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Implementation of a Screening Tool Protocol to Identify Patients with Unmet Palliative Care Needs and Improve Access to Palliative Care in the ICU

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The document mentioned above has been reviewed and accepted by the student’s advisor, on behalf of the advisory committee, and by the Associate Dean for MSN and DNP Studies, on behalf of the program; we verify that this is the final, approved version of the student’s Practice Inquiry Project including all changes required by the advisory committee. The undersigned agree to abide by the statements above.

Katie Roach, Student

Dr. Melanie Hardin-Pierce, Advisor
DNP Final Project Report

Implementation of a Screening Tool Protocol to Identify Patients with Unmet Palliative Care Needs and Improve Access to Palliative Care in the ICU

Katie Roach, BSN, RN

University of Kentucky
College of Nursing
Fall 2017

Melanie Hardin-Pierce DNP, RN, APRN, ACNP-BC – Committee Chair
Sheila Melander PhD, APRN, ACNP-BC – Committee Member
Lewis Perkins DNP, RN, APRN, GNP-BC – Committee Member / Clinical Mentor
My doctoral work and this DNP Final Project Report are dedicated to my large, and extremely close-knit family. Without the constant support and encouragement of my mother and siblings, none of this would have been possible. I could not even begin to acknowledge the countless subtle and not-so-subtle ways that they contributed to my success. This is also for my children, who have always been the motivation behind my academic pursuits. I hope that I can serve as a role model for them, and show them that perseverance and hard work always pay off in the end. This is for my future. I am so very excited to see the paths that my professional development will take me down, and the doors that will be opened through the completion of my Doctor of Nursing Practice degree.
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I would also like to thank the faculty and personnel at the University of Kentucky and Norton Healthcare who mentored me and provided the extra support required to bring this study to fruition: Dr. Kim Tharp-Barrie, Betty Hayes, Dr. Amanda Wiggins, and Jennifer Chien. A special thank you to Norton Healthcare for sponsoring me to attend the University of Kentucky to achieve my DNP degree.

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Abstract

PURPOSE: The purpose of this study is to evaluate the use of a screening protocol for identifying patients with unmet palliative care needs, and improve access to these services in the intensive care units at Norton Hospital.

METHODS: This study was a single-site retrospective report of the impact of a palliative care screening protocol on palliative care use and quality metrics that correlated to access to palliative care services in the intensive care units at Norton Hospital. The sample consisted of 135 medical records of patients admitted during the study period, which spanned the timeframe between January 1, 2017 and April 1, 2017.

RESULTS: No differences in total charges billed or length of stay were found between patients who received palliative care services and those that did not. Patients that met screening tool criteria for palliative care services were more likely to have received a consult for palliative care services during admission, and patients that met screening tool criteria but did not receive consults were more likely to die or be discharged to home hospice than those that did not meet criteria (p = 0.000).

CONCLUSION: Implementation of a palliative care screening protocol can significantly improve identification of critically ill patients with unmet palliative care needs and increase access to palliative care services. A systematic approach to palliative care consultation maximizes the benefits of palliative care consultation, and ensures that patients with palliative care needs are identified and served.
Introduction

As a result of continual advancement in medical knowledge and life-prolonging technology, critically ill adults admitted to the intensive care unit are living longer than ever before. However, because these patients frequently have multiple comorbidities, they are often subjected to medical interventions that may significantly increase psychological and physical suffering and reduce quality of life in the remaining weeks and months of life. Findings of the SUPPORT study, a large prospective observational study, indicated that two-fifths of patients reported severe pain more than half the time in their last three days of life. The researchers also found that one fourth of these patients reported moderate to severe shortness of air ("A Controlled Trial To Improve," 1995). In addition to inadequate symptom control, patients have reported difficulty understanding complicated medical information regarding prognosis and treatment options, leading to life-prolonging interventions that may go against the wishes of dying patients (Gade et al., 2008). Palliative care has been shown to improve outcomes in the critically ill, focusing on “alleviation of symptom distress, clear and sensitive communication, alignment of treatment with patient preferences, family support, and continuity across clinical settings” (Nelson et al., 2013, p. 2318). Although there is strong evidence to support the benefits of palliative care, there is currently no standardized method for determining which patients might benefit from palliative care consultation. This study aims to evaluate the use of a screening protocol for identifying patients with unmet palliative care needs, and improve access to these services in the intensive care units at Norton Healthcare.
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**Background**

