), most people infected with the COVID-19 virus will either be asymptomatic or experience a mild to moderate respiratory flu-like illness and recover without requiring specialist treatment or hospitalisation. However, vulnerable groups such as those patients over 70 with underlying health conditions or patients with underlying cardiovascular disease, diabetes, chronic respiratory disease, and cancer are more likely to develop serious illness.<sup>1</sup>

Since the detection of early cases in the United Kingdom (UK) from late February, the National Health Service (NHS) has been preparing to deal with a surge of cases by creating bed capacity within the hospitals partly by increasing provision of their ventilated beds. The priority of a health service in any pandemic is to ensure that emergency care is provided to individuals who need it in a timely fashion. With regard to COVID-19 this entailed that almost all planned care and elective admissions were delayed to ensure adequate capacity for the likely increased bed demands across both general wards and in the intensive care units. The World Health Organization Guidance Note on Disability and Emergency Risk Management for Health<sup>2</sup> states that disability is included in emergency risk management policies and people with disability are engaged in the development, implementation and monitoring/evaluation of policies, legislation, strategies and programmes. It also states that the human rights framework should be applied in policies and practices to support people with disabilities and to prevent all forms of discrimination. The specialist rehabilitation providers within the UK have responded well in preparing the NHS to deal with the challenges of COVID-19 since it was declared as pandemic. With a broad training, rehabilitation medical staff are better placed to offer a holistic approach and monitor the long-term needs of the patients. At the local level, rehabilitation leads have come up with unique and innovative solutions relevant to their geography, population and services available.

## **Specialist Rehabilitation Services during the COVID-19 outbreak**

NHS England published a clinical guide for the management of patients requiring transfer for specialist rehabilitation during the coronavirus pandemic on 6th April 2020.<sup>3</sup> This emphasised the fact that the acute services (including hyperacute services in the trauma centres) needed to continue to make referrals to inpatient specialist rehabilitation services. It emphasised that it was imperative that spinal cord injury centres and rehabilitation services were protected

and maintained to facilitate patient transfer from an acute setting in a reasonable period of time. From the rapid access acute rehabilitation perspective, we are continuing to make referrals to the post-acute specialist rehabilitation units (Level 1 and Level 2). However, as these services are under a huge pressure due to various factors, a timely transfer of patients from the acute settings to the rehabilitation setting is not always possible. Due to the pandemic, the trauma centres also lost the valuable in-reach support and advice from the spinal cord injury services for spinal injury patients.

### Re-organisation of Rehabilitation Services in the Acute Hospital

Most of the major trauma centres (MTC) in the United Kingdom host a hyperacute rehabilitation unit and some have post-acute Level 1 or Level 2 rehabilitation beds for both trauma and non-trauma patients with complex rehabilitation needs. Cambridge University Hospital NHS Foundation Trust is the major trauma centre for the East of England with 10 rapid access acute rehabilitation (RAAR) beds for trauma patients (often delivering rehab to up to 17 trauma patients in the RAAR bed) and 8 Level 2b rehabilitation beds. In the preparation phase, the RAAR ward was identified for possible COVID-19 patients due to its physical location within the hospital and the RAAR beds were absorbed into the existing neurosciences block. This meant that the therapy team for the RAAR beds were also relocated to look after these patients. However, the ethos of the rehabilitation team changed from rapid assessment and provision of on-going hyperacute rehabilitation to the rapid assessment (if at all possible) and repatriation to the local trauma units with recommendations for post-acute rehabilitation. These patient groups included patients with prolonged disorders of consciousness, multiple complex orthopaedic trauma with inability to weight bear, patients in post-traumatic amnesia, those with severe cognitive impairments, challenging behaviours, mental health problems and spinal cord injury patients at all levels. Most of these repatriations would not have happened so quickly in normal circumstances as the trauma units often do not have the training and capabilities to manage such complex patients. As the spread of COVID-19 progressed, the impact on the practice of rehabilitation medicine increased. Physically, it became difficult to conduct interdisciplinary team meetings while maintaining the necessary social distance in the acute hospital where space is always a challenge. Increasing infection control measures meant that one-to-one hands-on therapy sessions were time consuming for individual therapists. As the hospital was locked down for all visitors, face-to-face family meetings were not possible. Many acute rehabilitation keyworkers have to prepare for challenging conversations with family members over the

phone. Often the clinicians have not met relatives face to face and due to restrictions with visiting, carers' have not seen how their relative is emotionally, communicatively, cognitively and physically in person for many days/weeks. This means that the rehabilitation keyworkers had to spend extra-time on the telephone to give feedback to the family and friends and discuss important issues regarding discharge planning.

