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)
Each year, 2 million elderly Americans are treated in intensive care units (ICUs). 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. 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. 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. 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.**
Outcomes

The primary outcome was the operational feasibility of conducting this trial. 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.

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.a 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 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

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**Table**

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

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

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.
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 designed as a quality improvement study to test 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.

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REFERENCES

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.
**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
- Goals of Care

**REFERRING DIAGNOSIS / Discharge Diagnosis**

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

**HISTORY OF PRESENT ILLNESS**

**PAST MEDICAL HISTORY**

- DM
- HTN
- CVD
- Thyroid Disease
- Lung Disease
- Liver Disease
- Kidney Disease
- TIA/Stroke
- Blood Disorder
- Cancer
- Psychiatric Disorder
- 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**

- Done Previously
- Reviewed, Not Pertinent
- DM
- CAD
- Cancer
- Alcohol Abuse
- Drug Abuse
- Other

**SOCIAL HISTORY**

Marital Status

- Single
- Divorced
- Widowed
- Other

Living Situation

- Independent
- Adult Home
- Nursing Home
- Assisted Living
- 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
- Other Drug Use
  - Current
    - (type, amt.)
  - Past
    - (type, amt.)
    - Never
    - Unknown
    - Family History

**Alcohol Use**

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

Supplement 1
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

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<td>Rashes</td>
<td>Pain (describe below)</td>
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<td>Change in appetite</td>
<td>Lumps</td>
<td>Decreased hearing</td>
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<td>Itching</td>
<td>Ringing in ears</td>
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<td>Fever or chills</td>
<td>Dryness</td>
<td>Vision loss/changes</td>
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<tr>
<td>Weakness</td>
<td>Hair and nail changes</td>
<td>Glasses or contacts</td>
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<tr>
<td>History of Falls</td>
<td>WNL</td>
<td>Nasal stuffiness or discharge</td>
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<tr>
<td>Trouble sleeping</td>
<td></td>
<td>Dentures</td>
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<tr>
<td>Ease of bruising</td>
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<td>Dry mouth</td>
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<tr>
<td>Ease of bleeding</td>
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<td>Sore throat</td>
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<td>Head or cold intolerance</td>
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<td>Hoarseness</td>
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<tr>
<td>Sweating</td>
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<td>Lumps</td>
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<tr>
<td>Frequent urination</td>
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<td>Swollen glands</td>
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<tr>
<td>Thirst</td>
<td></td>
<td></td>
</tr>
<tr>
<td>WNL</td>
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<th>Cardiovascular</th>
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<td>Cough</td>
<td>Chest pain or discomfort</td>
<td>Swallowing difficulties</td>
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<tr>
<td>Coughing up blood</td>
<td>Palpitations</td>
<td>Heartburn</td>
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<tr>
<td>Shortness of breath</td>
<td>SOB with activity</td>
<td>Nausea</td>
</tr>
<tr>
<td>Wheezing</td>
<td>Orthopnea</td>
<td>Change in bowel habits</td>
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<tr>
<td>Painful breathing</td>
<td>Swelling</td>
<td>Rectal bleeding</td>
</tr>
<tr>
<td>WNL</td>
<td>Calf pain with walking</td>
<td>Constipation</td>
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<td></td>
<td>Leg cramping</td>
<td>Diarrhea</td>
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<td>WNL</td>
<td>Yellow eyes or skin</td>
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<tr>
<th>Urinary</th>
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<tbody>
<tr>
<td>Frequency</td>
<td>Muscle or joint pain</td>
<td>Dizziness</td>
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<tr>
<td>Urgency</td>
<td>Stiffness</td>
<td>Fainting</td>
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<td>Burning or pain</td>
<td>Back pain</td>
<td>Seizures</td>
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<td>Blood in urine</td>
<td>Redness of joints</td>
<td>Weakness</td>
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<tr>
<td>Incontinence</td>
<td>Swelling of joints</td>
<td>Numbness</td>
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<td>Trauma</td>
<td>Tremor</td>
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<td>Nervousness</td>
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<td>Stress</td>
<td>Pain</td>
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<tr>
<td>Depression</td>
<td>Discharge</td>
<td></td>
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<tr>
<td>Memory loss</td>
<td>WNL</td>
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EDMONTON SYMPTOM ASSESSMENT SCALE (ESAS)

