Management of Distress in Adult Oncology Patients

Lauren Jongsma
Grand Valley State University

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Management of Distress in Adult Oncology Patients

Lauren Jongsma

Kirkhof College of Nursing

Grand Valley State University

Advisor: Sandra Spoelstra, PhD, RN, FGSA, FAAN

Advisory Team: Marie VanderKooi, DNP, MSN RN-BC and

Mary Dougherty, DNP, RN, AOCNS, NE-BC

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Abstract
Cancer related distress has the potential to negatively impact the health of the patient and their treatment outcome (Grassi, Spiegel, & Riba, 2017). As identification and treatment of distress has a positive impact on patient outcomes; the Commission on Cancer (2016) required distress screening for accreditation. Key stakeholders within a Midwest hospital system expressed a desire for the improvement in the current state of the distress screening. Thus, the scholarly paper describes the key attributes of the organizational assessment, a literature review on evidence-based distress screening tool and a quality improvement project. The Promoting Action on Research Implementation in Health Services (PARIHS) framework (1998) and Plan Do Study Act (PDSA) cycle guided evaluation and implementation of the education based intervention and standardized work plan. The project aimed to increase knowledge about distress screening and competency in the standard work as through increased rates of patient distress screens. Findings indicated a 23% increase in nurse knowledge (77% to 100%). Survey of 20 nurses found 100% provided patients the information handout about distress screening; and those 20 patients verified receipt. Distress screen completion rates pre-post-implementation were 25% (68 of 271) and 52% (44 of 85), a 27% improvement; and 15% (40 of 273) and 10% (8 of 83), a decline of 5% on the two units. Nurses understood the importance and provided distress screening information to patients. The standardized workflow needs additional follow-up to ensure all cancer patients are screened and treated for distress, when needed.

Keywords: Oncology, Distress Screening, Distress Thermometer
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Management of Distress in Adult Oncology Patients

**Introduction**

Cancer is a disease that burdens our society; and a cancer diagnosis has the potential to cause significant distress for an individual who receives a cancer diagnosis. The National Comprehensive Cancer Network (NCCN, 2018, p. 2) defines distress as “a multifactorial, unpleasant, emotional experience of a psychological (cognitive, behavioral, emotional), social, and/or spiritual nature that may interfere with the ability to cope effectively with cancer, its physical symptoms and treatment”. Distress is a universal experience for individuals with a cancer diagnosis, however, the degree of distress experienced is a unique experience. Numerous studies have reported 50 to 94% of patients with cancer experienced significant distress that had not been identified by an oncology provider (Buxton et al., 2014).

The Institute of Medicine *Cancer Care of the Whole Patient: Meeting Psychosocial Health Needs* (2008), reported cancer care is failing to address the psychological and psychosocial problems associated with a cancer diagnosis. Psychological and psychosocial problems can be exacerbated as a result of a cancer diagnosis. This includes emotional problems, depression, and a lack of resources, poor coping skills, and disruption of normal home, work, and/or family life. Failure to address psychological and psychosocial needs can potentially alter the course of the disease by causing unnecessary suffering, reducing adherence to treatment, and adversely affecting the health of the patient (Institute of Medicine, 2008). Other negative effects of untreated distress include poor health behaviors, increased hospital stay, increased rehabilitation time, and poor quality of life (Grassi et al., 2017). According to NCCN guidelines (2018), distress should be recognized, monitored, documented and treated promptly at all stages of disease in all settings. Education should be provided to ensure that health care professionals are equipped with the knowledge and skills to assess and manage distress (Appendix A). It is
imperative that individuals are treated holistically, and screened for distress so that psychosocial and psychological needs can be identified and addressed to ensure the health of the patient and success of the cancer treatment.

A Midwest hospital system (MHS) expressed value in distress screening and a desire to improve the process and workflow. An organizational assessment was conducted using the Burke-Litwin Model of Organizational and Performance Change (1992), which identified areas to address to improve the process and workflow of distress screening to increase completion rates. A literature review was conducted to determine if the current screening tool, the Distress Thermometer and Problem List (DT), detects distress compared to other tools. The literature supports the feasibility and efficacy of the DT for screening distress (van der Meulen et al., 2018; Hollingworth et al., 2013; Cutillo et al., 2017). Thus, the purpose of this quality improvement project was to provide education on efficacy and feasibility of the DT and to implement a standardized work process to increase the completion rates of distress screenings in the organization.

Assessment of the Organizational

Organizational assessments are useful for gathering necessary information that can guide improvement within the organization. It is important for the success of a project that the organization finds value in the project. The assessment can identify current state of the organization and reveal the variance from the desired state, providing an opportunity for improvement (Moran, Burson, & Conrad, 2017). The assessment can also provide necessary data supporting the need for change which can guide a plan for organizational improvement (Stone, 2015). Since organizations are complex and dynamic, the Burke-Litwin Model (BLM) (1992) was utilized to report the assessment findings, on the macro level using transformational factors and micro level using transactional factors. A strengths, weakness, opportunities, and threats
analysis was conducted to provide focus for the project planning and to identify facilitators and potential barriers for practice change.

**Framework for Assessment**

**The Burke-Litwin Casual Model**

BLM (1992) guided the organizational assessment of the adult inpatient oncology program. The BLM was designed to identify factors that impact quality improvement; this information can be used to guide organizational change. BLM (1992) incorporates implementation and change process theory to explain the “how” and “why” of successful organizational change.

BLM (1992) uses an open systems theory framework, with 12 related factors connected via arrows, creating an input and output throughput and a feedback loop system (Appendix B). The feedback loops show how change in one part of the organization will directly or indirectly affect change in other parts of the organization (Burke & Litwin, 1992). Although the 12 factors are related, their impact on organizational change is not equal, the factors are arranged hierarchically within the model. The factors can be separated into transformational and transactional factors, both of which are necessary for change.

**Transformational Factors**

Transformational factors are directly impacted by the external environment. These include leadership, mission and strategy, organizational culture, and individual and organizational performance. The external environment is any factor that occurs outside of the organization that influence its performance. External factors that have the potential to impact the adult inpatient oncology department include competing cancer programs and the Commission on Cancer (CoC) accreditation requirements (American College of Surgeons CoC, 2016). The organizational culture are the values and norms of a system, these give members within the
system meaning to events that occur internally and externally. Culture is defined by beliefs and values and exists on the transformational level (Burke & Litwin, 1992). The core values of the MHS are excellence, accountability, compassion, integrity, respect, and teamwork. High value is placed on excellence, as evidenced by The Code of Excellence, which strives for excellence in actions, reputation, relationships, operations, and environment (MHS, 2017a). The leadership of the cancer program consists of various services and reporting lines. The oversight of the nursing service line is the responsibility of the chief nursing officer. The nursing director of inpatient oncology and acute care services, unit managers, and supervisors work together to lead the oncology units. The members of the leadership team lead with a transformational leadership style and embody the core values of the organization while striving for the mission and vision. This assessment revealed a strong context, an organizational culture supportive of change, and engaged leadership.

**Transactional Factors**

Transactional factors are related to relational interactions between individuals and groups in the organization. These factors include management practices, structure, systems, work unit climate, motivation, tasks and skills, and individual needs and values (Burke & Litwin, 1992). Each of these factors within the adult oncology program has the potential to positively impact quality improvement. In regards to the structure and system, there is a standard work and policy that clearly outlines the process and identifies the roles and responsibilities for the completion of the distress screening. The staff perceive their work environment and interactions with colleagues optimistically. Additionally, the staff are motivated to achieve excellence, have a sense of purpose, and are satisfied in their work.

**Current State of the Organization**
The adult inpatient oncology program has an engaged and supportive leadership team. The staff perceive their interactions with leadership and colleagues positively and value their work. The staff are apprehensive of change to workflow, but report they feel adequately supported by leadership when changes occur. There is an opportunity to educate staff on administration and documentation of distress screening, as many RNs were not aware of the responsibility of completing the screening nor aware where to document it. A survey of RNs on the oncology units was conducted, each nurse was asked if they complete distress screenings on newly admitted patients. Out of a sample of 10 RNs, 30% (3 of 10) reported completion of distress screening on all newly admitted patients. Regarding distress screening completed within 48 hours of admission, the medical-surgical oncology unit had 15% (3 of 19) patients with a completed distress screening within 48 hours of admission. The medical oncology unit had 6% (1 of 15) patients with a completed distress screening within 48 hours of admission. The results of this data corroborate the RN survey. A MHS representative in the cancer program reviews the number of distress screens completed. Data from January to July 2018 revealed the medical-surgical oncology unit completed 80 of 271 or 30% of the admission distress screens; the medical oncology unit completed 42 of 278 or 15% (MHS, 2018). The bone marrow transplant unit was excluded. The current rates of distress screening completion are low, revealing an opportunity for improving the current workflow and a need to improve distress screening completion rates.

**Stakeholders**

Stakeholders are individuals that can be impacted by the project or who can impact the success of a project. It is important that all stakeholders are identified as they can provide valuable insight, guidance, and support for the project (Moran et al., 2017). Once all stakeholders were identified, it was possible to determine which were key. The stakeholders identified in the
adult inpatient oncology department include administrative staff, unit leadership, healthcare providers, oncology unit staff, and patients. The director of oncology, unit managers, registered nurses (RNs), social workers (SWs), and patients were all key stakeholders. The director of oncology and unit managers were key stakeholders as their direction and support was necessary for the success of the QI project. Additionally, RNs, SWs, and patients were key stakeholders because their support and participation was necessary for the success and sustainability the QI project.

**SWOT**

A strengths, weaknesses, opportunities, and threats (SWOT) analysis was conducted to assess the adult inpatient oncology department (Appendix C). A SWOT analysis can identify attributes that are internal and external to the organization, these can be positive or potentially harmful to the organization (Moran et al., 2017). Identifying areas that need attention prior to organizational change can guide project planning. Attributes that are strengths and opportunities can be used to overcome or optimize identified weaknesses and threats.

**Strengths**

Strengths are attributes of the organization that will have a positive impact on the success of a project and the organization (Moran et al., 2017). The adult inpatient cancer program leadership at the department and unit level were supportive of change and improving patient care. There was effective communication between the leadership and staff regarding changes and adequate support was provided throughout the change process. The department leader had experience in oncology and was passionate about distress screening. Other strengths include a current policy and standard work that clearly stated the expectations for the completion of distress screening. Finally, the distress screening tool had been integrated within the electronic health record (EHR), facilitating easy navigation and documentation for the staff.
Weaknesses

The weaknesses of the organization were identified. One weakness was the recent RN turnover on a unit, creating an influx of inexperienced RNs. Additionally, a knowledge gap regarding distress screening was identified among RNs, who were key stakeholders in the project. The current process and workflow for distress screening was inconsistent and inefficient. Finally, RNs and SWs did not prioritize distress screening in their workflow and did not prioritize distress screening, which made it difficult to obtain buy in.

