The Optimal Delivery of Palliative Care

A National Comparison of the Outcomes of Consultation Teams vs Inpatient Units

David Casarett, MD, MA; Megan Johnson, BA; Dawn Smith, MS; Diane Richardson, PhD

**Background:** Growing attention to end-of-life care has led to intensive efforts to provide better palliative care. However, it is not known whether palliative care is best provided by consultative teams or in dedicated units.

**Methods:** This nationwide telephone survey was conducted in 77 Veterans Affairs medical centers that offer palliative care consultation services and dedicated palliative care units. One family member per patient who died at a participating Veterans Affairs medical center between July 1, 2008, and December 31, 2009, was invited to participate. The telephone survey included 1 global rating item and 9 core items describing the patient's care in the last month of life.

**Results:** Interviews were completed with family members for 5901 of 9546 patients. Of these, 1873 received usual care, 1549 received a palliative care consultation, and 2479 received care in a palliative care unit. After non-response weighting and propensity score adjustment, families of patients who received a palliative care consultation were more likely than those who received usual care to report that the patient's care in the last month of life had been “excellent” (adjusted proportions: 51% vs 46%; odds ratio [OR], 1.25; 95% confidence interval [CI], 1.02-1.55; P=.04). However, families of patients who received care in a palliative care unit were even more likely to report excellent care (adjusted proportions: 63% vs 53%; OR, 1.52; 95% CI, 1.25-1.85; P<.001).

**Conclusion:** Care received in palliative care units may offer more improvements in care than those achieved with palliative care consultations.

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Although most Americans prefer to die at home, the majority die in inpatient settings. In 2005, approximately 29% of Medicare deaths in the United States occurred in an acute care hospital and 72% of those patients were hospitalized at least once in the last month of life. In addition, approximately 25% of patients die in nursing homes, a number that is likely to increase.

See Invited Commentary at end of article

Growing attention to end-of-life care has identified numerous problems with inpatient settings. For instance, many patients experience uncontrolled symptoms near the end of life. In addition, communication regarding patients' illness and treatment is often insufficient, and both patients and their families may not receive the emotional support they need. Together, these problems contribute to families' negative assessments of end-of-life care. To address these problems, hospitals and nursing homes have increasingly developed palliative care consultation teams.

**METHODS**

**SAMPLE AND SETTING**

Of 140 VA inpatient facilities in the United States and Puerto Rico, we analyzed those
care that the patient received in the last month of life; we asked
condition that precluded a telephone interview. We also ex-
ished as well as those with a hearing impairment or other health
cluded family members who did not speak English or Span-
ber that they could use to refuse to participate. Interviewers
exceeded interviewing capacity, patient records were selected
mission to the institution or in the emergency department, un-
suicide or accident and those who died within 24 hours of ad-
sult consultation teams (but not vice versa), we reasoned that these hos-
sanities, and site of death), and identify the process of care that
s on these facilities were identified using the VA's electronic medi-
represent a sample that is relatively homogeneous with
respect to palliative care resources. Patients who died in one
of these facilities were identified using the VA's electronic medi-
cal record system. Medical record reviews were also used to con-
firm eligibility, define key patient characteristics (eg, age, eth-
nicity, and site of death), and identify the process of care that
the patient received at the time of death (ie, usual care, pallia-
tive care consultation, or palliative care unit).

We excluded the records of patients who died as a result of
suicide or accident and those who died within 24 hours of ad-
mission to the institution or in the emergency department, un-
less they had been admitted to a VA facility in the preceding
month. During infrequent periods when the number of deaths
exceeded interviewing capacity, patient records were selected
at random for omission. For each patient, a family member was
identified based on the VA's policy of death notification: (1)
next of kin; (2) primary contact named in the electronic medi-
cal record; and (3) durable power of attorney for health care.

