

Fall 12-4-2018

They Responded, We Listened: Improving Stroke Education and Patient Satisfaction

Melissa Meighan
melissa.m.meighan@kp.org

Follow this and additional works at: https://repository.usfca.edu/dnp_qualifying

 Part of the [Nursing Commons](#)

Recommended Citation

Meighan, Melissa, "They Responded, We Listened: Improving Stroke Education and Patient Satisfaction" (2018). *DNP Qualifying Manuscripts*. 8.
https://repository.usfca.edu/dnp_qualifying/8

This Manuscript is brought to you for free and open access by the School of Nursing and Health Professions at USF Scholarship: a digital repository @ Gleeson Library | Geschke Center. It has been accepted for inclusion in DNP Qualifying Manuscripts by an authorized administrator of USF Scholarship: a digital repository @ Gleeson Library | Geschke Center. For more information, please contact repository@usfca.edu.

They Responded, We Listened: Improving Stroke Education and Patient Satisfaction

Melissa M. Meighan, DNP(c), MS, RN, NEA-BC, CNRN, SCRNP

Presented to the University of San Francisco

Committee Members:

Dr. Juli C. Maxworthy

Dr. Elena Capella

in

Partial Fulfillment of the Requirements for the

Degree of Doctorate in Nursing Practice

November 10, 2018

Acknowledgements

I would like to thank the University of San Francisco's Executive Leader Doctor of Nursing Practice (ELDNP) program for creating a rich, safe, learning environment for exploration of exemplary evidence-based health care design led by nurses on the path to a terminal nursing practice degree. To Dr. Juli C. Maxworthy, thank you for your patience, thoughtful insight, persistence, and time to improve the work to provide the best possible service to a vulnerable patient population.

I would like to thank Kaiser Permanente, Northern California Regional Accreditation, Licensing and Regulatory Services, for their support, as well as Kaiser Nurse Scholars. In particular, I would like to thank Dr. Carmen Adams for her inspirational leadership in the implementation of evidence-based practices in a large integrated health care system; Anne Goldfisher, Executive Director, Quality and Regulatory Services; and Laure Lisk, Regional Director Clinical Quality Program and Analytics, for their kind support during the program.

Thank you to the team who worked on the project: Kathryn Snow, Joseph Mojares, Melissa Hathcoat, Hermelinda Gonzales, and Noreen King. For the stroke coordinators who soldier on regardless of how many other hats they are wearing. And, a special thank you to Kathryn and Pat Zrelak, the advanced practice nurses dedicated to care of patients who have suffered a neurological injury. Your collegiality and support are the wind beneath my wings.

For my amazing Cohort 8, I learned so much from your experience, contribution, and service as role models for nursing. Your presence, care, and wit are a delight and an inspiration. I will forever treasure the memories of our intensives, including our Friday morning specials.

To my family and friends, thank for your support and encouragement. My life partner, Drew Letchworth, for manning the fort and its menagerie of inhabitants. For my parents, Arno

and Susan, for their inspiration. To my sister and brother, Sandy and Eric, for their help to keep me on track. And lastly, to the survivors of a stroke who must soldier on in the face of a frightening, traumatic event. If there is one part of the body that we rely on not to fail us, it is our minds. The ability to move as we wish, express love to others, and to even be aware of depression may all be suddenly taken away by a clot the size of a strand of hair. Thank you to those who have taken this event to teach and help others through stroke survivor support groups. You are amazing.

Table of Contents

Section I. Title and Abstract

Title	1
Abstract	8

Section II. Introduction

Problem Description	10
PICOT Question	12
Available Knowledge	12
Rationale	18
Specific Aims	21

Section III. Methods

Context	22
Interventions	23
Work Breakdown Structure	24
SWOT Analysis	25
Project Responsibility and Communication Plan	26
GANTT Chart	27
Cost Benefit and Return on Investment Analysis	28
Stroke Survivor Engagement.	30
Front Line Staff Survey.	31
Stroke Flyer.....	32
Education Module.....	34
Study of the Interventions	37
Outcome Measures	37
Data Collection	38
Analysis	40
Ethical Considerations	41

WE LISTENED: IMPROVING STROKE EDUCATION	5
Section IV. Results	43
Section V. Discussion	
Summary	45
Interpretation	47
Limitations	48
Conclusions	51
Section VII. References	54
Section VIII. Appendices	
Appendix A. Map of Kaiser Facilities	63
Appendix B. Stroke Discharge Volume per Facility	64
Appendix C. ICD-10-CM Codes Related to Stroke	65
Appendix D. Stroke Education and Patient Perception Evidence Table	67
Appendix E. Evaluation Table	70
Appendix F. Learning Needs Assessment	71
Appendix G. Caring Science Applied to Stroke Education	72
Appendix H. Stroke Education Documentation Compliance	73
Appendix I. Joint Commission Standard Addressing Patient Education	74
Appendix J. Joint Commission Standard Addressing Patient Satisfaction	75
Appendix K. Gap Analysis	76
Appendix L. Sample Stroke Education Agenda	77
Appendix M. Work Breakdown Structure	78
Appendix N. SWOT Analysis	79
Appendix O. Project Responsibility and Communication Plan	80

Appendix P. GANTT Chart – Initial	81
Appendix Q. GANTT Chart – Final	82
Appendix R. Budget	83
Appendix S. Program Costs.....	84
Appendix T. Return on Investment	85
Appendix U. Email from Stroke Survivor Advocate	86
Appendix V. Staff Survey	87
Appendix W. Staff Survey Response Summary	88
Appendix X. Stroke Flyer Placement on Stroke Portal	89
Appendix Y. Stroke Flyer Grade Level and Reading Ease Scores	90
Appendix Z. Survey for Community Input on Flyer	91
Appendix AA. Community Survey Script	92
Appendix BB. Translation Request	93
Appendix CC. Stroke Flyer English	95
Appendix DD. Stroke Flyer Spanish	96
Appendix EE. Stroke Flyer Chinese	97
Appendix FF. Stroke Flyer Vietnamese.....	98
Appendix GG. Stroke Flyer Tagalog	99
Appendix HH. Stroke Module Title Page	100
Appendix II. Health Stream Educational Platform	101
Appendix JJ. Excerpt from Novel Approaches to Teaching Stroke Patients	102
Appendix KK. Stroke Module Post Test	104
Appendix LL. Nurse Practice Alert	106

Appendix MM. Just the Facts on Stroke Education	108
Appendix NN. Data Management Variables	109
Appendix OO. Pre-Intervention Stroke HCAHPS Data	110
Appendix PP. Post-Intervention Stroke HCAHPS Data.....	111
Appendix QQ. Initial Presentation Mode with Suspected Stroke Symptoms	112
Appendix RR. Stroke Alerts Initially Cancelled	115
Appendix SS. Signed Statement of Non-Research Determination Form	116
Appendix TT. Letter of Support from Organization	118

Abstract

The annual decrease in stroke mortality rates in the United States has slowed, but in certain populations, such as Hispanics and in southern U.S. states, mortality rates are increasing. Stroke remains the number one cause of adult disability. A previous stroke is a risk factor for a second stroke. Prompt treatment is essential for positive outcomes. Patients need to present to the hospital no more than 4.5 hours from last known well for intravenous alteplase treatment and six to 24 hours from last known well for endovascular therapy. Based on the literature, the majority of patients are not presenting to the hospital in time for treatment.

Patients should be educated in the hospital prior to discharge on Joint Commission required elements of stroke education, which include the importance of calling 911, stroke signs and symptoms, disease processes, risk factor management, and follow up. However, in 2016, 40% of Kaiser Permanente stroke survivor members reported they were not adequately educated in the required elements, despite nursing documentation of education. Increasing patient knowledge and perception of adequate education may increase the number of patients who present in time for treatment. Interventions to increase patient perception of adequate education included engagement of stroke survivor's view of educational material, the evaluation of current educational material, the development of a fourth-grade reading level flyer, and the development of a training module for nurses working on stroke units or units with stroke-designation.

Preliminary results were not conclusive, and more data points are needed. The percentage of positive responses to the question, "Staff Explained Disease Processes," rose from 51% (21/41) to 64% (32/50). However, the positive responses for the other two stroke-related questions for risk factors and stroke signs and symptoms decreased from 54% (23/42) to 44% (24/54) and 52% (19/36) to 47% (25/53), respectively. The overall results were not statistically

significant using χ^2 for analysis. Behavioral measures, which may be influenced by increased education such as arriving to the hospital in time for treatment and activation of the emergency medical system, saw no significant difference for arrival in time for treatment and, unfortunately, a statistically significant increase in arrival by private car for the month of August. Future work of the project is to continue to increase training and awareness for the nurses, obtain additional stroke survivor input, analyze the time to arrival and arrival mode data more closely, and to explore a regional stroke patient satisfaction assessment process.

Keywords: stroke, cerebral vascular accident, education, patient satisfaction

Section II. Introduction

Problem Description

This intervention took place in an integrated health care system in one of the regions serving over four million members. The integrated health system consists of a triad of a health plan insurance arm, hospitals or Kaiser Foundation Hospitals, and the Permanente Medical Group. The Kaiser Foundation Hospitals are non-profit and have oversight over inpatient care. The Permanente Medical Group is for-profit and consists of physicians and other providers, such as nurse practitioners, physical therapists, occupational therapists, and speech therapists. The TMPG has responsibility for the staffs of emergency departments, pharmacy, laboratory, radiology, and outpatient clinics. The region consists of 21 medical centers spread over an area of 17,000 square miles. Two of the medical centers are certified by Joint Commission as Comprehensive Stroke Centers, while the remaining are certified as Primary Stroke Centers (see Appendix A). The inpatient bed size of the facilities ranges from 50 to 350 inpatient beds. The total number of patients discharged annually with an International Classification of Diseases, Tenth Revisions, Clinical Modification (ICD-10-CM) codes related to stroke for the facilities range from 132 to 1,135. Stroke discharges are grouped by emergency room visit only, inpatient, and observation status (see Appendix B for stroke volume by facility and Appendix C for ICD-10 CM codes related to stroke).

Each stroke program has a team who manages the program consisting of primarily a stroke coordinator and stroke medical director. The stroke program team meets monthly with representatives from all the departments involved, including stroke champions from the emergency departments, radiology, lab, pharmacy, intensive care unit, telemetry units who have designated beds, rehabilitation physicians, physical therapists, occupational therapists, and

speech therapists. The stroke coordinators work with their local education team to identify educational needs.

In 2017, the Centers for Disease Control (CDC) issued a stroke *call to arms* report stating that stroke mortality and morbidity rate declines had stalled in many states. For certain patient populations, such as Hispanic and those in the southeastern stroke belt, mortality rates are increasing, thought to be a result of increased risk factor burdens of diabetes and hypertension (CDC, 2017). Every day, over \$120 million is spent in hospitalization, rehabilitation, and lost productivity (CDC, 2017). Injured brain tissue puts stroke survivors at risk for a second stroke (Hickey & Livesay, 2016). Twenty-three percent of stroke survivors who have received education on risk factor management and stroke signs and symptoms may have a second stroke (CDC, 2017).

For a stroke victim presenting to the hospital in a timely manner, multiple treatment options are available. These include intravenous alteplase, intravenous alteplase combined with and neuroembolectomy, or neuroembolectomy alone (Jauch et al., 2013; Livesay, 2014; Powers et al., 2018). However, there is a brief time window from onset of symptoms; the patient must have been seen well up to 4.5 hours prior to the stroke and up to six to 24 hours for thrombectomy (Powers et al., 2018). Partially due to the brain injury that accompanies a stroke, patients may decide to sleep off the symptoms, to ignore them, or may not be aware they have the symptoms (Livesay, 2014). Viable brain tissue enabling speech and mobility may die due to late recognition related to simple, everyday activities.

Public awareness of stroke symptoms remains low, despite public health campaigns (Dombrowski et al., 2013; Jauch et al., 2013; Powers et al., 2018; Yu-Feng et al., 2015). Once a possible stroke is recognized, activation of the emergency medical system (EMS) is an essential

next step in the stroke chain of survival. There may be social and economic factors that inhibit the activation of EMS (Omelchenko, Saban, Andresen, Klopp, & Lau, 2018; Skolarus et al., 2013). A disconnect between knowledge and action may be caused by fear of an ambulance bill or bringing law enforcement into a neighborhood. Hsia et al. (2011) found that first stroke survivors knew to call 911; however, after a second stroke, they called a friend instead of 911.

Stroke survivors are hungry for knowledge (Danzl et al., 2016). This knowledge is critical for risk factor management and understanding appropriate actions to take if a second stroke is experienced. However, stroke survivors and caregivers are discharged home without feeling adequately educated on the disease process (Livesay, 2014). According to patients, acute care providers do not explain important elements of stroke education (Danzl et al., 2016). Health literacy and working memory may be associated with recall of stroke signs and symptoms, a very important element of stroke education (Ganzer, Insel, & Ritter, 2012). Patient perceptions of the impact of stroke education in mass media campaigns may be low, even though some individuals do change their behavior (Dombrowski et al., 2013).

PICOT Question

For adults over the age of 18, discharged with a stroke diagnosis, can an improved stroke education intervention increase patient satisfaction, as compared to those who have not received proper stroke education, over a period of three months?

Available Knowledge

A systematic search guided by the PICOT question was completed through November 2017 using the following key words: *stroke, cerebral vascular accident, edu*, education, retention, patient perception, stroke survivor, and knowledge*. Cochrane, CINHL, PubMed, evidence-based journals, Psych Info, and Scopus were queried. Articles were selected for

inclusion if they were in English and addressed stroke, education, and retention. Articles were excluded if the study addressed primarily community-based stroke awareness campaigns, stroke education for children, retention of other types of learning for stroke rehabilitation or were more than 10 years old. Two studies were slightly older than 10 years; however, they were highly relevant to the project. The final search yielded 78 journal articles.

The 10 strongest pieces of evidence for the PICOT question included four randomized clinical trials, one systematic review with meta-analysis, one literature review, two qualitative studies, and a systematic review. The evidence was analyzed using the Johns Hopkins Research and Non-Research Evidence Appraisal Tools (Dearholt & Dang 2015). Aspects of the research studies, such as methods used, adequate sample size, validity, and reliability of instruments used, were analyzed. The literature review was also reviewed for relevance, up-to-date literature and classic literature, identified gaps, meaningful conclusions, and recommendations. The meta-analysis was reviewed for items such as key search terms, multiple databases, and appropriate synthesis. The qualitative studies evaluated coding, cross-referencing, and conclusions. The randomized controlled clinical trials are presented first and then the meta-analysis, literature review, qualitative studies, and system review. Evidence tables are presented in Appendix D and Appendix E.

Yu-Feng et al. (2015) conducted a randomized controlled clinical trial to examine the most effective method of stroke education. The methods examined were video, brochure, one-to-one teaching, a combination of the three methods, or a control group who received no intervention. Subjects were randomized to one of the five groups and given a reliable and valid stroke knowledge questionnaire prior to, immediately after, and at one-month post education. A

total of 231 subjects were enrolled, with 225 needed for 80% power. There were no significant demographic differences between the groups. The one-month follow-up contact rate was 90%. This study found only the combination method of video, one-on-one counseling, and a brochure had the greatest retention of stroke knowledge. The researchers acknowledged several limitations: a lack of reliability assessments between one-on-one counselors, non-English speakers were not enrolled, and the groups were not stratified by age (Yu-Feng et al., 2015).

Green, Haley, Eliasziw, and Hoyte (2007) conducted a randomized controlled clinical trial to test the null hypothesis of an educational counseling interview intervention to increase stroke knowledge and risk factor management in an outpatient clinic. The power analysis determined 166 subjects would be needed for 80% power to detect differences between the groups. The study sample size was 200. The subjects were given one-on-one educational counseling in an outpatient setting and a baseline knowledge questionnaire at the post-clinic visit and at three months. The authors did not state if the questionnaire was assessed for reliability and validity. The study did find statistical differences in stroke knowledge. The study did not address limitations. However, this study did provide good evidence for one-on-one teaching to increase stroke knowledge (Green et al., 2007).

Byers, Lamanna, and Rosenberg (2010) conducted a randomized controlled pilot study to evaluate the relationship between a motivational interviewing intervention and stroke knowledge and satisfaction with care. Twenty patients were randomized into two groups. One group received the standard of care, with education provided by the nurse through printed material, and the second group, along with their caregivers, received an educational method enhanced using a therapeutic motivational interviewing technique. The two groups were then tested using a stroke knowledge test and a patient satisfaction test. The study did not address the reliability and

validity of the outcome measures; however, the authors stated the stroke knowledge test had been used in many stroke research studies. Byers et al. did present this study as a pilot, acknowledging the small sample size. A power calculation was not performed, and the data were not analyzed using descriptive statistics. The pilot study found a positive relationship between motivational interviewing techniques and stroke knowledge and patient satisfaction (Byers et al., 2010).

Hoffman, McKenna, Worrall, and Read (2007) examined the relationship between an individualized computer-generated education package and stroke knowledge, self-efficacy, anxiety, and depression, perceived health status, satisfaction with content and presentation of the written information received, and desire for additional information. The study population of 133 patients was randomized to a control group of usual educational methods and an intervention group of an individualized, computer-generated educational package. A power calculation was performed to determine the number needed to detect a difference between the control group and intervention. The study population exceeded the minimum number of 130 patients. A variety of what appeared to be standardized scales was used; however, the reliability and validity of the scales were not addressed. Data were analyzed using an independent sample *t*-test and a Fischer's exact test. Interestingly, there was no effect of the computer-generated tailored information on knowledge about stroke, self-efficacy, depression, or perceived health status; however, the patients were more satisfied with the information they received than with the standard method. Hoffmann et al. recommended additional research.