Opportunities

There were many areas of opportunity to improve the rates of distress screening. First, there were educational opportunities for the RNs and SWs; including, why distress screenings are administered, reviewing the standard work, and a script for communication with the patient. Also, the director of inpatient oncology could require unit managers to track and report distress screening completion rates as a quality metric at weekly huddles. Unit managers could have RNs perform chart audits on their patients to track distress screen completion rates and report data at daily staff huddles. Sustainability of distress screening completion could be addressed by creating a kamishibai card for the kamishibai board, creating a method of audit and feedback on distress screening completion. Kamishibai means “paper drama”, it is an ancient Japanese storytelling art form used by Buddhist monks, that combines the use of drawings and live narration. Kamishibai has been adapted as a visual management tool for quality improvement in areas such as manufacturing and healthcare (Shea, Smith, Koffarnus, Knobloch, & Safdar, 2018). Lastly, there was an opportunity to leverage the EHR to assist with the completion of distress screening by creating a task triggered within admission documentation.

Threats

Threats are factors that are external to the project and organization that could potentially
harm the success of the improvement project (Moran et al., 2017). External competition was one identified threat, there were two other major hospital systems in the area with cancer programs. Another potential threat was unidentified distress in cancer patients, which could lead to poor patient outcomes (Institute of Medicine, 2008). The buy in of RNs and SWs may be difficult and threaten QI as distress screening is not a priority in their workflow. Finally, there was a potential threat of not meeting requirements for CoC accreditation. The cancer program is currently accredited, but the program is reviewed annually and needs to report number of distress screenings and referrals made for continued accreditation (American College of Surgeons CoC, 2016).

**Clinical Practice Question**

Accordingly, an evidence-based project to answer the following practice or clinical question was proposed: Will providing RNs education regarding distress screening and utilizing a standardized work process for use of distress screening increase the rates of distress screens completed?

**Review of the Literature**

The aim of the literature review was to report evidence in support of the use of the DT in clinical practice to screen for cancer related distress in adults. Findings of the review could support the continued use of the current tool and guide implementation for a standardized process for screening cancer related distress in the adult cancer program.

This review aimed to answer the following questions:

1. Does the DT tool detect distress in oncology patients compared to other gold standard tools?
2. Does the use of the DT lead to enactment of interventions to improve patient distress level?

**Method**
The Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guideline served as the framework for the review (Moher, Liberati, Tetzlaff, Altman, & PRISMA Group, 2009). A comprehensive electronic search was conducted in Cochrane Library, CINHAL, PubMed, and Google Scholar and was limited to reviews in the English language during the period of 2014 to 2018 (Appendix D). The Boolean operator AND was used to narrow the search to include articles that were relevant to this review. Keywords used to conduct the search were “oncology distress screening and distress thermometer and trial”.

Inclusion and Exclusion Criteria

Population. The population included adults with a cancer diagnosis, age criteria for adults were 18 years of age and older. The setting, type of cancer diagnosis, type of cancer treatment, nor point in time on the cancer trajectory were used as criteria. Articles that included children, adolescents, and patients under the age of 18 were excluded.

Intervention. Studies that utilized the DT and/or the DT and Problem List were included.

Comparison. Articles that utilized the DT or the DT and Problem List to identify distress and compared it to other screening tools as measures were included. Other tools included the Hospital Anxiety and Depression Scale (HADS), Profile of Mood States (POMS), Behavioral Health Status Index (BHS), and the Center for Epidemiologic Studies-Depression Scale (CES-D).

Outcomes. Outcomes on the efficacy, feasibility, clinical use, accuracy in screening for distress using the DT or the DT and Problem List were included.

Summary of Results

The search yielded 34 Cochrane reviews, 10 PubMed articles, 6 Google Scholar articles and 62 CINHAL articles (N=112). Four duplicates were excluded (n=108). Each article was screened using inclusion and exclusion criteria according to PRISMA (2009) and review of titles.
and abstracts resulting in removal of 93 articles (n=15) (Appendix D). In addition, 10 articles were excluded after in-depth examination of content, as did not meet inclusion criteria. The remaining five articles were included in this review (Appendix E).

**Evidence to be used for Project**

All five studies included in the review utilized the DT as a screening tool and found the DT detected distress in adult cancer patients. DT identified distress compared with other evidence-based distress screening tools (Lotfi-Jam et al., 2014; Olesen et al., 2017; Cutillo et al., 2017). The literature also supported feasibility of incorporating DT in clinical practice due to its brevity (van der Meulen et al., 2018; Hollingworth et al, 2013; Cutillo et al., 2017). DT was found to be a useful first-line tool for identifying distress, but most of the studies recommended further assessment of the patient. Additionally, multiple studies reported that outcome measures were not significantly improved by using the DT, such as, depressive symptoms, quality of life and fear of recurrence (van der Meulen et al., 2018; Lotfi-Jam et al., 2014; Olesen et al., 2017; Hollingworth et al., 2013). The DT is an appropriate screening tool for identifying distress, but as the studies point out, it would not directly improve patient outcomes when used alone, further intervention is required.

**Limitations**

The review provided evidence for use of the DT in practice, however, there were limitations to consider. First, three out of the five articles have a very specific patient population, limited to one type of cancer. Additionally, the articles were all took place in out-patient and ambulatory treatment centers. The specific population and setting can limit the generalizability of this review. Other limitations to consider include that only two studies used DT and Problem List and the other three used the DT, one included article conducted a secondary analysis from a randomized controlled trial, and finally the number of patients lost to follow up.
Relevance to Clinical Practice

The extent that distress affects someone is a unique experience, however, distress is a universal experience for patients with cancer. Patients who are screened for distress have better outcomes, therefore the CoC (2016) implemented a distress screening program requirement for all accredited cancer programs. The DT is an efficient and standard tool that effectively screens for distress. Implementing a standard process for screening patients, utilizing an evidence-based tool, such as the DT, may improve the rates of distress identified in cancer patients.

Phenomenon Conceptual Model

A conceptual model was used to examine the phenomenon of interest in a structured manner. The Promoting Action on Research Implementation in Health Services (PARIHS) (1998) model was used to examine various aspects as they relate to the phenomenon of interest including evidence-based distress screening tools, culture and leadership of the oncology department, and audit measures for sustainability

PARIHS Framework

PARIHS is a conceptual framework for the successful implementation of research into practice, developed by Kitson, Harvey, and McCormack in 1998. There are three interdependent factors in the framework including evidence, context, and facilitation; each of which should be considered simultaneously and equally important. Successful implementation is dependent on the relationship between the nature of the evidence, the context of the proposed change, and how change is facilitated. Kitson, Harvey, and McCormack (1998) suggest that successful implementation is likely with high level evidence, context, and facilitation (Appendix F).

Evidence. Evidence includes research, clinical experience, and patient preferences (Kitson et al., 1998). The literature supports the efficacy of the DT compared to other gold standard tools for screening for distress. Additionally, there is significant evidence to support screening for cancer
related distress due to potential negative health and treatment outcomes as a result of untreated distress (Institute of Medicine, 2008; Grassi et al., 2017). The organization has expressed the need for improvement in the process and workflow of distress screening. The clinical experience in the organization related to distress screening was taken into consideration. There was a consensus from staff reporting barriers preventing the completion of the distress screening including lack of knowledge, time, and motivation.

**Context.** Context is the place or environment that the change is going to occur in (Kitson et al, 1998). Context includes leadership, culture, and measurement. Each of the factors of context have different attributes that make it “high” or “low”. For example, high leadership includes having clear leadership and roles with effective teamwork and organizational structure. High culture includes valuing people, patient-centered, learning organization, and continuing education (Kitson et al, 1998). An assessment using the BLM (1992) examined these qualities in the organization. The assessment revealed the leadership team was organized, effective, and engaged with their staff. Additionally, the staff on the oncology departments value patients and their colleagues and provide quality patient-centered care. The staff and the organization place high value on excellence and are motivated to attain knowledge and pursue higher education. The current measurement of distress screening is done through reports created by a business development consultant for the cancer program, reports are completed on a monthly basis.

**Facilitation.** Facilitation is the process by which one person makes something easier for others and help them towards achieving goals. This is the type of support that is necessary to help people change attitudes, skills, habits, and ways of working (Kitson et al, 1998). When implementing evidence into practice it is necessary that the facilitator can help people understand what is changing and how it is changing in order to achieve the desired outcome. High levels of facilitation include consistency, availability, support, respect, and empathy. Many of these
characteristics are exemplified by the leadership of the oncology program. The leadership are transparent about change and staff feel adequately supported. There is strong support for process improvement of distress screening to increase completion rates.

**Project Plan**

**Purpose of Project and Objectives**

The purpose of this DNP project was to address a gap in knowledge and use of evidence-based practice of distress screening in adult oncology patients in MHS. This was achieved by answering the clinical question: Will providing RNs education about distress screening and the efficacy and feasibility of the DT and utilization of standardized work for distress screening increase the rates of distress screens completed?

**Objectives.** The evaluation of the effectiveness of an education based intervention and reinvigoration of current standard work for increasing completion rates was completed through the following objectives:

1. Identified current state of distress screening completion through baseline data collection.
2. Implemented an education based intervention about distress screening, feasibility of using DT, and current policy and standard work.
3. Used Plan, Do, Study, and Act (PDSA) cycles to facilitate practice change and provide support post-implementation of education and standard work.
4. Collected data to monitor distress screen completion rates and to evaluate education outcomes.
5. Created sustainability plan for continued monitoring of distress screening completion rates.

**Design for the Evidence-based Initiative**

PARIHS framework (Kitson et al., 1998) guided the quality improvement design for the project, to implement an education based intervention and standard work to improve completion
rates of distress screening at a MHS on the adult inpatient oncology units.

- Evidence: Literature supports the feasibility and efficacy of using the DT in clinical practice for distress screening. Additionally, the NCCN (2018) guidelines support education and training of healthcare providers to ensure they are equipped to identify and manage distress.

- Context: The organization places high value on excellence and is continually striving to improve patient-centered care and outcomes. The organization placed high value on the improvement of the process of distress screening. An organizational assessment revealed gaps in current practice, which enforces the need for education and standard work for distress screening.

- Facilitation: Facilitation is the process of helping change to occur as smoothly as possible. The leadership is available to staff and communicate effectively about change. The student was present several times per week at different times during the day to provide additional support.

**Setting**

The setting for the project was MHS adult inpatient oncology department, the project focused on the medical-surgical and medical oncology units. Administrative approval to conduct the project was received (Appendix G). The oncology department has three oncology units, medical-surgical oncology, medical oncology, and bone marrow transplant. The bone marrow transplant unit was excluded due to specific patient population. Each unit has a specific patient population, however all of the units provide comprehensive care for the complex oncology patients, including administration of chemotherapy and biotherapy and post-operative patients. The total volume of admissions to the oncology units from January to July 2018 was 1975 patients, out of the total admissions, 694 were oncology specific admissions (MHS, 2018).

**Participants**
The participants included in this quality improvement project were the RNs and oncology patients. The primary participants were RNs on the oncology units as the education intervention was focused on their workflow and patients who have a DT. RNs are required to have a Bachelor of Science in nursing or to be working toward their degree. Additionally, within one year of hire, RNs are required to become chemotherapy and biotherapy certified. Patients who will have a DT completed on the oncology units range in age from 18 years of age and older. The cancer diagnosis include solid tumors, such as, breast, pancreatic, colon, esophageal, and lung, as well as liquid tumors which include leukemia and lymphoma.

