Summer 8-13-2021

Patient Experience as a Metric for Performance in Outpatient Bone Marrow Transplant Patient Populations

Olivia S. Marlinski
omarlinski@dons.usfca.edu

Patient Experience as a Metric for Performance in Outpatient Bone Marrow Transplant Patient Populations

Olivia Marlinski RN

School of Nursing and Health Professions, University of San Francisco

NURS 670: Internship

Professor Robin Jackson MSN RN MA OCN CNL

August 1, 2021

Abstract

Problem: Patient satisfaction and perception of care provided have been linked to the overall quality of healthcare delivery. The Acute Infection Management clinical support department lacks a standardized method to collect information from patients regarding their satisfaction with care provided therefore impeding the units' ability to capture performance results related to satisfaction, and improve care delivery processes accordingly.

Context: The Acute Infection Management unit is an outpatient clinical support department located within a large university-affiliated hospital that has been recently designated as the unit to operate the facility's new outpatient bone marrow transplant program.

Intervention: The proposed project seeks to implement an outpatient unit-based patient satisfaction tool, in the form of a standardized questionnaire to be administered upon the conclusion of a bone marrow transplant (BMT) patient's last outpatient clinic visit.

Measures: Bone marrow transplant patients surveyed and the percentage of BMT survey respondents are the primary project measurement. The percent of BMT patients who provide a specific patient- reported outcome answer choice for each of the 10 item quantitative survey responses will be utilized to establish a patient satisfaction benchmark metric score for each question category.

Result: Since the development and implementation of the unit-based patient satisfaction tool, a baseline benchmark of unit satisfaction has been captured by utilizing the responses from the first three outpatient bone marrow transplant patients following the conclusion of outpatient treatment.

Conclusion: The use of a unit-designed patient satisfaction survey tool can facilitate the capture of comparable patient satisfaction data used to identify needs specific to a patient population.

Introduction

The site of focus for this quality improvement project is a northern California university-affiliated hospital with a 625- bed capacity. The facility is one of only eight comprehensive cancer centers located in California recognized by the national cancer institute (UC Davis Health, n.d). Of the three comprehensive cancer centers within the region, this facility is the only health institution not currently offering stem cell transplants on an outpatient basis. The health system is working towards increasing cellular therapy services and expanding the existing bone marrow transplant (BMT) program to include outpatient autologous stem cell infusions to be operated in a clinical support department.

Currently stem cell transplantation process is performed inpatient within 8 BMT positive pressure rooms with anterooms with slight overflow accommodation onto the shared hematology and oncology 32-bed unit. Approximate bone marrow transplant inpatient stays are roughly 30 days accounting for both pre-transplant chemotherapy and post-transplant monitoring of recovery. However, outpatient management of autologous stem cell transplantation has been demonstrated as a safe alternative to managing patients who do not necessitate inpatient care, subsequently reducing inpatient length of stay (Meisenberg et al, 2018).

The hospital's Acute Infection Management (AIM) clinical support department is the planned setting for the outpatient BMT program. The units' purpose is to provide outpatient intravenous therapy or wound care management to patients on a short-term recurrent visit basis, who do not necessitate inpatient care (UC Davis Health, n.d). Recently the AIMs clinic expanded to an 8-bed unit located within the hospital and increased operations from 7 am to 7 pm, seven days a week, 365 days a year. Daily patient care is provided by three staff nurses, two Nurse Practitioners, a hospital assistant, and oversite is provided by advanced practice nurses including

a nurse manager and two assistant nurse managers. Two specialized cellular therapy nurse roles have been incorporated to fulfill requirements related to stem cell administration. The AIM clinic's unique resources well as its team of prepared professionals allow the opportunity to provide optimal support for this new outpatient stem cell transplant population.

Problem Description

Limited physical capacity in conjunction with an extended treatment timeline has created a demand for stem cell transplants that the current inpatient physical space and resources cannot accommodate. In juxtaposition following the AIMs relocation to a larger space within the hospital, an organizational goal was given to increase patient census and patient referrals by 30%. As the outpatient autologous stem cell transplantation process is a safe evidence-based practice, an interdisciplinary partnership was created between the facilities Cancer Center, inpatient BMT unit, and the AIMs clinic to expand cellular therapy services in the AIM setting. Creating an optimal operating process for outpatient stem cell infusions in AIMs will increase both patients' access to stem cell transplants and AIM patient volumes while minimizing inpatient length of stays, as well as decreasing resource strains on the emergency department and the hospital affiliated cancer center.

However, it was identified that the AIM unit lacks a standardized method to collect information from patients regarding their satisfaction with care provided therefore impeding the units' ability to capture performance results related to satisfaction. Patient's perceptions and evaluations of care provided serve as a reflection of overall quality healthcare delivery (Al-Abri & Al-Balushi, 2014). Reviewing data related to patient's care experience could improve the outpatient BMT program operations by identifying delays in care that affect the unit's and overall programs' ability to serve patient populations and increase patient volumes.

Available Knowledge

A comprehensive search was done in March of the year 2021 to address the following research question. In outpatient autologous stem cell transplant patient populations (P)how does surveying patient satisfaction (I) improve patient-centered care delivery (O)? The following electronic databases were searched: CINAHL, PubMED, Transplantation and Cellular Therapy Journal. Search criteria were limited to adults. To produce search results the following terms were imputed into various combinations *Outpatient bone marrow transplant, autologous stem cell transplant, outpatient stem cell transplant, BMT, ASCT. patient satisfaction, patient experience, patient centered care.* Although current research within the last five years was preferred to ensure up-to-date practices, to produce adequate search content, the year of article publication was extended to fifteen years. Additional search limitations included selecting only English-language articles. Articles considered for selection included, both prospective and retrospective cohort studies, cross-sectional studies, and longitudinal studies. See appendix A for evidence evaluation tables including articles evaluated using the John Hopkins evidence rating system.

The evidence-based interventions garnered from the research included the implementation of a patient satisfaction tool to BMT patients to capture overall satisfaction with care provided and identify unmet needs. While no recommended evidence-based practice tool to assess patient satisfaction in outpatient autologous stem cell transplant patients was identified specific patient satisfaction survey techniques were identified during the literature review. Such techniques utilized to capture patient satisfaction included both site-specific development of survey tools and phone interviews to assess perceptions of care, treatment experience, and overall satisfaction (Richard and Palmer, 2010). Implementation of the Functional Assessment of

Cancer Therapy- Bone Marrow Transplantation (FACT-BMT) was utilized to assess the quality of life in patients undergoing cancer treatment (Martino et al, 2017) Articles utilized for literature review were conducted in outpatient microsystem settings with patients undergoing autologous stem cell transplantation and are therefore generalizable to the proposed AIMs bone marrow transplant patient population whom will be undergoing autologous stem cell transplantation and recovery in the outpatient model of care.

In the article "A comparative assessment of quality of life in patients with multiple myeloma undergoing autologous stem cell transplantation through an outpatient and inpatient model", researchers Martino et al (2017) conducted a prospective observational longitudinal cohort study in which inpatient and outpatient delivery models of care were compared relating to patient's quality of life reports. 140 patients 76 of which were treated inpatient and 64 who were treated in an outpatient model of care delivery, were given a Functional Assessment of Cancer Therapy- Bone Marrow Transplantation (FACT-BMT) survey to assess their quality of life during treatment. The survey was given at the following intervals: health baseline, seven days prior to transplantation, seven days after transplantation, and thirty days after transplantation. Patients in the outpatient treatment group reported increased levels of quality of life in the social and family well-being category P= 0.003, when compared to patients treated in the inpatient care delivery model. Although the overall outpatient transplant care model did not result in a significantly improved quality of life reported during transplant when compared to patients from the inpatient group. This article provides a comparison of patient's quality of life in relation to their treatment care delivery of either inpatient ASCT or outpatient ASCT.