Smith, Foster, and Young (2009) compared studies on stroke education. Smith et al. identified the databases searched but did not supply keywords used in their search. Seventeen trials were reviewed, with a meta-analysis drawn from 11 of the trials. Only randomized

controlled trials were included. The trials were considered to be active or passive. The active trials had an intervention and follow up; the passive trials had an intervention only. Forest plots were derived from the meta-analysis. The meta-analysis found that active strategies, which included the patient and family, had increases in outcomes, such as stroke knowledge and decreased anxiety and depression (Smith et al., 2009).

Cameron (2013) reviewed stroke education literature. The literature review defined the need for adequate stroke education to reduce readmissions and increase the patient's quality of life. Previous research was summarized in physical and social factors impacting patients who had suffered a stroke. These included patient sensory impairments, visual or pre-existing hearing loss, assessment of readiness, and family and caregiver needs. Cameron did not clearly identify gaps, as the review was focused on advice for the nurses, along with the summarization of the research. However, Cameron did identify next steps to solve gaps, such as a need for longitudinal research to identify the types of stroke education and individual patient needs.

The next two studies are qualitative and provide crucial descriptions of the patient's experience. Danzl et al. (2016) conducted a qualitative study of the stroke survivor experience of receiving stroke education in Appalachian Kentucky. A multidisciplinary team interviewed 13 stroke survivors and 12 caregivers. The purpose of the study was simply to describe the patient experience and not to test an intervention. Teams of researchers conducted and coded open-ended interviews and analyzed pre-existing codes, data-derived codes, and iterative modifications. Teams coded the interviews and finalized interpretation of the data through a consensual collaborative process. Individual interviewers then re-analyzed the data. Field notes, interviews, and reflective memos were cross-referenced to ensure credibility. The findings are poignant. Danzl et al. found that patients and caregivers are affected by delivery, timing, and

method; individualization of education appears to be critical for perception of adequacy; patients and caregivers preferred providers who initiated education; and education on the availability of stroke survivor networks and the chance for recovery were important for patients and families.

Eames, Hoffmann, Worrall, and Read (2010) interviewed 132 stroke survivors and their caregivers at discharge and three months following hospitalization. Initial interviews were held with 34 stroke patients and 18 caregivers, and follow-up interviews were held with 27 patients and 16 caregivers. Eames et al. used qualitative content analysis to evaluate interview transcripts. Condensed meaning units were derived from divided data, and codes were developed from condensed meaning units. Themes were chosen from condensed meaning units and codes. Categories of perceived barriers to stroke education were limited availability of information, the hospital environment with busy providers, and patient and caregiver factors (Eames et al., 2010).

There were two studies in the quality improvement and quality analysis realm. At a single site, Ross, Roberts, Taggart, and Patronas (2017) performed a quality improvement effort using adult learning-oriented teaching methods called *teach-back*, along with a follow-up phone call. Outcome measures were Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) scores for the entire unit, not just the patients who had suffered a stroke, and readmission rates for patients with a stroke. Unfortunately, they were not able to show either an increase in HCAHPS scores or a decrease in readmission rates (Ross et al., 2017).

Meighan (2018) performed an analysis of a health care system comparing HCAHPS scores for questions on stroke education returned by patients who had suffered a stroke in facilities that had video education capability and those who did not have that capability. The facilities were part of a large integrated health care system. There was no difference seen in those facilities who did have video and those who did not have video (Meighan, 2018).

There were a number of randomized controlled studies with adequate power, clear interventions and data analysis, and significant results. The quality of the studies rated from good quality to high quality. The literature review was extensive, as well as the meta-analysis. The meta-analysis echoed the randomized trial results that an active intervention involving the patient was more effective for adequate stroke education. The qualitative studies had extensive analysis of meaning, codes, and themes to provide insight into the patient experience. The themes from both qualitative studies were similar in patient and caregiver factors, busy health care providers, and the information not meeting individual needs. The quality improvement initiative and quality system analysis did not see improvements in HCAHPS scores, which may be reflective of limitations in that particular metric.

Due to the paucity of evidence specific to patient satisfaction and mixed results the PICOT question (For adults over the age of 18, discharged with a stroke diagnosis, can an improved stroke education intervention increase patient satisfaction, as compared to those who have not received proper stroke education, over a period of three months) cannot be answered conclusively. The evidence is clear that stroke survivors and their families respond best to a multi-modal approach provided by engaged, knowledgeable practitioners who are able to make the time to spend with patients. More advanced quality initiatives and research are needed in this area.

Rationale

There were three frameworks used for the project of improved stroke education. These were Promoting Action on Research Implementation in Health Services or i-PARIHS (Kitson & Harvey, 2016; Kitson, Harvey, & McCormack, 1998; Stetler, Damschroder, Helfrich, & Hagedom, 2011), Peplau's (1992) Theory of Interpersonal Relations, and Watson's (2008)

Caring Science. The i-PARIHS was used to guide the implementation of evidence-based practice. Peplau's Theory of Interpersonal Relations was used to determine nursing interventions that best met the stroke survivor's needs. Watson's philosophy of human caring was used in the stroke education module to integrate the work with the nursing framework used by the frontline staff. The three frameworks (i-PARIHS, Peplau, and Watson) and rationale for their inclusion will be described.

A team led by Professor Alison Kitson at the Royal College of Nursing Institute at the Radcliffe Infirmary in Oxford, United Kingdom initially developed the i-PARIHS in 1998. The framework is an early recognition of the need for a conceptual model to guide the adoption of evidence into practice (Kitson et al., 1998). The framework has recently been improved to include innovation (Kitson & Harvey, 2016). While there have been criticisms and refinements of the i-PARIHS framework, the framework does provide adequate guidance to evaluate evidence for the implementation of improved stroke education for increased retention.

Based on the evidence, Peplau's (1992) Theory of Interpersonal Relations provided the framework for determining the best timing of interventions to increase stroke knowledge. The conceptual model of Peplau's theory has four phases: orientation, identification, exploration, and resolution. Orientation is the initiation of the nurse-patient relationship during the admission process. Detailed information is recorded, such as neurological status, language preference, and goals for the hospital stay. The next phase is identification of the patient's needs and identification of the readiness for stroke education. In Kaiser Permanente, a separate form is used to document educational readiness, in general. This form ties into the third phase, which is exploration. The best method for education (verbal, print, or video) is documented (see Appendix

F). Last, there is resolution of the relationship, which includes teach-back techniques, as well as any stroke risk management needs.

While Peplau's (1992) Theory of Interpersonal Relations was used for the process of stroke education, Kaiser Permanente's common shared framework of caring science was also integrated into the stroke education work in order to share common nursing cultural ground with the frontline staff. Caring science is a nursing theory originated by Jean Watson, which was adopted at Kaiser Permanente in 2010 (Foss Durant, McDermott, Kinney, & Triner, 2015). Caring science has 10 Caritas processes, which include the themes of loving-kindness, compassion, authentic presence, transpersonal relationships, unity of being, healing environments, and caring-healing modalities (Watson, 2008). The tenants of caring science were integrated into the stroke education module developed for the frontline staff (see Appendix G).

Based on the evidence, multi-modal education, which actively involves the patient and caregiver, was most likely to have an impact on the patient's and the caregiver's perception of adequate education. However, active involvement does require engagement of the health care provider in assessment of the patient's emotional status at the time. The patient and caregiver may be overwhelmed by the traumatic event of a stroke, which has fundamentally changed their life, and yet the knowledge is crucial to receive early after the incident. Assessment, engagement, and repetition of information are all elements which were addressed in the provision of stroke education to ensure positive perception and subsequent appropriate actions. The stroke survivor suffering from a second stroke who activates the EMS system in time may save years of disability or their life.

Specific Aims

The specific aims of this evidence-based change of practice project were to develop, implement, and evaluate a stroke education project to increase patient satisfaction with stroke education. The objectives for this change of practice project included:

1. Provide staff education and updated evidence-based reference materials to improve staff satisfaction and reduce perceived barriers to education, thereby improving practice at the bedside.
2. Improve available stroke educational materials using stroke survivor input and health education consultation.

Section III. Methods

Context

Key stakeholders for this intervention were frontline staff nurses, nursing managers who were held accountable for regulatory compliance and patient satisfaction, senior leadership charged with the financial leadership of the organization, stroke coordinators who are held accountable for stroke program management and compliance to standards for certification, and finally stroke survivors and their families. Stroke survivors expressed dissatisfaction with the information they received, as evidenced by low HCAHPs scores in patient satisfaction surveys sent to Kaiser members. Approximately 40% of stroke survivors did not report *yes* to questions regarding staff explanation of stroke signs and symptoms, disease processes, or stroke prevention.

As evidenced by a pre-intervention frontline survey, frontline staff members were aware of barriers to adequate education. Frontline managers are invested in the improvement of patient satisfaction scores; though the inpatient stroke population was usually relatively small and response rates by stroke survivors even smaller. However, improvement could affect overall facility scores across the integrated health care system for the Northern California region. Improvement in patient satisfaction creates buy-in from senior leadership, as the cost of replacing dissatisfied members can be high (Joshi, Ransom, Nash, & Ransom, 2014).

Frontline staff are diligent about documenting the stroke education for patients discharged with a diagnosis of stroke. Documentation compliance is 98% to 100% of all patients discharged with a diagnosis of stroke are provided with stroke education (Livesay, 2014; Meighan, 2018). This high rate of compliance is consistent with all California hospitals, all certified primary stroke center hospitals, and all Kaiser Northern California Hospitals (American

Heart Association, 2018; see Appendix H). There is a disconnect between diligent documentation and what the patients perceive as adequate stroke education.

For the local stroke coordinators, the Joint Commission (2018a and 2018b) addresses the need for compliance to recommended elements of stroke education, literacy level, cultural sensitivity, and tracking ongoing comprehension under Advanced Disease-Specific Care Primary and Comprehensive Stroke Center Certification Standards Supporting Self-Management (DSSE.3.1-5; see Appendix I). In addition, under Performance Measurement (DSPM.5.1-2) for both Primary and Comprehensive Centers, the standard states the program must evaluate patient satisfaction and utilize the satisfaction for performance improvement activities (Joint Commission, 2018a and 2018b; see Appendix J).

The challenge for local stroke programs is to do meaningful performance improvement efforts with a small number of HCAHPs surveys returned on average two to three per month. The Joint Commission's individual surveyor recommendations have been for programs to do their own surveys, which is fine for stand-alone hospitals. Currently, the Kaiser Regional Stroke Program does not have a standard patient satisfaction survey for all of the facilities, and this certainly is an opportunity for future endeavors. Two facilities are completing patient satisfaction surveys at discharge for internal use; however, the discharge surveys have not been validated and are not standardized throughout the region.

Interventions

Interventions were multi-pronged: Kaiser stroke survivor members were engaged to determine what is important to them; frontline staff were surveyed to determine the perceived barriers to stroke education; a simple, fourth grade reading level flyer accessible through the medical record was developed and translated; community feedback was received on the flyer;

and a module to increase staff knowledge on stroke education was developed. At the beginning of the project, a gap analysis was performed to determine the objectives, current state, deficiencies, and action plans required (see Appendix K). The objectives were initially to revise a stroke booklet, which subsequently changed, and to develop a stroke module. There were deficiencies in starting the project, which had required senior leadership support both from the physician medical group for the regional health education consultation and support from the neuroscience clinical nurse specialist on the Kaiser Hospital Foundation side for development of the module. These deficiencies were corrected through implementation of action plans identified in the gap analysis.

A committee was formed for the project consisting of four local stroke coordinators, a business consultant, and a neuroscience clinical nurse specialist. Two of the stroke coordinators were clinical nurse leader students at University of San Francisco. One stroke coordinator was a Jean Watson caritas coach. Meetings were held virtually at least once a month, with an agenda provided. A sample committee agenda included action item report outs, open forum, and an opportunity for committee members to improve any processes (see Appendix L). Summary emails were sent out with action items included. A regional health education consultant attended the meetings, which involved development of the patient flyer. Additional consultation was received for development of the stroke module from a nurse educator and the administrator for the health education platform.

Work Breakdown Structure

A work breakdown structure was completed to organize, define the scope of the project, and to organize the work into smaller increments (Martinelli & Milosevic, 2016; see Appendix M). The primary areas of work were materials, frontline nursing survey, stroke education

development module, and evaluation of data. Revisions from the original work breakdown schedule included the addition of educator feedback on the stroke module, revision of stroke booklet, and edits to development of the flyer. Patient readiness, while a key component of education, was not addressed in the scope of this project. For materials, the flyer, translations, and other actions related to the flyer were the primary deliverables. Under consultation with the regional health educator, the task of obtaining permission for the consultation could have been included as another level. The nursing survey was created and feedback incorporated from the regional labor relations manager. The survey was sent to the senior nursing leadership for approval and discussed with the stroke survivors. The education module steps were delineated with committee development, feedback incorporation, presentation to regional educator group, and posting to the educational platform (see Appendix M).

SWOT Analysis

A strengths, weaknesses, opportunities, and threats (SWOT) analysis was done to identify a strategy that positions the project in the environment for success and endorsement by leadership (Martinelli & Milosevic, 2016; see Appendix N). Paying attention to the environment of the project to ensure internal commitment each step of the way is important for success (Block, 2000). The SWOT analysis did not significantly change between project implementation and interim point of this report. The project's strengths include being part of an integrated system, standardized work culture, and integration of the voice of the customer. The identified weaknesses of a short length of stay by the patient and multiple demands on nursing time are issues that are difficult to address. Coordination of the timing of the nursing education at the facilities was a weakness. The facilities have had competing demands for nursing education, depending on unexpected events. While the educational hours were approved for all facilities,

active participation in the project was purely voluntary. An integrated system strength related to this project is that educational consulting resources within the company are available.

Standardized work culture provides a greater assurance that the education is provided in a systematic fashion. Integration of the voice of the customer using the Institute of Health Improvement (IHI, 2016) model of coproduction in health care design with stroke education may improve the effectiveness. Opportunities included increased professional reputation for excellence in stroke care through publication of the project in a peer-reviewed journal. The problem of patient satisfaction in stroke education is well recognized (Livesay, 2014). There is an opportunity to spread improvement of patient education to other disease processes beyond stroke. Threats include regulatory changes and budgetary priorities shifting educational dollars away from the project. This threat did materialize for one committee member, whose senior leadership decided to postpone the education until 2019. Unfortunately, this was not discovered until after the decision was made. This might have been mitigated by a request from the regional stroke coordinator or even regional senior patient care services leadership who have been in support. While a lack of support for regional health education consulting and the neuroscience clinical nurse specialists was perceived to be a possible threat, this did not materialize. The threat of a shift in regional executive sponsorship priorities that might limit or even eliminate the project also did not materialize.

Project Responsibility and Communication Plan

The project responsibility and communication plan were developed to clarify project roles, responsibility, scope, and timelines (Martinelli & Milosevic, 2016; see Appendix O). For project responsibility, there was a steering committee consisting of a neuroscience clinical nurse specialist; four stroke coordinators, who were also clinical nurse leader master program students;

and, for approximately four to five months, a business consultant who was working on a Lean Six Sigma project. The hope was to add a patient advisor; however, this was not accomplished. There were monthly executive team meetings, with monthly reporting to mentors. There were meeting agenda items and recorded meeting minutes. The project was and continues to be a standing item on the monthly stroke coordinator peer group meetings.

GANTT Chart

A GANTT chart was completed to estimate timelines and tasks at the beginning of the project and then revised for this report (see Appendix P and Appendix Q). The project deliverables are listed on the left, with the dates on top of the GANTT chart. As indicated by the charts, the project was estimated to start January 1, 2018. There were adjustments to the project timeline, as evidenced by the initial GANTT chart and the interim GANTT chart, due to development of the flyer and module taking longer than expected. The redesign of the educational material had to be scaled back based on both stroke survivor and health education consultant input and timeline for project. Stroke survivor input was that the booklets were not useful, and they paid little attention to them. Health educational consultant recommendation was for a shorter flyer. Even with a simple flyer, the redesign of the printed material took approximately four months. The development of the stroke module also took longer than planned—four months, opposed to the initially planned three months. Staff training was estimated to be two months; however, compliance with training was less than hoped for. The final plan is to continue to encourage training, to aggregate data of sites already trained, and to continue to collect data. The staff will be resurveyed after 75% of the facilities have done the interventions to be considerate of both frontline staff and stroke coordinator time.

Cost Benefit and Return on Investment Analysis

Evaluation of the efficiency and cost-effectiveness of quality improvement methodologies are essential in the environment of limited healthcare dollars (Hickey & Brosnan, 2017). Regulatory requirements will no longer automatically result in leadership investment (Waxman, 2018). However, as HCAHPS results are important to the organization, the project was funded by Kaiser Foundation Hospitals for the committee time, flyer translation, and nurse training. The Permanente Medical Group provided regional health education consulting and physician review of the flyer. A proposed budget was completed, with the primary expense being nursing education (see Appendix R). Regional nursing leadership approves training hours annually. Stroke education hours were approved, along with other content during that process. Program costs were calculated (Appendix S). Future annual costs of the project will be training any new hire nurses into the stroke-designated units and been approved. The capital expense cost of the training completed so far has been approximately \$88,600 (886 nurses trained at \$100/hour). One-time capital expenses for consulting and material costs were approximately \$19,900. Annual material costs for stroke booklets and any other print materials have been traditionally and will continue to be covered by the stroke units. The annual costs per medical facility is dependent on stroke discharge volume. The stroke booklet costs \$1.61 each. The stroke inpatient discharge volume ranges from nine to 799/year, for a cost of \$14.46 to \$1,286.39 per facility. The annual costs of the booklet were not included in the budget because the budget was for improvement project costs only, not all stroke education related costs. The annual costs of the booklet for the units may decrease if only the flyer is distributed and not the booklet. However, tracking what specific type of printed material is given to the patients was not included in the current scope of the project, but would be an interesting area of future exploration.

