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# Improving Stroke Education Scores At A Primary Stroke Center

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# Improving Stroke Education Scores At A Primary Stroke Center

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N670 Internship: Evidence-Informed Improvement Project Final Paper

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**Abstract**

**Problem:** The COVID-19 pandemic precipitated a significant departure from the nursing profession, leaving healthcare organizations grappling with critical staffing shortages and compromising patient care standards. In 2023, an advanced Primary Stroke Center in a Northern California hospital's STK-8 scores fluctuated between 80-100%, with an average annual score of 92.8%, putting the facility's primary stroke certification and long-term patient outcomes at risk.

**Context**: A 24-bed acute stroke and telemetry unit in a Northern California hospital and designated primary stroke center.

**Interventions**: The following measures were implemented to improve the quality of stroke care and enhance STK-8 compliance, including dot "smart" phrases created within the electronic medical record (EMR) to aid clinical staff with consistent and complete stroke education documentation, staff re-education, and implementation of standardized protocols to foster interdisciplinary collaboration among stroke-certified nurses, physicians, and unit leaders.

**Measures**: Documentation compliance of at least 95% or greater for stroke measure STK-8 during the implementation period from January 2024 through April 2024.

**Results:** 100% compliance with the STK-8 measure in the last two months of the four-month intervention period. This success is a promising sign, but it's important to note that more long-term data is needed to ensure ongoing compliance with STK-8 documentation.

**Conclusion:** The initiative effectively standardized stroke education practices among healthcare providers, enhancing their understanding and application of essential components of stroke education measures.

*Keywords*: TJC stroke measures, STK-8, stroke education, stroke documentation, primary stroke center, smart phrase

**Personal Leadership Statement**

As I embark on becoming a Clinical Nurse Leader, I am deeply motivated by the imperative to address the significant impact of strokes on individuals and communities. The statistics from the Centers for Disease Control underscore the urgency: with over 600,000 new cases annually, strokes are a leading cause of long-term disability and substantial healthcare expenditure. In response to this challenge, my leadership journey through a Master's in Nursing program has been shaped by a commitment to enhancing stroke care through innovative approaches to patient education and quality improvement.

Central to my leadership philosophy are strengths cultivated through diverse clinical experiences and academic rigor. My proficiency in clinical assessment and therapeutic communication equips me to navigate complex healthcare environments with empathy and precision. These skills are complemented by a steadfast dedication to patient-centered care, continuous learning, and ethical practice—values that resonate deeply within the Clinical Nurse Leader role. My vision is to foster a culture of excellence in stroke education, where compassionate care and cutting-edge knowledge converge to empower patients and optimize outcomes.

The alignment of my strengths, values, and vision is evident in my chosen quality improvement project focused on enhancing stroke education within an Advanced Primary Stroke Center. This initiative not only addresses critical knowledge gaps among patients but also underscores my commitment to advocacy and patient empowerment. By leveraging effective communication and innovative educational strategies, I aim to improve patient outcomes and contribute meaningfully to the organization's mission of delivering high-quality healthcare services.

Looking ahead, I am dedicated to further developing my leadership capacities through mentorship, reflective practice, and ongoing professional growth. I aim to assume increasingly influential roles where I can drive systemic improvements in healthcare delivery and policy. Ultimately,

my journey as a Clinical Nurse Leader is driven by a passion for transformative leadership in healthcare, guided by a deep-seated commitment to patient advocacy and excellence in stroke care.

In conclusion, pursuing a Master's in Nursing has been instrumental in shaping my leadership identity and preparing me to lead initiatives that advance patient care and community health. Through strategic action and a relentless pursuit of excellence, I am poised to make a lasting impact in stroke care and beyond, embodying the core values of the Clinical Nurse Leader role.

## Problem Description

According to the Centers for Disease Control, more than 795,000 persons annually in the United States have a stroke. About 610,000 are identified as new strokes, and the remaining 185,000 (1 in 4) have had a previous stroke. Stroke is a leading cause of severe long-term disability due to reduced mobility in more than half of stroke survivors aged 65 and older, costing more than $56.5 billion between 2018 and 2019 in the United States (CDC, 2023). The Joint Commission (TJC)is a certifying and credentialing agency for acute care hospitals but also certifies organizations in specialty care such as stroke. To obtain certification, the organization must adhere to rigorous evidence-based clinical guidelines that improve patient outcomes through organized teams, resources, structures, and processes, providing a consistent approach to care while promoting a higher standard of clinical service (The Joint Commission, 2024).

Measure STK-8: Stroke Education is an important measure that captures the educational components delivered by healthcare providers to stroke patients or their caregivers during the hospital stay. The educational components of STK-8 address all of the following: (i) activation of the emergency medical system, (ii) need for follow-up after discharge, (iii) medications prescribed at discharge, (iv) risk factors for stroke, and (v) the warning signs and symptoms of a stroke (The Joint Commission, 2024).

In 2023, an audit of the organization's Northern California Hospital's TJC STK-8 performance elements was conducted. The audit identified that specific stroke education, which had been previously sustained at 96%, was now fluctuating between 79% and 100% in hospital patients admitted with a diagnosis of stroke. This degree of variability is concerning, given that 80% of all recurrent or secondary strokes can be prevented through optimized stroke education (Prabhakaran & Chong, 2014).

Utilizing the 5Ps framework (King et al., 2019), a microsystem assessment of the 24-bed stroke and telemetry unit was conducted. Analysis of the microsystem assessment identified high staff turnover in the wake of the COVID-19 pandemic. As a result, the unit's utilization of temporary and new nurses had increased. A direct correlation was identified between the months when the TJC STK-8 scores dipped below 100% and the same months when the hospital employed the most travel RNs and physicians (M. Woods, personal communication, September 6, 2023). The negative impact on consistency with adherence to STK-8 is further intensified due to the truncated onboarding received by travel staff, which is vital in alleviating critical staffing shortages. Thus, there is an emphasis on expediency with training condensed to a single shift. As a result, the additional knowledge needed to ensure compliance with STK-8 is lost.

To overcome this challenge, new tools and processes to make comprehensive stroke education accessible, simple, and sustainable will need to be implemented. This evidence-informed performance improvement project aims to create a robust training program within the 24-bed microsystem that ensures stroke education is consistently and reliably delivered to patients with a stroke diagnosis, regardless of increased utilization of short-term agency nurses and physicians. Ensuring stroke education is provided in a way the patient and caregiver can understand and retain is crucial not only to the success of the Stroke Program at the hospital but also aligns with the larger

organizational healthcare mission of *providing high-quality, affordable healthcare services and to improve the health of its members and the communities they serve* (Kaiser Permanente, 2024).

## Specific Project Aim

To improve compliance and capture of STK-8 requirements set forth by The Joint Commission, at least 95% of patients admitted with acute stroke will receive patient-specific, comprehensive stroke education utilizing smart phrases built into the electronic health record by the end of June 2024.

## Available Knowledge

### PICO(T) Question

A population, intervention, comparison, outcome, and time (PICOT) question guided the literature search for this quality improvement initiative. The PICOT question was: In stroke patients recently discharged from the hospital (P), how do 7–14-day post-discharge follow-up reminders of the signs and symptoms of a stroke (I) compared to a single 90-day post-stroke follow-up call (C) affect stroke education scores (O) within six months (T).

### Search Strategy

A systematic electronic search was conducted across four databases: CINAHL, Joanne Briggs, PubMed, and Guidelines Clearinghouse. In each database, the focus was on secondary stroke prevention and patient stroke education. Search terms included stroke AND education, secondary, modifiable AND risk AND factors, and quality. The search was limited to peer-reviewed studies published in the last ten years in English. Included in the search were systematic reviews or meta-analyses, clinical practice guidelines, and individual research studies. In the initial search, 47 articles were identified. Three articles were chosen from the 47 due to their specificity in adopting new programs to reduce secondary strokes and readmissions within this population.

**Appraisal of Evidence**

In 2018, Andrew et al. conducted a cross-sectional survey across 35 acute-care hospitals in Australia to study the quality of discharge education on outcomes. Patients discharged to home and registered with the Australian Stroke Clinical Registry in 2014 were invited to participate. Patients had to be at least 18 years or older, discharged directly home from an acute care hospital, and elected to participate in a further research study at 90-day and 180-day intervals (Andrew et al., 2018). The study population consisted of 200 respondents out of 434 eligible patients discharged after a stroke or transient ischemic attack (TIA). Patients with subarachnoid hemorrhages were excluded. The researchers concluded that the quality of discharge planning was inversely related to the reported number of unmet needs and positively related to the reported quality of life post-discharge (Andrew et al., 2018). In participants who reported lower discharge quality scores, qualitative data showed a theme of respondents feeling more anxiety and depression than those with higher quality discharge scores. Higher discharge quality scores (80%) were associated with patients who received individualized discharge instructions and were given referrals to local community support groups. Using the Johns Hopkins Nursing Evidence-Based Practice (JHNEBP) rating, this evidence rated Level IIIB and has important implications for this quality improvement initiative as this study shows a direct correlation between the quality of inpatient stroke education received on the quality of life and decreased rate of unmet needs reported at three to nine months post-discharge (Andrews et al., 2018).

In 2018, Sakakibara et al. launched a single-blind randomized control trial (RCT) of 126 community-living stroke survivors to either the Stroke Coach or the attention control group. Participation is voluntary and must have been within one year of their confirmed stroke diagnosis, greater than or equal to 50 years of age, who had a baseline functionality or modified Rankin Scale (mRS) between 1-4, had access to a telephone, and could speak English (Sakakibara et al., 2018).

