

## **Innovation and Transformation in a Time of Crisis; A National Rehabilitation Hospitals Response to COVID-19**

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### **Abstract**

#### ***Aims***

To describe how the National Rehabilitation University Hospital has transformed how outpatient services are delivered in response to the COVID 19 pandemic.

#### ***Methods***

A participant observational study of a period of rapid transformation during the COVID-19 pandemic in March 2020. Data generation consisted of direct observation, WhatsApp and meeting record content analysis and patient contact analysis of outpatient documentation.

#### ***Results***

Before COVID-19, telehealth played a minor role in the provision of rehabilitation services. Upon pandemic declaration, immediate steps were taken to maintain continuity of care for patients and to deliver some form of treatment remotely. A WhatsApp group facilitated rapid information exchange about telehealth options and the OPD programme manager and information technology (IT) manager facilitated testing of solutions. The week prior to the cessation of OPD there were 0 remote contacts. In the 3 weeks after, 222 patient contacts were performed remotely with good patient and staff experience.

#### ***Conclusion***

Telehealth has become the predominant means of OPD provision in the space of 3 weeks and plans are underway to expand our telerehabilitation services.

## Introduction

Despite long held ambitions for telehealth in the National Rehabilitation Hospital, it played a minor role in service provision, remaining ad hoc with the vast majority of care being delivered face to face. This paper describes the experience of the hospital in converting to telehealth in response to COVID-19.

## Methods

An observational study of a period of rapid transformation during the COVID-19 pandemic in a National Rehabilitation Hospital. The lead author was a participant observer researcher and data collected consisted of direct observation, WhatsApp and meeting record content analysis and patient contact analysis of outpatient documentation. This occurred in real time in March 2020.

## Results

After the WHO announced that COVID-19 was a pandemic<sup>1</sup>, the COVID-19 planning group was established in the hospital. One of the early decisions taken was to pause outpatient (OPD) activity to reduce infection risk. Clinicians immediately took steps to maintain continuity of care for patients and deliver treatment remotely<sup>2</sup>. A WhatsApp Consultant group facilitated rapid exchange of information about telehealth options and the OPD programme manager and IT manager facilitated rapid testing of solutions.

The week prior to the cessation of OPD there were no remote contacts. In the 3 weeks after, 222 patient contacts were performed remotely as summarised in table 1. Patient and staff uptake were excellent, and patients were supported by staff as outlined below.

**Table 1: Telehealth contacts in a Rehabilitation Hospital March 2020**

Type of Telehealth Contact	Modality	No. booked Telehealth patient attendances
<b>Medical – Consultant Only Brain Injury and Spinal Cord Injury</b>		
Review clinic	Phone	45
<b>Consultant Led Interdisciplinary Clinics</b>		
Adult: Neurobehavioural Interdisciplinary Clinic	Videoconference (Microsoft teams)	18
Paediatric: IDT Brain Injury and Spinal Cord Injury Consultant Led Interdisciplinary Clinics	Videoconference	20
<b>HSCP Led Clinics</b>		
<b>Individual Therapy Sessions</b>	Phone	61
Interdisciplinary Assessment	Videoconference	4
Meet and teach Groups (OT/SALT)	Videoconference	48
Continuing Rehab sessions (e.g. OT/SALT)	Videoconference	4
Continuing Rehab Pilates Class (PT)	Videoconference	16
IDT Rehab sessions (e.g. SLT/MSW)	Videoconference	4
Continuing Neuropsychology	Videoconference	2
<b>Total</b>		<b>222</b>

### *Documentation*

Clinical documentation continued in the usual manner. Clinic letters were dictated and sent to General Practitioners and therapy encounters were recorded in the healthcare record.

### *Patient Experience*

Patients were contacted prior to the appointment and asked if they wished to avail of this option. Therapists talked through the requirements and process, supported by a patient checklist. A patient information leaflet was also developed. Patients provided positive verbal feedback about the experience.

### *Staff Experience*

Staff reported a positive experience and continue to expand the possibilities for telehealth in the hospital given the national remit, the distances patients travel and the concurrent burden of travel on patients and families.

### *Technical issues*

Some patients were unable to log on but most issues were resolved without the need for technical support. <10% were contacted after the failure and were supported through a test process or talked through the process of joining a live session by the therapists. Therapists became proficient quickly at supporting patient access without technical support.

## **Discussion**

The IDT at the NRH have adapted readily to the rapid introduction of telehealth as have patients and families. A Telehealth user guide was developed, and training and support provided. Telehealth has proven to be an acceptable means of delivering rehabilitation interventions during the COVID-19 crisis and was essential for continuity of service. As our patients will be required to remain 'cocooned' for the foreseeable future, we plan to enhance our telehealth capacity and capability and our data collection will continue. Telehealth overcomes many barriers to rehabilitation experienced by patients and families as a result of the often-complex needs of the patients and can reduce the burden of care and travel for families. It has been overwhelmingly successful in delivering continuity of essential rehabilitation care in a time of severely restricted services and many of those benefits are relevant in the future beyond the current restrictions. The success has also been testament to the willingness and innovation of the staff involved to change practice so quickly in a challenging time for health.

Telehealth will continue to be a valuable offering for rehabilitation in the future. We will endeavour to expand our telehealth offerings to include the full spectrum of therapeutic treatments and patient communications, including interdisciplinary therapy sessions, individual therapy sessions, education therapy and physician or specialist consultation. We are researching best practice in this regard and are planning to develop a research protocol to study the impact. In conclusion, telehealth has become the predominant means of OPD provision in the space of 3 weeks. Plans are underway to expand our telerehabilitation offerings in partnership with the HSE.

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**Declaration of Conflicts of Interest:**

The authors have no conflicts of interest.

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**References:**

1. Sohrabi C, Alsafi Z, O'Neill N, Khan M, Kerwan A, Al-Jabir A, et al. World Health Organization declares global emergency: A review of the 2019 novel coronavirus (COVID-19). *International Journal of Surgery*. 2020.
2. Wosik, J., Fudim, M., Cameron, B., Gellad, Z.F., Cho, A., Phinney, D., Curtis, S., Roman, M., Poon, E.G., Ferranti, J. and Katz, J.N., 2020. Telehealth Transformation: COVID-19 and the rise of Virtual Care. *Journal of the American Medical Informatics Association*, 27(6), pp.957-962.