



FEASIBILITY OF A HOME-BASED PALLIATIVE CARE INTERVENTION FOR ELDERLY MULTIMORBID SURVIVORS OF CRITICAL ILLNESS

By Florian B. Mayr, MD, MPH, Judith L. Plowman, MD, Sandra Blakowski, MD, Kimberly Sell-Shemansky, MSW, Joleene M. Young, CRNP, and Sachin Yende, MD, MS

Background Elderly patients frequently experience deteriorating health after critical illness, which may threaten their independence and predispose them to unplanned hospital readmissions and premature death.

Objectives To evaluate the operational feasibility of a 90-day home-based palliative care intervention in multimorbid elderly Veteran survivors of critical illness.

Methods A multidisciplinary home-based palliative care intervention was provided for multimorbid elderly veterans who were discharged home after admission to the intensive care unit for sepsis, pneumonia, heart failure, or exacerbation of chronic obstructive lung disease.

Results Fifteen patients enrolled in the study, 11 (73%) of whom completed all visits; thus the prespecified goal of >70% completion was met. Median (interquartile range [IQR]) age of the patients was 76 (69-87) years. Participants had a median (IQR) of 8 (7-8) concurrent chronic health conditions, were moderately debilitated at baseline, and were all male. The median (IQR) time to the first study visit was 8 (5-12) days. Patients had a median (IQR) of 8 (5-11) in-home visits and 6 (3-7) telephone encounters during the 90-day study period. Nurses spent a median (IQR) cumulative time of 330 (240-585) minutes on home visits and 30 (10-70) minutes on telephone visits. The median (IQR) time per home provider visit was 90 (75-90) minutes. We estimated the median (IQR) cost per patient to be \$2321 (\$1901-\$3331).

Conclusion A comprehensive home-based palliative care intervention is operationally feasible in elderly multimorbid survivors of critical illness and may result in improved physical functioning and quality of life and fewer unplanned emergency department visits. (*American Journal of Critical Care*. 2021;30:e12-e31)

CE 1.0 Hour

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doi:<https://doi.org/10.4037/ajcc2021117>

Each year, 2 million elderly Americans are treated in intensive care units (ICUs).¹ Long-term outcomes after critical illness vary, but one-third of patients who survive to hospital discharge die during the following year, and one-sixth have severe persistent impairments for which they require ongoing medical care. Most ICU survivors who are discharged home return to their primary care physicians and subspecialists for aftercare.

Alternative care models exist, such as ICU survivor clinics that provide integrated care at a single location focused on treating sequelae of critical illness.² However, both of these care models are clinic-based and require patients to travel, which may be burdensome for some patients or unfeasible for patients who are debilitated or have poor social support. In addition, these aftercare models often do not include palliative care interventions. Home-based care is an attractive alternative after hospital discharge, a period when patients are vulnerable and caregivers feel unprepared and overwhelmed.³ The feasibility of implementing a home-based care model in critical illness survivors has not been studied. Therefore, we conducted a quality improvement trial to test the operational feasibility of a 90-day, home-based palliative care intervention in elderly veteran ICU survivors.

Methods

Project Design and Inclusion Criteria

We assessed operational feasibility by conducting a prospective study of a multidisciplinary, home-based palliative care intervention in 15 patients who were discharged home after treatment in the ICU for community-acquired pneumonia, heart failure exacerbation, chronic obstructive pulmonary disease (COPD), or sepsis. This project was reviewed and

approved by the institutional review board at VA Pittsburgh Healthcare System as a quality improvement project.

Intervention

Our intervention included at least 2 scheduled in-home visits and 2 follow-up telephone visits in 90 days, delivered by a multidisciplinary team of palliative care, geriatric, and critical care nurses, nurse practitioners, and physicians; physical therapists; and social workers (see Figure, part A; home visit data collection form: Supplement 1). Eligible veterans were identified during hospitalization. The first home visit was scheduled within 72 hours of hospital discharge, and the final visit was scheduled 90 days after hospital discharge. Scripted telephone calls were planned at weeks 4 and 8 (telephone visit data collection form: Supplement 2). The team met weekly to discuss the patients' progress and to develop, monitor, and refine care plans.

Home and Telephone Visits

The care team assessed patients' physical, medical, psychological, social, and spiritual needs during the 2 home visits with a multidisciplinary approach involving physicians, nurse practitioners, nurses, and social workers. The team assessed baseline physical function and symptom burden with the Palliative Performance Scale (PPS) and simplified Edmonton Symptom Assessment System (sESAS; Supplemental Tables 1-3), which have been extensively validated in cancer and noncancer populations.⁴⁻⁶ The participants completed a perception-of-care questionnaire after the final home visit (Supplement 3). Telephone visits were conducted to provide scheduled updates on new health events including changes in symptoms, new medical problems, unplanned rehospitalizations, and emergency department visits. A team member was available 24-7 via an emergency telephone number to help manage new symptoms that required immediate medical attention.

Home-based care is an attractive alternative after discharge when patients are most vulnerable and caregivers are the least prepared.