Participants enrolled in the Stroke Coach arm, a telephone-based self-management program to improve control of stroke risk factors, participated in seven main telephone sessions, 30-45 minutes in length, and five follow-up calls, each between five to ten minutes. The same study assessor was assigned to the same participant to ensure consistency in conducting the coaching sessions. The Stroke Coach trial will help add to the understanding of using self-management tools to improve this population's control of risk factors. Using the Johns Hopkins Nursing Evidence-Based Practice (JHNEBP) rating, this evidence-rated Level IB. The Stroke Coach protocol reinforces the potential benefit of consistent and reliable stroke education as required by STK-8 to ensure ongoing awareness of stroke risks, which has the potential to strengthen the patient's or caregiver's ability to promote self-efficacy to aid in improving lifestyle and sustained behavior modification post-stroke.

Lastly, an integrative literature review of 20 studies over a 10-year period (2010-2020) was examined (Tarihoran et al., 2021). The review included 11 randomized control trials, four single-group pre-post studies, and six non-randomized controlled intervention studies. The main themes included secondary stroke prevention, specific types of interventions, and the future impact of those interventions on reducing secondary strokes. Using the Johns Hopkins Nursing Evidence-Based Practice (JHNEBP) rating, this evidence rated Level VB as it is based on experimental and non-research evidence that includes good quality integrative reviews. The strength of this evidence is that it identified several secondary stroke prevention education strategies for survivors and their caregivers that can be used to inform the strategies to improve compliance with STK-8 as part of this quality improvement initiative (see Appendix A for Evaluation Table).

## Rationale

Improving patient stroke education as a means of reducing secondary strokes and stroke readmissions requires sustained engagement and leadership. Kotter and Cohen's 8-Step Change

Model (2012) sets the framework for the organizational change needed. Stroke-certified nurses take great pride in the success of the care they deliver. Appealing to their desire to do the right thing by their patients will help promote adopting and implementing a new practice. Kotter and Cohen focus on eight main stages of change: Creating a sense of urgency (1), building a guiding team (2), developing a vision and strategy (3), communicating the vision to create "buy-in" (4), empowering action (5), creating short-term wins (6), sustaining the vision (7), and nourishing the new culture, and(8) sustain the gain.

In stage one, urgency is created by staff awareness of an upcoming stroke center recertification with The Joint Commission, which requires patient education as defined in STK-8 to be sustained 100% compliance. In stage two, team selection is already built into our stroke program, as we have a subset of ten stroke-certified nurses who comprise our Stroke Champions group. This group works to roll out new initiatives on the stroke unit and model change as needed. That same team will also help with vision and strategy in stage three. In this stage, the group is developing a realistic and sustainable model for implementing new ways of reaching out to our patients for follow-up once they have been discharged home. In stage four, the vision will be communicated as the Stroke Champions share what they have learned from post-discharge stroke calls with their peers and in our facility-wide, interdisciplinary Stroke Leadership Committee. In stage five, empowerment will come from continuous monitoring, evaluating, and re-evaluating our processes to ensure continued momentum. In stage six, interim success will come from celebrating early wins. In stage seven, ongoing persistence will come from each team member holding their peers and leaders accountable and regrouping monthly in the Stroke Champions meetings and the Stroke Leadership Committee. Lastly, sustainment will come from our stroke program, making these changes a lasting cornerstone of our work to deliver exceptional stroke care and work towards decreasing secondary strokes and stroke readmissions for this vulnerable patient population.

## Context

An advanced Primary Stroke Center in a Northern California hospital's 24-bed acute stroke and telemetry unit was the setting for this quality improvement initiative. A thorough microsystem assessment was conducted at the outset of this project to identify the five Ps: Purpose, Patients, Professionals, Processes, and Patterns to gain insight and understanding to improve the microsystem. Other tools were used to help inform this project, including a SWOT analysis, a gap analysis, a power grid analysis, a GANTT chart, pre- and post-employee surveys, and a communication plan.

### SWOT Analysis

A strengths, weaknesses, opportunities, and threats (SWOT) analysis was performed to identify internal and external strengths and weaknesses. Internally, the microsystem has several strengths identified. First, education and training are robust and valued by all the team members. The nurses in this unit prioritize support for their incoming peers to ensure success from the outset. One example is the development of a nurse-created evidence-based Patient Checklist after months of research and collaboration with the Chief of Neurology. The checklist, when utilized, ensures all required documentation and care has been completed for stroke patients and was used to support this project. Second, data transparency regarding outcomes and performance results is another key strength. Third, the Joint Commission accredits primary stroke centers when they demonstrate high reliability and sustained positive stroke outcomes. Centers that achieve accreditation must adhere to a specific set of Core Measures and Standards, which set a framework for the entire Stroke Program. The results of The Joint Commission Core Stroke (STK) measures are shared across all key stakeholders, including the monthly Stroke Committee meetings, staffing huddles, staff meetings, and quality review boards. Finally, patient education is another area of success in this microsystem. Information is shared in a variety of ways and with multiple language options. Nurse Stroke

Champions on the unit also complete follow-up calls at 30/60/90-day intervals to solicit patient feedback to improve the information we give and its delivery.

While this is a strong microsystem with many high-functioning components, there is always an opportunity for improvement. Two key internal weaknesses and areas for focus have been identified. First is leadership and organizational support. Several staffing changes have occurred since the pandemic began, including high turnover and increased contract labor. Burnout and stress have contributed to the staff's perception of being overworked and under-supported. Front-line staff also report lacking the necessary tools to meet their patients' needs. High-functioning and effective teams demonstrate interdependence and collaboration. It takes many disciplines working well together to improve outcomes in patients with a diagnosis of stroke. Structured monthly group meetings with the Stroke Leadership Committee, where teams share work and processes, is a start. However, more focus is needed to align daily practices among the teams that will remove silos and strengthen collaboration between the various groups (see Appendix B for SWOT Analysis).

**Communication Plan**

Before implementation, this project's scope was communicated to all key stakeholders in a monthly interdisciplinary Stroke Leadership Committee meeting. This meeting occurs virtually and allows for information to be easily disseminated to all necessary parties at once, as well as offers a forum for discussion, collaboration, and reflection.

**Power Grid Analysis**

In addition to communicating the project's scope to stroke leadership, it was equally important to message the project to other key stakeholders, such as the nurses and physicians on the designated stroke units. By examining each stakeholder's level of influence and change impact potential, it became clear that the Stroke Coordinator, the stroke-certified nurses, and the Clinical

Nurse Leader had the most potential to impact and influence change within the microsystem (see Appendix C for Power Interest Grid).

**Gap Analysis**

The project aimed to show sustained STK-8 Patient Education scores at or above 95% by consistently using smart phrases built into the EMR. This goal was in response to 2023 data that showed inconsistent scores, with some months as low as 82%. To bridge the gap and sustain excellence in patient education, the staff was reintroduced to a checklist that outlines each Joint Commission requirement for patients admitted with a diagnosis of stroke, as well as the smart phrase built into the EMR that captures all required education elements. Fallouts are now being reviewed in staff meetings and in the monthly Stroke Leadership Committee meeting to mitigate similar fallouts from occurring in the future (see Appendix D for Gap Analysis).

**GANTT Chart**

A Gantt chart was used to track the progress of this initiative. This project's timeline is approximately 15 months from start to finish, beginning in April 2023 and ending in June 2024 (see Appendix E for GANTT Chart). A microsystem assessment was completed, and all key stakeholders and sponsors were identified. In the third quarter of 2023, sponsors and key stakeholders were met to communicate the proposed project and garner support. In quarter four of 2023, the stroke coordinator and CNL for stroke have been working to ensure that all stroke-certified nurses can use the *".strokeeducation*" smart phrase in the EMR. The stroke coordinator has also been working to prepare labels for all unit computers with the smart phrase written out for the nurses as a visual reminder each time they sit to chart. In January 2024, at the start of the project, the stroke coordinator began attending daily huddles and monthly staff meetings to share the project's aim with staff and introduce the smart phrase labels. This practice and support continued into quarter two of 2024. After the intervention period in April 2024, the

stroke coordinator, who was responsible for evaluating the success of the interventions, communicated the results to the key stakeholders, which allowed the teams to make additional changes as needed. By the end of June 2024, the hospital had begun to sustain an STK-8 score of 95% or higher for at least two consecutive months.

## Intervention

Since the last survey in 2022, the Primary Stroke Center has had inconsistent data results, only meeting the achievement goal of 85% for STK-8 less than 75% of the time. Data for stroke core measure STK-8 had fallen below the 85% mark, threatening the top tier AHA Get With the Guidelines (GWTG) rating, creating the risk of corrective actions by The Joint Commission, and most importantly, threatening the hospital's Advanced Primary Stroke Center accreditation (see Appendix F for 2023 STK-8 Results).

The need to sustain this achievement rating is an interdisciplinary process requiring nurses, physicians, unit leadership, and quality department collaboration. To improve and sustain the STK-8 Core Measure goal of 85% or better, the Primary Stroke Center incorporated two existing key smart phrases previously built into the EMR to capture stroke education requirements set forth by The Joint Commission. Over time, however, the influx of new nurses and physicians not receiving stroke-specific education at the time of onboarding needed to be made aware of these tools, resulting in the inconsistent use of these smart phrases. On this basis, a concerted effort was made to educate nurses and physicians on using their designated stroke education smart phrases.