<table>
<thead>
<tr>
<th>All Unobtainable due to:</th>
<th>Pain:</th>
<th>Anorexia:</th>
<th>Tiredness (fatigue):</th>
<th>Drowsiness (sleepiness):</th>
<th>Initial Depression Screen:</th>
<th>Initial Depression Rating:</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>Past 2 weeks, down/depressed/hopeless</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>3</td>
<td>Past 2 weeks, bring little pleasure/joy</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>3</td>
<td></td>
<td></td>
<td>Depression rating:</td>
<td>Comments: ____________________</td>
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</tbody>
</table>

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:
- Yes
- No
- Other:
- 0
- 1
- 2
- 3
- Comments: ________________________________

Secretions:
- Yes
- No
- Other:
- Comments: ________________________________

Constipation:
- Yes
- No
- Other:
- Comments: ________________________________

Delirium:
- Positive
- Negative
- Other:
- Comments: ________________________________

PALLIATIVE PERFORMANCE SCALE (PPS)

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

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

FUNCTIONAL ASSESSMENT

Katz Index of independence in Activities of Daily Living

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)

REFERENCE

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
- Ambulatory devices
- Bedridden
- Wheelchair bound
- Other: ________________________

Supplement 1  Continued
### MAHC 10- Fall Risk Assessment Tool

**Required Core Elements**

Assess one point for each core element “yes”

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.

<table>
<thead>
<tr>
<th>Points</th>
<th>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.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>Age 65+</strong></td>
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<td></td>
<td><strong>Diagnosis (3 or more co-existing)</strong></td>
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<tr>
<td></td>
<td>Includes only documents medical diagnosis</td>
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<tr>
<td></td>
<td>Prior history of falls within 3 months</td>
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<td></td>
<td>An unintentional change in position resulting in coming to rest on the ground or at a lower level</td>
</tr>
<tr>
<td></td>
<td><strong>Incontinence</strong></td>
</tr>
<tr>
<td></td>
<td>Inability to make it to the bathroom or commode in timely manner</td>
</tr>
<tr>
<td></td>
<td>Includes frequency, urgency, and/or nocturia</td>
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<tr>
<td></td>
<td><strong>Visual impairment</strong></td>
</tr>
<tr>
<td></td>
<td>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.</td>
</tr>
<tr>
<td></td>
<td><strong>Impaired functional mobility</strong></td>
</tr>
<tr>
<td></td>
<td>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</td>
</tr>
<tr>
<td></td>
<td><strong>Environmental hazards</strong></td>
</tr>
<tr>
<td></td>
<td>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</td>
</tr>
<tr>
<td></td>
<td><strong>Poly Pharmacy (4 or more prescriptions—any type)</strong></td>
</tr>
<tr>
<td></td>
<td>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</td>
</tr>
<tr>
<td></td>
<td><strong>Pain affecting level of function</strong></td>
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<td></td>
<td>Pain often affects an individual's desire or ability to move or pain can be a factor in depression or compliance with safety recommendations</td>
</tr>
<tr>
<td></td>
<td><strong>Cognitive impairment</strong></td>
</tr>
<tr>
<td></td>
<td>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.</td>
</tr>
</tbody>
</table>

A score of 4 or more is considered at risk for falling

TOTAL

<table>
<thead>
<tr>
<th>Appearance</th>
<th>Emaciated</th>
<th>Underweight</th>
<th>Obese</th>
<th>Unkempt</th>
<th>Other: ____________</th>
</tr>
</thead>
<tbody>
<tr>
<td>WNL</td>
<td>Well nourished</td>
<td>Calm</td>
<td>Dysmorphic</td>
<td>Ill</td>
<td>Malnourished</td>
</tr>
<tr>
<td>Hydration</td>
<td>Severeely dehydrated</td>
<td>Other: ____________</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WNL</td>
<td>Dehydrated</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Signs of distress</td>
<td>Crying</td>
<td>Difficulty breathing</td>
<td>Groaning</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Grunting</td>
<td>Other: ____________</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Skin</td>
<td>Cyanosis</td>
<td>Clubbing</td>
<td>Edema</td>
<td>Pale</td>
<td>Other: ____________</td>
</tr>
<tr>
<td>WNL</td>
<td>Anicteric</td>
<td>Jaundice</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Normal for ethnicity</td>
<td>Acrocyanosis</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HENT</td>
<td>Neck supple</td>
<td>No pharyngeal erythema</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Normocephalic</td>
<td>No sinus tenderness</td>
<td>Normal hearing</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TM's clear</td>
<td>Hearing grossly normal</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Normal hearing</td>
<td>Ear canals patent</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Moist oral mucosa</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No JVD</td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