**Model Guiding Implementation: Plan, Do, Study, and Act.**

The Plan, Do, Study, and Act (PDSA) cycle is a quality improvement model used to guide implementation of the DNP project. Quality improvement approaches are data based with a goal of improving clinical or system outcomes (Moran et al., 2017). PDSA consists of four steps that allow for rapid evaluation of interventions in a particular setting (Appendix H). This allows for many phases of adjustments, increasing the chances of successful and sustainable improvement (Reed & Card, 2016). The planning phase involves identifying the project measures, what is going to be done and how it will be done. The second step is carrying out the plan and collecting data. Next, the data and processes should be reviewed to determine the successfulness of the plan. Finally, action is taken to improve identified barriers or failures of the original plan (Morelli, 2016).

**Implementation Strategies and Timeline**

The following strategies review how the DNP student implemented an education based intervention and standard work to increase completion rates of distress screenings. Evidence-based strategies were utilized to guide implementation of the project (Powell et al., 2015). The following are the strategies and timeline.
Organizational assessment.

- Gathered and audited retrospective data for completed distress screenings from January through October 2018.

Expert involvement.

- Collaborated with key stakeholders to develop a standard process and workflow for RNs (SW standard work not included in this quality improvement project) November 1 through December 10, 2018 (Appendix I)
- Completed proposal and approval process at GVSU by December 10, 2018.

Quality improvement and change model utilization.

- Developed brief education (5-10 minutes) materials (Appendix J), including pre-tests and post-tests (Appendix K), education handout for staff (Appendix L) and information handout for patients (Appendix M), that was presented to staff at random in-services on the units February 1-11, 2019.
- Utilized PDSA cycles to focus on outcomes and feedback from key stakeholders by February 25, 2019.

Education provision.

- Conducted educational in-services presenting education on distress screening and standard work to staff from February 1, 2019 through February 11, 2019 and through bi-weekly updates (Appendix N). Pre and post-test data was gathered during this time.
- The education contained the following elements; benefits of and why distress screening is necessary, NCCN guidelines and CoC accreditation standards, RN responsibility as outlined in standard work and policy, scripting of introducing distress screening to patients and discussing next steps after screening is completed, and the process of documentation of distress screening in EPIC and completion of consults.
Facilitation.

- The use of Managing Daily Improvement (MDI) boards on the units were used as a component of facilitation. MDI boards are a visual method of managing and driving continuous improvement through the utilization of daily communication, staff engagement, and tracking of quality metrics (MHS, 2018c). These MDI boards are large white boards displayed on units that display three components, daily operational plan, communication, and metric swim lanes. The daily operational plan reviews staffing and provides an opportunity to discuss issues, such as, broken equipment or safety concerns. Communication includes team related activities/events, such as birthdays, anniversaries, achievements/certifications, and outings, as well as, EHR or organization related updates/changes or mandatory education/compliance. Finally, metric swim lanes display opportunities for improvement, there are never more than three opportunities at a time (MHS, 2018c). The metric swim lanes display a visual indicator chart of the driving metric to show if the goal is being met (green) or not (red). The visual indicator is either a chart (Appendix O) or a safety cross (Appendix P) data can be plotted daily or weekly. The pareto chart is utilized as a problem solving tool, the chart captures reasons why metrics are not being met (Appendix Q). Finally, a gate chart tracks metric trends over time, usually monthly, to monitor progress towards the target condition (Appendix R). A goal was set for each month, the goals progressively increase to reach the target condition. For example, if the target condition is 50%, the first month’s goal might be 20%, then 30%, then 40%, until the target condition is met. Collaborated with each unit manager to determine target condition and completion rate goal for each unit. The surgical-oncology unit: target condition 50%, completion rate goal for February: 30%. The medical-oncology unit: target condition: 50%, completion rate goal for February: 20%.

Every shift there is an MDI team huddle, which typically last five to ten minutes. During this
time there is a brief review of the entire board. Typically, the unit manager, supervisor, or charge RN run the huddle.

- Charge nurses and the unit quality nurse facilitated change through the use of the MDI board and metric swim lane. The use of a kamishibai card will assist the facilitator with the requirements of the audit (Appendix S)
- Daily audits of admissions from the previous 24 hours were posted on the pass/fail chart on the MDI board.
- Reasons distress screenings were not completed were tracked on the pareto chart.

Audit and feedback.

- Collected implementation outcomes weekly for one month after process change including the number of completed distress screenings and the number of admissions to the oncology units from February 12, 2019 through March 10, 2019.
- Engaged unit champions, charge RNs and quality RNs, to assist with continued audit and feedback.
- Provided feedback to key stakeholders by March 1, 2019
- Presented work to key stakeholders within the oncology department by April 19, 2019.
- Completed project defense for education based intervention supporting the use of DT and standard work for the completion of distress screens project at Grand Valley State University by April 17, 2019.

Measures

The student collected data pre and post implementation of the quality improvement project (Appendix T). Data were collected to determine the effectiveness of the education based intervention and standard work on improving DT completion rates. Qualitative and quantitative methods were utilized to examine data for this project. There were several methods of
quantitative data that were used to determine the success of the intervention. Knowledge and competency were measured with the scores of the pre/post education tests. The type of education, in-service versus bi-weekly updates were measured to determine significance in education method. To measure if patients were given information about DT, a sample of RNs were asked if the patient was informed and a sample of patients were asked if information was received. The number of distress screenings completed pre and post intervention were measured through chart audit to determine compliance with standard work pre and post intervention. Qualitative semi-structured interviews with RNs were conducted via facilitation, post intervention, using a kamishibai rounding card for audit and feedback. Reasons that DT was not completed were tracked on the pareto chart on the MDI board. Additionally, qualitative semi-structured interviews were conducted with facilitators (charge RNs and quality RN) if facilitation was not completed.

Analysis

Descriptive analyses were conducted to describe RN pre- and post-test results following education. T-tests or Chi-square were used to determine differences in education uptake and increased number of DT completed prior to and after the intervention.

Data Collection Procedures

A codebook and data collection excel tool was developed and used for data collection. Collection of data was gathered at weekly intervals and took place at the organization using the EHR, including reports generated by the EHR and via pre and post-tests administered in person. Additionally, the student collected de-identified data from the EHR and via reports created by the business development consultant for the oncology program.

Data Management
The student was responsible for data management. Data was stored on the organization's password-protected computers, in a file, which requires special access approval. The de-identified data was analyzed on the organization's computer. No patient identifiable information was collected. No physical, social, psychological, legal, or economic threats to patients were associated with this project.

**Ethics and Protection of Human Subjects**

The site and university Institutional Review Boards determined the project to be quality improvement (Appendix U and V). There were no ethical considerations that needed to be addressed during the course of this project.

**Resources & Budget**

The DNP project to implement an education-based intervention and standard work included an estimated budget (Appendix W). The main cost of the project was the time donated to the organization by the DNP student. Estimated cost savings to the organization was calculated by using the student current RN wage. The student donated 8 hours for creating a pre and post-test, education materials, and patient and staff handouts. The student spent time providing education (5-10 minutes) at daily in-services on the units from February 1 to 11, 2019; a total of 23 hours. Additional, time was spent organizing data collected from pre and post-tests, a total of 3 hours. Finally, the student donated 1 hour of time at least 3 days a week to the organization, during implementation to provide support, a total of 12 hours. DT is in use at the organization, thus, no extra cost. Also, this screening tool is integrated within the EHR. The education intervention took place during the RNs workday, so that extra compensation for education hours was not necessary (MHS Salaries, 2018) (U.S. Department of Labor, 2019).

**Results**
Quantitative and qualitative measures were recorded to determine the success of the project. Overall, 36 RNs received education on use of the DT via an in-person in-service. This included 52% (20 of 38) of the RNs on the surgical-oncology unit and 43% (16 of 37) of the RNs on the medical-oncology unit. Bi-weekly updates were sent out via email on February 8 and 22, 2019 to all of the staff members regardless of receiving the in-service or not.

RN education overall pre-test compared to post-test scores improved 29.8% (Appendix X and X1). Overall pre-tests rates were 77% with a mean of 5.4 (standard deviation [SD 18.7]). Overall post-tests rates were 100% with a mean of 7 (SD 0). The medical oncology unit RN education improved 26.6% from 79% with a mean of 5.53 (SD 22.8) to 100% with a mean of 7 (SD 0). The surgical oncology unit RN education improved 32.1% from 75.7% with a mean of 5.3 (SD 15.4) to 100% with a mean of 7 (SD 0). The post-test scores demonstrate an increase in RN knowledge after implementation.

A survey of a 20 RNs from the medical and surgical oncology units that completed the DT occurred. The RNs were asked “was the patient given the informational handout about distress screening?” of the 20 RNs 100% responded yes (yes/no). A sample of 20 patients that were cared for by these 20 RNs were asked, by the student, “did you receive the informational handout from the RN about DT?” out of the 20 patients asked, 100% responded yes (yes/no).

On the surgical oncology unit there were a total of 11 facilitators (1 quality RN and 10 charge RNs). The medical oncology unit had a total of 8 facilitators (all charge RNs). Semi-structured interviews were conducted with four charge RN facilitators who did not conduct facilitation on both units to determine the reason facilitation did not occur. On the surgical oncology unit facilitation occurred on 88% (23 of 26 days) of the time during the data collection period. One of the charge RNs responded that facilitation did not occur because they “forgot to complete the audits that day”. The other two charge RNs responded that “there was not time in
the workflow of their day to complete the audits”. On the medical oncology unit facilitation occurred 83% of the time (10 of 12 days) during the data collection period. The same charge RN was responsible for facilitation the two days that facilitation was not completed. This charge RN responded that “there was not time in the workflow of their day to complete the audits”.

The MDI boards were audited February 12, 2019 to March 10, 2019 to determine if all of the elements of the swim lane (kamishibai card, pass/fail chart, pareto chart, and gate chart) were utilized for facilitation. On the surgical oncology unit, when facilitation occurred (23 of 26 days) all of the swim lane elements were utilized 100% of the time. On the medical oncology unit, when facilitation occurred (10 of 12 days) all of the swim lane elements were utilized 100% of the time. Audit and feedback of the RNs with the kamishibai card was completed and recorded on the MDI board 100% of the time that facilitation occurred. Chart audits were completed for patients admitted within the previous 24 hours, 100% of patient charts were audited on both units for one month.

A comparison on pre and post-test DTs are reported (Appendix Y). The surgical oncology unit pre DT completion rate was 25% (68 of 271) and 52% (44 of 85) post implementation, an increase of 108%. The medical oncology unit pre DT completion rate was 15% (40 of 273) and 10% (8 of 83) post implementation, a decline of 33.3%.

The number of DT completed within 24 hours of admission were compared pre and post intervention to assess standard work compliance (Appendix Y1). For both units 25% or 26 of 105 admissions had DTs completed within 24 hours of admission prior to intervention. Post intervention there were 26% or 44 of 168 admissions had DTs completed within 24 hours of admission, demonstrating a slight increase in standard work compliance.