Reimbursement for quality of service rather than volume will continue to increase as a percentage of income for hospitals (Waxman, 2018), which will increase the return of investment for quality improvement projects such as the stroke education initiative. The return on investment for this project is complex to determine and is dependent on several multi-variate factors (Appendix T). However, there will be several assumptions for cost-benefit that are backed by evidence. The first assumption is that education and patient satisfaction are correlated with an increase in patient empowerment (Yeh, Wu & Tung, 2018). Patient empowerment is the first step to activation of health behaviors, such as calling 911 when having the signs and symptoms of a stroke. However, in the stroke community, there has been mixed evidence that increased stroke knowledge results in an increase in activation of the EMS system (Mellon et al., 2016; Mellon, Hickey, Doyle, Dolan, & Williams, 2014; Omelchenko et al., 2018; Skolarus et al., 2013; Skolarus et al., 2016). Mellon et al. (2014) found that a public media campaign conducted in Ireland did result in increased use of an ambulance for transport; however, the increase was not sustained. Despite the mixed evidence, stroke education in the hospital does take place with family present. If the patient and family can be better satisfied with the education provided, there will be a greater chance that the EMS will be activated. The initial improvement in the study conducted by Mellon and other community efforts (Omelchenko et al., 2018) suggests that repeated and targeted education may improve patient arrival to the hospital in time for treatment.

Assuming there will be an improvement in patient arrival and subsequent increase in treatment rates, there can be a calculation of cost-benefit. The cost benefit of alteplase has already been established. There was early recognition that integrated health systems would have financial incentives to treat with alteplase due to the increased scope of financial responsibility

(Boudreau et al., 2014; “Integrated Systems,” 1998), with an estimated \$2.5 million dollars saved in health care costs for every 100 patients treated with alteplase, or \$25,000 per person through reduced length of stay, rehabilitation, and nursing home costs.

Kaiser Northern California’s stroke volume or patients discharged with stroke-related diagnosis for the period June 1, 2017, through June 1, 2018, was 12,747 patients. Eighteen percent (471/1236) over nine months of the canceled stroke alerts or patients presenting to the emergency room with suspected stroke symptoms at the emergency room had their stroke alert canceled due to a change in the last known well, meaning they were too late for treatment. Mellon et al. (2014) saw an increase from 11 stroke admissions per week to 31 admissions per week.

Assuming a cost benefit of \$25,000 per treated stroke, five more patients treated would pay for the current budget of \$130,400 ($130,400/25,000$). Given that the system sees approximately 4,000 stroke patients a year, the potential to increase the number of patients treated by five or even 10 is probably a conservative estimate. Initiation of the telestroke program, while probably a greater direct impact on number of patients treated than education, increased treatments from 34/month to 62/month (Nguyen-Huynh et al., 2018). Overall cost benefit is especially significant in an integrated system that bears responsibility for the health of the patient throughout a lifetime.

Cost avoidance was estimated through the cost of regulatory findings. If the facility has a finding related to not using patient satisfaction to improve care, this would not generally threaten a certification. However, there are costs associated with findings in time spent by the stroke coordinator, medical director, accreditation and licensing review and guidance and any required

additional training of the staff. These costs are difficult to estimate but an estimate of \$10,000 (100 hours of \$100/hr labor minimum) was chosen.

Stroke Survivor Engagement

Stroke survivors were engaged at the front end of the project. Using the IHI (2016) model of coproduction in health care, stroke survivors were invited to a stroke coordinator peer group meeting to give their opinions on stroke education. These stroke survivors have become patient advocates, teachers, and inspirations for how care can be better provided. Their words echoed the findings from the qualitative studies, which noted that frequently patients are too overwhelmed in the inpatient setting to retain much knowledge. Engagement of the stroke survivors also was in alignment with Watson's (2008) caring theory, which stresses the need to incorporate the patient's voice in health care system design. Fortunately, there were two experienced stroke survivors who had come back from devastating strokes who were willing to work with the stroke coordinator peer group. One was a younger man and another an older woman. The younger man had been a carpenter and spoke to the group about seeing everything that was out of plumb before his stroke or simply not straight. With vision lost in one eye, he no longer had this skill or societal validation. The older woman was a tenacious patient advocate who counsels and teaches after suffering from a basilar artery thrombosis and a subsequent coma (see Appendix U).

Frontline Staff Survey

Frontline staff nurses were surveyed on perceived barriers to adequate stroke education. Regional labor management consultants reviewed the survey and suggestions were incorporated into the survey. Regional labor management consultation was imperative at the time because contract negotiations were ongoing. Suggestions were to remove the number of members who did not report satisfaction with patient education, but rather to report that a significant number do

not report satisfaction (see Appendix V). Perceived impediments to effective education were lack of time, lack of family availability when the patient was neurologically impaired, lack of knowledge, lack of materials, and language barriers (see Appendix W).

Stroke Flyer

The stroke flyer was developed by the committee with assistance from the Regional Health Education department. Support for regional health education had to be obtained from an executive level physician. The Regional Health Education department resides under the Permanente Medical Group and permission was needed for their time. There was an initial meeting with a supervisor to scope out the needs of the patient education committee, and then a consultant was assigned. The consultant advised simplifying the information, which echoed the stroke survivor input to the stroke coordinator peer group and the literature.

A secondary goal of the flyer to meet the needs of the frontline staff nurses was to develop an item that would be easily accessible through the chart and not dependent on either the unit keeping in stock or the coordinator ensuring adequate stock on multiple units. A barrier stated by the frontline staff was the lack of materials. The plan was to have a link in the chart in the educational section to an internal stroke web page called the Stroke Portal. All Kaiser staff can access the Stroke Portal either through the chart or through an internal resource called the Clinical Library. To ensure the Stroke Portal is patient-centric, the agreement with the administrator of the portal was to put the flyer link at the top (see Appendix X).

The Joint Commission (2018c) specification manual was reviewed to ensure the flyer contents were compliant with required elements of risk factor management, stroke signs and symptoms, the importance of calling 911, follow up with provider, and the importance of taking medications. A committee member did a rough draft. The committee considered utilizing graphic

design services to ensure the most professional appearance. However, the committee member did such a wonderful job that the other members and the regional health consultant decided to use that version. The regional health education consultant recommended the inclusion of information for follow up and had recommendations to make the language as caring as possible.

The flyer was analyzed by Microsoft Word 2016 for spelling and grammar usage as the flyer was developed. The grammar usage and spell check feature in Microsoft Word has become increasingly sophisticated, checking for gender-specific language as well as incorrect spacing and passive language (Britschgi, 2018). The flyer was checked for readability and grade level using the Flesch reading ease test (Flesch, 1948) and the Flesch-Kincaid grade level test (Kincaid, Fishburne, Rogers, & Chissom, 1975). The score for the reading ease test was 80.7, grade level was 4.1, and passive sentence percentage was 12.5. An average reading ease test score is 60 to 70, with a higher result indicating greater ease of reading. (Flesch, 1948). The test utilizes the sentence length and average number of syllables per word. A similar formula is utilized to obtain a reading level (see Appendix Y). Then the flyer was taken out to community members for review. A survey was prepared, as well as a script for the survey (see Appendix Z and Appendix AA). Comments from the community were incorporated into the flyer. One comment was to remove redundant language not picked up earlier by the committee members or regional health consultant. Several community members requested copies of the flyer immediately for home use.

The flyer was then presented to the stroke coordinators and to lead neurology physicians for review. There were minimal suggestions from the group. One lead physician needed reassurance that health education consultation had been obtained. Also, since the flyer was a simplified communication, the physicians had to be reassured that the essential information was

covered. The decision was made to have the flyer be the minimally expected requirement, with a regional stroke booklet that included more detailed information still available.

After the flyer was finalized, the flyer then needed to be translated. A business case request was presented to the Regional Director Clinical Quality Program and Analytics for funds for the translation. Initially, the translations were done for Spanish and Chinese. However, there was a further request from a local stroke coordinator for Tagalog and Vietnamese. After approval, the translation service was directly requested (see Appendix BB). While the translations were being completed, the decision was made to go ahead and post the English version of the flyer, since by that time, the training of the nurses had started. However, in approximately three weeks, the first two translations to Spanish and Chinese were completed, with Vietnamese and Tagalog closely following (see Appendices CC – GG). A certification of translation accuracy was issued for all translations, which are at the bottom of the related flyers.

Stroke Education Module

In conjunction with the flyer development, based on the literature, stroke survivor feedback, frontline staff nurse feedback, and the frameworks of Peplau (1992) and Watson (2008), the stroke module was developed by the committee (see Appendix HH). The intended audience was the nurses on the stroke floor units where the majority of the teaching occurs prior to discharge. The committee members included one of the neuroscience advanced practice nurses who was an experienced educator. A presentation was done on the project at Kaiser Vallejo Rehabilitation Center in December of 2017 for nurses and allied health professionals. This presentation was used as the basis for the module. Kaiser Northern California uses an educational platform called Health Stream (see Appendix II) for nursing, medical assistant, and allied health education. The platform does have limitations in terms of video uploading

capabilities; however, there are interactive features to enhance learner engagement. Consultation was done with the administrator on the best methods, and subsequently, a PowerPoint module was developed with a post assessment.

One element of the module was incorporation of the Jean Watson model of caring science. A committee member was a caritas coach, an identified local expert in caring science. The regional lead for patient experience was consulted for visual aids on caritas and also to ensure currency, as the model has been used in Kaiser Northern California since 2010 (Foss Durant et al., 2015). Integration of the two models of Peplau and Watson flowed naturally, as Watson was the overall framework, and Peplau addressed the individual interaction to guide the intervention.

A second element of the module was the educational strategies specific to stroke patients who may be cognitively impaired or have sensory deficits (Livesay, 2014). These strategies included novel approaches, such as having the patient read aloud, asking the patient to draw what they are thinking about, and using the language translation services for further explanations. The neuroscience clinical nurse specialist has been working with stroke patients for over 20 years and utilizes evidence-based practices in her approach (see Appendix JJ).

After the content was finished, a post-assessment was developed and revised (see Appendix KK). Four principles for developing multiple-choice nursing test items were applied to the development of the test (Bristol, Nelson, Sherrill, & Wangerin, 2018). The first principle was reinforcement of important concepts, such as adult learning principles using teach-back for stroke signs and symptoms. The second principle was the measurement of the grasp of knowledge, such as the Joint Commission's requirements for stroke care. The third principle applied was differentiation of competent from incompetent examinees, including a question on

appropriate techniques for teaching patients. The fourth principle is one of fairness and inclusion of only applicable items (Bristol et al., 2018). Advanced neuroanatomy was not included in this test, and only items in the module were covered. The expectation was and continues to be 80% correct, or there will not be credit given for module completion and subsequent payment for time spent.

The module was given to an outside educator at one of the facilities for review with their staff for alpha testing, and minimal feedback was received. The Health Stream administrator also had input, which was incorporated. The image permissions were researched. One image was used from a previously published regional Kaiser stroke booklet, but that was double checked. Then graphics were used from a company called Presenter Media. Their requirement, which was reviewed again, is an acknowledgement in the document and that the document is not sold for other than educational purposes.

The stroke education project was presented to a regional group of educators who would be responsible for enrolling the nurses into the course. A nurse practice alert was developed and submitted (see Appendix LL). Feedback from the group was minimal, except later when one advanced practice educator gave feedback that it took them 15 minutes to complete. The educational hour had been approved by regional nursing leaders.

It was then realized that nurses in the emergency rooms and intensive care units might find the flyer useful, but not all of the content might apply. A lack of patient readiness for education is fairly obvious in the emergency room and intensive care unit. Families may be ready, but the absorption will be limited (Livesay, 2014). The discharging nurse on the floor is responsible for ensuring the completion of education, not the emergency department or intensive care unit. There may be the rare occasion where the patient is discharged directly from the

intensive care unit, but generally, those hyper acute units are not as responsible for education. A flyer was developed and distributed to the coordinators to work with their emergency rooms and intensive care units. The flyer was also distributed to the emergency room education group (see Appendix MM).

Study of the Interventions

Patient satisfaction scores with stroke education and data on stroke alerts or patients presenting to emergency rooms with suspected stroke symptoms were used to assess the impact of the intervention. The approach used to establish whether observed outcomes were due to the intervention was analysis of the data and review of the evidence. Because this project was done at a regional level to aggregate local facility data, to take advantage of this regional approach, the HCAHPS scores were standardized, validated, and easily accessible, despite their limitations. The impact of the intervention on patient arrival to the emergency rooms and also presenting earlier for treatment does have mixed evidence (Omelchenko et al., 2018). However, these data are also available and reliable, as they are based on an automatic upload with stroke coordinator review from the electronic medical record chart. There have been positive studies on the use of education with the increase in patient activation of the EMS to present in time for treatment (Dombrowski et al, 2013).

Outcome Measures

The measures chosen for studying processes and outcomes of the intervention(s), rationale for the choice, operational definitions, validity, and reliability will be described. For this change of practice project, there was one nursing related outcome measure and a shared nursing and patient-related outcome measure. The first aspect of the aim statement was to provide staff education and updated evidence-based reference materials to improve staff

satisfaction and reduce perceived barriers to education. The nurse-related outcome measures are the percentage of staff who complete the education module and pre- and post-intervention staff surveys on barriers to stroke education. For the interim report, a post-survey will be done when 75% of facilities have completed training through the stroke education module. The second aspect was about the improvement of the available stroke educational materials using stroke survivor input and health education consultation. The outcome measures are both patient satisfaction and staff survey results. Patient satisfaction score data will be drawn from stroke-related questions reported on HCAHPS surveys, which are surveys mailed to patients who have had at least a one-day stay in the hospital, are discharged with a stroke diagnosis, and are discharged to home (Centers for Medicare and Medicaid Services, 2017).

A third set of outcome variables tangentially related to the project; however, important in the stroke community was the percentage of patients who presented in time for treatment and those who activate the EMS. Both of these measures are multi-factorial and have been difficult to increase through community education (Omelchenko et al., 2018; Powers et al., 2018); however, if the teaching is improved in the acute care setting with families or community, as well as the patient, perhaps a corresponding improvement might be seen in this population.

Data Collection

Publicly reported patient satisfaction scores (HCAHPS), with three stroke-specific and one non-specific stroke question, were utilized. The surveys are mailed to patients who were discharged to home up to six weeks after hospitalization. The patients must have spent at least one night in the hospital. The stroke-specific questions ask whether the stroke diagnosis, the stroke risks and prevention, and the stroke signs and symptoms were explained. There is a comparison question regarding the receipt of information of symptoms to look for. This question

is asked of all patients, not only those with a stroke diagnosis, at discharge. In theory, the stroke patient's response rate should be equal to or possibly greater than the general medical patient population due to specific regulatory requirements.

Patient demographics are available, along with patient demographics of the general stroke population, from hospital reports during that same period. One primary known difference is that surveys are sent only to those patients who are discharged to home. In a system analysis done by this author, differences between survey respondents and the patient population was not statistically significant in terms of age, sex, ethnicity, or length of stay (Meighan, 2018); although, the number of respondents age 18 to 44 was too low to compare to the stroke patient population of the same age group. Patient demographics were not examined, as the current work was completed using the same data set, only a slightly different timeframe.

A pre-intervention paper survey of the frontline nurses and their perceptions of barriers to effective teaching was conducted and can be found in Appendix V, with the results tabulated in Appendix W, as mentioned previously. The questionnaire is open-ended, on paper, and anonymous, except for location of unit. A post-survey will be completed when 75% of the facilities have completed the stroke education training module. The anticipated resurvey date will be March of 2019. The results from both surveys will then be compared.

The outcome measures related to mode of arrival to the emergency department, percentage of stroke alerts canceled initially due to not being in the time window, and percentage of patients not treated due to the time window after an initial evaluation were pulled from a stroke alert database developed by a regional data team, which included this author. This database is part of a larger platform used by Kaiser Permanente for a variety of purposes, including peer review and other quality work called MIDAS. The database is populated by a

Clarity program, which pulls directly from the Health Connect medical record. A *smart phrase* is written by all of the centralized regional teleneurology group who remotely consult on patients presenting to the emergency rooms or patients in the hospital (Nguyen-Huynh et al., 2018). The smart phrase has drop-down menus, which then populate an encounter with standardized data elements. The Clarity program also detects patients who have received alteplase in a specific dose range to eliminate those who are treated with alteplase to clear intravenous catheters. These patients may be seen by local neurologists who may not have used the smart phrase; although, they are encouraged to do so. The stroke coordinators then review the database for consistency. Since it is a direct pull from the chart, they do not need to validate every element. However, there are instances when new teleneurologists do not use the smart phrase correctly, incorrect times are entered, or local neurologists may not use the note. There are also very rare cases where the database will pull patients who have received alteplase for pulmonary embolism or femoral artery clearance, which require manual review and removal from the database. Due to the proprietary nature, screenshots are not provided at this time.

The stroke alerts are divided up into emergency department ambulance, emergency department onset, emergency department walk-in, and inpatient. There is a separate report for canceled stroke alerts and then the stroke alerts not canceled with evaluation, treatment, discharge disposition, and a variety of other elements. The difference between stroke alerts initially canceled and alteplase not given after treatment is that the initial cancellation may be due to either challenges in EMS reporting or challenges in emergency room triage. After the initial evaluation, there may be additional information received from subsequent family arrivals, which would then give the reason of time window for alteplase not given. Overall, this database

reflects accurately elements related to patient education and subsequent behavior, such as presentation to the emergency rooms using the ambulance and presenting in time for treatment.

