Nurse Leader Rounds: Effect on Nurse - Related Patient Satisfaction Scores on Two Post-Surgical Units in an Acute Care Facility

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Abstract

Background and Significance: The best possible inpatient experience is a priority for many hospitals in today's model of healthcare delivery. Achieving and sustaining measurable success is a key challenge. Nurse leader rounds (NLR) has been revealed to be an effective improvement strategy in some hospitals. The purpose of this DNP project was to analyze the impact of implementing daily NLR on patient satisfaction (PS) scores in two postsurgical units at Mount Sinai Beth Israel (MSBI) hospital in New York.

Methods: This study used descriptive comparison to analyze existing survey data before and after NLR was implemented. The study took place in an academic, urban, tertiary care hospital in two postsurgical units. Data were collected using the Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) survey reflecting questions to measure patient's perceptions of care, specifically, assessing the nurse related communication to examine if there was a relationship between NLR and PS scores.

Results: Patient perception data summarized in this study suggested that the implementation of NLR was associated with increased levels of patient satisfaction with communication (SC) with nurses following NLR in the inpatient setting on two post-surgical units. The results indicated significant difference between the pre and post scores of SC in nurse related questions referring to communication (Appendix A).

Conclusion: Effective implementation of NLR can improve patient perception of care. Improvements in nurse communication impacted PS. Areas for improvement were to focus on patient self-management of care and medication education.

Keywords: Nurse Leader Rounds, Patient Satisfaction, Nurse Leader.
Value Based Purchasing initiative. A standardized questionnaire named Hospital Consumer Assessment Health Care Providers and Systems (HCAHPS) was created by CMMS to measure outcomes and patients’ perception of care delivered the measurement of which is reflected in patient satisfaction. This survey was implemented in 2006 and designed by the Agency for Healthcare Research and Quality (AHRQ) to query recently discharged hospital inpatients with 27 essential questions divided into specific domains of care (communication and care from nurses, response of hospital staff, medication management, pain management, discharge information, transitions of care) [2]. This tool is believed to accurately assess the primary drivers of adult inpatient satisfaction scores and is designed to provide a standard and objective comparison of a hospital performance relative to other hospitals [3]. The CMMS program rewards acute care hospitals with incentive payments based on the quality of care provided, how closely best clinical practices are followed, and how well hospitals enhance inpatients experience [3]. Therefore, any effort to improve scores would be welcomed by hospital administrators.

A key challenge for hospitals is how to improve patient satisfaction by using HCAHPS questions as a source of patient feedback and to use as a guide for NL to translate the content into individualized patient specific actionable items (i.e. cultural values, language, self-health management, health literacy) order to enhance the care delivered. NLR permits more personalized patient care plan and provides a thorough understanding of potential patient concerns. One-to-one patient feedback during NLR allows for individual interaction and visual assessment of the patients’ perception of care, which can only increase the benefits of the purpose for HCAHPS surveying. Accounting for patient preferences involves matching the questions to the individual; which requires asking the right questions as part of a whole plan of care and the discharge planning process. The NL ability to bridge patient feedback into tactical action using NLR as an organizational strategy provides the capability to move an organization forward from reactivity to proactivity [4].

Regardless of the organization, all NLs promote and practice open, two-way communication among patients and providers to clarify treatment goals and design actions to accomplish them. Additionally, the nurse leader/manager “is responsible for ensuring not only patient care is given but also it is given in the most effective and efficient manner possible” [5].

The purpose of the study was to explore if there was an impact of NLR on patient satisfaction. According to Tappen, Weiss and Whitehead a manager or nurse leader is defined as a person capable to stimulate employee “creativity, consistent excellent productivity, and maximum potential contribution toward continuous improvement of process, product, and service” [5]. NLs may include unit nurse managers, or clinical nurse managers of a unit or division within a health care organization.

**Definition of Terms**

Nurse leader (NL) A NL is defined as a person able to stimulate employee “creativity, consistent excellent productivity, and maximum potential contribution toward continuous improvement of process, product, and service” [5]. NL include unit nurse managers, or clinical nurse managers of a unit or division within health care organization. Nurse leader rounds (NLR) [4]. NLR is a process that allows nurse leaders to connect to patients, reinforce care, verify nursing behaviors, gain real-time response, achieve instantaneous service recovery, recognize staff, follow up to assure all patients needs are met, and develop a trusting relationship [1].

Effective nursing rounds (ENR). ENR is defined as the ability of a leader to motivate staff in accordance with the mission and goals to proactively ensure the delivery of safe, high quality care and identify improvement opportunities [4].

**Patient satisfaction**

PS is defined as the patient’s perception of care reflected by patient satisfaction scores collected using HCAHPS and is directly related to the quality of nursing care patients receive [4].

**Rounds**

Rounds are defined as the systematic visits to establish communication, to discuss medication management and plan of care. They involve direct observation, assessment and evaluation of patient, staff, unit functioning, clinical environment and global view of patient status [4].

**Literature Review**

For the purpose of this project relevant electronic databases such as: Cumulative Index to Nursing and Allied Health Literature (CINAHL), Medline, and The Cochrane Library were searched using following keywords: nursing, nurse leader, rounding, nurse leader rounds, and patient satisfaction while working closely with a Drexel librarian and Mount Sinai Beth Israel library database to find research articles in the past five years. The search found 25 articles. After careful review ten articles were included in the review that included words: nurse leader, leader NURSE LEADER ROUNDS EFFECT 9 rounding, rounding. The review summarized the studies on the major variables of: CMMS financial demands, types of rounds, nurse leader rounds/rounding (NLR), patient satisfaction (PS), and the relationship between NLR and patient satisfaction.