Data collection is a vital component of any quality improvement initiative. A revised process for data collection was instituted in partnership with the stroke unit leaders. Nurses caring for stroke patients were educated on completing a stroke care-specific checklist (see Appendix G for Stroke Patient Checklist). Additionally, this checklist was submitted upon completion at the end of each shift to the unit manager for review and follow-up. This had been the practice years earlier

but had fallen by the wayside; thus, the checklist was reintroduced to improve the documentation of STK-8.

Nurses were the primary stakeholders in this quality improvement initiative. However, many other interdisciplinary roles were included, such as physicians needing to access a smart phrase that captures the required provider data elements for stroke care in the EMR. The expectation to review and modify individual workflows and processes to achieve consistent smart phrase usage for stroke patients was the same for nurses and physicians. Additionally, the leaders of the stroke-designated group were highly engaged and responsible for holding all staff accountable for the expectation of utilizing the *".strokeeducation"* smart phrase in EMR for every stroke patient, every time. This level of support by leaders was key to improving this core measure (see Appendix H for Measurement Strategy).

Stroke-certified organizations have a designated stroke coordinator who supports the entire stroke program. At the facility in question, the stroke coordinator, working with a Quality Nurse Consultant in the Quality and Risk Department, was responsible for collecting, collating, measuring, and reporting all pre- and post-data on the STK-8 Core Measure. The stroke coordinator, who was responsible for evaluating the success of the interventions, communicated the results to the key stakeholders, which allowed the teams to make additional changes as needed. Before implementation, this project's scope was communicated to all key stakeholders in a monthly interdisciplinary Stroke Leadership Committee meeting. This meeting occurs virtually and simultaneously allows information to be disseminated to all necessary parties. It also offers a forum for discussion, collaboration, and reflection.

Finally, robust education for all the teams was conducted. The Primary Stroke Center's clinical nurse leader (CNL) for stroke ensured that all newly hired nurses had the appropriate training for the *".strokeeducation"* smart phrase. The nursing staff was asked to participate in both

a pre-and post-knowledge survey that asked two questions: (1) What are the five elements that each stroke patient must be educated on prior to discharge, and (2) What smart phrase can be used to capture all the required elements of education for stroke patients? (See Appendix I for Employee Stroke Education Survey). As a reminder, small, printed labels with the smart phrase written out were created and attached to all unit computers, providing a visual reminder for the nurses each time they sat down to chart. To reinforce the initiative, the stroke coordinator began attending daily huddles and monthly staff meetings to share the project's aim with staff and introduce the smart phrase labels at the start of the intervention period, January 2024. This practice and support continued through June 2024 (see Appendix J for Driver Diagram). To bridge the gap and sustain excellence in patient education, the staff was reintroduced to a checklist that outlines each Joint Commission requirement for patients admitted with a diagnosis of stroke. Fallouts are now being reviewed in staff meetings and in the monthly Stroke Leadership Committee meeting to mitigate similar fallouts from occurring in the future.

**Financial Model**

Improving Stroke Education Scores in a Primary Stroke Center from 83% to greater than 95% has many opportunities for cost avoidance. The most significant opportunity for cost avoidance lies in reducing secondary stroke admissions. If the average annual stroke readmission percentage is 43.7% (AHA, 2021) and the cost of one patient day is approximately $1996.22, then the yearly cost of readmission for stroke patients is approximately $728,618.84. If secondary stroke admissions can be reduced by 10% (4.37%), the institution would save $72,861.30 annually.

In the first year of implementation, the costs of this project are few. Costs to consider are the number of hours worked by the stroke coordinator (approximately 4 hours/week at $100/hour), the staff nurses helping to champion this work on the unit (four nurses working an additional hour per nurse per week, totaling $400/week), and the small amount of supplies needed to label all the

computers on the unit with the .strokeeducation smart phrase ($25 for label-making supplies). The annual cost of implementing this project in its first year will equal approximately $42,900. If the total cost of implementing this project is $42,900 and the projected cost avoidance is $72,861.30, then the projected savings for this project is approximately $29,961.30. (See Appendix K for Financial Cost Analysis).

## Study of the Intervention

While nurses are the primary stakeholders in this process, many other interdisciplinary roles were involved. Since the physicians also have a smart phrase that captures the required data in the EMR, they, too, were asked to review and modify their processes to adopt consistent smart phrase usage. In addition, the leaders of the stroke-designated unit were engaged as they were responsible for holding staff accountable to the expectation of using the .strokeeducation smart phrase for every stroke patient, every time. The stroke coordinator, a Quality Nurse Consultant in the Quality and Risk Department, was responsible for collecting, collating, measuring, and reporting all pre- and post-data on the STK-8 Core Measure. Another important stakeholder is the Primary Stroke Center's clinical nurse leader (CNL) for stroke, who ensured that all newly hired nurses have the appropriate training for the .strokeeducation smart phrase use. The implementation and scope of this project were communicated to all key stakeholders in a monthly interdisciplinary Stroke Leadership Committee meeting. This meeting occurs virtually and allows for information to be easily disseminated to all necessary parties at once, as well as offers a forum for discussion, collaboration, and reflection.

The timeline for this project in total was approximately 15 months from start to finish. In Q4 of 2023, nurses on the designated stroke units received a short, two-question survey that provided baseline data on staff knowledge about required patient stroke education. The same survey was sent out at the beginning of Q2 in 2024 to determine if the interventions of placing

smart phrase labels on all the units' workstations along with reorienting nurses to the stroke patient requirement checklist helped to improve and sustain the facility's STK-8 scores (see Appendix L for Project Charter).

## Ethical Considerations

Jesuit values ask us to care for others and recognize the uniqueness and wholeness of each person. Aligned with the Jesuit value of Cura Personalis is the American Nurses Association's Code of Ethics for Nurses, which outline nine provisions that guide an authentic and ethical nursing practice. Provision one states, "The nurse practices with compassion and respect for the inherent dignity, worth, and unique attributes of every person" (AHA, 2015). Improving stroke education scores in a Primary Stroke Center requires attention and flexibility as each patient has needs specific to their deficits, abilities, and willingness to learn. Ensuring stroke education is presented in multiple formats and is accessible to all patients and families will help ensure not only success with performance improvement but also lends to ethical and equitable considerations. This project has been approved as a quality improvement project by faculty using QI review guidelines and does not require IRB approval. (See Appendix M for the IRB Non-Research Determination Form). Additionally, the healthcare organization's Research Determination Office (RDO) has reviewed and determined that the project is non-research (see Appendix N for RDO).

## Outcome Measure Results

In 2023, STK-8 scores at an Advanced Primary Stroke Center in Northern California vacillated between 80-100%, with an average annual score of 92.8%. By June 2024, STK-8 scores at the same facility had sustained 100% compliance for three consecutive months (see Appendix O for 2024 STK-8 Results).

While the results for March, April, and May of 2024 were as expected, there is a question regarding January and February's data. It is yet unclear whether the data published for 2024 shows a significant change in pattern from the previous year. As the AHA data for this measure is two months lagging, it will take another few months to see if the results are sustained. If the remainder of the year does show sustained improvement, an argument could be made that the quality improvement project was successful. If 2024 data does not show sustained improvement, other potential causes for inconsistencies must be considered.

Another notable area of improvement was observed in the knowledge of stroke education among nurses involved in patient care. Prior to the implementation of the project, a survey indicated that 67% of stroke-certified nurses were aware of all five essential educational components recommended for patients diagnosed with stroke. Following the implementation, this figure rose significantly, with 100% of stroke-certified nurses demonstrating knowledge of these elements. Similarly, initial survey findings revealed that only 74% of nurses were familiar with the specific "smart phrase" integrated into the Electronic Medical Record (EMR) for capturing these educational elements. In contrast, the post-survey showed a notable enhancement, with 100% of nurses correctly identifying and utilizing the designated smart phrase (see Appendix P for Pre- and post-survey Results).

These findings underscore the project's efficacy in enhancing nurses' comprehension and applying essential stroke education components within the clinical setting. The improvement from pre- to post-survey outcomes highlights the project's success in standardizing and reinforcing critical knowledge among healthcare providers, thereby improving patient outcomes and aligning with healthcare quality improvement initiatives

## Summary

This quality improvement initiative addressed the variability in stroke education delivery within a Northern California hospital's designated stroke unit and its subsequent effect on The Joint Commission's STK-8 Core Measure. Audits of the last 18 months revealed fluctuating compliance with the STK-8 measure, impacting patient education on stroke signs, symptoms, and prevention. The project involved re-educating nursing and physician staff, reinforcing standardized protocols, and fostering interdisciplinary collaboration among stroke-certified nurses, physicians, and unit leaders. Expected outcomes included achieving sustained STK-8 compliance of at least 95% by mid-2024, as well as creating potential cost savings through decreased healthcare utilization associated with improved patient outcomes. Two out of the four months since this project was implemented saw 100% compliance with the STK-8 measure, while two months fell below the expected outcome of at least 95% compliance. With the current data, it is inconclusive whether the process improvement project successfully improved the STK-8 measure.

## Conclusions

In conclusion, the outcomes of the quality improvement initiative targeting stroke education and STK-8 compliance at a Northern California hospital reveal a mixed picture. While there were promising achievements, such as sustained 100% STK-8 scores for three consecutive months in mid-2024 and significant improvements in nurses' stroke education knowledge, challenges remain evident. The variability observed in early 2024 data, particularly in January and February, suggests ongoing issues that warrant further investigation and continued monitoring.

