

Spring 5-16-2016

# Quality Improvement: An Update for Outpatient Oncology Education

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## Recommended Citation

Gee, Nicole R., "Quality Improvement: An Update for Outpatient Oncology Education" (2016). *Master's Projects and Capstones*. 324.  
<https://repository.usfca.edu/capstone/324>

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Quality Improvement: An Update for Outpatient Oncology Education

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### **Clinical Leadership Theme**

The primary leadership focus of this project rests in the Clinical Nurse Leader (CNL) curriculum competency of teaching and learning principles and strategies through the CNL Educator role (AACN, 2006). In this role, the CNL incorporates evidence based information, materials, and methods for teaching and learning in order to meet the needs patients and providers.

The global aim of this project is to improve oncology-specific patient education through the development of an evidenced based educational binder to be given to patients in a hospital outpatient infusion center and used as an educational guide for nursing staff. The process begins with assessment of patient educational materials and methods, in addition to data measures indicating patient comprehension for self-care. Provider skill level will be determined indirectly by patient comprehension of self-care. The process ends with evaluation of greater patient comprehension and improved provider skill after the conclusion of patient education. By developing this process, it is expected to not only improve satisfaction, but also patient understanding and outcomes. Additional benefits include savings in healthcare costs, which are a reasonable byproduct of education-related reductions in emergency room visits (Smith et al., 2013). This is timely because patient safety in this special population hinges on understanding of their disease, treatment, and effective symptom management education.

During this project, I will lead a multidepartment, multidisciplinary effort with the purpose of elevating existing educational materials and practices to evidence based standards of practice for oncology patient education. Because several different disciplines impact outpatient oncology care and elements of the educational materials, a multidisciplinary approach is critical for project success. Departments involved in the project include: nursing, physicians, pharmacy,

nutrition, integrative wellness, patient experience, community relations, printing, and the institutional review board.

### **Statement of the Problem**

Especially in oncology, internet searches and incomplete information can lead patients to potentially frightening or erroneous information and symptom management advice; additionally, others may want to know as little as possible (Askren, 2013 ). The newly diagnosed oncology patient may be anxious and is, most likely, unequipped to manage the details of this difficult diagnosis and the associated complexity of care. According to Mann (2011), “Anxiety, which is common in the initial phase of cancer diagnosis and treatment, is decreased with effective education while comprehension, retention, and quality of life are increased” (p. 59). Additionally, effective patient education has been seen to improve adherence, self-management, and outcomes, as well as reduce unnecessary emergency room visits (Smith et al., 2013).

It is the purpose of this project to enhance patient satisfaction and self-care through education materials and teaching reinforcement for nurses. According to Askren (2013), the introduction of patient education binders solves issues pertaining to deficits in nursing education performance in addition to patient appreciation and engagement. Beyond that, standardization in patient education has been associated with greater satisfaction and competency in self-care, leading to the desired project goals of patient confidence in nausea and vomiting management and knowing when to call for medical assistance (Dalby et al., 2013).

### **Project overview**

The nature of this project is focused on quality improvement in patient satisfaction with regard to side effect management after oncology patient education. This concept has been found to be in alignment with the Agency for Healthcare Research and Quality recommendations,

which are recognized for positive outcomes (ARHQ, 2013). Objectives for the project include updating oncology patient education materials and better equipping the nursing staff for teaching this special population. Patient confidence and competency in symptom management are expected to improve from these two strategies.

A university established evidence based project checklist was completed in order to confirm that an institutional review board approval was not necessary for this quality improvement project. Furthermore, a project outline and summary were submitted to the facility institutional review board, which produced affirmation that a formal review was not necessary, nor was a project clearance letter.

The specific aim of this project is to improve confidence for the oncology patient, especially self-care for nausea and vomiting symptom management and knowing when to call for provider help, by May 2, 2016. It is expected that 90% of patients or caregivers will report their confidence in following the nausea protocol and when to call for medical assistance following patient education. This expected outcome would be determined through survey data collection pre and post implementation.

### **Rationale**

The project improvements in materials and teaching skills are justifiable and required in order to improve the patient experience, meet the needs of this special population, and reach alignment with national goals for healthcare improvement (IHI, 2015). In 2001, the Institute of Medicine (IOM) (2011) held a workshop focused on improving patient-centered care in the oncology setting. A summary of the event highlighted the need for improved quality communication in many areas of care and treatment planning. Attending providers also acknowledged the need to assist patients in accessing supportive services.

A modified Institute for Healthcare Improvement (IHI) specialty practice profile form was utilized to gain assessment data of the outpatient infusion department. A facility analysis with an Ishikawa diagram further illustrated the contributing factors leading to poor-quality oncology patient education in the institution (Appendix A). Based on observational assessment, pre-project methods of oncology education were inconsistent and scant at best. Currently, nurses conduct a brief evaluation of educational needs and learning style, offering little to no information on home self-care. Actual teaching methods differ between nurses and supportive materials include a clinical summary of medication and a 61-page National Cancer Institute bound book. These materials may provide a challenge for patients speaking English as a second language and appear to have low health literacy.