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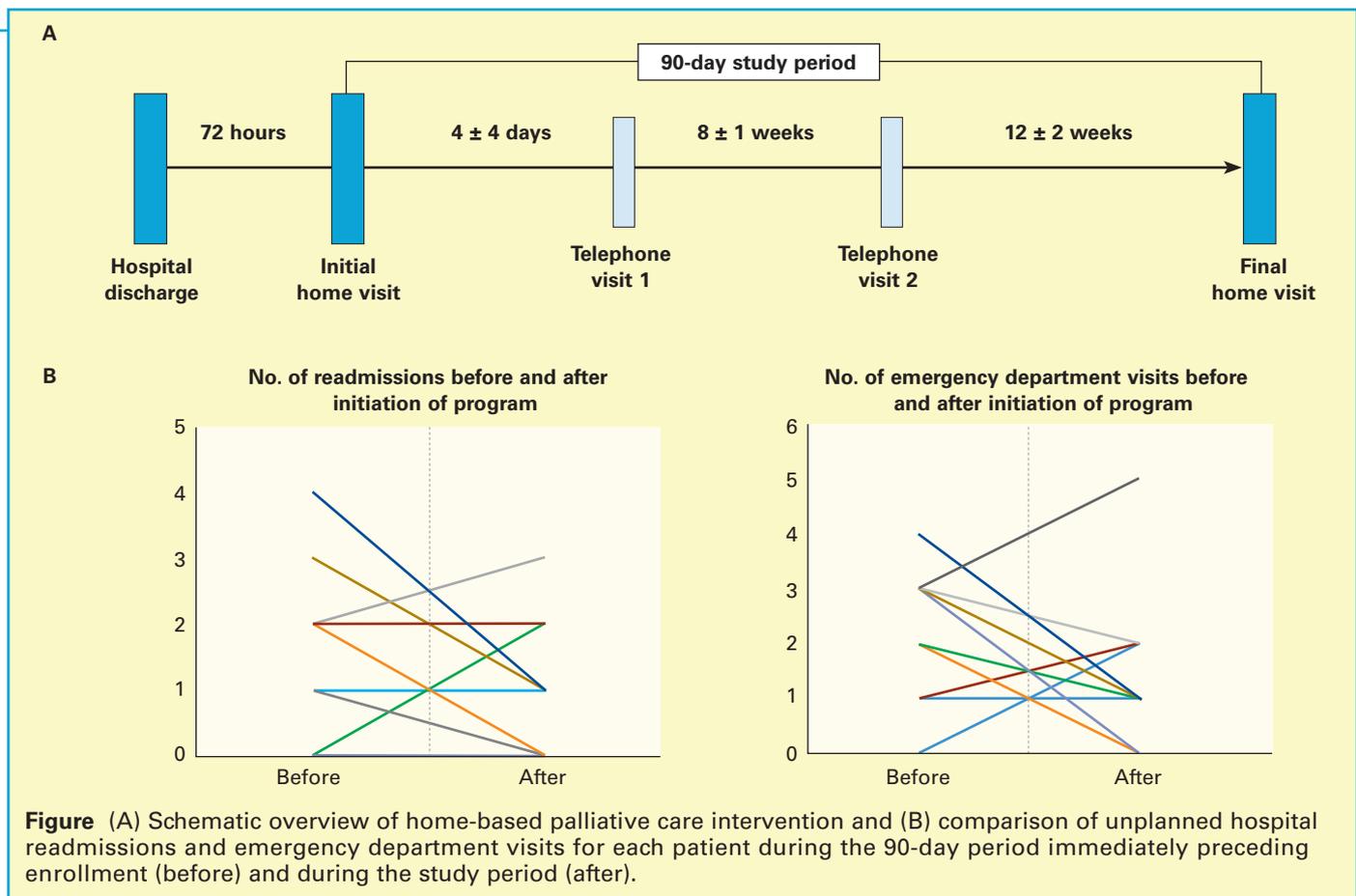


Figure (A) Schematic overview of home-based palliative care intervention and (B) comparison of unplanned hospital readmissions and emergency department visits for each patient during the 90-day period immediately preceding enrollment (before) and during the study period (after).

Outcomes

The primary outcome was the operational feasibility of conducting this trial.⁷ We aimed to enroll 1 to 2 patients per month for 12 months and complete at least 70% of all prespecified home and telephone visits within the proposed time windows. Secondary outcomes included (1) PPS score at day 90, (2) sESAS score at day 90, (3) patient/caregiver satisfaction, and (4) number of unplanned hospital readmissions and emergency department visits within 90 days.

Our intervention resulted in improved symptom control and quality of life, which contributed to high patient satisfaction.

Statistical Analysis

We present categorical data as count and percentage and continuous data as median and interquartile range (IQR). We refrained from formal statistical testing because of the limited sample size. We estimated resource utilization by applying current procedural terminology billing codes for in-home, telephone, and care coordination visits (Supplemental Table 4). We compared the number of unplanned readmissions and emergency department visits during the study period with the number in the 3-month period

preceding the index hospitalization. Data management and analyses were performed with Stata/SE 15.1 (Stata Corp).

Results

Patient Characteristics

Patient characteristics are summarized in the Table. Median (IQR) age was 76 (69-87) years, and all participants were male and multimorbid (median [IQR] number of chronic health conditions, 8 [7-8]). Patients were moderately debilitated at baseline (median [IQR] PPS score, 60 [60-70]; median (IQR) sESAS score, 4 [2-7]). The reasons for the index hospitalization were heart failure exacerbation (67%), community-acquired pneumonia (20%), sepsis (7%), and COPD exacerbation (7%). Ten patients required organ support, 8 received noninvasive or invasive positive pressure ventilation, and 3 received vasopressor support. The median (IQR) APACHE score at admission was 15 (13-18). The most common reasons for nonenrollment were a dependent living situation before hospitalization, transfer from an outside hospital, or residence more than 25 miles from our institution.

Feasibility Outcomes

We enrolled 15 patients in 12 months. Ninety-day follow-up was available in all 15 patients; 11 patients

(73%) completed all study visits (see Table). Two patients (13%) died before study completion, and 2 patients did not complete all visits because of prolonged rehospitalization.

The median (IQR) time to first study visit was 8 (5-12) days. Each patient received a median (IQR) of 8 (5-11) in-home visits during the 90-day study period: 4 (3-6) visits by nurses, 3 (2-4) visits by physicians, and 1 (1-1) visit by a social worker. In addition to home visits, patients had a median (IQR) of 6 (3-7) telephone encounters during the study period (see Table).

Each patient was visited at home by nurses for a median (IQR) total of 330 (240-585) minutes and was visited by telephone for a median (IQR) cumulative time of 30 (10-70) minutes (see Table). The median (IQR) time for each home visit was 90 (75-90) minutes. We estimated the median (IQR) cost per patient to be \$2321 (\$1901-\$3331), which is in stark contrast to the average cost of \$31 679 per ICU admission for the very elderly.⁸ We refrained from formal cost-benefit analysis at this early stage of feasibility testing, but we estimate that the intervention was cost-neutral in our setting.