Balancing measures included a patient satisfaction question, which asks if the patients had received information on symptoms to look for. This question does not specifically mention stroke signs and symptoms, and the responses should be roughly similar. For future work, this balancing measure would be interesting to examine for correlation. Are the stroke survivors better able to retain education on signs and symptoms of other disease processes, such as infections or shortness of breath, that are covered in discharge instructions that are not related to stroke? Could the trauma of the stroke affect perception of adequate education to the specific disease process, effectively selecting out stroke? These are questions worth future exploration.

Analysis

The results were analyzed using descriptive statistics in Excel. The nonparametric statistical Chi-square (χ^2) test was used to determine if the differences between the pre-intervention and post-intervention groups were statistically significant (Sylvia & Terhaar, 2014). Chi-square calculations were done with a free online social sciences calculator (<https://www.socscistatistics.com/tests/chisquare2/Default2.aspx>). The flyer was analyzed using Microsoft Word software. The registered nurse survey results were analyzed by the business consultant by a simple counting method. Qualitative methods were not used; although, this is an area of possible future exploration.

Ethical Considerations

Ethical considerations for this implementation of evidence-based practice are based in a conflict between a paternalistic view of health care and a movement towards co-production of health care. The paternalistic health care model practiced in the past is a one-way relationship,

with the provider instructing the patient on the best possible care (Emmanuel & Emmanuel, 1992). For this intervention, regulations state the patient must be provided with information on specified items in a specified print format. Coproduction of health care is a model where the patient and provider work together on the most appropriate health care (IHI, 2016). The patients or their families frequently are not ready for the information, as stated in qualitative research (Danzl et al., 2016). However, per regulation, this information must be provided. Following the Jesuit commitment of *cura personalis* or care of the whole person, provision of this education is caring for the patient's future. Delivering individualized education at the right time for the patient and family is following the American Nurses Association (ANA, 2017) code of ethics to advocate for patient safety and health.

Section IV. Results

Data variables; type, source, and range of values; level of measurement; and timeframe for collection and statistical test are listed in Appendix NN. Overall, except for the survey results, data were not collected directly by the patient education improvement team. Issues, such as missing data fields, data cleaning, and verification of accuracy of source data, was not explored, and this may be considered a limitation of the results of the project. However, part of data management for the nurse leader is to consider creative use of available data that have already been tested for validity and reliability (Sylvia & Terhaar, 2014). Reliability and validity testing of new tools can be resource and time intensive.

There were strengths and limitations of each of the data sets: patient satisfaction scores, staff surveys, and stroke alert data from the emergency departments. Patient satisfaction surveys and scores have received increased attention, with reimbursement tied to higher scores. Concerns have been raised on the uncertain relationship between high patient satisfaction scores and quality care (Falkenberg, 2013; Fenton, Jerant, & Franks, 2014). Patient satisfaction with material may not result in an increase in patient knowledge of stroke (Hoffman et al., 2007).

Age has been found to be a confounding variable in patient satisfaction survey responses (Voutilainen, 2016). Older people tend to report higher satisfaction, but they also skip items they feel uncomfortable answering (Voutilainen, 2016). The stroke patient survey response rate is low (Livesay, 2014), and little is known about those who do not return the surveys. The average response rate for individual project facilities ranges from as low as nine per year to a high of 80 per year. Patient satisfaction data are broken out by facility, but are de-identified for any public release (see Appendix OO). Individual facility-level data may be too small a sample size to make any conclusions. One advantage of this project is in the aggregation for statistical meaning.

Unfortunately, the corresponding percentage of patients who respond *yes* to adequacy of stroke education remains a disappointing 54%, at the highest due to multiple factors such as timing of the education at the beginning of a traumatic event, complexity of the disease process, and cognitive impairments for many patients (Danzl et al., 2016; Livesay, 2014),

Post-intervention HCAHPS scores are found in Appendix PP. Unfortunately, at this point, there was not a significant impact on the scores. The percentage of positive responses to the question “Staff Explained Disease Processes” rose from 51% (21/41) to 64% (32/50).

However, the positive responses for the other two stroke-related questions for risk factors and stroke signs and symptoms decreased from 54% (23/42) to 44% (24/54) and 52% (19/36) to 47% (25/53), respectively. The overall results were not statistically significant using χ^2 for analysis.

Discomfort and dissatisfaction may play a role in frontline staff surveys; although initially, when determining an intervention, the willingness to illustrate problems can be an advantage. Similar to patient satisfaction, the population of those who respond to the survey may differ from those who do not respond to the survey. This will be a concern on the post-intervention survey, if there is not a significant change detected in the response. The survey also had to be adjusted for labor relations’ considerations and not necessarily for the integrity of the survey; although, the focus was on open-ended questions.

The results from the frontline staff are found in Appendix V. The pre-intervention results were not surprising. Frontline staff reported lack of time about what to educate patients and knowledge about stroke. What was surprising, given the number of translation tools available to the frontline staff, was the consistent reporting of language barriers. However, this is a reminder that when the nursing staff are overwhelmed, there might not be the time to set up translator phones or computer applications on the iPad.

As for completion of the training, as of this report, approximately 886 nurses had completed the training in six of the 19 facilities. All departments were represented. Emergency room and intensive care nurses were assigned the full module by one of the facilities. Another facility decided to educate their maternal health nurses, as maternal cerebral hemorrhage is a leading complication (Livesay, 2014).

Data on initial presentation mode, such as EMS, walk-in, stroke or stroke worsening in the emergency room initially after presentation, inpatient stroke alerts canceled upon initial presentation by teleneurologist, and alteplase not given after initial evaluation, are presented in Appendix QQ. There are no national benchmarks for EMS versus walk-in; however, it was interesting to note that Hospital B had a 76% rate of walk-ins. Although de-identified, that hospital is in an area with a greater population of high socio-economic status residents, who may be less concerned about an ambulance bill. That particular hospital also had higher rates of cancellations for time window and not given for time window, which appears to be counter-intuitive. However, this discussion borders on the edge of the scope of this project. It is included because, if there was a change in the numbers in the next three months, that would be interesting to the stroke community

Behavioral measures that may be influenced by increased education, such as arriving at the hospital in time for treatment and activation of the EMS, saw no significant difference for arrival in time for treatment, and unfortunately, a statistically significant increase in arrival by private car for the month of August. The data were aggregated for the year, then July and August or pre- and post-intervention were pulled out for comparison (see Appendix RR).

Section V. Discussion

Summary

At the time of this project's write-up, the project aims have not been yet achieved. There was a glimmer of hope that there was an increase in patient satisfaction to one of the questions; however, the increase was not statistically significant. Key findings and lessons learned were the difficulty in using the HCAHPS scores, even with aggregation at the regional level. There were challenges influencing change across many medical centers with competing priorities. Working primarily remotely with teams using only influence does have limitations (Carnegie & Associates, 2011), despite the official role of this author. It is difficult to solicit challenges on group conference calls. For the stroke coordinator peer group, those who are engaged and vocal and who will speak up about problems were the facilities who did the training. Exploration of a post-meeting survey for those who do not feel comfortable speaking up in a group will be done.

Even though the training hours were approved, many centers did not utilize the time. For those that did train, engagement of the local stroke coordinator, local nursing education department, and regulatory requirements contributed to that success. The nurse training occurred later in the project, so a re-survey of the frontline staff was not practical at this point.

New possibilities that have emerged are to suggest to the stroke coordinator group a standardized discharge survey process to obtain more meaningful feedback rather than HCAHPS scores. Another possibility is to analyze and aggregate scores from the facilities that did not do the training for comparison. A third possibility is to distribute the flyer widely and get more systematic feedback.

Reassessment of the frontline staff will be done when 75% of participating facilities have completed training. There were 19 facilities that did not have active ongoing stroke

education improvement efforts and agreed to participate. Six of those did train, with two more indicating they will train, for a total of eight facilities or 42%. Fourteen facilities will need to do training to bring it to 75%, leaving a gap of six remaining facilities. Two of those facilities are under one umbrella. The remaining facilities will be contacted individually to inquire about the status in the first quarter of 2019.

The current dissemination plan is to monitor the HCAHPS data further and then, if the results are clear, to consider publication. Another large facility has stated they will initiate training, so the potential for more responses is possible. If the patient arrival mode and presentation in time for treatment data changes, I will examine that data more closely for stroke survivors who have a second stroke. A crosswalk may be able to be done using the MIDAS stroke alert database, and another stroke coded population report.

The implications for advanced nursing practice in this project were all the clinical, administrative, and educational decision-making skills required to apply evidence-based practice for stroke survivors (Dearholt & Dang, 2015). Clinical skills included knowledge of the stroke survivors' educational needs, which may be influenced by cognitive and sensory impairments. The administrative skills included resource management, project management, and communication skills to ensure the needed resources were obtained. Educational skills were required for flyer development and stroke module development.

The implications for advanced nursing practice include the role of the stroke coordinator. The facilities who did train had successful stroke coordinators. Although the stroke coordinator role is not recognized as advanced practice, it should be. The stroke coordinators are charged with implementing evidence-based practices across the continuum of care, from emergency room presentation to admission, to discharge and back to the community (Hickey & Livesay, 2016). The coordinator must interact with a wide range of people and departments, from the security guards, the general public, to emergency room

physicians and intensivists. Although the role is recognized as essential to many physicians, unfortunately, it has not been as recognized by hospital administration, and there is not a standardized training for the role (Livesay, 2014). Many advanced practice nurses fill this role and are able to adapt.

Interpretation

The results of this project illustrate the challenge of moving performance improvement efforts from process to outcomes. A change in outcomes may not be the result of a single provider and patient interaction (Hickey & Brosnan, 2017). Process changes are much easier to control. A project to simply improve compliance of the documentation of the education would have a greater chance of success if the documentation was an identified gap. However, the American Nurses Association Standards of Practice do state the need to identify expected outcomes for a plan individualized to the health care consumer (Dearholt & Dang, 2015). Satisfaction with stroke education should be an expected outcome for the care of the stroke survivor, not simply documentation of the education.

The results of this project are similar to other quality improvement efforts, such as those reported by Ross et al. (2017), who were unable to see an increase in their patient satisfaction scores or readmission rates. The impact of the project on the Kaiser system is difficult to assess at this point; however, a re-survey of the frontline staff in March of 2019 may provide insight. The flyer and its translations may increase awareness of stroke education elements. The project costs were under the approved budget due to the smaller number of nurses trained. Strategic trade-offs were the time spent by the committee, which could have been spent on other projects. The implications for the mixed findings for the leadership of change indicate the need for greater skill of influence and greater skill of virtual team building.

Assumptions were made that if the staff training hours were approved and the educators were presented the information, the expectation was that the training would be done in a timely manner. But, this was a learning for the author to be applied to future endeavors.

The findings at this point support the conceptual and theoretical framework when viewing the increase in satisfaction scores from a descriptive statistical view. If the patient is assessed correctly, the nurse has time to spend with the patients and families using authentic presence, and adequate material, based on the qualitative literature (Danzl et al, 2016; Eames et al., 2010), patients and families report satisfaction with the educational experience. The means necessary to sustain new levels of performance include local nursing leadership engagement and staff nurse endorsement and buy-in.

Limitations

There are several limitations to this change of practice project, which include patient factors, factors related to nursing, and material factors. Patient factors include patient and family readiness, neurological factors, and physical factors. Are the patients and families ready for any intervention, regardless of print, one-on-one counseling, or video mode, while still an inpatient? Focus on patient readiness for education and acknowledgement of the current state may alleviate patient anxiety. Neurological and physical factors may limit the effectiveness of the education for both the patient and family. Stress plays a role in patient and family readiness (Danzl et al., 2016). Patient factors are difficult to mitigate; however, acknowledgement can alleviate conflicts, such as the nurse needing to educate for regulatory requirements and the patient or families not being ready to receive the education.

If patients and their families are ready for education, do the nurses have the resources of time and materials to provide this education? Time consideration is the most concerning. The average length of stay for a stroke patient is three to four days (Livesay, 2014). The short

length of stay may impact the perception of the adequacy of education. Nurses have multiple demands on their time to develop the therapeutic relationship. The patient's neurological status may affect the therapeutic relationship in regard to education. The therapeutic relationship may be centered on physical rather than educational needs of the patient. Families are also included in the education; however, frequently, they are only available during the evening shift, which can be active in terms of admissions and discharges for the nursing staff.

Implementation of the project has had its limitations. Naturally, action items, such as the flyer design and stroke module, took longer than planned. There was the challenge of accountability when the project depended solely on influence due to the reporting structure of the health care enterprise. Silence in a large group meeting held on the web does not always mean assent. While feedback is always encouraged in peer group meetings, raising objections can be a challenge. One possible action to take would be an anonymous survey after the meeting.

There is a significant limitation of managing in a setting of influence without authority (Block, 2000; Carnegie & Associates, 2011). The structure of the integrated system is that the medical centers do not report to the regional offices but to the Kaiser board. The regional offices set the standards, provide initiatives to move care forward, and provide support for regulatory compliance. However, local leaders manage their medical centers for their local populations. Participation in initiatives is voluntary to an extent. There are initiatives with scorecards, dashboards, and financial incentives for area managers. However, even those initiatives with financial incentives can experience challenges in engagement by local medical centers. The stroke education project, while important, was not on a significant financially incentivized scorecard, as are those strategically decided upon depending on the quality initiatives for the year. While patient satisfaction is always on a dashboard,

unfortunately, the stroke response rates are too low to make a practical difference. One must rely on managing through influence greater than it appears from the outside.

The problem of managing in an environment of influence without authority was known before the project was started. Affecting change through influence requires many different strategies (Block, 2000; Carnegie & Associates, 2011; Patterson, Grenny, Maxfield, McMillan, & Switzler, 2008). One well-known strategy first popularized by Tom Peterson in the early 1980s and then used effectively by Stephen Jobs is management-by-walking around (Tucker & Singer, 2012). This strategy involves middle management routinely walking around the nursing units engaging in face-to-face conversations with frontline staff to determine the problems, to communicate key objectives, and to celebrate successes. Management by walking around remains an important tool despite a large geographical setting. The physical mode may not be walking, but driving or using modes of public transportation, such as the train combined with a car service.

Besides obvious physical challenges, there are financial sensitivities in the relationship between the local medical centers and the regional offices which affect in-person contact. Any travel expenses incurred by the regional offices to the local facilities are the responsibilities of the local facilities. Therefore, the culture of the regional offices is to wait for a request from the local facilities first before planning a visit. Another strategy employed was to acknowledge when training was done or deliverables were accomplished in a public manner. Ensuring team member contributions, such as flyer design, was a key tactic used.

There were processes of the change that were dependent on local facility willingness to train the nurses. One facility did decide to do the training in 2019. Efforts to encourage the facilities to do the training included presentations at the stroke coordinator peer group meetings and inclusion of unofficial stroke coordinator leaders, along with newer stroke coordinators, on the executive committee. The *what is in it for me* approach was used by

acknowledging the coordinator's needs in the presentations (Block, 2000). The challenge of individual facility low rate of return of HCAHPs stroke surveys was reiterated. The opportunity to satisfy regulatory requirements and make meaningful performance improvement efforts was presented. Another local characteristic would be the willingness to use the flyer. Some facilities may have felt the flyer was too minimal and were concerned about stroke surveyor comments. This is partially why the stroke booklet was not removed as an option. Tracking the use of the flyer was not considered because the link is available to all Kaiser employees.

There was also a minor problem in maintenance of the link in the medical record chart. The stroke care plans that populated the educational section are contracted out to a third-party vendor. The vendor made a change in the care plans, which then affected the link to the flyer. This occurred after the first measurement of HCAHPS scores in October 2018. It will be difficult to assess the impact of the flyer separate from the training.

Conclusions

The project will be sustained through continued training of the remaining facilities of the nurses in the provision of stroke education, education of new nurses on the provision of stroke education, continued monitoring, and evaluation of the data. The stroke education materials will continue to be available on the units. Regulatory requirements and standard patient satisfaction surveys will reinforce the need for attention to this patient educational need. Communication of the results of the work will not be done until positive results are obtained due to underlying, multi-factorial resistance from the staff on satisfaction results (Joshi et al., 2014). If the results do not become positive, then communication will be done with careful explanation of the reasons why the results were not positive, such as the need for a better measurement of patient satisfaction with stroke education. Development of alternative methods to measure patient satisfaction with stroke education may be a much

needed area of future research. If the patient education is able to impact the numbers of family and community members who suffer a stroke, and then are able to activate the emergency medical services and present to the hospital on time, this could have implications for other disease processes such as diabetes management.

The CDC (2017) has raised a call to arms in stroke care, with the mortality rate decrease slowing down and in a subset of vulnerable populations reversing and experiencing an increase in stroke mortality. Due to the increase of stroke risk factors, such as obesity, diabetes, and hypertension in younger patient populations, previous population gains are at risk of being lost (CDC, 2017). There is treatment available when patients get to the hospital in time. Patients and their families may not be ready for stroke education; however, if even one life is saved by early recognition and action, progress will have been made.