Evidence-based screening tools have been used to predict mortality and identify patients who would likely benefit from palliative care services (Lapp & Iverson, 2015). A review of the existing literature indicates that there is not one “best” screening tool to use for the identification of patients with unmet palliative care needs. Instead, the recommendation is that a tool needs to be chosen that addresses the needs of key stakeholders, incorporates the structure and workflow of the ICU that it is implemented in, and uses frequent evaluation for assessment and revision of screening criteria (Nelson et al., 2013).

The Center to Advance Palliative Care (CAPC) serves as the national organization for the advancement of palliative care services in the United States. In an attempt to address the lack of a validated screening tool, CAPC organized an interdisciplinary consensus panel to develop checklists for screening hospitalized patients for palliative care needs. This panel referred to national standards, empirical data, and expert opinion in the development of palliative care screening checklists (Nelson et al., 2013). CAPC endorses the use of several different screening tools that may be modified as appropriate to fit the setting and patient population in which they are implemented. However CAPC cautions that there is no outcome data available on the specificity or sensitivity of these tools, and that there have been no direct comparisons of the tools for validity. One of these tools is the Central Baptist Hospital screening tool (Figure 1), which consists of four categories of criteria, including basic disease process, concomitant disease processes, functional status of the patient, and other criteria (Center to Advance Palliative Care, 2017).
Norton Hospital has a palliative care team led by an APRN that provides care to patients with palliative care needs. While there has been some experimentation with the use of this palliative care screening tool for identifying patients with unmet palliative care needs within Norton Hospital, the use of the screening tool has never been officially implemented. Implementation of a standardized screening protocol for identifying patients with the potential for unmet palliative care needs would improve care delivery and help to meet institutional goals, such as reduction in ICU length of stay and cost per unit of service.

In this study, the Central Baptist Hospital screening tool was used in partnership with the palliative care team and key stakeholders within Norton Healthcare, to score adult patients in the intensive care units at Norton Hospital and determine the effectiveness of the tool in identifying patients with unmet palliative care needs. The Central Baptist Hospital screening tool was chosen for this study, in collaboration with the palliative care APRN, because it most closely fit the needs of the population at Norton Hospital and had been used to successfully identify patients for palliative care consultation prior to this study. The use of this screening tool is expected to improve access to palliative care services as measured by changes in specified metrics, including the number of patients receiving palliative care consults, number of days from admission to consultation, total charges billed, length of stay, and patient disposition at discharge.

**Purpose**

The purpose of this study is to determine the effectiveness of a palliative care screening tool, in improving the identification of patients with a high likelihood of unmet palliative care needs in the intensive care units at Norton Hospital who may benefit from palliative care services. The specific aims of this study are as follows:
• Specific Aim #1: to evaluate the use of a palliative care screening tool in identifying patients that meet criteria for palliative care consultation.

• Specific Aim #2: to screen adult ICU patients for palliative care needs using a palliative care screening protocol.

• Specific Aim #3: to determine current use of palliative care services in this population, and the potential to increase access to these services in patients with unmet palliative care needs using a screening protocol.

In order to achieve these aims, this study has three objectives:

• Objective #1: To measure baseline data for the intensive care units at Norton Hospital in Louisville, Kentucky on metrics related to palliative care usage, including volume of palliative care consults, number of days from admission to consultation, total charges billed, length of stay, and discharge disposition.

• Objective #2: To use the specified tool to screen patients who were admitted to the intensive care unit at Norton Hospital between January 1, 2017 and April 1, 2017 to identify the presence of the specified criteria including basic disease process, concomitant disease processes, functional status of the patient, and other criteria.

• Objective #3: To measure volume of palliative care consults, number of days from admission to consultation, total charges billed, length of stay, and discharge disposition, and compare this data statistically to determine if screening tool use has the potential to improve access to palliative care services in this patient population.