Clinical Outcomes

Median PPS scores at day 90 (n = 11; median [IQR], 70% [50%-80%]) were slightly higher than the initial PPS scores (n = 15; median [IQR], 60% [60%-70%]; see Table). Consistently, median sESAS scores were slightly lower at day 90 (n = 11; median [IQR], 3 [2-4]) than the initial scores (n = 15; median [IQR], 4 [2-7]). Of the 11 patients who completed all visits, 3 (27%) were readmitted within 30 days and 7 (64%) were readmitted within 90 days. The median number of unplanned hospital admissions during the project period (median [IQR], 1 [0-2]) was similar to that of the 3-month period preceding index hospitalization (median [IQR], 1 [0-3]), whereas unplanned emergency department visits were lower during the project period (median [IQR], 1 [0-2]) than they were during the 3-month period preceding index hospitalization (median [IQR], 2 [2-4]); see Figure, part B). Patients rated their overall satisfaction with this intervention with a median (IQR) score of 4.5 (4-5) (n = 11) on a 5-point Likert scale.

Discussion

We demonstrated operational feasibility of a home-based multidisciplinary intervention in multimorbid ICU survivors and reached our predefined goals of enrolling 15 patients within 12 months and completing at least 70% of prespecified visits. The importance of palliative care is highlighted by the fact that 1 patient

Table
Clinical characteristics, study visits, and outcomes of 15 patients enrolled in the study

Clinical characteristic	Value
Age, median (IQR), y	76 (69-87)
Male sex, No. (%)	15 (100)
APACHE score, median (IQR)	15 (13-18)
Marital status, No. (%)	
Married	9 (60)
Divorced or widowed	4 (27)
Single	2 (13)
Body mass index, ^a median (IQR)	22.3 (19.1-26.3)
Health behaviors, No. (%)	
Past or current smoker	14 (93)
Past or current alcohol use	13 (87)
No. of comorbidities, median (IQR)	8 (7-8)
Comorbidity, No. (%)	
Hypertension	14 (93)
Diabetes	9 (60)
Coronary artery disease	11 (73)
Heart failure	15 (100)
Pulmonary disease	12 (80)
Renal disease	10 (67)
Malignant neoplasm	6 (40)
Anemia	10 (67)
Caregiver, No. (%)	
Spouse	9 (60)
Other	6 (40)
Palliative Performance Scale score, median (IQR), %	60 (60-70)
Simplified Edmonton Symptom Assessment System score, median (IQR)	4 (2-7)
Study visits	
Days in hospital before enrollment, median (IQR)	9 (5-16)
Days to first study visit, median (IQR)	8 (5-12)
Number of in-home visits, median (IQR)	8 (5-11)
Number of phone calls, median (IQR)	6 (3-7)
Duration of in-home provider visits, median (IQR), min	90 (75-90)
Total nurse time spent per patient on home visits, median (IQR), min	330 (240-585)
Total nurse time spent per patient on phone visits, median (IQR), min	30 (10-70)
Outcomes ^b	
No. of emergency department visits, median (IQR)	1 (0-2)
No. of unplanned readmissions, median (IQR)	1 (0-3)
Palliative Performance Scale score, median (IQR)	70 (50-80)
Modified Edmonton Symptom Assessment System score, median (IQR)	3 (2-4)
Overall patient satisfaction on 5-point Likert scale, median (IQR)	4.5 (4-5)
90-Day mortality, No. (%)	2 (13)

Abbreviations: APACHE, Acute Physiology and Chronic Health Evaluation; IQR, interquartile range.

^a Calculated as weight in kilograms divided by height in meters squared.

^b Study outcomes were assessed in 11 patients who completed the intervention. The denominator for 90-day mortality included all 15 study participants.

transitioned to hospice during during the 90-day study period and 2 additional patients transitioned to hospice shortly after the 90-day study period. We observed

improvements in physical functioning, quality of life, and symptom control, which contributed to high patient satisfaction. This intervention was time intensive and required multiple in-person and telephone visits by nurses, physicians, and social workers. Different models of care may be appropriate for different ICU survivors, and a resource-intensive intervention like this may be appropriate only for a subset of high-risk patients. On the basis of this experience, we recommend that future studies test efficacy, generalizability, and scalability; optimize efficiency by incorporating novel technology (telehealth visits); test alternative follow-up periods (eg, 60 days vs 90 days); and identify subgroups of ICU survivors who are most likely to benefit from home-based care interventions.

Our project has several limitations. First, it was designed as a quality improvement study to test the operational feasibility of implementing comprehensive home-based palliative care in multimorbid veterans. Although we were able to meet our enrollment criteria, the scalability of interventions like this will depend on the ability to automatize study procedures, for example, through EHR-prompted screening. Second, the median time to the first home visit was 8 days although it was planned to be 72 hours. Future studies of home-based interventions should aim to complete initial home visits as early as possible because the period immediately after hospital discharge is the most stressful and vulnerable time for patients and caretakers. Third, our project was conducted in the unique environment of the largest integrated health care system, and our findings may not be generalizable to other more diverse settings. Fourth, we did not evaluate caregiver satisfaction during this project.

In conclusion, we successfully demonstrated the operational feasibility of a comprehensive

home-based palliative care intervention in multimorbid elderly veteran survivors of critical illness at high risk of hospital readmission.

ACKNOWLEDGMENTS

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

FINANCIAL DISCLOSURES

This work was supported with resources from and the use of facilities at the VA Pittsburgh Healthcare System. Florian B. Mayr is currently supported by a VA VISN4 Competitive Career Development fund and National Institutes of Health K23GM132688.

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CE 1.0 Hour Category B

Notice to CE enrollees:

This article has been designated for CE contact hour(s). The evaluation demonstrates your knowledge of the following objectives:

1. Describe some of the disadvantages of clinic-based aftercare for critical illness survivors.
2. List patient-centered outcomes that may improve in critical illness survivors with home-based palliative care interventions.
3. List topics that future research in this area should address.

To complete the evaluation for CE contact hour(s) for this article #A21303, visit www.ajconline.org and click the "CE Articles" button. No CE evaluation fee for AACN members. This expires on January 1, 2023.