Section VII. References

- American Heart Association. (2018). *Get with the guidelines*[®] (GWTG). Retrieved from <http://www.heart.org/en/professional/quality-improvement/get-with-the-guidelines/get-with-the-guidelines-stroke>
- American Nurses Association. (2017) *Code of ethics for nurses with interpretive statements*. Retrieved from <http://nursingworld.org/DocumentVault/Ethics-1/Code-of-Ethics-for-Nurses.html>
- Block, P. (2000). *Flawless consulting: A guide to getting your expertise used*. San Francisco, CA: Pfeiffer.
- Boudreau, D. M., Guzauskas, G. F., Chen, E., Lalla, D., Tayama, D., Fagan, S. C., & Veenstra, D. L. (2014). Cost-effectiveness of recombinant tissue-type plasminogen activator within 3 hours of acute ischemic stroke: Current evidence. *Stroke*, 45(10), 3032-3039. doi:10.1161/STROKEAHA.114.005852.
- Bristol, T. J., Nelson, J. W., Sherrill, K. J., & Wangerin, V. S. (2018). Current state of test development, administration, and analysis: A study of faculty practices. *Nurse Educator*, 43(2), 68-72. doi:10.1097/nne.0000000000000425
- Britschgi, C. (2018). Microsoft word spell check. *Reason*, January 2018. Retrieved from <https://reason.com/issues/january-2018#page/71>
- Byers, A. M., Lamanna, L., & Rosenberg, A. (2010). The effect of motivational interviewing after ischemic stroke on patient knowledge and patient satisfaction with care: A pilot study. *Journal of Neuroscience Nursing*, 42(6), 312-322. doi:10.1097/JNN.0b013e3181f8a5e7
- Cameron, V. (2013). Best practices for stroke patient and family education in the acute care setting: A literature review. *MEDSURG Nursing*, 22(1), 51-55. Retrieved from <http://www.medsurnursing.net/cgi-bin/WebObjects/MSNJournal.woa>

Carnegie, D., & Associates, Inc. (2011) *How to win friends and influence people in the digital age*. New York, NY: Simon & Schuster.

Centers for Medicare & Medicaid Services. (2017) HCAHPS: Patient's Perspective Survey. Retrieved from: . <https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/HospitalQualityInits/HospitalHCAHPS.html> on November 13, 2018.

Centers for Disease Control and Prevention. (2017) *Stroke facts*. Retrieved from <https://www.cdc.gov/stroke/facts.htm>

Danzl, M. M., Harrison, A., Hunter, E. G., Kuperstein, J., Sylvia, V., Maddy, K., & Campbell, S. (2016). "A lot of things passed me by": Rural stroke survivors' and caregivers' experience of receiving education from health care providers. *Journal of Rural Health, 32*(1), 13-24. doi:10.1111/jrh.12124

Dearholt, S. L., & Dang, D. (2015). *Johns Hopkins nursing evidence-based practice: Model and guidelines* (2nd ed.). Indianapolis, IN: Sigma Theta Tau International.

Dombrowski, S. U., Mackintosh, J. E., Sniehotta, F. F., Araujo-Soares, V., Rodgers, H., Thomson, R. G., ... White, M. (2013). The impact of the UK 'act FAST' stroke awareness campaign: Content analysis of patients, witness and primary care clinicians' perceptions. *BMC Public Health, 13*(1), 915. doi:10.1186/1471-2458-13-915

Eames, S., Hoffman, T., Worrall, L., & Read, S. (2010). Stroke patients' and carers' perception of barriers to accessing stroke information. *Topics in Stroke Rehabilitation, 17*(2), 69-78. doi:10.1310/tsr1702-69

Emanuel, E., & Emanuel L. (1992). Four models of the physician-patient relationship. *JAMA, 267*(16), 2221-2226. doi:10.1001/jama.1992.03480160079038

- Falkenberg, K. (2013, January 21). Why rating your doctor is bad for your health. Retrieved from *Forbes* online <https://www.forbes.com/sites/kaifalkenberg/2013/01/02/why-rating-your-doctor-is-bad-for-your-health/#1ac3fb9b33c5>
- Fenton, J. J., Jerant, A. F., & Franks, P. (2014). Influence of elective versus emergent hospital admission on patient satisfaction. *Journal of the American Board of Family Medicine*, 27(2), 249-257. doi:10.3122/jabfm.2014.02.130177
- Flesch, R. (1948). A new readability yardstick. *Journal of Applied Psychology*. 32(3), 221-223. doi:10.1037/h0057532
- Foss Durant, A., McDermott, S., Kinney, G., & Triner, T. (2015). Caring science: Transforming the ethic of caring-healing practice, environment, and culture within an integrated care delivery system. *Permanente Journal*, 19(4), e136-e142. doi:10.7812/tpp/15-042
- Ganzer, C. A., Insel, K. C., & Ritter, L. S. (2012). Associations between working memory, health literacy, and recall of the signs of stroke among older adults. *Journal of Neuroscience Nursing*, 44(5), 236-243. doi:10.1097/jnn.0b013e3182666231
- Green, T., Haley, E., Eliasziw, M., & Hoyte, K. (2007). Education in stroke prevention: Efficacy of an educational counselling intervention to increase knowledge in stroke survivors. *Canadian Journal of Neuroscience Nursing*, 29(2), 13-20. Retrieved from <https://www.cann.ca/~ASSETS/DOCUMENT/ARTICLES/CJNN-29-2-2007-green.pdf>
- Hickey, J. V., & Brosnan, C. A. (Eds.). (2017). *Evaluation of health care quality for DNPs* (2nd ed.). New York, NY: Springer.
- Hickey, J. V., & Livesay, S. L. (2016). *The continuum of stroke care: An interprofessional approach to evidenced-based care*. Philadelphia, PA: Wolters Kluwer.

- Hoffmann, T., McKenna, K., Worrall, L., & Read, S. J. (2007). Randomized trial of a computer-generated tailored written education package for patients following stroke. *Age & Ageing, 36*(3), 280-286. doi:10.1093/ageing/afm003
- Hsia, A. W., Castle, A., Wing, J. J., Edwards, D. F., Brown, N. C., Higgins, T. M., ... Kidwell, C. S. (2011). Understanding reasons for delay in seeking acute stroke care in an underserved urban population. *Stroke, 42*(6), 1697-1701. doi:10.1161/STROKEAHA.110.604736
- Institute for Healthcare Improvement. (2016). *WIHI: The new world of co-producing health and health care*. Retrieved from <http://www.ihp.org/resources/Pages/AudioandVideo/WIHI-The-New-World-of-Coproducing-in-Health-and-Health-Care.aspx> on February 1, 2018,
- Integrated systems may have economic incentive for using alteplase in stroke patients. (1998). *American Journal of Health-System Pharmacy, 55*(12), 1248. Retrieved from <http://www.ajhp.org/content/55/12/1248.2?sso-checked=true>
- Jauch, E. C., Saver, J. L., Adams, H. P., Jr, Bruno, A., Connors, J. J., Demaerschalk, B. M., ... Yonas, H. (2013). Guidelines for the early management of patients with acute ischemic stroke: A guideline for healthcare professionals from the American Heart Association/American Stroke Association. *Stroke, 44*(3), 870-947. doi:10.1161/STR.0b013e318284056a.
- Joint Commission International. (2018a). *Advanced disease-specific care comprehensive stroke center standards manual. Specifications manual*. Oakbrook Terrace, IL: Author.
- Joint Commission International. (2018b). *Advanced disease-specific care primary stroke center standards manual. Specifications manual*. Oakbrook Terrace, IL: Author.

- Joint Commission International. (2018c). *Specifications manual for joint commission national quality measures (v2018B)*. Oakbrook Terrace, IL: Author.
- Joshi, M. S., Ransom, E. R., Nash, D. B., & Ransom, S. B. (Eds.). (2014). *The healthcare quality book: Vision, strategy and tools*. (3rd ed.). Chicago, IL: Health Administration Press.
- Kincaid, J. P., Fishburne Jr., R. P., Rogers, R. L., & Chissom, B. S. (1975). *Derivation of new readability formulas (automated readability index, fog count and Flesch reading ease formula) for Navy enlisted personnel* (Research Branch Report 8-75). Retrieved from <http://www.dtic.mil/dtic/tr/fulltext/u2/a006655.pdf>
- Kitson, A. L., & Harvey, G. (2016). Methods to succeed in effective knowledge translation in clinical practice. *Journal of Nursing Scholarship*, 48(3), 294-302.
doi:10.1111/jnu.12206
- Kitson, A., Harvey, G., & McCormack, B. (1998). Enabling the implementation of evidence based practice: A conceptual framework. *Quality in Health Care*, 7(3), 149-158.
doi:10.1136/qshc.7.3.149
- Livesay, S. (Ed.). (2014). *Comprehensive review for stroke nursing*. Chicago, IL: American Association of Neuroscience Nurses.
- Martinelli, R. J., & Milosevic, D. Z. (2016) *Project management toolbox* (2nd ed.), Hoboken, NJ: John Wiley & Sons.
- Meighan, M. M. (2018). Stroke education video does not affect patient satisfaction scores: A system analysis. *Journal of Neuroscience Nursing*, 50(4), 233-237.
doi:10.1097/JNN.0000000000000383
- Mellon, L., Doyle, F., Williams, D., Brewer, L., Hall, P., & Hickey, A. (2016). Patient behaviour at the time of stroke onset: A cross-sectional survey of patient response to

stroke symptoms. *Emergency Medicine Journal*, 33(6), 396-402.

doi:10.1136/emered-2015-204806

Mellon, L., Hickey, A., Doyle, F., Dolan, E., & Williams, D. (2014). Can a media campaign change health service use in a population with stroke symptoms? examination of the first Irish stroke awareness campaign. *Emergency Medicine Journal*, 31(7), 536-540. doi:10.1136/emered-2012-202280

Melnyk, B. M., Gallagher-Ford, L., & Fineout-Overholt, E. (2016). *Implementing the evidence-based practice (EBP) competencies in healthcare: A practical guide for improving quality, safety, and outcomes*. Indianapolis, IN: Sigma Theta Tau.

Nguyen-Huynh, M. N., Klingman, J. G., Avins, A. L., Rao, V. A., Eaton, A., Bhopale, S., ... & Flint, A. C. (2018). Novel telestroke program improves thrombolysis for acute stroke across 21 hospitals of an integrated healthcare system. *Stroke*, 49(1), 133-139. doi:10.1161/strokeaha.117.018413

Omelchenko, N., Saban, K. L., Andresen, P., Klopp, A., & Lau, J. (2018). Empowered to serve: Implementing community stroke outreach using peer educators to improve readiness to act among local community members. *Journal of Neuroscience Nursing* 50(2), 111-115. doi:10.1097/jnn.0000000000000344

Patterson, K., Grenny J., Maxfield, D., McMillan, R., & Switzler, A. (2008). *Influencer*. McGraw-Hill: New York

Peplau, H. (1992). Interpersonal relations: A theoretical framework for application in nursing practice. *Nursing Science Quarterly*, 5(1), 13-18. doi:10.1177/089431849200500106

Powers, W. J., Rabinstein, A. A., Ackerson, T., Adeoye, O. M., Bambakidis, N. C., Becker, K., ... Tirschwell, D. L. (2018). 2018 guidelines for the early management of patients with acute ischemic stroke: A guideline for healthcare professionals from the

American Heart Association/American Stroke Association. *Stroke*, 49(3), e110.

doi:10.1161/STR.0000000000000158

Ross, S. Y., Roberts, S., Taggart, H., & Patronas, C. (2017). Stroke transitions of care.

MedSurg Nursing, 26(2), 119-123. Retrieved from <http://www.medsurnursing.net>

Skolarus, L. E., Murphy, J. B., Zimmerman, M. A., Bailey, S., Fowlkes, S., Brown, D. L., ...

Morgenstern, L. B. (2013). Individual and community determinants of calling 911 for stroke among African Americans in an urban community. *Circulation: Cardiovascular Quality and Outcomes*, 6(3), 278-283.

doi:10.1161/circoutcomes.111.000017

doi:10.1161/circoutcomes.111.000017

Skolarus, L. E., Zimmerman, M. A., Bailey, S., Dome, M., Murphy, J. B., Kobrossi, C., ...

Morgenstern, L. B. (2016). Stroke ready intervention: Community engagement to decrease prehospital delay. *Journal of the American Heart Association*, 5(5).

doi:10.1161/JAHA.116.003331 doi:10.15171/hpp.2015.005

Smith, J., Foster, A., & Young, J. (2009). Cochrane review: Information provision for stroke patients and their caregivers. *Clinical Rehabilitation*, 23(3), 195-206.

doi:10.1177/0269215508092820

Stetler, C. B., Damschroder, L. J., Helfrich, C. D., & Hagedorn, H. J. (2011). A guide for applying a revised version of the PARIHS framework for implementation.

Implementation Science, 6(1), 99. doi:10.1186/1748-5908-6-99

Sylvia, M. L., & Terhaar, M. F. (2014), *Clinical analytics and data management for the DNP*. New York, NY: Springer.

Tucker, A. L., & Singer, S. J. (2012). *The effectiveness of management-by-walking-around: A randomized field study* (Working Paper 12-113). Retrieved from

http://www.hbs.edu/faculty/Publication%20Files/12-113_9a2bc5e8-2f70-4288-bb88-aeb2de49e955.pdf on May 23, 2018

- Voutilainen, A. (2016). Meta-analysis: Complex relationships between patient satisfaction, age and item-level response rate. *Journal of Research in Nursing, 21*(8), 611-620.
doi:10.1177/1744987116655595
- Watson, J. (2008). *Nursing. The philosophy and science of caring* (Rev. ed.). Boulder, CO: University Press of Colorado.
- Waxman, K. T. (Ed.). (2018). *Financial and business management for the doctor of nursing practice* (2nd ed.). New York, NY: Springer.
- Yeh, M., Wu, S., & Tung, T. (2018). The relation between patient education, patient empowerment and patient satisfaction: A cross-sectional-comparison study. *Applied Nursing Research, 39*, 11-17. doi:10.1016/j.apnr.2017.10.008
- Yu-Feng, Y. C., Richardson, L. D., Nagurka, R., Hao, K., Zaets, S. B., Brimacombe, M. B., & Levine, S. R. (2015). Stroke education in an emergency department waiting room: A comparison of methods. *Health Promotion Perspectives, 5*(1), 34-41.
doi:10.15171/hpp.2015.005

Section VIII. Appendices

Appendix A

Map of Kaiser Facilities

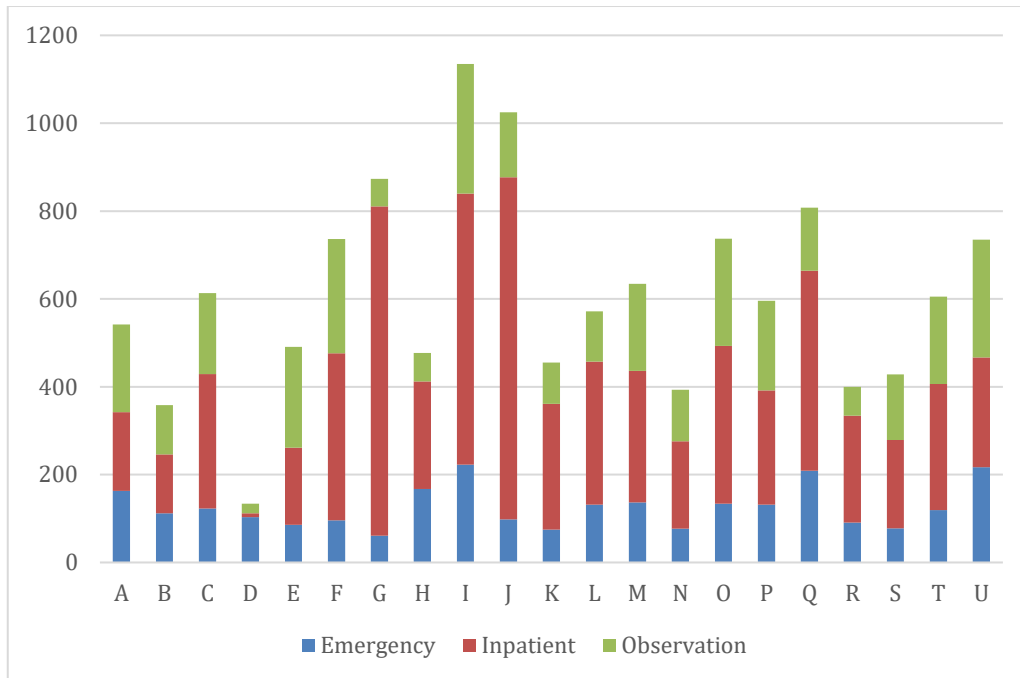
Kaiser Permanente Northern California

- 4.1 million members
- 21 medical centers
- 19 Primary Stroke Centers
- 2 Comprehensive Stroke Centers
- 17,000 square miles
- 8,500 physicians
- 113 neurologists
- More than 22,000 nurses



