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## Enhancing Nursing Perspectives and Support of Stroke Patient Satisfaction Survey

Vanessa Li

University of San Francisco, vli3@usfca.edu

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**Enhancing Nursing Perspectives and Support of Stroke Patient Satisfaction Survey**

Vanessa Li, RN

School of Nursing and Health Professions, University of San Francisco

NURS 670: Internship

Dr. Theresa M. Mostasisa, EdD, MS, BSN, RN

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## Abstract

**Problem** A stroke diagnosis is associated with high mortality and increased morbidity that affect the quality of life of both patients and caregivers. Higher satisfaction with stroke care could alleviate both patient and caregiver stress, thereby positively affecting their quality of life. Regulatory guidelines underscore the need for a stroke-specific patient satisfaction survey (SPSS). **Context** Hospital X houses one of the few comprehensive stroke centers (CSC) in the San Francisco Bay Area, serving patients with various stroke etiologies and complexities. Its Neuro Observation Unit (NOU) currently does not administer a SPSS. **Intervention** An educational presentation using literature evidence in support of SPSS was presented to nursing staff during the monthly unit meeting. **Measures** The aim was to ensure 100% of nurses in the NOU acknowledged SPSS importance by April 18, 2024, to maintain safe, quality care for stroke patients and meet regulatory standards. Successful change in practice was evaluated through a questionnaire administered before and after the educational presentation. On a 5-point Likert scale, it gauged nurses' perspectives on SPSS and their likelihood of encouraging patients or caregivers to complete a SPSS. **Results** The average pre-intervention ratings for the significance of patient satisfaction and likelihood to encourage were 4.4 and 3.6, respectively, and post-intervention ratings were 4.1 and 3.6, respectively. Optional comments from nurses implied confusion about their role in SPSS implementation. **Conclusions** These results suggest that nurses in the NOU at Hospital X are receptive to implementing a SPSS, but require clarification on their role.

*Keywords:* registered nurse, comprehensive stroke center, stroke patient, patient satisfaction, patient satisfaction tool

## **Enhancing Nursing Perspectives and Support of Stroke Patient Satisfaction Survey**

Every year, over 795,000 individuals in the United States suffer from a stroke (Centers for Disease Control and Prevention [CDC], 2023). Of these, approximately 610,000 are first or new strokes (CDC, 2023). A stroke diagnosis is associated with high mortality and leads to increased morbidity, including chronic physical impairments and functional limitations that affect the quality of life of both patients and caregivers (Cramm et al., 2012). As an important predictor of quality of care, patient satisfaction has increasingly received attention in the measurement of stroke outcome within hospitals and health systems (Cramm et al., 2012). Higher satisfaction with stroke care could alleviate both patient stress and caregiver stress, thereby positively affecting their quality of life (Cramm et al., 2012). Additionally, patient satisfaction can affect the extent to which patients adhere to clinical recommendations and treatment plans. This highlights the significance of data pertaining to satisfaction with care, which is defined as a patient-reported experience measure informing on the received care from the patient's point of view (Baumbach et al., 2023).

### **Problem Description**

Hospital X houses one of the few comprehensive stroke centers (CSC) in the San Francisco Bay Area. This CSC serves approximately 700 stroke patients annually. The Joint Commission (TJC) guidelines for disease-specific care state the need for a stroke-specific patient satisfaction survey (SPSS) (see Appendix A). However, a SPSS is not currently in place in the Neuro Observation Unit (NOU) at Hospital X. The first step in implementing such a tool is to assess the target unit to determine its practicability in this microsystem. To this end, clinical nurse leader (CNL) students were tasked with performing a quality improvement (QI) project to

evaluate and enhance nursing perspectives and support of a SPSS prior to its future implementation.

### **Available Knowledge**

#### **PICO Question**

A research question utilizing the PICO (Population, Intervention, Comparison, and Outcome) framework was formulated: Among nurses in the NOU in a CSC, how does increasing awareness of stroke patient satisfaction affect the quality of patient care?

#### **Search Methodology**

A literature review was conducted on multiple databases, including PubMed, Cumulative Index of Nursing and Allied Health Literature (CINAHL), and Scopus. Search terms included *nurse, registered nurse, awareness, neuro unit, neuro intensive care unit (ICU), neuro observation unit, comprehensive stroke center, stroke patient, patient satisfaction, patient satisfaction survey, patient satisfaction tool, quality care, and quality improvement*. Inclusion criteria included peer-reviewed and published in English between 2012 and 2024. Parameters for publication year were expanded due to minimal literature on this subject.

Ten research articles were identified and evaluated using the Johns Hopkins Evidence Appraisal Tool for assessing level and quality of evidence, as presented in Appendix B (Dang et al., 2022). Of the 10 articles, one study was a randomized experimental mixed methods design (Level I), seven studies were non-experimental quantitative or qualitative designs, including systematic reviews and cross-sectional studies (Level III), and two studies were a QI program or a scoping review (Level V). The wide variety of articles included in this literature review provided a strong sampling of the available research on satisfaction with care among the stroke patient population.

## **Literature Review**

### ***Importance of Patient Satisfaction***

Patient satisfaction with care is a critical factor beyond identifying areas in need of interventions and investments to improve the quality of care in the hospital. A cross-sectional study analyzed standard hospital quality survey data of 4925 patients in various inpatient departments at University Medical Center Hamburg-Eppendorf in Germany to investigate the association between satisfaction with staff-related care and patient-reported health outcome measures, namely quality of life and self-rated state of health (Baumbach et al., 2023). Baumbach et al. (2023) found that patients who were more satisfied with physician- and nurse-related care reported a higher quality of life and better self-rated health than patients less satisfied with care. Furthermore, this association was observed independent of the unit or patient population (Baumbach et al., 2023). Zeroing in more specifically on the patient group of interest, another cross-sectional study surveyed 251 stroke inpatients and their caregivers at nine Dutch stroke service facilities in the Netherlands (Cramm et al., 2012). Cramm et al. (2012) identified several indicators associated with the quality of life of stroke patients and caregivers. Patients' age, severity of disability on hospital admission, and length of hospital stay were associated with patients' quality of life (Cramm et al., 2012). On the other hand, caregivers' age and educational level as well as patients' disability on admission were related to caregivers' quality of life (Cramm et al., 2012). Most significantly, Cramm et al. (2012) concluded that higher satisfaction with inpatient stroke care was associated with higher quality of life outcomes for both stroke patients and caregivers. Therefore, patient satisfaction with care is not only a process measure indicating quality of care but is also positively associated with patient-reported outcomes.

### ***Patient Satisfaction among Stroke Survivors***

Research on patient satisfaction among stroke survivors has been limited to outpatient and rehabilitation services in foreign countries. A cross-sectional study of 175 post-stroke patients among ten public primary care health centers across Peninsular Malaysia found that only 18.2% were satisfied with outpatient stroke care services in general (Abdul Aziz et al., 2020). More specifically, detailed analysis showed only 10.9% of respondents were satisfied with discharge transition services, whereas only 40.9% were satisfied with social support services after discharge (Abdul Aziz et al., 2020). There were similar findings in another cross-sectional study of 20 patients receiving post-stroke rehabilitation services at the physiotherapy clinic at University of Muhammadiyah Malang Hospital in Indonesia (Sunaringsih Ika Wardoyo & Rosadi, 2023). Sunaringsih Ika Wardoyo and Rosadi (2023) used the SERVQUAL (Service Quality) method, which involves the assessment of tangibility, reliability, responsiveness, assurance, and empathy, to evaluate the level of patient satisfaction with services. While patients were very satisfied with the safety and comfort of the therapy services, 47.1% of respondents were dissatisfied with services due to the understaffing of physiotherapists and lack of on-call physiotherapists, long wait times, and lack of equipment, which all contributed to unmet patient needs and expectations (Sunaringsih Ika Wardoyo & Rosadi, 2023). Furthermore, a systematic review of 12 qualitative studies, representing nine foreign countries, examined the satisfaction of stroke survivors with rehabilitation services (Abu Saydah et al., 2023). Stroke survivors reported a mix of positive and negative experiences among five themes: healthcare professional-patient relationship, service delivery, perceived patient autonomy, expectations, and culture (Abu Saydah et al., 2023). For example, the attitudes of the staff, including negative actions and remarks made by healthcare professionals, affected the stroke survivors' ability to maintain their individuality and dignity (Abu Saydah et al., 2023). Survivors also reported the lack of

continuity of care as well as the lack of privacy and crowding in some rehabilitation settings (Abu Saydah et al., 2023). These studies identified different factors that influence stroke survivors' satisfaction with rehabilitation services in different countries worldwide. Additional research is necessary to adequately understand the patient experience for inpatient and acute stroke care in the United States.