**CMMS financial demands**

As CMMS attempted to meet financial demands in healthcare, new laws were passed that based Medicare payments, in part, on quality. To quantify patient experiences standardized governmental healthcare survey/report card HCAHPS was created as part of Value Based Purchasing program under which beginning fiscal year 2013, inpatient hospitals saw a 1% reduction, which will incrementally increase to 2% by fiscal year 2017 in reimbursements from Medicare [2]. It has become essential to improve patient satisfaction scores if hospitals want to receive reimbursements and in some instances to survive staying open. Patient perception of care reflected by patient satisfaction scores, collected using HCAHPS, is directly related to the quality of nursing care patients receive.

**Rounds**

Healthcare literature has information about different types of rounds with patients. NLR with patients have been described as a strategy associated with improvement of ratings from patients regarding their inpatient care. Rounds involve direct observation,
assessment and evaluation of patient, staff, unit functioning, clinical environment and global view of patient status. The effectiveness of this type of nursing rounds is in ability of leader to move staff, mission, and goals towards same destination to proactively ensure the delivery of safe, high quality care and identify improvement opportunities. As the ACA transformed healthcare reimbursement methods to the hospitals at its foundation, NLR have been identified as one of the strategies impacting patient satisfaction scores.

Day-to-day NLR allows for proactive assessment of quality of nursing care on units from a patients’ perspective and provides immediate feedback to coach individual nurses. During NLR the leader clarifies questions patients may have, assesses knowledge gaps about nursing care received, provides discharge instructions or medication management, and develops a personal touch using individualized approach to meet patient needs. Literature contains information and research on different types of rounds with patients. Even though many support NLR and have quoted its value, very few have documented the impact of this practice on nurse related patient satisfaction scores. Research by Thompson summarized the feedback collected from 20 prominent nurse leaders. The American healthcare emphasis is no longer on the course of how the care is delivered, but rather the results of the care [6]. Specifically, new emphasis is on federal reporting of patient satisfaction scores with the services provided. According to Thompson, producing quality outcomes, high patient satisfaction, and real measurements of both are vital themes in healthcare organization and management leadership teams [6]. For NL quality and safety outcomes signifies accountability for managing and leading the staff responsible for providing quality and safety patient care connected to the financial burden of the hospital.

**NLR Effect on Patients’ Satisfaction**

Setia and Meade addressed how a combination of implementing NLR and discharge telephone calls simultaneously produced positive patient satisfaction outcomes and patient quality of care [7]. According to the authors, with implementation of both tactics (discharge calls and NLR) in a Hackensack University Medical Center in New Jersey, there was a significant increase in patient satisfaction and quality of care, versus the individual effect of either one of tactics reflected in the HCAHPS survey data. About 50% of the patients that answered “yes” to receiving a discharge call and “yes” to a visit by a NL has shown level of satisfaction greater than 99th percentile in national database for several nurse related patient satisfaction domains such as communication/ responsiveness of the nurse, preparation of discharge instructions, likelihood to recommend, and patient perception of their overall care [7].

Additionally, according to Baker and McGowan, consistent use of rounding as a foundational leadership tactic delivers quality service, and increases clinical and operational results in many emergency departments [1]. In this study the authors discussed three types of rounding implemented in the emergency department: a) leader rounding on staff; b) leader rounding on patients; and 3) leader rounding in the reception area. The authors emphasized that leader rounding was the single best way to raise not only patient satisfaction scores but also increase nurse satisfaction, nurse loyalty, and attract new high-performing nurses. As Baker and McGowan indicated, leader rounding improved nurse-related patient experience outcomes such as: established nurse-patient communication, plan of care, medication management, and discharge planning [1]. It is the most consistent way of asking questions, to obtain actionable information about what is working well, and to identify areas for improvement. The goal specifically for leader rounding in the reception area was to reduce patients that left without being triaged in emergency department. According to Baker and McGowan study, leader rounding on patients in the reception area led to catching three extra patients each day before they left emergency department without treatment and added an additional $ 219,000 to $328,500 in annual revenue for the hospital [1].

In 2011, Blakley, Kroth, and Gregson, described the close relationship between a consistent rounding program addressing all patient needs and overall patient satisfaction scores [8]. The researchers, using case study method, showed how overall patient satisfaction scores steadily increased in conjunction of the rounding program from 3.50 (n=200) in the first quarter to 3.60 (n=101) of the 3rd quarter at the medical surgical unit of the West Valley Medical Center in Caldwell Idaho. The researchers did not report any p values to demonstrate the statistical significance of this study [8].

Hutchings, Ward, and Bloodworth suggested that managing patient expectations during the interactive rounding by nurses and nursing leadership established a foundation for change at Nottingham University Hospital in the United Kingdom (UK) [9]. Hutchings and colleagues presented a model that combined three types of rounding (hourly nurse rounding; leadership rounding and senior leadership rounding) with coaching of the staff during the project. They also timed the nurses’ responses to patient calls. The program resulted in significant favorable outcomes. There was a 32% average reduction in the patient’s use of call lights, more interactions with patients allowing frequent assessment of skin integrity, mobility of patients, nutrition, and leaders getting real time feedback from patients, and nursing staff improved morale. The results led to expanding this project across 79 wards over a 14-month period [9].