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HBPC MD/CRNP VISIT NOTE

Visit Date / Visit Number: _____

PATIENT INFORMATION

Name: _____ Age: _____ Date of Birth: ___ / ___ / ___

Gender: Male Female

Last # 4 soc sec : _____ Primary Care Physician: _____

Primary Care Office Contact Person and Phone Number: _____

CHIEF OBJECTIVE

- Symptom Management Other _____
- Goals of Care

REFERRING DIAGNOSIS / Discharge Diagnosis

- Congestive Heart Failure Sepsis
- CAP ICU admission
- COPD Other _____

HISTORY OF PRESENT ILLNESS**PAST MEDICAL HISTORY**

- | | | |
|--|---|---|
| <input type="checkbox"/> DM | <input type="checkbox"/> Lung Disease | <input type="checkbox"/> Blood Disorder |
| <input type="checkbox"/> HTN | <input type="checkbox"/> Liver Disease | <input type="checkbox"/> Cancer |
| <input type="checkbox"/> CVD | <input type="checkbox"/> Kidney Disease | <input type="checkbox"/> Psychiatric Disorder |
| <input type="checkbox"/> Thyroid Disease | <input type="checkbox"/> TIA/Stroke | <input type="checkbox"/> Other _____ |

Specifics:

ED visit since last home visit? _____

Hospital admission since last visit? _____

PAST SURGICAL HISTORY**ADVANCE CARE PLANNING**

Existing Documents:

- Living Will Reviewed: _____ Date Created: _____
- POLST Reviewed: _____ Date Created: _____

Patient Identified Surrogate Decision Maker (name/relationship): _____

Contact Information for Surrogate Decision-maker:

Phone: _____ HPOA: _____ Yes _____ No _____

FAMILY HISTORY

- | | | |
|--|--|--------------------------------------|
| <input type="checkbox"/> Done Previously | <input type="checkbox"/> CAD | <input type="checkbox"/> Drug Abuse |
| <input type="checkbox"/> Reviewed, Not Pertinent | <input type="checkbox"/> Cancer | <input type="checkbox"/> Other _____ |
| <input type="checkbox"/> DM | <input type="checkbox"/> Alcohol Abuse | |

SOCIAL HISTORY

- | | | |
|----------------------------------|-----------------------------------|--------------------------------------|
| Marital Status | <input type="checkbox"/> Single | <input type="checkbox"/> Widowed |
| <input type="checkbox"/> Married | <input type="checkbox"/> Divorced | <input type="checkbox"/> Other _____ |

Living Situation

- | | | |
|--------------------------------------|--|---------------------------------------|
| <input type="checkbox"/> Independent | <input type="checkbox"/> Adult Home | <input type="checkbox"/> Nursing Home |
| <input type="checkbox"/> With Family | <input type="checkbox"/> Assisted Living | <input type="checkbox"/> Other _____ |

Prior Occupation: _____

Military History: _____ Yes _____ Branch of Service: _____

Enrolled in other Healthcare at this time: Yes _____ No _____

Description of Spirituality & Religion: _____

Tobacco Use

- Current _____
(type, amt.)
- Past _____
(type, amt.)
- Age of onset 16-45 years
- Never
- Unknown

Alcohol Use

- Current _____
(type, amt.)
- Past _____
(type, amt.)
- Never
- Unknown
- Family History

Other Drug Use

- Current _____
(type, amt.)
- Past _____
(type, amt.)
- Never
- Unknown
- Family History

MEDICATIONS AS REPORTED BY THE PATIENT

Preferred Pharmacy (name/phone): _____
 24H Oral Morphine Equivalent (OME): _____ mg
 On Laxatives if Opiates prescribed: Yes _____ No _____
 If no, why: _____

ALLERGIES/TYPE OF REACTION

- No Known Drug Allergies
- Drug Allergies: _____

REVIEW OF SYSTEMS**Constitutional**

- Weight loss or gain
- Change in appetite
- Fatigue
- Fever or chills
- Weakness
- History of Falls
- Trouble sleeping
- Ease of bruising
- Ease of bleeding
- Head or cold intolerance
- Sweating
- Frequent urination
- Thirst
- WNL

Respiratory

- Cough
- Coughing up blood
- Shortness of breath
- Wheezing
- Painful breathing
- WNL

Urinary

- Frequency
- Urgency
- Burning or pain
- Blood in urine
- Incontinence
- Change in urinary
- WNL

Psychiatric

- Nervousness
- Stress
- Depression
- Memory loss
- ADD/OCD/Bipolar/Schizophrenia
- WNL

Skin

- Rashes
- Lumps
- Itching
- Dryness
- Hair and nail changes
- WNL

Cardiovascular

- Chest pain or discomfort
- Palpitations
- SOB with activity
- Orthopnea
- Swelling
- Calf pain with walking
- Leg cramping
- WNL

Musculoskeletal

- Muscle or joint pain
- Stiffness
- Back pain
- Redness of joints
- Swelling of joints
- Trauma
- WNL

Breasts

- Lumps
- Pain
- Discharge
- WNL

HEENT

- Pain (describe below)
- Decreased hearing
- Ringing in ears
- Vision loss/changes
- Glasses or contacts
- Nasal stuffiness or discharge
- Dentures
- Dry mouth
- Sore throat
- Hoarseness
- Lumps
- Swollen glands
- WNL

Gastrointestinal

- Swallowing difficulties
- Heartburn
- Nausea
- Change in bowel habits
- Rectal bleeding
- Constipation
- Diarrhea
- Yellow eyes or skin
- WNL

Neurologic

- Dizziness
- Fainting
- Seizures
- Weakness
- Numbness
- Tremor
- WNL

EDMONTON SYMPTOM ASSESSMENT SCALE (ESAS)

All Unobtainable due to: _____

Pain: 0 1 2 3 Comments: _____

Anorexia: 0 1 2 3 Comments: _____

Tiredness (fatigue): 0 1 2 3 Comments: _____

Drowsiness (sleepiness): 0 1 2 3 Comments: _____

Initial Depression Screen:

- Past 2 weeks, down/depressed/hopeless
- Past 2 weeks, bring little pleasure/joy
- Depression rating: _____
- Comments: _____

Continued

EDMONTON SYMPTOM ASSESSMENT SCALE (ESAS) (continued)

Initial Anxiety Screen

- Previous 4 weeks, worried, tense, anxious
- Freq tense/irritable/trouble sleeping
- Anxiety rating: _____
- Comments: _____