### ***Development of Patient Satisfaction Surveys***

Surveys are the most common approach used to capture and improve patient experiences in the hospital setting (Cadel et al., 2022). To examine survey inclusivity, specifically the inclusion of communicatively vulnerable patients, O'Halloran et al. (2019) reviewed 39 qualitative studies on patient experience that informed the development of the Australian Hospital Patient Experience Question Set (AHPEQS). This was determined by three criteria: the population of interest included or was likely to have included participants who were communicatively vulnerable, the eligibility criteria did not exclude them, and communicative support was provided to enable them to manage the communicative demands in the recruitment, consent, and data collection process (O'Halloran et al., 2019). Of the 39 studies, only four supported the participation of communicatively vulnerable participants (O'Halloran et al., 2019). Intentional exclusion or lack of communicative support restricts the rights of people with communication difficulties to express their opinions. Stroke patients may have a variety of communicative vulnerabilities and therefore warrants the use of a stroke-specific survey.

There are validated tools to evaluate satisfaction with stroke care services. The Satisfaction with Stroke Care (SASC) questionnaire is a reliable and valid tool to measure patient or caregiver satisfaction with inpatient or outpatient stroke care services (Abdul Aziz et al., 2020). In addition, Konerding et al. (2019) analyzed data from 12 patient surveys conducted in



six European countries covering two conditions (type 2 diabetes and stroke). The data was analyzed for six items (tangibles, reliability, responsiveness, assurance, empathy, and communication) based on the SERVQUAL model (Konerding et al., 2019). Looking at the correlations with general satisfaction, five of the six items (tangibility, reliability, responsiveness, empathy, and communication) had a statistically significant positive regression coefficient, while one item (assurance) had a statistically significant negative regression coefficient (Konerding et al., 2019). This means that five of the six items contribute positively to the prediction of satisfaction, but one contributes negatively (Konerding et al., 2019). As a result, the SERVQUAL-MOD-5 was developed to assess service quality based on tangibility, reliability, responsiveness, empathy, and communication (Konerding et al., 2019). It serves as an universal short questionnaire that can be applied for assessing patient satisfaction with different medical conditions and in different countries (Konerding et al., 2019).

### ***Implementation of Patient Satisfaction Surveys***

Insights can be drawn from a similar QI program on patient satisfaction. Few responses to the Child Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) led to the implementation of the Pediatric Family Satisfaction in the Intensive Care Unit (pFS-ICU) Survey in a pediatric cardiac ICU at a southeastern academic medical center (Manna, 2021). Manna (2021) educated the nursing staff during staff meetings through a brief presentation of the purpose and goals of the survey as well as the process for administering the survey. Over the span of six months, there were 81 responses from 132 patients, providing a response rate of 61% using the pFS-ICU survey (Manna, 2021). In contrast, the unit received zero responses from 465 patients using the Child HCAHPS in the previous year (Manna, 2021). Furthermore, a survey of staff perceptions revealed that 100% of nursing staff understood the

pFS-ICU method, while only 33% of the nurses understood the HCAHPS method (Manna, 2021). Whereas 87% of nursing staff agreed that the pFS-ICU was an effective method of collecting family satisfaction data, just 7% agreed that the HCAHPS was an effective method (Manna, 2021). The main barrier was staff forgetting to administer the survey; however, having the charge nurses act as project champions to remind staff was helpful (Manna, 2021).

In addition, it is important to consider when patient satisfaction surveys are administered to reflect the inpatient experience accurately. Joseph et al. (2021) conducted an experimental study to investigate the concordance between patient satisfaction reported as an inpatient and patient satisfaction reported after discharge. 231 adult patients in the orthopedic unit at a large urban academic medical center in the United States completed a patient satisfaction survey prior to discharge and were randomized to receive a second survey by either phone or mail after discharge (Joseph et al., 2021). Overall, there was poor agreement between the reported experience as an inpatient and the recollection of the inpatient experience after discharge (Joseph et al., 2021). Negative patient experiences specific to pain management, staff responsiveness, and the hospital environment were the only factors observed to be fairly consistent between the two time points (Joseph et al., 2021). In comparison, positive factors discussed during the inpatient interview had a poor agreement with the post-discharge surveys (Joseph et al., 2021).

### **Conceptual Framework**

Change theories provide a framework for understanding and facilitating the process of change based on knowledge about human behavior and how change occurs (Udod & Wagner, 2018). In QI projects, change theories can help nurse leaders design and implement effective strategies for promoting innovation and improving patient care and outcomes. For this project, Havelock's theory was applied to guide the project through change. Havelock's theory consists

of six phases: (1) building a relationship with the client and the system in need of change, (2) diagnosing the problem, (3) acquiring the relevant resources, (4) choosing the appropriate solution if there are multiple proposed solutions, (5) accepting and adapting the chosen solution, and (6) stabilizing the innovation and generating self-renewal (Udod & Wagner, 2018).

This project began with developing a working relationship with stakeholders on the unit. To become familiar with the environment, a microsystem assessment was conducted, relevant data were gathered, and current processes related to patient satisfaction surveys were explored. The problem was then defined based on regulatory guidelines and baseline data on nurses' perspectives on SPSS and their likelihood of encouraging patients or their caregivers to complete a SPSS. Following this, the relevant resources to help carry out the most appropriate solution to the defined problem were identified and acquired, with consideration for the needs of the microsystem as well as cost and feasibility. After accepting and adopting the chosen solution to share education on the importance of SPSS data collection through a concise presentation during the monthly staff meeting, the progress and result of the intervention was monitored. Finally, the innovation was stabilized to ensure the microsystem can maintain the change on its own.

### **Ethical Considerations**

This project meets the guidelines for an evidence-based QI project. An institutional review board (IRB) review was not required. A statement of non-research determination form was completed to validate this QI initiative, followed by a review and approval by University of San Francisco (USF) School of Nursing and Health Professions clinical faculty (see Appendix C). The project described received no funding and the project group members declare no conflict of interest for the project.

The development and implementation of a SPSS, as well as preparation for such endeavors, ensure Hospital X meets regulatory guidelines. This is related to Provision 7.2 in the *Code of Ethics for Nurses with Interpretive Statements*, which encourages nurses to be involved in the development, implementation, and maintenance of professional guidelines and standards (American Nurses Association [ANA], 2015). Additionally, a SPSS emphasizes that patients' opinions and satisfaction with care are valued. Provision 2.1 affirms that nurses' primary commitment is to the recipients of nursing and healthcare services, that is, the patient (ANA, 2015). Nurses provide patients with opportunities to participate in care, including providing feedback. This project also resonates with USF's value of *cura personalis*, or care for the whole person (University of San Francisco [USF], n.d.). The delivery of healthcare services for this patient population is not limited to the standard treatment and management of acute stroke but includes individualized care for the entire person. Part of this may involve a patient satisfaction survey to assess whether patient-centered, quality care was delivered.