Four weeks after the patient's death, we sent an introd-
cutory letter to the family that included a toll-free telephone num-
ber that they could use to refuse to participate. Interviewers
then made up to 3 telephone calls, including at least 1 after 5
PM local time Monday through Friday or on the weekend. We
cluded family members who did not speak English or Span-
ish as well as those with a hearing impairment or other health
condition that precluded a telephone interview. We also ex-
cluded family members who said they could not evaluate the
care that the patient received in the last month of life; we asked
them to identify a more knowledgeable informant, who was then
contacted. At the conclusion of each telephone survey, fami-
lies were asked whether they would like to be referred to a coun-
selor for bereavement support or to a hospital representative
for other questions or concerns. If, after 3 attempts, the inter-
viewer was unable to reach the family member, or if a health
condition precluded a telephone interview, we mailed an iden-
tical survey that was labeled to allow matching of the survey
to the patient.

All surveys consisted of the short version of the Family
Assessment of Treatment at End-of-Life, whose development,
validity, and psychometric properties have been de-
scribed.20,30,36,37 The survey has English and Spanish versions,
both of which contain 10 core items (Table 1). Nine items
measure specific aspects of care and use frequency-based re-
sponse options whose scores are dichotomized as 1 for the best
possible response or as 0 for all other responses. The 10th item,
which asks families to evaluate the care that the patient re-
cieved in the last month of life (poor, fair, good, very good,
or excellent), is scored as excellent vs all other responses. We used
this so-called top box scoring method to reduce the ceiling ef-
fects that are commonly observed in satisfaction surveys.

To account for potential nonresponse bias, we evaluated pa-
tient and family characteristics as potential predictors of sur-
vey completion (Table 2). Next, we used a multivariable lo-
gistic regression model to predict the likelihood of a completed
survey for each patient in the sample, checking its perfor-
ance by calculating the area under the receiver operating char-
acteristic curve. For this and all subsequent models, we used
robust jackknife standard errors, clustered by facility, includ-
ing all variables that were independent predictors and adding
additional variables to achieve the model with the lowest pos-
sible information criterion value.38 We then calculated a weight
for each completed survey (the inverse of the probability that

<table>
<thead>
<tr>
<th>Table 1. Survey Items</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Items</strong></td>
</tr>
<tr>
<td>Overall, how would you rate the care that [PATIENT'S NAME] received in the last month of [HIS/HER] life?</td>
</tr>
<tr>
<td>During [PATIENT'S NAME]'s last month of life, how much of the time were the doctors and other staff who took care of [HIM/HER] willing to take time to listen?</td>
</tr>
<tr>
<td>During [PATIENT'S NAME]'s last month of life, how often were the doctors and other staff who took care of [HIM/HER] kind, caring, and respectful?</td>
</tr>
<tr>
<td>During [PATIENT'S NAME]'s last month of life, how often did the doctors and other staff who took care of [HIM/HER] keep you or other family members informed about [HIS/HER] condition and treatment?</td>
</tr>
<tr>
<td>From what you know about [PATIENT'S NAME]'s time as an inpatient, how often do you think [HIS/HER] personal care needs—such as bathing, dressing, and eating meals—were taken care of as well as they should have been?</td>
</tr>
<tr>
<td>In the last month of [HIS/HER] life, did [PATIENT'S NAME] have pain or did [HE/SHE] take medicine for pain?</td>
</tr>
<tr>
<td>How often did [PATIENT'S NAME]'s pain make [HIM/HER] uncomfortable? In [PATIENT'S NAME]'s last month of life, how much of the time did the doctors and other staff who took care of [HIM/HER] provide you and [PATIENT'S NAME] the kind of spiritual support that you and [HE/SHE] would have liked?</td>
</tr>
<tr>
<td>In [PATIENT'S NAME]'s last month of life, how much of the time did the doctors and other staff who took care of [HIM/HER] provide you and [PATIENT'S NAME] the kind of emotional support that you and [HE/SHE] would have liked prior to [HIS/HER] death?</td>
</tr>
<tr>
<td>What about after [PATIENT'S NAME]'s death—How much of the time did the doctors and other staff who took care of [HIM/HER] provide you the kind of emotional support you would have wanted?</td>
</tr>
<tr>
<td>Would it have been helpful if the VA had provided more help with [PATIENT'S NAME]'s funeral arrangements?</td>
</tr>
</tbody>
</table>

Abbreviations: ellipses, not applicable because there was no best possible answer (screening item); VA, Veterans Affairs.
that survey would be completed). Thus, groups of patients who were underrepresented in the sample were assigned a higher weight. We checked the appropriateness of the model by comparing the weighted sample characteristics with the characteristics of the entire population.