- Nausea: 0 1 2 3 Comments: _____
- Shortness of breath 0 1 2 3 Comments: _____
- Secretions Yes No Other: _____
- Constipation Yes No Other: _____
- Delirium Positive Negative Other: _____

PALLIATIVE PERFORMANCE SCALE (PPS)

PPS Level	Ambulation	Activity & Evidence of Disease	Self-Care	Intake	Conscious Level
100%	Full	Normal activity and work No evidence of disease	Full	Normal	Full
90%	Full	Normal activity and work Some evidence of disease	Full	Normal	Full
80%	Full	Normal activity with effort Some evidence of disease	Full	Normal or reduced	Full
70%	Reduced	Unable to do normal job/work Significant disease	Full	Normal or reduced	Full
60%	Reduced	Unable to do hobby/housework Significant disease	Occasional assistance necessary	Normal or reduced	Full or Confusion
50%	Mainly Sit/Lie	Unable to do any work Extensive disease	Considerable assistance required	Normal or reduced	Full or Confusion
40%	Mainly in Bed	Unable to do most activity Extensive disease	Mainly assistance	Normal or reduced	Full or Drowsy ± Confusion
30%	Totally Bed Bound	Unable to do any activity Extensive disease	Total Care	Normal or reduced	Full or Drowsy ± Confusion
20%	Totally Bed Bound	Unable to do any activity Extensive disease	Total Care	Minimal to sips	Full or Drowsy ± Confusion
10%	Totally Bed Bound	Unable to do any activity Extensive disease	Total Care	Mouth Care only	Drowsy or Coma ± Confusion
0%	Death	—	—	—	—

FUNCTIONAL ASSESSMENT

Katz Index of independence in Activities of Daily Living¹

Use the Katz index to assess independence in activities of daily living: assign 1 point for each activity that the patient is able to complete independently (ie, without supervision, direction, or personal assistance):

- Bathing _____
- Dressing _____
- Toileting _____
- Transferring _____
- Continence _____
- Feeding _____

TOTAL POINTS: _____ 6=High (patient independent), 0=Low (patient very dependent)

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PHYSICAL EXAM

Vital Signs: _____ T _____ P _____ R

Weight: _____

GENERAL

- Alert and oriented
- No acute distress
- Mild distress
- Moderate distress
- Severe distress
- Other: _____

Ambulation Status

- WNL
- Steady gait
- Assistive devices
- Bedridden
- Wheelchair bound
- Other: _____

MAHC 10- Fall Risk Assessment Tool

Required Core Elements Assess one point for each core element "yes"	Points
Information may be gathered from medical record, assessment and if applicable, the patient/caregiver. Beyond portals listed below, scoring should be based on your clinical judgment.	
Age 65+	
Diagnosis (3 or more co-existing) Includes only documents medical diagnosis	
Prior history of falls within 3 months An unintentional change in position resulting in coming to rest on the ground or at a lower level	
Incontinence Inability to make it to the bathroom or commode in timely manner Includes frequency, urgency, and/or nocturia	
Visual impairment Includes but not limited to, macular degeneration, diabetic retinopathies, visual field loss, age-related changes, decline in visual acuity, accommodation, glare tolerance, depth perception, and night vision or not wearing prescribed glasses or having the correct prescription.	
Impaired functional mobility May include patient who need help with IADLS or ALDS or have gait or transfer problems, arthritis, a fear of falling, foot problems, impaired sensation, impaired coordination or improper use of assistive devices	
Environmental hazards May include but not limited to, poor illumination, equipment tubing, inappropriate footwear, pets, hard to reach items, floor surfaces that are uneven or cluttered, or outdoor entry and exits	
Poly Pharmacy (4 or more prescriptions—any type) All prescriptions including prescriptions for OTC meds. Drugs highly associated with fall risk include but not limited to, sedatives, anti-depressants, tranquilizers, narcotics, antihypertensives, cardiac meds, corticosteroids, anti-anxiety drugs, anticholinergic drugs, and hypoglycemic drugs	
Pain affecting level of function Pain often affects an individual's desire or ability to move or pain can be a factor in depression or compliance with safety recommendations	
Cognitive impairment Could include patients with dementia, Alzheimer's or stroke, patients who are confused, use poor judgment, have decreased comprehension, impulsivity, memory deficits. Consider patients ability to adhere to the plan of care.	
A score of 4 or more is considered at risk for falling	TOTAL

Appearance

- | | |
|---|---|
| <input type="checkbox"/> WNL | <input type="checkbox"/> Emaciated |
| <input type="checkbox"/> Well nourished | <input type="checkbox"/> Underweight |
| <input type="checkbox"/> Calm | <input type="checkbox"/> Obese |
| <input type="checkbox"/> Dysmorphic | <input type="checkbox"/> Unkempt |
| <input type="checkbox"/> Ill | <input type="checkbox"/> Well developed |
| <input type="checkbox"/> Malnourished | <input type="checkbox"/> Other: _____ |

Hydration

- | | |
|-------------------------------------|--|
| <input type="checkbox"/> WNL | <input type="checkbox"/> Severely dehydrated |
| <input type="checkbox"/> Dehydrated | <input type="checkbox"/> Other: _____ |

Signs of distress

- | | |
|---|---------------------------------------|
| <input type="checkbox"/> Crying | <input type="checkbox"/> Groaning |
| <input type="checkbox"/> Difficulty breathing | <input type="checkbox"/> Grunting |
| <input type="checkbox"/> Grimacing | <input type="checkbox"/> Other: _____ |

Skin

- | | |
|---|---------------------------------------|
| <input type="checkbox"/> WNL | <input type="checkbox"/> Cyanosis |
| <input type="checkbox"/> Anicteric | <input type="checkbox"/> Clubbing |
| <input type="checkbox"/> Jaundice | <input type="checkbox"/> Edema |
| <input type="checkbox"/> Normal for ethnicity | <input type="checkbox"/> Pale |
| <input type="checkbox"/> Acrocyanosis | <input type="checkbox"/> Other: _____ |

HENT

- | | |
|--|---|
| <input type="checkbox"/> Normocephalic | <input type="checkbox"/> Neck supple |
| <input type="checkbox"/> TM's clear | <input type="checkbox"/> No pharyngeal erythema |
| <input type="checkbox"/> Normal hearing | <input type="checkbox"/> Hearing grossly normal |
| <input type="checkbox"/> Moist oral mucosa | <input type="checkbox"/> Ear canals patent |
| <input type="checkbox"/> No JVD | <input type="checkbox"/> No sinus tenderness |