### **Project Aim**

The aim of this project was to ensure that 100% of nurses in the NOU acknowledged the importance of a SPSS by April 18, 2024, in order to maintain safe, quality care for all stroke patients and to meet regulatory compliance standards (see Appendix A).

### **Methods**

#### **Context**

#### ***Gantt Chart***

A Gantt chart, which displays a list of tasks with corresponding timeline, was created to visually plan and manage the progression of this project (see Appendix D). It spanned from late January 2024 to early May 2024. Project initiation and planning, including literature review,

stakeholder meetings, and microsystem assessment, took place during January and February. Project implementation, namely data collection and intervention implementation, commenced in late February and extended through March. Finally, project evaluation and synthesis, including data analysis as well as presentation of findings to unit leadership and colleagues, occurred in April and May.

### ***Microsystem Assessment***

To understand the current state of the NOU, a microsystem assessment was performed utilizing the 5 P's framework, which includes purpose, patients, professionals, processes, and patterns. The purpose of the NOU as part of a CSC is to provide primary and secondary stroke prevention and care, that is in line with the American Heart Association (AHA) and American Stroke Association's guidelines, among various neuro-related medical treatments. As such, patients comprise individuals who are experiencing stroke symptoms or have experienced an acute stroke. An interdisciplinary team of professionals providing medical services to these patients include registered nurses, patient care technicians, therapists, hospital-based physicians, neurosurgeons, interventional radiologists, pharmacists, and emergency department personnel. There are four stroke alert processes depending on whether it is an early (<6 hours from last known well time) or late (6-24 hours from last known well time) alert and whether the patient is in an inpatient unit or in the emergency department. Patterns related to patient satisfaction include adequate orientation to stroke-specific processes for new or travel nurses as well as involvement of family members during patient education.

### ***SWOT Analysis***

A SWOT (Strengths, Weaknesses, Opportunities, and Threats) analysis was conducted to identify internal and external factors that may have a positive or negative impact on the QI

project (see Appendix E). Internal strengths included the availability of shift huddles and monthly unit meetings to share information on patient satisfaction. In addition, the nurses were receptive to education and willing to provide feedback. A major internal weakness was the lack of time among stakeholders and nursing staff to partake in additional projects. Furthermore, changes in leadership roles along with multiple assistant nurse managers rotating between units resulted in no consistent point person on the unit. External opportunities included making improvements to maintain the CSC Certification by TJC and the Get With The Guidelines Award from the AHA. There was also an opportunity to impart knowledge on patient satisfaction during neuro-specific new hire orientations for nurses in the NOU, neuro ICU, and emergency department. External threats included the dynamic nature of policy and protocol change as well as the onboarding of a new stroke coordinator.

### ***Root Cause Analysis***

To discover the underlying causes of the problem surrounding the importance of a SPSS, a root cause analysis was carried out using the fishbone diagram tool (see Appendix F). Five categories of contributing factors were identified: patients, providers, place, policies, and procedures. Stroke patients may have neurologic deficits and therefore would not be in a proper state to answer questions and complete a SPSS, requiring the availability of and cooperation from caregivers to complete the survey. It also requires staff buy-in as well as nurses to be knowledgeable about patient satisfaction, which could be affected by an outdated stroke bulletin board in the NOU. Policy-related factors include gaps in knowledge regarding CSC guidelines by TJC as well as the complex process to approve a SPSS. Furthermore, ineffective procedures for the dissemination of nursing knowledge and measurement of patient satisfaction could contribute to the problem.

### ***PDSA Cycle***

The Plan-Do-Study-Act (PDSA) model was employed to test the change, or intervention, in this project (see Appendix G). The first phase of the cycle was to *plan* the test of change. A PICO question and aim statement were formulated. A nurse questionnaire was developed to collect both pre- and post-intervention data on the nurses' perspectives on SPSS and their likelihood of encouraging patients or their caregivers to complete a SPSS (see Appendix H). The questionnaire included a free text question for comments to collect qualitative data. Based on identified strengths in the SWOT analysis, specifically the availability of shift huddles and monthly unit meetings as well as the nurses' reception to education and willingness to provide feedback, the planned intervention was to share information on patient satisfaction during the monthly unit meeting. To this end, an educational poster was produced (see Appendix I).

### ***Cost-Benefit Analysis***

A cost-benefit analysis was performed to compare the monetary costs and benefits of this intervention (see Appendix J). The total costs, comprising 200 hours for a CNL to carry out this QI project as well as printing nurse questionnaires and educational posters, were estimated at \$16,020. There were no additional costs for staff time, as nurse questionnaires and education took place during paid work hours. This project would avoid a compliance violation fine of \$100,000 from TJC. Therefore, the projected savings were determined to be \$83,980.

### ***Intervention***

The second phase of the PDSA cycle was to *do* the test of change. Prior to the intervention, the anonymous and voluntary nurse questionnaire was presented and distributed during shift huddles (see Appendix H). Nurses had the option to complete a paper questionnaire that was printed on white paper and made available in the break room of the NOU or respond via

a QR code that linked to the electronic questionnaire on Google Forms. During the unit's monthly staff meeting on March 21, 2024, a concise presentation of the educational poster on the importance of a SPSS was shared with nurses (see Appendix I). This poster was also displayed on the stroke bulletin board in the NOU. Following implementation of the intervention, the nurse questionnaire was administered again in the same approach. The post-intervention paper questionnaire was printed on yellow paper to differentiate between pre- and post-intervention responses. Responses on Google Forms were differentiated according to the timestamp.

### **Study of the Intervention**

The third phase of the PDSA cycle was to *study*, or evaluate the effectiveness of, the test of change. Data were aggregated into a table and analyzed with bar graphs (see Appendix K). Qualitative data were also examined. Pre- and post-intervention responses were compared to assess whether the aim of this project was achieved through the intervention.

An unexpected observation was fewer questionnaire responses during post-intervention as opposed to pre-intervention. Given that the pre- and post-intervention questionnaires were the same, there could have been a misconception that there was only a pre-intervention questionnaire. The post-intervention paper questionnaire was printed on yellow paper to make a distinction; however, there was no written instruction or text on the questionnaire stating such. Although nurses were informed of this at the end of the intervention presentation, some could have missed that portion of the presentation and therefore would not have known about the post-intervention questionnaire.

### ***Outcome Measures***



The primary outcome measure was the degree of acknowledgement among nurses in the NOU regarding the importance of a SPSS. To quantify this, the following were calculated on a 5-point Likert scale:

- average rating of the significance of patient satisfaction to quality patient care, and
- average rating of the likelihood of encouraging stroke patients or their caregivers to complete a patient satisfaction survey.

### **Results**

Among nurses in the NOU, there were 28 responses for the pre-intervention questionnaire compared to 14 for the post-intervention questionnaire (see Appendix K). The significance of patient satisfaction to quality patient care pre- and post-intervention was rated an average of 4.4 and 4.1 on a 5-point Likert scale, respectively. One outlier, a rating of *1 or not at all significant*, decreased the average rating for post-intervention. Excluding this outlier, the averages would be identical for both pre- and post-intervention. Secondly, the likelihood of encouraging stroke patients or their caregivers to complete a patient satisfaction survey pre- and post-intervention was both rated an average of 3.6 on a 5-point Likert scale. One commented that completion of the patient satisfaction survey could be enhanced by providing reminders of its workflow in the break room for nurses to review.

### **Discussion**

#### **Summary**

This QI project was an endeavor to evaluate and enhance nursing perspectives and support of a SPSS prior to its future implementation. The nearly identical average ratings before and after the intervention suggest that the educational presentation during the monthly staff

meeting had limited effectiveness in enhancing nursing perspectives and support. However, the baseline data indicates that the nurses were already receptive to a SPSS prior to the presentation.

