Brief Quality Improvement Report

A National VA Palliative Care Quality Improvement Project for Improving Intensive Care Unit Family Meetings (ICU-FMs)

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Abstract

Background. We sought to increase intensive care unit–family meeting (ICU-FM) documentation in the electronic health record in Veterans Affairs (VA) hospitals.

Measures. Primary outcomes were proportion of VA decedents with ICU-FM and Bereaved Family Survey–Performance Measure (BFS-PM) scores of "excellent."

Intervention. Quality improvement (QI) project, clinical champion, and ICU-FM templates were implemented in nine participating VA facilities. ICU-FMs and BFS-PM were determined in decedents between 2011 and 2018.

Outcomes. ICU-FM increased from 3% to 28% in participating vs. 5% to 6% in nonparticipating facilities over time. Participating facilities were five-fold more likely to have ICU-FMs among ICU decedents (OR = 5.69, [4.45–7.28]). Facility-wide excellent BFS-PM scores increased by 19% in participating vs. nonparticipating facilities at the end of the observation period (OR = 1.19, [1.10–1.30]), but no difference between groups was observed in patients who died in the ICU.

Conclusions. Increasing ICU-FMs is necessary but not sufficient to improve family-reported satisfaction after an ICU death. J Pain Symptom Manage 2019;58:1075–1080. © *2019 American Academy of Hospice and Palliative Medicine. Published by Elsevier Inc. All rights reserved.*

Key Words

Family meeting, intensive care unit, quality improvement, distance learning, bereaved family survey

Background

Admission to an intensive care unit (ICU) is frightening and potentially traumatizing for patients and their families. Communication in the ICU is a critical component of high-quality patient- and family-centered care, but the importance of timely family meetings (FMs) may be underestimated by ICU clinicians, occurring for only 30%–40% of ICU patients.[1] Inadequate communication is among the leading sources of dissatisfaction for ICU family members.[2]

Implementation of system-level strategies to assure timely patient- and family-centered FMs may improve the quality of ICU care.[3] Communication bundles have been developed with suggested timeframes for communication-themed tasks.[4] One such bundle suggests that within the first 24 hours of ICU admission, tasks such as identification of a surrogate decision-maker and exploration of prior advance directives and their content and other evidence to inform preferences related to life-sustaining treatments and code status are to be accomplished. In addition to

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ongoing symptom assessment and management, an interdisciplinary FM, including ICU nurses, medical consultants, social workers, chaplains, and additional sources of support for patients and their families, is recommended within three to five days of ICU admission.

ICU family meetings (ICU-FMs) are associated with favorable outcomes for patients, family members, and providers.[5] However, ICU-FMs may not routinely take place because of competing clinical demands, time constraints, and/or provider comfort.[1,3,6,7] Prior work in VA hospitals has demonstrated that interdisciplinary initiatives can increase the proportion of patients having early FMs,[3] but whether these interventions are scalable remains to be seen. Measuring processes of care such as ICU-FMs is an important first step to provide opportunities for patients' values and preferences to be explored, and to determine whether implementation of interventions across a large health system such as the Veterans Health Administration can improve alignment of care with patient goals and preferences. To begin to address these gaps, the Veterans Affairs (VA) Comprehensive End-of-Life Care Implementation Center began a multipronged ICU-FM quality improvement (QI) project across a nationally representative sample of VA ICUs.[8] We sought to determine whether the proportion of VA inpatient decedents with any documented FM increased and whether family-reported assessment of quality of care at the end of life, as measured in the Bereaved family Survey (BFS), improved with participation in the project.

Methods

ICU-FM QI Intervention

A workgroup was formed in June 2012 to improve the frequency of ICU-FMs in VA. The workgroup was led by a physician with expertise in medical oncology and palliative medicine and included nursing and physician professionals with a breadth of experience in QI, system redesign, and clinical care for patients with serious medical illnesses. The workgroup developed a framework adapted from the Improving Palliative Care in the Intensive Care Unit to improve palliative care in the ICU with a focus on FMs.[8] Human subjects' approval for this secondary data analysis collected from the Veterans' Experience Center (VEC) was obtained from the Philadelphia VAMC Institutional Review Board.

