Published in final edited form as:

Am J Hosp Palliat Care. 2015 February ; 32(1): 78–83. doi:10.1177/1049909113514475.

Enhancing Provider Knowledge and Patient Screening for Palliative Care Needs in Chronic Multi-morbid Patients Receiving Home-based Primary Care

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Abstract

This paper describes a pilot model to increase palliative care knowledge and collaboration among providers, and to systematically identify chronic multi-morbid homecare patients who would benefit from focused discussion of potential palliative care (PC) needs. Thirty healthcare providers from a home-based primary care team attended interdisciplinary trainings. The Palliative Performance Scale (PPS) tool was used to trigger discussions of potential palliative needs at team rounds for patients who scored below a cutoff point on the tool. PPS implementation added little burden on nurses, and triggered a discussion in 51 flagged patients. The tool successfully identified 75% of patients who died or were discharged. Screening was systematic and consistent, and resulted in targeted discussions about PC needs without generating additional burden on our palliative care consult service. This model shows promise for enhancing collaborative patient care and access to PC.

Keywords

Multi-morbidity; chronic care; homecare; palliative care; screening; interdisciplinary care

Conceptual Model

The use of a validated assessment tool in a home-based chronic care population to identify patients who could potentially gain from palliative intervention is novel. Screening using the Palliative Performance Scale (PPS)¹ has been used reliably in oncology populations to track functional status, identify PC needs, and predict mortality. Recent research used a change from baseline score on the PPS to increase prognostic accuracy in hospitalized terminally ill patients². There is growing understanding of the potential value of palliative care services in hospitals across the United States^{3,4}. Although palliative care (PC) is often thought of as an

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end-of-life service traditionally limited to a hospice model, there have been recent substantial initiatives to move palliative care upstream in the illness trajectory. This practice has allowed for PC approaches to be administered concurrently with treatments that may have a curative intent, as in patients with cancer, or concurrently with treatments directed at managing non-oncologic complex comorbid conditions^{5,6}. In addition to helping to define individualized goals of care, PC intervention can provide relief for a range of symptom-related issues in chronic multi-morbid patients. There is some evidence that such services can enhance the quality of life of patients and decrease the cost of care per person through optimal symptom management, aligning patient goals with treatments directed at best achieving those goals and, in effect, alleviating burden on inpatient hospital services in many cases^{5,7,8}.

In the last few years, the Veteran's Health Administration (VHA) has been exploring means of facilitating expanded integration of PC into primary care, and finding systematic models of co-management of patients across provider teams. VHA initiated a pilot grant program and a national summit in 2011 to design a model for replication to integrate PC services into primary care settings. A pilot project was initiated at one Veteran's Administration (VA) hospital, focusing on the Home-Based Primary Care team, and the integration of PC knowledge and services into their practice. The Home Based Primary Care Program (HBPC), a longitudinal homecare model implemented by the VHA system in which primary care is delivered in the home of the veteran, is aimed at maintaining independence and function and preventing readmission of patients to the acute care setting. Unlike civilian-focused Medicare Waiver programs, HBPC does not require that patients be homebound, nor is improvement expected. The program aims to manage complex, chronically ill patients with optimal efficiency. The overall goal is to improve the long-term health outcomes of veterans with complex comorbid conditions while helping to contain healthcare costs.

The overall aim of the integration pilot project was to expand patient access to PC through three simultaneous and related objectives: 1) To enhance HBPC interdisciplinary teams' palliative medicine expertise through education, 2) To improve the identification of veterans with PC needs by piloting the use of a validated assessment tool, and 3) To build meaningful working relationships between those team members providing primary care to veterans and those members of the Palliative Care Consult Team (See Figure 1). Institutional Review Board (IRB) clearance was obtained through VA Ann Arbor Healthcare System; this project was deemed exempted from full IRB review after thorough review for protection of subjects.