Morton examined patient experiences through NLR implemented across a large healthcare system. The study was done at a large health care system named Providence Health and Services that serves patients across five states Alaska, California, Montana, Oregon, and Washington. The system employed over 64,000 people, included 32 hospitals and other ambulatory settings [10]. The study was implemented in inpatient settings and emergency departments. All nurse leaders were trained. Each hospital added a question to the survey, “Did a nurse leader visit you during your stay?” The authors reported statistically significant changes (p <0.01) in all aspects of patient care in global and individual domain areas. NLR was associated with increased levels of patient satisfaction. According to these researchers, inpatients who reported receiving a NL round during their stay rate both global and all individual aspects of hospital stay more positively than those patients who did not report receiving a visit from nurse leader. The rating improved from being below the national rate from 2008-2011 (before systematic implementation of NLR) to exceeding the national rate of change following implementation of this practice. The experience and the results summarized by the
Hospita l Consumer Assessments of Health Care Providers and Systems (HCAHPS)

Keith et al. examined the effect of a leaders’ program to improve patient satisfaction scores on the HCAHPS. The results of the implemented program revealed increased patient satisfaction scores [11]. As a result of this study, one key element identified by the leaders was to have accountability in order to sustain a successful standard of quality care.

Winter and Tjong examined the question, “Does purposeful nurse leader rounding make a difference?” In this study the goal was to round on patients twice a week for the purpose of asking exact questions related to patient experience, nursing care and customer service [12]. This quality improvement study was conducted in a 95 bed acute care hospital in North Texas. Three units were involved: intensive-care unit ICU (10 beds); progressive care unit PCU (16 beds); acute care unit ACU (32 beds) with 90% occupancy rate giving 52 total numbers of beds with the average daily patient census (estimated number of rounds completed 2,506). Researchers of this study did not find a correlation between leader rounding questions and HCAHPS survey questions. Although this study did not show the expected results, the hospital believed leader rounding had benefits and intended to continue the practice. Authors explained the unexpected findings as possibly due to sample selection and response bias of the data set [12].

NLR Effect on Nurse-Related Patient Satisfaction Scores

A study done by Volland and Fryda addressed effectiveness of NLR on discharge planning of patients. Successful discharge planning across settings is a direct responsibility of nurses which required multiple levels in coordination of care [13]. The starting point was the NLR giving an ability to bridge patient feedback into tactical action and to develop a discharge plan of care in an individualized manner. Tailoring to patient and family preferences, understanding patient’s health self-management, assessing the knowledge on medication purpose, developing an action plan in coordination with primary care physician were the areas to address as a discharge plan of care was proactively developed in conjunction with NLR. According to Volland and Fryda, involving patients and families in their discharge plan was the best practice for medication management for patients [13].

Results in the literature support the claim that there is a positive correlation between NLR and patient satisfaction scores. The literature has repeatedly shown that NLR provides a valuable opportunity to prevent adverse events, improve quality of care, evaluate patient education efforts, and identify trends that require improvements, determine patient compliance with discharge instructions, and assess overall perception of care or hospital performance. The connection allows NL to link with patients every day, which provides an opportunity for pre-emptive delivery of care. However, other elements such as communicating with nurses, understanding medications, understanding what should occur at discharge as well as post discharge are also essential in improving quality, safety and patient perception of care. Improving patient satisfaction scores is not easy but focusing on nurse-related patient satisfaction items will add to a growing body of specific evidence on the value of NLR in contemporary health care. This study allowed to better understand the effect of NLR to nurse-sensitive items on patient satisfaction surveys.

Smith described the nursing leader’s main goals: a) “to provide exemplary leadership” and b) “to support and impact the change in healthcare [14].” Smith questioned and explored how nurse leaders can set the stage to engage, improve, impact and ultimately influence while coordinating quality and safe care. The author also emphasized that nursing leadership is an indicator and predictor of organizational outcomes [14].

Nurse Leader at Mount Sinai Beth Israel

As part of Mount Sinai Health System (MSHS) is an integrated health care system encompassing the Icahn School of Medicine at Mount Sinai and seven hospital campuses in the New York metropolitan area. MSHS was created from combination of The Mount Sinai Medical Center and Continuum Health Partners in 2013. Mount Sinai Beth Israel (MSBI) is an 856 bed teaching hospital founded in 1889 serves the lower east side residential area of Manhattan. With a significant Medicare/Medicaid patient population, MSBI implemented the NLR process with the goal to improve patient experience and HCAHPS scores after having low scores for several years. NLR were designed to decrease variation in care and thus better impact inpatient experience. Determining the immediate need was a goal based on the daily involvement of NL in assessing, coaching, coordinating, holding all staff accountable to assure consistent service. The objective of providing safe and quality service to every patient, every time and utilizing all nursing, and ancillary services was prioritized to influence patient satisfaction scores.

Even though there are number of studies supporting the benefits of NLR, as well as the improved patient satisfaction scores associated with NLR, it was important to evaluate if indeed it does improve patient satisfaction once implemented at MSBI. Patients’ feedback gathered during NLR was the best way to know if the patient’s personal needs were met according to [15]. Hospital performance and quality of care were publicly reportable by the HCAHPS survey which is standardized and used by many hospitals for appraisal and comparison against each other concerning patient experience (Centers for Medicare & Medicaid Services [1]. There are many studies published on the benefits of NLR, however, few exist on the relationship of NLR to nurse-related patient satisfaction scores and how NLR can improve patient satisfaction with nursing care specifically.