Current literature provides ample to support the project. Patient satisfaction and quality of life has increased with quality, patient-centered education (Mann, 2011). A binder-based education method of instruction has been shown to facilitate patient involvement in care and improve nurse confidence (Askren, 2013). According to research in a similar setting, qualitative analysis has shown that the introduction of a patient education binder led to: improved patient-provider communication, lowered patient distress and anxiety, inclusion of multidisciplinary contributions, and served as a quality resource for patients (Gauthier-Frohlick, et al., 2010). Additionally, the use of patient binders has been seen to improve nursing education quality, practice, and confidence through offering a standardization bridge and support in tackling difficult topics, such as sexuality (Askren, 2013). Improved self-care has been seen with a standardized approach to patient education (Dalby et al., 2013). Improvements in health literacy have been shown to reduce emergency room visits and hospitalizations (Smith et al., 2013).

Standardized methods of instruction, which include addressing learning needs and preferences, have been shown to improve satisfaction (Dalby et al., 2013).

Current best practice for outpatient oncology education acknowledges the benefits of a comprehensive, patient-centered approach in order to promote improved outcomes (Mann, 2011). Additionally, providing quality materials, such as a patient binder, and utilizing the patient materials as a guide for consistent education style proves to assist staff as well as afford patients a better experience (Askren, 2013; Gauthier-Frohlick, et al., 2010). Because patient education sessions do not have a dedicated time and happen on the first day of infusion, unnecessary education repetitions or omissions could be avoided by using the binder as a guide.

A plan to retrieve data from both patient experiences and emergency room visits could provide support for the effectiveness of an educational nursing intervention. A survey indicating patient understanding of nausea and vomiting self-care and when it is appropriate to seek medical attention for the condition would support the goal of improved outcomes (Appendix B). Additionally, a comparison of baseline emergency room visits for oncology patients and visits six-months post-intervention could provide further data about intervention effectiveness.

A reasonable and evidence-based solution is to create a customizable ringed binder as a patient hand out, coupled with re-educating nurses on patient oncology education. The binder would allow for patients to add other information as needed for their care and a patient could incorporate additional materials from any other provider into the binder. The binder would also serve as a guide for patient education. Any nurse could start or stop education and pick up the conversation again at a particular tab in the binder. As well, the binder materials would allow for consistency in important elements of education, such as how and when to call for clinical help or understanding regarding uncontrolled nausea and vomiting. It is appropriate to accomplish a

data-driven and patient-centered educational approach that equips patients with the tools for self-managing treatment-induced side effects in addition to facilitating access to appropriate resources, such as provider care.

A SWOT analysis (Appendix C) for the oncology education improvement project provided insights to enable successful implementation. Strengths included a desire by management, staff, and physicians, as well as a hearty volunteer workforce and a CNL in the department. Weaknesses were exposed in manpower for binder assembly and patient teaching, prohibitive costs, and a project succession champion. However, external opportunities could rest in creating a better public image for the hospital oncology program, serving as a model for the region. Among the external threats were conflict between the private practice oncologists and reliance on outside vendors for purchasing binders. The oncology physicians operated a private practice infusion clinic as well as serviced the hospital outpatient clinic. It was observed that the hospital administration desired to have improved educational materials and the physicians desired to have patient education consistency between both locations. However, personal, financial, and administrative differences between the physicians and the hospital administration were a potential pitfall to the project. Furthermore, replenishing the new educational materials in the hospital-based outpatient clinic would rely on staff ordering binders from an outside source. Addressing this issue was critical to consider for project sustainability.

Furthermore a stakeholder power analysis was completed in order to better understand the key players involved in implementing the educational project (Appendix D)

Examination of these elements founds opportunities in: harnessing the improvement desires of the staff, recruiting the department CNL to champion the project, engage volunteers to provide necessary project manpower, utilizing light duty nurses, and reinforce success with



hospital management (Fitzpatrick, Edgar, Remmer, & Leimanis, 2013).

The Centers for Medicare and Medicaid Services have clearly pronounced quality, cost reduction, and patient satisfaction as priorities for service reimbursement (CMS, 2015; Medicare.gov, n.d.). Often the outpatient oncology population needlessly utilizes precious resources, such as ED visits, which can average \$1,800 minimum per visit (Livingston, Craike, & Considine, 2011; MGH, 2015; Pittman, Hopman, & Mates, 2015). Fortunately, comprehensive education has been seen to avert this occurrence (Mann, 2011). Quality of life and patient satisfaction, as well as fewer side effects, better side-effect management, and feelings of control, are also noteworthy results of education (Mann, 2011). A value-added approach to educational materials could serve to improve the quality of patient care and assist as a prompt for consistent education, leading to increased safety (Askren, 2013). Documented material enhancements were seen in consistency, literacy level, additions of pertinent information, and patient-centered or individualized information (Askren, 2013; Mann, 2011).