Next, we used propensity scores to account for nonrandom assignment among groups by constructing 2 separate logistic regression models (palliative care consultation vs usual care and palliative care unit vs palliative care consultation). For each pair, we first built a limited model that included only patient characteristics reported in Table 2 that were independent associated with group assignment. We then added variables systematically in all possible combinations and selected the one with the lowest Akaike information criterion. We used this model to predict group assignment in each pair and then used each patient's propensity score to adjust the characteristics of the patients in each pair of groups. When groups were not balanced, additional characteristics were added to the model and balance was rechecked until the 2 models balanced all characteristics reported in Table 2.

Using nonresponse weights and propensity score adjustments, we compared the global item scores and individual item scores between usual care and palliative care consultations, and between palliative care consultations and palliative care units. These regression models also used robust jackknife standard errors, clustered by facility. Stata statistical software (Stata for Windows, version 10.0; StataCorp LP, College Station, Texas) was used for all analyses. We planned a sample of at least 1500 patients. Because this project was conducted as part of the VA's secondary use of these data for publication was granted an exemption by the institutional review board of the Philadelphia VA Medical Center.

<table>
<thead>
<tr>
<th>Patient Characteristic</th>
<th>No. (%)</th>
<th>Palliative Care Consultation vs Usual Care (n = 1549)</th>
<th>OR (95% CI)</th>
<th>P Value</th>
<th>Palliative Care Consultation vs Palliative Care Unit (n = 2479)</th>
<th>OR (95% CI)</th>
<th>P Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age, mean (range), y</td>
<td>70 (27-101)</td>
<td>69 (27-100)</td>
<td>0.97 (0.91-1.03)</td>
<td>.29</td>
<td>71 (34-101)</td>
<td>1.03 (1.06-1.20)</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Male sex</td>
<td>1835 (97.9)</td>
<td>1518 (97.9)</td>
<td>0.94 (0.74-1.20)</td>
<td>.62</td>
<td>2429 (97.9)</td>
<td>0.80 (0.58-1.09)</td>
<td>.16</td>
</tr>
<tr>
<td>White race</td>
<td>1262 (68.4)</td>
<td>1067 (70.2)</td>
<td>1.14 (0.84-1.53)</td>
<td>.40</td>
<td>1872 (75.5)</td>
<td>1.42 (1.00-2.00)</td>
<td>.05</td>
</tr>
<tr>
<td>Spouse is respondent</td>
<td>833 (44.5)</td>
<td>715 (46.2)</td>
<td>1.09 (0.91-1.31)</td>
<td>.33</td>
<td>980 (39.5)</td>
<td>0.78 (0.64-0.95)</td>
<td>.02</td>
</tr>
</tbody>
</table>

**Results**

Medical record review identified 16,158 patients who died in 1 of 140 participating VA facilities between July 1, 2008, and December 31, 2009. We restricted this sample to 77 facilities that had both palliative care consultation teams and inpatient palliative care units. These 77 facilities were larger than those excluded (mean, 409 vs 272 beds; rank sum test, P < .001), had more inpatient admissions per year (mean, 9662 vs 6718; rank sum test, P < .001), and had more deaths per month (mean, 14.6 vs 8.1; rank sum test, P < .001). Patients from included and excluded facilities were similar, except that patients who died in facilities that were included were more likely to have cancer (51% vs 46%; odds ratio [OR], 1.24; 95% confidence interval [CI], 1.06-1.45; P = .006) and less likely to have kidney disease (38% vs 43%; OR, 0.78; 95% CI, 0.65-0.94; P = .009).