This study focused on the relationship between NLR and nurse related patient satisfaction in two post-surgical units in order to understand if there was a relationship between these variables and the magnitude of the relationship.

Conceptual Framework

Evidence based leadership (EBL) is a framework that allows hospitals or any healthcare facility to create a system of aligned goals and absolute accountability that ensures execution every time [15]. This leadership framework was introduced by Studer, Robinson & Cook and refers to the importance of reducing variances in leadership skills and processes to produce predictable positive
outcomes [15]. EBL, as a foundation, allows hospitals to develop strategies that most impact their desired outcomes in consistent manner. The EBL framework consists of three components: aligned goals, aligned behaviors, and aligned processes. According to Studer et al., healthcare facilities that were able to incorporate and emphasize the above mentioned components were proven to get results [15].

Purpose
The purpose of the project was to examine the association of NLR with nurse-related measures of patient satisfaction on two postsurgical units in an acute care facility. This project had four specific aims:

1. To examine if there was a difference in the percentile scores of patient satisfaction with communication (SC) with nurses following NLR implementation,
2. To examine if there was a difference in the percentile scores of patient satisfaction with medication management (SMM) (i.e., communication about new medicines, side effects) following NLR implementation,
3. To examine if there was a difference in the percentile score of patient satisfaction with discharge information (SDI) (information about help, signs and symptoms to look for) following NLR implementation, and
4. To identify ways to improve and expand NLR in the hospital using analyses from nurse-specific items (aims 1 to 3).

Variables
The variables of interest are defined below

Nurse leader rounding (NLR) As an independent variable, NLR was defined as a systematic process recommended as a best leadership practice to assure consistency according to Baker et al. and was measured by quality of care delivered and patient’s perceptions of care. During the NLR, the nurse leader was learning the experience of patients on her or his unit. While rounding, the nurse leader was establishing relationship with patients, and gathering information by direct visual and clinical observation during assessment and evaluation. The NLR was done daily except the weekends using a scripted nurse leader tool or questionnaire. NLR strategy was measured by the HCAHPS survey question “did the nurse manager visit you during your stay?” The collected response was “yes” or “no”. The percent of patients who report definitely “yes” was reported as a best result.

Satisfaction with communication (SC)
This dependent variable was defined as the patient’s satisfaction with inpatient experience in communication and care from nurse was defined as patient’s perceptions of nurses that listened, explained, and treated the patient with respect during hospital care. SC was measured by HCAHPS survey question domain “your care from nurses” that includes three nurse related questions: 1) “during this hospital stay, how often did nurses treat you with courtesy and respect,” 2) “how often did nurses listen carefully to you” and 3) “how often did nurse explain things in a way you could understand?” The survey questions measured frequency of questions responses using the scale of never, sometimes, usually, or always. Most frequently reported result of “best” was reported for each quarterly reporting period. “Always was the only response that counts.

Satisfaction with discharge information (SDI)
This dependent variable was defined as the patient’s satisfaction with inpatient experience on discharge information as defined as inpatient experience on discharge instructions, and was measured by HCAHPS survey question domain of “when you left the hospital.” This domain included questions: 1) “during the hospital stay, did the nurse talk with you about whether you would have the help you needed when you left the hospital” and 2) “during hospital stay, did you get information in writing about what symptoms or health problems to look out for after you left the hospital?” Using responses “yes” or “no”, the survey measured the percent of patients who report “yes” which gave a best reportable result.

Methodology
Design
This DNP project was a comparison study using existing HCAHPS survey data before and after the implementation of NLR on two post-surgical units. The study evaluated patient satisfaction scores using the standardized instrument at two time periods. The pre-implementation period was February 1, 2014 to July 31, 2014. The post-implementation period was from August 1, 2014 to December 31, 2014. NLR was implemented at Mount Sinai Health System (MSHS) on all the units of Mount Sinai Beth Israel (MSBI) hospital on February 1, 2014. This was an institutional decision and applied to all units after the hospital merged with MSHS.

Study Sample
No human subjects were recruited for this study. The inclusion criteria for the data sets were: all adult discharged inpatients 18 years and older who returned the survey response during pre- and post- timeframes indicated above. All survey data were already collected, anonymously, from discharged adult inpatients from two post-surgical units 7 Silver and 10 Silver. The adult inpatients from two post-surgical units 7 Silver and 10 Silver.

Study Setting
Mount Sinai Health System is the largest health care system in the New York metropolitan area serving patients and their families. The system employs over 40,000 employees and includes seven hospitals with more than 20 ambulatory clinics. MSBI is one of the systems hospitals with an 800 bed capacity, performs as a teaching hospital serving the community of the Lower East Side in New York City for over 100 years. On 7 Silver, the average length of stay was 2.8 days for patients with hip surgery and 3 days for patients with knee surgery. The average length of stay on 10
that would be memorable to the nursing staff. Information was diagnostic codes or other data that could be linked to any patient recruited for this study. All data were de-identified and could when collecting data from HCAHPS database. No subjects were confidentiality and compliance with all Health Insurance Protection of Human Subjects

The study was submitted for Institutional Review Board approval to Icahn School of Medicine at Mount Sinai and for the Institutional Review Board to Drexel University for a quality improvement study. Approval was obtained from IRB at MSBI and IRB Drexel after the proposal approval. Although no human participants were included in any aspect of this project, ethics associated with the general conduct of this project were considered. All data were anonymized, there was no threat to privacy or risk of breach of confidentiality to any person who completed the survey. No specific participant information could be associated with any response. Nursing staff on both units were not threatened by patient satisfaction scores. These data were used as a baseline for quality improvement projects on delivery of care and were publicly reportable.