Richard and Palmer, (2010), explored a cross-sectional study in "Seeking patient feedback: an important dimension of quality in cancer care". Through the distribution of a

patient satisfaction survey at a single ambulatory site 276 patients with cancer, satisfaction with care provided was analyzed. Content covered in the survey included and overall satisfaction with the cancer centers: safety, education, support, the physical environment, interpersonal aspects of care, and wait times. Space for anecdotal patient comments and concerns was made available at the end of the survey. Their survey yielded a response rate of 48%. 11 of the 21 items surveyed yielded patient satisfaction in the 90-100% (excellent) range. 9 items assessed yielded adequate (80-90%) satisfaction, and one item assessed received acceptable (65-80%) satisfaction. The level of satisfaction was established by quality standards set by the regional health board 80% is the benchmark for patient satisfaction. Two areas of decreased patient satisfaction based on patient priorities were identified from survey results. This article establishes a link between using patient satisfaction survey techniques in patient populations undergoing cancer treatment to guide quality improvement initiatives, by identifying unmet needs of patient populations.

In the article “Quality of life, quality of care, and patient satisfaction: perceptions of patients undergoing outpatient autologous stem cell transplantation”, Schulmeister et al described a longitudinal study in which 36 patients from nine national oncology sites were administered the Functional Assessment of Cancer Therapy- Bone Marrow Transplant (FACT-BMT) survey before treatment, six weeks after treatment and six months following treatment. Additionally, a nurse researcher conducted phone interviews with patients regarding their treatment experience, perception of care, and overall satisfaction with care provided. Patients who received outpatient high-dose chemotherapy and ASCT reported lower than baseline quality of life during ASCT and high dose chemotherapy and higher than baseline quality of life in the 6 months following their ASCT and high dose chemotherapy. Patients recommended improvements to their ASCT program in areas of communication, information, nursing care,

need assistance and support. The article creates a foundation between quality improvement of care provided and patient experience and satisfaction in this small subset of patient population of outpatient (ASCT) recipients. These strategies utilized to capture patient experience can be applied to alter existing outpatient ASCT practices to better meet patient's needs.

Omondi et al (2011), conducted a cross-sectional survey in the form of an eight-question survey including three open-ended questions. The content covered within the survey included overall satisfaction, demographic information, and usefulness of services and information provided in order to develop a patient satisfaction index for the institution. 1841 cross-sectional surveys were distributed with a response rate of 24%. 90% of the 446 surveys received stated they would recommend the facility to someone ins their circumstances. The aforementioned article content provides insight on measurable topics to be assessed when ascertaining the quality of care provided in terms of patient satisfaction in bone marrow transplant patient populations. Additionally, this program evaluation provides evidentiary support to the inclusion of anecdotal open-ended questions to provide tangible care process program feedback.

The retrospective cohort study conducted by Graft et al, reviewed 230 autologous hematopoietic cell transplantation patient's outcomes related to their type of care delivery (2015). Of the 230 random samples of AHCT patients, 95 were treated with an outpatient model of care while 135 patients were treated with an inpatient model of care. Patient's outcomes were reviewed including adverse events to determine a correlation between patient outcomes and the treatment model. No differences in adverse hematologic toxicities were observed between care delivery models. This article provides insight into the supportive care processes needed to support outpatient management of AHCT patients, while maintaining patient safety. Also, the

article supports potential positive patient outcomes associated with outpatient models of AHCT, as an alternative to the traditional inpatient care delivery model.

Rationale

A combined conceptual framework based on utilization of both Oliber's Consonance Theory and the Institute for Healthcare Improvements Plan-Do-Study-Act (PDSA) model will be applied to assess patient experience and satisfaction of outpatient bone marrow transplantation patients. Capturing patient satisfaction through the use of a standardized survey, rather than a pure anecdotal account will allow the AIMs unit to utilize patient satisfaction and feedback as a metric for team performance in the autologous stem cell transplantation care delivery process.

PDSA model for improvement

The Institute for Healthcare improvements Plan-Do-Study-Act cycle is a model for improvement which delineates the change process. The cycle consists' of four stages, the first *plan* includes identifying an area for improvement and outlining a proposed strategy of intervention, including intended effects. The second stage of the cycle *do* is characterized by implementing the change on small scale, and collecting data related to plan implementation including direct observation and unintended effects. The third stage *study* requires an analysis of the data collected during the implementation stage as well as a reflection upon what was learned during the test of change. The final stage of the PDSA model is *act,* this stage offers an opportunity for adjustments to the existing plan of action based on information gleaned, prior to reimplementation or solidification of practice (Institute For Healthcare Improvement, n.d). The framework will serve as a guide for each phase of the quality improvement project's implementation.

An area of improvement was identified through an assessment of the microsystem, A plan of action was developed in the form of creating a standardized patient satisfaction tool in order to further assess and identify unmet needs for the ASCT patient population within the context of the AIM setting (Appendix D). Survey implementation of this satisfaction tool is planned for the conclusion of the first ASCT in the outpatient setting. From there satisfaction survey results including ASCT patient experience in AIMs will be captured for three months and analyzed. Following data analysis, the satisfaction tools strengths and weaknesses in terms of ability to adequately identify outpatient stem cell transplant care processes delivery issues and unmet needs will be revaluated. Modification of the survey tool will be made following analysis prior to continued sustained use if necessary.

Oliber's Consonance Theory

Oliber's theoretical model of consonance is a theory for patient satisfaction, which helps explain the congruence that exists between a patient's expectations of care and the process of nursing care delivery. These components contribute to both patient's overall satisfaction and health outcomes as well as influence institutional quality of care standards (Oliber, 2017). In relation to the care of ASCT patients, this theoretical model helps explain the phenomenon of patient satisfaction as it directly relates to the relationship between the individual patient, care provider, and institution of focus. Additionally, the framework helps identify potential measurable variables of patient satisfaction, which can be utilized to provide high-quality individualized patient care.

Specific Project Aim

The aim of this project is to improve patient satisfaction related to the process of autologous stem cell transplant in the outpatient Acute Infection Services clinical support

department through the implementation of a standardized patient satisfaction tool. This will be done by improving the capture of formalized patient satisfaction data from zero to an 80% response rate in order to optimize care delivery related to the process of Autologous Stem Cell Transplant (ASCT) by July 2021 for outpatient BMT patients in Hospital A's clinical support department.

The project goals include the development of a standardized patient satisfaction tool prior to first OP BMT in the AIMs clinic on April 14th, 2021, streamlining the transition of care for outpatient BMT patients, and enhancing patient communication through capturing standardized patient satisfaction. The bone marrow transplantation process begins with a referral to AIMs and an initial consultation meeting with a cellular therapy nurse. The process ends approximately two weeks after stem cell infusion when the patient has recovered hemodynamically and is transitioned to the cancer center for long-term follow-up. It is important to work on this process now because currently, the unit of focus has no standardized method to capture patient satisfaction. Implementation of a standardized patient satisfaction tool will enable the unit of focus to identify unmet unique needs associated with the patient population and revise individualized care practices accordingly in order to provide additional access to this specialty procedure.

Context

Purpose

The purpose of the Acute Infection Management services is to provide outpatient therapy and care to patients who require intravenous or wound care management but do not necessitate an inpatient stay. While the premise of the clinic originated as a way to provide antimicrobial therapies to patients in an outpatient setting. The unit has recently expanded its services to serve

additional patient populations, and offload the agency's comprehensive cancer center, inpatient hematology and oncology floor as well as the emergency department (UC Davis Health Center, n.d).

Patients

The Acute Infection Management service (AIM) service unit patient population is primarily composed of patients with infections, multiple sclerosis, or cancer of varying ages between twenty to patients in their ninety's. The top therapies or procedures performed, in the unit include intravenous antibiotic therapy, wound care, and intravenous infusions including hydration, IVIG, and Steroids. Patients are referred to Acute Infection Management service primarily through the emergency department, hospital in-patient units, hospital-based clinic including neurology, and primary care physicians (M. Browne-McManus, personal communication, September 25, 2020). A collaboration between the agency's stem cell transplant program and AIMs was created to incorporate bone marrow transplant patients into the AIMs patient population. The services to be provided include outpatient autologous stem cell infusion and preparative chemotherapy as well as post-transplant follow-up in the form of lab work, hydration, and replacement blood products.