Methods

This study was a single-site retrospective report of the impact of a palliative care screening protocol on palliative care use and quality metrics that correlated to access to palliative care services in the intensive care units at Norton Hospital. The study employed a retrospective quasi-experimental pre and post-test descriptive design to evaluate the use of the screening protocol in identifying patients with unmet palliative care needs and improving access to these services. Baseline data regarding current palliative care team use at Norton Hospital was collected prior to study initiation, including volume of palliative care consults, number of days from admission to
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consultation, total charges billed, length of stay, and discharge disposition. The records
of all patients admitted to the intensive care units at Norton Hospital for five days or
more during the study period, which spanned the timeframe between January 1, 2017 and
April 1, 2017, were then examined. An evidence-based screening tool was used to score
patients, based on the presence of the following four criteria: basic disease process,
concomitant disease processes, functional status of the patient, and other criteria. Data
was then collected from the medical record for the previously listed metrics that
correlated to access to palliative care services, including whether or not each patient had
a palliative care consult ordered, number of days from admission to consultation, total
charges billed, length of stay, and discharge disposition. This data was analyzed
statistically to determine current use of palliative care services in this population, and
evaluate the potential to identify patients with unmet palliative care needs using a
screening protocol.

**Setting**

Norton Healthcare is the largest health care system in the Louisville, Kentucky
region, and is comprised of five inpatient hospitals and many urgent care centers, which
provide the residents of Kentucky and Southern Indiana with a full range of medical
services. Of the five hospitals within the Norton Healthcare system, Norton Hospital was
chosen as the site for this study. Norton Hospital is located in downtown Louisville, and
serves the residents of this primarily urban area, as well as the surrounding rural counties
of Kentucky and Southern Indiana. Norton Hospital is a 382-licensed bed acute care
hospital. This hospital was chosen as the site for this study because it is the only hospital
in the Norton Healthcare system with a dedicated palliative care team.
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Sample

The sample consisted of 261 patients for baseline data collection on palliative care use in the intensive care units at Norton Hospital. The study sample consisted of 135 patients admitted to the intensive care units at Norton Hospital during the study period. The population of interest was all adult patients that were admitted to the intensive care units for five or more days during the study period, which spanned the timeframe between January 1, 2017 and April 1, 2017. Inclusion criteria for patient records to be used in the study were: patients admitted to the intensive care units at Norton Hospital during the study period for five or more days and patients aged eighteen years or older. Exclusion criteria for patient records to be used in the study were: patients admitted to the intensive care units at Norton Hospital for less than five days and patients aged less than eighteen years.

Data Collection

Approvals from the University of Kentucky Institutional Review Board (IRB) and the Norton Healthcare Office of Research and Administration (NHORA) were obtained prior to the collection of data. Electronic medical records for patients that met inclusion criteria for this retrospective chart review were identified by the Research Compliance Analyst at the Norton Healthcare Research Office. All patient records were obtained from the Norton Hospital electronic patient database. Each medical record was accessed electronically using the Medical Record Number (MRN). Demographic and outcome data was abstracted from the patient records and the palliative care screening tool was applied to each patient record to determine if each patient would have met criteria for
IMPLEMENTATION OF A SCREENING TOOL PROTOCOL TO palliative care consultation. This data was then transferred to an electronic spreadsheet. All demographic variables examined in this study are listed in Table 1.

Data Analysis

Descriptive statistics were used to analyze demographic data for the study sample. The categorical variables sex, ethnicity, and admitting diagnosis were described in terms of frequencies and percentages. The continuous variables age and number of days from admission to consultation were described in terms of mean and standard deviation. Continuous outcome variables were compared using independent sample t-tests. A chi-squared test for independent samples was used for categorical variables, with Fishers exact test used in comparisons with values of less than five in any cell. The Mann-Whitney U-test was used to compare total charges billed in patients that did and did not receive palliative care consults, because this data was not normally distributed. All data analysis was conducted using SPSS version 23, with the alpha value of 0.05 used to determine statistical significance.