**Supplement 1 Continued**
### HENT (continued)

**Eye**
- PERL
- Intact
- EOMI
- Normal conjunctiva
- Other: __________

**Mouth**
- WNL
- Decreased oral secretion control
- Retrolabial
- 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 gallops
- Not examined
- Other: __________

**GASTROINTESTINAL**
- Soft
- Nontender
- Nondistended
- Normal bowel sounds
- Rectum/anus
- Other: __________

**Abdomen**
- Firm
- Soft
- Nontender
- Nondistended
- Normal active bowel sounds
- Bowl sounds absent
- Left
- Right
- Bilateral
- All found quadrants
- Upper quadrant
- Lower quadrant
- Suprapubic
- Periumbilical
- 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
- 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

---

*Continued*
**PSYCHIATRIC**

### General Appearance:

#### Constitutional
- Acutely ill
- 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
- Other

#### Affect
- Other:  

#### Mood Quality:
- Elated
- Euphoric
- Fearful
- Flat
- Frustrated
- Grieving
- Happy
- Hopeless
- Hostile
- Irritable
- Moody
- Other

#### Appropriateness:
- Appropriate
- Inappropriate
- Congruent
- Incongruent
- Other:  

#### Intensity:
- Normal
- Blunted
- Exaggerated
- Flat
- Overly dramatic
- Restricted
- Other:  

#### Thought content:
- Confabulation
- Confused
- Irrelevant
- Other

#### Attention/concentration:
- Decreased
- Normal
- Other:  

#### Orientation:
- Person
- Place
- Time
- Other

#### Language:
- Naming
- Repetition
- Reading
- Comprehension
<table>
<thead>
<tr>
<th>Memory:</th>
<th>Fund of knowledge:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recent</td>
<td>Current events</td>
</tr>
<tr>
<td>Remote</td>
<td>Past history</td>
</tr>
<tr>
<td>Other:</td>
<td>Vocabulary</td>
</tr>
</tbody>
</table>

**COGNITIVE EVALUATION**

Cognitive Assessment not complete because not clinically relevant: 

**Mini COG:**  
Ask patient to remember three words (e.g., 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.  

**Decision-making capacity:**  
- Yes  
- No

**CAM:**  
- Acute onset fluctuating course  
- Inattention  
- Disorganized thinking

**CAM Diagnosis:**  
- CAM Diagnosis Negative  
- CAM Diagnosis Positive  
- Other: 

**INTEGUMENTARY**

**Skin:**  
- Normal  
- No rash  
- No jaundice  
- Not examined  
- Other: 

**Wound:**  
- Abrasion  
- Abscess  
- Avulsion  
- Bite  
- Burn  
- Gunshot wound  
- Hematoma  
- Laceration

**Wound Location:**  
- Left  
- Right  
- Bilateral  
- Entire  
- Body  
- Scalp  
- Head  
- Face  
- Eye  
- Ear

**Wound Shape:**  
- Arciform  
- Bull's eye  
- Circular  
- Curved  
- Diagonal  
- Geographic  
- Horizontal  
- Irregular

**Wound Size and depth:**  
- Depth cm  
- Diameter cm  
- Length cm  
- Width cm  
- Stage

**Undermining cm at o’clock**  
- Other: 

**Tunneling cm at o’clock**  
- Other: 

**Skin:**  
- Mottled  
- Pale  
- Pink  
- Warm  
- Rash  
- Other: 

**Wound:**  
- Maceration  
- Puncture wound  
- Stab wound  
- Surgical incision location  
- Ulcer  
- Vesicle  
- Other: 

**Wound Location:**  
- Nose  
- Neck  
- Back  
- Chest  
- Breast  
- Axillae  
- Shoulder  
- Arms  
- Hand  
- Finger

**Wound Shape:**  
- Jagged  
- Linear  
- Multiform  
- Oval  
- Retiform  
- Round  
- Serpiginous  
- Stellate

**Wound Size and depth:**  
- Healing stage  
- Superficial  
- Involving subcutaneous tissue  
- Involving muscle  
- Involving tendon  
- Involving bone  
- Other: 