Although validated predictions for chronically ill patients would require a much larger study, the successful application of a screening tool to a chronic, complex home-based caseload could potentially allow more efficient targeting of PC services while increasing the likelihood that patients will be identified early in the course of their disease progression and offered palliative services to improve their quality of life. Since the PPS showed reliable and valid application in cancer populations, and has also been piloted as a tool to determine the need for an inpatient palliative care consultation^{9,10}, we chose to use this instrument to assess an HBPC caseload characterized by a high level of chronic care patients, with acknowledgment that mortality predictions established in previous norms would not likely

be applicable in our population. We assumed, however, that functional status would continue to be a valid indicator of need for PC services, even in this novel implementation.

The pilot project described here goes beyond provider education and moves into patient identification and application of learning, as well as building meaningful relationships between team members on different services. The target goal was not to automatically generate consults for the PC service, but rather to identify patients for whom a proactive provider team discussion should be had regarding potential palliative needs. This discussion was aimed at delineating appropriate plans of care, identifying unmet symptom needs, advanced care planning needs, plans for hospice referrals, and appropriate PC clinic referrals. The advantage for hospital systems is that the intervention is potentially very cost-effective. If the screening tool captures patients that might not have been identified otherwise, or eliminates those who do not meet established criteria, coordination of appropriate palliative services in a more timely and resource-efficient manner across the caseload could occur.

For some areas of the United States, we recognize that access to specialists can vary widely, with some rural areas of the US having little or no access to PC specialists. The pilot site was fortunate to have a well-established PC team. Consultation was generally available to providers and veterans with little or no waiting period or additional travel. Even when easily available, such consultations can be costly, resource-intensive, and time-consuming. Therefore, identifying patients who are most likely to gain from this service has potential to increase efficiency and ensure that services are provided to those with the most appropriate need. This pilot program aimed to establish a process of systematically identifying these patients, with minimal burden to either the nursing providers on the teams or the PC consult service, with potential for dissemination to other hospital systems. If reliable identification of patients who would most gain from targeted discussion of PC needs could be systematically accomplished, similar home-care programs functioning in areas with limited access to specialists would be able to better focus their resources and benefit from having an identifying marker that flagged when such resources should be considered.

Methodology

Figure 1 provides a visual illustration of the model.

Sample

The pilot study focused on two sample groups: providers and patients. In this study, provider participants were members of a VA-based HBPC team, although we believe that the model that we used- education, relationship-building between teams, and implementation of a validated screening tool to identify patients for targeted discussion- could be implemented in other types of home-based care provision systems. VA-based HBPC teams are made up of a physician, several nurses, a clinical psychologist, a physical therapist, a dietician, a social worker, and administrative support staff, although this constellation may vary slightly across VA regions. The team shares a caseload of 120-160 home-based clients within a targeted geographical area, and travels regularly to provide a range of services designed to keep the veteran living safely in their home environment. These services may include blood draws,

regular health checks and nursing care, functional mobility and physical therapy assessments and interventions, dietary consultation and education, psychological services for both client and family caregivers, and resource assistance, among other things. The HBPC team that participated in this pilot consisted of two groups, located in two locales within the regional VA jurisdiction, which shared their weekly rounds meetings and pooled their caseload for care by the team physician. All team members attended palliative care educational training sessions in person, all nurses attended an in-person in-service training for the PPS implementation, and the entire team discussed the flagged clients at weekly rounds.

Patients referred to the HBPC team were veterans, were 98% male, and had chronic health issues that requiring complex levels of support. These patients could be assisted in their homes and thus diverted from repeat inpatient stays for otherwise predictable or preventable issues¹¹. Cases were discussed at admission and reviewed at 90-day intervals during weekly team-attended rounds held in the HBPC office. While HBPC is not designed for end-of-life care, there are always clients on the caseload who may benefit from PC services, either for symptom management or for assessment of the need for hospice care as their conditions progress.