With implementing this quality improvement program, an analysis of current education practice expenses and expected future expenses is standard (Appendix E). Calculations for current practice include: approximately one hour of nursing time per new treatment plan, administrative time for materials ordering, and the cost of printing the current booklet in-house, as they are no longer available for purchase. New program costs should include: one hour of nursing education time per new treatment plan, administrative time to order materials and coordinating with volunteer manager, and the cost of binders with in-house printed materials. Educating staff on the new materials will be included in huddle time.

An average of 2 patients per week require oncology education and it is believed the only elevation in cost for the project will rest with the purchase of custom binders and dividers as the

project model utilizes volunteer services and light duty nurses for labor-intensive materials assembly (Fitzpatrick, Edgar, Remmer, & Leimanis, 2013). One averted ED visit would likely cover the difference.

### **Methodology**

The specific measure of effectiveness has been determined to be patient confidence in nausea and vomiting self-care and knowing when to seek medical attention for symptom management. Baseline patient survey measures for these criteria set the stage for the educational material teaching intervention. Following data gathering, the implementation methodology for this project will be guided by Lewin's change theory as it has been deemed appropriate for an educational application, the straightforward nature of the project, and already existing of the staff desire (Manchester et al., (2014).

Lewin's unfreezing phase allows for the inclusion of staff input and best practice models, in addition to creating partnerships with the staff CNL and Clinical Nurse Specialist (CNS) located in the outpatient infusion unit who is designated to ensure project succession. While some resistance is anticipated, there is additional project support in internal pharmacy, the education department, and among physicians. The movement, or change, will include refining the existing goal of improved patient confidence for symptom management and familiarizing nursing staff with the new materials through huddles (O'Malley, Gourevitch, Draper, Bond, & Tirodkar, 2015). A single nurse will lead PDSA cycles in order to test the effectiveness of the intervention and make modifications as necessary. The test for effectiveness will be through administration of a patient survey, which revisits the aim of confidence in symptom self-care and knowing when to call the provider. Once sufficient supporting evidence is gathered through patient effectiveness surveys, the refreezing phase will transpire. Refreezing will include

revisiting the relationship and supporting the unit CNL and CNS in reinforcing and championing sustainability of the project. Sustainability and effectiveness efforts will include tracking outcomes data, a fundamental component of CNL practice (American Association of Colleges of Nursing [AACN], 2013).

Specific actions were taken in order to effectively implement the project. After project approval, I collaborated with unit staff on specific educational needs and incorporated the requests into the new patient binders. At the same time, duties were assigned for project succession. The unit CNS took the responsibility for: maintaining development of materials through future PDSA cycles, retrieving effectiveness data and ordering empty binders and additional supplies. The unit manager took responsibility for organizing light duty nurses or volunteer services for materials assembly, as well as project cost center accountability. The Quality Management Data Coordinator will retrieve ED visit information and report back to the unit CNS at appropriate timing intervals. Since the project falls under the category of quality improvement but is also considered patient satisfaction driven, the Executive Director of Patient Experience will oversee the entire project.

I will perform education on the new materials during nursing huddles prior to patient introduction. The nurse performing patient teaching will give the pre-education survey directly before the education session. After the teaching, a staff nurse will give the post-education survey. This will continue for a total of four weeks. At the conclusion of four weeks, the CNS will compile survey findings and make educational adjustments through the PDSA formula. The CNS will maintain four-week PDSA cycles until satisfaction is achieved.

A rise in patient confidence for nausea and vomiting self-care and when it is appropriate to call for provider help is expected. Following baseline survey data collection, implementation

is expected to begin April 4, 2016 with six-month post-implementation patient surveys given beginning October 7, 2016 in order to measure and confirm project expectations.

Appendix F provides a diagram explaining the process of implementation.

### **Data Source/Literature Review**

A literature search was found to support the concept of improving outpatient education materials and methods. CINAHL and the University of San Francisco, Gleeson Library databases were searched utilizing a PICO strategy of oncology, written education, and nausea management. The aforementioned wording did not yield sufficient results and was then refined with several combinations, which provided ample results, supporting the project.

Livingston, Craike, and Considine (2011) conducted a retrospective audit, finding that oncology patients experienced preventable emergency department visits and hospitalizations due in part to ineffective self-management of chemotherapy-associated side effects. Of the emergency department discharges, those not requiring hospitalization, 60% were considered non-urgent and 15% were due to nausea, vomiting and dehydration. Additionally, it was suggested that the frequency and number of repeat visits was greater than previously thought, resulting in unwarranted and costly care. This research highlights the importance of equipping patients with adequate knowledge for self-care and knowing when to call the provider for further care direction.

Though an older publication, editors Hewitt and Simone (1999) walked the reader through an Institute of Medicine report. Key findings set the standard in process and quality expectations for treatment providing facilities since sufficient coordinated care for cancer patients had not existed. The report also underscored the essential role of the nurse in care management of this special population, especially in the area of symptom management and

patient education. This presented a valuable contribution to the project as, nationally, it supports the concept that symptom management and patient education are primarily nurse driven.

