

# Early Use of Telehealth in Home Dialysis during the COVID-19 Pandemic in New York City

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## Introduction

The current coronavirus disease 2019 (COVID-19) pandemic is forcing unprecedented changes in daily life in the United States. During this time, many patients are under “lockdown” or “shelter-in-place” orders, and the nephrology community has been forced to adapt quickly to this new reality. New York City is the epicenter of the American outbreak, and patients on dialysis are at especially high risk of COVID-19 exposure due to widespread use of public transportation and densely packed clinical spaces. Here, we report the early use and success of using telehealth visits in place of usual in-person monthly comprehensive visits in an effort to provide excellent patient care while limiting the risk of patient and staff exposure to COVID-19. Telehealth has distinct advantages during this crisis for the vulnerable home dialysis population; however, many practical challenges remain.

Under the 2018 Bipartisan Budget Act, the Centers for Medicare & Medicaid Services (CMS) allowed patients on home dialysis to choose to have their monthly ESKD clinical assessments through telehealth. However, restrictions have remained, and the use of telehealth was only available after completing in-person visits for the first 3 months of home dialysis; additionally, only two of three monthly visits each quarter were eligible for telehealth thereafter (1).

On March 20, 2020, the CMS released a telemedicine and telehealth toolkit for ESKD providers to help providers establish and operate a telehealth program to increase access to health care for patients at home and especially patients on dialysis who are at significant risk of morbidity and mortality if infected by COVID-19 (2).

As of March 27, 2020, New York City has over 25,000 cases of COVID-19, with the number rising each day (3). The Rogosin Institute is an independent dialysis provider affiliated with New York-Presbyterian Hospital with a home dialysis population of 210 patients: 150 on peritoneal dialysis (PD) and 60 on home hemodialysis (HHD). As part of our COVID-19 contingency planning, all patients were offered telehealth visits as the preferred option for their monthly visits since March 1, 2020. Those who had already completed the in-person monthly visit prior to restrictions on movement were offered this option for future visits.

As a result, we have performed 78 total telehealth monthly visits (47 for PD and 31 for HHD) to date.

## Choice of Communication Technology

The Rogosin Institute had previously contracted with Zoom Video Communications, Inc. to use Zoom for Healthcare as our telehealth platform because it is Health Insurance Portability and Accountability Act compliant with 256-bit Advanced Encryption Standard encryption and meets audio and visual requirements previously set forth by the CMS. Additionally, the choice of this technology was approved by our chief information and compliance officers. Of note, the CMS has provided an additional telehealth fact sheet for health care providers during the COVID-19 crisis that states, “during this time the Department of Health and Human Services (HHS) Office for Civil Rights (OCR) will exercise enforcement discretion and waive penalties for HIPAA violations against health care providers that serve patients in good faith through everyday communications technologies, such as FaceTime or Skype, during the COVID-19 nationwide public health emergency” (4). This flexibility will allow providers to serve more patients *via* telehealth using smartphones or laptops they already have and will augment this capability in the short term. In our cohort, 75 of the 78 patients used Zoom for the telehealth visit, and 3 used FaceTime. We had no patients refuse telehealth visits; however, six patients chose to have an in-person visit in supplement to the telehealth visit. Our dialysis unit staff sent a letter in advance that contained instructions to prepare patients for telehealth. Additionally, each patient received a phone call to help navigate the use of Zoom. Physicians and administrative staff members use a secure web-based scheduler to book telehealth visits. This site sends an email to the patient with instructions and links to download the Zoom app for their device in advance of their appointment. We acknowledge that there are patients without access to smartphones or laptops, and that is likely to remain a very significant challenge in the future.

## Patient Monitoring

For the majority of our patients on PD, we are currently using Baxter’s AMIA automated PD system

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and remote patient management platform to record the daily vital signs and treatment data, which can be accessed by the dialysis team through a secure web portal for review.

Patients on HHD have had the ability to be remotely monitored since our program opened in 2001. Currently, our program uses a mix of technologies depending on which HHD machine is being used. The majority of our patients use the NxStage System One with real-time remote monitoring *via* NxStage's LiveView monitoring software. Dedicated hemodialysis technicians monitor patient treatment parameters in real time and are available both to answer questions by phone or to proactively call patients (or emergency medical services) if the treatment scenario is appropriate. Patients using a conventional Fresenius machine at home are similarly monitored in real time by our HHD staff using proprietary software developed at The Rogosin Institute. For patients with handwritten flowsheets, we review the flowsheets with the patients during the telehealth visits, and the patients can upload their flowsheets through our secure web portal.