The MDT have had to consider how to support and manage patient and carer expectations of on-going rehabilitation (and location) when the future of in-patient and community services is unpredictable and unknown. Senior hospital managers have encouraged twice daily reviews of discharge plans, ensuring multiple safe pre-planned options are set in advance. As acute rehabilitation providers, the priority is to ensure patient's early neurological neuroplasticity is maximised. The COVID-19 pandemic has disrupted this priority. Acute rehabilitation clinicians are rapidly considering how to adapt their practice to maximise therapy input and plan to support patients through a potential period of no rehabilitation. The continued close working with community colleagues is fundamental for these rapidly changing pathways to ensure the best outcome for our patients during this crisis.

With the increasing pressure from the COVID-19 crisis, junior doctors' rotas were reorganised which meant that our trainees were redeployed. The Rehabilitation Medicine Consultants were designated as secondary tier cover for the stroke rehabilitation ward.

### Use of Community Hospital Beds

Patients who were still medically unstable and needed acute care with rehabilitation were transferred to the smaller community-based hospitals (where available). Most of these community hospitals are run by either the GPs or by the community Geriatricians and with an already overstretched case load now having to manage and care for patients with complex rehabilitation needs added further challenges and pressures. Feeding plans and courses of intravenous antibiotics would usually be completed before transfer to a community hospital but with earlier discharges having to be made an increase in community management of these is being seen. While these hospitals have therapy input, the skill mix of the treating therapists to treat patients with complex needs was not known. Although these hospitals often have excellent multi-disciplinary team input, trying to understand the variable skill mix was hard but so important in planning for the ongoing treatment and rehabilitation of these patients and their complex rehabilitation needs. As Consultants in Rehabilitation Medicine, working within a major trauma and neuroscience centre, we found ourselves liaising with these community teams, and managing the transfers of appropriate patients to these hospitals.

### Interim Beds in Specialist Nursing Homes

Most of the clinical commissioning groups (CCGs) in the East of England commission Level 2 rehabilitation in specialist nursing homes to provide interim care for these patients while they wait for Level 1, 2 and spinal injuries units and in many cases for the rest of their rehabilitation. There are several advantages to rehabilitation patients moving from major trauma centres into the specialist nursing homes with complex rehabilitation needs, such as some continuity of rehabilitation assessments, some therapy input and safe care provision. However, not all of these specialist nursing homes have 24-hour nursing cover, often lack capabilities to cater for patients with unstable tracheostomies, and some are unable to manage challenging behaviours and complex mental health problems in patients with severe head injuries and have very little medical cover and oversight from the Consultants in Rehabilitation Medicine. It is worth noting that many of the specialist nursing homes were isolating all the acute transfers from the acute hospitals for 14 days which means that the patients lost any therapy input during that period.

### Early discharges with Community Therapy Input

Patients who were deemed to be relatively medically stable and could be managed in the community with therapy input were discharged home. Most community therapy teams were restricting face-to-face consultations and therapy sessions in the community and seeing only urgent patients where there was a high risk of deterioration without further therapy. Some community therapists were utilising technology to provide some continuity of rehabilitation at home. Due to the lockdown, most of the family members were available to provide 24-hour care and support to their relatives. An additional challenge was that some community therapy staff were redeployed, and community services were often run with long waiting lists, so they were not able to react quickly to meet complex needs. Furthermore, access to care packages was more limited than ever due to staff illness, self-isolation and lack of personal protective equipment (PPE). A recent article from Italy has focused on the impact of the COVID-19 outbreak on rehabilitation services and physical and rehabilitation medicine (PMR) physician's activity in Italy.<sup>4</sup> The authors have emphasised that outpatient and home based rehabilitation services should ensure continuity of care for patients with recent sequelae of pathologies of different origin, where interventions are needed to minimise functional deficits which, if left untreated, could lead to long term or permanent disability and further deterioration.<sup>4</sup> For our Rehabilitation Medicine colleagues working in the community with complex brain injury patients, the activity increased significantly as patients were getting less support from other professionals and families