Professionals

The unit's daily operations are run with three registered nurses with previous experience in acute care nursing, two hospital assistants, and a medical office service coordinator (MOSC). The RN staff operates within their scope of practice while the hospital assistant role primarily focuses on scheduling, taking patient's vitals, and assisting RN staff in wound care. The unit is overseen by advanced practice nurses including a nurse manager and level two administrative nurse. The unit has recently expanded to include two specialized cellular therapy nurse roles, as

well as two nurse practitioners. The key stakeholders within AIM involved with the integration of care for bone marrow transplant patients include AIM staff nurses, cellular therapy nurses, AIM and cancer center nursing management, as well as a BMT quality assurance nurse, and a technician from the hematopoietic progenitor cell lab technician. These stakeholders were responsible for creating and carrying out the newly developed outpatient transplant care delivery process and workflow.

Process

Outpatient autologous stem cell transplant patients' program eligibility is determined based upon preidentified criteria at patient's pretransplant clinic appointments at the agency's comprehensive cancer center. Following determined eligibility, patients are then referred to be scheduled for treatment in AIM. Patient appointment times can run between 30 minutes up to 8 hours depending on the reason for the visit. AIM processes for the outpatient BMT stem cell program include daily clinic visits. Appointments start two days prior to the patient's stem cell transplant for chemotherapy and hydration administration and end up to fourteen days after transplant after required follow-up lab work, assessment, and blood product replacement.

Early discharge BMT patients can be identified through the BMT transplant team weekly planning meetings in which patient status is discussed. Inpatient stable early discharge BMT eligible patients are referred to AIM for post-transplant follow-up care. After patients are identified a cellular therapy nurse meets with the BMT patient to discuss care and oriented the patient to the AIM unit. The patient will then come for scheduled daily follow-up assessment appointments for lab work and hydration and blood product infusion needs.

Patterns

At this time there has been one ACST patient, who received pre-transplant chemotherapy, hydration, and stem cell reinfusion in AIM. In regard to the small number of early discharges of BMT patients seen for post-transplant follow-up in AIM, none have completed their treatment course and been transitioned back to the cancer center for long-term follow-up. Therefore, additional patients will need to be observed to establish typical care delivery processes and patient volumes for this patient population. Outpatient stem cell transplantation is planned to occur on an ongoing basis for two patients a month, scheduled to receive their pretransplant chemotherapy on Mondays, hydration on Tuesdays, and stem cell reinfusion on Wednesdays. BMT patients are given the earliest available appointment slots in order to ensure adequate time for treatment needs. As each BMT patient, is seen in AIM routinely for two-week following their transplantation, they are in a unique position to provide feedback about their treatment experience.

Intervention

The initial change to be implemented in the clinical support department includes capturing patient satisfaction as a metric in the outpatient clinical support department. Formalized capture of patient satisfaction will include the development and administration of a standardized unit-based patient satisfaction questionnaire to bone marrow transplant patients upon conclusion of treatment in the clinical support department.

The proposed Clinical Nurse Leader (CNL) will conduct a formal review of the Hospital Consumer Assessment of Healthcare Providers and Systems (HCAPS) questions, and the Agency for Healthcare Research and Quality Cancer Care Survey (CAHPS). Additionally, a review of the facilities inpatient bone marrow transplantation discharge survey will commence. Relevant patient satisfaction survey questions and content related to the outpatient BMT patient

population will be compiled. The proposed project will then be presented to the unit's nurse manager and assistant nurse manager, as well as the cellular therapy nurses and staff nurses responsible for direct patient care. The clinical nurse leader will outline the proposed change in practice as a method for collecting data related to the patient satisfaction in order to capture patient experience and identify areas of process improvement in the care delivery for the new outpatient bone marrow transplant patient population. Patient feedback elicited will prompt workflow changes that reflect specialized patient population needs and patient-centered care delivery in alignment with agency ideals. Streamlining the workflow of the outpatient BMT program will increase patient satisfaction related to the BMT processes as well as increase access and the number of facility bone marrow transplantation therefore, reducing resource strains on agency inpatient unit and accompanied cancer center.

The CNL will present the final revised patient satisfaction survey to be implemented upon outpatient BMT patient's final visit to the staff at the unit's monthly staff meeting. The 11-item pilot patient satisfaction questionnaire presented will feature both validated quantitative and qualitative questions. Content covered in the questionnaire includes patient perceptions of unit operations, care provided, and education received. The unit's assistant nurse manager and nurse manager will reinforce the implementation of the satisfaction tool as a means to capture patient satisfaction data related to the bone marrow transplantation process in the outpatient unit. Following the three-month survey period, patient satisfaction survey responses will be analyzed, and a baseline patient satisfaction benchmark will be established. Revisions to patient satisfaction questions will be made prior to survey's transition to an online platform.

Study of the intervention

The population criteria for this project include all outpatient bone marrow transplantation patients treated in the clinical support department to be surveyed. This patient population is composed of ASCT patients who received transplantation on the unit as part of the outpatient transplant program. Data will be collected through questionnaire completion. The target number of survey responses to be collected over the following three months via paper survey questionnaire format is five. These five surveys will establish a baseline metric of patient satisfaction associated with the outpatient BMT process. The small sample size, in conjunction with the extended survey period, take into consideration the limited number of patients in this patient population, as well as their extended treatment timeline. At present, there are two outpatient ASCT patients planned per upcoming month.

Measures

The outcome measure to be utilized is the percentage of BMT survey respondents. The number of BMT patients who receive a patient satisfaction survey in conjunction with survey results received in order to establish the desired respondent rate at or above 80%. Prior to change implementation patient satisfaction has not been captured as a metric, therefore instituting a patient satisfaction survey and yielding results will capture generalizable patient satisfaction specific to this microsystems patient population.

In order to track the progress of this outcome, the following measures will be used to as process measurements. The number of BMT patients surveyed. This data collected will speak to the total amount of patients who elected to complete the patient satisfaction survey, as well as give insight into the amount of BMT patients seen in the unit. While the unit collects weekly and monthly treatment totals for patients seen, this data is aggregated based on patient visits not a single patient amount, of visits. Additionally, the percent of BMT patients who provide a specific

patient-reported outcome answer choice for each of the 10-item quantitative survey will be tracked. Analyzing patient responses by survey questionnaire item will establish a patient satisfaction benchmark metric score for each question category. Along with quantitative patient responses, the number of BMT patients who report similar anecdotal responses in the 1 qualitative question of the survey will be compiled. Tracking similar qualitative responses will help record the frequency of patient recorded statements regarding the same topic and establish a consensus of an unmet need or necessary improvement within the patient population.

These measures will be balanced by comparing the average final BMT appointment length, collected via a review of patient check-in and check-out on the unit's electronic snap board schedule. This balancing measure will ensure that time allocated for patients who elect to complete this patient satisfaction questionnaire at their final visit will not extend appointment length beyond the average scheduled appointment time.

Ethical Considerations

In terms of ethical considerations, as this project has been approved by the University of San Francisco's School of Nursing and Health Professions Faculty, under the guides of a quality improvement project meeting QI review guidelines in alignment with the Clinical Nurse Leader Program, and as such does not require review from the Institutional Review Board (IRB). All patients surveyed and staff participation utilized within project implementation was voluntary. Honesty and transparency were maintained by briefing participants and staff prior to survey implementation, as well as at the beginning of the questionnaire as to both the objectives of the survey and data to be collected. The anonymity of both the institution of focus, as well as patients' participants was upheld through data collection and information dissemination. No conflict of interest between participants were identified.