Results

Sample Characteristics

A total of 135 patient medical records were reviewed for this study. The patients ranged in age from nineteen to ninety-five, with a mean age of sixty years and a standard deviation of 16.7 years. The study population was primarily Caucasian (80%), and a little over half of the patients were male (51%). The most common admitting diagnoses were sepsis, respiratory failure, neoplasm, shortness of breath and subdural hemorrhage. The demographic characteristics of the study sample are displayed in Table 1. The study
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population did not differ significantly from the population used for the collection of baseline data on palliative care use.

**Palliative Care Use**

Of the 135 patient medical records reviewed, 27.4% received palliative care services during their admission, and 72.6% did not receive these services. A chi-square test was performed on this data to determine if there was a statistically significant difference in whether or not a palliative care consult was ordered during admission between patients that met screening tool criteria and those that did not. Of the forty-three patients that met screening tool criteria for palliative care consultation, twenty-five (58.1%) had palliative care consults ordered at some point in their admission (Figure 1). Perhaps more importantly, of the ninety-eight patients that did not receive palliative care consultations, eighteen (18.4%) would have met screening tool criteria. One of these patients that met criteria, but did not have a consult ordered, died (Figure 2). This was statistically significant (sig. value = 0.000), indicating that there is a difference between the patients that met screening tool criteria and those that did not. There is a statistically significant association between the presence of palliative care screening tool criteria and palliative care consultation. The mean number of days from admission to palliative care consultation was 11.1 days, with a standard deviation of 16.1 days.

**Length of Stay**

The mean length of stay for the study population was 14.6 days. An independent samples t-test was performed to evaluate whether there was a significant difference in the length of stay for patients that did and did not receive palliative care service during their admission. The mean length of stay was 14.9 days for patients that did not receive
palliative care consults, and 13.9 days for patients that did receive palliative care consults (sig. level = 0.504). While this one additional day is not a statistically significant difference in length of stay, it may still be clinically significant due to the high costs and risk for complications associated with prolonged hospital admission.

**Total Charges Billed**

The mean total charges billed for the study population was $170,100. A Mann-Whitney U-test was performed on this data to determine if there was a statistically significant difference in cost between patients that received palliative care consults and those that did not. The Z value for this test was -0.276 (sig. value = 0.782), indicating that there was no significant difference in the cost for these two groups. However, the data for this variable was not normally distributed, with several extreme outliers, and a less sensitive non-parametric test had to be used.

**Discharge Disposition**

Of the 135 patient charts reviewed, forty-four patients (32.6%) were discharged home, fifty-five patients (40.7%) were discharged to skilled nursing facilities, thirteen patients (9.6%) were discharged to inpatient hospice, and twenty-three patients (17.0%) died. A Fisher’s Exact Probability Test was performed on this data to determine if there was a statistically significant difference in discharge disposition between those that received palliative care services and those that did not. Of the thirty-seven patients that had palliative care consults ordered, three patients (8.1%) went home, six patients (16.2%) went to skilled nursing facilities, ten patients (27.0%) went to inpatient hospice and eighteen patients (48.6%) died. Of the ninety-eight patients that did not receive a palliative care consultation forty-one patients (41.8%) went home, forty-nine patients
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(50.0%) went to skilled nursing facilities, three patients (3.1%) went to inpatient hospice, and five patients (5.1%) died. The significance level for this test was 0.000, indicating that there is a significant difference in discharge disposition between the patients that received palliative care consults and those that did not. There is a significant association between palliative care consultation status and discharge disposition.

Discussion

This study investigated the potential to improve the identification of critically ill patients with unmet palliative care needs using a palliative care screening protocol. A large and rapidly-growing body of research has shown that palliative care teams have the ability to improve patient outcomes such as pain control, symptom management and quality of life. These multi-disciplinary teams also help to achieve organizational goals such as decreased length of stay, increased patient satisfaction and decreased cost per unit of service. Due to the heavy symptom burden and high cost associated with the aggressive treatment of patients with poor prognoses, it is important to optimize the use of palliative care services through early identification of patients with potential palliative care needs. The results for this study indicate that implementation of this screening protocol would significantly improve the identification of patients with unmet palliative care needs and help to predict the likelihood of inpatient mortality. The study did not demonstrate significantly decreased length of stay or hospital costs with screening tool use. However, this data may still be clinically relevant.

