

## Editorial

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# Implementation of Telemedicine for Urgent and Ongoing Healthcare for Patients with Parkinson's Disease During the COVID-19 Pandemic: New Expectations for the Future

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Due to the COVID-19 pandemic, many countries have taken drastic measures to slow down infection rates. These include physical and social distancing, and in some countries, a lock-down of non-essential business and marked restrictions on social and economic life [1]. These measures, while necessary to contain the pandemic, do come with particular concerns around the increased vulnerability of the many patients living with one or more chronic diseases, including Parkinson's disease (PD) and other movement disorders [1]. Thus far, coronaviruses have not been linked to specific long-term neurological sequelae on patients with PD [2]. However, recent literature discusses the possibility of an increased risk for cerebrovascular disease due to the severe inflammation

associated with COVID-19 [3]. In addition, recent studies indicate that alpha-synuclein participates in the innate immune response to any viral infection, and the intriguing observation of anosmia associated with COVID-19, a common feature of prodromic PD, might just represent a coincidence, but warrant further studies [2, 4, 5].

The earliest healthcare change during this time of crisis has been to limit access to clinics and neurology wards to preserve fragile PD and other movement disorder patients from becoming infected. In some regions, the shortage of medical staff has forced movement disorders neurologists to provide care for COVID-19 patients instead [6]. Hence many patients with PD and other movement disorders are likely to benefit from restored access to subspecialty care via telemedicine, whether this is videoconferencing or simple telephone consultations. Also, even after the immediate threats of the current COVID-19 outbreak have been brought under control, we will likely be

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facing a need for continued restrictions on public and social life for months or even years to come, until a vaccine is found.

Implementation of telemedicine for the delivery of urgent and ongoing healthcare has rapidly scaled upwards [1]. Many neurologists and other health professionals are currently using a variety of different telemedicine healthcare tools at their disposal to continue delivering patient care. Telemedicine tools include simple phone calls, use of e-mails or text messages, and video visits. Telemedicine can, therefore, be used for routine follow-up, urgent visits, new subspecialty consultations, research visits, psychotherapy, genetic counseling, social services, rehabilitation, and education. Telemedicine is not superior to the quality of care delivered with regular in-person visits, but it is associated with comparable outcomes, and offers greater efficiency and service for patients. The merits and benefits of telemedicine are supported by a small but growing body of evidence [7–10]. However, telemedicine has yet to be established universally for virtual management of device aided therapies in PD and other movement disorders, which will require the additional technological implementation of a secure remote digital interface within deep brain stimulation and infusion pump devices [11, 12].

In order to assist movement disorders neurologists worldwide, the Movement Disorders Society (MDS) Telemedicine Study Group has created a “step-by-step” guide [13], including specific requirements for reimbursement and regulation, incorporating the latest information available in several countries and global regions. The Telemedicine Study Group have posted an educational webinar to reflect recent telemedicine changes related to the unfolding COVID-19 pandemic, and how to set up a successful Movement Disorders telemedicine practice [14]. In addition, the Telemedicine Study Group also has developed a network of regional experts covering the globe to continue to provide updated information as telemedicine guidelines continue to evolve. In this regard, a web form to post questions is available on the MDS website [15]. Continuously updated regulatory information and guidelines, and a robust Q&A section addressing all relevant questions posted by MDS members [16]. We hope to hear about the hands-on experience with telemedicine from many colleagues in the field, as this will help to further shape optimal delivery of telemedicine services for patients, and holds great promise of becoming a routine part of working in the future.

## TELEMEDICINE STUDY GROUP

Jamie Adams, Mitra Afshari, Zakiyah Aldaajani, Jason Aldred, Jawad Bajwa, Hilla Ben-Pazi, Patrick Browne, Adriana Cardozo, Bill Chan, Sylvain Chouinard, Jacques Doumbe, Marieke Dekker, Shin-suke Fujioka, Nicholas Galifianakis, Emilia Gatto, Christopher Goetz, Mark Guttman, Maya Katz, Jaime Martin, Emile Moukheiber, Oluwadamilola Ojo, Njideka Okubadejo, Alexander Pantelyat, Ali Shalash, Meredith Spindler, Caroline Tanner, Jinyoung Youn.

## CONFLICT OF INTEREST

Prof. Bloem currently serves as co-Editor in Chief for the Journal of Parkinson’s disease, serves on the editorial of Practical Neurology and Digital Biomarkers, has received honoraria from serving on the scientific advisory board for Abbvie, Biogen and UCB, has received fees for speaking at conferences from AbbVie, Zambon, Roche, GE Healthcare and Bial, and has received research support from the Netherlands Organization for Scientific Research, the Michael J Fox Foundation, UCB, Abbvie, the Stichting Parkinson Fonds, the Hersenstichting Nederland, the Parkinson’s Foundation, Verily Life Sciences, Horizon 2020 and the Parkinson Vereniging.

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