The project was guided by provision 2 of the American Nurses Association's *Code of Ethics* which states "The nurse's primary commitment is to the patient, whether an individual, family group, or population" (Grace, 2018, p. 28). As nurses first priority is the patient to which they care this project was formulated in alignment with the Jesuit value of *cura personalis* or care of the whole person, to identify if this patient populations unique comprehensive needs were being met as well as identify additional unmet needs associated with this patient population in order to improve the delivery of patient-centric care (University of San Francisco, n.d).

Outcome Measure Results

Prior to development and dissemination of this patient satisfaction tool of May 2021, the unit had no ability to capture comparable patient satisfaction data. The unit-based patient satisfaction survey yielded a response rate of 100% based on three outpatient autologous stem cell transplant patients, who received treatment in the clinic over the three-month period of May 2021-July 2021. Of the total three, outpatient bone marrow transplant patients seen in the clinic, all elected voluntarily to complete the patient satisfaction survey, exceeding the initial desired survey response rate of 80% to achieve a 100% survey response rate.

In regard to process measurements, the three-patient satisfaction surveys captured were utilized to establish a baseline metric for each of the 10 item quantitative question categories (see appendix H). In terms of similar reported responses for the one open-ended qualitative question patients reported "excellent service, nice staff", patients also expressed the desire to have additional activities to promote physical movement during extended treatment days.

A review of snap board scheduler appointment times in conjunction with direct observation was utilized as a balancing measure to determine if completion of the survey extended patients' average length of appointment. Typical follow-up appointment length for the

outpatient BMT patient ranged from 45 minutes to four hours depending on appointment type and clinical need for replacement products. The review concluded that patient survey completion did not extend average appointment length, as patients were presented the option to survey on their last treatment day while awaiting lab results. Direct observation for survey completion time ranged between 5 to 10 minutes with the average time taken to complete the survey 6.7 minutes.

The three patients, seen in the clinic surveyed represent, while few in number a high percentage of patient care hours for the outpatient unit. Each outpatient bone marrow transplant patient is seen consecutively for two days prior to transplantation, for chemotherapy and hydration. On the third day of consecutive outpatient treatment patients receive their transplant in the form of cellular reinfusion. Additionally, following transplant patients continue to have daily appointments for assessment, hydration, and lab collection. Labs resulted determine if patients will receive replacement products as indicated by lab value parameters to support recovery. These daily appointments can last between 45 minutes and upwards of six hours depending on a visit indication and replacement needs.

Summary

The initiation of an outpatient unit-based patient satisfaction survey allowed the tracking of patient satisfaction data for the first three outpatient stem cell transplant patients seen at this agency. Satisfaction survey responses collected patients reported experiences with the treatment process, which could be generalized amongst patients. Prior to the development of this patient satisfaction survey tool the unit of focus relied solely on the anecdotal patient account. As this project established a baseline metric of patient satisfaction for the unit's outpatient stem cell transplant patient population the next steps for this project will be to utilize survey questions responses to guide care delivery process changes. The key findings compiled from the results of

the patient satisfaction survey helped establish a consensus surrounding the outpatient bone marrow transplant patient experience. Responses given helped analyze unit operations, resources and care delivery practices from the patient perspective.

Patient's consistent rating of "excellent" in terms of the facility's cleanliness, speak to an achieved perception and actual cleanliness of the unit. As the cleanliness of the environment is especially important for this patient population given their risk of infection and immunocompromised status, it is important to ascertain if the care environment is consistently meeting the standard of cleanliness which patients expect.

Conclusions

Overall, the project demonstrated that the use of a unit-specific patient satisfaction survey tool can facilitate capture of patient satisfaction, as well as enhance communication and feedback related to a patient experience. The project assisted in identifying newly implemented process successful practices as well as universal needs specific to a patient population, based on comparable reported experiences.

This project has the opportunity to expand to the additional patient populations seen within the unit, as well as the ability to identify unmet needs of other patient populations to target future improvement initiatives. Given that verified questions formulated for this unit-based satisfaction survey are generalizable to the units overall patient populations as they cover content including unit operations, care delivery, and education practices, the survey developed could be disseminated in its entirety or amended to include additional patient populations seen in the outpatient clinic to capture more data related to patient's satisfaction with care provided. However, it was learned that the continued use of paper surveys will be prohibitive sustainment

and real-time data comparison, therefore as the patient population expands migration to an online survey platform will assist in the sustained capture and tracking of patient satisfaction.

References

Al-Abri, R., & Al-Balushi, A. (2014). Patient satisfaction survey as a tool towards quality improvement. *Oman medical journal, 29(1),* 3-7 https://doi.org/10.5001/omj.2014.02

Grace, J.P. (2018). Nursing ethics and professional responsibility in advanced practice. Jones & Bartlett Learning.

Graff, M. T., Singavi, K. A., Schmidt, W., Eastwood, D., Drobyski, R. W., Horowitz, M., Palmer, J., Pasquini, M., Rizzo, J. D., Saber, W., Hari, P., Fenske, S. T. (2015). Safety of outpatient autologous hematopoietic cell transplantation for multiple myeloma and lymphoma. *Bone Marrow Transplant. 50*(7), 947-953. doi:10.1038/bmt.2015.46.

Holbro, A., Ahmad, I., Cohen, S., Roy, J., Lachance, S., Chagnon, M., LeBlanc, R., Bernard, L., Busque, L., Roy, C. D., Sauvageau, G., Kiss, L. T. (2013) Safety and cost-effectiveness of outpatient autologous stem cell transplantation in patients with multiple myeloma. *American Society for Blood and Marrow Transplantation 19*(4), 547-51. doi: 10.1016/j.bbmt.2012.12.006.

Institute For Healthcare Improvement. (n.d). Science of improvement: Testing changes. http://www.ihi.org/resources/Pages/HowtoImprove/ScienceofImprovementTestingChanges.aspx

Martino, M., Siavarella, S., De Summa, S., Russo, L., Meliambro, N., Imbalzano, L., Gallo, A. G., Moscato, T., Messina, G., Ferreri, A., Cuzzola, M., Irrera, G., Naso, V., Cimminiello, M., Console, G., Loseto, G., Toommasi, S., Guarini, A. (2018). A comparative assessment of quality of life in patients with multiple myeloma undergoing autologous stem cell transplantation through an outpatient and inpatient model. *Biology and Blood Marrow Transplantation. 24*(3), 608-613. https://doi.org/10.1016/j.bbmt.2017.09.021

Meisenberg B, R., Miller, W. E., McMillan, R., Callaghan, M., Sloan, C., Brehm,T., Kosty, M. P., Kroener, J.,Longmire, R., Saven, R., Piro, L. D. (1997). Outpatient high-dose chemotherapy

with autologous stem-cell rescue for hematologic and nonhematologic malignancies. Journal of Clinical Oncology *15(1),* 11-17. https://doi.org/10.1200/JCO.1997.15.1.11

Oliber, B. A., (2017). Consonance theory: A proposed theory of patient satisfaction. *Philppine Journal of Nursing*. *87*(2), 74-79

Omondi, N. A., Denzen, E. M., Jacobson, D. J., Payton, T. J., Pederson, K., & Murphy, E. A. (2011). Evaluating patient satisfaction with the Office of Patient Advocacy. *Journal of Cancer Education*, *26*(1), 44–50. https://doi.org/10.1007/s13187-010-0153-3

Richard, M. L., Parmar, M. P., Calestagne, P.P., McVey, L. (2010). Seeking patient feedback: an important dimension of quality in cancer care. *Journal of Nursing Care Quality*, *25*(4), 344–351. https://doi.org/10.1097/NCQ.0b013e3181d5c055

Schulmeister, L., Quiett, K., Mayer, K. (2005). Quality of life, quality of care, and patient satisfaction: perceptions of patients undergoing outpatient autologous stem cell transplantation. *Oncology Nursing Forum*, *32*(1), 57–67. https://doi.org/10.1188/05.ONF.57-67