Though directed toward oral regimen adherence, Hall, et al. (2016) explained that patients' knowledge and understanding of their disease effected regimen adherence, particularly when dealing with treatment-related side effects. Their findings paralleled information on other cancer populations. Those with lower socioeconomic status and more complex medical conditions were found to have greater rates of medication non-adherence. However, patients with a greater knowledge of and understanding of their condition experienced greater adherence. The researchers admonished providers to support patients with information on self-administered medications. The research maintains support for the project by indicating the importance of offering good provider communication and written information at an appropriate level of understanding, which can be adapted to the theme of oral antiemetic medication adherence.

In her article, Mann (2011), reviewed barriers and what and how to teach newly diagnosed patients with research structure based on the Institute of Medicine's guidelines of: safety, timeliness, efficiency, effectiveness, and patient-centered approach. Results of the research suggested that teaching should be tailored to the individual patient, which led to increased satisfaction and reduced anxiety. Additionally, the author suggested the importance of effective education in order to avoid misinterpretation of information, especially with side effects and among older adults. The article served to support this project through relating the importance of patient-centered oncology education and quality improvement. Additionally, reaching the patient at their level and desired method of instruction proved valuable.

Boykins (2014) further supported the notion that communication is a fundamental element in nursing practice and that patient-centered communication included clearly informing

and educating patients, which could positively effect patient outcomes and self-care. The author further elaborated that a patient-centered approach to care and communication clearly paralleled national initiatives by highlighting reports from the Institute of Medicine (IOM), standards from the American Nurses Association (ANA), and the Healthy People Initiatives. The article reinforced that providing quality education is clearly within the scope of practice for nurses and this caliber of education is required to meet the needs of patients. The article supports project goals of evaluating and improving patient communication as a means to elevate the oncology to best practice and national standards.

Researchers Gauthier-Frohlick, et al. (2010) provided data-heavy information in support of an oncology focused patient binder and how it met the educational needs and variations of patients while addressing information critical to patient safety and anxieties. This study utilized a quantitatively driven, quasi-descriptive study with qualitative elements. Incorporation of a binder was found to be an invaluable resource for patients that also allayed distress and uncertainties, as well as empowered patients in self-care and improved patient-provider communication. This research provided acknowledgement that an information binder approach to improved oncology education elevated quality of life and quality of care with respect to self-care. Further, support was found as a patient binder served as a mechanism for knowledge exchange and the development of best practice.

In an article from 2013, Askren offered practical information on patient needs, preferences, and oncology-focused patient binder information based on patient and provider input. Nurses' difficulties discussing certain topics during education was addressed and found to be remedied through introduction of the binder. In her study, the researcher recognized that 66% of nurses at her facility were uncomfortable with delivering complete oncology education due to

the nature of such topics as sexuality, clinical trials, and genetic testing. Furthermore, in the busy clinical setting, nurses were not able to complete uninterrupted education in totality. An oncology-specific, customizable binder was introduced as a solution to providing adequate information to the patient and providing a tool for the nurse, which were a success. Using the binder as an education guide, nurses were more comfortable and able to better address critical topics, like nausea management. This information is relevant because the materials used in education and style of teaching prior to the binder intervention closely mirror current practices in our facility, such as utilization of the, now dated, National Cancer Institute (NCI) materials. The article also lends affirmation that the intervention should succeed.

In a study, Dalby et al. (2013) further defended the patient and provider benefits to process and material standardization for oncology patient education. Patients reported both greater satisfaction (a score of 4.86 on a 5 point scale) and understanding regarding self-care, as well as what to expect during treatment. Utilizing a standardized education approach, 87% of study participants felt they had understanding of how to manage chemotherapy related side effects. Additionally, patients gave a score of 4.5 (on a 5 point scale) of knowing when to contact their provider. The researchers also found that the standardized process improved both patient and staff satisfaction, giving the impetus to implement the program in two more facilities. This article supports the decision to standardize patient materials for patient confidence in symptom management and knowing when to call for medical assistance. Moreover, the research upholds the concept that standardization of materials is beneficial for both patient and educator.

### **Timeline**

The project began late January 2016 and is currently in the infantile stages of implementation, with an expected end in June of 2017. Please refer to (Appendix G) for Gantt

chart. Implementation challenges impacted the timeline with final compilation of education materials, which would be utilized in both the facility outpatient infusion setting and the oncology private practice office in order to ensure consistency for patients and staff.

### **Expected Results**

The results of this oncology education intervention are expected to improve patient confidence and competences in self-managing side effects related to chemotherapy, as well as feel comfortable in knowing when to seek additional medical care. Ancillary expectations reside in staff competency for thorough oncology education. It has been noted that facility nurses are required to provide critical education while caring for multiple patients, without a dedicated time slot, and inadequate teaching materials. Upon successful implementation, nurses should have greater satisfaction and consistency should disruptions require another nurse complete previously initiated education. Furthermore, a reduction in unnecessary ED visits is anticipated, with results to be confirmed in June of 2017. Fewer ED visits should lead to a reduction in healthcare costs, a benefit to the insured, insurer, and the facility. Certainly, not least of the benefits is improved quality of life and participation in self-care for the patient. It appears that the benefits are numerous when patients are well equipped and secure on the road to recovery or controlled management of such a devastating disease as cancer.