The number of screens with scores greater than or equal to four were reported to determine significance in distress identified to improve patient outcomes (Appendix Z). Pre
intervention there were 7 of 26 or 26.9% DTs that identified patient distress compared to 22 of 44 or 50% DT post intervention (Chi-Square, $x^2 = 3.5867$, p-Value 0.058) indicating near significant improvement in distress identification.

**Discussion**

Education improved RN knowledge by 29.8%; and surveys demonstrated a ceiling effect of 100% of RNs and patients reporting DT information exchange. DT completion rates improved 108% on the surgical oncology unit and declined 33.3% on the medical oncology unit. Education on DT increased RN comfort with talking to patients about distress by 51%. The DNP student had a professional relationship with the RNs on the surgical oncology unit prior to this project which may have impacted results. This project was clinically meaningful to the patients and staff in the MHS adult oncology department, as similarly to colleagues (Grassi et al., 2017), RNs in this setting seemed to understand the importance of provision of distress information to patients 100% of the time. During the intervention the DNP student was able to assist multiple RNs by educating them where to find and document the DT within the EHR. Also, the DNP student offered scripting to aid RNs comfort levels with talking to patients about distress. This highlights the importance of standardizing care, it is important that RNs are practicing standardized care related to DT. This is a quality measure reported to the CoC, as this ensures oncology patients are receiving quality, multidisciplinary, and comprehensive care (Nardi et al., 2018).

During this scholarly work the DNP student gained knowledge about the importance of distress screening and the impact of unidentified and untreated distress. Also, knowledge was gained about the extensive time and effort that is involved in quality improvement in an organization.

**Limitations**
Limitations were noted within this scholarly project. First, there was a limitation in the sample size of RNs who received the in-service education. The method of education via in-services on the units limited attendance due to RNs being in a full patient assignment and some were unable to make time to attend. Also, it was difficult to reach all RNs due to variance in schedules, for example, some nurses were present multiple days in a row when student was giving education, while others were not scheduled to work. Second, the implementation period of this project was short. Also, there was a limitation in data collection. The education was sent out to all RNs, whether they received the in-service education or not, in the bi-weekly updates via email, there was no way to track if the RNs read the education. The collection of data period related to facilitation on the medical-oncology unit was shorter than the collection of data on the surgical-oncology unit due to the MDI swim lane being set up later. Additionally, a potential gap in identifying true failure to complete DT was identified that was not previously identified in the organizational assessment. It was found that there were some instances where DT was not appropriate per nursing judgement and there was no area for RNs to document this. For example, a patient who is frequently admitted for chemotherapy or a patient who was screening prior to surgery. This is creating a potential barrier in identifying true gaps in failure to complete DT. Finally, there was a limitation in the sustainability of the project. A suggested action plan for making the DT more visible to RNs by adding a triggered task in the required admission documentation is not feasible. The informatics request is too complex for the EHR to be able to differentiate between an oncology and general admission and it is not possible to build in a task for a specific patient population.

**Sustainability Plan**

A kamishibai card was created for the kamishibai board as a plan to sustain the completion of distress screenings in adult oncology patients. This ensured that distress
screenings were being audited on a regular basis to ensure that the screening rates continue to increase. Additionally, the quality nurse for each unit updated the gate charts using the EHR audits to monitor progress towards the set target condition and goal for completion rates for each unit. Finally, the director of oncology will work with the informatics team and Beacon AOC to create a new option for RNs to document the screening was acknowledged, but is not appropriate for this admission, with an area to comment. This will capture the acknowledgment that the DT is not appropriate for this patient during this admission and eliminate a barrier in identifying true gaps in failure to complete. The two methods of auditing the completion rates of distress screening provided an accurate picture of the current state of distress screening, additionally, it allowed for in the moment feedback.

**Implications for Practice**

This DNP project has implications for practice. The DT is a valid and reliable tool for identifying distress in oncology patients. Identification of distress can address unmet psychosocial and psychologic needs of patients and improve health and treatment outcomes. Addressing psychosocial and psychologic needs of patients has the potential to decreased healthcare costs associated with unidentified and untreated distress which include increased hospitalization and rehabilitation time, poor adherence to treatment, and poor health behaviors. Evidence supports the use of DT to identify distress in oncology patients and is a feasible tool to incorporate into practice. The pre-test revealed RNs lacked comfort with talking to patients about distress. It is crucial that RNs are confident and adequately prepared to screen and manage distress, this will ensure patients are appropriately screened and treated for distress. Additionally, there were several incidences where staff reported to the DNP student that the DT identified distress in their patient and the RN was able to connect them with the appropriate resources.
Finally, there were 22 patients with distress identified in the month post-intervention compared to 7 patients with distress identified in the month pre-intervention.

**Conclusion**

Distress is a universal experience in patients with a cancer diagnosis, the timing and degree of distress is a unique experience. The negative outcomes of unidentified and untreated distress include increased hospitalization time, increased rehabilitation time, poor health behaviors, poor adherence to treatment, and poor quality of life (Institute of Medicine, 2008; Grassi et al, 2017). A MHS expressed interest in the improvement of the current workflow for the distress screening program. An organizational assessment revealed the completion rates of distress screenings were low and an opportunity to provide education to RNs to reinvigorate the current policy and standard work. The literature supports the use of the DT as a valid and reliable tool for identifying distress in oncology patients, as well as the feasibility of the DT in clinical practice due to its brevity. An education based intervention using in-services on the oncology units and information included in the bi-weekly updates was implemented to increase the completion rates of distress screening. The intervention if sustained will increase the number of patients with distress identified. Once distress is identified it can be appropriately managed and treated to avoid the potential negative outcomes of unidentified and untreated distress. This will benefit the organization by improving patient outcomes and decreasing healthcare costs by reducing lengths of stay in the hospital and reducing rehabilitation time.

**Dissemination of Results**

The results of this project was shared with key stakeholders of the adult oncology inpatient units where the project was conducted. Additionally, this project was presented to the DNP student’s project team, graduate nursing students, faculty, and the public in attendance.
Additionally, this project will be published in ScholarWorks, so other people may benefit from the results of this project.

Reflection on DNP Essentials

The American Association of Colleges of Nursing (AACN) Essentials of Doctoral Education for Advanced Nursing Practice (2006) outline eight foundational competencies for all graduates of a DNP program. The following is a reflection on how these competencies were met through the scholarly work of this DNP project.

I. Scientific Underpinnings for Practice

This essential focuses on the ability to translate a variety of knowledge and the ability to apply it to delivery of care to patients (AACN, 2006). This includes the ability to develop and evaluate practice approaches utilizing theories and conceptual frameworks. The DNP student was able to translate knowledge gained during a literature review, organizational assessment and clinical practice to develop a quality improvement project focused on distress screening in a MHS. The PARIHS Framework was utilized to guide the implementation of an evidence-based quality improvement project, focusing on evidence, context, and facilitation (Kitson et al., 1998).

II. Organizational and Systems Leadership for Quality Improvement and Systems Thinking

The improvement of healthcare outcomes requires leadership at the organizational and systems levels. This essential focuses on the assessment of organizations, identification of system issues, and facilitation of changes in practice delivery (AACN, 2006). In collaboration with the organization, the DNP student was able to evaluate the current state of the organization and identify a gap in the expectations of the organization and the current practice related to distress screening. The project work focused on communication with RNs and leadership within the oncology program. Communication occurred via various methods including face-to-face
meetings, emails, and information handouts. Additionally, the project provided a detailed budget that highlighted the cost-effectiveness of this intervention. Finally, the intervention was focused on improvement of care and meeting the needs for the oncology population.

III. Clinical Scholarship and Analytical Methods for Evidence-Based Practice

Scholarship of a DNP graduate requires competence in the ability to translate, apply, and evaluate evidence in order to guide improvements (AACN, 2006). Analytic methods were utilized during the literature review on the efficacy of the DT at identify distress and the feasibility of use in practice. This knowledge was used in the scholarly project to support the reinvigoration of the organizations policy and standard work. Finally, the results of this project were disseminated within the organization and the university in order to improve patient outcomes.

IV. Information Systems/Technology and Patient Care Technology for the Improvement and Transformation of Health Care

Information systems/technology can be utilized to improve health care for individuals and on the system level (AACN, 2006). The DNP student utilized the EHR throughout this project to perform chart reviews to evaluate completion rates of distress screenings. Through qualitative semi-structured interviews it was found that there was an opportunity to improve documentation of DT by providing an additional option in the EHR for the reason the DT was not completed.

V. Health Care Policy for Advocacy in Health Care

Health care policy can be created through a variety of avenues and can facilitate or impede delivery of health care (AACN, 2006). Through the scholarly project, the DNP student was able to analyze the organization’s policy related to distress screening. Additionally, the NCCN guidelines and CoC requirements for accreditation were reviewed.

VI. Interprofessional Collaboration for Improving Patient and Population Health
Outcomes

Effective communication and collaboration with the interdisciplinary team is essential to provide quality, evidence-based patient care (AACN, 2006). The cooperation and collaboration with the interprofessional team in the MHS oncology program was essential to the success of the project. The DNP student worked with RNs and unit leadership and effectively communicated through meetings and emails.

VII. Clinical Prevention and Population Health for Improving the Nation’s Health

The improvement of national health is dependent on implementation of activities of clinical prevention and population health (AACN, 2006). There is a significant portion of the nation’s population that is impacted by cancer. Through the scholarly work of this project, the DNP student was able to implement a quality improvement project to increase the completion rates of distress screening. By identifying oncology patients with distress the healthcare team is able to address psychosocial and psychological needs to improve outcomes.