UC Davis Health (n.d). Clinical Support Departments: AIM services. https://health.ucdavis.edu/nurse/clinicalareas/hsd.html

UC Davis Health (n.d). Facts and figures. https://health.ucdavis.edu/newsroom/facts_figures/

University of San Francisco, n.d Our Values. https://www.usfca.edu/about-usf/who-we-are/our-values

Appendix A

Study	Design	Sample	Outcome/Feasibility	Evidence Rating
Martino, M., Siavarella, S., De Summa, S., Russo, L., Meliambro, N., Imbalzano, L., Gallo, A. G., Moscato, T., Messina, G., Ferreri, A., Cuzzola, M., Irrera, G., Naso, V., Cimminiello, M., Console, G., Loseto, G., Toommasi, S., Guarini, A. (2018). A comparative assessment of quality of life in patients with multiple myeloma undergoing autologous stem cell transplantation through an outpatient and inpatient model. *Biology and Blood Marrow Transplantation. 24*(3), 608-613. https://doi.org/10.1016/j.bbmt.2017.09.021	prospective, observational, longitudinal cohort study	140 total patients with multiple myeloma, 76 of which were treated inpatient and 64 who treated in an outpatient model of care delivery.	Patient in the outpatient treatment group showed increased social and family well-being levels P= 0.003. Although overall outpatient transplant care model did not result in improved quality of life reported during transplant when compared to patients from the inpatient group. Article provides a comparison of patient's quality of life in relation to their treatment care delivery of either inpatient ASCT or outpatient ASCT.	L II B

Richard, M. L., Parmar, M. P., Calestagne, P.P., McVey, L. (2010). Seeking patient feedback: an important dimension of quality in cancer care. *Journal of Nursing Care Quality*, *25*(4), 344–351. https://doi.org/10.1097/NCQ.0b013e3181d5c055	Cross sectional study	276 participants selected through nonprobability convenience sampling	Survey yielded a response rate of 48%. 11 of the 21 items surveyed yielded a patient satisfaction in the 90-100% (excellent) range. 9 items assessed yielded adequate (80-90%) satisfaction, and one item assessed received acceptable (65-80%) satisfaction. Level of satisfaction was established by quality standards set by the regional health board 80% is the benchmark for patient satisfaction. Two areas of decreased patient satisfaction based on patient priorities were identified from survey results. Useful to establish a link between using patient satisfaction survey techniques in patient populations undergoing cancer treatment to guide quality improvement initiatives, by identifying unmet needs of patient populations.	L III A
Schulmeister, L., Quiett, K., Mayer, K. (2005). Quality of life, quality of care, and patient satisfaction: perceptions of patients undergoing outpatient autologous stem cell transplantation. *Oncology Nursing Forum*, *32*(1), 57–67. https://doi.org/10.1188/05.ONF.57-67	Descriptive longitudinal Study	36 patients selected through nonprobability consecutive sampling from nine national oncology practice sites.	Patients who received outpatient high-dose chemotherapy and ASCT reported lower than baseline quality of life during ASCT and high dose chemotherapy and higher than baseline quality of life in the 6 months following their ASCT and high dose chemotherapy. Patients recommended improvements to their ASCT program in areas of communication, information, nursing care, needs assistance and support.	L III B

			Useful for creating a foundation between quality of care provided and patient experience and satisfaction in this small subset patient population of outpatient (ASCT) recipients. Findings can be used to alter existing outpatient ASCT practices to better meet patients' needs.	
Omondi, N. A., Denzen, E. M., Jacobson, D. J., Payton, T. J., Pederson, K., & Murphy, E. A. (2011). Evaluating patient satisfaction with the Office of Patient Advocacy. *Journal of Cancer Education*, *26*(1), 44–50. https://doi.org/10.1007/s13187-010-0153-3	Program Evaluation	446 surveys	1841 cross sectional surveys were distributed with a response rate of 24%. 90% of the 446 surveys received stated they would recommend the facility to someone ins their circumstances. Content provided insight on topics to be assessed when ascertaining quality of care provided in terms of patient satisfaction in bone marrow transplant patient populations.	L III B

Holbro, A., Ahmad, I., Cohen, S., Roy, J., Lachance, S., Chagnon, M., LeBlanc, R., Bernard, L., Busque, L., Roy, C. D., Sauvageau, G., Kiss, L. T. (2013) Safety and cost-effectiveness of outpatient autologous stem cell transplantation in patients with multiple myeloma. *American Society for Blood and Marrow Transplantation 19*(4), 547-51. doi: 10.1016/j.bbmt.2012.12.006.	Financial Evaluation	91 outpatient ASCT compared to overall 180 ASCT between 2006-2010	Cost analysis was preformed related to the 91 outpatient ASCT compared to an overall 180 ASCT at the single site between the years of 2006-2010. Article provides insight on the potential cost savings and feasibility for institutions to provide ASCT in an outpatient setting, while maintaining patient safety.	L V B
Graff, M. T., Singavi, K. A., Schmidt, W., Eastwood, D., Drobyski, R. W., Horowitz, M., Palmer, J., Pasquini, M., Rizzo, J. D., Saber, W., Hari, P., Fenske, S. T. (2015). Safety of outpatient autologous hematopoietic cell transplantation for multiple myeloma and lymphoma. *Bone Marrow Transplant. 50*(7), 947-953. doi:10.1038/bmt.2015.46.	Retrospective cohort study	230 Autologous Hematopoietic Cell Transplantation (AHCT) patients reviewed	Of the 230 random sample of AHCT patients 95 of were treated with an outpatient model of care while 135 patients were treated with an inpatient model of care. Patients outcomes were reviewed including adverse events to determine a correlation between patient outcomes and treatment model. No differences in adverse hematologic toxicities were observed between care delivery models. Article provides insight in the supportive care processes needed to support outpatient management of AHCT patients, while maintaining patient safety. Also, the article supports the potential positive patient outcomes associated with outpatient models of AHCT.	L II B

Appendix B

CNL Project: Statement of Non-Research Determination Form

Student Name:___Olivia Marlinski_____

Title of Project:

Utilizing patient experience as a metric for performance in outpatient bone marrow transplant patient populations

Brief Description of Project:

A) Aim Statement:

Improve capture of formalized patient satisfaction data from zero to an 80% response rate in order to optimize care delivery related to the process of Autologous Stem Cell Transplant (ASCT) by July 2021 for outpatient BMT patients in Hospital A's clinical support department.

B) Description of Intervention:

Implementation of an outpatient unit-based patient satisfaction tool, in the form of a standardized questionnaire to be administered upon conclusion of bone marrow transplant (BMT) patient's last treatment visit.

C) How will this intervention change practice?

This intervention will formalize the capture of patient satisfaction in the unit related to care provided, as currently the unit practice relies on anecdotal account of patient satisfaction at sporadic intervals. Survey results will evaluate the newly implemented outpatient stem cell transplantation care process from a patient experience perspective and identify unmet specialized needs of the outpatient ASCT patient population. This new practice will collect patient feedback to support continuous improvements to the ASCT care delivery process in the outpatient unit.

D) Outcome measurements:

- The number of BMT patients surveyed.

-The percentage of BMT survey respondents. The number of BMT patients who

receive a patient satisfaction survey in conjunction with survey results received in order to establish a desired respondent rate at or above 80%

- The percent of BMT patients who provide a specific patient reported outcome answer choice for each of the 9 item quantitative survey responses in order to establish patient satisfaction benchmark metric score for each question category

-The number of BMT patients who report similar anecdotal responses in the 1 qualitative question of the survey.

-The average final BMT appointment length, collected via review of patient check in and check out on unit electronic snap board schedule.

To qualify as an Evidence-based Change in Practice Project, rather than a Research Project, the criteria outlined in federal guidelines will be used:
(http://answers.hhs.gov/ohrp/categories/1569)

☐ This project meets the guidelines for an Evidence-based Change in Practice Project as outlined in the Project Checklist (attached). Student may proceed with implementation.

