

RESEARCH LETTER

COVID-19 Infection Risk Among Hemodialysis Patients in Long-term Care Facilities

To the Editor:

Coronavirus disease 2019 (COVID-19) is killing at horrific rates in long-term care facilities.¹ In Massachusetts, 65% of COVID-19–related fatalities have been long-term care residents as of July 21, 2020.² Like their long-term care counterparts, hemodialysis patients are at high risk for COVID-19 infection, with extensive comorbid condi-

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tions, care in a congregate setting, and frequent interactions with health professionals. The best tool against COVID-19 infection is physical distancing, yet this is challenging for hemodialysis patients and long-term care residents, especially for those who are both. Hemodialysis treatments occur in a congregate setting, and many travel to the dialysis facility by public/shared transport or ambulance. Some are nonambulatory, requiring human assistance for basic activities such as getting dressed. In long-term care, rooms and bathrooms are often shared. For hemodialysis patients who reside in long-term care, the burden of both settings makes COVID-19 exposure extremely likely. Notably, the first 2 identified US COVID-19–related fatalities were hemodialysis patients, 1 of whom lived in long-term care.³

In March 2020, dialysis and long-term care facilities adopted procedures to reduce COVID-19 transmission. These included symptom/temperature monitoring, physical distancing, and isolation/cohorting of COVID-19–infected patients and persons under investigation for COVID-19 (PUIs). When possible, hemodialysis facilities increased spacing in congregate areas,⁴ and long-term care facilities have prohibited group activities.⁵ Contact tracing has been used to monitor transmission and in the future may use tracking of virus genomic variants to determine which setting(s) needs additional modifications.⁶ Unfortunately, for hemodialysis patients who live in long-term care, even stringent infection control measures are unlikely to fully compensate for the inability to physically distance.

To highlight the implications of this outsized vulnerability of hemodialysis patients living in long-term care, we share our experiences caring for such patients in a metropolitan area with high COVID-19 infection prevalence between March and May 2020. We first present data collected from an ongoing study of COVID-19 infection in patients with kidney disease and then explore the course of 1 of these patients to underscore the limitations in the care of this population, especially around communication. This work was approved by the Boston University Medical Campus Institutional Review Board (approval number: H-40124).

We initially examined the prevalence of COVID-19 infection at 2 dialysis centers. One center had 8 patients living in long-term care. By May 11, 2020, a total of 7 had contracted COVID-19. At the second dialysis facility, 27 patients lived in long-term care; 10 contracted COVID-19. In both facilities, the proportion of hemodialysis patients who lived in long-term care and contracted COVID-19 far exceeded the proportion of those who did not live in long-term care.

For 5 years, 2 of the authors, a nephrologist and long-term care physician, have shared the care of a mutual hemodialysis patient living in long-term care. In early April 2020, both separately discussed with the patient his advanced directives but neither knew the other had done so. The dialysis and long-term care facilities had different electronic medical records; accordingly, communication between the facilities relied on telephone calls and paper communication books. When COVID-19 infections initially occurred at the long-term care and the hemodialysis facilities in late March 2020, it was unclear whether each facility was aware the other had COVID-19 cases. If the exposures had been known, the patient would have then been isolated/cohorted with other PUIs in the dialysis center, even if asymptomatic. On the long-term care side, he would have been put on droplet precautions and isolated in a private room if available. In mid-April 2020, the patient became febrile. Neither facility could test on site. The dialysis facility sent PUIs to the hospital; the long-term care facility used a vendor that required several days' notice. The patient was sent to the hospital, where COVID-19 infection was diagnosed and he eventually died. In retrospect, there were missed opportunities on both sides to share key information.

Hemodialysis patients who live in long-term care are highly vulnerable to COVID-19 infection, and this risk could be reduced with better communication between dialysis and long-term care facilities. Recently, the Society for Post-Acute and Long-term Care Medicine, the long-term care professional society, recognized this gap. In addition to surveillance and transmission prevention, they recommend that long-term care facilities update dialysis centers regarding COVID-19 status of hemodialysis patients and share their COVID-19 strategies (Box 1).⁵ On the nephrology side, the Advancing American Kidney Initiative care models for dialysis patients encourage frequent clinician communication as part of high-quality kidney care.⁷ Both communities should be transparent regarding the prevalence of COVID-19 infection in their facilities.

Strategies such as assisted peritoneal dialysis⁸ or home hemodialysis⁹ are proposed as ways to reduce the risk for COVID-19 exposure. However, these options present logistical and reimbursement challenges, making it unlikely that these strategies will significantly reduce on a population level the considerable risk borne by

Box 1. Society of Post-Acute and Long-term Care Medicine Guidance Regarding COVID-19 for Hemodialysis Patients Who Live in Long-term Care

- **Communication:** LTC facility should communicate with the dialysis facility if a patient is suspected or has tested positive for COVID-19, and there should be preemptive communication of how dialysis centers are handling patients with COVID-19 infection
- **Surveillance:** LTC facility should have a high level of suspicion for COVID-19 infection and should pay special attention to any influenza-like illnesses in these patients
- **Prevention of transmission:** Dialysis patients should wear a face mask outside of facility, wash hands, and change clothes on return, and if feasible, be placed in a single room with appropriate precautions

Abbreviations: COVID-19, coronavirus disease 2019; LTC, long-term care. Reprinted with permission from the Society for Post-Acute and Long-term Care Medicine.⁵

hemodialysis patients who live in long-term care facilities. From our experience, we conclude that such patients are highly likely to contract COVID-19 infection and that robust communication between the dialysis and long-term care facilities and their clinicians must be a fundamental component of care for this highly vulnerable population.

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