Patient Identification

Palliative care services have been shown to improve quality of care in critically ill patients, without affecting mortality rates (Nelson et al., 2013). Currently most acute
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care hospitals with palliative care teams, including Norton Hospital, offer palliative care services on a consultation basis. According to this model, specialty level care is reserved for patients with symptoms or treatment decisions that are not easily managed by the attending provider, with more basic palliative care services provided by the team involved with routine patient care. Palliative care consultation occurs at the discretion of the attending physician or provider, and there is no standard protocol for the identification of patients that meet criteria for specialty level care. The full benefit of the range of services offered by an inpatient palliative care team is often missed when palliative care consultation is not ordered or occurs late in an admission. Early identification of patients with unmet palliative care needs allows for the full benefit of these valuable services to be realized. The Center to Advance Palliative Care recommends that all acute care facilities develop a systematic approach to the identification of patients at high risk for unmet palliative care needs, so that these patients can be identified and provided with specialty services as early as possible (Weissman & Meier, 2011).

Currently, the consensus is that there is not one “best” screening tool to use for the identification of patients with unmet palliative care needs. Instead one needs to be chosen that addresses the needs of key stakeholders, incorporates the structure and workflow of the ICU that it is implemented in, and uses frequent evaluation for assessment and revision of screening criteria (Nelson et al., 2013). This screening tool was selected in accordance with the needs of the population of Norton Hospital’s intensive care units, with input from the palliative care team that provides services at this facility. This study demonstrated that this tool was effective in identifying patients that
IMPLEMENTATION OF A SCREENING TOOL PROTOCOL TO were likely to benefit from specialty level palliative care services. There was a significantly greater number of consults ordered for patients that met screening tool criteria than for those that did not. Eighteen patients screened positively for palliative criteria but did not receive these services, indicating that eighteen patients may have missed out on specialty consultation that would have been identified with a screening protocol. One of these patients died and one was discharged to inpatient hospice, providing further evidence that these patients would have benefited from consultation.

Prediction of Mortality

This study also demonstrated that there was a significant difference in discharge disposition between patients that met screening criteria for palliative care consultation and those that did not. Patients that screened positively for palliative care needs were much more likely to die in the hospital or be discharged to home hospice than those that did not. This indicates that this tool has the potential to help identify patients that are not likely to survive and may help to guide goals of treatment. This may lead to less aggressive treatments for patients with poor prognoses, decrease suffering in these patients, and lower costs of care. This outcome relates to the ability of the screening protocol to successfully identify patients with palliative care needs. Both outcomes provide evidence that this tool would improve identification of patients with potential palliative care needs and access to palliative care services in this population.

Length of Stay

Length of stay did not differ significantly between the patients that received palliative care consultation and those that did not. However, the length of stay for
patients with palliative care services was one full day less than the length of stay for patients without palliative care services. This finding is consistent with the findings of multiple studies, which have demonstrated decreases in both intensive care unit and hospital lengths of stay with the implementation of palliative care screening protocols. This difference in length of stay is attributable to proactive palliative care screening and earlier clarification of appropriate care goals (Nelson et al., 2013). Clarification of patient and family goals of care, through earlier palliative care consultation, improves alignment of treatment plans with patient preferences. Early palliative care consultation also limits aggressive, life-prolonging interventions that conflict with patient wishes and leads to decreased length of hospital and intensive care unit lengths of stay. While this study did not differentiate intensive care unit length of stay from total hospital length of stay, the patients that constituted the study sample each spent a minimum of five days in intensive care, with many spending much longer in the intensive care units. With the cost per intensive care unit day is estimated at $3,968 for patients on mechanical ventilation and $3,184 for all other patients (Dasta, McLaughlin, Mody, & Piech, 2005), this represents a meaningful cost savings for the organization. Prolonged hospital admissions, particularly prolonged intensive care unit admissions, also put patients at risk for complications such as hospital-acquired infections, delirium, venous thromboembolism, myopathies and stress ulcers. These complications can lead to increased hospital costs and poor patient outcomes. Decreasing the length of stay by one day through use of palliative care screening, though not statistically significant, may still have important clinical implications.
Total Charges Billed