The initiative effectively standardized stroke education practices among healthcare providers, enhancing their understanding and application of essential components. This achievement aligns with broader healthcare quality improvement goals to optimize patient outcomes. However, the variability in STK-8 scores throughout 2023 and the mixed compliance

rates observed in early 2024 indicate that sustained improvements in compliance are still a work in progress.

Continuing efforts in education, protocol reinforcement, and interdisciplinary collaboration will be crucial to maintaining and improving STK-8 compliance levels. Further analysis of forthcoming data will be essential to determine the long-term impact of the initiative on stroke care quality and patient outcomes. Should sustained improvements be confirmed over the remainder of 2024, it would strengthen the argument for the initiative's overall success. Conversely, any regression in compliance rates would necessitate a reassessment of strategies and consideration of additional factors influencing performance.

In essence, while the initiative has shown promising early results and significant educational improvements among staff, the journey toward consistently high STK-8 compliance rates remains ongoing, requiring continued diligence and adaptation to achieve its intended objectives fully.

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**Appendix A**

**Evaluation Table**

| **Evaluation Table** | | | | |
|---|---|---|---|---|
| **Evidence Citation** | **Design** | **Sample** | **Outcomes** | **JHNEBP Appraisal Rating** |
| Andrew et al. (2018) | Cross-sectional survey with multi-level, multivariable regression analysis | **Sample:** Two hundred of four hundred thirty-four discharged stroke or TIA patients (subarachnoid hemorrhages excluded) registered in the Australian Stroke Clinical Registry in 2014. Eligible patients were 18 years of age or older, discharged directly home from an acute care hospital, and had elected to be a part of a further research study at 90-day and 180-day intervals.<br><br>**Setting:** 35 acute-care hospitals in Australia where stroke survivors were discharged out into the community. | **Findings:** The quality of discharge planning was inversely related to the reported number of unmet needs and positively related to reported quality of life post-discharge. In participants who reported lower discharge quality scores, qualitative data showed a theme of respondents feeling more anxiety and depression than those with higher quality discharge scores. Higher discharge quality scores were associated with patients who received individualized discharge instructions and were given referrals to local community support groups.<br><br>**Strengths:** The study utilized a large and diverse sample of patients which helped provide new insights into the need for improved quality in | **JHNEBP** Level IIIB |

| | | | | |
|---|---|---|---|---|
| | | | discharge planning for this population.<br><br>**Limitations:** The main limitation was the cross-sectional nature of the survey with retrospective collection of discharge care planning data. Consequently, there was the potential for those with worse outcomes to perceive that their discharge care planning was poor, and causation cannot be implied. This was minimized by using a process-focused assessment questionnaire (PREPARED) rather than patient-reported satisfaction to determine the quality of discharge planning. | |

| **Evidence Citation** | **Design** | **Sample** | **Findings** | **JHNEBP Appraisal Rating** |
|---|---|---|---|---|
| Sakakibara et al. (2018) | Single-blind Randomized Control Trial (RCT) | **Sample:** One hundred twenty-six community-living stroke survivor volunteers, randomly assigned to either the Stroke Coach (a telephone-based self-management program | **Findings:** The Stroke Coach trial will help add to the understanding of the use of self-management tools to improve control of risk factors for this population. Stroke | JHNEBP Level IB |

| | | | | |
|---|---|---|---|---|
| | | aimed to improve control of stroke risk factors) or to a control group that does use the Stroke Coach, over a 1-year period. Participants needed to be within 1-year of their confirmed stroke diagnosis, greater than or equal to 50 years of age, have a modified Rankin Scale (mRS) between 1-4, have access to a telephone, and speak English.<br><br>**Setting:** Both the Stroke Coach and control groups participated in 7 main telephone sessions (30-45 min) and 5 follow-up calls (5-10 min). Each participant met with the same study assessor at all time points to ensure consistency in the administration of the outcome measures. | Coach helps providers think differently about traditional stroke rehabilitation and shows that taking one day of inpatient rehabilitation and spreading those hours over six months through a coaching model may be more beneficial in improving long-term outcomes.<br><br>**Strengths:** The use of SPIRIT (Standard Protocol Items: Recommendations for Interventional Trials), guidelines published in 2013 that set forth the minimum content of a clinical trial protocol.<br><br>**Limitations:** The limitations of age**,** baseline functionality (mRS), language spoken, and access to a telephone set forth in the sampling will exclude data for groups outside those limitations. As such, the success of Stroke Coach cannot be known for those populations. | |

| Evidence Citation | Design | Sample | Findings | JHNEBP Appraisal Rating |
|---|---|---|---|---|
| Tarihoran et al. (2021) | Integrative literature review of 20 studies over a ten-year period, from 2010 through 2020. | **Sample:** 11 randomized control trials (RCT), four single group pre-post studies, and six non-randomized controlled intervention studies.<br><br>**Setting:** A comprehensive and systematic search of the literature across four databases, CINAHL Plus, PubMed, ERIC, and PsycINFO, using keywords and phrases related to secondary or recurrent stroke prevention education for patients and their families and/or caregivers as search terms. | **Findings:** Thematic analysis identified three main themes, each with associated sub-themes. The main themes were the focus of secondary stroke preventions, types of interventions, and future impact.<br><br>**Strengths:** This integrative literature review identified several secondary stroke prevention education strategies for survivors and their caregivers.<br><br>**Limitations:** While the search strategy to identify literature spanned four databases, a relatively small number of articles were found, despite the importance of secondary stroke prevention. Many of the studies reviewed had a low number of participants, and since each study focused on unique outcomes, comparison was difficult. | JHNEBP Level VB |

**Appendix B**

**SWOT Analysis**

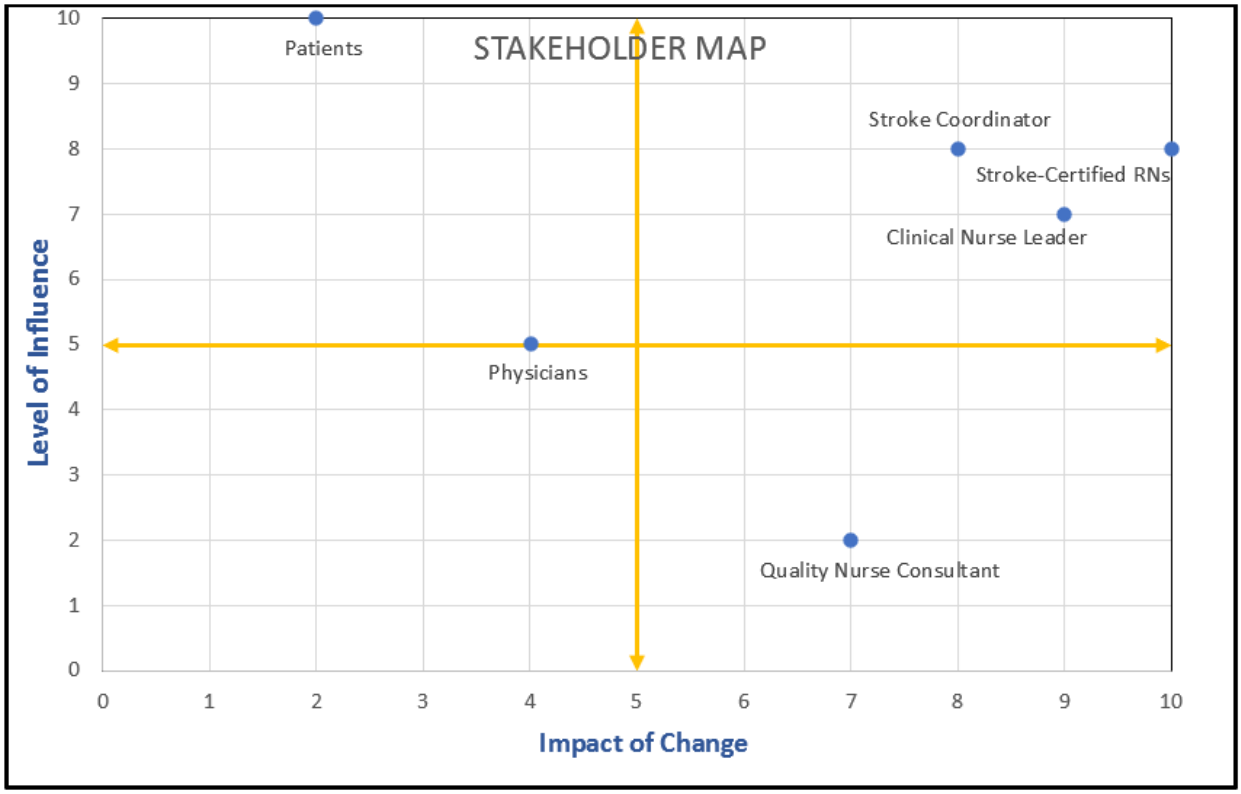
| | **Favorable/Helpful** | **Unfavorable/Harmful** |
|---|---|---|
| **Internal (attributes of the organization)** | **Strengths**<br>• Staff care about giving excellent stroke care<br>• KSRO has maintained highest achievement award in stroke care for over a decade<br>• Multidisciplinary engagement | **Weaknesses**<br>• New staff who don't have experience using the stroke checklist/smartphrases<br>• Newer ANM team needs to take ownership over managing the RN compliance using the checklist |
| **External (attributes of the organization)** | **Opportunities**<br>• Models of success from other stroke units within our region as learning opportunities<br>• Partnering with IT to ensure modifiable stroke education is built into electronic medical record for all patients with a diagnosis of stroke | **Threats**<br>• Staff not having time available to work on stroke champion projects such as training new staff to the checklist<br>• Management unable to pay staff overtime to work on projects for stroke committee<br>• Overall lack of staff engagement |