Confidentiality and compliance with all Health Insurance Portability & Accountability Act (HIPPA) rules was followed when collecting data from HCAHPS database. No subjects were recruited for this study. All data were de-identified and could not be traced to previous individual patients. There were no diagnostic codes or other data that could be linked to any patient that would be memorable to the nursing staff. Information was stored accordingly, monitored by the researcher and shared for the purpose of this study only.

**Instrument**

The Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) is the first national, standardized, publicly reported survey that was designed by Centers for Medicare & Medicaid Services (CMMS) together with the Agency for Healthcare Research and Quality (AHRQ) to generate data on the patient’s experience of care to allow objective and meaningful comparisons between hospitals in areas that are important to patients. In 2005, HCAHPS had final approval by Federal Office of Management and Budget to be implemented nationally. As a result, voluntary collection of HCAHPS data began and first public reporting happened in 2008 [15]. Results of collected data are posted on the CMMS hospital comparison website [2]. HCAHPS offers to consumers’ data that is helpful in selecting a hospital and standardizes questions for public comparisons. A sample of all discharged adult patients 18 years and older that were admitted to the hospital and stay overnight received surveys in the mail once they leave. Hospitals submit a minimum number of surveys each reporting period.

The CMMS, survey has 25 questions which measure frequency on six categories of questions using the scale never, sometimes, usually, or always and two additional questions that are answered in a “yes” or “no” format to calculate the percentage of responses. Seven questions in the survey are nurse sensitive questions that were addressed for the purpose of the study (Appendix A) [2].

### Appendix A

<table>
<thead>
<tr>
<th>Nurse Specific Items of the HCAHPS Survey</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. During your hospital stay, how often did your nurse treat you with courtesy &amp; respect? (Never, Sometimes, Usually, Always).</td>
</tr>
<tr>
<td>2. During this hospital stay, how often did the nurses listen carefully to you? (Never, Sometimes, Usually, Always).</td>
</tr>
<tr>
<td>3. During the hospital stay, how often did the nurses explain things to you in a way you could understand? (Never, Sometimes, Usually, Always).</td>
</tr>
<tr>
<td>4. Before giving you any new medicine, how often did hospital staff tell you what the medicine for? (Never, Sometimes, Usually, Always).</td>
</tr>
<tr>
<td>5. Before giving any new medicine, how often did hospital staff tell or describe possible side effects in a way you could understand? (Never, Sometimes, Usually, Always).</td>
</tr>
<tr>
<td>6. During this hospital stay, did doctors, nurses or other hospital staff talk with you about whether you would have the help you needed when you left the hospital? (Yes or No).</td>
</tr>
<tr>
<td>7. During the hospital stay, did you get information in writing about what symptoms or health problems to look out for after you left the hospital? (Yes or No).</td>
</tr>
<tr>
<td>8. During your stay, did the nurse manager check on you daily to address your care and comfort needs? (Yes or No) (Centers for Medicare &amp; Medicaid Services, 2014).</td>
</tr>
</tbody>
</table>

The federal government has linked healthcare reimbursement to these HCAHPS questions demonstrating if patients are satisfied with care represented by high scores. The hospital will receive more money to provide best care to patients. Areas measured are: a) nurse
discharged from the hospital. The same instrument was used, to occurred for the purpose of this study. Data comprised scores The only existing data were used. No primary data collection Data Collection experience clinical care would also improve [15].

For the purpose of this project only selected items were assessed before and after NLR implementation on two selected post-surgical units. HCAHPS results go hand-in-hand with clinical quality care, so by improving and sustaining improvements in hospital patient experience clinical care would also improve [15].

Appendix B
Nurse Leader Rounding Script

<table>
<thead>
<tr>
<th>Room #</th>
<th>Patient Name</th>
<th>Nurse Leader Name</th>
<th>Patients Feedback</th>
<th>Patients’ needs to follow up (if present)</th>
<th>Outcome</th>
</tr>
</thead>
</table>

Good afternoon, my name is…. I am the Nurse Manager/Leader of this unit…. offering business cards with Nurse Manager/Leader picture….

- “Do you know why you are in the hospital and your plan of care?”
- “Our staff is working together as a team to care for you.
- “Do you know which Nurse and Doctor, caring for you today, are?”
- “Has the Nurse or Doctor updated you on your plan of care and what’s happening next?”
- “Our goal is to always check in on you to make sure we are addressing your needs? We are especially interested in how we are managing your pain.”
- “Have you needed to call for assistance today?”
- “Did you find that the staff came to your room quickly to address your need(s)?”
- “We are working to meet your personal needs.”
- “When the staff round do they ask you about: comfort/pain: need to use the bathroom?”
- “We want to be sure you are getting the rest you need. Is there anything that is keeping you from resting comfortably at night?”
- “Do you have any questions that I can answer?”
- “Is there anything I can do for you before I leave?”
- “Is there any one I should recognize for providing you with care that excels?”
- “Thank you for choosing Mount Sinai Beth Israel for your care.”

Data Collection
The only existing data were used. No primary data collection occurred for the purpose of this study. Data comprised scores on the HCAHPS survey completed by patients after they were discharged from the hospital. The same instrument was used, to survey patients, prior to NLR and after the NLR implementation. Only the nurse-sensitive patient satisfaction items were analyzed for this project.