Total charges billed is an outcome measure that correlates to both length of stay and the treatment procedures that are provided to each patient. With longer lengths of stay and more aggressive treatments, hospital costs increase. Palliative care has been shown to decrease the length of stay in intensive care units and the number of aggressive treatments performed, by shifting the goals of care (Nelson et al., 2013). This study demonstrated no significant difference in the charges billed between patients that received palliative care consultation, and those that did not. However, this data was not normally distributed and there were several extreme outliers that skewed the data. There may have been a difference between the two groups of patients that was not detected by the use of a less sensitive non-parametric test. Also, because this was a retrospective study, it is difficult to conclude whether palliative care consults would have occurred earlier in the admission with the implementation of a screening protocol and resulted in lower hospital costs. Further research is needed to determine how the use of a palliative care screening protocol will impact cost for the organization.

Limitations

There were several limitations related to the design of this study. This study was conducted using data collected from the population of one acute care hospital within the Norton Healthcare system, and may lack generalizability to the other facilities. In addition, the retrospective descriptive design of the study did not allow for evaluation of patient outcomes following screening tool implementation. The retrospective design of the study also required that screening of patients occurred after discharge, which may
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have lessened the accuracy of screening tool results. Data on the functional status of the patient that was required for completion of the palliative care screening tool, had to be extrapolated from physical therapy and case management notes, rather than provided directly from patients and their families. Finally, the design of this study did not allow for a direct evaluation of the impact of tool implementation on the number of days elapsed between admission and palliative care consultation. Descriptive statistics were used to summarize this data for the population, but there was no way to determine the impact of palliative care screening on the timing of consultation. This study demonstrated that implementation of a screening protocol would likely improve the identification of patients that would benefit from palliative care services, but further research is needed to verify this impact and optimize screening tool use.

**Recommendations for Future Studies**

Recommendations for future studies would involve psychometric testing of this palliative care screening tool for reliability, validity, and sensitivity. It will also be necessary to conduct studies that evaluate the impact of the screening tool on patient and organizational outcomes, following implementation of the screening protocol. Palliative care has been shown to improve other patient outcome variables that were not addressed in this study, but are of great value to patients and the organization. Other variables that should be considered in future studies include pain and symptom management, understanding of complex medical information, alignment of patient goals with treatment plans, and patient and family satisfaction. Additionally, studies that investigate the timing that screening of patients occurs, for example at a single point in each admission or on an ongoing basis, would help to maximize the benefit of palliative care services.
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Optimal timing and frequency of palliative care screening would ensure that the greatest number of patients with unmet palliative care needs are identified and achieve the best results for patients and the organization. Studies that investigate the impact of comorbidity burden on palliative care consultation, through examination of variables such as case mix index, would help to clarify the efficacy of palliative care screening at different levels of patient acuity. Research projects that explore barriers to palliative care consultation, such as provider perception and organizational factors, would improve the likelihood of successful implementation of a palliative care screening protocol. Finally, larger, multi-site studies would help to increase sample size and generalizability of the study results to the other acute care hospitals within the organization. Randomized controlled trials would provide the strongest evidence for this change in practice and justify the financial investment required for expansion of the palliative care program to the other facilities in the Norton Healthcare system.