**Appendix C**

**Power Interest Grid**

STAKEHOLDER MAP

Project Name: Improving Stroke Education Scores at a Primary Stroke Center



**Appendix D**

**Gap Analysis**

| **Gap Analysis** | | |
|---|---|---|
| **Aim Statement**: By the end of Q2 2024, through increased compliance using the stroke discharge smart phrases that were built to capture all the requirements set forth by The Joint Commission, at least 95% of patients will receive patient-specific, comprehensive stroke education as measured by The Joint Commission's Core Measure STK-8. | | |
| **Desired State** | **Current State** | **Action Steps** |
| Sustained STK-8 score > 95%. | STK-8 scores 82-88%. | Re-introduce the stroke checklist requirement for all patients admitted with a diagnosis of stroke. |
| | | Review each STK-8 fallout at monthly staff meetings and include all STK-8 results on unit Quality boards. |
| Consistent use of .strokeeducation smart phrase. | Not all stroke-certified RNs populated on list to be able to access needed smart phrase. | Partner with management to identify all current stroke certified RNs and update the list of RNs who can access the smart phrase in the Electronic Medical Record. |

**Appendix E**

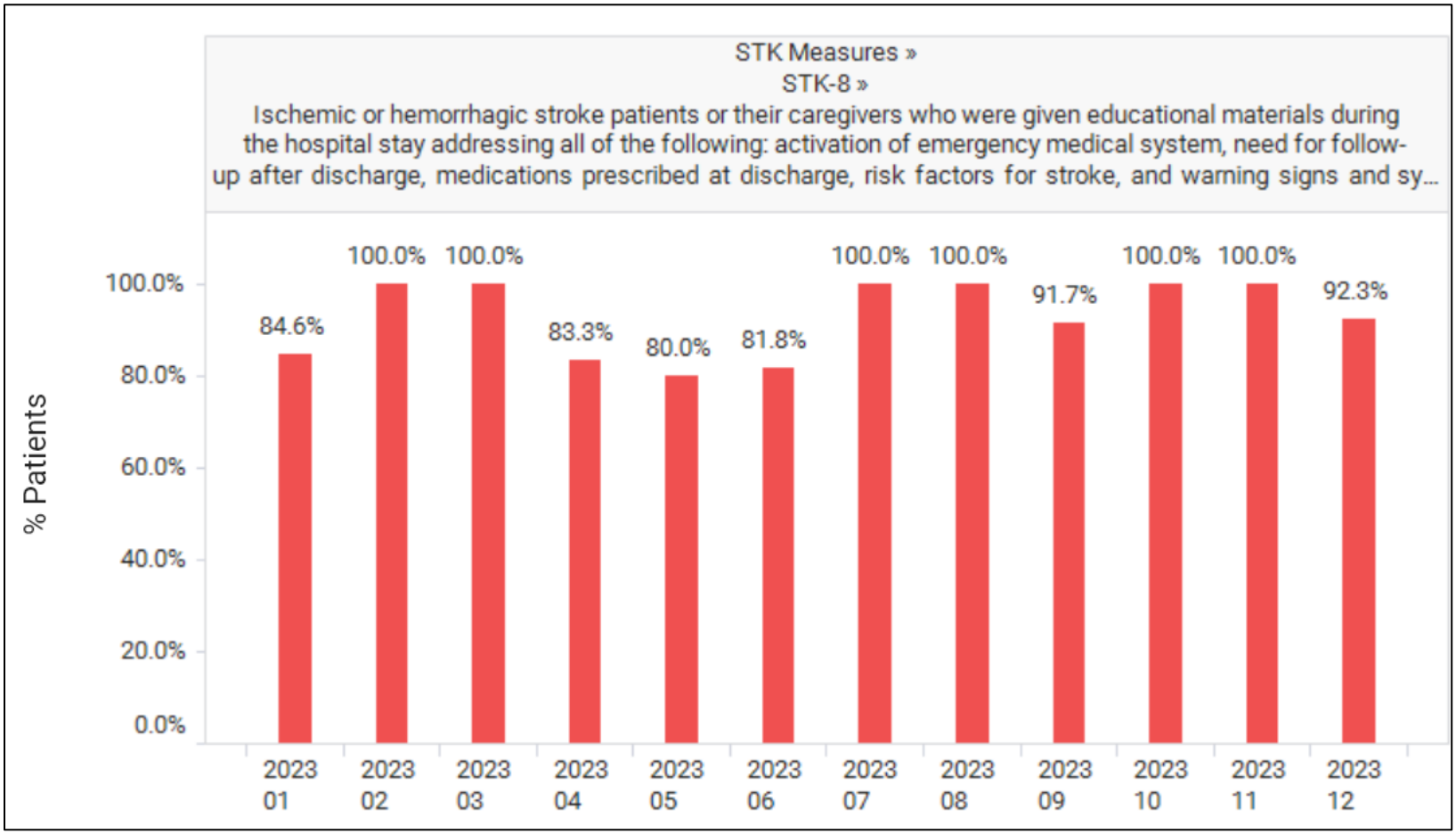
**GANTT Chart**

Project Timeline for Increasing STK-8 Measure Compliance

| Tasks | Q2 2023 | Q3 2023 | Q4 2023 | Q1 2024 | Q2 2024 |
|---|---|---|---|---|---|
| Microsystem assessment | | | | | |
| Identify sponsors and key stakeholders | | | | | |
| Meet with key stakeholders to garner support for implementation | | | | | |
| Ensure all stroke-certified RNs have access to the .strokeeducation smart phrase | | | | | |
| Add .strokeeducation smart phrase labels to all computers on 4E, ICU, and ED | | | | | |
| Attend daily huddles to share aim of project with staff and introduce smart phrase labels | | | | | |
| Evaluation and reevaluation of intervention | | | | | |

**Appendix F**

**2023 STK-8 Measure Results**




(AHA, 2023)

## Appendix G

## Stroke Patient Checklist

### STROKE PATIENT CHECKLIST (patient label)

Room #_____ Admit date and time: _____

Diagnosis: ☐ TIA ☐ Ischemic ☐ Hemorrhagic (and NON-traumatic ICH)

Admitting RN: Day 1 (the day the patient arrives in ED)

- ☐ **Swallow Screen: Pass / Fail** (must be documented as passed before anything PO, if failed obtain order for ST eval)
- ☐ **Neurology consult**
- ☐ **Rehab Services: PT / OT / ST** (circle ordered therapies)
- ☐ **Physical Medicine & Rehabilitation consult - PM&R** (look for a Note under consults)
- ☐ **Stroke Plan of Care** (1. add care plan 2. go to the education tab, click stroke education, click delete, reason: other click delete)
- ☐ **Learning Assessment** (confirm there is a new assessment this admission or create new in assessment tab under education tab)
- ☐ **Education** (education tab: click add point at bottom of screen, click add my point, name it: Stroke, type in text box: .strokeeducation,click F2 and fill in risk factors, then click General Education box to the left, then click accept at the bottom)
- ☐ **Verify only one order for vital signs** (check PER for B/P parameters to call MD & check eMAR for PRN med parameters)

---

RN Assuming Care: Day 2 (if admitted at 11:59pm, then 12am is day 2)

**Ischemic** (cross out this section if hemorrhagic)

- ☐ **VTE prophylaxis: SCDs order or Medication** (circle one, if medication then list name) _____
  (document SCDs Qshift; refusal requires MD notification and documentation)
- ☐ **Antithrombotic** (list medication name) _____
- ☐ **Statin**
- ☐ **Lipid Panel** (if no results from last 30 days, then needs to be ordered)
- ☐ **HgA1C** (if no results from last 30 days, then needs to be ordered)

**VTE Prophylaxis**

Lovenox
Heparin
Arixtra
Warfarin

**Antithrombotic**

ASA
Warfarin
Plavix
Pradaxa
Eliquis
Xarelto
Edoxaban
Other NOACs (Non-Vitamin K antagonist oral anticoagulants)

---

**Hemorrhagic** (cross out this section if ischemic)

- ☐ **VTE prophylaxis: SCDS order and document** (refusal requires MD notification and documentation)
- ☐ **Lipid Panel** (if no results from last 30 days)
- ☐ **HgA1c** (if no results from last 30 days)

---

Every RN: QShift

- **NIHSS documentation** (cannot be one minute past Q2, Q4 or Q8 hour mark or needs additional NIHSS)
- **SCDs** (on shift assessment flowsheet)
- **Education** (education tab: click Stroke box, click document, click file , not file and resolve. Replaces end of shift education note)
- **BP parameters** (check VS for reassessment of BPs outside parameters)

---

Discharging RN

- ☐ **Stroke education by MD on D/C instructions**
- ☐ **Statin ordered** (excluded for hemorrhagic)
- ☐ **Antithrombotic ordered** (excluded for hemorrhagic)
- ☐ **Diabetic exercise and diet on d/c instructions** (if diabetic)
- ☐ **Stroke Education hard copies** (must have all 4)

1. Stroke: What You Need to Know 2. What can everyone do to prevent a stroke? 3. Community Resources 4. Stroke Booklet

## Appendix H

## Measurement Strategy

**Background (Global Aim)** To ensure consistent and comprehensive stroke teaching within a Northern California Primary Stroke Center by the end of Q2 2024

**Population Criteria:** Inpatients discharged from a 172-bed acute care hospital with a primary stroke diagnosis.

**Data Collection Method:** A retrospective look at STK-8 scores for 2023 will be obtained from The American Heart Association's Get With The Guidelines website, IQVIA (AHA, 2023), to establish a baseline. After baseline data is collected, STK-8 scores will be collected monthly throughout the end of Q2 2024. The data plan will be reevaluated every month based on the results.

