Telemedicine can help care teams focus on recovery after burn injury

Each year, about 486,000 Americans receive treatment for serious burn-related injuries. A burn injury may result from exposure to a fire or skin contact with hot liquids, electricity, or chemicals. People with burn injuries may undergo surgery to repair the skin or address scarring in the burned area, and then spend some time recovering at a rehabilitation hospital. During this time, they may continue to receive follow-up care from their burn surgeon. Traveling between the rehabilitation hospital and the burn clinic can be expensive and time-consuming for practitioners and patients alike.

One possible alternative approach that could save time and reduce costs is telemedicine. Telemedicine is a system that allows patients and doctors to meet, even if they’re not in the same location. Doctors and patients can use videoconferencing technology to see and hear each other during a virtual visit. Screen-sharing technology can also allow doctors, therapists, and patients to review the patient’s record, including X-rays or other images. One recent NIDILRR-funded study looked at whether a burn injury telemedicine program could reduce costs and give patients and their care teams more time to focus on recovery.
Researchers from the [Boston-Harvard Burn Injury Model System Center](http://www.bhbumscenter.org) looked at Teleburns, a new telemedicine program for people with burn injuries who were receiving rehabilitation care at an urban hospital. They wanted to see if the program could reduce transportation costs and appointment time, while still providing a good patient experience. The researchers looked at records from 29 patients who used the program to receive follow-up care from their surgeons between March 2013 and March 2014. Patients remained at the rehabilitation hospital and met with their surgical team through a videoconference, instead of traveling to the acute care or burn clinic to meet face-to-face. These telemedicine appointments were all scheduled on the same day each week, and each appointment lasted between 10 and 20 minutes. The rehabilitation hospital care team included a wound care nurse, a telemedicine nurse, an occupational therapist, and a computer technician. The same care team coordinated and performed all appointments at the rehabilitation hospital.

Each day of the telemedicine appointments followed the same schedule. At the start of the day, the rehabilitation care team met to troubleshoot any equipment or staffing issues. For each appointment, the rehabilitation care team transported the patient to the telemedicine suite and removed any dressings so wounds could be evaluated quickly. On rare occasions, the telemedicine cart was moved into the patient’s room for the appointment. During the videoconference portion of the appointment, the burn surgeon evaluated the patient’s wounds. The nurses and the
occupational therapist stayed in the room with the patient during the surgeon’s evaluation to assist with wound care and discuss treatment. After the appointment, the patient was transported back to his or her room and a nurse reapplied any wound dressings. Each patient completed satisfaction surveys for his/her appointment. The patients rated how well they could communicate with the doctor and how satisfied they felt with the care they received. After all telemedicine appointments were completed for the day, the rehabilitation care team met for a debriefing and a nurse emailed a summary of the appointments to both the rehabilitation hospital and burn clinic teams, including assessments and care plans.

The 29 patients had a total of 73 telemedicine appointments during the program. The researchers estimated how much money and time was saved as a result of having these patients receive their follow-up care through telemedicine instead of face-to-face in the burn clinic. They also analyzed the patients’ responses to the satisfaction surveys about the new program.

The researchers found several benefits of the telemedicine program, including the following:

- Saving money: The hospital saved more than $100,000 in ambulance costs by not having to transport the patients between the rehabilitation hospital and burn clinic.
- Saving the clinic time: The burn clinic saved about 30 minutes per appointment, or a total of 6.8 days’ worth of appointment time, as a result of the telemedicine patients not coming in to the burn clinic in person. Appointment time was focused on evaluating wounds and discussing care rather than other related
tasks that could be done in the rehabilitation hospital, such as removing and replacing dressings.

- Saving patients' time: Patients saved 2-3 hours per visit that they otherwise would have had to spend traveling between the clinic and rehabilitation hospital. As a result, patients were able to spend more time working with their therapists on rehabilitation goals, allowing them to move through the program more efficiently.

- Avoiding hospital stays: Since the telemedicine program allowed surgeons and rehabilitation hospital staff to talk directly, surgeons felt more comfortable discharging patients back to the rehabilitation hospital after surgeries, rather than admitting them for up to 5 days of recovery in the burn hospital. As a result, the burn hospital had more bed space available for potential acute care patients.

Additionally, patients gave the program very high ratings on the satisfaction surveys. Almost all agreed that the care they received through telemedicine was of high quality, and they appreciated the time saved by not having to travel for their appointments. One patient said, “The convenience of being able to stay at the rehabilitation hospital and still be in contact with my burn doctors was huge.” Another commented on the benefit of the screen-sharing technology: “For the first time, I wasn’t a bystander in my care and was able to see my wounds.” Further, the authors also reported that the Teleburns program improved the relationship between the acute burn care team and the rehabilitation team.

The authors noted that telemedicine can be valuable in both rural and urban settings, improving access to specialists regardless of location. During burn
rehabilitation, telemedicine can help coordinate care by bringing the doctor, patient, and rehabilitation professionals together into the same session. This allows practitioners to share information openly with one another, and for the patient to take an active role in evaluating the care plan. Burn centers and rehabilitation hospitals may want to evaluate telemedicine as a way to improve efficiency while maintaining quality of care and patient satisfaction.

To Learn More

The Model Systems Knowledge Translation Center offers a range of information products to help burn survivors and their families adjust to life after injury.

http://www.msktc.org/burns

What Is Telehealth? Answers basic questions about how telehealth and telemedicine work and how it can benefit communities with limited access to healthcare services.

http://www.hrsa.gov/healthit/toolbox/RuralHealthITtoolbox/Telehealth/whatistelehealth.html


TeleBurns, a telemedicine burn recovery program, is offered at several major burn centers across the US. Contact your care manager to find out if your hospital offers this program and how to participate.

To Learn More About this Study

Research In Focus is a publication of the National Rehabilitation Information Center (NARIC), a library and information center focusing on disability and rehabilitation research, with a special focus on the research funded by NIDILRR. NARIC provides information, referral, and document delivery on a wide range of disability and rehabilitation topics. To learn more about this study and the work of the greater NIDILRR grantee community, visit NARIC at www.naric.com or call 800/346-2742 to speak to an information specialist.

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