Use of Telehealth for Supporting End of Life – A Timely Opportunity

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The work reported was supported by the authors' institutions. The investigators retained full independence in the conduct of this work.

Potential Role for Telehealth in Hospice

- Hospice focuses on providing comfort and improving quality of life for patients with serious illness and their families at the end of life.
- This includes providing relief from pain and other distressing symptoms, integrating psychological and spiritual aspects of care, and supporting patients and families.
- There is a shortage of hospice providers nationally.

Case

- A 68-year-old black male Vietnam Veteran with PMH of chronic obstructive pulmonary disease, hypertension, PTSD, and depression presented to the Veterans Affairs Medical Center with chief complaints of shortness of breath and weakness.
- He had a right sided exudative pleural effusion and a new spiculated nodule in the left upper lobe of the lung for which he had a PET/CT and immunohistological analysis.
- He had stage IV metastatic adenocarcinoma from the small bowel, and was informed that his treatment would be palliative.
- His disease progressed rapidly and he continued to meet regularly with his long-term Vietnam Veteran support group who played a key role in his PTSD treatment and end of life care.
- Members of his long term Vietnam Veteran support group were very involved in his end of life care and met with him regularly.
- This patient gained benefit from his ongoing support group.
- Further exploration of the group dynamics as it relates to end of life in the Veteran population is important as the population of combat Veterans with PTSD continues to age.
- Since the Veterans Health Affairs is a leader in telemedicine, we conducted a quick literature review to see there is evidence to support use of telemedicine in similar hospice cases.

Search Methods

• A brief search of PubMed to identify papers which had "palliative", "hospice", "end of life", AND "tele" or "technology" in the title yielded several articles. This was not a systematic review. A brief summary of some identified studies is provided in the Table.