VIII. Advanced Nursing Practice

This essential focuses on the ability of the DNP graduate to provide care for complex patients. Additionally, the graduate should be prepared to educate and mentor nurses to assist with achieving excellence in this complex health system. (AACN, 2006). The scholarly project focused on education of RNs on how to inform patients about DT and to reinvigorate the current standard of work. The DNP was able to mentor RNs on how to inform patients about DT and the correct way to document in EHR.
References


Institute of Medicine. (2008). *Cancer care for the whole patient: Meeting psychological health*


Appendices

Appendix A

NCCN Guidelines Standards of Care for Distress Management

STANDARDS OF CARE FOR DISTRESS MANAGEMENT

• Distress should be recognized, monitored, documented, and treated promptly at all stages of disease and in all settings.
• Screening should identify the level and nature of the distress.
• Ideally, patients should be screened for distress at every medical visit as a hallmark of patient-centered care. At a minimum, patients should be screened for distress at their initial visit, at appropriate intervals, and as clinically indicated, especially with changes in disease status (ie, remission, recurrence, progression, treatment-related complications).
• Distress should be assessed and managed according to clinical practice guidelines.
• Interdisciplinary institutional committees should be formed to implement standards for distress management.
• Educational and training programs should be developed to ensure that health care professionals and certified chaplains have knowledge and skills in the assessment and management of distress.
• Licensed mental health professionals and certified chaplains experienced in psychosocial aspects of cancer should be readily available as staff members or by referral.
• Medical care contracts should include adequate reimbursement for services provided by mental health professionals.
• Clinical health outcomes measurement should include assessment of the psychosocial domain (eg, quality of life and patient and family satisfaction).
• Patients, families, and treatment teams should be informed that distress management is an integral part of total medical care and is provided with appropriate information about psychosocial services in the treatment center and the community.
• Quality of distress management programs/services should be included in institutional continuous quality improvement (CQI) projects.
Appendix B

The Burke-Litwin Model of Organizational Performance and Change

**Appendix C**

**SWOT Analysis of Adult Inpatient Oncology Department**

<table>
<thead>
<tr>
<th>Strengths</th>
<th>Weaknesses</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Significant leadership support</td>
<td>• Lack of consistent and efficient workflow</td>
</tr>
<tr>
<td>• Project is a priority for organization</td>
<td>• Recent high turnover in staff</td>
</tr>
<tr>
<td>• Current policy in place to support screening</td>
<td>• Knowledge gap about distress screening</td>
</tr>
<tr>
<td>• Integrated tool in the EHR</td>
<td>• Staff resistant to change</td>
</tr>
<tr>
<td></td>
<td>• Distress screening not a priority for staff</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Opportunities</th>
<th>Threats</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Improvement of current workflow</td>
<td>• Competing cancer programs in the area</td>
</tr>
<tr>
<td>• Increased rates of distress screening</td>
<td>• Risk of losing CoC accreditation</td>
</tr>
<tr>
<td>• Admission task in EHR</td>
<td>• Unidentified patient distress</td>
</tr>
<tr>
<td>• Reporting quality metrics at huddles</td>
<td>• RN buy in of QI process</td>
</tr>
<tr>
<td>• Education on reason distress screenings are completed, how to complete them, and patient scripting</td>
<td></td>
</tr>
</tbody>
</table>
Appendix D

PRISMA Flow Diagram of Systematic Search

- **Identification**: Articles identified using keywords in Cochrane Library, CINAHL, PubMed, and Google Scholar Databases (N=112)

- **Screening**: Number of articles after duplicates were excluded (n=108)

- **Eligibility**: Full-text articles assessed for eligibility (n=15)

- **Included**: Studies included in this review (n=5)

Excluded duplicate articles (n=4)

Articles excluded after title and abstract reviewed (n=93)

Full-text articles excluded for reasons pertaining to population, intervention, comparison, and outcome (n=10)
### Appendix E

Table Articles included in review with author, year, purpose, design, inclusion, results, conclusions

<table>
<thead>
<tr>
<th>Author (Year)</th>
<th>Purpose</th>
<th>Design (N)</th>
<th>Inclusion criteria</th>
<th>Intervention (comparison)</th>
<th>Results</th>
<th>Conclusion</th>
</tr>
</thead>
<tbody>
<tr>
<td>van der Meulen (2018)</td>
<td>evaluated use of DT and its effectiveness at reducing depression symptoms.</td>
<td>Two-arm randomized, controlled trial N=110 university medical center in the Netherlands</td>
<td>Diagnosis of squamous cell carcinoma of the oral cavity, oropharynx, hypopharynx, or larynx; Dutch language; and ability to participate in the intervention</td>
<td>Completed DT (at baseline, at 6-months, and 12-months) and had a nurse appointment after their medical appointment to discuss results, consisted of three to four 20 minute appointments per year. (Usual care provided by specialist or physician, 10 minute appointments at two-month intervals, no formal time set aside to discuss psychosocial concerns)</td>
<td>DT average score of 3.8 at session 1 and 3.7 at session 4. One-third of the intervention group reported elevated distress at every session (DT score of 5 or &lt;). There was no difference in depressive symptoms between the control and intervention group.</td>
<td>DT is a feasible screening tool in clinical practice. No intervention effects of reducing depressive symptoms</td>
</tr>
<tr>
<td>Lotfi-Jam (2014)</td>
<td>ability of DT to accurately identify distress symptoms, unmet needs, and psychosocial morbidity</td>
<td>Baseline data collected in a randomized controlled trial. (N=332) specialty cancer hospital in Australia</td>
<td>Diagnosis of prostate cancer, with curative intent, beginning treatment with external beam radiotherapy; and understand English</td>
<td>Assessed prior to beginning radiotherapy treatment (DT) (HADS)</td>
<td>Mean DT scores 1.96 were positively associated with HADS scores (p &lt; 0.0005)</td>
<td>DT accurately identifies high risk for psychosocial morbidity.</td>
</tr>
<tr>
<td>Olesen (2017)</td>
<td>Assessed the accuracy of detecting psychological distress using DT</td>
<td>Baseline data collected via DT and HADS prior to a randomized</td>
<td>Women over the age of 18, who attended a follow-up after surgery only for all types</td>
<td>Completed DT (HADS)</td>
<td>Mean DT score was 3.5 and the mean HADS score was 9.8. Decreasing the cut-off points for the DT and HADS scores.</td>
<td>DT is a useful tool for screening for distress</td>
</tr>
<tr>
<td>Hollingworth (2013) evaluated if patient outcomes were improved using DT to monitor distress.</td>
<td>Unblinded, two-arm, parallel randomized controlled trial. (N=220) two outpatient chemotherapy and radiotherapy clinics in England</td>
<td>Age of 18 and over and under 85; diagnosed with a solid tumor in the last year, receiving external radiotherapy for a period of greater than/equal to 2 weeks or chemotherapy for more than 2 cycles; and able to read and communicate in English</td>
<td>During the second week of radiotherapy or second cycle of chemotherapy completed the DT in a face-to-face meeting with a nurse/radiographer; patient could decide if they wanted a second meeting towards the end of therapy (usual care if concerns were expressed, they were addressed, but no time was set aside to monitor patient distress)</td>
<td>Distress identified with the DT, one third had high levels of distress (score &gt;4) in range 0-8 mean was 2.86; no effect of DT on psychological distress (p=.35)</td>
<td>DT detected distress; no evidence to support DT improves psychological well-being or quality of life</td>
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<tr>
<td>Cutillo (2017) determine cut-point for DT to identify and address psychologic distress; and if distressed on DT changed during treatment</td>
<td>Secondary analysis of data from a randomized controlled trial. (N=836) three cancer centers in the United States</td>
<td>Current or past cancer diagnosis, 18 years old or older, and did not have a significant cognitive deficit that would impact the ability to consent</td>
<td>Completed MHADRO, that with BHS and DT and results were compared</td>
<td>Relationship between BHS and DT scores. (p&lt; 0.0001); difference in distress depending on time since diagnosis (p &lt; 0.05).</td>
<td>DT detected distress compared to the BHS.</td>
<td></td>
</tr>
</tbody>
</table>
### Appendix F

#### PARIHS Continua of Dimensions

**A. Evidence**

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Low</th>
<th>High</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Research</strong></td>
<td>Anecdotal evidence</td>
<td>Randomised controlled trials</td>
</tr>
<tr>
<td></td>
<td>Descriptive information</td>
<td>Systematic reviews</td>
</tr>
<tr>
<td></td>
<td>Evidence-based guidelines</td>
<td>Evidence-based guidelines</td>
</tr>
<tr>
<td><strong>Clinical experience</strong></td>
<td>Expert opinion divided</td>
<td>High levels of consensus</td>
</tr>
<tr>
<td></td>
<td>Several &quot;comps&quot;</td>
<td>Consistency of view</td>
</tr>
<tr>
<td><strong>Patient preferences</strong></td>
<td>Patients not involved</td>
<td>Partnerships</td>
</tr>
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</table>

**B. Contact**

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Low</th>
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</tr>
</thead>
<tbody>
<tr>
<td><strong>Culture</strong></td>
<td>Task driven</td>
<td>Learning organisation</td>
</tr>
<tr>
<td></td>
<td>Low regard for individuals</td>
<td>Patient centred</td>
</tr>
<tr>
<td></td>
<td>Low morale</td>
<td>Valuing people</td>
</tr>
<tr>
<td></td>
<td>Little or no continuing education</td>
<td>Continuing education</td>
</tr>
<tr>
<td><strong>Leadership</strong></td>
<td>Diffuse roles</td>
<td>Clear roles</td>
</tr>
<tr>
<td></td>
<td>Lack of team roles</td>
<td>Effective team work</td>
</tr>
<tr>
<td></td>
<td>Poor organisation or management of services</td>
<td>Effective organisational structure</td>
</tr>
<tr>
<td></td>
<td>Poor leadership</td>
<td>Clear leadership</td>
</tr>
<tr>
<td><strong>Measurement</strong></td>
<td>Absence of Audit and feedback</td>
<td>Internal measures used routinely</td>
</tr>
<tr>
<td></td>
<td>Peer review</td>
<td>Audit or feedback used routinely</td>
</tr>
<tr>
<td></td>
<td>External audit</td>
<td>Peer review</td>
</tr>
<tr>
<td></td>
<td>Performance review of junior staff</td>
<td>External measures</td>
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**C. Facilitation**

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Low</th>
<th>High</th>
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<tbody>
<tr>
<td><strong>Characteristics</strong></td>
<td>Respect</td>
<td>Respect</td>
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<tr>
<td></td>
<td>Empathy</td>
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<td></td>
<td>Authenticity</td>
<td>Authenticity</td>
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<tr>
<td></td>
<td>Credibility</td>
<td>Credibility</td>
</tr>
<tr>
<td><strong>Role</strong></td>
<td>Lack of clarity around Access</td>
<td>Access</td>
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<td>Authority</td>
</tr>
<tr>
<td></td>
<td>Authority</td>
<td>Change agenda</td>
</tr>
<tr>
<td></td>
<td>Position in organisation</td>
<td>successfully negotiated</td>
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<tr>
<td><strong>Style</strong></td>
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<td>Range and flexibility</td>
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<tr>
<td></td>
<td>Sporadic</td>
<td>of style</td>
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<tr>
<td></td>
<td>Infrequent</td>
<td>Consistent and appropriate presence</td>
</tr>
<tr>
<td></td>
<td>Inappropriate</td>
<td>and support</td>
</tr>
</tbody>
</table>

Appendix G

Letter of Authorization from Organization

Available upon request.
Appendix H

Plan, Do, Study, and Act Cycle

- Define the objective and question

- Collect the data
- Carry out the plan

- Decide if change can be implemented
- Another cycle?