Interestingly, the average ratings for the significance of patient satisfaction and the likelihood to encourage were not as closely correlated as anticipated. This discrepancy might stem from confusion regarding the questionnaire among many nurses, who believed that encouraging surveys was the responsibility of the assistant nurse managers. Hence, there may be a need for clarification regarding the personnel responsible for survey implementation and the role of the nurses in this initiative.

Nevertheless, the results imply that the nurses in the NOU at Hospital X are receptive to the potential implementation of a SPSS.

### **Limitations**

This project encountered several limitations. One limitation was time constraints, as there was less than four months available for the entire project duration. Consequently, a second PDSA cycle to reexamine nursing perspectives and support for a SPSS, and to provide clarification on the nursing questionnaire and the roles and responsibilities in this initiative, was not feasible. Additionally, the smaller sample size for post-intervention data may have impacted the accuracy of measuring the significance of patient satisfaction and the likelihood of encouraging stroke patients or their caregivers to complete a patient satisfaction survey. Moreover, this project was carried out exclusively in the NOU at Hospital X, potentially limiting the generalizability of the findings to a broader population.

### **Conclusion**

Data pertaining to patient satisfaction with care is important as it correlates with key health indicators such as quality of life. This QI project discovered that nurses in the NOU at

Hospital X are receptive to the potential implementation of a SPSS to collect such data, thereby maintaining safe, quality care for all stroke patients and adhering to regulatory compliance standards. However, further research and effort are necessary to better understand the efficacy of educational presentations during monthly staff meetings and to ensure the potential implementation of a SPSS would be successful. Subsequent PDSA cycles to reexamine nursing perspectives and support for a SPSS, and to provide clarification on the nursing questionnaire and the roles and responsibilities in this initiative, are recommended.

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## Appendix A

### The Joint Commission Disease-Specific Performance Measure

#### DSPM.05

The program evaluates patient satisfaction with the quality of care.

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#### Element(s) of Performance for DSPM.05

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1. The program evaluates patient satisfaction with and perception of quality of care at the program level.
  2. Patient satisfaction data are utilized for program-specific performance improvement activities.
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## Appendix B

Johns Hopkins Evidence Appraisal Table

Journal #	Citation	Evidence Type	Sample, Sample Size, Setting	How Does Article Address Problem?	Quality of Evidence	Other Highlights from Article (consider including limitations & outcomes)
1	Abdul Aziz, A. F., Tan, C. E., Ali, M. F., & Aljunid, S. M. (2020). The adaptation and validation of the satisfaction with stroke care questionnaire (Homesat) (SASC10-My™) for use in public primary healthcare facilities caring for long-term stroke survivors residing at home in the community. <i>Health and Quality of Life Outcomes, 18</i> (1), 193. <a href="https://doi.org/10.1186/s12955-020-01450-9">https://doi.org/10.1186/s12955-020-01450-9</a>	Non-experimental quantitative design (cross-sectional study)	175 post-stroke patients among ten public primary care health centers across Peninsular Malaysia from July 2012 to June 2013	The SASC10-My™ questionnaire is a reliable and valid tool to measure caregiver or patient satisfaction.	Level III A (high quality)	Limitations: Potential recall bias. Missing data for some variables.  Outcomes: Overall, only 18.2% were satisfied with outpatient stroke care services (SASC10-My™ score $\geq$ 20).
2	Abu Saydah, H., Turabi, R., Sackley, C., & Moffatt, F. (2023). Stroke survivor's satisfaction and experience with rehabilitation services: A qualitative systematic review. <i>Journal of Clinical Medicine, 12</i> (16), 5413. <a href="https://doi.org/10.3390/jcm12165413">https://doi.org/10.3390/jcm12165413</a>	Non-experimental qualitative systematic review	12 qualitative studies from seven electronic databases, including Cumulative Index of Nursing and Allied Health Literature (CINAHL), OVID, Pedro, Scopus Midline, Web of Science, and PubMed  Represented	Studies of survivors' satisfaction with services yielded different factors influencing their satisfaction during rehabilitation in different countries, but the context in which the studies were conducted	Level III A/B (high/good quality)	Limitations: Some studies lack details regarding data collection and analysis. Reliability of data related to qualitative and subjective analysis of participants' descriptions.  Outcomes: Five themes were identified: healthcare professional-patient relationship, service delivery, perceived patient autonomy, expectations shape satisfaction, and culture



			<p>nine countries: n=1 in Canada, China, Denmark, Jordan, Nigeria, Norway, Sweden, and United Kingdom, and n=4 in Australia</p> <p>Published in 1995-2022 with majority (n=9) in the last 15 years</p>	<p>was limited, and more studies are required for underexplored contexts.</p>		<p>influences satisfaction. Survivors reported a mix of positive and negative experiences.</p>
3	<p>Baumbach, L., Frese, M., Härter, M., König, H. H., &amp; Hajek, A. (2023). Patients satisfied with care report better quality of life and self-rated health—cross-sectional findings based on hospital quality data. <i>Healthcare, 11</i>(5), 775. <a href="https://doi.org/10.3390/healthcare11050775">https://doi.org/10.3390/healthcare11050775</a></p>	<p>Non-experimental quantitative design (cross-sectional study)</p>	<p>4925 patients in various inpatient departments at University Medical Center Hamburg-Eppendorf in Germany</p> <p>Used standard hospital quality survey data</p>	<p>Patients who are more satisfied with staff-related care report better quality of life and self-rated health than patients less satisfied with care.</p> <p>Patient satisfaction with care is not only a process measure indicating quality of care but is also positively associated with patient-reported outcomes.</p>	<p>Level III B (good quality)</p>	<p>Limitations: Survey response rate was low (10% of total patients), so potential sample selection bias and uncertainties regarding generalizability. Potential response bias.</p> <p>Outcomes: Satisfaction with physician- and nurse-related care was positively associated with quality of life as well as with self-rated health.</p>
4	<p>Cadel, L., Marcinow, M., Singh, H., &amp; Kuluski, K. (2022). The use of</p>	<p>Scoping review</p>	<p>30 articles from six databases (Medline, Embase,</p>	<p>A wide range of quality improvement initiatives were</p>	<p>Level V B (good quality)</p>	<p>Limitations: Possible that relevant articles were missed due to inclusion criteria. Critical appraisal of</p>

	<p>patient experience data for quality improvement in hospitals: A scoping review. <i>Patient Experience Journal</i>, 9(1), 174–188. <a href="https://doi.org/10.35680/2372-0247.1656">https://doi.org/10.35680/2372-0247.1656</a></p>		<p>PsycInfo, CINAHL, Health and Psychosocial Instruments, and Cochrane Library)</p> <p>Represented six countries: United States (n=21), the United Kingdom (n=3), Brazil (n=1), New Zealand (n=1), India (n=1), and Spain (n=1)</p> <p>Published in 2004-2020</p>	<p>implemented as a result of hospitals' patient experience data. However, more work is needed to better understand how best to capture and use patient experience data for quality improvement and how to integrate patients and families in the ongoing implementation and evaluation processes.</p>		<p>included initiatives was not conducted.</p> <p>Outcomes: Patient experience data were captured through a variety of methods including surveys, focus groups, patient complaints and informal feedback, with the majority using formal, paper-based surveys.</p>
5	<p>Cramm, J. M., Strating, M. M., &amp; Nieboer, A. P. (2012). Satisfaction with care as a quality-of-life predictor for stroke patients and their caregivers. <i>Quality of Life Research</i>, 21(10), 1719–1725. <a href="https://doi.org/10.1007/s11136-011-0107-1">https://doi.org/10.1007/s11136-011-0107-1</a></p>	<p>Non-experimental quantitative design (cross-sectional study)</p>	<p>251 stroke patients and their caregivers at nine Dutch stroke service facilities in the Netherlands</p> <p>Surveyed with EuroQol (EQ-5D) and Satisfaction with Stroke Care (SASC) questionnaires</p>	<p>Satisfaction with inpatient stroke care is an important indicator of stroke patients' and caregivers' quality of life (QoL).</p>	<p>Level III A (high quality)</p>	<p>Limitations: Study was restricted to Dutch stroke services, which limits the applicability of findings. Did not account for the impact of changes over time.</p> <p>Outcomes: Higher satisfaction with inpatient stroke care was associated with higher QoL outcomes for both stroke patients and caregivers. Patients' age, disability at hospital admission, and length of stay were significantly related to their QoL.</p>
6	<p>Joseph, K., Udogwu, U. N., Manson, T. T., Ludwig, S. C., Banagan, K. E., Baker, M., Yousaf,</p>	<p>Randomized experimental mixed methods</p>	<p>231 adult patients in the orthopedic unit at a large urban academic</p>	<p>This study calls into question the validity of patient satisfaction</p>	<p>Level I A (high quality)</p>	<p>Limitations: Potential bias of subsequent hospital interactions and treatment outcomes. May have limited generalizability</p>