The national ICU-FM QI project was implemented in fiscal year (FY) 2013 and ended in 2016. The project intervention included three components: 1) ICU-FM toolkit (includes QI project syllabus, samples of ICU-FM note templates); 2) didactics and training (interactive webinars, interdisciplinary role-play to demonstrate key communication strategies and skills); and 3) networking and coaching (participating interdisciplinary ICU-PC teams teleconference with coaches for trouble shooting and support during project implementation). The toolkit included handouts, pocket cards, and worksheets for clinicians to reference and informational booklets for patients and families. Samples of FM note templates and the process required to develop a VA-based template were also provided. Didactic and training sessions incorporated empathic communication training skills (e.g., "The Four Cs," Ask-tell-ask, "NURSE" acronym, "I wish"). Networking meetings were held quarterly and active facilities were invited to present their QI experience to date. Coaching meetings were held at least quarterly and as needed between local facilities and coaches. Resources were available through VA SharePoint files. For more information, please see the article by Gruenewald et al.[8]

Nine "highly engaged" VA facilities were identified as participants in the ICU-FM QI project. Facilities were categorized as highly engaged if any member of the facility participated in a 2013 national meeting to improve ICU palliative care or participated in the networking telephone calls and if the facility had a representative serving as a coach or local facility team leader for the ICU-FM project. These facilities were grouped together as the intervention arm. We matched control facilities to intervention facilities 3:1 based on the following characteristics listed in order of matching priority: 1) ICU characteristics (separate medical/cardiac ICU and surgical ICU vs. mixed medical-surgical ICU); 2) VA-designated ratings of facility complexity based on patient population, complexity of clinical services, trainee, and research involvement; 3) same geographic region or as close geographically as possible; and 4) comparable annual number of ICU admissions (within 50% of the case facility if possible).[9] All facilities included in this study in either the control or intervention arm were rated 1a-1c, where 1a is most complex.

Measures

The primary outcomes were the proportion of VA inpatients who died while in the ICU and had at least one FM documented in the electronic health record (EHR) and the Bereaved Family Survey—Performance Measure (BFS-PM) score of excellent. To determine the proportion of decedents with an ICU-FM note, the denominator of total inpatient decedents was determined by querying the VEC database. The numerator was the number of VEC-identified decedents who had a documented FM based on identification in the EHR of the progress

note titles "family meeting" or "family conference" at any time during the hospitalization.

The BFS-PM is endorsed by the National Quality Forum and is part of a 19-item survey distributed to family members of veterans who died as an inpatient in one of 146 VA facilities nationwide. The BFS-PM asks respondents to grade the global quality of care provided to their loved one during the last month of life. The BFS-PM is dichotomized into "Excellent" vs. other responses ("Very good," "Good," "Fair," or "Poor"). Our sample included all deaths between FY2012 and FY2017. Response rates during the observation period ranged from 57.6% in FY2012 to 33.8% in FY2017. In previous work, we found that nonresponse was more likely in younger and nonwhite patients. Therefore, we applied inverse propensity weights to statistically account for nonresponse in adjusted analysis. More detail can be found in previous work.[10] We included responses from family members received by the VEC through the first quarter of fiscal year 2018 (Q1FY2018).

A secondary outcome was the trend in the proportion of ICU to non-ICU deaths in participating versus nonparticipating facilities over the course of the study period.

Baseline, pre-exposure data collection began in FY2012 and was available through FY2018. We compared ICU-FM documentation and BFS-PM for VA decedents before and after project implementation as well as between participating and nonparticipating ICU-FM QI facilities.

Statistical Analysis

We compared ICU-FMs, BFS-PMs, and proportion of ICU to non-ICU deaths between ICU-FM QI participating and nonparticipating facilities. We used logistic regression analysis to determine whether outcomes were associated with facility ICU-FM participation status. For the BFS-PMs, we adjusted for nonresponse and for patient case-mix. Results were presented as odds ratios (ORs) with 95% confidence intervals (CIs) along with *P*-values for these analyses.