**Conclusion**

The main objective of this study was to evaluate the impact of a palliative care screening tool on the identification of critically ill patients with unmet palliative care needs, improving access to specialty services in this population. This study showed that there is a significant number of patients that are not receiving palliative care services that would likely benefit from these services. These patients could be better identified and served with the implementation of a palliative care screening protocol. However, screening tool implementation has the potential to increase the volume of palliative care consults received, and financial investment would likely be required to meet this increased demand for services. The value that this service brings to patients and the
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organization justifies this investment in the program, and supports the eventual expansion of this program to the other hospitals in the Norton Healthcare system.
<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Descriptive Statistic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean Age, years (SD)</td>
<td>60.1 (16.7)</td>
</tr>
<tr>
<td>Sex, frequency (%)</td>
<td>Male: 69 (51.1%)</td>
</tr>
<tr>
<td></td>
<td>Female: 66 (48.9%)</td>
</tr>
<tr>
<td>Ethnicity, frequency (%)</td>
<td>African American: 22 (16.3%)</td>
</tr>
<tr>
<td></td>
<td>Asian: 0 (0%)</td>
</tr>
<tr>
<td></td>
<td>Hispanic: 2 (1.5%)</td>
</tr>
<tr>
<td></td>
<td>Caucasian: 108 (80.0%)</td>
</tr>
<tr>
<td></td>
<td>Other: 3 (2.2%)</td>
</tr>
<tr>
<td>Most Common Admitting Diagnoses ICD-10 codes, frequency (%)</td>
<td>A41.50, A41.9 – sepsis: 13 (9.6%)</td>
</tr>
<tr>
<td></td>
<td>J96.00, J96.01, J96.20, J96.21, J96.90 – acute respiratory failure: 10 (7.3%)</td>
</tr>
<tr>
<td></td>
<td>C18.9, C25.7, C25.9, C54.1 – neoplasm: 5 (3.6%)</td>
</tr>
<tr>
<td></td>
<td>R06.02 – shortness of breath: 6 (4.4%)</td>
</tr>
<tr>
<td></td>
<td>S06.5X0A – subdural hemorrhage: 5 (3.7%)</td>
</tr>
</tbody>
</table>

Table 1. Study Population Demographic Characteristics
IMPLEMENTATION OF A SCREENING TOOL PROTOCOL TO

Figure 1. Palliative Care Use: Volume of Consults for Patients that Met and Did Not Meet Screening Tool Criteria

Figure 2. Palliative Care Use: Presence of Screening Tool Criteria for Patients that Did and Did Not Receive Palliative Care Consults
Figure 3. Discharge Disposition: Discharge Disposition for Patients that Did and Did Not Receive Palliative Care Consults
### PALLIATIVE CARE SCREENING TOOL
(Not a permanent part of the medical record)

Criteria – Please consider the following criteria when determining the palliative care score of this patient

<table>
<thead>
<tr>
<th>1. <strong>Basic Disease Process</strong></th>
<th><strong>SCORING</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Cancer (Metastatic/Recurrent)</td>
<td>d. End stage renal disease</td>
</tr>
<tr>
<td>b. Advanced COPD</td>
<td>e. Advanced cardiac disease – i.e. CHF, severe CAD, CM (LVEF &lt; 25%)</td>
</tr>
<tr>
<td>c. Stroke (with decreased function by at least 50%)</td>
<td>f. Other life-limiting illness</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>2. <strong>Concomitant Disease Processes</strong></th>
<th><strong>Score 1 point overall</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Liver disease</td>
<td>d. Moderate congestive heart failure</td>
</tr>
<tr>
<td>b. Moderate renal disease</td>
<td>e. Other condition complicating cure</td>
</tr>
<tr>
<td>c. Moderate COPD</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>3. <strong>Functional status of patient</strong></th>
<th><strong>Score as specified below</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Using ECOG Performance Status (Eastern Cooperative Oncology Group)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ECOG</th>
<th>Grade</th>
<th>Scale</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Fully Active, able to carry on all pre-disease activities without restriction.</td>
<td>Score 0</td>
</tr>
<tr>
<td>1</td>
<td>Restricted in physically strenuous activity but ambulatory and able to carry out work of a light or sedentary nature, e.g., light housework, office work.</td>
<td>Score 0</td>
</tr>
<tr>
<td>2</td>
<td>Ambulatory and capable of all self-care but unable to carry out any work activities. Up and about more than 50% of waking hours.</td>
<td>Score 1</td>
</tr>
<tr>
<td>3</td>
<td>Capable of only limited self-care; confined to bed or chair more than 50% of waking hours.</td>
<td>Score 2</td>
</tr>
<tr>
<td>4</td>
<td>Completely disabled. Cannot carry on any self-care. Totally confined to bed or chair.</td>
<td>Score 3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>4. <strong>Other criteria to consider in screening</strong></th>
<th><strong>Score 1 point EACH</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>The patient:</td>
<td></td>
</tr>
<tr>
<td>a. is not a candidate for curative therapy</td>
<td></td>
</tr>
<tr>
<td>b. has a life-limiting illness and chosen not to have life prolonging therapy</td>
<td></td>
</tr>
<tr>
<td>c. has unacceptable level of pain &gt;24 hours</td>
<td></td>
</tr>
<tr>
<td>d. has uncontrolled symptoms (i.e. nausea, vomiting)</td>
<td></td>
</tr>
<tr>
<td>e. has uncontrolled psychosocial or spiritual issues</td>
<td></td>
</tr>
<tr>
<td>f. has frequent visits to the Emergency Department (&gt;1 x mo for same diagnosis)</td>
<td></td>
</tr>
<tr>
<td>g. has more than one hospital admission for the same diagnosis in last 30 days</td>
<td></td>
</tr>
<tr>
<td>h. has prolonged length of stay without evidence of progress</td>
<td></td>
</tr>
<tr>
<td>i. has prolonged stay in ICU or transferred from ICU to ICU without evidence of progress</td>
<td></td>
</tr>
<tr>
<td>j. Is in an ICU setting with documented poor or futile prognosis</td>
<td></td>
</tr>
</tbody>
</table>