	<p>I. S., Yousaf, O., Demyanovich, H., Pollak, A. N., O'Toole, R. V., &amp; O'Hara, N. N. (2021). Patient satisfaction after discharge is discordant with reported inpatient experience. <i>Orthopedics</i>, 44(3), e427–e433. <a href="https://doi.org/10.3928/01477447-20210415-01">https://doi.org/10.3928/01477447-20210415-01</a></p>	design	<p>medical center in the United States from June 2017 to March 2018</p> <p>Randomized to receive a second patient satisfaction survey by either phone or mail after discharge</p>	<p>measures, such as the Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) survey, which are collected up to 6 weeks after discharge, to reflect the inpatient experience accurately.</p>		<p>to other units, hospitals, and surveys.</p> <p>Outcomes: Poor agreement between the reported experience as an inpatient and the recollection of the inpatient experience after discharge. Negative patient experiences specific to pain management, staff responsiveness, and the hospital environment were the only factors observed to be fairly consistent in their agreement between the 2 time points. Positive factors discussed during the inpatient interview had a poor agreement with the post-discharge surveys.</p>
7	<p>Konerding, U., Bowen, T., Elkhuisen, S. G., Faubel, R., Forte, P., Karampli, E., Malmström, T., Pavi, E., &amp; Torkki, P. (2019). Development of a universal short patient satisfaction questionnaire on the basis of SERVQUAL: Psychometric analyses with data of diabetes and stroke patients from six different European countries. <i>PLoS One</i>, 14(10), e0197924. <a href="https://doi.org/10.1371/journal.pone.0197924">https://doi.org/10.1371/journal.pone.0197924</a></p>	Non-experimental quantitative design	<p>Data from 12 surveys on diabetes and stroke conducted in six countries: for diabetes surveys from October 2011 to March 2012, England (n=247 participants), Finland (n=160), Germany (n=231), Greece (n=152), the Netherlands (n=316), and Spain (n=96); and for stroke surveys from September 2011 to February 2012,</p>	<p>The SERVQUAL-MOD-5 model (removes the item 'assurance'), which assesses service quality based on remaining five items (tangibility, reliability, responsiveness, empathy, and communication), is a short questionnaire that can be applied for assessing patient satisfaction with different</p>	Level III A (high quality)	<p>Limitations: Investigated medical conditions and countries were not randomly selected, so uncertain about generalizability.</p> <p>Outcomes: Looking at correlation with general satisfaction, five of six items (tangibility, reliability, responsiveness, empathy, and communication) had a statistically significant positive regression coefficient, while one item (assurance) had a statistically significant negative regression coefficient.</p>

			England (n=101), Finland (n=139), Germany (n=107), Greece (n=58), the Netherlands (n=185), and Spain (n=92)	medical conditions and in different countries.		
8	Manna, J. (2021). Implementing the pediatric family satisfaction in the intensive care unit (ICU) survey in a pediatric cardiac ICU. <i>American Journal of Critical Care</i> , 30(3), 230–236. <a href="https://doi.org/10.4037/ajcc2021607">https://doi.org/10.4037/ajcc2021607</a>	Quality improvement program	Pediatric Family Satisfaction in the ICU (pFS-ICU) Survey implemented on a pediatric cardiac ICU at a southeastern academic medical center for 6 months	<p>pFS-ICU survey fosters a high response rate that provides real-time data, leading to quality improvement initiatives that can increase quality of care and improve outcomes.</p> <p>Author educated nursing staff during staff meetings through a brief presentation of the purpose and goals of the survey and the process for administering the survey.</p> <p>Nursing staff offered and administered the survey on an iPad at the bedside on the day of the patient's transfer.</p>	Level V A (high quality)	<p>Limitations: Survey links could only be sent if there was only one transfer a day or no survey was filled out on a day.</p> <p>Outcomes: pFS-ICU survey response rate was 61% (n=81 responses). 100% of staff understood the new process and 87% agreed that the survey is an effective tool.</p> <p>Main barrier was staff forgetting to administer the survey. Having the charge nurses act as project champions to remind staff to administer the survey was helpful.</p>

				Both English and Spanish versions were available.		
9	O'Halloran, R., Douglas, J., Cruice, M., Davidson, B., McKinley, K., & Bigby, C. (2019). Representation and reporting of communicatively vulnerable patients in patient experience research. <i>International Journal of Speech-Language Pathology</i> , 21(5), 524–535. <a href="https://doi.org/10.1080/17549507.2019.1567815">https://doi.org/10.1080/17549507.2019.1567815</a>	Non-experimental qualitative systematic review	39 qualitative studies on patient experience that informed the development of the Australian Hospital Patient Experience Question Set (AHPEQS)  Appraised for reporting on: population of interest, eligibility criteria, communicative demands of the research, and communicative supports provided	Stroke survivors may be communicatively vulnerable. Intentional exclusion and/or a lack of communicative supports restrict the rights of communicatively vulnerable people to express their opinions about what matters to them in the hospital.	Level III A/B (high/good quality)	Outcomes: Of the 39 studies, 11 included sufficient information about the population to determine that communicatively vulnerable people would have been approached to participate, 3 excluded communicatively vulnerable people, and only 4 provided communicative supports to enable communicatively vulnerable people to participate.
10	Sunaringsih Ika Wardoyo, S., & Rosadi, R. (2023). Analysis of patient satisfaction levels according to the SERVQUAL method on post-stroke services at the physiotherapy clinic Muhammadiyah University Hospital Malang. <i>KnE Medicine</i> , 3(3), 1–8. <a href="https://doi.org/10.18502/kme.v3i3.13482">https://doi.org/10.18502/kme.v3i3.13482</a>	Non-experimental quantitative design (cross-sectional study)	20 patients at the physiotherapy clinic at Muhammadiyah Malang Hospital in Indonesia from March to May 2015  Used patient satisfaction questionnaire based on SERVQUAL method	Study showed the percentage of patients who are not satisfied with services is quite high.	Level III C (low quality)	Limitations: Small sample size. Findings may not be generalizable.  Outcomes: 47.1% of respondents were unsatisfied with services at the physiotherapy clinic due to limitations of physiotherapists' abilities, long wait times, lack of on-call physiotherapists, and lack of equipment.

## Appendix C

### Statement of Non-Research Determination



#### Project: Statement of Determination and Non-Research Determination Form

**Student Name:** Vanessa Li

**Title of Project:** Enhancing Nursing Perspectives and Support of Stroke Patient Satisfaction Survey

**Brief Description of Project**

Regulatory guidelines state the need for a stroke-specific patient satisfaction survey (SPSS). A SPSS is not currently in place in the Neuro Observation Unit (NOU) at Hospital X. By April 18, 2024, the aim is to ensure that 100% of nurses in the NOU will acknowledge the importance of a SPSS in order to maintain safe, quality care for all stroke patients and meet regulatory compliance standards. A concise presentation on the importance of a SPSS will be shared with nurses during the monthly staff meeting. An anonymous and voluntary nurse questionnaire will be administered before and after the presentation to assess the nurses' perspectives on SPSS and their likelihood of encouraging patients to complete a SPSS.

