Making the right connections with telehealth

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Telehealth is increasingly becoming an integral part of healthcare due to a confluence of several factors.¹ Quantum leaps in communication technologies, forces associated with ongoing health care reform, and incentives to improve population health are all contributing to its continued expansion in daily practice. In this issue of the Journal, Woo and colleagues describe pilot experiences with a home telehealth-based spinal cord injury (SCI) disease management protocol (DMP).²

Their SCI DMP included text-based questions about symptoms, knowledge, and behaviors related to various medical, functional, and psychosocial aspects of spinal cord injuries and disorders. Assigned nurse care coordinators in the Department of Veterans Affairs (VA) monitored patient responses and addressed daily clinical alerts. Patient responses were viewed on a web-based portal with pre-assigned color-coded alerts of green, yellow, and red for risk level ratings of low, medium, and high respectively. These triggered corresponding degrees of clinical interventions.

Thirty-three patients from four VA SCI Centers participated in this 6-month pilot study. Patients and nurse care coordinators provided qualitative feedback about the program, including ways in which the SCI DMP content and implementation could be improved. The VA has spearheaded telehealth implementation for several years and may serve as a valuable source of information for other health care networks. The content of an SCI DMP and lessons learned from its implementation, for example, could be adopted in other settings.

Telehealth is an especially attractive option for people with SCI given their impaired mobility, transportation challenges, limited access to providers who are knowledgeable in their unique needs, and the importance of continued vigilance to prevent, identify, and manage secondary complications in a timely manner. Telehealth can improve access to care. Several studies suggest that it may result in significant cost-savings by

preventing avoidable emergency room visits and hospitalizations.^{3,4} Patient responses to messaging devices, such as the SCI DMP described in the paper by Woo and colleagues, may help identify adverse symptoms, knowledge deficits, or negative health behaviors, and alert care coordinators to initiate appropriate interventions. Validated educational content provided through such virtual modalities likely provides more reliable information for patients than random websites that they may browse on their own to seek answers or advice. DMPs that require a response from patients could also increase patients' engagement in their own care.

On the other hand, the paper also illustrates some of the challenges associated with telehealth implementation. Patients who enrolled in the SCI DMP program were expected to respond to daily DMP content and questions. However, there was a wide variation in response rates to the DMP among patients, ranging from 10% to 93%, with a mean response rate of only 56%. Those who did not comply with the required responses to daily DMP questions at least 70% of the time were expected to be dropped from the program. Considering that such non-compliance may occur in association with other negative health behaviors, it could be inferred that the telehealth intervention was not able to engage some of the especially vulnerable patients who may have been most in need of such support.

Patients and care coordinators both commented on the length and redundancy of some of the DMP content. While a comprehensive approach has its merits, a more focused version could have been more efficient and effective in engaging patients. Additionally, algorithms with a system of response-based escalating alerts (green, yellow, red) that work well in the context of objective data for some medical diagnoses (e.g. blood glucose levels for diabetes, blood pressure readings for hypertension, or pulse oximetry

values to assess heart failure) may not necessarily be well-suited for many issues addressed in the SCI DMP that are difficult to quantify as objectively.

It is also noteworthy that nurse care coordinators reported communication challenges especially for patients who received care outside the geographical vicinity of the specialty SCI Centers, and stressed the need for interdisciplinary collaboration and better communication between primary and specialty providers.

So, how do we best advance telehealth? There are, of course, legislative and policy issues that need to be addressed on a broad level nationally.⁵ But what is it that we, as clinicians, can do within our own systems of care to optimize telehealth implementation for our patients? Certain principles may apply regardless of the ever-evolving telehealth technology.

- *Embrace the potential.* Just as we cherish breakthroughs in smartphone and computer technology as increasingly important elements in many aspects of our daily lives, we should exploit the immense potential that the rapidly advancing telehealth technology offers for the health and well-being of our patients.
- *It's still about the patient.* While technology is important, it is only a tool and not the end in itself. The focus still needs to be on the patient, not the technology. To fully engage patients in telehealth, we have to understand their individual needs and motivations and target the technology accordingly. As illustrated by the relatively modest response rate of patients in the SCI DMP pilot, providing content, by itself, does not ensure engagement. We need to find better ways to increase its “engage-ability”, especially for those who may not already be motivated.¹ Contextual content directed at the specific health needs at the moment the person needs it, could be ideal.
- *One size does not fit all.* Telehealth goals and content may be very different for someone transitioning home after a new injury than for an individual aging with chronic SCI, and need to be adapted accordingly. Concrete algorithms with pre-designated system of alerts and corresponding interventions may not be appropriate for circumstances where only nebulous criteria exist. A program such as the SCI DMP may be optimal for some aspects of SCI care, but different telehealth options such as real-time interactive video might be better suited for other situations.
- *Establish congruency with in-person care.* Standards of care, algorithms and protocols provided via telehealth should only be incorporated if they are consistent with practice standards for in-person encounters. Wasted time with redundant or unnecessary processes can be a significant added “cost” of telehealth for both patients

and providers. As noted in the SCI DMP paper, excessively lengthy and repetitive DMP content may have been an important reason for the relatively low patient response rate. Asking too many questions on a daily basis also has the potential to generate false alerts and result in needless testing for inconsequential concerns that may otherwise be ignored.

- *Communication is still paramount.* Telehealth by itself does not assure care coordination, and may even increase care fragmentation if there is inadequate attention to communication. SCI DMP care coordinators in the Woo study highlighted the importance of their collaboration with the interdisciplinary SCI clinical team. Telehealth should ideally be provided in the context of an established patient-provider relationship. It should be fully incorporated along with traditional care in workflow systems, and not create separate independent loops of communication.
- *Advance the evidence and share lessons learned.* Large randomized controlled trials of telehealth in SCI may neither be feasible (due to small sample sizes and multiple confounding factors) nor necessary, but well-designed, rigorously conducted qualitative studies can provide invaluable information and provide insights to make help programs become more effective. Gathering and disseminating evidence about the benefits, costs, and acceptability of telehealth are important to facilitate its adoption. Studies such as the one by Woo et al are small but important steps in the right direction.

Disclaimer: The views expressed in this article are those of the author and do not necessarily reflect the position or policy of the Department of Veterans Affairs or the United States Government.

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