Tools

To reach our educational goals of enhancing our teams' knowledge and expertise in Palliative Medicine principles, we used the End of Life Nursing Education Curriculum (ELNEC)¹² national palliative care curriculum. With strong support from the nurse managers of the team, we first queried our prospective learners about their perceived palliative educational needs, allowing us to customize and emphasize aspects of the ELNEC teaching in an effort to meet local needs and enhance learner participation. By carefully coordinating with leadership, we were able to facilitate scheduling the training so that it was minimally disruptive to patient care and workload duties. The ELNEC curriculum was taught in four 2-hour sessions over four weeks, by the interdisciplinary members of the Palliative Care Consult Team, all of whom were certified as ELNEC trainers and experienced in teaching this curriculum. This not only gave participants access to experts for their training, but also provided face-to-face introduction and an improved comfort level between providers who would hopefully be working together in increasingly collaborative ways. In addition to the ELNEC training, resource books about various PC issues were purchased for the team. We used a retrospective pre-post test of learning to assess the utility of the training. See Table 1 for the major components of this training.

To address our patient screening goals, we implemented the PPS¹ assessment tool as a template in the electronic medical record. This was positioned as part of the usual nursing assessment that takes place for each patient. Patients referred to the HBPC team received a comprehensive assessment at admission to the service, and were then re-assessed at 90 day intervals. Patient evaluation occurred in the home, with care planning discussions that included the patient and the family, followed by discussions at length in team rounds after each evaluation. As with any medical practice, patients entered the service on a rolling basis. While the 90-day timed review is different from programs such as Medicare covered hospice or home-health (where recertification periods may happen every 60 days), the patients

enrolled in HBPC, and consequently in this pilot project, were likely more independent with activities of daily living, had longer predicted trajectories of illness with higher rates of pain-related issues, amputation, diabetes-related complications, and chronic obstructive pulmonary disease than civilian Medicaid waiver, home-based care populations¹³.

The PPS is scored in increments of 10, from a high score of 100 (fully functional) to 0 (deceased), and uses branching logic to assess domains of functional capacity. We used the previously established cutoff score of 40% or less, indicating a low functional status, nutritional compromise, and possible altered cognition. An in-service training was provided to the nurses on the team about how to administer and score the PPS and implementation of timed screenings of all patients on the caseload was initiated. Technical assistance and supervision of scoring for fidelity and inter-rater reliability was provided during the six-month period of data collection. Flagged patients were discussed in a separate section of the rounds, where PC knowledge could be applied to the cases and nursing interventions and support could be identified for immediate patient care; additionally, it could be further decided whether referral for consultation with the PC team was needed (See Figure 1).

Results

A total of 30 primary care providers attended the ELNEC training, including both HBPC team members and members of other primary care teams in the hospital system. The training was uniformly well received by the participants, with active learner participation and interaction prompted by relevant case discussions imbedded within the ELNEC curriculum. Utilizing a retrospective pre-post test format, final course evaluations detected a substantial improvement between the learners' self-rated knowledge of end-of-life care prior to the course as compared to self-rated knowledge after the course. The HBPC team participants universally felt that the program's content was appropriate, rating the usefulness of the modules as "Very Useful." Overall, the program was highly rated, with participants reporting that they had confidence using the information with patients. The HBPC team members were extremely receptive and enthusiastic about learning PC principles, and felt the ELNEC course content was directly applicable to many of their HBPC patients with unmet PC needs. One nurse provided the written comment: "all nurses doing direct patient care need this training". By utilizing PC team members to facilitate the trainings, our goal to build meaningful working relationships between team members was addressed.

During the six month time period of September 1, 2011 to February 29, 2012, the total caseload in HBPC was 164 unique patients. There were a total of 127 cases where screening was done (77% of caseload). We did not evaluate the in-service training for the PPS tool. However, we solicited open feedback from the nurses throughout the implementation and at the end, via email or written comments to the project staff. Nursing staff reported that they did not feel that the PPS was burdensome, although several were opposed to any change in their workload at all. We are not able to ascertain with certainty why the remaining 23% of cases were not assessed. Case records were reviewed for any indication that patients had been involved with PC at all prior to HBPC involvement, and we found very few such patients (9%).