### Advantages of Using Telehealth in Home Dialysis

Using telehealth, we are able to limit physical congregation in our facilities and maintain appropriate "social distancing." Our nephrologists can continue serving urgent in-center hemodialysis needs or inpatient hospital needs, and those at home under isolation can "dial in" to telehealth visits and provide excellent continuity of care. All members of the care team, including the advanced practice providers, home dialysis nurses, nutritionists, and social workers, are eligible to participate on the calls and limit their risk of exposure. We are able to operate fully functional home dialysis units and minimize in-person staffing to one nurse per unit yet maintain the ability to rotate staff in the event of an exposure.

Anecdotally, our patients on home dialysis report immense satisfaction with telehealth as a tool for reducing potential COVID-19 exposure, though we acknowledge that there was no formal survey or evaluation. Each telehealth visit lasts 15–20 minutes, allowing for discussion by all team members and addressing all patient concerns. Patients did not risk exposure at our facilities, which are located near hospitals with many patients with COVID-19, and did not have to use mass transit.

Most importantly, use of telehealth keeps our patients at home, including at least two known patients who are COVID-19 infected and would have exposed other patients and staff. These patients are recovering, and telehealth allows us to conduct frequent check-in visits. If any change in condition is noted, our home dialysis nurses can immediately escalate to nephrologists by inviting them to the call to assist in the triage of these patients.

### Challenges for PD

For patients on PD, many challenges remain. We are using discretion in obtaining monthly blood samples. For stable patients with consistent PD prescriptions and erythropoietin-stimulating agent (ESA) dose, we can defer phlebotomy. For those requiring blood samples, we have

arranged phlebotomy at outpatient commercial laboratories or by our home dialysis nurses who visit patient homes. This approach has reduced our utilization of personal protective equipment needed to keep our patients and staff safe.

Medications and supplies that are typically dispensed by the dialysis unit, including their ESAs, are being shipped to their homes. For patients who do not know how to self-administer ESA, our nurses use telehealth to teach administration. Intravenous iron infusions still require in-person visits and are scheduled at the discretion of the treating nephrologist.

Lastly, there are still many patients who require in-person visits to the PD units. These include patients currently in training, patients on urgent start PD, and patients needing acute visits, such as for evaluation for peritonitis. For these patients, we have staggered appointment times to limit time spent in waiting rooms and implemented a call-first policy. Telehealth has quickly become an important tool in the evaluation of these patients before they come to the unit, especially if patients have symptoms or have had a known COVID-19 exposure. In these instances, the home dialysis team is using the telehealth services to evaluate if the PD effluent is cloudy or if the patient needs to be triaged to the hospital without exposing the patients or staff presently in the unit.

### Challenges for HHD

Monthly laboratory testing and ESA and intravenous iron administration are less of an issue for patients on HHD who are already trained to perform these tasks. For patients currently in training, we adjusted HHD prescriptions to maintain adequacy and volume status but decreased the number of days in unit to minimize the risk of exposure to COVID-19. Vascular access procedures are only being performed for patients experiencing prolonged bleeding, difficulty with cannulation, access thrombosis, or catheter dysfunction.

### Billing and Documentation

Many of the additional telehealth services and visits are not currently billable, but we believe that the long-term gain from improved communication and care will change the outlook of payors and regulators on telehealth and telehealth services. We use Common Procedural Technology (CPT) code 90966 for our usual monthly home dialysis assessment with modifier GT and Place of Service 02-Telehealth to indicate that the provider rendered the visit *via* synchronous telecommunication with audio and visual capabilities. All participating providers document that the visit was performed using real-time audio and video conference technology in the titles/headers of their notes in order to clearly connect the documentation with the billed visit.

Telehealth for patients on home dialysis allows us to keep our patients and staff safe while providing excellent patient care. We encourage all those who are able to use these services whenever possible during this challenging time.

### Acknowledgments

We acknowledge the extraordinary effort of our home dialysis nurses and staff who are on the front lines of the COVID-19 crisis each day. Your patients and doctors thank you.

### Author Contributions

S.D. Kalloo, F. Liu, and V. Srivatana conceptualized the study; D.M. Levine was responsible for software; V. Srivatana wrote the original draft; S.D. Kalloo, D.M. Levine, F. Liu, and V. Srivatana reviewed and edited the manuscript; and S.D. Kalloo, D.M. Levine, F. Liu, and V. Srivatana reviewed and edited the final submission.

### Disclosures

S.D. Kalloo reports lecturer fees for the Advanced Renal Education Program—Fresenius. F. Liu reports speakers bureau fees for Janssen Pharmaceuticals and is a medical advisor/consultant for Accordant/CVS outside the submitted work. V. Srivatana reports

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