- Analyze the data
- Compare with predictions

- Define the objective and question

- Collect the data
- Carry out the plan

- Decide if change can be implemented
- Another cycle?
## Appendix I

### Standardized Work Process

<table>
<thead>
<tr>
<th>Task description</th>
<th>Key Point/Measure</th>
<th>Who is responsible</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1.</strong> RN will administer distress screen using DT to patient on admission.</td>
<td>▪ Distress screen is to be completed within 24 hours of admission</td>
<td>RN</td>
</tr>
<tr>
<td></td>
<td>▪ Educational handout to be given at this time</td>
<td></td>
</tr>
<tr>
<td></td>
<td>▪ Brief education to patient on why screening is completed</td>
<td></td>
</tr>
<tr>
<td><strong>2.</strong> If patient refuses screen or if RN unable to complete the screening this</td>
<td>To be charted under Distress Management Tool section, either “patient declines</td>
<td>RN</td>
</tr>
<tr>
<td>will be documented in EPIC</td>
<td>to complete” or “patient is unable to complete”</td>
<td></td>
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<td><strong>3.</strong> RN will document distress screening results in electronic form in EPIC.</td>
<td>▪ All responses on the problem list should be documented, including distress score</td>
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<td>▪ A score of 4 or greater will automatically trigger an alert to consult social</td>
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<td><strong>4.</strong> RN to order consult to social work for patients with scores 4 and above</td>
<td>Provide additional information in consult to assist social work with identifying</td>
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<td>patient needs</td>
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Adapted from MHS. (2017b). Standard Work Activity Sheet: NEXUS
Appendix J

Staff Education Plan Outline

1. Benefits of and why distress screening is necessary
2. NCCN guidelines and CoC accreditation standards
3. RN responsibility as outlined in standard work and policy
4. Scripting of introducing distress screening to patients and discussing next steps after screening is completed
5. Process of documentation of distress screening in EPIC and completion of consult to SW
Appendix K

Distress Screening Pre and Post Test

1. Screening for distress improves patient health and treatment outcomes.
   a. True
   b. False
2. It is the responsibility of the RN to document distress screening or refusal within 24 hours of admission.
   a. True
   b. False
3. Screening for distress is a part of Spectrum Health’s Cancer Center credentialing process?
   a. True
   b. False
4. I feel comfortable explaining to patients why we complete this screening and I am able to talk to them about their distress score.
   a. True
   b. False
5. If a patient score is > 4, this is considered elevated and a referral to social work should be ordered?
   a. True
   b. False
6. Spectrum Health has a policy and standard work for distress screening?
   a. True
   b. False
7. I understand how to document distress screenings in EPIC.
   a. True
   b. False
Who should be screened?

All patients with a cancer diagnosis admitted to the hospital. Distress can affect people at any point along their cancer trajectory, from diagnosis to survivorship. According to NCCN (2018) guidelines, ideally, patients should be screened at every medical visit. However, these is a minimum requirement that patients should be screened at their initial visit, then at appropriate intervals (remission, recurrence, progression, treatment-related complications).

What is distress?

NCCN (2018) definition of distress: “a multifactorial, unpleasant, emotional experience of a psychological (cognitive, behavioral, emotional), social, and/or spiritual nature that may interfere with the ability to cope effectively with cancer, its physical symptoms and treatment” (p. 2).

The word “distress” was specifically chosen to make it sound normal and less embarrassing. Additionally, there is less stigma associated with “distress” than “psychosocial”, “psychological”, or “emotional”.

When should we screen?

The distress screen should be offered to patients with a cancer diagnosis within 24 hours of admission. Screening is important as it has been found that patients are more likely to have elevated distress during hospitalization compared to in the ambulatory setting.

Why do we screen for distress?

Many studies have shown improve patient outcomes due to screening for distress. Untreated and unidentified distress can lead to poor adherence to treatment, poor health behaviors, poor quality of life, higher levels of depression, greater desire for death, increased
hospitalizations, increased rehabilitation time and shortened survival. Screening for distress can benefit our patients by connecting them with the resources they need. Also, the CoC requires a distress screening program as a part of the accreditation because of its benefits to patients.

**How should you introduce screening to your patients?**

While you are completing the required admission documentation would be an ideal time to discuss distress screening. Introducing the screening for patients who aren’t familiar and explaining why we screen for distress is important. For example: “Patients who are hospitalized are more likely to experience increased levels of distress. This is a short screening tool to determine your level of distress. This will help us to understand how we can best care for you and connect you with available resources”.
What is distress?

Distress is an unpleasant experience that can impact your mental, physical, social, and/or spiritual state. Distress can affect your thoughts, feelings, and actions. People will experience different levels of distress. Some people experience sadness and fear, while other people may have higher levels of distress that impact their ability to care for themselves.

Who can experience distress?

All people with a cancer diagnosis will experience some form of distress. The level of distress and timing of distress that is experienced is unique to each individual. Distress can happen at any time during your cancer journey.

Why do we screen for distress?

Studies have shown that unidentified and untreated distress can lead to negative patient outcomes including:

- Increased hospital stays
- Increased rehabilitation times
- Poor quality of life
- Poor health behaviors

Screening for distress allows healthcare providers to connect you with the resources you need.
Appendix N

Bi-Weekly Update Education

Distress Screening

Benefits of and why distress screening is necessary:

Screening for distress can help to identify patients who have psychosocial and psychological needs, this allows us to connect patients with resources to address these needs. Multiple studies have revealed that 50-94% of patients experienced significant distress that was unidentified by their oncology team! Unmet psychosocial and psychological needs can negatively impact the patient’s health and treatment outcomes including increased hospitalization and rehabilitation time, poor health behaviors, poor adherence to treatment, poor quality of life, increased levels of depression, increased desire for death, and shortened survival.

NCCN guidelines and CoC accreditation standards:

NCCN guidelines would ideally have patients screened for distress at every medical visit. However, minimum requirements are at the initial visit and then at appropriate intervals (remission, recurrence, progression, treatment related complications).

CoC requires all accredited cancer programs to have a distress program in place. Program requirements include method, timing, tool, documentation, and referral.

At XXX:

- Method: RN administered
- Timing: within 24 hours of admission
- Tool: NCCN Distress Thermometer and Problem List
- Documentation: the NCCN Distress Thermometer and Problem List is integrated in EPIC
- Referral: scores >4 require a consult to social work.

XXX has a current policy and standard work in place for distress screening:

Policy name: Oncology Distress Management – Adult

The following scripting is suggested to introduce distress screening to patients:

“we screen all of our patients with a history or current cancer diagnosis for distress. Patients who are in the hospital are more likely to experience increased levels of distress. This short screening tool determines your level of distress and helps us understand how we can best care for you and connect you with available resources.”

How to document in EPIC:

The tool is found under the oncology documentation tab. The tool is listed at the top of the page once you open the oncology documentation tab “NCCN Distress Management Tool”. Then you will click “new reading”. This opens up the screening tool that you can complete with the patient. Paper tools are available on the NCCN website and on the units if the patient would prefer to use a paper copy.
### March 2019 (Pass/Fail)

**Goal:** Bedside staff will complete the NCCN Distress Screening tool for all oncology patients within 24 hours of admission.

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Appendix P

Safety Cross

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Appendix Q

Pareto Chart

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<th>Work flow/time did not define algorithm/protocol</th>
<th>Pt. condition not appropriate to complete distress screen tool</th>
<th>Task was delegated, but not completed</th>
<th>Distress screen complete, but N/S-W not consulted</th>
<th>Distress screen completed partially/completed</th>
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Directions: Place an X for each occurrence that corresponds to the appropriate issue. If issue is not listed, add issue below.
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#### Notes / Comments:

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- 85.2%
- 60.2%
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- 22.0%
- 0.0%

### Quarterly Trend

- Target Condition
- Goal
- Actual
Appendix S

Kamishibai Card

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<td>Completion of adult oncology inpatient distress screening tool on admission.</td>
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**Describe what is being audited:**

Audit all oncology admissions for previous 24 hours (0700-0700):

**Pass Criteria:**

- Patient distress screening done within 24 hours of admission
- Distress score is documented in EMR (oncology documentation tab, NCCN distress management)
- Medical social work was alerted via consult, if applicable, based on scoring (score equal to or greater than 4)

**Follow Up PASS:**

- Provide Feedback/Praise
- Celebrate/Positively reinforce following the standard

**Follow Up FAIL:**

- Follow-up with admitting nurse, if possible, when distress screen left incomplete
- Follow-up with current nurse to determine if distress screen delegated
- Current nurse should follow through on completion of tool

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<th>Pass Criteria:</th>
<th>Fail Criteria:</th>
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<tr>
<td>Answer to all questions</td>
<td>Yes or not applicable</td>
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*Note: Thank staff person. Share in the moment at least one positive observation and any observations resulting the process to fail.*

Last revision date: 2/12/19
# Appendix T

## Measures

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<td>Knowledge and competency about distress screening</td>
<td>Test</td>
<td>Pre/post education session</td>
<td>RNs</td>
<td>Student</td>
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<td>Pre/post education session</td>
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<td>Student</td>
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<td>2. # of RNs who received information via weekly updates</td>
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<td>1 month after intervention</td>
<td>RNs completion of DT</td>
<td>Student and business development consultant for the cancer program</td>
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<td>Student and Charge RNs or Quality RN</td>
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<td>Daily for one month</td>
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Appendix U

Letter of Determination from University IRB

DATE: July 13, 2018

TO: Sandra Spoelstra
FROM: HRRC
STUDY TITLE: Management of Distress in Adult Oncology Patients
REFERENCE #: 19-017-H
SUBMISSION TYPE: HRRC Research Determination Submission

ACTION: Not Research
EFFECTIVE DATE: July 13, 2018
REVIEW TYPE: Administrative Review

Thank you for your submission of materials for your planned scholarly activity. It has been determined that this project does not meet the definition of research* according to current federal regulations. The project, therefore, does not require further review and approval by the Human Research Review Committee (HRRC).

A summary of the reviewed project and determination is as follows:

The purpose of this study is to determine if distress screenings are being conducted per Spectrum Health’s current policy to meet the Commission on Cancer accreditation, to address any gaps in utilization of distress screening by providing education to staff, and to implement an evidence-based action plan for addressing the five categories of oncology related distress according to the NCCN Distress Thermometer and Problem List screening tool. While this is a systematic investigation, it is not designed to create new generalizable knowledge. Therefore, it does not meet the federal definition of research and IRB oversight is not required.

An archived record of this determination form can be found in IRBManager from the Dashboard by clicking the "_xForms" link under the "My Documents & Forms" menu.

If you have any questions, please contact the Office of Research Compliance and Integrity at (616) 331-3197 or rci@grsu.edu. Please include your study title and study number in all correspondence with our office.

Sincerely,
Office of Research Compliance and Integrity

*Research is a systematic investigation, including research development, testing and evaluation, designed to develop or contribute to generalizable knowledge (45 CFR 46.102 (d)).

Human subject means a living individual about whom an investigator (whether professional or student) conducting research obtains: data through intervention or interaction with the individual, or identifiable private information (45 CFR 46.102 (f)).
Appendix V

Letter of Determination from Organization

Available upon request.
## Appendix W

### Budget for DNP Project

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<tbody>
<tr>
<td>Personnel</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>RN</td>
<td>$27/hour</td>
<td>10 minutes of education</td>
<td>$4.50/ RN</td>
</tr>
<tr>
<td></td>
<td>$19/hour towards benefits</td>
<td></td>
<td>$3.16/ RN</td>
</tr>
<tr>
<td>Charge RN: Audit</td>
<td>$28/hour</td>
<td>15 minutes/day</td>
<td>$7/day</td>
</tr>
<tr>
<td>Student</td>
<td>$31/hour</td>
<td>69 hours at organization on education and implementation</td>
<td>$2,139 cost savings</td>
</tr>
<tr>
<td>Education materials and handouts</td>
<td>Compiled by student</td>
<td>8 hours</td>
<td>$248 cost savings</td>
</tr>
</tbody>
</table>
Appendix X
RN Survey Results

Table X1.