Appendix B

Stroke Discharge Volume per Facility



Appendix C

ICD-10-CM Codes Related to Stroke

TJC Table Number 8.1: Ischemic Stroke, Version 2018A

Code	Shortened Description	Code	Shortened Description
I6300	Cerebral infarction due to thrombosis of unspecified precerebral artery	I63339	Cerebral infarction due to thrombosis of unspecified posterior cerebral artery
I63011	Cerebral infarction due to thrombosis of right vertebral artery	I63341	Cerebral infarction due to thrombosis of right cerebellar artery
I63012	Cerebral infarction due to thrombosis of left vertebral artery	I63342	Cerebral infarction due to thrombosis of left cerebellar artery
I63013	Cerebral infarction due to thrombosis of bilateral vertebral arteries	I63343	Cerebral infarction due to thrombosis of bilateral cerebellar arteries
I63019	Cerebral infarction due to thrombosis of unspecified vertebral artery	I63349	Cerebral infarction due to thrombosis of unspecified cerebellar artery
I6302	Cerebral infarction due to thrombosis of basilar artery	I6339	Cerebral infarction due to thrombosis of other cerebral artery
I63031	Cerebral infarction due to thrombosis of right carotid artery	I6340	Cerebral infarction due to embolism of unspecified cerebral artery
I63032	Cerebral infarction due to thrombosis of left carotid artery	I63411	Cerebral infarction due to embolism of right middle cerebral artery
I63033	Cerebral infarction due to thrombosis of bilateral carotid arteries	I63412	Cerebral infarction due to embolism of left middle cerebral artery
I63039	Cerebral infarction due to thrombosis of unspecified carotid artery	I63413	Cerebral infarction due to embolism of bilateral middle cerebral arteries
I6309	Cerebral infarction due to thrombosis of other precerebral artery	I63419	Cerebral infarction due to embolism of unspecified middle cerebral artery
I6310	Cerebral infarction due to embolism of unspecified precerebral artery	I63421	Cerebral infarction due to embolism of right anterior cerebral artery
I63111	Cerebral infarction due to embolism of right vertebral artery	I63422	Cerebral infarction due to embolism of left anterior cerebral artery
I63112	Cerebral infarction due to embolism of left vertebral artery	I63423	Cerebral infarction due to embolism of bilateral anterior cerebral arteries
I63113	Cerebral infarction due to embolism of bilateral vertebral arteries	I63429	Cerebral infarction due to embolism of unspecified anterior cerebral artery
I63119	Cerebral infarction due to embolism of unspecified vertebral artery	I63431	Cerebral infarction due to embolism of right posterior cerebral artery
I6312	Cerebral infarction due to embolism of basilar artery	I63432	Cerebral infarction due to embolism of left posterior cerebral artery
I63131	Cerebral infarction due to embolism of right carotid artery	I63433	Cerebral infarction due to embolism of bilateral posterior cerebral arteries
I63132	Cerebral infarction due to embolism of left carotid artery	I63439	Cerebral infarction due to embolism of unspecified posterior cerebral artery
I63133	Cerebral infarction due to embolism of bilateral carotid arteries	I63441	Cerebral infarction due to embolism of right cerebellar artery
I63139	Cerebral infarction due to embolism of unspecified carotid artery	I63442	Cerebral infarction due to embolism of left cerebellar artery
I6319	Cerebral infarction due to embolism of other precerebral artery	I63443	Cerebral infarction due to embolism of bilateral cerebellar arteries
I6320	Cerebral infarction due to unspecified occlusion or stenosis of unspecified precerebral arteries	I63449	Cerebral infarction due to embolism of unspecified cerebellar artery
I63211	Cerebral infarction due to unspecified occlusion or stenosis of right vertebral arteries	I6349	Cerebral infarction due to embolism of other cerebral artery
I63212	Cerebral infarction due to unspecified occlusion or stenosis of left vertebral arteries	I6350	Cerebral infarction due to unspecified occlusion or stenosis of unspecified cerebral artery
I63213	Cerebral infarction due to unspecified occlusion or stenosis of bilateral vertebral arteries	I63511	Cerebral infarction due to unspecified occlusion or stenosis of right middle cerebral artery

ICD-10 Discharge Codes Related to Stroke

TJC Table Number 8.2: Hemorrhagic Stroke, Version 2018A

Code	Shortened Description	Code	Shortened Description
I6000	Nontraumatic subarachnoid hemorrhage from unspecified carotid siphon and bifurcation	I606	Nontraumatic subarachnoid hemorrhage from other intracranial arteries
I6001	Nontraumatic subarachnoid hemorrhage from right carotid siphon and bifurcation	I607	Nontraumatic subarachnoid hemorrhage from unspecified intracranial artery
I6002	Nontraumatic subarachnoid hemorrhage from left carotid siphon and bifurcation	I608	Other nontraumatic subarachnoid hemorrhage
I6010	Nontraumatic subarachnoid hemorrhage from unspecified middle cerebral artery	I609	Nontraumatic subarachnoid hemorrhage, unspecified
I6011	Nontraumatic subarachnoid hemorrhage from right middle cerebral artery	I610	Nontraumatic intracerebral hemorrhage in hemisphere, subcortical
I6012	Nontraumatic subarachnoid hemorrhage from left middle cerebral artery	I611	Nontraumatic intracerebral hemorrhage in hemisphere, cortical
I602	Nontraumatic subarachnoid hemorrhage from anterior communicating artery	I612	Nontraumatic intracerebral hemorrhage in hemisphere, unspecified
I6030	Nontraumatic subarachnoid hemorrhage from unspecified posterior communicating artery	I613	Nontraumatic intracerebral hemorrhage in brain stem
I6031	Nontraumatic subarachnoid hemorrhage from right posterior communicating artery	I614	Nontraumatic intracerebral hemorrhage in cerebellum
I6032	Nontraumatic subarachnoid hemorrhage from left posterior communicating artery	I615	Nontraumatic intracerebral hemorrhage, intraventricular
I604	Nontraumatic subarachnoid hemorrhage from basilar artery	I616	Nontraumatic intracerebral hemorrhage, multiple localized
I6050	Nontraumatic subarachnoid hemorrhage from unspecified vertebral artery	I618	Other nontraumatic intracerebral hemorrhage
I6051	Nontraumatic subarachnoid hemorrhage from right vertebral artery	I619	Nontraumatic intracerebral hemorrhage, unspecified
I6052	Nontraumatic subarachnoid hemorrhage from left vertebral artery		

Appendix D

Stroke Education and Patient Perception Evaluation Table

Reference	Conceptual Framework	Design/ Method	Sample/ Setting	Variables Studied and Their Definitions	Measurement	Data Analysis	Findings	Appraisal: Worth to Practice
Yu-Feng et al. (2015)	None	Randomized control trial	<i>N</i> = 231 Emergency room	Video brochure, printed material, one-on-one teaching, combination of three methods	13 multiple choice questionnaires prior to education, immediately after education, and one month post-education	Linear models to conduct pairwise comparisons, <i>P</i> value was corrected using Bonferroni methods	All groups showed improvement in stroke knowledge; however, the combination group showed the highest level of knowledge.	Level IA
Green et al. (2007)	Transtheoretical Stages of Change Model	Randomized control trial	<i>N</i> = 200	One-on-one motivational interviewing	Baseline knowledge questionnaire post-clinic visit and three-month questionnaire	Two group <i>t</i> -test and a paired <i>t</i> -test	The group who received one-on-one teaching did show improvement in retention of stroke knowledge.	Level IB Due to stroke questionnaire not validated and limitations not addressed in conclusion.
Byers et al. (2010)	None	Randomized trial	<i>N</i> = 20	Motivational interviewing	Stroke knowledge test and patient satisfaction test	Descriptive statistics	A positive relationship between motivational interviewing techniques, stroke knowledge, and patient satisfaction.	Level 1C Due to lack of validation of stroke knowledge test and patient satisfaction test.

Reference	Conceptual Framework	Design/ Method	Sample/ Setting	Variables Studied and Their Definitions	Measurement	Data Analysis	Findings	Appraisal: Worth to Practice
Hoffman et al. (2007)	None	Randomized trial	<i>N</i> = 113	Usual educational methods and computer-generated educational package	Standardized stroke knowledge scales	Data analyzed using an independent sample <i>t</i> -test and a Fischer's exact test	There was no effect of the computer-generated tailored information on knowledge about stroke, self-efficacy, depression, or perceived health status; however, the patients were more satisfied with the information they received than with the standard method.	Level IB Scales not validated; however, results reflect system analysis by Meighan.
Smith et al. (2009)	None	Systematic review	11 Trials	Active or passive interventions		Forest plots	Active strategies were associated with positive patient outcomes.	Level 1A
Danzl et al. (2016)	None	Qualitative	<i>N</i> = 13	N/A	Qualitative coding technique using pre-existing codes, then derived codes with modifications	Research dyads analyzed the data, with final analysis by the interviewer	Central themes of delivery, timing, and method were critical for perception of adequacy.	Level IIIA

Reference	Conceptual Framework	Design/ Method	Sample/ Setting	Variables Studied and Their Definitions	Measurement	Data Analysis	Findings	Appraisal: Worth to Practice
Eames et al. (2010)	None	Qualitative	132 patients and caregivers initially screened, initial interviews with 34 stroke patients and 18 caregivers, follow-up interviews with 27 patients and 16 caregivers	N/A	Interviews transcribed using qualitative content analysis	Condensed meaning units, codes, and themes	Limited information, hospital environment, patient, and caregiver factors.	Level IIIA

Table adapted from Dearholt, S. L. and Dang, D. (2012). *Johns Hopkins nursing evidence-based practice: Model and guidelines*. Indianapolis, IN: Sigma Theta Tau International.

Appendix E

Evaluation Table

	Yu-Feng et al. (2015)	Green et al. (2007)	Smith et al. (2009)	Danzl et al. (2016)	Eames et al. (2010)	Byers et al. (2010)	Hoffman et al. (2007)
Intervention							
Brochure/printed material	x						
Video/computer	x						x
One-on-one counseling	x					x	
Combination	x						
One-on-one counseling		x					
Active intervention			x			x	
Passive intervention			x				
Outcome							
Increased patient stroke knowledge	x	x	x			x	x
Themes identified for stroke survivor experience				x	x		

Table adapted from Melnyk, B. M., Gallagher-Ford, L., & Fineout-Overholt, E. (2016). *Implementing the evidence-based practice (EBP) competencies in healthcare: A practical guide for improving quality, safety, and outcomes*. Indianapolis, IN: Sigma Theta Tau.

Appendix F

Learning Needs Assessment

LEARNING ASSESSMENT

11/01/2017 2110 M07 (11/1/2017 - Present)
Created by [\[User Name\]](#) - AP (Nursing)


INFORMATION OBTAINED FROM:
Information obtained from: **Patient**



LANGUAGE:
Patient/Caregiver best understands?: **English**
Patient states ability to read English?: **Yes**
Interpreter needed?: **No**

FACTORS TO CONSIDER DURING LEARNING:
Physical limitations: **Motor**

LEARNING PREFERENCES:
Prefers to have a second learner present when being instructed?: **Yes**
Preferred learning method?: **Demonstration, Verbal, Written**

Comments
Left sided weakness






[Edit History](#) 

Appendix G

Caring Science Applied to Stroke Education

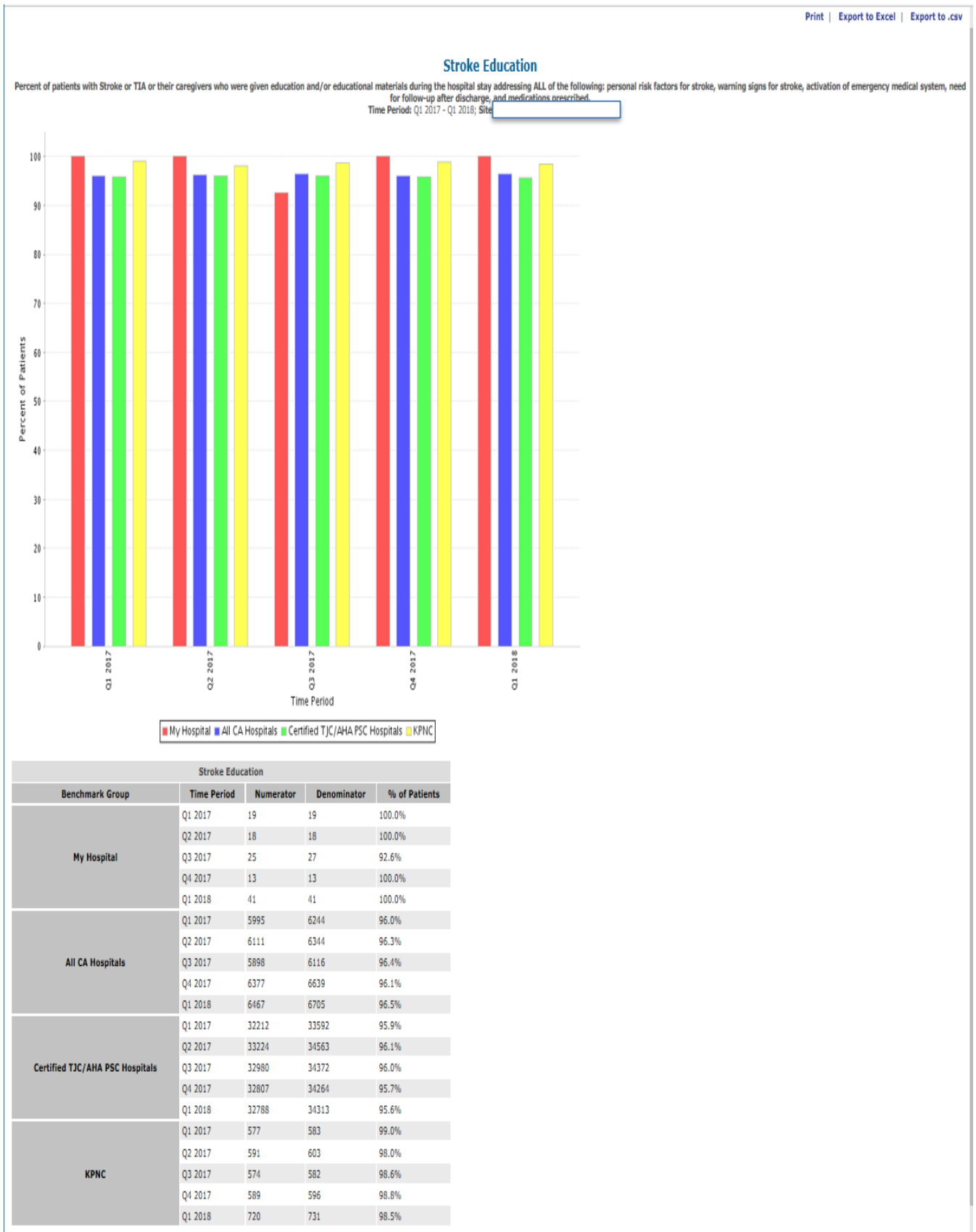
Caring Science and Stroke Education

Phase	Desired Outcome as Guided by Caring Science
 <p>Assessment</p>	<p>🕒 Establish a helping-trusting relationship Take every opportunity with the patient as a chance to connect and affirm their readiness to learn about stroke signs and symptoms</p>
 <p>Diagnosis</p>	<p>🕒 Balance the art and science of clinical judgment Be cognizant of the patient's response to treatments and go beyond the medical diagnosis. Engage the family when needed.</p>
 <p>Planning</p>	<p>🕒 Consider the needs of the "whole" person Develop a comprehensive Plan of Care inclusive of personal and patient safety. Acknowledge the stroke's patient need for hope</p>
 <p>Implementation</p>	<p>🕒 Link patient-centered goals and "Total Health" Walk with the patient and family, continuing to revise and reinforce the Plan of Care along the way</p>
 <p>Evaluation</p>	<p>🕒 Honor the patient's perception of Healing Value the voice of each patient as the most meaningful barometer of the quality of care we provide</p>

Page 18

Appendix H

Stroke Education Documentation Compliance



Appendix I

Joint Commission Standard Addressing Patient Education



Effective Date: July 1, 2018

Program: Primary Stroke Center

Chapter: Supporting Self-Management

DSSE.3: The program addresses the patient's education needs.

Rationale: Not applicable.

Introduction: Not applicable

Elements of Performance

- The program's education materials comply with recommended elements of care, treatment, and services, which are supported by literature and promoted through clinical practice guidelines and evidence-based practice.

EP Attributes

New	FSA	CMS	DOC	ESP
			D	

- The program presents content in an understandable manner according to the patient's level of literacy.

EP Attributes

New	FSA	CMS	DOC	ESP

- The program presents content in a manner that is culturally sensitive.

EP Attributes

New	FSA	CMS	DOC	ESP

- The program makes initial and ongoing assessments of the patient's comprehension of program-specific information.

EP Attributes

New	FSA	CMS	DOC	ESP

- The program addresses the education needs of the patient regarding his or her disease or condition and care, treatment, and services.

EP Attributes

New	FSA	CMS	DOC	ESP

Appendix J

Joint Commission Standard Addressing Patient Satisfaction



Effective Date: July 1, 2018

Program: Primary Stroke Center

Chapter: Performance Measurement

DSPM.5: The program evaluates patient satisfaction with the quality of care.

Rationale: Not applicable.

Introduction: Not applicable

Elements of Performance

- 1 The program evaluates patient satisfaction with and perception of quality of care at the program level.

EP Attributes

New	FSA	CMS	DOC	ESP
-----	-----	-----	-----	-----

- 2 Patient satisfaction data are utilized for program-specific performance improvement activities.

EP Attributes

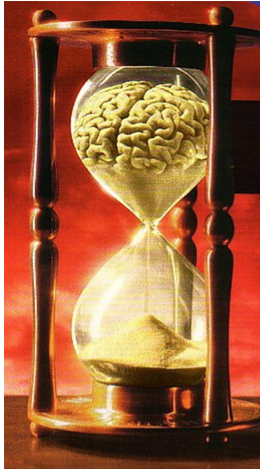
New	FSA	CMS	DOC	ESP
-----	-----	-----	-----	-----

Appendix K**Gap Analysis
As of January 2017**

Strategic Objective	Current Standing	Deficiency	Action Plan
Revise online education	Not started	Resources needed from Regional Health Education	Contact Executive Leader for support
Revise booklet	Not started	Resources needed from Regional Health Education	Contact Executive Leader for support
Print version of booklet	Not started	To be done when booklet is done	Start draft by November 1
Module for nursing staff	Not started	To be started by November 1	Consult with Neuroscience Clinical Nurse Specialist at Redwood City

Appendix L

Sample Stroke Education Agenda



Stroke Education Executive Steering Committee Meeting

Date: Friday, August 18, 2017
Time: 2:00 p.m. – 3:00 p.m.