Outcomes

Participating VA facilities included Baltimore (Maryland), Boston (Massachusetts), Dayton (Ohio), Hampton (Virginia), Omaha (Nebraska), Puget Sound (Washington State), St. Louis (Missouri), West Haven (Connecticut), and West Palm Beach (Florida). Each of these facilities joined the initiative between January 2013 and August 2014. Each team included clinical champions from the palliative medicine and ICU services from each facility. All but one participating facility participated in and presented their facility's work during networking calls.

Among ICU decedents, the proportion of those who had a documented FM increased significantly in participating facilities (Fig. 1). Compared with baseline, by FY2017, FM documentation increased from 3% ($N = 375$) in FY2012 to 28% ($N = 296$) of ICU decedents in participating facilities compared with an increase from 5% ($N = 1226$) in FY2012 to 6% ($N = 1015$) of ICU decedents in nonparticipating facilities. The intervention was associated with more than a nine-fold increase in FM documentation between the two time periods compared with baseline (OR = 9.72, [4.48−21.13], $P < 0.001$) in participating facilities. FM documentation did not change significantly during the follow-up period for the nonparticipating facilities (OR 1.30, [0.88−1.92], $P = 0.187$). Compared with nonparticipating facilities, participating facilities were more than five-fold more likely to have a FM documented among ICU decedents during the follow-up period (OR = 5.69, [4.45−7.28], $P < 0.001$).

Facility-wide BFS-PM baseline score of "excellent" was 61% ($N = 718$) in participating and 55% ($N = 2236$) at baseline in nonparticipating facilities. Both groups trended upward during the follow-up period, with significantly more BFS-PM "excellent" scores in participating facilities (OR = 1.28, [1.08−1.51], $P = 0.005$; Fig. 2). At the end of the study period, participating facilities maintained their edge in facility-wide BFS-PM scores (68% $N = 431$) compared with nonparticipating facilities (62% $N = 1251$) (OR 1.19, [1.10−1.30], $P < 0.001$). However, when we restricted the analysis of BFS-PM scores to patients who died in the ICU, there were no significant differences between participating and nonparticipating facilities and between preintervention and postintervention scores for either group.

Among participating facilities, the proportion of ICU deaths decreased from 27% ($N = 1390$) in 2012 to 24% ($N = 1254$) in 2017 (OR = 0.77, [0.64−0.94], $P = 0.009$) (and to 20% for the first quarter of FY2018 in participating facilities). In nonparticipating facilities, the proportion of ICU deaths also decreased from 28% ($N = 4325$) in FY2012 to 26% ($N = 3898$) in FY2017 (OR = 0.79; [0.72−0.88], $P < 0.001$). Compared with nonparticipating facilities, participating facilities had a 2% decrease in ICU deaths by the end of the study period (OR = 0.86, [0.78−0.96], $P = 0.004$).

Conclusions/Lessons Learned

Implementation of a national distance learning initiative to improve ICU-FMs was associated with an increase in the proportion of VA medical center decedents with a documented FM note in their EHR and a decrease in the proportion of inpatient deaths in