At these 77 facilities, 10,633 patients who died within the study period were identified. Of these patients' family members, a total of 1087 were ineligible because they did not have a working telephone number or valid address (n = 1023) or there was no eligible respondent available (n = 64). Interviews could not be completed with 2630 eligible family members because they did not answer the telephone or return a mailed survey, and 642 family members refused an interview. In addition, 164 family members did not have adequate knowledge about the patient's last month of life, 74 were reluctant to talk about the patient's death, and 31 had health conditions that precluded an interview. Twelve respondents were excluded because they spoke neither English nor Spanish.

Surveys were completed with the remaining 5993 families. Of these, 92 did not complete the entire survey, 4946

**Abbreviations:** CI, confidence interval; OR, odds ratio; PTSD, posttraumatic stress disorder.

Multiple diagnoses were coded for each patient.
completed a telephone survey, and 955 completed a mailed survey. Mailed surveys and telephone interviews had similar scores, so their results were combined, producing a final sample of completed surveys for 5901 participants (61.8% of the 9546 who were eligible). Response rates were similar in the 2 palliative care groups, but were lower in the usual care group (palliative care consultation, 66.3%; palliative care unit, 64.8%; usual care, 51.3%).

In the optimal model of survey completion, the following characteristics were associated with response: diagnosis of dementia or chronic lung disease, white race, do-not-resuscitate order at the time of death, death in an intensive care unit, documented discussion with a family member, interview with the patient’s spouse (vs other relationships), and documented family contact with a chaplain or bereavement counselor. This model was homogeneous across the 3 treatment groups, producing weights that ranged from 1.25 to 4.08. After response weights were applied, all survey sample characteristics were within 1% of those of the entire sample, except for the proportion of patients with dementia (17.6% in the entire sample vs 19.3% in the weighted survey sample).

Of patients reported in the 5901 completed surveys, 1873 received usual care, 1549 received a palliative care consultation, and 2479 died in a palliative care unit (Table 2). Two propensity score models were generated to predict assignment in each of the 2 pairs (usual care vs palliative care consultation and palliative care consultation vs palliative care unit). Variables included in the model predicting palliative care consultation vs usual care included site of care (medical/surgical ward, intensive care unit, nursing home), age (in 10-year increments), race (white vs other), and diagnoses of cancer, heart failure, and coronary artery disease. Variables included in the model predicting care in a palliative care unit vs palliative care consultation included age (in 10-year increments), race (white vs other), respondent relationship (spouse vs other), and diagnoses of cancer, dementia, kidney disease, and coronary artery disease. After adjusting for a propensity score based on these variables, the 2 pairs of groups were balanced within 1% with respect to all variables reported in Table 2.

**PALLIATIVE CARE CONSULTATION vs USUAL CARE**

Families of patients who received a palliative care consultation were more likely than those of patients who received usual care to report that the patient’s care in the last month of life had been excellent (adjusted proportions: 51% vs 46%; OR, 1.25; 95% CI, 1.02-1.55; \( P < .001 \)) (Table 3). Significant differences were found for 7 items, of which the largest effect sizes were noted for the degree to which providers gave enough spiritual support (adjusted proportions: 52% vs 45%; OR, 1.36; 95% CI, 1.15-1.61; \( P = .001 \)) and emotional support (adjusted proportions: 57% vs 49%; OR, 1.35; 95% CI, 1.14-1.60; \( P = .001 \)) before the patient’s death. No significant differences were found for 3 items, including pain management (adjusted proportions: 26% vs 29%; OR, 0.84; 95% CI, 0.66-1.07; \( P = .15 \)), assistance with funeral arrangements (adjusted proportions: 67% for both; OR, 1.00; 95% CI, 0.87-1.16; \( P = .98 \)), and emotional support after the patient’s death (adjusted proportions: 59% vs 54%; OR, 1.20; 95% CI, 1.00-1.43; \( P = .05 \)) (Table 3).