The PPS is scored on a scale of 0-100, in increments of 10 (e.g. 10, 20, 30, 40, 50, etc.), and branching logic is used to guide nurses through choices within the tool. Baseline PPS scores (N=127) for the bulk of the patients on the caseload were in the middle range (40-60; 74% of the sample; Mean score=53.78). This is consistent with the theoretically expected range for this chronically ill population. Forty-three cases (34%) were scored 40 or less at the first screening. Of those, 30 were scored at 40, while only 13 were scored below that.

As previously described, patients were assessed at their natural 90-day assessment schedule, on a rolling basis across the caseload. Because of the nature of this setup, 64 individuals were on the caseload at the time of their 90-day assessment, providing a Time 2 score on the PPS. At Time 2, 90 days past baseline (N=64), the majority of scores for this group remained in the middle range (40-60; 70% of the sample; mean score=55.56), as theoretically expected. Of those 64 individuals, 22 patients scored at or below the 40 point cutoff, with 8 being newly flagged patients and the remaining 14 being patients who had been previously flagged at Time 1. Of those who had been previously flagged, 9 patients held steady at a score of 40 (no change), and 5 declined in score. Six patients had improved. Of patients who were flagged at 40 at either first or second screening (N = 51 unique individuals), ten were discharged: 3 to hospice, 6 to long term care (LTC), and one was discharged elsewhere. Eight individuals who were flagged by the screening tool passed away on the HBPC caseload (these do not include the patients discharged from HBPC to hospice). There were four individuals who were not flagged by the screener (i.e. had scores higher than 40 on the PPS), but were discharged- one to hospice and 3 to LTC. Additionally, there were two individuals who were not flagged by the PPS tool and died while on the HBPC caseload (See Figure 2). Of the 51 patients flagged, 34 were discussed in a special section of the team rounds. Although one of the expected outcomes of this pilot was to better identify patients with PC needs, PC consultation referrals were not measured, as our team included one of the PC physician experts as a regular attendee at rounds, confounding any potential findings. This is an item of interest for further study. Nonetheless, use of the screening tool was valuable as a trigger for additional care planning, providing an opportunity to assess and discuss related needs, such as housing, caregiver support needs, or global symptom or functional support.

Discussion and Considerations for Replication

The model used in our pilot program had three target objectives: 1) To enhance HBPC interdisciplinary teams' palliative medicine expertise through education, 2) To improve the identification of veterans with PC needs by piloting the use of a validated assessment tool, and 3) To build meaningful working relationships between those team members providing primary care to veterans and those members of the Palliative Care Consult Team. By using the ELNEC national curriculum, facilitated by certified trainings from the PC team, findings from this pilot indicated that participants had increased confidence in their ability to use palliative knowledge in the course of their jobs. This arrangement simultaneously addressed the third objective. By spending the protected learning time together, team members had the opportunity to get to know one another. Anecdotal evidence following the close of data collection suggests that this had led to an increase in "curbside" (informal) consults between team members.

The remaining objective of the pilot was to improve targeted identification of veterans with palliative needs. Although effectiveness was demonstrated in this pilot, we suggest that the PPS might not be the best choice of instrument for a chronic, multi-morbid care population. There was some concern by team nurses that the PPS tool was not sensitive enough to conditions such as severe cognitive impairment, traumatic brain injury, or other chronic illnesses or disabilities, including accounting for an amputee status. Studies examining disability trajectories at the end of life for community dwelling older adults showed that trajectories are quite varied for different conditions leading to death¹⁴. The observations of our team nurses are consistent with this research, indicating that the use of a scale based on functional evaluation status may be less useful for identification of PC needs with home based populations that do not follow a predictable pattern of functional decline¹⁴.

While a cutoff of 40 captured a large percentage of the caseload, reducing the cutoff to 30 would have missed a great deal of the target population. Eight of ten deaths were caught by the screen, all hospice placements, and 7 of 11 LTC placements were caught, an overall 75% accuracy rate. Despite its shortcomings, nurses were positive about implementation, indicating that it was quick and easy to complete, and surmising that it would be a useful objective tool in a place with less embedded palliative care knowledge and skills on the team.