**TOTAL SCORE**

**SCORING GUIDELINES:**
- TOTAL SCORE = 2 No intervention needed
- TOTAL SCORE = 3 Observation only
- TOTAL SCORE = 4 Consider Palliative Care Consult (requires physician order)

__________________________
SIGNATURE STAFF MEMBER COMPLETING FORM

__________________________
DATE
IMPLEMENTATION OF A SCREENING TOOL PROTOCOL TO

THIS PORTION OF THE SCREENING TOOL TO BE COMPLETED BY A MEMBER OF PALLIATIVE CARE TEAM

PALLIATIVE PERFORMANCE STATUS SCALE

<table>
<thead>
<tr>
<th>%</th>
<th>AMBULATION</th>
<th>ACTIVITY AND EVIDENCE OF DISEASE</th>
<th>SELF-CARE</th>
<th>INTAKE</th>
<th>CONSCIOUSNESS LEVEL</th>
</tr>
</thead>
</table>
| 100| Full       | Normal Activity
No evidence of Disease | Full      | Normal | Full                |
| 90 | Full       | Normal Activity
Some Evidence of Disease | Full      | Normal | Full                |
| 80 | Full       | Normal Activity with Effort
Some Evidence of Disease | Full      | Normal or Reduced | Full      |
| 70 | Reduced    | Unable Normal Job/Work
Some Evidence of Disease | Full      | Normal or Reduced | Full      |
| 60 | Reduced    | Unable Hobby/House Work
Significant Disease | Occasional Assistance
Necessary | Normal or Reduced | Full or Confusion |
| 50 | Mainly Sit/Lie | Unable to Do Any Work
Extensive Disease | Considerable Assistance
Required | Normal or Reduced | Full or Confusion |
| 40 | Mainly in Bed | Unable to Do Any Work
Extensive Disease | Mainly Assistance | Normal or Reduced | Full or Drowsy Or Confusion |
| 30 | Totally Bed Bound | Unable to Do Any Work
Extensive Disease | Total Care | Reduced | Full or Drowsy Or Confusion |
| 20 | Totally Bed Bound | Unable to Do Any Work
Extensive Disease | Total Care | Minimal Sips | Full or Drowsy Or Confusion |
| 10 | Totally Bed Bound | Unable to Do Any Work
Extensive Disease | Total Care | Mouth Care Only | Drowsy or Coma |
| 0  | Death      | -                               | -         | -      | -                   |

*This scale is a modification of the Karnofsky Performance Scale. It takes into account ambulation, activity, self-care, intake and consciousness level.

COMMENTS:

______________________________________________________________________________________
______________________________________________________________________________________
______________________________________________________________________________________
______________________________________________________________________________________
______________________________________________________________________________________

Figure 1. Palliative Care Screening Tool
IMPLEMENTATION OF A SCREENING TOOL PROTOCOL TO

References


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http://dx.doi.org/10:1089/jpm.2010.0347