Patients who received palliative care consultations were more likely than those who received usual care to have a do-not-resuscitate order documented at the time of death (adjusted proportions: 95% vs 76%; OR, 5.41; 95% CI, 4.18-7.02; \( P < .001 \)) and were more likely to have a documented chaplain visit (adjusted proportions: 39% vs 24%; OR, 2.04; 95% CI, 1.69-2.47; \( P < .001 \)). Patients who received palliative care consultations were also more likely to have had a documented discussion of goals of care in the last month of life (adjusted proportions: 95% vs 85%; OR, 3.64; 95% CI, 2.68-4.95; \( P < .001 \)). Families of patients who received palliative care consultations were also more likely to receive a bereavement contact after the patient’s death (adjusted proportions: 18% vs 12%; OR, 1.60; 95% CI, 1.19-2.17; \( P = .002 \)).

**PALLIATIVE CARE UNITS vs PALLIATIVE CARE CONSULTATIONS**

Compared with families of patients who received a palliative care consultation, families of patients who received care in a palliative care unit were more likely to report that the patient’s care in the last month of life had been excellent (adjusted proportions: 63% vs 53%; OR, 1.52; 95% CI, 1.25-1.85; \( P < .001 \)) (Table 3). Among specific items, the largest effect size was found for emotional support before the patient’s death (adjusted proportions: 67% vs 57%; OR, 1.53; 95% CI, 1.26-1.86; \( P < .001 \)), and slightly more modest effects were found for spiritual support (adjusted proportions: 62% vs 53%; OR, 1.45; 95% CI, 1.21-1.73; \( P < .001 \)) and emotional support after the patient’s death (adjusted proportions: 68% vs 59%; OR, 1.45; 95% CI, 1.18-1.79; \( P = .001 \)). Only pain management did not show a benefit of care in a dedicated palliative care unit (adjusted proportions: 24% vs 26%; OR, 0.90; CI, 0.73-1.11; \( P = .32 \)).

Patients in palliative care units were more likely than those who received palliative care consultations to have a do-not-resuscitate order at the time of death (adjusted proportions: 98% vs 95%; OR, 3.11; 95% CI, 2.21-4.37; \( P < .001 \)) and were more likely to have a documented chaplain visit (adjusted proportions: 45% vs 38%; adjusted OR, 1.35; 95% CI, 1.22-1.62; \( P < .001 \)). They were not more likely to have a documented discussion of goals of care in the last month of life (96% vs 95%; adjusted OR, 1.35; 95% CI, 0.94-1.95; \( P = .108 \)) but were more likely to receive a bereavement contact after the patient’s death (35% vs 18%; adjusted OR, 2.22; 95% CI, 1.53-3.23; \( P < .001 \)).

**COMMENT**

Although most people would prefer to die at home, the majority will die in inpatient settings. Therefore, it is essential to identify ways that end-of-life care can be improved for patients who die in hospitals and nursing...
units already exist for many hospices, and consider-
of-Life Nursing Education Consortium programs. These
Education in Palliative and End-of-Life Care and End-
staff with specific training in palliative care, including the
physician coverage.32,34,35,43 In addition, these units have
order sets that ensure a standard of care independent of
continuous palliative care and typically have protocols and
liative care. These units are equipped to provide con-
units offer substantial advantages over consultative pal-
mortality among patients who received palliative care con-
tation. Three of 4 process measures were also im-
than they did when the patient received a palliative care
results confirm that palliative care consultations can play
role in improving care of patients who die in hos-
Second, this study found that care in a palliative care
unit offers significant advantages compared with a pal-
lative care consultation. Indeed, for almost every as-
several studies have documented a positive effect in
and inpatient units were not observed across all
domains of care. These results should not be surprising,
as studies in more limited settings have noted that pal-
lative care consultations may have a greater effect on
some aspects of care than on others.30,39-41,44,45 It is pos-
able that some aspects of care (eg, emotional support
or other markers of palliative care) may be more dif-
families after death) require more time and
resources than most palliative care teams have. It is also
possible that patients and families with greater needs
for care (eg, patients with severe pain) are more likely
to receive a consultation and are more likely to be
referred to a palliative care consultation team or inpa-
tient unit. In the present study, we were unable to
adjust for pain severity or other markers of palliative
care needs. Therefore, this possibility should be evalu-
ated in future research.
This study has 3 limitations. First, because veterans
using VA resources tend to be older men, the study sample
is one that is demographically atypical of the general US
population.46 However, there is no reason to expect that
the effect described here of palliative care consultations
and palliative care units would be markedly different in
another population.
Second, these results rely mostly on families’ percep-
tions of care. Families may not always be able to assess
the quality of care accurately. Nevertheless, they can
offer a valuable perspective. Moreover, in the current
study, an evaluation of families’ perceptions and process
measures both suggest the superiority of inpatient
units, lending support to the usefulness of families’
views of care.
Third, this study used techniques of weighting and pro-
penalty score adjustment to account for nonresponse bias
and nonrandom assignment, respectively. These tech-
Table 3. Effect of Palliative Care Consultations and Palliative Care Units