The nurse specific questions are the following items addressed aim 1: 1) Did nurses treat you with courtesy and respect? 2) Did nurses listen to you carefully? 3) Did nurses explain things in a way you could understand? The following items addressed aim 2: 4) How often nurses tell you what medicine is for? 5) How often did nurses describe side effects? The following items addressed aim 3: 6) Did nurses’ talk to you about whether you would have the help you need when you left the hospital? 7) Did you get information in writing about what symptoms or health problems to look out for after you left the hospital? (See Appendix A). Each response to the nurse-related questions was compiled and manually entered using excels spreadsheets.

Data Analysis
Descriptive statistics were completed on the general demographic information of the respondents to provide information of the composition of the sample. To address the aims of this study MSBI data were obtained and aggregated during the pre- and post-implementation periods of NLR from two post-surgical units. Prior to the aggregation of the data specific distributional characteristics were evaluated, such as out-of-range values and missing data. Descriptive statistics were used to summarize the responses based on the specific questions representing each of the three communication areas were used to develop a mean scores (i.e. specific to nurses, medication, and discharge) for each month during the pre and post implementation period. A hospital unit was not the level of interest in the aims of the study, the unit monthly communication scores were combined measures of pre and post implementation communication.

To address the aims of the study, three models were developed one for each of the communication areas with the monthly communication scores (i.e. nurse, medication and discharge) as the dependent variable and the timing of the measure (i.e. either during the pre or post period) as well as the NLR (the implementation) as the independent variable. To address the aims of the study, three paired independent sample t-tests (i.e. nurse, medication and discharge communication areas) were performed and mean differences were evaluated in the pre and mean differences evaluated in the post scores. The alpha level for all the analyses performed was set at 0.05. The assumptions for the equal variance were assessed to assure appropriate reporting of the findings.

In those communication areas which were found to not be significantly different after exposure to the implementation, an assessment for the need for an additional item-level analyses were completed to provide a more detailed evaluation. The criteria for the additional analysis was based on the likely presence of a ceiling effect. If the pre and post scores were both high (i.e. within or above the standard of care) and non-significant, then no additional analysis was completed. If a communication score was lower than the expected standard of care, additional item-level paired t-tests were completed.

Results
The questions used to define each of the communications scores and their response distributions for the pre and post implementation periods can be found in (Appendix A).

Aim 1
The result of the analysis to address aim 1: the first objective was to examine if there was a difference in the percentile scores of patient satisfaction with communication (SC) with nurses following NLR implementation. The mean pre-NLR implementation from all of the units was compared to the mean of the same units post-exposure to NLR. The sample included 12 observations from the pre and 12 observations which were provided by 44 patient reports.
Aim 2
The result of the analysis to address aim 2: the objective was to examine if there was a difference in the percentile scores of PS with medication management (SMM) (i.e., communication about new medicines, side effects) following NLR implementation. The sample included 12 observations from the pre-and 12 observations which were provided by 33 patients during the pre-period and 30 patients during the post-period. SMM pre score mean was .575, SD = .167, n = 33 and the SMM post score mean was .624, SD = 0.179, n = 30. The assumptions of equal variance were met for the paired t-test by Levene's Test for Equality of Variances F = .111, df = 61, p = .563. The results of the paired t-test indicated there was no significant difference between the pre and post scores (t (61) = -.79, p = .44). The SMM medication communication score was a composite score derived from two questions. The patient responses suggested that approximately 40% of those responding may not have received adequate communication. Given the importance of this area, each individual item was evaluated to provide information for further implementations.

Aim 3
The result of the analysis to address aim 3: this focus was to examine if there was a difference in the percentile score of patient satisfaction with discharge information (SDI) (information about help, signs and symptoms to look for at home) following NLR implementation. SDI pre score mean was .857, SD = .098, n =33 and the SDI post score mean was .838, SD = .096, n = 30. The assumptions of equal variance for the paired sample t-test were met by Levene's Test for Equality of Variances F = 0.338, df = 61, p = .563. The results of the paired t-test indicated there was no significant difference between the pre and post scores (t (61) = .79, p = .451). The communication scores suggested a ceiling effect (scores piled up at the highest value) was the source of the non-significant difference in the pre and post implementation scores and no additional analysis was completed. This indicated there was no impact on SDI (information about help, signs and symptoms to look for) following the NLR implementation.

Aim 4
The results from the previous aims were used to infer the need for modification in the NLR implementation and no statistical analysis was used to derive this result. The inference was drawn from both interpretations of the three nurse specific communication areas effect and evaluation of ceiling effects observed. The results from previous aims indicated no change in the implementation to improve patient satisfaction of nursing communication based on improvements observed. The results from the communication about medication indicated the need for modification of NLR as the implementation failed to demonstrate a significant effect in this communication area which has high impact on future patient outcomes. Given the strength in communication related to discharge prior to the implementation this area should remain the same or be de-emphasized (for these specific units).