Author/Yr	Title	Type	Key Points
Yongqiang Zheng, 2016	A Systematic Review of Telehealth in Palliative Care: Caregiver Outcomes	Systematic Review	This was a review of 9 articles published between 2003 and 2015. Based on the Cochrane Collaboration's tool for risk analysis, the quality of the studies used was predominantly moderate. Overall, this systematic review suggests there is evidence of satisfaction in caregivers who undergo a telehealth intervention; studies reported that the interventions were well received, and few technological issues were reported.
Head, BA, 2017	Telehealth in Palliative Care A Systematic Review of Patient-Reported Outcomes	Systematic Review	Studies were notably diverse in terms of patient population, technology used, outcomes measures, and methodology. Results across studies were also variable. Methodological factors were major limitations. Recruitment problems, participant attrition, and lack of standardized outcomes measures impacted outcome assessment. Overall, research support for positive patient outcomes in palliative telehealth interventions was weak. However, all studies but one found positive results to support the intervention.
Collier A, 2016	Implementation of a pilot telehealth programme in community palliative care: A qualitative study of clinicians' perspectives.	Descriptive, focus group	The aim of this study was to explore clinicians' perspectives on and experiences of the utilisation of a pilot telehealth model and its integration into a specialist community palliative care program via focus groups and interviews of 10 providers in Australia. Service providers consider telehealth resources as a means to augment current service provision in a complementary way rather than as a replacement for face-to-face assessments. Introducing this technology, however, challenged the team to critically explore aspects of current service provision. The introduction of technologies also has the potential to alter the dynamic of relationships between patients and families and community palliative care clinicians. Implementation of a pilot telehealth programme in a specialist palliative community team needs to involve clinical staff in service redesign from the outset, and reliable IT infrastructure and technical support .
Lindsay Bonsignore, 2018	Evaluating the Feasibility and Acceptability of a Telehealth Program in a Rural Palliative Care Population: TapCloud for Palliative Care.	Mixed methods study	This study was done to assess the feasibility of remote patient monitoring (RPM) via an application -TapCloud and videoconferencing in rural areas of Western North Carolina. The application provides an individualized care plan with reminders, symptom review and check-in and medication management. Video conferencing additionally helped address medication management, goals of care, and family-focused meetings. Data collected included changes in patient symptoms, hospice transitions and advanced directives. Patients and caregivers gave positive experiences about the use of Tapcloud and it helped improve quality and efficiency of care.
Gar. Doolittle, 2019	TeleHospice: A Community-Engaged Model for Utilizing Mobile Tablets to Enhance Rural Hospice Care	QI project of a pilot trial	This article reports on the ongoing implementation of a TeleHospice (TH) service in 16 rural counties in Kansas. It was an academic–community collaboration between University of Kansas and HospiceServices, Inc. TH 1.0 utilized mobile tablets and secure cloud-based videoconferencing for direct patient care, family support, and administrative purposes. The ongoing clinical pilot TH 2.0 will focus on a planned approach for iPad deployment to patients and families, and technology use for all aspects of supportive care. From TH 1.0 to TH 2.0, authors observed better connectivity, cost-savings, and positive stakeholder feedback.
Linda Read Paul, 2019	Web-based videoconferencing for rural palliative care consultation with elderly patients at home	Descriptive, exploratory, proof-of-concept study	This study used 10 mobile web-based videoconferencing (WBVC) visits to collect qualitative data on communication, logistics, technical issues, and trust in 2015 in rural Calgary. Information also included set-up time, visit duration, location, participants, patient demographics, reason for consult, type of consult (initial or follow-up), and travel distance and time saved for the patient and PC-MD (distant palliative care physician consultant). Results from this study suggest that mobile WBVC could be a feasible, acceptable, and effective way to provide timely PC consultation to patients and families in their homes, despite the challenges posed by advanced age, frailty, and rurality. Having a provider in the home facilitated clinical examination and in-person support, removed the burden of technology from the patient and family, and reinforced primary and secondary provider roles. Limitations included connectivity issues and poor audiovisual quality at times.
Jennifer J. Tieman, 2016	Using telehealth to support end of life care in the community: a feasibility study	Prospective cohort study of a telehealth-based intervention	This project studied an intervention for community-based patients of a specialist palliative care service living in Southern Australia. A Palliative Care Telehealth Research Team (PCTRT) was established to guide the development and implementation of the telehealth model for use by the community team of a specialist palliative care service. The model included video-based conferences between service staff and the patient or carer, virtual case conferences with the patient and carer, service staff and the patient's general practitioner (GP), self-report assessment tools for the patient and carer, and remote activity monitoring. Participants included old and very old patients and received a combined telecare and telemonitoring package using an iPad tablet for data entry. Patients were found to enter data 25% more frequently than expected. The trial showed that patients and carers could manage the technology and provide data that would otherwise not have been available to the palliative care services. Clinicians reported that the quality of the telehealth contact was acceptable and in most case comparative to current modes of contact.

Results

•Telehealth technology can enhance access to palliative care.
•Most studies thus far have been pilots, and have demonstrated the feasibility and acceptability of telehealth interventions among providers, patients, and caregivers.
•Technologies used have included videophones (commonest), home-messaging/ monitoring devices, regular phones, computer program with Internet access, and smart phone applications.
•Video-conferencing has been shown to be perceived by patients to be as effective as a "face-to-face" visit.
•In studies, common patient outcomes assessed are: symptoms, depression, cost and healthcare utilization, quality of life, satisfaction.
•Common caregiver outcomes: burden, stress, sleep, and anxiety.
•Telehealth allows monitoring of symptoms, and opportunities to identify deterioration early and facilitate timely proactive management.
•Another use of telehealth is educating/consulting providers.
•One possibility that has been explored very little is use of telehealth for peer-to-peer and group-to-peer support during end of life.
•A telehealth intervention that facilitates support groups may have potential to have a huge impact in similar end of life care cases.

Conclusion

- A very brief review of literature has been summarized. Innovative telehealth interventions can augment provision of support and palliative services to those who otherwise have minimal access.

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