### **Nursing Relevance**

This project is expected to confirm the CNL role as a change agent for quality improvement. As Boykins (2014) mentioned, it is clearly within the nursing scope of practice and is imperative to facilitate effective, patient-centered communication for the benefit of patient, provider, and the healthcare system at large, and is integral in CNL competencies (AACN, 2006)



As this facility is in the beginning stages of incorporating the CNL role, this project will serve as an indicator of the holistic and effective capacity of this masters-prepared nurse and potentially serve to expand the responsibilities within the facility.

### **Summary Report**

At the time of this report, the project is still in the pre-implementation data collection phase. The specific aim of this project was to improve confidence for the oncology patient, especially self-care for nausea and vomiting symptom management and knowing when to call for provider help, by May 2, 2016. It was expected that 90% of patients or caregivers would report their confidence in following the nausea protocol and when to call for medical assistance following patient education.

The patient population for the project was as expected. Patients with diverse demographic backgrounds were scheduled to receive chemotherapy in a hospital outpatient infusion clinic. Also anticipated, no educational time was scheduled for education with education expected to happen amid infusions and nurse interruptions.

Unfortunately, at this time there is no significant patient data available due to several reasons, not the least of which were significant unanticipated delays in project approval, due in part to more departments needing to evaluate and approve the project than expected. Fewer than expected new patients were scheduled during the survey and data collection period. Though the head of oncology research reviewed the survey and assisted with translation to Spanish, patients also proved to be hesitant in completing the surveys and returned incomplete documents, rendering them useless for measurement inclusion. This naturally caused a deviation to implementation, however, it is anticipated that the project will slowly continue to move forward systematically.

The next step includes obtaining final approval in education materials. Thus far, the unit director, unit manager, CNS, and education department have approved the materials, with physician and pharmacy approvals anticipated soon. After final approval, the materials will pass through the community relations department for branding. It was recently revealed that branding might take up to several weeks, adding to the delay, however this may work as a benefit in order to gather more baseline survey data.

After materials are ready for introduction, a PDSA cycle followed by SDSA cycles will happen every four weeks until desired results of patient confidence are achieved, all under the direction of the CNS. Two follow up cycles of with post-education surveys (Appendix B) will be done at six-month intervals to collect effectiveness data. Omission of the pre-education survey (Appendix B) was done at recommendation from the oncology researcher and the unit CNS as it was thought to be unnecessary. It is expected that understanding garnered from this project will contribute to improvements in patient education for other departments.

Binder development took direction from the sources cited in this report and incorporated information from the physician led clinic and The National Cancer Institute. Materials from the American Cancer Society and the National Comprehensive Cancer Network (NCCN) were referenced and compared, however these were either found to be redundant, inappropriate based on health literacy level, or not necessary.

Responsibility for project sustainability will be maintained by the unit CNS. The unit manager will maintain responsibility for covering costs and labor for materials while the CNS takes responsibility for ordering materials, updating materials as needed, and tracking survey data. Though relocating out of the vicinity, I will continue to offer support and direction

remotely and follow up on survey results in order to fully understand the scope of benefit for the project.

At this time, there is no clear indication of significant project success other than anecdotal response. There have been many unsolicited positive responses from both patients and providers based on material prototypes, however, hard data is still required to measure success. Despite all of the setbacks effecting project implementation, the educational value achieved from going through the process is invaluable. I now have a deeper understanding of the skills required to work with a broad spectrum of players and stakeholders. Whether internal or external to the project, treating each person and encounter as a customer service opportunity has served well to break down barriers, remove misconceptions, and incentivize project promotion. Ancillary benefits of this customer-driven mindset has led to coalition across groups together with promotion and confidence in the CNL role.