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:**

<b>Project Title: Enhancing Nursing Perspectives and Support of Stroke Patient Satisfaction Survey</b>	<b>YES</b>	<b>NO</b>
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 <b>is a part of usual care</b> . ALL participants will receive standard of care.	X	
The project is <b>NOT</b> 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 <b>NOT</b> 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 ensure that existing quality standards are being met. The project does <b>NOT</b> develop paradigms or untested methods or new untested standards.	X	
The project involves implementation of care practices and interventions that are consensus-based or evidence-based. The project does <b>NOT</b> 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 <b>NO</b> 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., <b>not</b> 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: <i>"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."</i>	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):**

Vanessa Li

**Signature of Student:**

*Vanessa Li*

**DATE:** 3/8/2024

**SUPERVISING FACULTY MEMBER NAME (Please print):**

*THERESA M. MOSTASISA*

**Signature of Supervising Faculty Member:**

*Theresa M. Mostasisa*

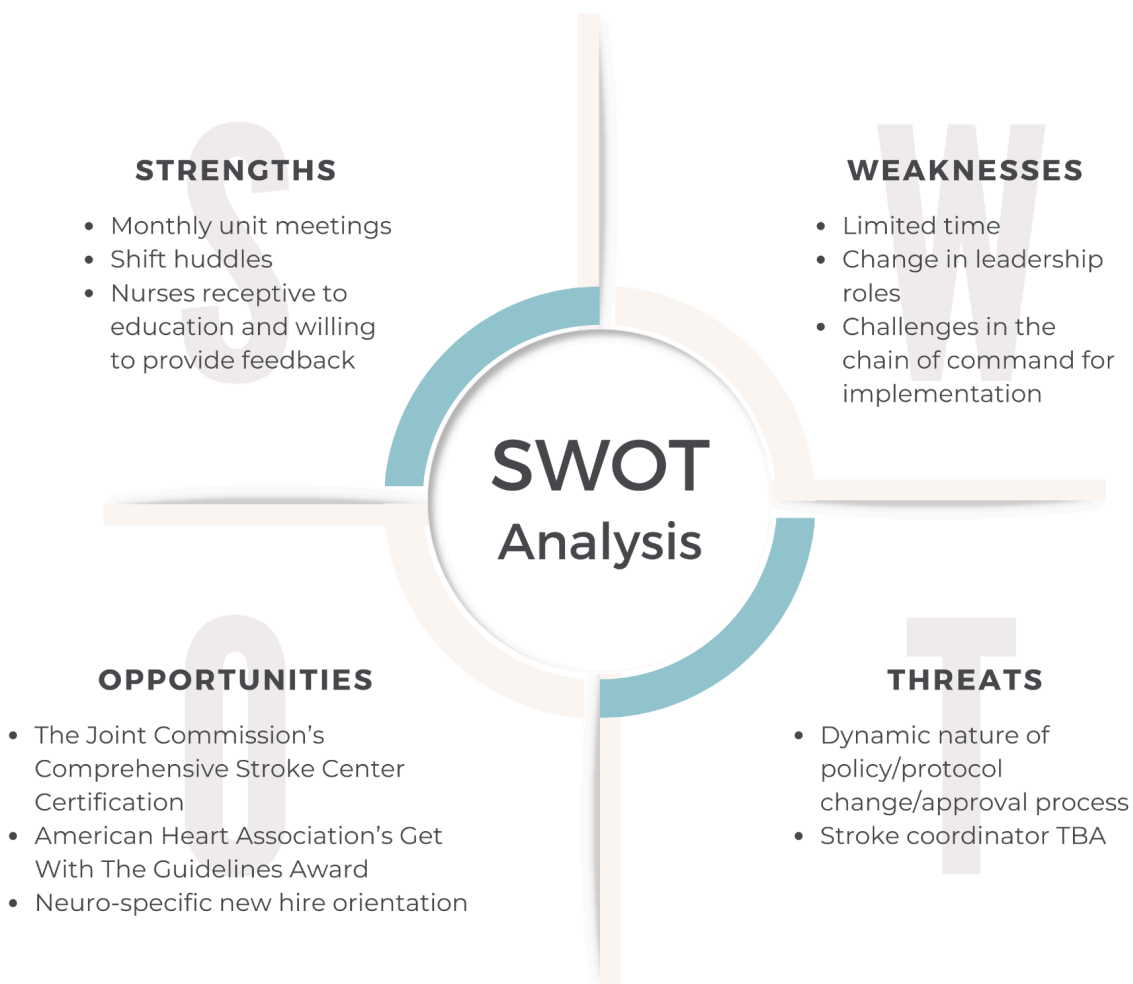
**DATE:** 4/3/2024





## Appendix E

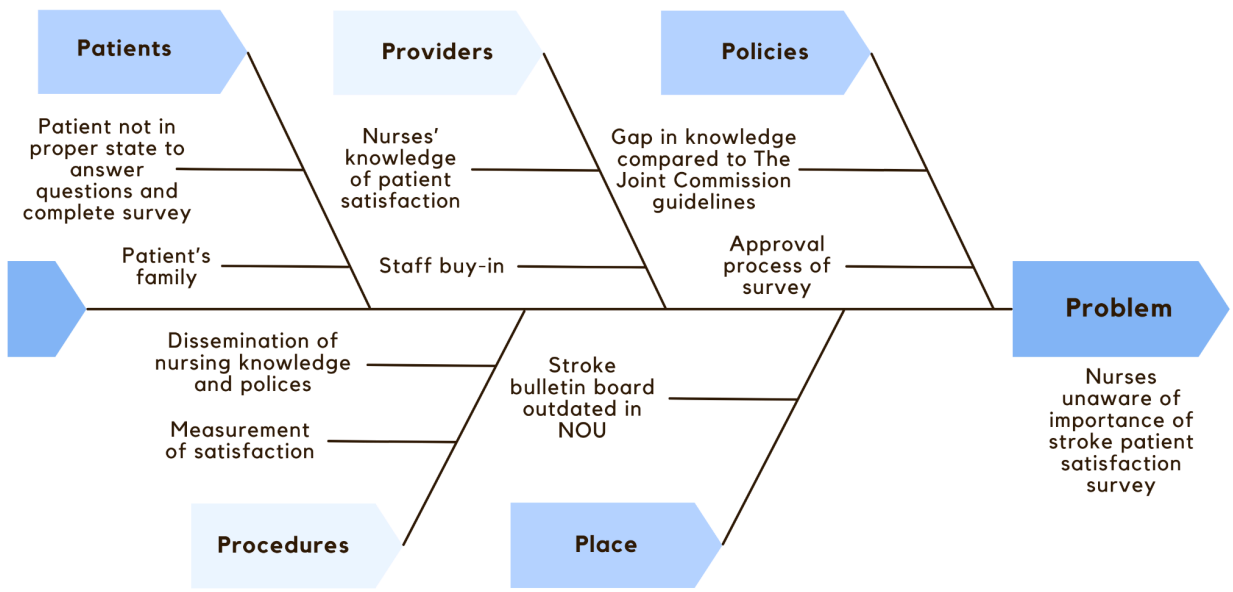
### SWOT Analysis



## Appendix F

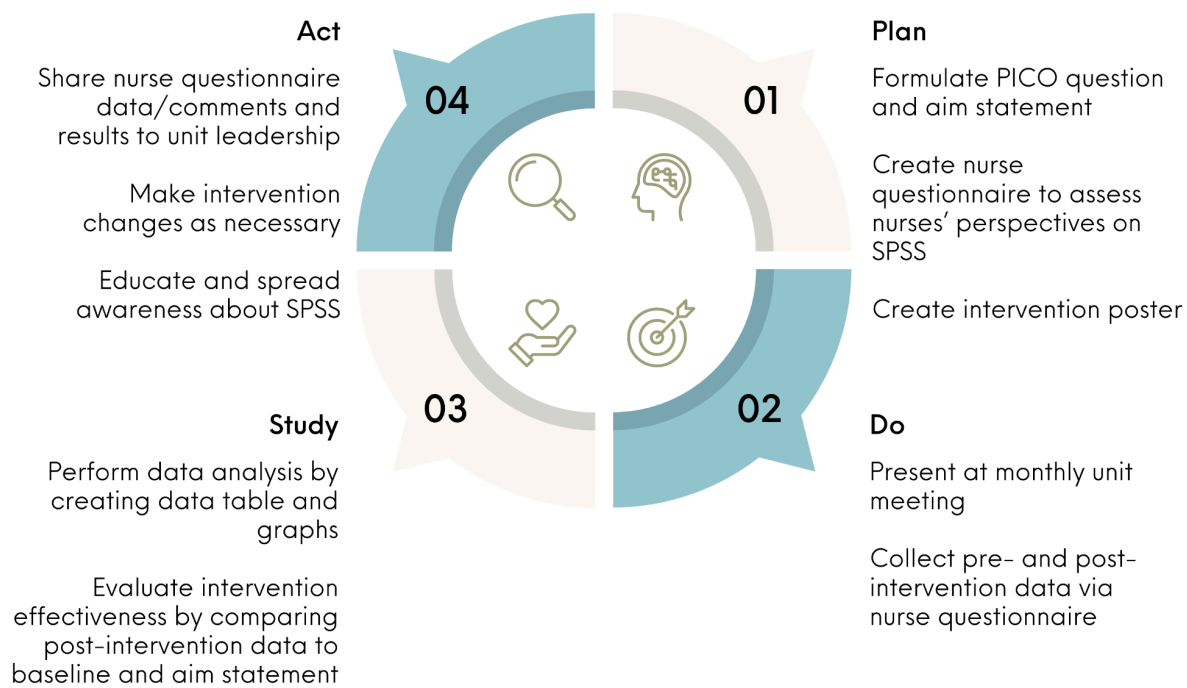
### Root Cause Analysis

# FISHBONE DIAGRAM



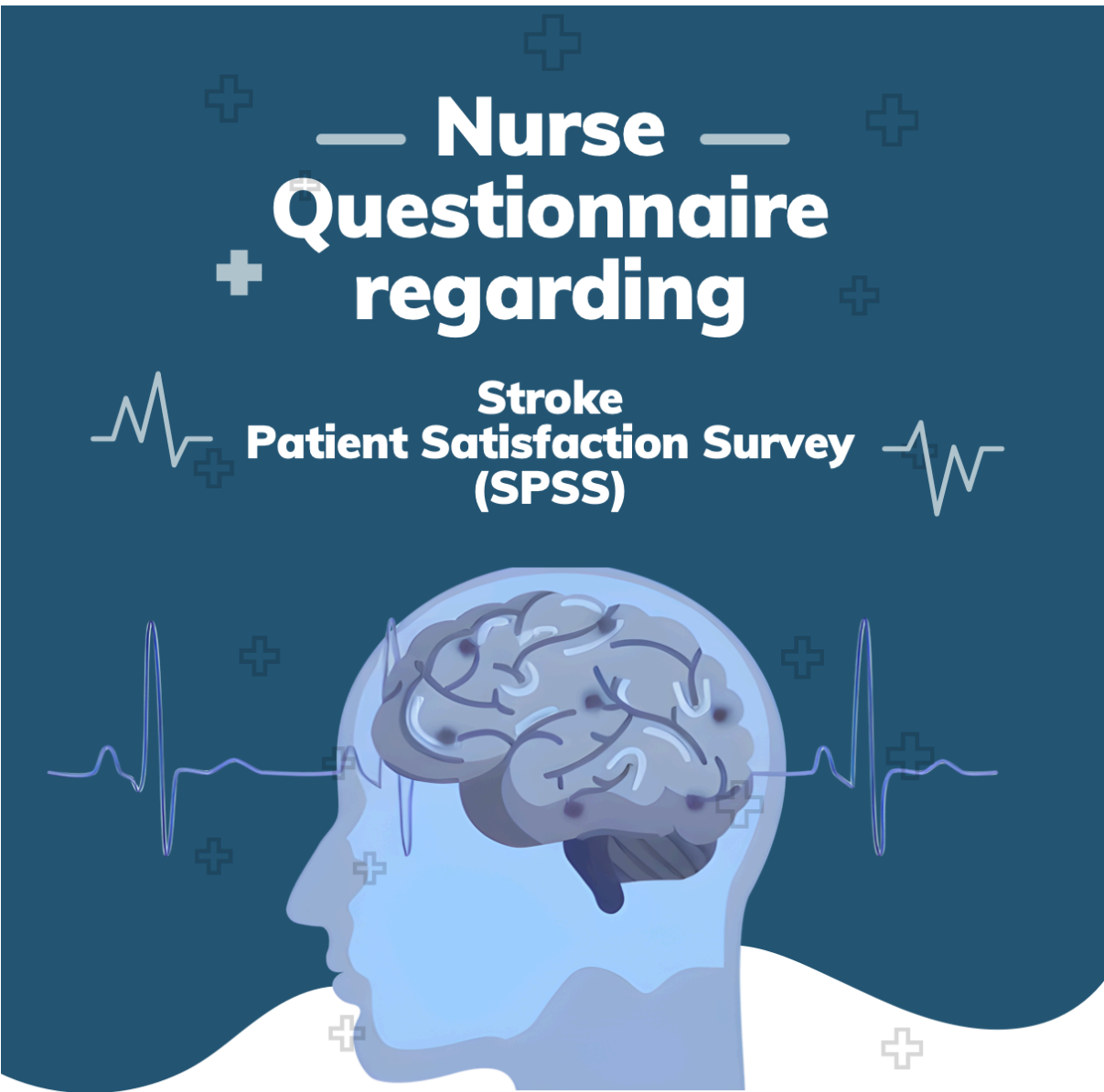
## Appendix G

### PDSA Cycle



Appendix H

Nurse Questionnaire



*In partnership with*



## Nurse Questionnaire

We are a team of Clinical Nurse Leader (CNL) students from the University of San Francisco (USF). Through our research, we are focused on evaluating nurse awareness and utilization of a Stroke Patient Satisfaction Survey (SPSS). Our collaborative approach emphasizes the importance of partnerships with nurses and patients in completing the SPSS, aiming to elevate the quality of stroke care by fostering increased nurse awareness. We are seeking to gather valuable feedback and insights to enhance the overall quality of care received by stroke patients. Thank you for your participation in our project.

Question 1: How significant to quality patient care is patient satisfaction?

- 1 Not at all significant
- 2 Not significant
- 3 Somewhat significant
- 4 Significant
- 5 Very significant

Question 2: How likely are you to encourage stroke patients or their caregivers to complete a patient satisfaction survey?