HENT (continued)**Eye**

- PERL
- Intact
- EOMI
- Normal conjunctiva
- Other: _____
- Icteric
- Anticteric
- Other: _____

Mouth

- WNL
- Decreased oral secretion control
- Retrognathia
- Drooling
- Tongue
- Gingiva
- Dentures
- Teeth
- Lips
- Palate
- Other: _____

Mucosa

- Dry
- Erythematous
- Tacky
- Leukoplakia
- Papilloma
- Other: _____

RESPIRATORY

- Lungs CTA
- Nonlabored respirations
- BS equal
- Symmetrical expansion
- No chest wall tenderness
- Other: _____

CARDIOVASCULAR

- RRR
- Normal S₁, S₂
- No murmur
- No rubs
- No gallops
- Not examined
- Other: _____

GASTROINTESTINAL

- Soft
- Nontender
- Nondistended
- Normal bowel sounds
- No organomegaly
- Rectum/anus
- Other: _____

Abdomen

- Firm
- Soft
- Nontender
- Nondistended
- Normal active bowel sounds
- Bowel sounds absent
- Left
- Right
- Bilateral
- All found quadrants
- Upper quadrant
- Lower quadrant
- Suprapubic
- Periumbilical
- Epigastric
- McBurney's point
- WNL
- Flat
- Distended
- Obese
- Ecchymotic
- Omphalocele
- Surgical scars
- Wound
- Guarding
- Rigid
- Tenderness
- Rebound tenderness
- Stoma
- Liver
- Spleen
- Hernia
- Drawing abdomen (f)
- Other: _____

Mass

- Firm
- Mobile
- Pulsatile
- Soft
- Fixed
- Tender
- Size ____ cm
- Other: _____

Bowel sounds

- Left
- Right
- Bilateral
- All found quadrants
- Upper quadrant
- Lower quadrant
- Present
- Absent
- Diminished
- Dull
- High-pitched
- Hyperactive
- Hypoactive
- Bruit present
- Other: _____

NEUROLOGIC

- Alert
- Oriented
- Normal sensory
- Normal motor
- No focal defects
- CN II-XII intact
- Gag reflex normal
- Normal DTR's
- Normal gait
- Nonfocal exam
- Sensory
- Cranial nerves
- Other

PSYCHIATRIC

Other: _____

General Appearance:

Constitutional

- Acutely ill
- Comfortable
- Debilitated
- Frail
- Generally unwell
- Uncomfortable
- Other: _____

Behavior

- Agitated
- Appropriate
- Combative
- Cooperative
- Excessive mannerisms
- Hostile
- Incongruous
- Relaxed
- Other

Attitude

- Angry
- Cooperative
- Easily engaged
- Guarded
- Suspicious
- Other

Grooming

- Appropriate
- Not washed
- Disheveled
- Unkempt
- Other

Mood

- Angry
- Anxious
- Apathetic
- Calm
- Comfortable
- Depressed
- Distinguished
- Elated

- Euphoric
- Fearful
- Frustrated
- Grieving
- Happy
- Hopeless
- Irritable
- Moody

- Nervous
- Overwhelmed
- Panicked
- Sad
- Tense
- Worried
- Other

Affect: Other: _____

Mood Quality:

- Angry
- Anxious
- Apathetic
- Belligerent
- Calm
- Comfortable
- Depressed
- Disgusted

- Elated
- Euphoric
- Fearful
- Flat
- Frustrated
- Grieving
- Happy
- Hopeless
- Hostile
- Irritable

- Moody
- Nervous
- Overwhelmed
- Panicked
- Sad
- Tense
- Worried
- Other

Appropriateness:

- Appropriate
- Inappropriate
- Congruent
- Incongruent
- Other: _____

Stability:

- Constricted
- Labile
- Stable
- Other: _____

Intensity:

- Normal
- Blunted
- Exaggerated
- Flat
- Overly dramatic
- Restricted
- Other: _____

Range:

- Full range
- Restricted range
- Other: _____

Reactivity:

- Reactive
- Nonreactive
- Other: _____

Thought content:

- Confabulation
- Confused
- Irrelevant
- Other:

Attention/concentration:

- Decreased
- Normal
- Other: _____

Orientation:

- Person
- Place
- Time
- Other

Language:

- Naming
- Repetition
- Reading
- Comprehension

Continued

PSYCHIATRIC (continued)

Memory:

- Recent
- Remote
- Other: _____

Fund of knowledge:

- Current events
- Past history
- Vocabulary

COGNITIVE EVALUATION

Cognitive Assessment not complete because not clinically relevant: _____

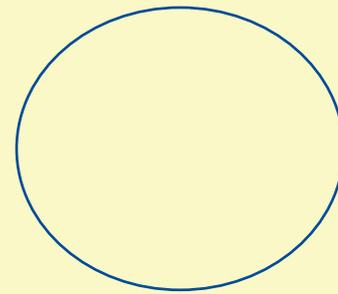
Mini COG:

Ask patient to remember three words (eg, apple, baby, car) and repeat them to you.

Ask patient to put numbers on clock face, and then draw hands of the clock to read 11:20.