<table>
<thead>
<tr>
<th>Survey Item</th>
<th>Pro</th>
<th>Post</th>
</tr>
</thead>
<tbody>
<tr>
<td>% (n)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre N=35</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Post N=35</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Screening for distress improves patient health and outcomes.</td>
<td>97% (34)</td>
<td>100% (35)</td>
</tr>
<tr>
<td>It is the responsibility of the RN to document distress screening or refusal within 24 hours of admission.</td>
<td>97% (33)</td>
<td>100% (35)</td>
</tr>
<tr>
<td>Screening for distress is a part of XXX cancer center credentialing process.</td>
<td>75% (26)</td>
<td>100% (35)</td>
</tr>
<tr>
<td>I feel comfortable explaining to patients why we complete this screening and I am able to talk to them about their distress score.</td>
<td>66% (23)</td>
<td>100% (35)</td>
</tr>
<tr>
<td>If a patient score is &gt; or equal to 4, this is considered elevated and a referral to social work should be ordered.</td>
<td>86% (30)</td>
<td>100% (35)</td>
</tr>
<tr>
<td>XXX has a policy and standard work for distress screening.</td>
<td>68% (24)</td>
<td>100% (35)</td>
</tr>
<tr>
<td>I understand how to document distress screenings in the EHR.</td>
<td>63% (22)</td>
<td>100% (35)</td>
</tr>
<tr>
<td>Summed Survey Score Rate</td>
<td>77%</td>
<td>100%</td>
</tr>
<tr>
<td>Summed Survey Mean and SD</td>
<td>5.4±18.7</td>
<td>7 ± 0</td>
</tr>
</tbody>
</table>
Figure XI. RN Education Pre/Post Test Scores by Questions and Overall Scores

<table>
<thead>
<tr>
<th></th>
<th>Pre-education</th>
<th>Post-education</th>
</tr>
</thead>
<tbody>
<tr>
<td>Screeing improves patient outcomes</td>
<td>97</td>
<td>100</td>
</tr>
<tr>
<td>RN responsible to screen</td>
<td>97</td>
<td>100</td>
</tr>
<tr>
<td>DT for credentialing</td>
<td>75</td>
<td>100</td>
</tr>
<tr>
<td>Comfort with talking about distress</td>
<td>66</td>
<td>100</td>
</tr>
<tr>
<td>Referral to SW</td>
<td>86</td>
<td>100</td>
</tr>
<tr>
<td>Standard work policy DT</td>
<td>68</td>
<td>100</td>
</tr>
<tr>
<td>How to document</td>
<td>63</td>
<td>100</td>
</tr>
<tr>
<td>Overall</td>
<td>77</td>
<td>100</td>
</tr>
</tbody>
</table>
Appendix Y

*Figure Y1.* DT Completion Rates
Figure Y2. DT Completion Rates: in 24 – hours

<table>
<thead>
<tr>
<th>Percentages</th>
<th>Pre-implementation</th>
<th>Post-implementation</th>
</tr>
</thead>
<tbody>
<tr>
<td>24.4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>24.6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>24.8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>25</td>
<td></td>
<td></td>
</tr>
<tr>
<td>25.2</td>
<td></td>
<td></td>
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<tr>
<td>25.4</td>
<td></td>
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<td>25.6</td>
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<td></td>
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</tr>
<tr>
<td>26</td>
<td></td>
<td></td>
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<tr>
<td>26.2</td>
<td></td>
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</table>

DT Completed within 24-hours of Admit to Hospital
Appendix Z

Distress Identification using DT

<table>
<thead>
<tr>
<th></th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-implementation</td>
<td>26.9</td>
</tr>
<tr>
<td>Post-implementation</td>
<td>50</td>
</tr>
</tbody>
</table>
Management of Distress in Adult Oncology Patients

Lauren Jongsma
DNP Project Defense
April 17, 2019
Acknowledgements

• Advisor:
  Sandra Spoelstra, PhD, RN, FGSA, FAAN

• Advisory Team:
  – Marie VanderKooi, DNP, MSN, RN-BC
  – Mary Dougherty, DNP, RN, AOCNS, NE-BC
Objectives for Presentation

1. Review clinical problem: distress screening
2. Review organizational assessment
3. Review evidence-based solutions
4. Present project plan, implementation framework and strategies
5. Review results of quality improvement project
6. Present sustainability plan
Introduction

- Over 15.5 million people in the United States are living with a cancer diagnosis \(^1\)
- It is estimated that 24-50% of patients with cancer experience significant distress \(^2\)
- 50-94% of patients experience significant distress that was not identified by a healthcare provider \(^3\)
- Failure to identify and treat distress leads to poor patient outcomes \(^4\)
Organizational Assessment
Assessment of Organization

• An organizational assessment framework was used to conduct an assessment to determine the current state of organization and readiness for change

• Site:
  – Midwest hospital system
  – Adult oncology program
Framework: Burke & Litwin
Stakeholders

- Key stakeholders for success of project:
  - Director of oncology
  - Unit managers
  - RNs
  - SWs
  - Patients
### SWOT

<table>
<thead>
<tr>
<th><strong>Strengths</strong></th>
<th><strong>Weaknesses</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>- Significant leadership support</td>
<td>- Lack of consistent and efficient workflow</td>
</tr>
<tr>
<td>- Project is a priority for organization</td>
<td>- Recent high turnover in staff</td>
</tr>
<tr>
<td>- Current policy in place to support screening</td>
<td>- <strong>Knowledge gap about distress screening</strong></td>
</tr>
<tr>
<td>- Integrated tool in the EHR</td>
<td>- Staff resistant to change</td>
</tr>
<tr>
<td></td>
<td>- Distress screening not a staff priority</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Opportunities</strong></th>
<th><strong>Threats</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>- Improvement of current workflow</td>
<td>- Competing cancer programs in the area</td>
</tr>
<tr>
<td>- Increased rates of distress screening</td>
<td>- Risk of citation from CoC</td>
</tr>
<tr>
<td>- Admission task in EHR</td>
<td>- Unidentified patient distress</td>
</tr>
<tr>
<td>- Reporting quality metrics at huddles</td>
<td>- <strong>RN buy in of QI process</strong></td>
</tr>
<tr>
<td>- Education on reason distress screenings are completed, how to complete them, and patient scripting</td>
<td></td>
</tr>
</tbody>
</table>
RN Survey: Results

- Survey of RNs: 30% (3 of 10) completed distress screenings on newly admitted patients
- QI report: 22% (122 of 549) of patients had a distress screen
  - January to July 2018:
    - Medical-surgical oncology unit 30% (80 of 271)
    - Medical oncology unit 15% (42 of 278)
- EMR audit:
  - Medical-surgical oncology unit 15% (3 of 19) patients screened
  - Medical oncology unit 6% (1 of 15) patients with a screened
Clinical Problem

• Gap in care

• Opportunities regarding distress screening:
  – To improve process
  – To improve completion rates
Clinical Practice Question

• Will RN education and utilizing a standardized work process for use of distress screening increase the rates of distress screens completed?
IRB Approvals

- Letter from organization available upon request
Literature Review
Literature Review

Aim: to answer the following questions:

1. Does the Distress Thermometer (DT) screening tool detect distress in oncology patients compared to other gold standard tools?

2. Does the use of the DT or DT & Problem List lead to enactment of interventions to improve patient distress level?
Review Method

• A systematic review was conducted using PRISMA as the framework.

• Comprehensive search in databases:
  – Cochrane Library
  – CINAHL
  – PubMed
  – Google Scholar
Identification

Articles identified using keywords in Cochrane Library, CINAHL, PubMed, and Google Scholar Databases (N=112)

Screening

Number of articles after duplicates were excluded (n=108)

Excluded duplicate articles (n=4)

Articles excluded after title and abstract reviewed (n=93)

Eligibility

Full-text articles assessed for eligibility (n=15)

Full-text articles excluded for reasons pertaining to population, intervention, comparison, and outcome (n=10)

Included

Studies included in this review (n=5)

Included
Results: Literature Review

• Five articles met the inclusion criteria
  – Two randomized controlled trials that used the DT
  – Two used DT for data collection prior to nurse-led intervention
  – One analyzed data from a randomized controlled trial
Summary of Table

• All five studies used DT to screen distress
  – Found detected distress 8-12
• Efficacy validated: compared to other distress screening tools
• Feasible to incorporate into clinical practice
• Not effective at improving outcomes alone:
  – Interventions needed once distress identified
Evidence for Project

• DT:
  – Evidence-based tool
  – Successful at identifying distress in cancer patients
  – Feasible to incorporate into clinical practice
  • Due to brevity
Project Plan
Project Plan

Addressed gap in knowledge using evidence-based practice of distress screening to meet objectives:

1. Identified current state of distress screening completion through baseline data collection.
2. Implemented an education based intervention about distress screening, feasibility of using DT, and current policy and standard work.
3. Used Plan, Do, Study, and Act (PDSA) cycle facilitate practice change and provide support post-implementation of education and standard work.
4. Collected data to monitor distress screen completion rates and to evaluate education outcomes.
5. Created sustainability plan for continued monitoring of distress screening completion rates.
Model to Examine Phenomenon

• Promoting Action on Research Implementation in Health Services (PARIHS)$^8$
  – Evidence
  – Context
  – Facilitation
Framework: PARIHS

- Successful implementation depends on evidence, context, and facilitation

- Higher likelihood of success with attributes on high end of continuum
Evidence for Project

• Literature to support use of DT in clinical practice for distress screening
• NCCN guidelines support education of staff to identify and manage distress
Context

• Organization places high value on excellence and strives to improve patient-centered care and outcomes
• Gap in current practice of distress screening process
Facilitation

• Engaged and passionate leadership
• Open communication with staff about change
• Student to support process change
Purpose, Objectives, & Design

Purpose: To improve distress screening rate.

Objectives:
1. Provided education on efficacy and feasibility of DT
2. Reinvigorated standard work to increase completion rates of distress screening

Design: Quality improvement
Setting & Participants

Setting:
- Adult inpatient oncology department
- Midwest hospital system

Participants:
- Facilitators
  - Quality RNs
  - Charge RNs
- RNs
- Oncology patients
Implementation Model

- Plan Do Study Act \(^{10}\)

- Define the objective and question

- Decide if change can be implemented
- Another cycle?

- Analyze the data
- Compare with predictions

- Carry out the plan
- Collect the data
• Organizational assessment
  – Gathered and audited retrospective data
  – Completed distress screenings
#2 Implementation Strategy & Element

• Expert involvement
  – Collaborated with key stakeholders to develop a standard process and work flow
  • Utilized current standard work and policy
#3 Implementation Strategy & Element

- Quality improvement
  - Developed education materials on distress screening and standard work
    - Education handouts for staff and patients
    - Pre and post test
#4 Implementation Strategy & Element

- Change model utilization
  - Utilized PDSA cycles to refine process based on outcomes and feedback from key stakeholders
#5 Implementation Strategy & Element

• Education provision
  – Educational in-services presented education on distress screening and standard work
    • Pre and post data was collected at this time
  – Workflow process
    • Standard work to ensure the process was consistent
#6 Implementation Strategy & Element

- Facilitation
  - Use of MDI board
    - Visual tool to manage and drive continuous improvement
    - Kamishibai card, pareto chart, pass/fail chart, gate chart
  - Engagement of charge RNs and quality RN
#7 Implementation Strategy & Element

- Audit and Feedback
  - Collected implementation outcome measures
  - Engaged unit champions
    - Charge RNs
    - Quality RNs
#7 Implementation Strategy & Element Cont.