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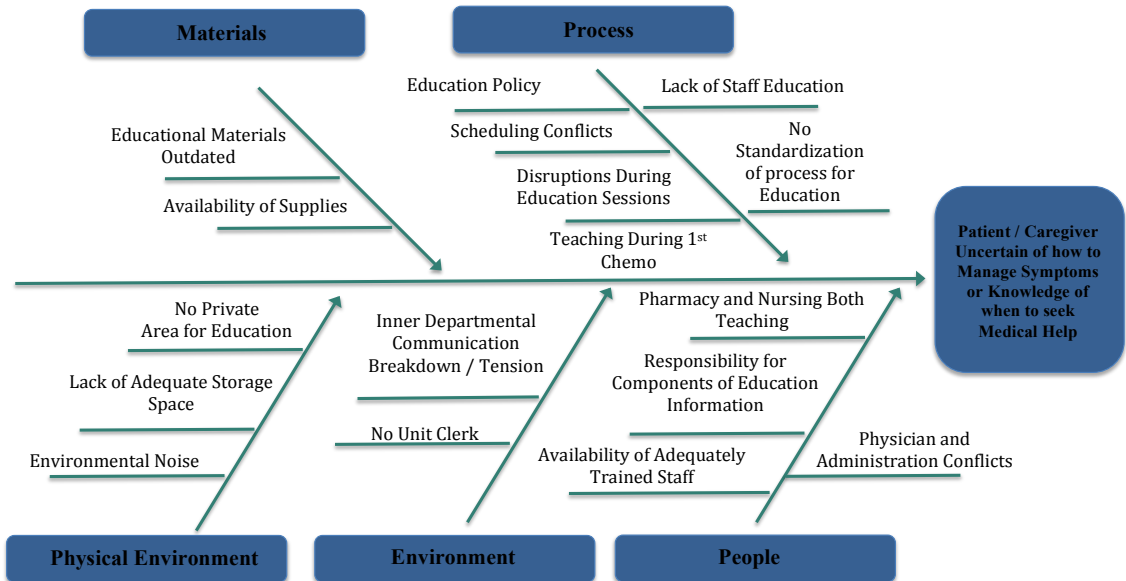
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Appendix A

Ishikawa Diagram for Outpatient Oncology Education



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## Appendix B

### Oncology Education Improvement Plan Pre-Education Survey

Thank you for participating in this short survey geared toward improving your experience. The results of this survey will help us refine the materials and ways we provide information to you about your cancer diagnosis and treatment.

#### Where did you look for more information about cancer?

- Friends and family
- Family doctor
- Searched the Internet
- Read books on cancer
- Saw, listened, or read stories in the media (television)
- Did not look
- Called or visited the American Cancer Society
- Called or visited the Cancer Resource Center at Marin General (1350 S. Eliseo)
- Other

#### How do you most prefer to receive health information?

- In person, from health professional
- In person, from someone personally affected
- By watching a video or television show
- By reading books
- By reading pamphlets and brochures
- By using interactive computer programs
- By calling information phone lines
- By searching the Internet
- Do not prefer to receive health information
- Unknown

#### Are you interested in complimentary medicine or treatment?

- Yes
- No
- Don't know
- Unknown

#### Do you feel confident in managing nausea at home?

- Yes
- No
- Don't know
- Unknown

#### Do you feel confident in knowing when to call your health care provider for side effects?

- Yes
- No
- Don't know
- Unknown

Adapted from: Gauthier-Frohlick, D., Boyko, S., Conlon, M., Damore-Petingola, S., Lightfoot, N., Mackenzie, T., & ... Steggle, S. (2010). Evaluation of cancer patient education and services. *Journal Of Cancer Education*, 25(1), 43-48 6p. doi:10.1007/s13187-009-0008-y



## Appendix B

### Oncology Education Improvement Post-Education Survey

Thank you for participating in this short survey geared toward improving your experience. The results of this survey will help us refine the materials and ways we provide information to you about your cancer diagnosis and treatment.

#### How well did the information on chemotherapy meet your needs?

- Too much information
- Just the right amount of information
- Not enough information
- Missing
- Unknown

#### How well did the information on radiation therapy meet your needs?

- Easy to understand
- Hard to understand
- Just right
- Easy to Follow
- Unknown
- N/A

#### How well did the information on patient nutrition meet your needs?

- Too easy to understand
- Just right to understand
- Too hard to understand
- Too easy to follow
- Just right to follow
- Too hard to follow
- Unknown

#### How useful were the medication tips?

- Very useful
- Somewhat useful
- Not useful
- Made no change to how I take medication
- Not relevant to me
- I plan to use it later
- Unknown