Ask patient to recall three words. _____ number recalled

Decision-making capacity: Yes No



CAM:

- Acute onset fluctuating course
- Inattention
- Disorganized thinking
- CAM Diagnosis Negative
- CAM Diagnosis Positive
- Other: _____

INTEGUMENTARY

- Normal
- No rash
- No jaundice
- Not examined
- Other: _____

Skin

- WNL
- Cold
- Cool
- Cyanotic
- Dry
- Hot
- Mottled
- Pale
- Pink
- Warm
- Rash
- Other: _____

Wound

- Abrasion
- Abscess
- Avulsion
- Bite
- Burn
- Gunshot wound
- Hematoma
- Laceration
- Maceration
- Puncture wound
- Stab wound
- Surgical incision location
- Ulcer
- Vesicle
- Other: _____

Wound Location

- Left
- Right
- Bilateral
- Entire
- Body
- Scalp
- Head
- Face
- Eye
- Ear
- Nose
- Neck
- Back
- Chest
- Breast
- Axillae
- Shoulder
- Arms
- Hand
- Finger
- Abdomen
- Perineum
- Buttock
- Groin
- Genital area
- Leg
- Feet
- Other: _____

Wound Shape

- Arciform
- Bull's eye
- Circular
- Curved
- Diagonal
- Geographic
- Horizontal
- Irregular
- Jagged
- Linear
- Multiform
- Oval
- Retiform
- Round
- Serpiginous
- Stellate
- Symmetric
- V-Shaped
- Vertical
- Y-Shaped
- Zosteriform
- Other: _____

Wound Size and depth

- Depth _____ cm
- Diameter _____ cm
- Length _____ cm
- Width _____ cm
- Stage _____
- Healing stage
- Superficial
- Involving subcutaneous tissue
- Involving muscle
- Involving tendon
- Involving bone
- Other: _____

Undermining _____ cm at _____ o'clock

Tunneling: _____ cm at _____ o'clock

Other: _____

Other: _____

MUSCULOSKELETAL

- Normal ROM
- Normal strength
- No tenderness
- No swelling
- No deformity
- Normal gait

Spine: Spinal tenderness _____ (location) other _____

Right Ext Exam

- WNL
- WNL except for _____
- Shoulder
- Arm
- Elbow
- Forearm
- Wrist
- Hand
- Fingers

- All other upper ext normal
- Other- _____

- Lower leg
- Ankle
- Foot

Left Ext Exam

- WNL
- WNL except for _____
- Hip
- Thigh
- Knee

- Toe
- Leg
- Length discrepancy
- All other lower ext normal
- Other _____

GYN/GU

- Voiding:** Yes No Other
- Catheter:** Foley Condom Suprapubic Other
- Nephrostomy:** Right Left Bilateral Other
- Urine:** Sufficient Decreased output Anuric Other
- Vaginal discharge/bleeding:** Yes No Other

LYMPHATICS

- No lymphadenopathy
- Other

LINES AND TUBES

Other _____

Vascular catheters

- Arterial
- Central venous
- Pulmonary artery
- Peripheral
- Other
- Gastrostomy tube
- PEG tube
- Postpyloric tube
- Surgical drain
- Nephrostomy tube
- Urinary catheter

Nonvascular catheters

- Chest tube
- Nasoenteric tube
- Gastric tube
- Urinary catheter
- Vesicostomy catheter
- Tracheostomy tube
- Other _____

REVIEW / MANAGEMENT

Laboratory Results

Test: _____

Date: _____

Test: _____

Date: _____

Radiology Results:

Test: _____ Date _____ Results : _____

Test: _____ Date _____ Results : _____

Other Diagnostic Findings:

GOALS OF CARE

- Yes

Summary of discussion

With whom _____

Discussed Prognosis: Yes Not done Patient/surrogate decline

Discussed short and long Yes Not done N/A

Summary of discussion:

Continued

GOALS OF CARE (continued)

Changes made to existing Advance Care Documents: Yes No
POLST created today: Yes No
Scan to TCC and PCP: Yes No
Comments:

IMPRESSION/PLAN

RECOMMENDED FOLLOW UP TO TODAY'S VISIT

Date to review at IDT: _____

POST VISIT COMMUNICATION

Call to PCP Date/Time: _____ minutes Spoke with: _____

Other contact(s): _____

PROFESSIONAL SERVICES

Total Time Spent : _____ minutes
Time spent eval/management: _____ minutes
Time spent counseling/coordination of care: _____ minutes
Counseling/coordination consisted of _____
Start time was _____
End time was _____

MD/CRNP Signature: _____ Date: _____

Printed MD/CRNP Name: _____

Supplement 1 Continued

HBPC MD/CRNP PHONE VISIT NOTE

Visit Date / Visit Number: _____

PATIENT INFORMATION

Name: _____ Age: _____ DOB: ___ / ___ / ___

Gender: [] Male [] Female

Last # 4 of SSN : _____ PCP: _____

Primary Care Office Contact Person and Phone Number: _____

CHIEF OBJECTIVE

[] Symptom management [] Other _____

[] Goals of care/advanced care planning

EVENTS SINCE LAST VISIT

[] ED visit [] Unscheduled doctor's visit

[] Hospital admission [] Other

[] Observation admission

[] Use of 24/7 hotline

Details: (please provide brief narrative below with referral to original documentation)

Empty box for narrative details.

ADVANCED CARE PLANNING

Existing documents:

[] Living will Previously reviewed: [] yes [] no Any changes? [] yes [] no
[] POLST Previously reviewed: [] yes [] no Any changes? [] yes [] no

Patient identified surrogate decision maker (name/relationship)

Contact information for surrogate decision maker

Phone: _____ HPOA: [] yes [] no

Patient identified primary caretaker (name/relationship)

Contact information for surrogate decision maker

Phone: _____

SOCIAL HISTORY

Since our last visit, have there been any changes to your social situation: [] yes [] no

If yes, please continue below:

[] Marital status [] yes [] no details:_____
[] Living situation [] yes [] no details:_____
[] Primary caretaker [] yes [] no details:_____
[] Occupation [] yes [] no details:_____
[] Tobacco use [] yes [] no details:_____
[] Alcohol use [] yes [] no details:_____
[] Other drug use [] yes [] no details:_____

MEDICATION HISTORY

Since our last visit, have there been any changes to medication regimen: [] yes [] no

If yes, please fill in details below

Preferred pharmacy (name/phone):

24-hour morphine equivalent (OME): _____ mg On concurrent laxatives: [] yes [] no

Table with 3 columns: Medication, Current dosing, Change/reason for change. Includes a header row and multiple empty rows for data entry.