Webex Information
Phone Number: 8-950-5555 Internal Number
+1 707-256-2401 US Toll
[Web Link](#)

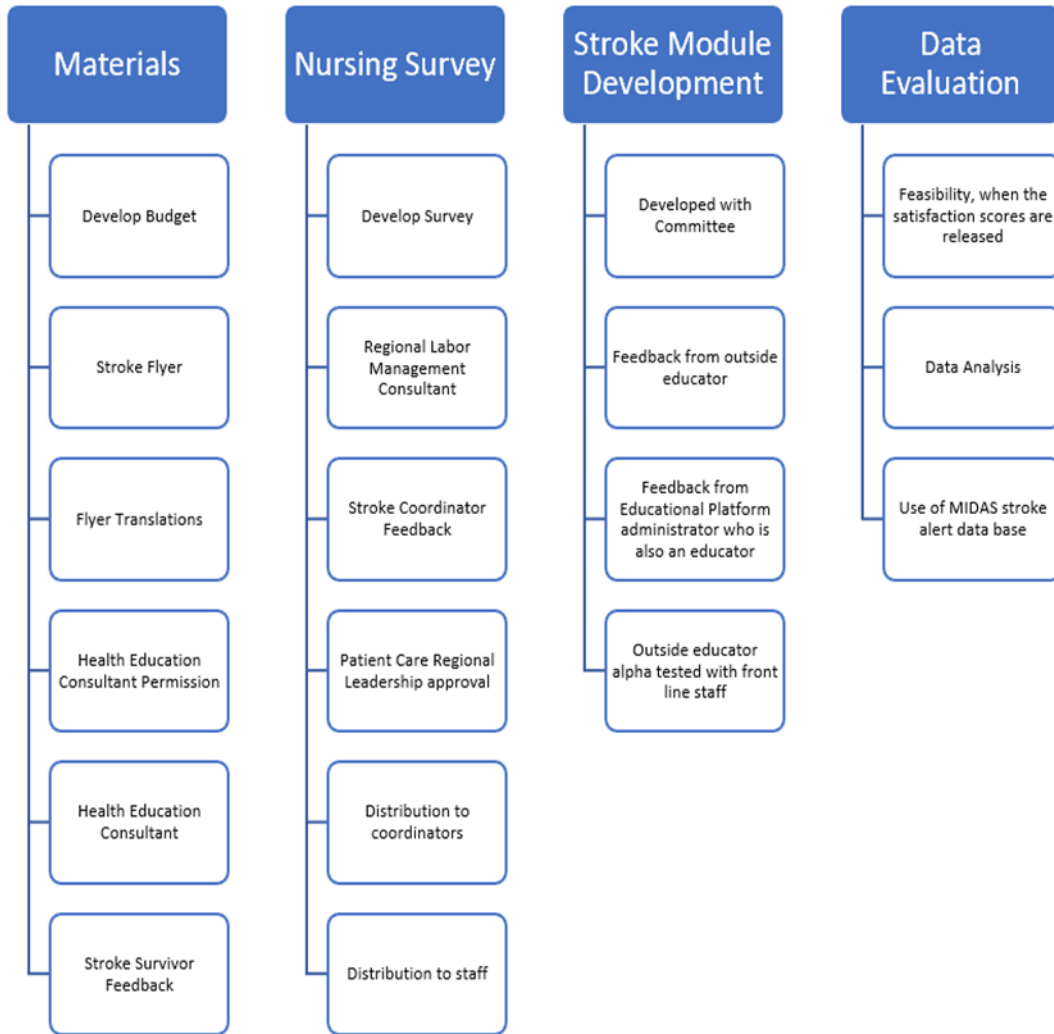
|

Time	Topic/Supporting Documents	Presenter	Purpose
	Meeting number 4 for 2017		
2:00 – 2:10	Announcements, Review of Agenda, Agenda Adjustment	Group	Information
2:10 – 2:15	Scope of Project and Components, Charter?	Group	Information
2:15 – 2:30	Report out of action items	Group	Information
2:30 - 2:50	Discussion of next steps and timeline	Group	Information
2:50 – 2:55	Review of agreed upon action items	Group	Information
2:55 – 3:00	Delta Plus/Minus	Group	
Thank you for working towards improving our members lives through stroke prevention, treatment and rehabilitation.			

Appendix M

Work Breakdown Structure

Stroke Education Intervention



Appendix N

SWOT Analysis

Strengths

- Integrated System providing internal consulting services
- Standardized Work Culture a greater possibility for reduction in variability in education provision
- Integration of voice of the customer improving chances for stroke patient education effectiveness

Weaknesses

- Short Length of Stay
- Multiple demands on nursing time
- Coordination of the timing of nursing education may vary at the local facilities due to unexpected events requiring urgent inservicing.

Opportunities

- To spread the interventions beyond Kaiser through publication of the change in practice project in a peer reviewed journal.
- To improve patient education effectiveness in other disease processes

Threats

- Regulations will change to reflect literature, educational demands lessen
- Lack of support for internal consulting from regional health
- The budget for training will be redistributed if it isn't used within a specific timeframe
- The project could be cancelled completely

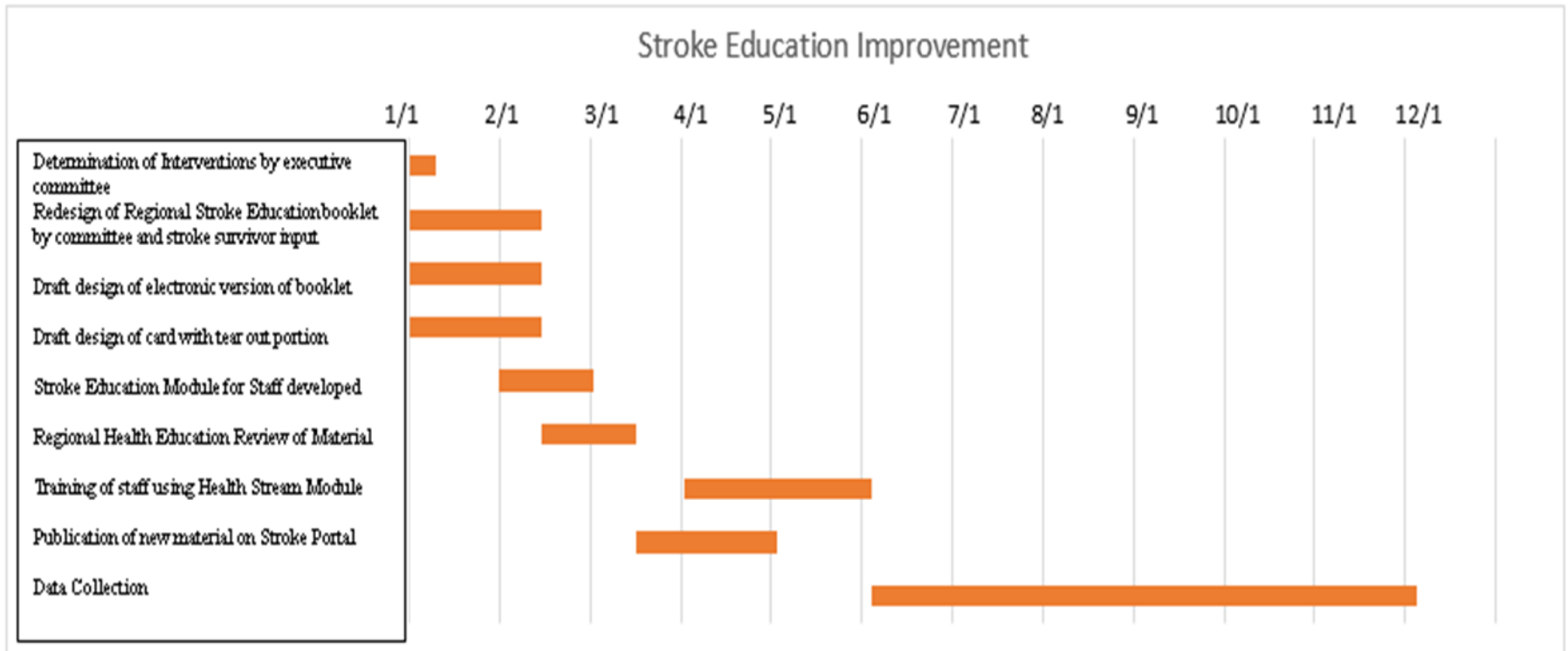
Appendix O

Project Responsibility and Communication Plan

Project Responsibility and Communication Plan	
Project Name: Stroke Patient Education Improvement	Plan Date: 8/18/2017
Improvement Advisor: Joseph Mojares	Facility: Regional
PI Director / Lead IA: Melissa Meighan	Mentor: Dr. Carmen Adams, Dr. Julie Maxworthy
Project SMART Goal: To Increase the number of ischemic stroke patients discharged to home patients reporting in HCAHPS scores, they are adequately educated in stroke by 10% in 3 months	
Problem Statement and Business Case	
Problem Statement	Despite documentation of education, stroke patients are reporting they do not feel adequately educated
Customer Benefit	One risk of a first stroke is a second stroke, patients need to recognize stroke symptoms to come in on time for treatment
Expected Financial Impact	Per patient treated with alteplase numbers, monies saved in alteplase
Other Business Benefit	Contribute to overall increased HCAHPS scores, decreased readmissions due to increased risk factor management
Project Team And Communication Plan	
<ul style="list-style-type: none"> Sponsors: Carmen Adams, Jeff Klingman Champions: Leisel Buchner Project Co-Leads [Process Owners]: Melissa Meighan, Joseph Mojares, Melissa Hathcoat, Julia Herzenberg Monthly Executive Team Meetings Agenda Item at Regional Stroke Coordinator Peer Group meetings 	
Project Timeline and Key Milestones	
<ul style="list-style-type: none"> Assess: <ul style="list-style-type: none"> Baseline Data Obtained 3 months before January 1, 2018 Project Kick-Off September 1, 2017 Project Charter Completed September 1, 2017 Process Map Completed - Do September 1, 2017 Voice of the Customer Obtained 4/17 Identify Changes: <ul style="list-style-type: none"> Stroke Education Playbook for all facilities <ul style="list-style-type: none"> Updated booklet Health Stream module for Nurse Training Cause and Effect Developed - August 2017 Start PDSA Action Plans - Pilot study at Oakland, 10/1 Test: <ul style="list-style-type: none"> PDSA Action Plans Completed Implement: <ul style="list-style-type: none"> Sustainability Plan Completed - Booklet given out, new nurses on stroke units take training Training and Communication Plans - module, peer group meetings Project Storyboard Complete and Submitted Spread Plan - pilot in Oakland, Julia's work, then spread to regional 	
Project Measures	
<ul style="list-style-type: none"> Outcome Measures: Increase in HCAHPS scores, decreased readmission rates Process Measures: Documentation of education, Health Stream Module Balancing Measures: Non stroke symptom question correlation to best of ability 	
Project Scope	
<ul style="list-style-type: none"> In Scope: Patient education As Needed: Relationship between those who respond to surveys and those who do not Out of Scope: Who is actually filling out the survey and why they don't respond to surveys 	

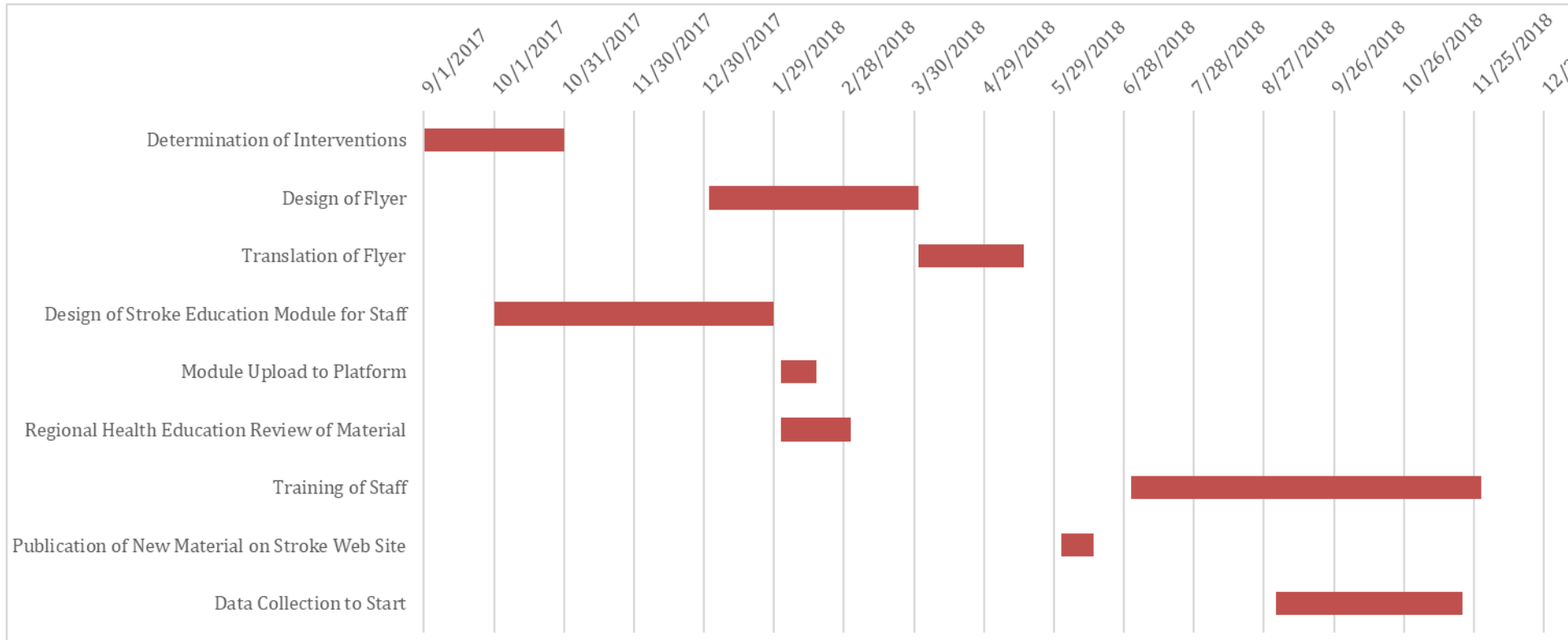
Appendix P

GANTT Chart – Initial



Appendix Q

GANTT Chart – Final



Appendix R

Budget

Stroke Education Budget Plan			
Category	Estimated Quantity	Estimated Cost per Unit	Estimated Subtotal
Staff Training			
1 hour training at 100\$/hr	886	\$100.00	\$88,600.00
Staff Training Total			\$88,600.00
Planning and Development			
Regional Health Consultant	3	\$100.00	\$300.00
Regional Stroke Coordinator	100	\$100.00	\$10,000.00
Regional Work Group 5 members	100	\$100.00	\$10,000.00
Translation of Flyer into Spanish, Chinese, Tagalog and Vietnamese	1	\$600.00	\$600.00
Planning and Development Costs Total			\$20,900.00
ESTIMATED PROJECT GRAND TOTAL			\$130,400.00

Appendix S

Program Costs

Patient Education Return on Investment (ROI)						
Program Costs						
Costs	2018	2019	2020	2021	2022	Five Year Total
Capital Expense						
Nurse Training	88,600					88,600
Translation of Flyer into Spanish, Chinese, Tagalog and Vietnamese	600					600
Regional Health Consultant	300					300
Regional Work Group 5 members	10,000					10,000
Capital Expense Sub Total	99,500					
Operating Expenses						
New RN Training *(\$100 x 60/year)		6,000	6,000	6,000	6,000	6,000
Flyer Printing (\$50/year x 6 medical centers)	300	300	300	300	300	1,500
Regional Stroke Coordinator	10,000	10,000	10,000	10,000	10,000	50,000
Operating Expense Sub Total	10,300					10,300
Total Program Costs	109,800	16,300	16,300	16,300	16,300	175,000

Notes.

For subsequent training assumes 10 nurses hired per year in the stroke units x 6 medical centers x \$100/hour for an hour of training.

Appendix T

Return on Investment

Patient Education Return on Investment (ROI)

Program Cost Avoidance						
	2018	2019	2020	2021	2022	Five Year Total
Regulatory Compliance*	60,000	60,000	60,000	60,000	60,000	300,000

Program Cost Avoidance Calculation						
Regulatory compliance costs assumes the cost of one action plan at \$10,000 for the development of the action plan by the stroke coordinators, leadership approval, response to Joint Commission and any needed training. The action plan would be in response to the program failing to use patient satisfaction data to improve care.						

Cost Benefit - Cost Avoidance - ROI						
	2018	2019	2020	2021	2022	Five Year Total
Program Costs	109,800	16,300	16,300	16,300	16,300	175,000
Cost Benefit**		250,000	250,000	250,000	250,000	1,000,000
Cost Avoidance	60,000	60,000	60,000	60,000	60,000	300,000
Return on Investment (ROI)	(49,800)	293,700	293,700	293,700	293,700	1,125,000

Notes.

*Regulatory compliance costs assumes the cost of an action plan at \$10,000 for the development of the action plan by the stroke

**Assuming an increase of 10/patients per year receiving treatment as a result of calling 911 and presenting to the hospital in time.

Appendix U

Email from Stroke Survivor Advocate



Re: Yesterday
Alison Shapiro
to:
Darcy E Walsh
03/01/2017 07:50 AM
Cc:
Melissa M Meighan, Michelle Camicia
Hide Details
From: Alison Shapiro <alison3432@gmail.com>
To: Darcy E Walsh/CA/KAIPERM@KAIPERM
Cc: Melissa M Meighan/CA/KAIPERM@KAIPERM, Michelle
Camicia/CA/KAIPERM@Kaiperm
History: This message has been replied to.

Caution: This email came from outside Kaiser Permanente. Do not open attachments or click on links if you do not recognize the sender.