<table>
<thead>
<tr>
<th>Survey Item</th>
<th>Palliative Care Consultation vs Usual Care Adjusted Mean Score a</th>
<th>OR (95% CI)</th>
<th>P Value</th>
<th>Palliative Care Unit vs Palliative Care Consultation Adjusted Mean Score</th>
<th>OR (95% CI)</th>
<th>P Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall care was excellent</td>
<td>51 (vs 46)</td>
<td>1.25 (1.02-1.55)</td>
<td>.04</td>
<td>63 (vs 53)</td>
<td>1.52 (1.25-1.85)</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Providers took time to listen</td>
<td>70 (vs 65)</td>
<td>1.25 (1.08-1.44)</td>
<td>.003</td>
<td>75 (vs 70)</td>
<td>1.32 (1.11-1.57)</td>
<td>.002</td>
</tr>
<tr>
<td>Providers were kind, caring, and respectful</td>
<td>79 (vs 75)</td>
<td>1.26 (1.03-1.54)</td>
<td>.03</td>
<td>84 (vs 80)</td>
<td>1.32 (1.04-1.67)</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Providers kept family members informed</td>
<td>65 (vs 58)</td>
<td>1.31 (1.11-1.56)</td>
<td>.002</td>
<td>71 (vs 64)</td>
<td>1.34 (1.15-1.57)</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Patient’s personal care needs were met</td>
<td>64 (vs 61)</td>
<td>1.16 (1.02-1.33)</td>
<td>.03</td>
<td>72 (vs 65)</td>
<td>1.39 (1.13-1.71)</td>
<td>.002</td>
</tr>
<tr>
<td>Patient’s pain was controlled</td>
<td>26 (vs 29)</td>
<td>0.84 (0.66-1.07)</td>
<td>.15</td>
<td>24 (vs 26)</td>
<td>0.90 (0.73-1.11)</td>
<td>.32</td>
</tr>
<tr>
<td>Providers gave enough spiritual support</td>
<td>52 (vs 45)</td>
<td>1.38 (1.15-1.61)</td>
<td>.001</td>
<td>62 (vs 53)</td>
<td>1.45 (1.21-1.73)</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Providers gave enough emotional support before the patient’s death</td>
<td>57 (vs 49)</td>
<td>1.33 (1.14-1.60)</td>
<td>.001</td>
<td>67 (vs 57)</td>
<td>1.53 (1.26-1.86)</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Providers gave enough emotional support after the patient’s death</td>
<td>59 (vs 54)</td>
<td>1.20 (1.00-1.43)</td>
<td>.05</td>
<td>68 (vs 59)</td>
<td>1.45 (1.18-1.79)</td>
<td>.001</td>
</tr>
<tr>
<td>Providers gave enough help with funeral arrangements</td>
<td>67 (vs 67)</td>
<td>1.00 (0.87-1.16)</td>
<td>.98</td>
<td>75 (vs 68)</td>
<td>1.38 (1.13-1.69)</td>
<td>.002</td>
</tr>
</tbody>
</table>

Abbreviations: CI, confidence interval; OR, odds ratio.

*The palliative care consultation model included site of care (ward, intensive care unit, nursing home), age (in 10-year increments), race (white vs other), and diagnoses of cancer, heart failure, and coronary artery disease. The palliative care unit model included age (in 10-year increments), race (white vs other), respondent relationship (spouse vs other), and diagnoses of cancer, dementia, kidney disease, and coronary artery disease. Unless otherwise indicated, values are given as percentages.
niques are widely accepted and are being used increasingly in health services research. Nevertheless, their effectiveness depends on the accurate measurement of variables of interest, and there is always the possibility that other, unmeasured characteristics might have altered the results we report.