**Data Definitions**

| Data Element | Definition |
|---|---|
| STK-8 score | The Joint Commission Core Measure that identifies what percentage of patients with a diagnosis of stroke were given specific, comprehensive education prior to discharge. |
| .dcistroke | The specific smart phrase built for **physicians** that captures all The Joint Commission required elements to meet the STK-8 Core Measure. |
| .strokeeducation | The specific smart phrase built for **nurses** that captures all The Joint Commission required elements to meet the STK-8 Core Measure. |

**Measure Description**

| Measure | Measure Definition | Data Collection source | Goal |
|---|---|---|---|
| Percentage of patients who have documented, comprehensive stroke | N=# patients discharged with a diagnosis of stroke who received comprehensive stroke | STK-8 Core Measure report or chart audit | >95% |

| | | | |
|---|---|---|---|
| education prior to discharge | education prior to discharge<br>D=# patients discharged with a diagnosis of stroke | | |
| Percentage of nurses using the .strokeeducation smart phrase | N= # nurses who use the .strokeeducation smart phrase<br>D=# nurses with access to the .strokeeduaction smart phrase | Chart review | >95% |
| Percentage of physicians using the .dcistroke smart phrase | N= # physicians who use the .dcistroke smart phrase<br>D=# physicians with access to the .dcistroke smart phrase | Chart Review | >95%% |
| | | | |

**Appendix I**

**Employee Stroke Education Survey**


Stroke Patient Education

* Required

1. Please enter today's date *

Please input date (M/d/yyyy)

2. Question: What are the **five** elements that each stroke patient must be educated on prior to discharge? *

Enter your answer

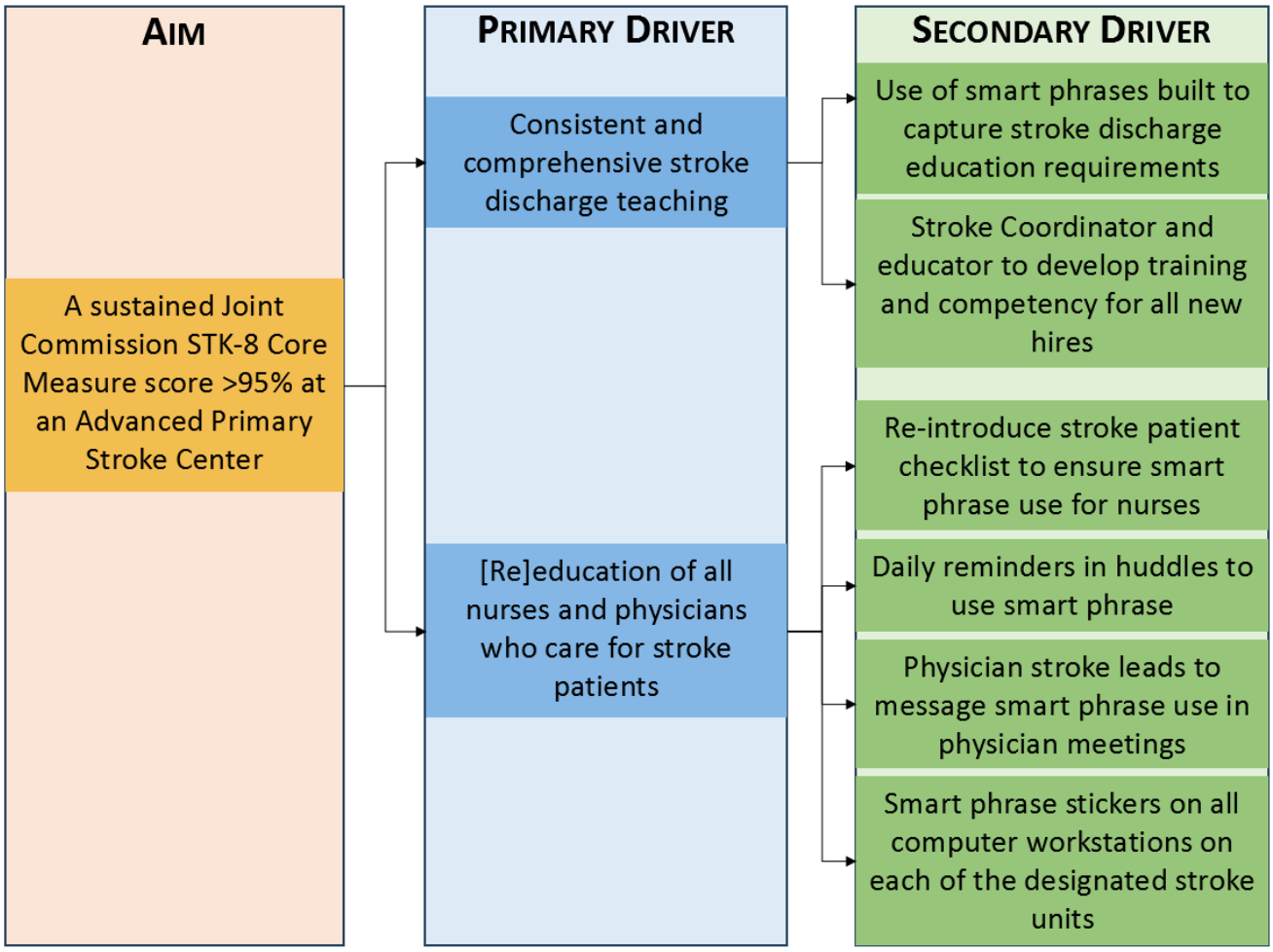
3. Question: What smart phrase can be used to capture all of the required elements of education for stroke patients? *

Enter your answer

Submit

**Appendix J**

**Driver Diagram**



**Appendix K**

**Financial Cost Analysis**

Improving Stroke Education Scores in a Primary Stroke Center from 83% to > 95%

| **Improvement Revenue (cost avoidance)** | | | | | | **Cost of One Patient Day in CA** | **Annual Cost of Readmissions** |
|---|---|---|---|---|---|---|---|
| Possible reduction in # of stroke readmissions | | | Unable to quantify due to lack of available data | | | $4,568.00 | |
| Average annual stroke readmission percentage: | | | 43.7% (NIH, 2002) | | | $1,996.22 | $728,618.84 |
| Less Reduction of stroke readmissions by 10% | | | 4.37% | | | $199.62 | $72,861.30 |
| | | | | | | | $655,757.54 |
| **Annual Savings IF Stroke Readmissions Reduced by 10%** | | | | | | | **$72,861.30** |

| **Improvement Costs** | **Number** | **Hours per Week** | **Hourly Rate + .3 Benefit** | **Cost/Week** | **Cost/Month** | **Cost/Year** |
|---|---|---|---|---|---|---|
| Coordinator hours | 1 | | $100.00 | $100.00 | | |
| Data Collection | | 2 | $100.00 | $200.00 | | |
| Staff Education | | 2 | $100.00 | $200.00 | | |
| Registered Nurses | 4 | 1 | $100.00 | $400.00 | | |
| | | | | | | |
| Supplies (printing & laminating) | | | | $25.00 | | |
| **Total Cost** | | | | $825.00 | $3,300.00 | $42,900.00 |

Total Annual Cost Avoidance $72,861.30

Total Annual Costs $42,900.00

**Project Savings/Cost Avoidance** **$29,961.30**

## Appendix L

## Project Charter

**Project Charter**: To Increase Utilization of Electronic Smart Phrases to Improve STK-8 Core Measure

**Global Aim**: To ensure consistent and comprehensive stroke teaching within a Primary Stroke Center.

**Specific Aim**: By the end of Q2 2024, through increased compliance using the stroke discharge smart phrases that were built to capture the requirements set forth by The Joint Commission, at least 95% of patients will receive patient-specific, comprehensive stroke education as measured by The Joint Commission's Core Measure STK-8.

**Background:** One of the Core Measures set forth by The Joint Commission for Stroke Program accreditation includes ensuring all patients discharged with a primary stroke diagnosis have had specific education documented prior to discharge (The Joint Commission, 2022). Likely a product of high RN and physician turnover, this isn't happening consistently, which raises concern that patients may not be receiving vital information prior to discharge. Ensuring that all stroke patients are discharged with personalized, specific education helps reduce the incidence of secondary strokes and improves overall outcomes. This project aims to increase the Joint Commission STK-8 Core Measure score from 85% to greater than 95% by the end of Q2 of 2024 at a Primary Stroke Center in Northern California.

