



TO THE EDITOR:

House calls for stem cell transplant patients during the COVID-19 pandemic

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Health systems are expanding telemedicine in response to the COVID-19 pandemic in an effort to minimize exposures and promote social distancing.¹ These goals can also be achieved by a more traditional approach: house calls. A house call exposes a patient to only 1 provider, as opposed to dozens of people and environmental surfaces in the health care setting. Risks may be further reduced through hand hygiene and routine use of personal protective equipment by the visiting provider. House calls also provide unique advantages including insights into how patients live and a sense of intimacy and connection, which are needed in these times of social isolation.

Traditionally, hematopoietic stem cell transplant (HCT) patients are among the sickest and most complicated in the health care system, with patients cared for in quaternary medical centers in dedicated inpatient or day hospital units. This often requires HCT patients to have a caregiver available 24 hours a day, 7 days a week, and to relocate to be near the transplant center to receive daily or several-times-a-week care for anywhere from 3 weeks to 3 months, depending on the type of transplant. However, since 2013, our center has expanded our program to start making house calls for HCT patients as part of a progressive series of investigator-initiated clinical trials. A case control study by the Karolinska Institute suggests that this approach may decrease HCT-related complications, improve nutrition, and improve survival, all while lowering costs.² We are currently studying this approach and its impact on the microbiome and other outcomes in a National Cancer Institute–funded randomized clinical trial.

In the setting of the COVID-19 pandemic, and acutely aware of the vulnerability of our older, immunocompromised HCT patients, our center has capitalized on our experience to make house calls standard of care. This is in addition to our COVID-19 precautions: routine testing for COVID-19 in all patients before transplant; rapid testing of patients and providers at the first sign of any symptoms; and universal use of surgical masks (which was our standard of care before COVID-19³). This house call program includes all of our HCT patients: those whose homes are within a 1-hour drive of our center as well as those >1 hour away and who have relocated to temporary lodging to be close to our center for their transplant (as was standard of care before COVID-19). Starting day 1 post-HCT, each house call by our advanced practice providers includes reviewing the patient's medical history, symptoms, medications, and recent events; performing a physical examination; and collecting sample collections.

Samples (both routine blood work and as-needed testing, eg, microbiology specimens for infectious workups) are brought back to the hospital by the provider for immediate testing. Based on results, an HCT nurse may return to the patient's home or temporary lodging to deliver necessary care, including IV fluids, electrolytes, or antibiotics, or to perform immunosuppressive medication pump changes or blood transfusions. While in the home, the nurse may also videoconference physicians, allowing them to "eyeball" every patient and conduct nurse-assisted examinations as appropriate. Our patients and caregivers have been appreciative, with 1 patient noting: "I can't say enough good things about the bone marrow at home program. While going through an extremely difficult situation where so many things are out of your control and can be very scary, to have the comfort of being in your own space, sleeping in the comfort of your own bed, and having your own things certainly helped ease some of the stress of a very stressful situation."

This expansion to include all active transplant patients, whether they live within a 1-hour drive of our center or have relocated to temporary lodging to be close to our center, means that we are making house calls on 10 to 15 patients per day. This has been a Herculean effort by our team. Although it does require increased staffing, with each provider or nurse seeing only 3 to 4 patients per day, this has been partially offset by decreased volume as transplants are delayed or canceled during the pandemic. Although this extra per-patient staffing may increase costs, because most transplants are reimbursed on a case rate, keeping patients out of the hospital may lower costs. Our ultimate hope is that this increased effort up front will decrease COVID-19 infections, as well as other communicable and nosocomial infections, in these vulnerable patients, improving outcomes and alleviating health care burdens downstream. For now, patient and staff feedback has been overwhelmingly positive, including reports of better diet, activity, and mood at home. Outcomes, including infections and cost, will be tracked prospectively. As we adapt to the constantly changing situation,⁴ lessons learned may have bearing for both future pandemics and medical practice.

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Footnote

Contact the corresponding author for original data.

REFERENCES

1. Hollander JE, Carr BG. Virtually perfect? Telemedicine for Covid-19. *N Engl J Med*. 2020;382(18):1679-1681.
2. Svahn BM, Remberger M, Myrbäck KE, et al. Home care during the pancytopenic phase after allogeneic hematopoietic stem cell transplantation is advantageous compared with hospital care. *Blood*. 2002;100(13):4317-4324.
3. Sung AD, Sung JAM, Thomas S, et al. Universal mask usage for reduction of respiratory viral infections after stem cell transplant: a prospective trial. *Clin Infect Dis*. 2016;63(8):999-1006.
4. COVID-19: global consequences for oncology [editorial]. *Lancet Oncol*. 2020;21(4):467.

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