**Undermining cm at o’clock**  
- Other: 

**Tunneling cm at o’clock**  
- Other: 

**Supplement 1 Continued**
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

Left Ext Exam

■ WNL  ■ WNL except for __________
■ Hip  ■ Thigh  ■ Knee

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

■ Vesciostomy 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 term:  ■ 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
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)

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

Details of medication change:

<table>
<thead>
<tr>
<th>Medication</th>
<th>Current dosing</th>
<th>Change/reason for change</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tbody>
</table>

Supplement 2
REVIEW OF SYSTEMS

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

Skin
- [ ] rashes
- [ ] lumps
- [ ] itching
- [ ] dryness
- [ ] hair/nail changes
- [ ] WNL

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

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

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

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

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

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

Neurologic
- [ ] dizziness
- [ ] fainting
- [ ] seizures
- [ ] weakness
- [ ] numbness
- [ ] tingling
- [ ] tremors
- [ ] headaches
- [ ] WNL

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

Breasts
- [ ] lumps
- [ ] pain
- [ ] discharge
- [ ] WNL
- [ ] swelling

REVIEW / MANAGEMENT

Laboratory results:
- test: __________________________ result: __________________________
- test: __________________________ result: __________________________
- test: __________________________ result: __________________________

Radiology results:
- test: __________________________ result: __________________________
- 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 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)\(^a\)

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

\(^a\)PPSv2, ©Victoria Hospice Society, Victoria, BC, Canada (2001). [www.victoriahospice.org](http://www.victoriahospice.org)

### Supplemental Table 2
#### Simplified Edmonton Symptom Assessment System

<table>
<thead>
<tr>
<th>Domain</th>
<th>Scoring</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pain</td>
<td>0-3</td>
</tr>
<tr>
<td>Anorexia</td>
<td>0-3</td>
</tr>
<tr>
<td>Fatigue</td>
<td>0-3</td>
</tr>
<tr>
<td>Drowsiness</td>
<td>0-3</td>
</tr>
<tr>
<td>Depression</td>
<td>0-3</td>
</tr>
<tr>
<td>Anxiety</td>
<td>0-3</td>
</tr>
<tr>
<td>Nausea</td>
<td>0-3</td>
</tr>
<tr>
<td>Shortness of breath</td>
<td>0-3</td>
</tr>
<tr>
<td>Secretions (yes/no)</td>
<td>0-1</td>
</tr>
<tr>
<td>Constipation (yes/no)</td>
<td>0-1</td>
</tr>
<tr>
<td>Delirium (yes/no)</td>
<td>0-1</td>
</tr>
<tr>
<td>Summary score</td>
<td>0.27</td>
</tr>
</tbody>
</table>
Supplemental Table 3
Original Edmonton Symptom Assessment System

<table>
<thead>
<tr>
<th>Domain</th>
<th>Scoring</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pain</td>
<td>0-10</td>
</tr>
<tr>
<td>Tiredness</td>
<td>0-10</td>
</tr>
<tr>
<td>Nausea</td>
<td>0-10</td>
</tr>
<tr>
<td>Depression</td>
<td>0-10</td>
</tr>
<tr>
<td>Anxiety</td>
<td>0-10</td>
</tr>
<tr>
<td>Drowsiness</td>
<td>0-10</td>
</tr>
<tr>
<td>Appetite</td>
<td>0-10</td>
</tr>
<tr>
<td>General well-being</td>
<td>0-10</td>
</tr>
<tr>
<td>Shortness of breath</td>
<td>0-10</td>
</tr>
<tr>
<td>Other problem</td>
<td>0-10</td>
</tr>
<tr>
<td>Summary score</td>
<td>0-100</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>CPT code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>99496</td>
<td>Transitional care management services</td>
</tr>
<tr>
<td>99347</td>
<td>Established patient home services</td>
</tr>
<tr>
<td>99350</td>
<td>Established patient home services</td>
</tr>
<tr>
<td>98966</td>
<td>Telephone assessment and management service provided by a qualified nonphysician health care professional</td>
</tr>
<tr>
<td>99367</td>
<td>Medical team conference</td>
</tr>
</tbody>
</table>

Abbreviation: CPT, current procedural terminology.
Supplement 3

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

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