**Sponsors**

| | |
|---|---|
| Clinical Quality Director – Accreditation, Regulation, and Licensing | Director of Hospital Quality and Care Experience (MD) |
| Clinical Nursing Director | |
| Quality Nurse Consultant | |

**Goals**

To ensure consistent and comprehensive stroke teaching within a Primary Stroke Center using smart phrases that include the following:

1. Personalized, modifiable risk factors for each patient
2. Signs & symptoms of a stroke using the acronym B.E.F.A.S.T.
3. How and when to initiate an emergency response
4. Any new medications including their potential side effects
5. The importance of following up with a primary care provider

**Measures**

| Measure | Data Source | Target |
|---|---|---|
| Outcome | | |
| Physicians and RNs will use their respective stroke discharge education smart phrases | The Joint Commission STK-8 Core Measure for Stroke Education Chart Review-Health connect | >95% |
| Process | | |
| % nurses educated to stroke discharge smart phrase | Direct survey | 100% |
| % physicians educated to stroke discharge smart phrase | Direct survey | 100% |
| Balancing | | |
| Number of patients who report receiving specific discharge stroke education | HCAHPS stroke education scores | >75% |
| | | |

**Team**

| |
|---|
| Quality nurse consultant/Stroke coordinator |
| Stroke-certified nurse champions |
| CNS/Stroke educator |
| Quality director (MD) |
| Physician champions |
| Clinical nurse leadership |
| Patients discharged with a diagnosis of stroke |
| |

**Appendix M**

**IRB Non-Research Determination Form**

UNIVERSITY OF SAN FRANCISCO | School of Nursing and Health Professions

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

**Student Name: Jesse Young**

**Title of Project:** Improving Stroke Education Scores at a Primary Stroke Center

**Brief Description of Project:**

**A) Aim Statement:** By the end of Q2 2024, at least 95% of patients will receive patient-specific, comprehensive stroke education as measured by The Joint Commission's Core Measure STK-8.

**B) Description of Intervention:** Roll-out of smart phrases for physicians and nurses that capture the required elements for STK-8 compliance.

**C) How will this intervention change practice?** If used consistently, these smart phrases will capture 100% of the stroke education requirements in The Joint Commission's Core Measure, STK-8.

**D) Outcome measurements:** STK-8. Percentage of staff using the stroke education smart phrases. As a balance measure - HCAHPS scores.

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)

**Yes** - 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.

**No -** This project involves research with human subjects and must be submitted for IRB approval before project activity can commence.

5-17

UNIVERSITY OF SAN FRANCISCO | School of Nursing and Health Professions

Comments:

**EVIDENCE-BASED CHANGE OF PRACTICE PROJECT CHECKLIST ***

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

| **Project Title:** | **YES** | **NO** |
|---|---|---|
| The aim of the project is to improve the process or delivery of care with established/ accepted standards, or to implement evidence-based change. There is no intention of using the data for research purposes. | **X** | |
| The specific aim is to improve performance on a specific service or program and **is a part of usual care**. ALL participants will receive standard of care. | **X** | |
| The project is **NOT** designed to follow a research design, e.g., hypothesis testing or group comparison, randomization, control groups, prospective comparison groups, cross-sectional, case control). The project does **NOT** follow a protocol that overrides clinical decision-making. | **X** | |
| The project involves implementation of established and tested quality standards and/or systematic monitoring, assessment or evaluation of the organization to ensure that existing quality standards are being met. The project does **NOT** 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 **NOT** seek to test an intervention that is beyond current science and experience. | **X** | |
| The project is conducted by staff where the project will take place and involves staff who are working at an agency that has an agreement with USF SONHP. | **X** | |
| The project has **NO** funding from federal agencies or research-focused organizations and is not receiving funding for implementation research. | **X** | |
| The agency or clinical practice unit agrees that this is a project that will be implemented to improve the process or delivery of care, i.e., **not** a personal research project that is dependent upon the voluntary participation of colleagues, students and/ or patients. | **X** | |
| "The Research Determination Committee for the Kaiser Permanente Northern California region has determined the project does not meet the regulatory definition of research involving human subjects per 45 CFR 46.102(d)" | **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): Jesse Young**

5-17

UNIVERSITY OF SAN FRANCISCO | School of Nursing and Health Professions

**Signature of Student:** _____ **DATE** 04/07/2024

**SUPERVISING FACULTY MEMBER NAME (Please print):**
**Carla S. Martin, DNP, RN, CIC, CNL, NEA-BC, FACHE**

**Signature of Supervising Faculty Member**

_____ **DATE** 4/7/24

**Appendix N**

**Research Determination Office (RDO) Form**

KAISER PERMANENTE®

KPNC Research Determination Form

RDO NUMBER (Assigned by RDO): RDO KPNC 24 - 104

Version – 12.30.2021

**Purpose:** The Research Determination Office (RDO) is ancillary to the Institutional Review Board and is used to make determinations on projects that may not meet the definition of research involving human subjects for the Kaiser Permanente Northern California (KPNC) region. The RDO process results in one of three outcomes: 1) Research (stop and go to IRB), 2) Not Research (common for quality improvement and evidence-based practice projects), and 3) Not Human Subjects Research (research that does not involve human subjects – identifiable data or biospecimens).

**Instructions:** Complete the form with detailed responses and attach final supplemental materials (e.g. data collection forms such as chart review forms or surveys) and submit to: **KPNC-RDO@kp.org.** Final determinations may take up to four to six weeks including necessary revisions to the original request and final review.

1. **Project Title:** Improving Stroke Education Scores at a Primary Stroke Center

2. **Northern California Principal Investigator or Mentor (one PI/Mentor only) Name:** Kelly Tirone
   **Residents/Fellows/Students cannot be the project PI - an attending, clinical leader or experienced KP mentor must serve as PI*
   Principal Investigator/Mentor Title(s): MSN, RN, CNL, CPHQ, LSSBB, Quality Nurse Consultant
   Principal Investigator/Mentor Email: Kelly.A.Tirone@kp.org
   Principal Investigator/Mentor Home Facility: Santa Rosa

3. **KPNC Email of person submitting the form:** Jesse.J.Young@kp.org
   **Role of the lead person submitting the form:** Quality Nurse Consultant, Stroke & Sepsis Coordinator

4. **Is this a patient case study or case series? (Note: At KPNC if the case series has 5 or more cases an IRB application is required. A case study or series is an activity to develop information that is ONLY intended to be shared for medical/educational purposes and not research).**
   ☐ Yes ➔ Skip to Question 10 ☒ No

5. **Is this project being used to satisfy an academic degree requirement? These projects are only allowable for Kaiser Permanente managed/endorsed training or education or degree programs that have received executive approval.**
   ☐ No

KAISER PERMANENTE®

KPNC Research Determination Form

RDO NUMBER (Assigned by RDO): RDO KPNC 24 - 104

Version – 12.30.2021

☒ Yes ➔ if Yes check one and include name of student: ☐ DNP; ☒ MSN program; ☐ PhD

**Name of Student:** Jesse Young **Name of School**: University of San Francisco

**5a. Is the degree part of a KPNC clinical training program (e.g. KP Residency; KP psychology; KP Medical Fellowship; KP nursing etc)?**

☐ No ☒ Yes ➔If yes, which one: KP Nurse Scholars

**5b. Projects initiated by nurses that are: regional nursing projects, projects at more than one facility, and/or projects with external collaborations, review by the *NCAL Nursing Research & EBP Program* is required before submission to the RDO. For nursing degree projects contact the Research & Innovation Academy for guidance**

Has a regional program representative reviewed this proposal?

☐ Yes ➔ Name of the program facility/region leader:

☐ No ➔ Do not proceed; contact the leader for review and approval

☒ N/A

6. **How did you determine this project evaluation was needed (check one response):**

☐ I was charged with completing this evaluation ➔ Name and Title of Leader who charged you with this evaluation:

☒ I am evaluating this project due to my formal KPNC role(s) and responsibilities (PI/Mentor response)

☐ I am evaluating this project due to my own interest

☐ I am completing the project for my educational requirement only

☒ I am evaluating this project due to my formal KPNC role(s) and responsibilities and for my academic requirement (student response)

7. **Have you submitted a research application relevant to this project to the IRB for review?**

No ☒ Yes ☐ ➔ If yes, has the IRB reviewed your application, and/or a determination been made?

☐ Yes ➔ Attach the IRB approval or determination letter

☐ No

Concurrent submissions to both the Research Determination Committee and the IRB are not permitted. If you have already submitted to the IRB, you must await an IRB determination. If the IRB determines that your project does not require IRB review, you will be informed.

KAISER PERMANENTE®

KPNC Research Determination Form

RDO NUMBER (Assigned by RDO): RDO KPNC 24 - 104

Version – 12.30.2021

8. **Is this project only being conducted in the KP Northern California region?**
   ☒ Yes ☐No ➔ If no, what other Kaiser regions or institutes are included:
9. **Is this project sharing any data with an outside institution or collaborator?**
   ☒ No ☐ Yes ➔If yes, indicate where and why:
   External collaborations and agreements require project intake via the Division of Research Research Collaboration Portal.

10. Does the project involve the use of a U.S. Food and Drug Administration (FDA) regulated drug, device or biologic?
    ☐ Yes➔ go to question 10a.
    ☒ No ➔ go to question 11.

**10a**. Will the results of the research be submitted to, or held for inspection by, the FDA?

☐ Yes ☒ No

11. Is there anything about the nature of this project which, if revealed to the public, could put KP at risk or competitive disadvantage?
    ☐ Yes ➔ Please detail the risk/competitive disadvantage:
    ☒ No ➔ go to question 12.