☐This project involves research with human subjects and must be submitted for IRB approval before project activity can commence.

Comments:

EVIDENCE-BASED CHANGE OF PRACTICE PROJECT CHECKLIST *

Instructions: Answer YES or NO to each of the following statements:

Project Title:	**YES**	**NO**
The aim of the project is to improve the process or delivery of care with established/ accepted standards, or to implement evidence-based change. There is no intention of using the data for research purposes.	**X**	
The specific aim is to improve performance on a specific service or program and **is a part of usual care**. ALL participants will receive standard of care.	**X**	
The project is **NOT** designed to follow a research design, e.g., hypothesis testing or group comparison, randomization, control groups, prospective comparison groups, cross-sectional, case control). The project does **NOT** follow a protocol that overrides clinical decision-making.	**X**	
The project involves implementation of established and tested quality standards and/or systematic monitoring, assessment or evaluation of the organization to	**X**	

ensure that existing quality standards are being met. The project does **NOT** develop paradigms or untested methods or new untested standards.		
The project involves implementation of care practices and interventions that are consensus-based or evidence-based. The project does **NOT** seek to test an intervention that is beyond current science and experience.	**X**	
The project is conducted by staff where the project will take place and involves staff who are working at an agency that has an agreement with USF SONHP.	**X**	
The project has **NO** funding from federal agencies or research-focused organizations and is not receiving funding for implementation research.	**X**	
The agency or clinical practice unit agrees that this is a project that will be implemented to improve the process or delivery of care, i.e., **not** a personal research project that is dependent upon the voluntary participation of colleagues, students and/ or patients.	**X**	
If there is an intent to, or possibility of publishing your work, you and supervising faculty and the agency oversight committee are comfortable with the following statement in your methods section: *"This project was undertaken as an Evidence-based change of practice project at X hospital or agency and as such was not formally supervised by the Institutional Review Board."*	**X**	

ANSWER KEY: If the answer to **ALL** of these items is yes, the project can be considered an Evidence-based activity that does NOT meet the definition of research. **IRB review is not required. Keep a copy of this checklist in your files.** If the answer to ANY of these questions is **NO**, you must submit for IRB approval.

*Adapted with permission of Elizabeth L. Hohmann, MD, Director and Chair, Partners Human Research Committee, Partners Health System, Boston, MA.

STUDENT NAME (Please print):
_____Olivia Marlinski_____
Signature of Student:
_____DATE__4/13/21__

SUPERVISING FACULTY MEMBER NAME (Please print):
_____
Signature of Supervising Faculty Member
_____DATE_____

Appendix C

Project Charter

Title: Patient experience as a metric for performance in outpatient bone marrow transplant patient populations

Global aim: To capture patient satisfaction as a metric in order to identify unmet patient needs and inform areas of improvement to streamline the transition of care and care delivery for the new outpatient BMT patient population.

Specific Aim: Improve capture of formalized patient satisfaction data from zero to an 80% response rate in order to optimize care delivery related to the process of Autologous Stem Cell Transplant (ASCT) by July 2021 for outpatient BMT patients in Hospital A's clinical support department.

Background information/rationale for project:

Patient's perceptions and evaluations of care provided serve as a reflection of overall quality healthcare delivery (Al-Abri & Al-Balushi, 2014). Reviewing data related to patient's care experience has been linked to program operational improvements and care delivery processes by identifying delays in care that affect the unit's and overall programs' ability to serve patient populations (Richard and Palmer, 2010). Creating an optimal operating process for outpatient stem cell infusions in the support unit will increase both patients' access to stem cell transplants and the unit's patient volumes while minimizing inpatient length of stays, as well as decreasing resource strains on the emergency department and the hospital affiliated cancer center.

Sponsors:

Clinical support department at hospital A

Department of Patient Care Services at hospital A

Goals for the project:

1. Development of a unit based standardized patient satisfaction tool
2. Enhance patient communication through capture of standardized patient satisfaction
3. Identify unmet needs of patient population and care delivery variation through patient reported responses
4. Streamline transition of care for outpatient BMT patients

Measures: outcome, process, balancing

Outcome:

The percentage of BMT survey respondents. The number of BMT patients who receive a patient satisfaction survey in conjunction with survey results received in order to establish a desired respondent rate at or above 80%

Process:

The number of BMT patients surveyed.

The percent of BMT patients who provide a specific patient reported outcome answer choice for each of the 9 item quantitative survey responses in order to establish patient satisfaction benchmark metric score for each question category

The number of BMT patients who report similar anecdotal responses in the 1 qualitative question of the survey.

Balancing:

The average final BMT appointment length, collected via review of patient check in and check out on unit electronic snap board schedule.

Team members

Unit Nurse Manager

Unit Assistant Nurse Manager

Director of Experience Design Insights and Capabilities

Director of Surveys

Cellular Therapy Unit Nurses

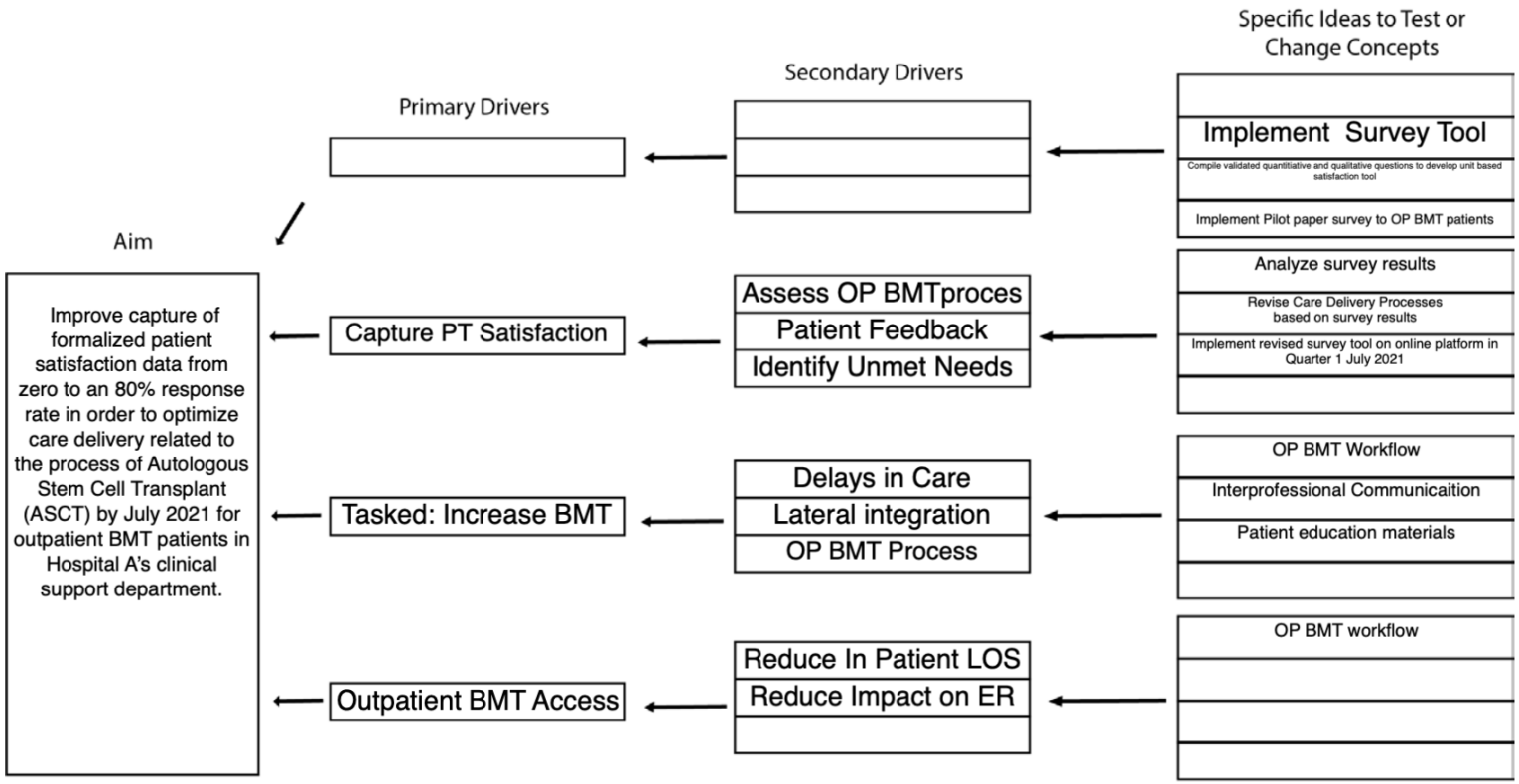
Clinical Support Department Staff Nurses

Measurement Strategy

Population Criteria: All outpatient autologous stem cell transplantation patients treated in the clinical support department will be surveyed. This patient population includes ASCT patients who receive transplantation on the unit.