- **Audit and feedback**
  - RNs completion of DT
  - Charge RNs audit 24 hour completion
    - To monitor standard of work
  - Provided feedback to stakeholders
  - Presented work to key stakeholders within oncology department
## Evaluation & Measures

<table>
<thead>
<tr>
<th>Implementation strategies</th>
<th>Concept measured</th>
<th>How measured</th>
<th>When measured</th>
<th>Who measured</th>
<th>Who measures</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Knowledge and competency about distress screening</td>
<td>Test</td>
<td>Pre/post education session</td>
<td>RNs</td>
<td>Student</td>
</tr>
<tr>
<td></td>
<td>Distress screened</td>
<td>EHR report of admissions and completed distress screens</td>
<td>1 month after intervention</td>
<td>RNs completion of DT</td>
<td>Student and business development consultant for the cancer program</td>
</tr>
<tr>
<td></td>
<td>Audit and feedback</td>
<td>MDI board quality metric</td>
<td>Daily for one month</td>
<td>RNs completion of DT</td>
<td>Charge RNs or Quality RN</td>
</tr>
<tr>
<td></td>
<td>Facilitation</td>
<td>Audit of MDI board</td>
<td>Daily for one month</td>
<td>Facilitators</td>
<td>Student</td>
</tr>
<tr>
<td></td>
<td>Type of education</td>
<td>1. # of RNs who received in person education</td>
<td>Pre/post education session for number of RNs who received in person education</td>
<td>RNs</td>
<td>Student</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2. # of RNs who received information via weekly updates</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Patient outcome</td>
<td>Concept measured</td>
<td>How measured</td>
<td>When measured</td>
<td>Who measured</td>
<td>Who measures</td>
</tr>
<tr>
<td>-----------------</td>
<td>---------------------------</td>
<td>-----------------------</td>
<td>---------------------------------------------------</td>
<td>--------------</td>
<td>--------------</td>
</tr>
<tr>
<td></td>
<td>Distress identified</td>
<td>EHR</td>
<td>1 month before intervention 1 month after intervention</td>
<td>Patients</td>
<td>Student</td>
</tr>
<tr>
<td></td>
<td>Patient Informed</td>
<td>1. RN asked (yes/no) if patient was informed 2. Patient asked (yes/no) if received information</td>
<td>Daily for one month</td>
<td>RNs and patients</td>
<td>Student</td>
</tr>
<tr>
<td>System Measure</td>
<td>Standard work compliance</td>
<td>Audit admissions after 24 hours</td>
<td>Daily</td>
<td>RNs</td>
<td>Charge RNs</td>
</tr>
</tbody>
</table>
Analysis Plan

• Descriptive analysis
  – Pre post test results following education

• Chi-square
  – Determine difference in distress identified
Timeline

• Devised standard process and workflow with key stakeholders
  – November 1 through December 10, 2018
• Completed proposal and approval process
  – Developed education materials
    • Pre-tests and post-tests
    • Handout for staff and patients for staff huddles
  – December 10, 2018
• Conducted education to staff during in-services on the units
  – February 1, 2019 through February 11, 2019
• Collected data weekly for one month after change
  – Number of completed distress screens
  – Number of admissions to the oncology units
  – February 12, 2019 through March 10, 2019
Timeline

• Utilized PDSA cycles to refine standard work based on outcomes and feedback from key stakeholders
  – February 25, 2019
• Provided feedback to key stakeholders
  – March 1, 2019
• Present work to key stakeholders: oncology department
  – April 19, 2019
• Complete project defense: at University
  – April 17, 2019
Resources & Budget

• Main cost: time of student
• Will utilize in-services on the units during the RNs shifts
• DT is currently integrated in EHR
## Budget

<table>
<thead>
<tr>
<th>Personnel</th>
<th>Position</th>
<th>Hourly Wage</th>
<th>Time</th>
<th>Total</th>
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</thead>
<tbody>
<tr>
<td>RN</td>
<td>$27/hour</td>
<td>$19/hour</td>
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<td>8 hours</td>
<td>$248 cost savings</td>
</tr>
</tbody>
</table>
Results
RN Education

• Overall 36 RNs received education
  – Use of the DT via an in-service.
  – **52%** (20 of 38) of the RNs surgical-oncology
  – **43%** (16 of 37) of the RNs medical-oncology

• Bi-weekly updates were sent out via email on February 8 and 22, 2019
  – All RNs regardless of receipt of in-service or not.
RN Knowledge Gained

- **29.8%** improvement summed test scores pre-to post-test
  - **26.6%** medical oncology unit score 79%
    - Mean 5.53 (SD 22.8) to 100% with a mean of 7 (SD 0).
  - **32.1%** surgical oncology unit score 75.7%
    - Mean 5.3 (SD 15.4) to 100% with a mean of 7 (SD 0).
RN Knowledge Gained

RN Education Pre Post Test Scores by Question and Overall Scores

<table>
<thead>
<tr>
<th></th>
<th>Pre-education</th>
<th>Post-education</th>
<th>Overall</th>
</tr>
</thead>
<tbody>
<tr>
<td>Screening improves patient outcomes</td>
<td>97</td>
<td>100</td>
<td>77</td>
</tr>
<tr>
<td>RN responsible to screen</td>
<td>97</td>
<td>100</td>
<td></td>
</tr>
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<td>DT for credentialing</td>
<td>75</td>
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<td></td>
</tr>
<tr>
<td>Comfort with talking about distress</td>
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<td>100</td>
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<tr>
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<td>100</td>
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</tr>
<tr>
<td>Overall</td>
<td>77</td>
<td>100</td>
<td></td>
</tr>
</tbody>
</table>
RN & Patient Information Exchange

• 20 RNs from medical/surgical oncology units
  – Completed the DT were asked “was the patient given the informational handout about distress screening?”
  – 100% responded yes
• 20 patients that were cared for by these 20 RNs
  – Asked “did you receive the informational handout from the RN about DT?”
  – 100% responded yes
• Surveys demonstrated ceiling effect of 100%
  – DT information exchange
Facilitation & MDI Board

• Facilitation
  – Medical Oncology: 83% (10 of 12 days)
  – Surgical Oncology: 88% (23 of 26 days)

• 100% MDI board was used when facilitation occurred
  • All elements of MDI board were used
DT Completion Rates

• Surgical oncology unit DT completion rate
  – 25% (68 of 271) pre-implementation
  – 52% (44 of 85) post-implementation
  – 108% increase

• Medical oncology unit DT completion rate
  – 15% (40 of 273) pre-implementation
  – 10% (8 of 83) post-implementation
  – 33.3% decline
DT Completion Rates

Rate of DT Completion Before/After Implementation on Surgical and Medical Oncology Units

<table>
<thead>
<tr>
<th>PERCENTAGES</th>
<th>Surgical Oncology Unit</th>
<th>Medical Oncology Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>% DT Before</td>
<td>25</td>
<td>15</td>
</tr>
<tr>
<td>% DT After</td>
<td>52</td>
<td>10</td>
</tr>
</tbody>
</table>
DT Completion Rates: in 24-hours

- DTs completed within 24 hours of admit:
  - 25% (26 of 105) pre-implementation
  - 26% (44 of 168) post-implementation

- Slight increase in standard work compliance.
DT Completion Rates: in 24-hours

DT Completed within 24-hours of Admit to Hospital

Pre-implementation: 24.4%
Post-implementation: 24.6%

<table>
<thead>
<tr>
<th></th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-implementation</td>
<td>25</td>
</tr>
<tr>
<td>Post-implementation</td>
<td>26</td>
</tr>
</tbody>
</table>
Distress Identification using DT

• Patients identified with distress: outcome
  – DT with scores ≥4 distress identified
    • 26.9% (7 of 26) pre-implementation
    • 50% (22 of 44) post-implementation
  – p-Value 0.058
• Demonstrating near significant improvement
Distress Identification using DT

<table>
<thead>
<tr>
<th></th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-implementation</td>
<td>26.9</td>
</tr>
<tr>
<td>Post-implementation</td>
<td>50</td>
</tr>
</tbody>
</table>
Discussion

• This project was clinically meaningful to patients and staff
• RNs understood importance of providing patient information on DT
• Increased RN comfort levels by providing scripting
• Highlights the importance of standardization of care
Sustainability Plan

• Kamishibai card
  – In the moment audit and feedback

• Unit report audit by quality nurse
  – Gate chart updates

• Creation of new documentation option
  – RN acknowledged screen was not appropriate for patient
Implications for Practice

• Patient outcome
  – 22 patients identified with distress post intervention (p = 0.058) demonstrating near significant improvement

• DT is evidence-based and feasible tool for identifying distress

• It was identified that RNs were uncomfortable discussing DT with patients
Conclusions

• Identification of distress in oncology patients is important for the health and outcomes of the patient
• Education intervention improved RNs knowledge about DT
• Further follow-up on standardization of workflow is needed
DNP Essentials

• **Essential I Scientific Underpinnings for Practice** The DNP student was able to translate knowledge gained through literature review, organizational assessment, and clinical practice to develop a quality improvement project.

• **Essential II Organizational and Systems Leadership for Quality Improvement and Systems Thinking** The DNP student was able to identify a gap in organizational expectation compared to current practice related to distress screening. Communication with leadership of the oncology program was crucial for success of the project. Intervention was focused on improvement of care and needs of oncology patients.

• **Essential III Clinical Scholarship and Analytical Methods for Evidence-Based Practice** Analytical methods were used during literature review to determine efficacy and feasibility of DT in practice. Project disseminated within the organization and university.
DNP Essentials Continued

• **Essential IV Information Systems/Technology and Patient Care Technology for the Improvement and Transformation of Health Care** The DNP student utilized the EHR throughout this project to conduct chart audits of admitted patients. A gap was identified in documentation through semi-structured interviews with RNs. Opportunity to improve documentation in EHR was brought to oncology program leadership.

• **Essential V Health Care Policy for Advocacy in Health Care** The organizations policy related to DT was reviewed. Additionally, NCCN guidelines and CoC standards for accreditation were reviewed.

• **Essential VI Interprofessional Collaboration for Improving Patient and Population Health Outcomes** The DNP student collaborated with leadership of the oncology program. The cooperation and collaboration of this team was essential for the success of the project.
DNP Essentials Continued

• **Essential VII Clinical Prevention and Population Health for Improving the Nation’s Health** The DNP student sought to increase completion rates of distress screening through RN education. A significant portion of the population is impacted by cancer, identifying distress in this population allows for psychosocial and psychological needs to be addressed.

• **Essential VIII Advanced Nursing Practice** The DNP student was able to mentor RNs on where and how to document distress screenings. Also, education was provided on how to inform patients about DT.
References