#### Did you read the information entitled "Symptom Management"?

- Yes
- No
- Don't know
- Unknown

#### Do you feel confident in managing nausea at home?

- Yes
- No
- Don't know
- Unknown

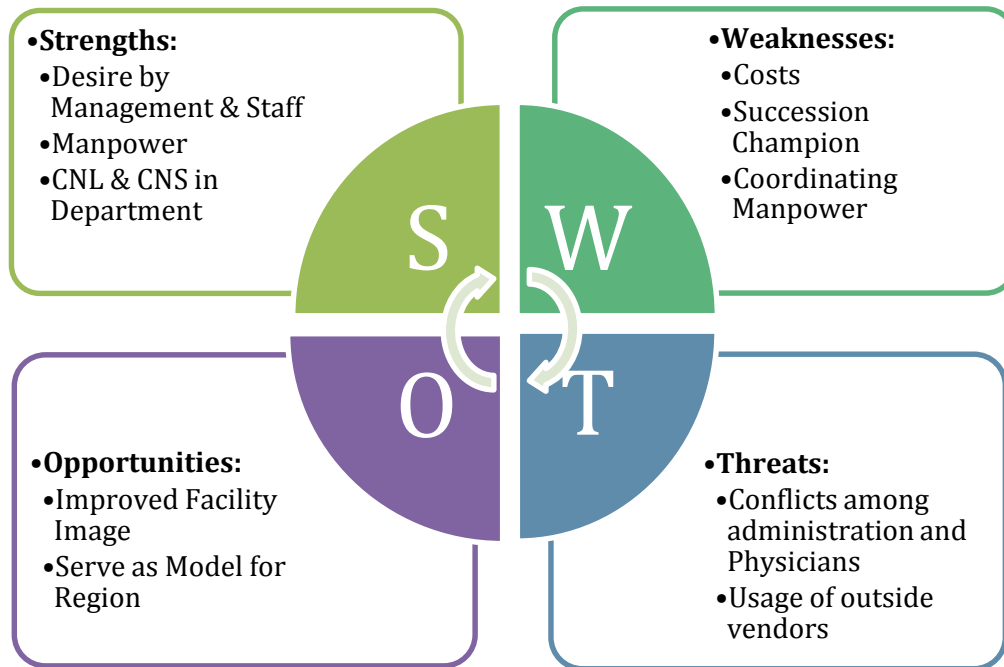
**Do you feel confident in knowing when to call your health care provider for side effects?**

- Yes
- No
- Don't know
- Unknown

Adapted from: Gauthier-Frohlick, D., Boyko, S., Conlon, M., Damore-Petingola, S., Lightfoot, N., Mackenzie, T., & ... Steggle, S. (2010). Evaluation of cancer patient education and services. *Journal Of Cancer Education*, 25(1), 43-48 6p. doi:10.1007/s13187-009-0008-y