Data Collection Method: The target number of survey responses to be collected via paper survey questionnaire format is five. These surveys will establish a baseline are five surveys. The small sample size takes into consideration the limited number of patients in the initial induction of the outpatient transplant program as well as their extended treatment timeline. At present there are two outpatient ASCT patients planned per upcoming months.

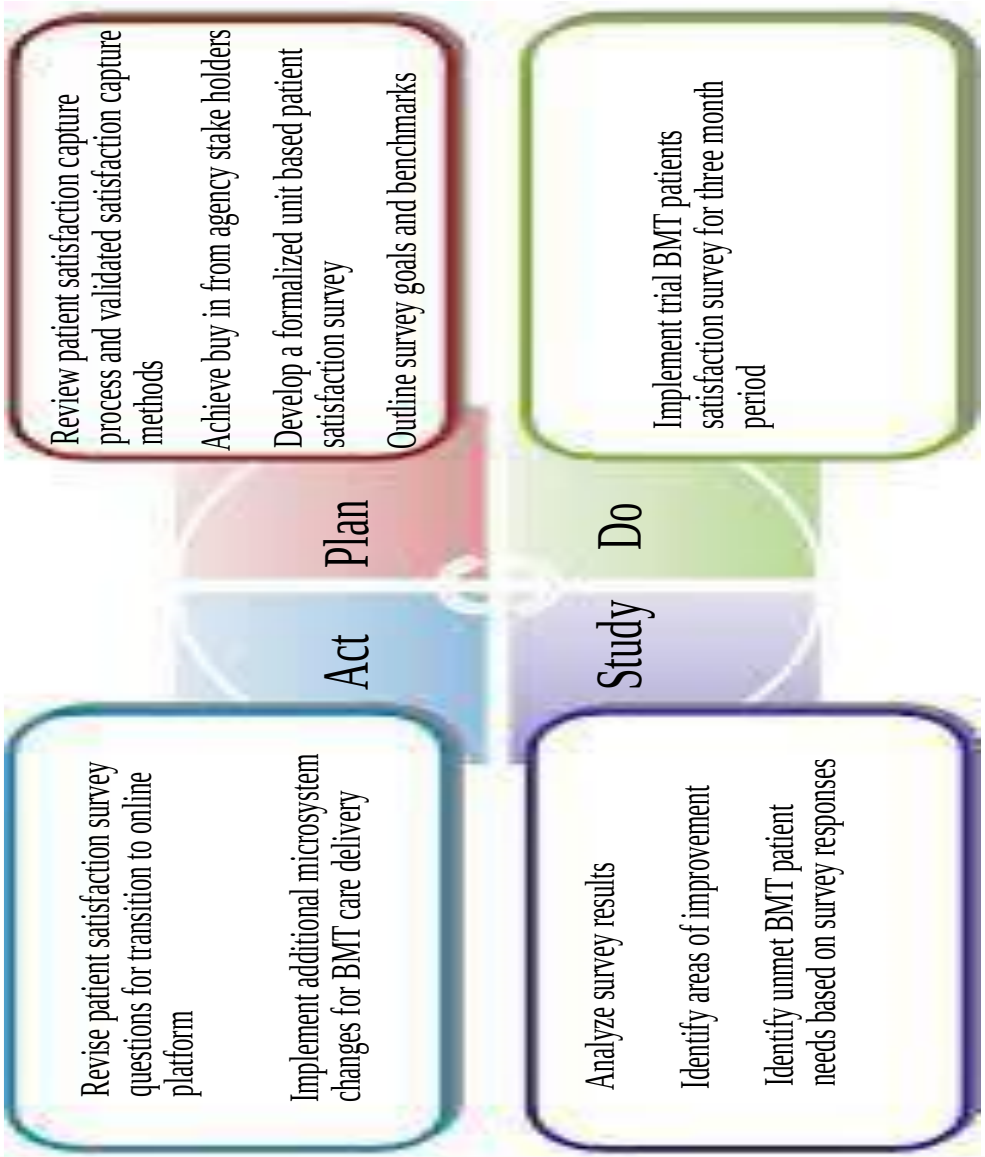
Driver Diagram and Changes to Test



Appendix D

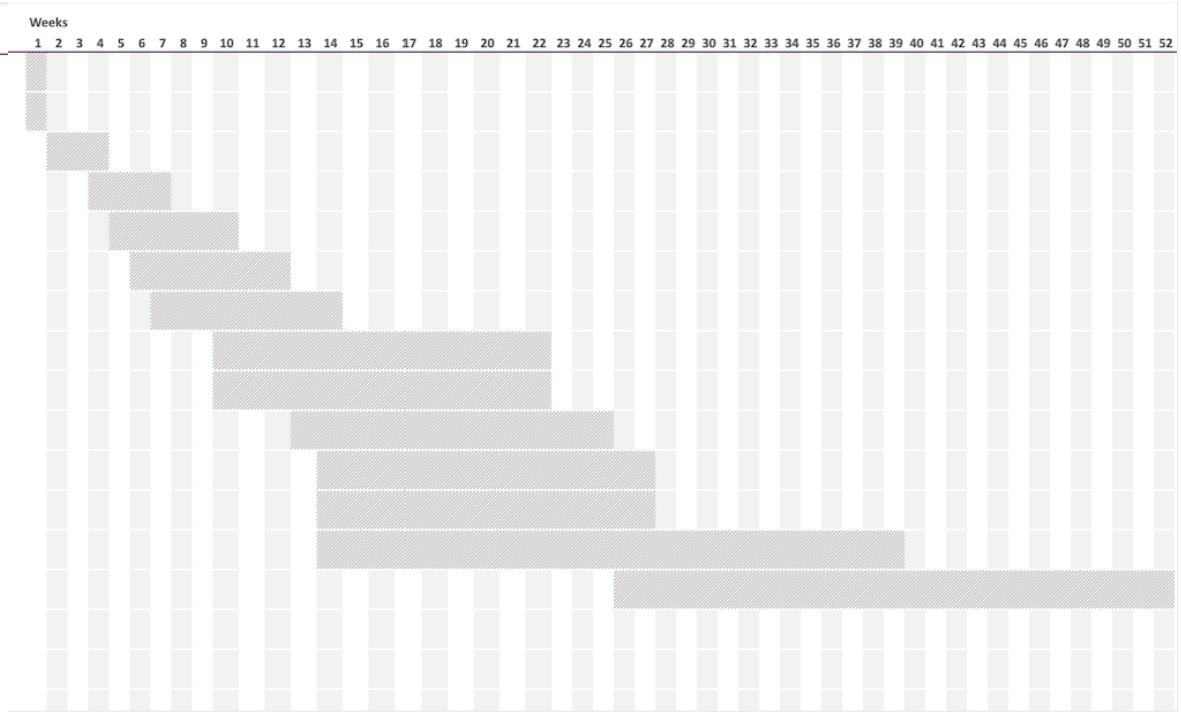

Strengths
- Unit growth increased physical space
- Increased staffing
- Openness of staff
- Leadership communication
- Small unit structure
Weakness
- Lack of role clarity for new processes
- Newly established program
- Newly developed process
SWOT
Opportunities
- Decrease inpatient LOS
- Increase outpatient unit volumes (pt visits)
- Identify patient population specific unmet needs
- Build interfacility/ agency relationships
- Streamline patients transition of care
- Increase patient satisfaction & Care experience
Threats
- Lack of communication {MD/ NP/ HPCU/ CTU Pharmacy/ Cancer Center/ Dietary}
- Interprofessional dependent workflows {roundings/ discharge/ lab/ referal
- Decreased referals leading to lack of eligible outpatient transplant patients