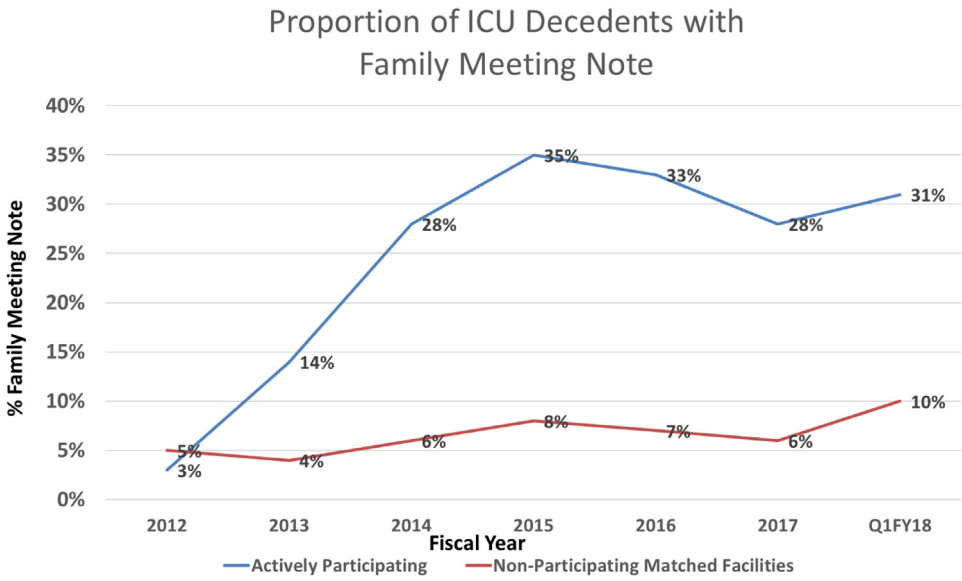

Fig. 1. Proportion of ICU decedents with a documented family meeting note in facilities actively participating in the VA ICU Family Meeting Initiative versus nonparticipating facilities.

ICUs. The substantially significant increase in documented ICU-FMs in participating facilities likely reflects a variety of interventions initiated at the facility level in response to local needs and concerns. One of these facility-specific interventions was to make templated progress notes available to document FMs in ICUs. The availability of FM note titles facilitated the identification of ICU-FM notes in the present study, which may have contributed to the marked increase in documented FMs observed in participating facilities.

These results raise additional questions and potential concerns. Specifically, in these highly motivated and engaged facilities with templated progress notes for FMs, approximately 70% of ICU decedents were without any easily identifiable FM note. It is possible that ICU-FMs took place but that providers did not use the template. More concerning, it is possible

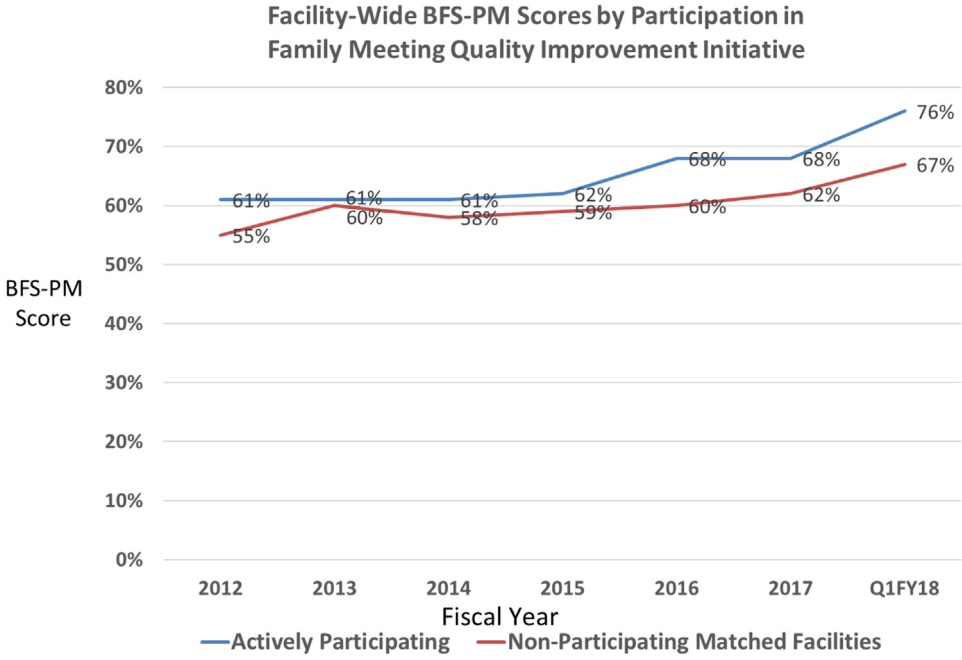

Fig. 2. Proportion of bereaved family members of inpatient VA decedents rating overall care in last months of life as "excellent," by participation in Family Meeting Quality Improvement Initiative, fiscal year.

that ICU-FMs are not happening for a majority of ICU decedents. Detailed chart review or natural language processing techniques are necessary to ascertain whether FMs or other versions of family communication can be identified in the EHR to better estimate the prevalence of this practice in VA ICUs.