There are both strengths and limitations of the model that we have presented. The strengths were markedly important in this clinical setting. On-the-ground knowledge of front-line nurses and existing systems were capitalized upon to facilitate systematic tracking of patients; key stakeholders on different provider teams were given the opportunity to get to know one another through the training sessions; the knowledge base of the teams was enhanced, along with team member communication, and appreciation of team member roles with regard to developing an individualized, patient-centered plan of care. Additionally, the use of a validated PC assessment tool resulted in improved assessment and screening with minimal additional workload burden, and the provision of resource materials to team members empowered continued independent learning.

There were several limitations that we encountered in this model. Logistical issues exist when bringing training to busy clinical teams, especially teams in geographically distant locations, and logistical issues also exist around how to use information from screening tools at remote community-based sites when additional specialized consultation services may not be available. In addition to these points, there were several challenges that we discovered. While minimal, the implementation of an additional screening tool did add to nursing time and effort. We also found that it was a challenge to ensure that the scores were entered in a consistent place in the medical record, to enable easy access for review. The presence of a PC specialist physician on the HBPC team was a confounder to our findings; it is unclear whether patients would or would not have been missed otherwise. However, since the goal of the pilot was to create an unbiased process of patient identification, the expertise of this physician was critical to trial and design of this pilot, and analysis of the outcomes.

Next steps & recommendations for clinical practice

While findings from this pilot are promising, a trial of a PC screening tool that measures the effect of use of the tool on patient outcomes for a home based, multi-morbid patient population is needed. This would ideally entail a multi-site study, perhaps measuring relative outcomes such as hospital readmission rates, rate of advance directive completion, ICU days, and place of death, compared to usual care. A longer follow-up time than what was undertaken in this pilot would be needed to capture these important patient centered outcomes. Moreover, further research is needed in creating a more nuanced PC screening tool better suited for patients living with chronic multi-morbid conditions who may be functionally impaired at baseline. A tool that captures further functional decline in patients with existing functional limitations is likely to be important in assessing prognosis in patients receiving home-based care.

A trial of PC screening with a team that does not have a PC specialist is also called for. It would be further instructive to compare rates of PC referrals made for patients before and after implementation of training such as the ELNEC curriculum and of the PPS screening tool. Technical support and training to the team members who will implement the screening tool is important, as reliability of the instrument depends on consistent application, and unanswered questions about how to use the instruments can create frustration and additional workload burden.

Trainings that provide opportunity to get to know PC team members help to create meaningful relationships and support interdisciplinary team engagement to address patients' potential palliative care needs. We believe that this communication was a critical factor in our success. Additionally, we suggest the following: 1) create a checklist for physicians across the system to use to guide discussions of PC needs, and 2) track patient outcomes to determine if the implementation of this simple screening tool leads to an increase in quality of care at end-of-life.

This model shows promise for enhancing expertise, collaborative care, and patient access to palliative care. We believe that by working closely with team members at all levels, education, provision of resource materials, and simple screening tools can have a tremendous impact on these goals. As we look towards the future of the Affordable Care Act and the Independence at Home programs embedded in that law, models that show promise in terms of efficient delivery of services, as well as models which access the resources of electronic medical records to provide effective care will hold great potential across a wide range of service delivery settings.

Acknowledgments

Funding

This work was supported by the Department of Veterans Affairs; Veterans Health Administration, Hospice and Palliative Care Program: The Palliative Care PACT Program: A Collaboration to Integrate Palliative Care into Patient Aligned Care Team (PACT). Dr. Wharton is supported by an NIMH T32 training grant.

Funding Source:

Department of Veterans Affairs; Veterans Health Administration, Hospice and Palliative Care Program: The Palliative Care PACT Program: A Collaboration to Integrate Palliative Care into Patient Aligned Care Team (PACT) PI: Caroline A. Vitale, MD

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Figure 1.
Model for Palliative Care-Primary Care integration

Figure 2.
Patient Screening Diagram

Table 1

Major components of ELNEC training

Nursing Care at the End of Life
Pain Management
Symptom Management
Ethical/Legal Issues
Cultural Considerations in End-of-Life Care
Communication
Loss, Grief, Bereavement
Preparation for and Care at the Time of Death