Appendix E


Plan
Review patient satisfaction capture process and validated satisfaction capture methods
Achieve buy in from agency stake holders
Develop a formalized unit based patient satisfaction survey
Outline survey goals and benchmarks
Do
Implement trial BMT patients satisfaction survey for three month period
Study
Analyze survey results
Identify areas of improvement
Identify unmet BMT patient needs based on survey responses
Act
Revise patient satisfaction survey questions for transition to online platform
Implement additional microsystem changes for BMT care delivery

Appendix F

ACTIVITY	PLAN START	PLAN DURATION
Review Patient satisfaction practice	1	1
Review validated outpatient cancer patient satisfaction	1	1
Compose Patient Satisfaction Survey Content areas	2	3
Achieve stakeholder buy in	4	4
Establish Survey Team	5	6
Set Goals /Parameters	6	7
Confirm Survey Methodology	7	8
Collaborate with Survey Department question phrasing/ Aproval & Question	10	13
Produce Pilot Survey	10	13
First OP BMT	13	13
Educate Staff on survey use/necessity	14	14
Implement Pilot survey for OP BMT Patients	14	14
Collect Survey Results	14	26
Analyze Survey Results	26	27
Revise Survey for online platform		
Implement workflow/care delivery changes		



Appendix G

BMT Patient Satisfaction Survey

We thank you in advance for completing this voluntary questionnaire, your feedback is valuable in helping us identify how we can improve our services to meet your needs. All responses will be kept confidential and anonymous.

Circle the following response:

1. Did the care providers give you enough information about your health and treatment?

No ---------- Somewhat ----------Mostly ---------- Definitely

2. Did staff members listen carefully to you?

No ---------- Somewhat ----------Mostly ---------- Definitely

3. Did your treatment begin on time?

No ---------- Somewhat ----------Mostly ---------- Definitely

4. Did staff members explain things in a way you could understand?

No ---------- Somewhat ----------Mostly ---------- Definitely

5. Did you know what to do if you had more questions after your visit?

No ---------- Somewhat ----------Mostly ---------- Definitely

6. Did staff members do everything they could to ease your discomfort?

No ---------- Somewhat ----------Mostly ---------- Definitely

7. Did staff members tell you what any new medication was for?

No ---------- Somewhat ---------- Mostly ---------- Definitely

8. During your visit to AIM/ CTU was the education provided adequate?

No ---------- Somewhat ---------- Mostly ---------- Definitely

9. How likely would you be to recommend this facility to friends or family in your circumstance? (0 not likely at all, 5 extremely likely)

0 ---------- 1---------- 2 ---------- 3 ---------- 4 ---------- 5

10. How would you rate the cleanliness of this facility?

Poor ---------- Average---------- Excellent

11.What else would you like to say about your experience?

_____

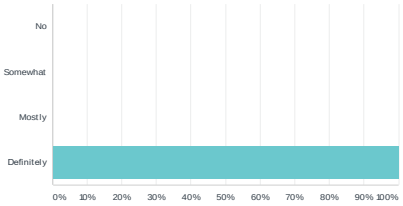
Appendix H

BMT Patient Satisfaction Survey

+ SUBTITLE

Did the care providers give you enough information about you...

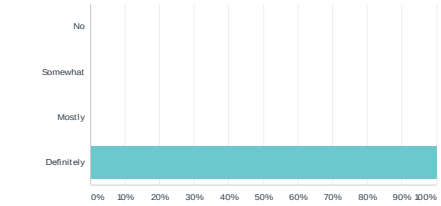
Answered: 3 Skipped: 0



BMT Patient Satisfaction Survey (0)

Did staff members listen carefully to you?

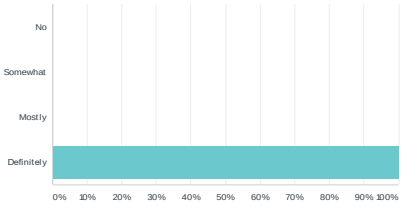
Answered: 3 Skipped: 0



BMT Patient Satisfaction Survey (0)

Did your treatment begin on time?

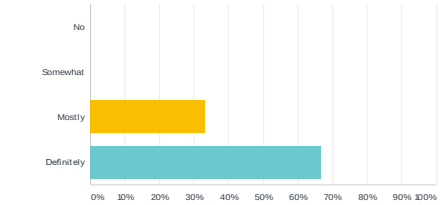
Answered: 3 Skipped: 0



BMT Patient Satisfaction Survey (0)

Did staff members explain things in a way you could understa...

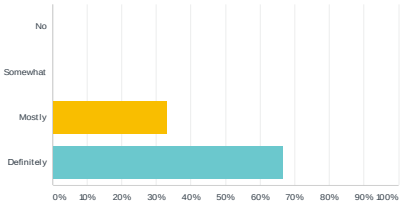
Answered: 3 Skipped: 0



BMT Patient Satisfaction Survey (0)

Did you know what to do if you had more questions after your...

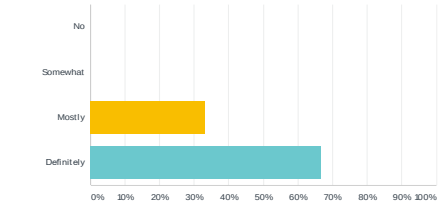
Answered: 3 Skipped: 0



BMT Patient Satisfaction Survey (0)

Did staff members do everything they could to ease your disc...

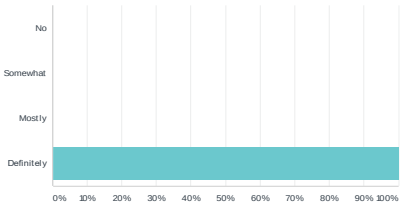
Answered: 3 Skipped: 0



BMT Patient Satisfaction Survey (0)

Did staff members tell you what any new medication was for?

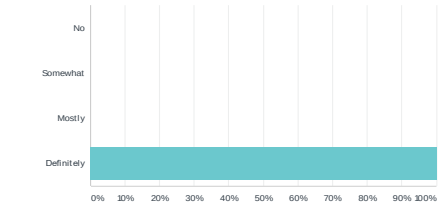
Answered: 3 Skipped: 0



BMT Patient Satisfaction Survey (0)

During your visit to AIM/CTU was the education provided ade...

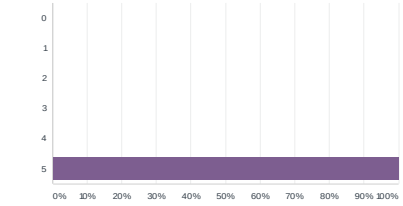
Answered: 3 Skipped: 0



BMT Patient Satisfaction Survey (0)

How likely would you be to recommend this facility to friends ...

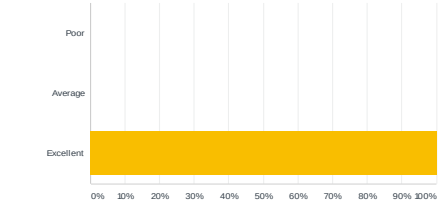
Answered: 3 Skipped: 0



BMT Patient Satisfaction Survey (0)

How would you rate the cleanliness of this facility?

Answered: 3 Skipped: 0



BMT Patient Satisfaction Survey (0)