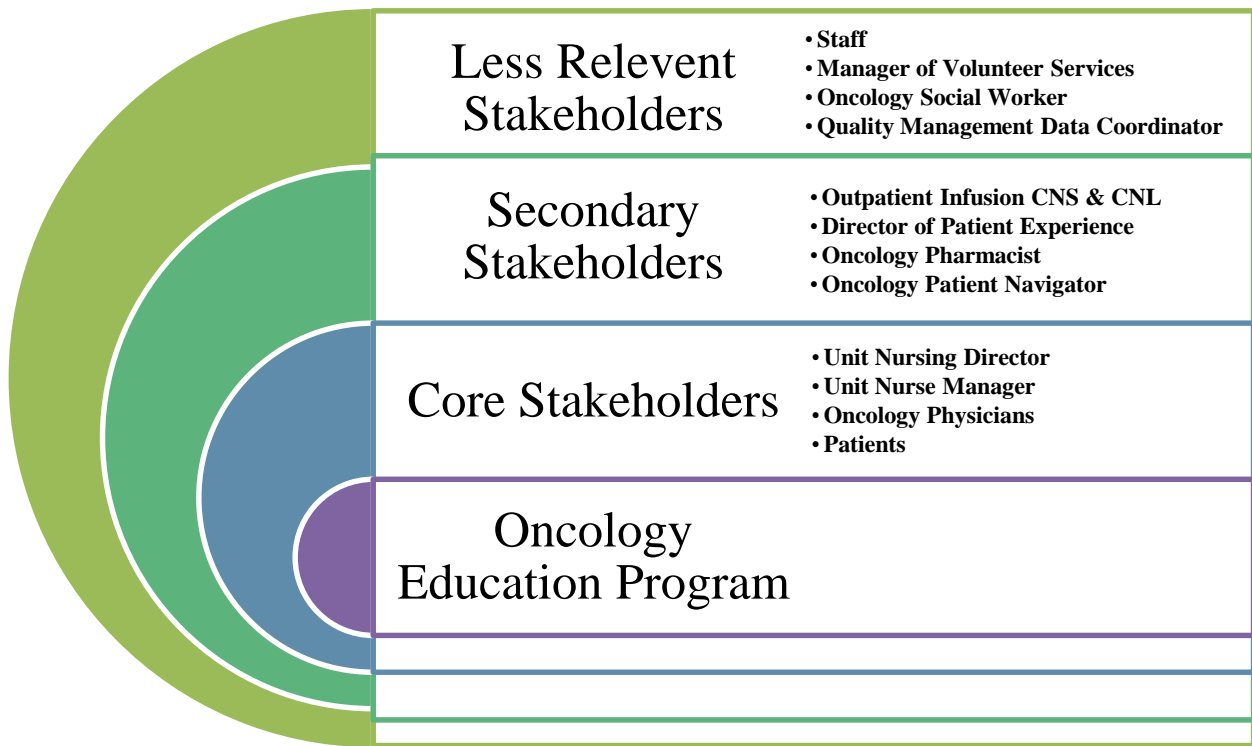
Appendix C

SWOT Analysis



**Appendix D**

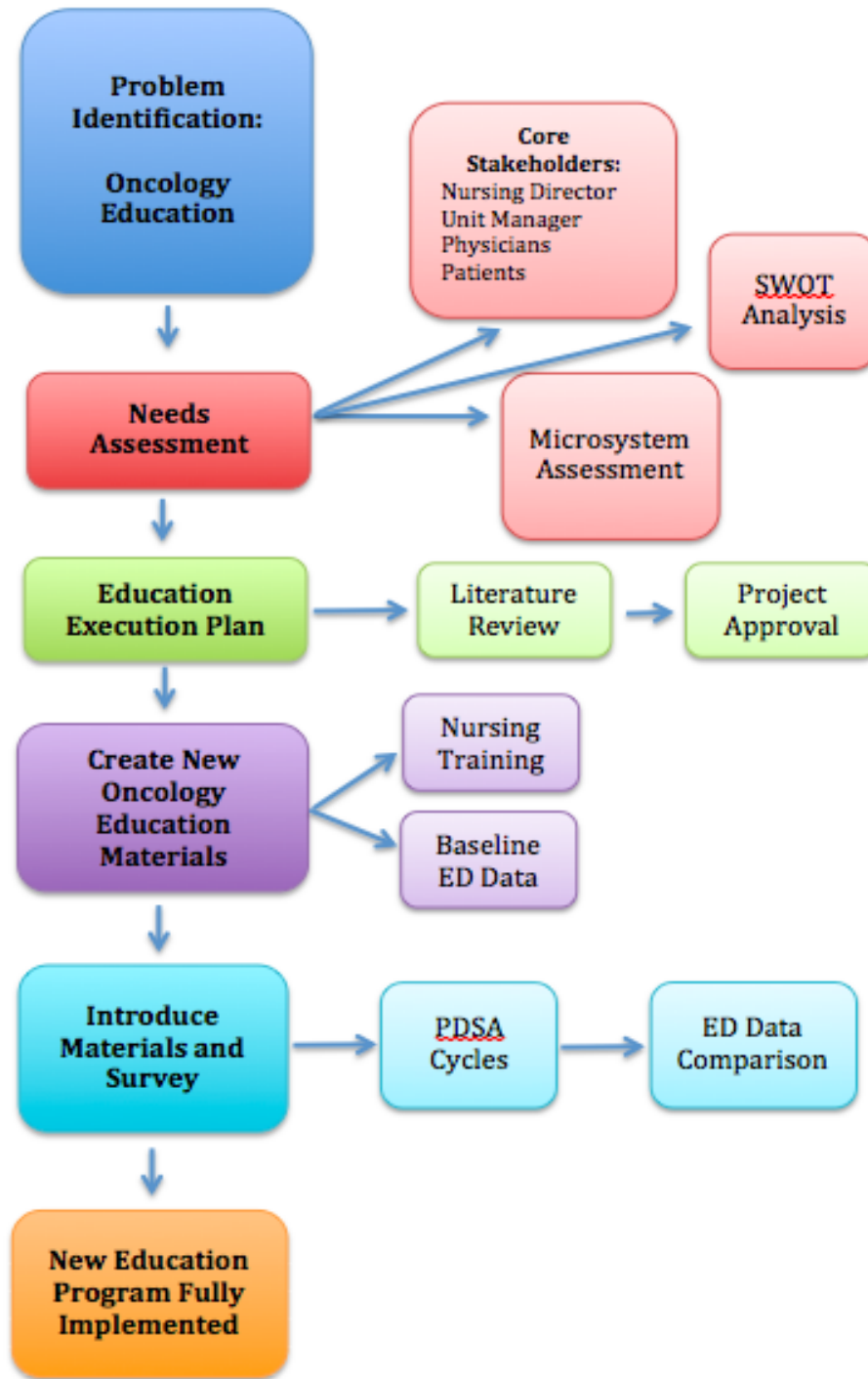
**Stakeholder Analysis**



**Appendix E****Project Cost Table**

<b>Old Costs (Binder &amp; RN)</b>	
RN Time (Edu.)	\$71.00
Materials MGH Printing	\$4.45
<b>Cost Per Patient</b>	<b>\$75.45</b>
<b>New Costs</b>	
RN Time	\$71.00
Materials MGH Printing	\$6.41
Binder	\$5.50
<b>Cost Per Patient</b>	<b>\$82.91</b>
Old Admin Time 1.5 hr/mo	\$35.50
New Admin Time 2 hr/mo	\$71.00
<b>Additional Monthly Cost</b>	<b>\$35.50</b>
<b>Total Average New Cost Per Patient at Two patients per week</b>	<b>\$11.90</b>

**Appendix F**  
**Process Map**



Appendix G

GANTT Timeline

Timeline For Oncology Education Project Implementation															
Lewin's Change Phase	Task	2015												2016	
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jun	
Unfreezing	Discuss Planning														
	Research														
	Present for Approval														
	Baseline ED visit Data														
	IRB Clearance														
Change	Collaborate with Staff														
	Prepare Materials														
	Nurse Edu. Huddles														
	Go Live														
	Reinforce Material Preparation Process														
	PDSA Cycles														
Refreezing	Evaluate and Compare ED Visit Data														