REVIEW OF SYSTEMS

Constitutional

- weight loss
- change in appetite
- fatigue
- fevers/chills
- weakness
- falls
- bruising
- bleeding
- heat/cold intolerance
- sweating
- frequent urination
- thirst
- WNL

Respiratory

- cough
- hemoptysis
- shortness of breath
- wheezing
- painful breathing
- change in O2 requirement
- bruising
- bleeding
- heat/cold intolerance
- sweating
- frequent urination
- thirst
- diarrhea
- constipation
- WNL

Urinary

- frequency
- urgency
- burning or pain
- blood in urine
- incontinence
- change in urinary
- WNL

Psychiatric

- nervousness
- stress
- depression
- memory loss
- ADD/OCD/bipolar/schizophrenia
- substance abuse
- WNL

Skin

- rashes
- lumps
- itching
- dryness
- hair/nail changes
- WNL

Cardiovascular

- chest pain/discomfort
- palpitations
- SOB with activity
- orthopnea
- swelling
- calf pain with walking
- leg cramping
- WNL

Musculoskeletal

- muscle/joint pain
- stiffness
- back pain
- redness of joints
- swelling of joints
- trauma
- WNL

Breasts

- lumps
- pain
- discharge
- WNL
- swelling

HEENT

- pain (describe below)
- decreased hearing
- ringing in ears
- vision change/loss
- glasses/contact lenses
- nasal stuffiness/discharge
- bleeding
- dentures
- dry mouth
- sore throat
- hoarseness
- lumps
- swollen glands
- WNL

Gastrointestinal

- swallowing problems
- heartburn
- nausea
- change in bowel habits
- rectal bleeding
- constipation
- diarrhea
- yellow eyes/skin
- dry mouth
- WNL

Neurologic

- dizziness
- fainting
- seizures
- weakness
- numbness
- tingling
- tremors
- headaches
- WNL

REVIEW / MANAGEMENT

Laboratory results: test: _____ result: _____
 test: _____ result: _____
 test: _____ result: _____

Radiology results: test: _____ result: _____
 test: _____ result: _____
 test: _____ result: _____

Other diagnostic findings: test: _____ result: _____
 test: _____ result: _____
 test: _____ result: _____

GOALS OF CARE

yes

Summary of discussion with _____

GOALS OF CARE (continued)

Discussed prognosis: yes no patient/surrogate declined
Discussed short- and long-term goals yes not done N/A

Summary of discussion:

Changes made to existing advanced care documents: yes no

POLST created today: yes no

Scan to TCC and PCC: yes no

Comments:

IMPRESSION/PLAN

RECOMMENDED FOLLOW UP TO TODAY'S PHONE VISIT

DATE TO REVIEW AT IDT: _____

PROFESSIONAL SERVICES

Start time of phone call: _____ End time of phone call: _____

Counseling/coordination consisted of: _____

MD/NP/RN Signature: _____ Date: _____

MD/NP/RN Name (print): _____

Supplement 2 Continued

Supplemental Table 1
Palliative Performance Scale (PPS)^a

PPS level, %	Ambulation	Activity and evidence of disease	Self-care	Intake	Consciousness level
100	Full	Normal activity and work No evidence of disease	Full	Normal	Full
90	Full	Normal activity and work Some evidence of disease	Full	Normal	Full
80	Full	Normal activity with effort Some evidence of disease	Full	Normal or reduced	Full
70	Reduced	Unable to do normal job/work Significant disease	Full	Normal or reduced	Full
60	Reduced	Unable to do hobby/housework Significant disease	Occasional assistance necessary	Normal or reduced	Full or confusion
50	Mainly sit/lie	Unable to do any work Extensive disease	Considerable assistance required	Normal or reduced	Full or confusion
40	Mainly in bed	Unable to do most activity Extensive disease	Mainly assistance	Normal or reduced	Full or drowsy ± confusion
30	Totally bed bound	Unable to do any activity Extensive disease	Total care	Normal or reduced	Full or drowsy ± confusion
20	Totally bed bound	Unable to do any activity Extensive disease	Total care	Minimal to sips	Full or drowsy ± confusion
10	Totally bed bound	Unable to do any activity Extensive disease	Total care	Mouth care only	Drowsy or coma ± confusion
0	Death	—	—	—	—

^a PPSv2, ©Victoria Hospice Society, Victoria, BC, Canada (2001). www.victoriahospice.org

Supplemental Table 2
Simplified Edmonton Symptom Assessment System

Domain	Scoring
Pain	0-3
Anorexia	0-3
Fatigue	0-3
Drowsiness	0-3
Depression	0-3
Anxiety	0-3
Nausea	0-3
Shortness of breath	0-3
Secretions (yes/no)	0-1
Constipation (yes/no)	0-1
Delirium (yes/no)	0-1
Summary score	0-27

Supplemental Table 3
Original Edmonton Symptom Assessment System

Domain	Scoring
Pain	0-10
Tiredness	0-10
Nausea	0-10
Depression	0-10
Anxiety	0-10
Drowsiness	0-10
Appetite	0-10
General well-being	0-10
Shortness of breath	0-10
Other problem	0-10
Summary score	0-100

Supplemental Table 4
CPT codes used to estimate costs associated with home and telephone visits

CPT code	Description
99496	Transitional care management services
99347	Established patient home services
99350	Established patient home services
98966	Telephone assessment and management service provided by a qualified nonphysician health care professional
99367	Medical team conference

Abbreviation: CPT, current procedural terminology.

Perception of Care Questionnaire

1. Did the HBPC staff treat you with concern and respect?
 Yes Sometimes No
2. Are you able to reach the HBPC staff when you need to?
 Yes Sometimes No
3. How would you rate the telephone courtesy of the person you spoke with?
 Excellent Very Good Good Fair Poor I haven't called
4. Did the HBPC staff give you clear instructions about how to take your medications?
 Yes Sometimes No
5. Did you receive understandable information about your health and medical condition(s) from the HBPC team?
 Yes No
6. If you had pain, did the HBPC nurse practitioner help you to manage your pain effectively?
 Yes No I did not have pain
7. Did you receive appropriate instruction in how to use home equipment safely (such as a wheelchair, walker, cane, nebulizer, hospital bed, or Hoyer lift)?
 Yes No
8. Overall, how satisfied are you with care provided by the HBPC team?
 Very satisfied Satisfied Neutral Dissatisfied Very dissatisfied
9. Would you recommend HBPC care to other Veterans?
 Yes No
10. How could the VA improve HBPC Palliative Care study?

Comments: _____

Supplement 3

Abbreviations: HBPC, home-based palliative care; VA, Veterans Affairs.