### Mean percentile score of aims pre and post

<table>
<thead>
<tr>
<th>Aim</th>
<th>Time</th>
<th>n</th>
<th>M</th>
<th>SD</th>
<th>Std.Error M</th>
<th>t</th>
<th>df</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>SC</td>
<td>pre</td>
<td>44</td>
<td>.76345</td>
<td>.123556</td>
<td>.018627</td>
<td>-2.45</td>
<td>82</td>
<td>.016*</td>
</tr>
<tr>
<td></td>
<td>post</td>
<td>40</td>
<td>.82515</td>
<td>.105325</td>
<td>.016653</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SMM</td>
<td>pre</td>
<td>33</td>
<td>.57518</td>
<td>.166526</td>
<td>.028988</td>
<td>-1.13</td>
<td>61</td>
<td>.262</td>
</tr>
<tr>
<td></td>
<td>post</td>
<td>30</td>
<td>.62447</td>
<td>.178752</td>
<td>.032635</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sub-question analysis Nurse told you what the medication is for</td>
<td>pre</td>
<td>11</td>
<td>.71755</td>
<td>.155293</td>
<td>.046823</td>
<td>-.79</td>
<td>19</td>
<td>.44</td>
</tr>
<tr>
<td></td>
<td>post</td>
<td>10</td>
<td>.77140</td>
<td>.156905</td>
<td>.049618</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Staff described medication side effects</td>
<td>pre</td>
<td>11</td>
<td>.43282</td>
<td>.100228</td>
<td>.030220</td>
<td>-.95</td>
<td>19</td>
<td>.356</td>
</tr>
<tr>
<td></td>
<td>post</td>
<td>10</td>
<td>.47760</td>
<td>.116507</td>
<td>.036843</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SDI</td>
<td>pre</td>
<td>33</td>
<td>.85691</td>
<td>.097510</td>
<td>.016974</td>
<td>.795</td>
<td>61</td>
<td>.451</td>
</tr>
<tr>
<td></td>
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<td>.83840</td>
<td>.095782</td>
<td>.017487</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

Note: * p < .05 considered significant.

Abbreviations: SC = nurse communication, SMM = communication about medication, SDI = discharge information, (n) number, (M) mean, (SD) standard deviation, (Std. Error M) standard error mean, (p) probability (p), (t) t-test and (df) degrees of freedom.
Discussion
To make knowledgeable decisions it is essential that NL know what is happening on the frontlines of their units and organization. NLR helps build increased levels of trust among staff, colleagues, patients and the organization leaders as well as allowing to continuously connect to the daily processes and quality of work being performed by improving patient satisfaction scores [3]. The results support the effectiveness of the NLR implementation in one of the three areas evaluated. In those areas which were not found to have a significant difference in response to the implementation, the interpretation of the results were more complex. Within discharge communications there appeared to be a ceiling effect meaning score piled up at the highest value. The communication in this area was quite strong as measured by the questions used and was not significantly changed by the implementation. In communication area (SMM) about medication, the impact of implementation was not significant but the item-level analysis suggested different reasons for this result.

Patient perception data summarized in this study suggested that the implementation of NLR was associated with increased levels of SC with nurses following NLR in the inpatient setting on two post-surgical units. The results indicated a significant difference between the pre and post scores of SC in nurse related questions referring to communication (Appendix A). This meant patient-nurse communication had improved significantly following implementation of NLR. Patients reported they were treated with courtesy and respect, nurses were listening to them and explained in an understandable fashion. Conversely, satisfaction with medication management revealed no significant difference between the pre and posts scores following implementation of NLR.

It seems contradictory to see that even though nurse communication with patients had significantly improved after implementation of NLR, the communication about medication was poor before and after the NLR implementation. In the item -level analysis, while neither of the composite questions was significant they suggested the lack of change may have differing etiologies; patient and family medication management education was provided, but patients forgot and no follow up of any kind occurred; medication management education was not provided to patient or family; communication about medication management was provided however patients may not have understood or retained the information and this knowledge deficit was not captured. Perhaps communication on medication management was not explained in a way patient or family member could understand.

The lack of a differing post score of 77% in communicating what the medications were for, while not a high score (i.e., 77 out of 100) may have represented an acceptable score given the nature of the survey method. This meant a score of 43% pre and 47% post suggest that the communication of medication side effects was below the expected standards of practice, did not improve as a result of implementing NLR and was lower than would be expected from recall bias alone. It is possible that patients were informed appropriately about the purpose of their medications but did not understand or retain the information about medication side-effects. Patients’ knowledge or ability to describe medication side effects was below the expected standard of practice revealed that even though there was an established communication between the staff and patient. In order to explain this, some questions need to be asked: Were the nurse leaders using incorrect or too complicated terminology? Did these mean patients were not communicating with the nurse in an effective way? These discoveries supported the findings of Volland el al. whose study suggested a strong education plan was needed. Ideally, when content was reviewed multiple times before discharge and was discussed in a context that would be relevant to the patient, medication management was more successful. Teach-back a method which when used correctly identifies challenges with health literacy and helps overcome barriers in patient understanding [13].

Improved communication did not affect discharge. The SDI patient satisfaction pre-and-post following the implementation of NLR were not significant in the difference between the pre and post scores. This lack of significance appeared to be a ceiling effect as the level of communication in this area appeared to be very effective before the implementation and also after the implementation of NLR. These results when viewed with the medication side effect results represented a paradox. One possible explanation is that nurses may have provided side effect data that was more complex than what the patient could absorb and retain during the discharge process. A patient may understand or demonstrate the steps of what to do in case there is a dressing change, for example, since it involves simple steps and practice. This differs from cognitive recall only which requires knowledge of content that may be more difficult for the patient to comprehend. Setia and Meade explained that “rounding for public relations, which is simply saying hello and not asking in-depth questions and rounding for outcomes can produce very different results” [7].