- 1 Extremely Unlikely
- 2 Unlikely
- 3 Neutral
- 4 Likely
- 5 Extremely Likely

Comments

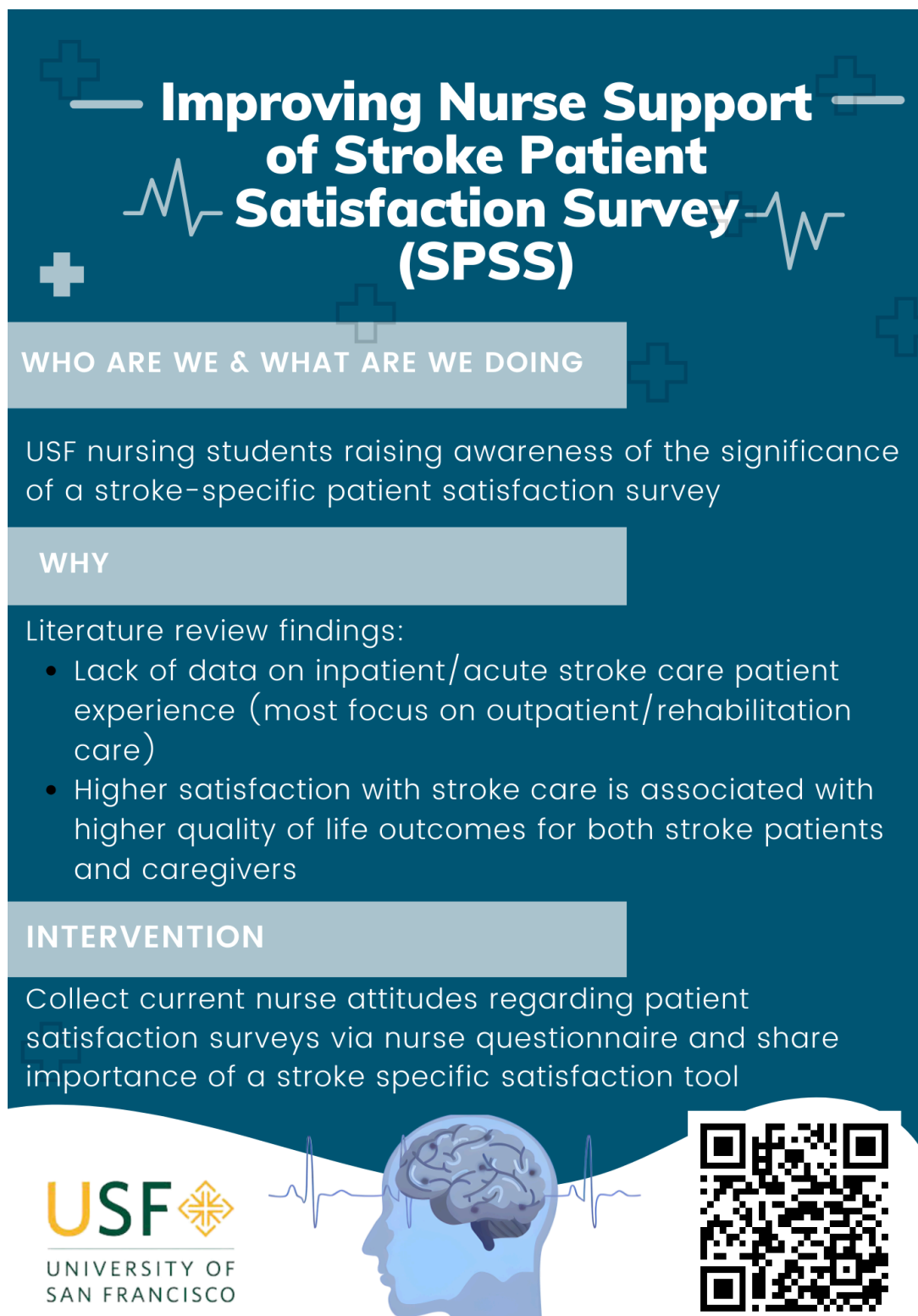
Your answer \_\_\_\_\_

Submit

Clear form

## Appendix I

## Intervention Poster



**— Improving Nurse Support of Stroke Patient Satisfaction Survey (SPSS) —**

**WHO ARE WE & WHAT ARE WE DOING**

USF nursing students raising awareness of the significance of a stroke-specific patient satisfaction survey



**WHY**

Literature review findings:

- Lack of data on inpatient/acute stroke care patient experience (most focus on outpatient/rehabilitation care)
- Higher satisfaction with stroke care is associated with higher quality of life outcomes for both stroke patients and caregivers

**INTERVENTION**

Collect current nurse attitudes regarding patient satisfaction surveys via nurse questionnaire and share importance of a stroke specific satisfaction tool



**Appendix J**  
**Cost-Benefit Analysis**

<b>Costs</b>	
Clinical nurse leader salary	200 hours x \$80/hour = \$16,000
Printing	100 pages x \$0.20/page = \$20
Staff time for nurse questionnaire and education (done during huddles and monthly staff meeting)	\$0
<b>Total Costs</b>	<b>\$16,020</b>
<b>Cost Avoidance</b>	
The Joint Commission compliance violation fine	\$100,000
<b>Projected Savings</b>	<b>\$100,000 – \$16,020 = \$83,980</b>



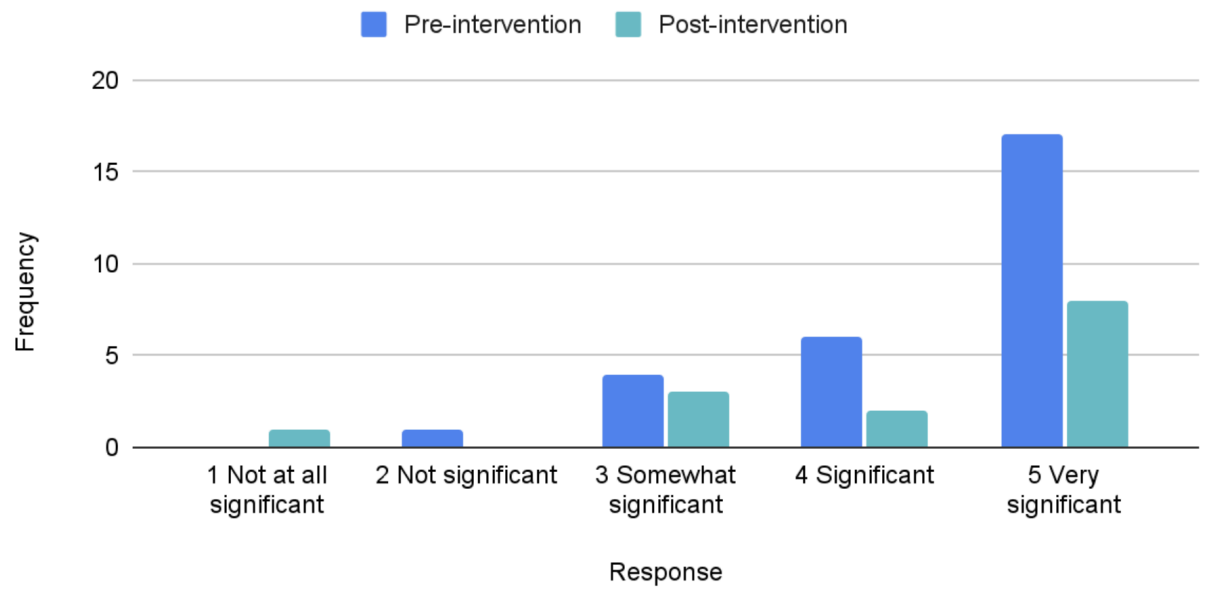
## Appendix K

### Nurse Questionnaire Pre- and Post-Intervention Data

<b>PRE-INTERVENTION</b>				
	Significance		Likeliness to encourage	
1 Not at all significant		0	1 Extremely Unlikely	1
2 Not significant		1	2 Unlikely	2
3 Somewhat significant		4	3 Neutral	12
4 Significant		6	4 Likely	5
5 Very significant		17	5 Extremely Likely	8
N		28	N	28
Average		4.4	Average	3.6

<b>POST-INTERVENTION</b>				
	Significance		Likeliness to encourage	
1 Not at all significant		1	1 Extremely Unlikely	2
2 Not significant		0	2 Unlikely	1
3 Somewhat significant		3	3 Neutral	2
4 Significant		2	4 Likely	4
5 Very significant		8	5 Extremely Likely	5
N		14	N	14
Average		4.1	Average	3.6

### Nursing Staff Pre- and Post-intervention Responses: Significance



### Nursing Staff Pre- and Post-intervention Responses: Likelihood to Encourage