As increasing attention focuses on improving the quality of care that patients receive at the end of life, it will be essential to develop mechanisms of care that are effective and evidence-based. The results reported here suggest that the palliative care consultation teams that are in widespread use offer substantial benefits to patients and their families. However, dedicated units may be even more effective. Creation of dedicated palliative care units that were included in this study has been possible only because the VA has invested substantially in the development of palliative care infrastructure, including staffing and construction. In other settings, a business case will need to be made that these units improve quality and decrease costs. Therefore, before such units are widely adopted, more research is needed to demonstrate that they are cost-effective.

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Author Contributions: All authors had full access to all the data in the study and take responsibility for the integrity of the data and the accuracy of the data analysis.

Study concept and design: Casarett. Acquisition of data: Johnson and Smith. Analysis and interpretation of data: Casarett, Johnson, Smith, and Richardson. Drafting of the manuscript: Casarett, Johnson, Smith, and Richardson. Critical revision of the manuscript for important intellectual content: Casarett, Johnson, Smith, and Richardson. Statistical analysis: Smith and Richardson. Obtained funding: Casarett. Administrative, technical, and material support: Casarett and Johnson. Study supervision: Casarett.

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REFERENCES

Identifying the Effective Components of Palliative Care

Palliative care is a new medical specialty that aims to improve quality of care for persons with serious and advanced illness through clear and direct communication between the interdisciplinary health care team, patients, and families; effective management of pain and other symptoms; coordination and continuity of care; and treatment aligned with patient and family goals. Palliative care can be offered with life-prolonging therapies and is appropriate at any point in a serious illness. Benefits of palliative care include increased patient and caregiver satisfaction, lower costs, and improved quality of life and clinical outcomes. Few studies, however, have compared different palliative care delivery models to assess their effect on outcomes.

Cassaret and colleagues report on a propensity score matched survey of VA hospitals and nursing homes comparing family satisfaction with services provided by a palliative care consultation team vs a dedicated palliative care unit. The investigators surveyed family members of 5901 patients who died at one of 77 VA medical centers that offer both inpatient models of care. Family members of patients who received a palliative care consultation were more likely to report excellent care in the last month of life than were families of those who did not receive palliative care. Families of patients in the palliative care unit scored highest compared with families of patients who received a consultative care. Families of patients in the palliative care unit were even more likely to report excellent care when compared with families of patients who received a consultation. The palliative care unit group also scored highest in 3 of 4 process measures (do-not-resuscitate order at time of death, documented chaplain visit, and bereavement contact after the patient’s death). The study was not designed to determine what services provided by the palliative care consultation team or the palliative care unit resulted in these improved outcomes.

The data provided by this study should be weighed with other factors when choosing the optimal palliative care model for a specific institutional environment. A dedicated unit offers direct control over implementation of clinical recommendations, the presence of skilled interdisciplinary staff, and a care setting designed for the needs of seriously ill patients. Under circumstances of difficult to control symptom distress, family exhaustion, or lack of adequate community support services, a palliative care unit may provide the safest and highest quality of care. Drawbacks of a palliative care unit might include limited bed availability and decreased opportunity to promote palliative care practices throughout the hospital. A consultation team, in contrast, is less resource intensive, can deliver care to many more patients and family members, and may be able to promote the importance of the palliative care approach to a wider audience. The question for those planning a hospital palliative care program may not be whether to choose a dedicated unit or consultative services, but rather how to implement the best components of each. Despite the pressures for quick hospital discharge, some seriously ill and dying patients cannot be adequately cared for in the community. For these individuals, palliative care teams may need to provide primary management in the hospital, whether within various wards or a dedicated palliative care unit, as staffing and resources allow.

This study provides evidence that either of these 2 palliative care models can play a key role in improving the care of patients who die in hospitals and nursing homes. For well-established programs, the addition of a palliative care