A proposed modification of the process of NLR was the goal of aim 4. While effective in changing nurse communication, the implementation of NLR can be enhanced to address communication side effects with patients and their families. The process change could include initial training elements, use of script, timing of rounds, operational processes, and additional rounding of NL. This opportunity would incorporate nursing processes to improve patient care, improve favorable ratings by patients, boost patient satisfaction with nursing care and enhance the NL ability to implement changes to the quality of nursing services. Most importantly, improved processes will improve quality and safety of delivery of care and may directly reflect on the impact of patient satisfaction score. This may include: Developing an enhanced NLR using in-depth questions specific to medications management, side effects, involve pharmacist as part of rounding, individualize the approach based on patient preference, and using a teach back method in communication with patients. To address this apparent deficit, the following actions/efforts should be undertaken: a) reevaluation using the modified process of NLR; b) observational monitoring of nurse communication about side effects with patients to evaluate the teacher and learner interaction; c) qualitative interviews or focus groups with nurses to evaluate their understanding and perceptions; and d) comparison scores 6 months after NLR modification.

Study Limitations
This study is subject to the limitations of retrospective survey design. Specifically, the methods used to obtain post discharge satisfaction data posed threats to internal validity would come from vagaries in patients’ memory post discharge, somebody else could have completed the survey or ethnicity may have played impact on understanding the questions of the survey. Additionally, there was no assurance that the survey sent to a patient was not completed by a family member, or there was not a clear understanding of who completed the survey. The findings are limited to the post-surgical units only and to none response bias of surveys not received.

Clinical Relevance
The clinical relevance of nurse leader rounding has the potential to greatly impact patient care. NLR allows daily proactive assessment of safe quality care and the ability to reach every patient through health literacy, health self-management which will improve the healthcare delivery and quality of care significantly. Most impor-
tantly patients will be much more educated on disease process with the focus on prevention of disease by developing ability to identify signs and symptoms early which, if educated, could be addressed easily. The relationship between NLR and patient satisfaction in combination of implementing enhanced tactics during rounding: teach back method; teacher learner interactions; qualitative focus groups to evaluate patient understanding and perceptions; well-coordinated discharge plan and education; and is evidently vital in emphasis to produce quality outcomes. Taking patient preferences into account infers personalization of the patient encounter and involves asking the right questions. These findings support Voland’s and colleagues’ study who recommended having a strong education plan in which content is reviewed multiple times before discharge and discussed in a context that would be relevant to the patient. Using a teach-back method to state back what was said when used correctly would identify challenges with health literacy and help overcome barriers in understanding [13].

Questions could be asked
Did we communicate all information in a language that patients could understand? How do we know the patient had an understanding of all the information given to him/her? It is important to ask if we are truly reaching each and every patient while they are in the hospital. Communication must be effective enough to facilitate not only safe quality of nursing care in hospital experience but also better patient education of disease process. Discharge information should focus on preventive healthcare approach. Based on the findings of this study, establishing communication is a first step in patient satisfaction. However, effectiveness of the conversation, established trust, ability to bridge back into discharge plan of care patients’ preference and assessment of patient health self-management is vital. NLR had clearly improved patient-nurse communication. However, has not moved it further to coordinate patient plan of care with primary care provider utilizing NLR.

Suggestions for Further Research & Clinical Application
This study should be replicated on a larger scale in other healthcare settings to be able to generalize the project results. Replicating this project would give more credence to the results. Further research using patient satisfaction survey instruments and leadership tools could be explored to test the findings of this project. Additional research is needed in the effectiveness of NLR and its impact on various factors such as SDI and SMM. NLR should be standardized and operationalized so it can be taught and implemented in any clinical environment [16].

Conclusion
The findings of this project revealed that patients were more satisfied when a NL communicated with patients daily during hospitalization. Identifying positive response in SC following implementation of NLR is a vital improvement in the nursing processes. NLR as a consistent strategy established trust and developed a positive relationship with patients. However, it did not necessarily improve the overall quality of care delivered, with respect to nurse-sensitive outcomes measured by the HCAHPS. The fact that patients had difficulty managing their own medications and very poorly self-managed the discharge information impacts safety and quality of care delivered. The quality of conversations that NL had with patients/families should be substantive in nature. NLR gave an opportunity to continuously assess the knowledge, ability, feedback from patients, families, and staff, establish positive trusting communication, and observe insufficiencies and opportunities for improvement.

The results summarized in this study suggest that the reliable implementation of NLR represented one strategy that can be used to improve patient satisfaction. This study was important because in today’s healthcare environment nursing is on the forefront for effective change. As we move towards fully implementing accountable care actions, health care leaders must focus on safe quality of care and nursing satisfaction as a way to improve patient outcomes.

Health care leaders are faced with many obstacles, specifically how to provide and maintain safe patient experience for patients and families. The focus should be to make all nursing processes work to improve patient care is an ongoing issue. Rounding provided information that assisted leaders in recognizing or coaching staff and certainly can further develop nurse leaders’ abilities to meet and exceed patient expectations. This study helped to examine the effect of NLR on nurse related measures of patient satisfaction and to identify the improvement in SC, to pinpoint inefficiencies in SMM and opportunities for improvement in SDI of discharge planning. Specifically following implementation of NLR, the project identified areas for improvement with focus on patient self-management/medication management of care. This quality improvement study provided information to help hospital administrators to see the impact and value of NLR on nurse-sensitive evaluation items and ultimately improve patient satisfaction with safe quality care.

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References