**12. Purpose, specific aims and/or objectives of your proposed project:**

**Specific Aim:** By the end of Q2 2024, through increased compliance using the stroke discharge smart phrases that were built to capture the requirements set forth by The Joint Commission, at least 95% of patients will receive patient-specific, comprehensive stroke education as measured by The Joint Commission's Core Measure STK-8 at Kaiser Santa Rosa (KP-SRO) through training to our nurses.

**13. Target population:**

**Patients:**
WHO: Adults discharged from the hospital with a diagnosis of stroke WHEN: 06/01/2023 – 06/30/2024; HOW MANY: estimated sample size is 150; WHERE: Santa Rosa Medical Center.

**Nurses:**
WHO: Stroke-certifies RNs on the designated stroke unit WHEN: 06/01/2023 – 06/30/2024; HOW MANY: estimated sample size is 50; WHERE: Santa Rosa Medical Center.

**14. Procedures used to gather information: Indicate if these procedures would be or were conducted as part of standard of care, regardless of the proposed**

**15. activity:**
The procedures and data being studied are standard of care as it is standard practice to evaluate a training program before and after its implementation.

**16. Description of the data/samples gathered about individuals including names of datasets, URL, etc.:**

a. ***What data/samples will be collected, how and by whom the data will be analyzed?***
The following variables will be extracted and examined by the KP-SRO Stroke Coordinator in the Quality Department: diagnosis patient-specific modifiable risk factors for stroke, use of Electronic Medical Record smart phrases before and after the nurse training (See Manual Abstraction Tool attached).The data will be analyzed by the project PI and a Clinical Nurse Consultant in the SRO quality department. We will not employ inferential research methods such as hypothesis testing (e.g., t-test, Chi $^2$ ) which aim to produce generalizable research findings.

Using Microsoft Forms, we will anonymously survey the stroke-certified nurses before and after the training. The data from the survey will be analyzed by the PI.

The stroke certified nurse training will include review of how to use the stroke discharge smart phrases that were built to capture the requirements set forth by The Joint Commission, as well as the individual modifiable risk factors that need to be addressed with each patient during their hospitalization.

*b.* ***How will/were the data/samples gathered from individuals? Indicate if you will participate in any interaction or intervention with the individuals.?***
The data were obtained as part of routine clinical care/standard of care and as part of standard education training evaluation processes.

*c.* ***Can the collected data/samples be directly or indirectly associated/linked with individual identifiers?***
Yes as the Medical Record Number (MRN) for each patient will initially be recorded. The data will only be presented in aggregate format.

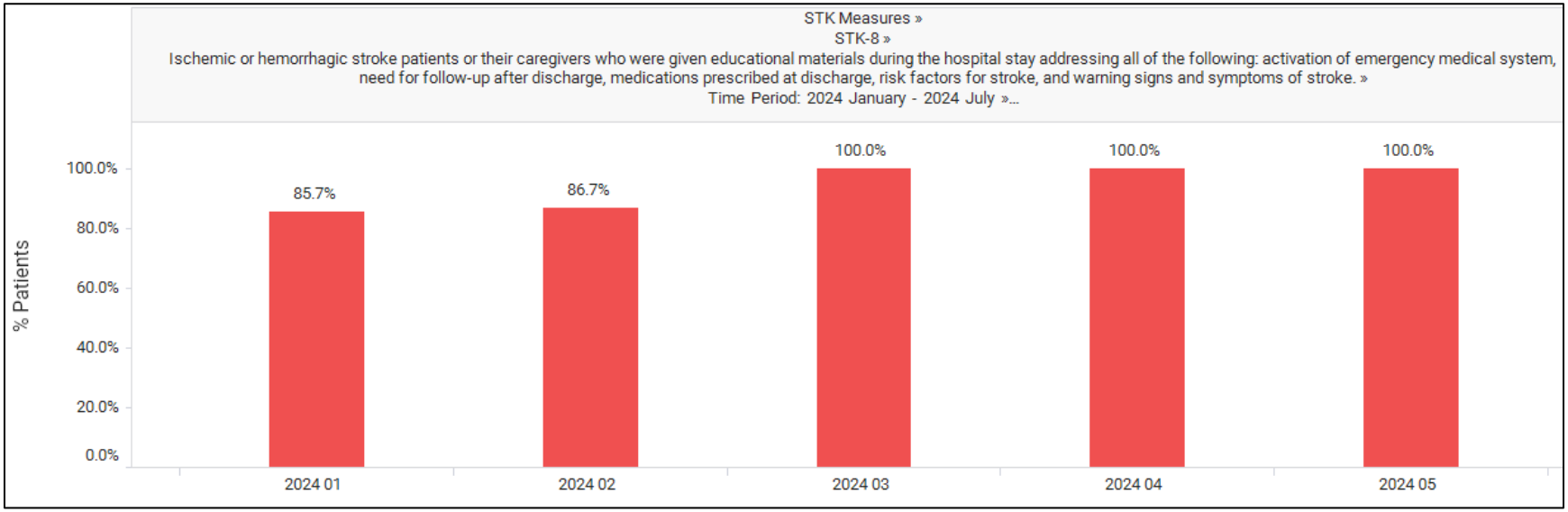
*d.* ***Can others directly or indirectly associate/link the collected information with individual identifiers****?*

No

17. **Generalizability of project findings, or value of project findings:**
These data are only intended to inform KP-SRO regarding the effectiveness of the nurse training program, and the value of the data is sharing nurse training programs regarding patient care workflow methods to enhance patient care potentially.

**Appendix O**

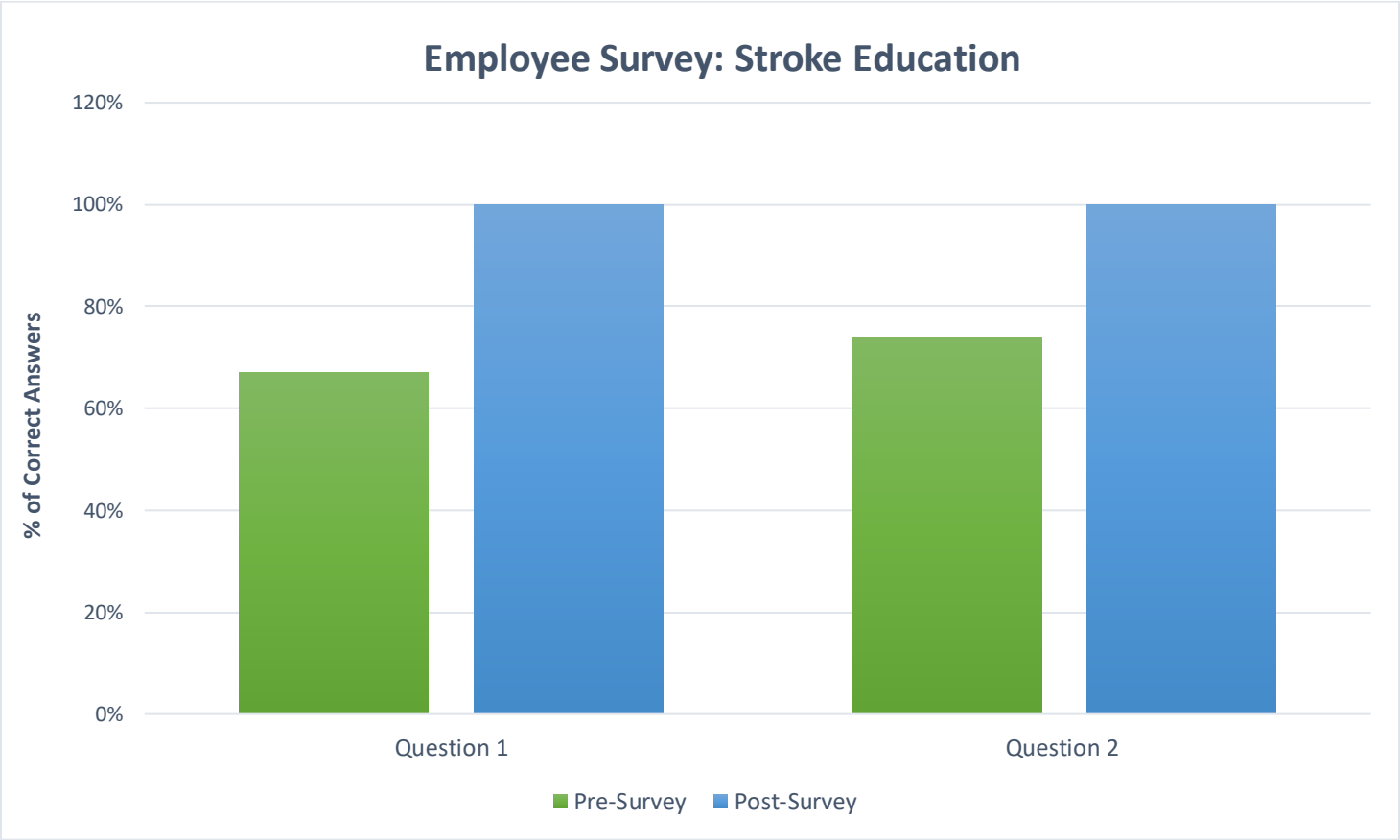
**2024 (YTD) STK-8 Measure Results**




(AHA, 2024)

**Appendix P**

**Pre- & Post-Employee Survey Results**




**Question 1:** What are the five elements that each stroke patient must be educated on prior to discharge?

**Question 2:** What smart phrase can be used to capture all the required elements of education for stroke patients?