Documentation of ICU-FMs is an important process measure of ICU care quality in ICUs and is a valuable measure of success of the ICU-FM QI Initiative.[1] It is unclear whether the documented increase in ICU-FMs observed in this study resulted in an improvement in patient- and family-centered care, but the occurrence of timely FMs is one crucial step in fostering goal-concordant care. The increase in documented FMs was associated with a significantly greater reduction in ICU deaths during the study period in participating facilities than in the nonparticipating facilities. The importance of this association is unclear, but it is possible that for some patients dying in a less medically intensive setting may have been a preferred outcome at the end of life.

Despite the increase in documented ICU-FMs, we were unable to demonstrate greater improvement in the global BFS performance measure (the main study outcome measure of direct importance to patients and families) in participating compared with nonparticipating facilities. This may be explained by fewer ICU patients dying in the ICU, instead having their end-of-life care on a medical-surgical ward. In addition, BFS data are available only for veterans who die as an inpatient in a VA medical center. It is possible that the more pronounced reduction in ICU deaths over time in participating facilities resulted in patients living longer and more patients dying outside a VA medical center. If so, BFS-PM data would be unavailable for veteran decedents dying in another setting and that this confounded the ability of the present study to detect a change in the BFS-PM between the ICU-FM and non-ICU-FM participating facilities.

Although numerous factors contribute to family perception of overall care quality near the end of life, the available evidence in the literature supports prioritizing QI efforts related to respectful care and communication. It is noteworthy that participating facilities scored higher on the BFS-PM at baseline, suggesting that some best practices regarding care and communication may already have been in place at these facilities. The fact that BFS-PM scores improved over the course of the study period in participating and nonparticipating facilities suggests that global systemic care improvements in care were underway across VA. These systemic changes may have diluted the ability to detect improvement in the BFS-PM due to this initiative alone.

This multipronged QI initiative, including communication training, coaching on implementation successes and pitfalls, and FM template development, with highly engaged clinical champions leading the charges from the participating facilities, may have affected the culture in unmeasured ways. Following up on the results of this initiative, next steps could include more intentional communication skills practice and feedback from clinical champions at local facilities. With the nationwide implementation of the Life-Sustaining Treatment Decisions Initiative and its accompanying communication trainings, communication training is currently a strong care focus across VA. Future work will include evaluation of whether family-centered outcomes change in association with this initiative.

There are several limitations and lessons learned from these results. We were unable to assess when the FMs took place, and it was possible they did not happen during the ICU stay. However, the QI initiative specifically targeted the ICU for these meetings to take place, and chart audits at participating facilities suggest that most of the FMs were for patients in the ICU. The present study did not assess the quality of communication in documented FMs, and the extent to which patient preferences and values were explored and considered in planning goals of care is unknown. However, recent evidence suggests that deliberations are infrequent during FMs and that this would be another area for future communication-focused QI initiatives.[11] Furthermore, we did not assess which specific aspects of the QI initiative were incorporated at the participating facilities, and it is possible that comparing facilities based on the comprehensiveness of ICU-FM QI implementation would have shown improvement in BFS-PM at facilities with more comprehensive implementation. Finally, we do not know if the observed changes are sustained over longer periods of time, with the QI initiative having concluded.

In conclusion, the VA ICU-FM QI Initiative demonstrated an increase in documented FMs in VA medical center decedents, which is an important process measure of ICU care quality. Ongoing work is indicated to examine the role of improving the quality of communication with families in the ICU and, more broadly, to improve goal-concordant care near the end of life.

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