Good morning Darcy and Melissa,

Thank you very much for the invitation to the meeting yesterday and the opportunity to speak into the process of patient education. Thank you too for the opportunity to meet John. It was a great pleasure.

If you have the time, you can take a look at my website www.healingintopossibility.com. This will show you more about the teaching that I do and have done. I have taught survivors, caregivers, the general public, care professionals and graduate students.

John is a delight. He has found his way to meaning, purpose and a powerful intention to recover and make a life. I am very happy for him. Many survivors do not know how to do this and need help in organizing a recovery.

I would be delighted to be whatever benefit I can be to your ongoing work. Whether I am in California or in Virginia, please do not hesitate to contact me.

Also, Darcy, when I am in California, if you would like me to speak to the local stroke group, I would be glad to do that. I do that kind of thing often and can talk on a variety of topics related to recovery. I will be leaving California in early April and will be back for the summer at the beginning of June, then gone in the fall and back in the early winter.

This summer Michelle and I are working on a pilot study of the 8 week Mindful Stroke Recovery course I created. We will be recruiting survivor/caregiver pairs to participate in the class/study in July and August. If you know of any of your patients who will be a year out or less from their injury and might be interested please let Michelle know. We will be preparing a flyer and can get you a copy when it is complete.

All the best,
Alison

On Tue, Feb 28, 2017 at 8:50 AM, <Darcy.E.Walsh@kp.org> wrote:
Great, I'll see you at 12:50pm. Thanks!

Appendix V

Staff Survey

1. Please choose your location:

<input type="checkbox"/> ANT	<input type="checkbox"/> MAN	<input type="checkbox"/> RCH	<input type="checkbox"/> SAC	<input type="checkbox"/> SLN	<input type="checkbox"/> SSC	<input type="checkbox"/> VAC
<input type="checkbox"/> FRE	<input type="checkbox"/> MOD	<input type="checkbox"/> ROS	<input type="checkbox"/> SCL	<input type="checkbox"/> SRF	<input type="checkbox"/> SSF	<input type="checkbox"/> VAL
<input type="checkbox"/> FRS	<input type="checkbox"/> OAK	<input type="checkbox"/> RWC	<input type="checkbox"/> SFO	<input type="checkbox"/> SRO	<input type="checkbox"/> SJO	<input type="checkbox"/> WCR

2. Please choose all the ways you educate patients and/or their families/caregivers on stroke diagnosis, stroke risk/prevention and signs/symptoms of stroke:

<input type="checkbox"/> Verbally by bedside nurse	<input type="checkbox"/> Handout	<input type="checkbox"/> Stroke Information Education Handbook	<input type="checkbox"/> Get well Network or video in patient room	<input type="checkbox"/> Stroke Symptoms Flyer	<input type="checkbox"/> Kiosk
<input type="checkbox"/> Other:					

3. Do you assess patients &/or families readiness for education? If yes, how?

4. While many patients consistently respond in HCAPS surveys that they receive stroke education, but a significant portion do not. Any ideas on how Kaiser Permanente can improve stroke education to our patients & their families/care givers?

5. Do you encounter any barriers to be able to complete the stroke education?





6. Do you have ideas on how to improve much needed stroke education to our patients and families?

Please return completed survey to *add stroke coordinator name* or fax to Julia Herzenberg at 510-987-3548. Thank you!

Appendix W

Staff Survey Response Summary
Of Barriers Perceived By Staff

Potential reasons patients respond on HCAHPS that they do not receive stroke education while hospitalized

 Nursing	 Patient	 Timing	 Family
<ul style="list-style-type: none"> ▪ Consistency of verbal by RN ▪ Language used by inpatient team may not be in alignment with questions on survey ▪ Nurses document that they teach, but teaching is sketchy ▪ Staff not reinforcing the information daily ▪ RNs do not typically teach to stroke sx unless that is their admitting dx. We do place a stroke flyer F.A.S.T. in all DC envelopes 	<ul style="list-style-type: none"> ▪ Stroke patients due to the nature of the disease, may not remember what they've been taught ▪ Language barriers ▪ Few surveys returned, low volume ▪ Receiving too much information on a variety of topics, learner not ready to learn or information overloaded ▪ Too ill to learn while hospitalized ▪ Anxiety, mental deficits, misinterpretation of what they are learning and how it relates to their new diagnosis of stroke ▪ Patient might not be satisfied with their care 	<ul style="list-style-type: none"> ▪ Education completed on day one & by time of discharge education maybe limited or incomplete due to RN multi-tasking ▪ Education happened in the wrong time (still early acute stage of condition) 	<ul style="list-style-type: none"> ▪ Families have difficulty retaining the information ▪ Lack of support persons to receive education ▪ Family member completing the survey may not have been the one who received education or the stroke education booklet

Appendix X

Stroke Flyer Placement in Stroke Portal

(Screen Shot of an Internal Extranet Site)

A screenshot of a web portal header. It features a solid green rectangular background. The text "Stroke Portal" is written in a large, bold, white sans-serif font. Below it, "Kaiser Permanente Northern California" is written in a smaller, white sans-serif font.

Stroke Portal

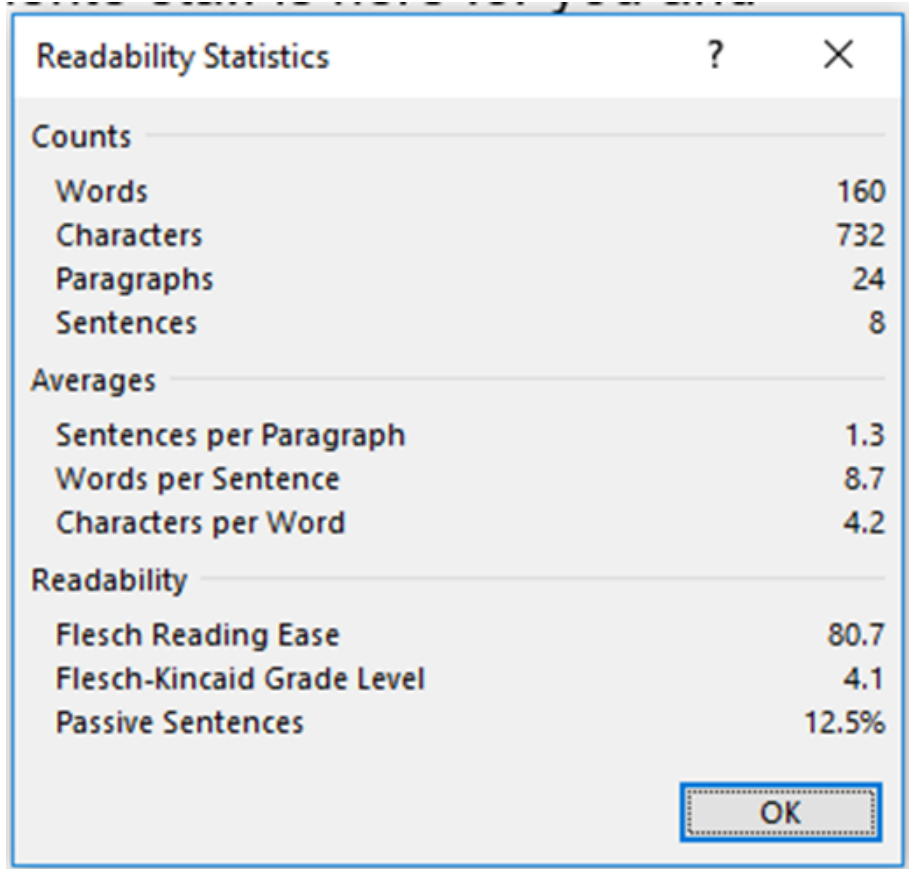
Kaiser Permanente Northern California

Table of Contents

- [Required Stroke Patient Education](#)
 - [English](#) | [Spanish](#) | [Chinese](#) | [Vietnamese](#) | [Tagalog](#)

Appendix Y

Stroke Flyer Grade Level and Reading Ease Scores



The image shows a screenshot of a software dialog box titled "Readability Statistics". The dialog box contains a table of readability metrics. The table is organized into three sections: "Counts", "Averages", and "Readability". Each section lists a metric and its corresponding value. An "OK" button is located at the bottom right of the dialog box.

Readability Statistics	
Counts	
Words	160
Characters	732
Paragraphs	24
Sentences	8
Averages	
Sentences per Paragraph	1.3
Words per Sentence	8.7
Characters per Word	4.2
Readability	
Flesch Reading Ease	80.7
Flesch-Kincaid Grade Level	4.1
Passive Sentences	12.5%

Appendix Z

Survey for Community Input on Flyer

“Stroke: What You Need to Know” - TELL US WHAT YOU THINK!

Please circle your answer and provide comments after each response.

1) When I first saw this tip sheet, I was interested in reading it:

YES NO

Why or why not?

2) I learned new information from this tip sheet:

YES NO

If YES, what did you learn that was new to you?

3) This tip sheet clearly explains what a stroke is:

YES NO

If NO, what would make this information more clear?

4) This tip sheet clearly explains signs of stroke:

YES NO

If NO, what would make this information more clear?

5) This tip sheet clearly explains when I should call 911:

YES NO

If NO, what would make this information more clear?

6) This tip sheet clearly explains how to prevent stroke:

YES NO

If NO, what would make this information more clear?

What do you LIKE about this tip sheet?

7) What do you NOT LIKE about this tip sheet?

Appendix AA

Community Survey Script

Staff Script for Stroke Tip Sheet Usability Survey

Materials:

Tip sheets
Surveys
Clipboards
Pens
Staff should be wearing ID badges visibly

Introduction

Hello. My name is _____, and I work on Kaiser Permanente's Regional Stroke Team.

To improve our education materials, we like to hear the opinions of our members.

We have a new tip sheet about Stroke that we developed for patients in the hospital who have had a stroke.

Would you be interested in reading the tip sheet and filling out a short survey to let us know what you think of it?

Instructions

Please read over this tip sheet. Take as much time as you need to read it.

When you are finished, we have a short survey about your thoughts.

If you need any help reading or understanding the tip sheet or the survey, I am happy to help you go over it.

When you are finished with the survey, I'd like to go over your answers with you, to make sure I understand your feedback, and to ask any follow-up questions.

Staff:

- Try and choose waiting areas where members are likely to be for 10 minutes or more
- Add the word "DRAFT" prominently at the top of the tip sheet, in case a few tip sheets are left floating around the waiting area after you leave
- Once you have given the member the tip sheet and the survey (and a pen and clipboard), walk away and allow the person to read it without you present
- If you are able, try and casually observe while the person is reading (without making them feel scrutinized)
- Notice:
 - How long are they taking to read it? Do they just skim it quickly, or read it carefully?
 - Do they seem to have any trouble reading it?
 - Are they asking for their companions to help them read it?
- If a member declines to read the tip sheet, do not press them. They may be uninterested, may be feeling stressed out about their medical visit, or may be unable to read.
- Be sensitive to the fact that many adults do not read well, and may say things like, "I don't have my glasses." (And they actually just may not have their glasses with them!) If so, you can offer to read the tip sheet to them, but be aware of cues that they may not want to participate at all.
- Review the survey responses with the member when they are finished, to clarify and get a deeper understanding of their answers

Appendix BB

Translation Request

**Translation Services
Translation Request Form**

The purpose of this document is to scope the translation requirements for a project prior to starting any translation work. Please complete all requested fields below and submit this form to one of the preferred translation vendors or to Translation.Services@kp.org, with appropriate English documents. For additional guidance on completing this form, please contact the Translation Project Manager at tie line 510-987-3422.

Fields marked with asterisks are mandatory. *Document Name/File Name* can be a zip file name if files are batched together in a single zip

Contact Information: Please provide basic information on requesting department and a content expert who may be contacted for questions about the project.

*Date of Request:	*Department:
*Name of Requester (as listed in Lotus Notes):	*Requester Phone: ()- -
Subject Matter Expert (if different from Requester):	Subject Matter Expert Phone: ()- -
Department Cost Center (entity-location-cost center format): - -	
Region: <input type="checkbox"/> NCAL <input type="checkbox"/> SCAL <input type="checkbox"/> Other	

Translation Request Information: Please list all documents for which translation is being requested.

<i>*Document Name/ File Name and Format/zip file name</i>	<i>Word Count (if known)</i>	<i>Source Language</i>	<i>*Target Language(s) and Variant/ Dialect(s)</i>	<i>Subject Matter/ Topic</i>	<i>*Final published format (native format documents or PDF)</i>	<i>Desired Due Date</i>
Example: 2007 Summer Member Newsletter, MS Word	1,000	US English	Spanish Chinese	Member Outreach	MS Word	3/13/07

Reading level of source documents (if known):

***Delivery Options (please select one):**

- E-mail E-mail address:
- Fax Fax number: () -
- Mail Mailing address:
- Repository Please specify:
- Other Please specify:

- Cultural/Linguistic Review
- Certificate of Accurate Translation

Additional Services Needed:

- Desktop Publishing

Previously Translated Content:

Yes, my department has translated content similar to this request. The translation was performed by:

- Avantpage Transcend Other - please specify:
 Agnew Multilingual Global Language Solutions

No, my department has never requested translation of this content.

Authorization Information: By signing below you acknowledge that you have the authority to sign for the Cost Center provided above.

Signature: _____ Print Name: _____

Appendix CC

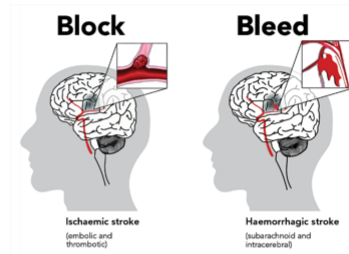
Stroke Flyer English

Stroke: What You Need to Know

Stroke can be a traumatic, frightening event. We want you to know there is **always hope** for healing. The Kaiser Permanente staff is here for you and your family. |

What is a Stroke?

- Three kinds of stroke disease
 - Ischemic – brain blood vessel is blocked by a clot
 - Hemorrhagic – a brain blood vessel breaks
 - TIA – when a blood vessel is blocked for a short period of time.



Stroke Signs and Symptoms

A quick way to remember is **FAST**

F – Face – one side of the face droops

A – Arms – one arm may fall down

S – Speech – may be slurred

T – Time – **time to call 911**

How can you prevent a stroke?

- ✓ Take Medications to control your
 - Blood Pressure
 - Diabetes
 - Cholesterol
 - Abnormal heart beat
- ✓ Quit Smoking
- ✓ Exercise to maintain a healthy weight
- ✓ Keep all your doctor appointments

The Kaiser Permanente staff is here for you and your family.

kp.org

Appendix DD

Stroke Flyer Spanish

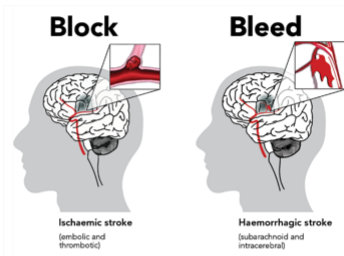
Ataque cerebral: lo que debe saber

Un ataque cerebral puede ser un evento traumático y amedrentador. Queremos que sepa que hay **siempre esperanza** de curación. El personal de Kaiser Permanente está aquí para usted y su familia.

¿Qué es un ataque cerebral?

Hay tres tipos de ataques cerebrales:

- Isquémico – un coágulo bloquea un vaso sanguíneo del cerebro.
- Hemorrágico – se rompe un vaso sanguíneo del cerebro.
- AIT – cuando se bloquea un vaso sanguíneo durante un breve período de tiempo.



Signos y síntomas de un ataque cerebral

Una forma rápida de recordar es **FAST**

- F** – Face (Cara): ¿Se ve uno de los lados más caído?
- A** – Arm (Brazo): es posible que un brazo caiga
- S** – Speech (Habla): habla enredada
- T** – Time (Tiempo): **hora de llamar al 911**

¿Cómo puede prevenir un ataque cerebral?

- Tome medicamentos para controlar su:
 - presión arterial
 - diabetes
 - colesterol
 - latidos del corazón anormales
- Deje de fumar.
- Haga ejercicio para mantener un peso saludable.
- Acuda a todas las citas con su médico.

El personal de Kaiser Permanente está aquí para usted y su familia.

Para obtener más información, consulte kp.org/mydoctor.



Certificate of Translation Accuracy

I, Joyce Logrono, of Welocalize Life Sciences, hereby certify that to the best of my knowledge and belief, the following translation from English (United States) into Spanish (United States)

Stroke Education.Healing after a Stroke_EUS.docx

is a true, complete and accurate translation of the Spanish document

Stroke Education.Healing after a Stroke.docx

I certify that the document/s listed above has/have been translated by qualified, accredited translators.

19800 MacArthur Blvd, Ste 200, Irvine CA 92612
Julv 2. 2018

Appendix EE

Stroke Flyer Chinese

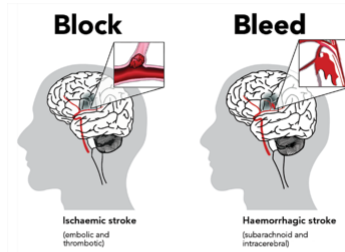
中风：您需要了解的事项

中风会成为令人恐惧的创伤性事件。我们想让您知道中风**始终有治愈的希望**。Kaiser Permanente 员工可随时为您和您的家人提供帮助。

什么是中风？

中风病分三种

- 缺血性中风 - 脑血管被血块堵塞
- 出血性中风 - 脑血管破裂
- TIA（短暂性脑缺血发作） - 血管在短时间内被堵塞时。



中风信号和症状

快速记住中风信号和症状的一个方法是记住 **FAST**

- F** – Face (脸部) - 脸的一侧下垂
- A** – Arms (手臂) - 一只手臂向下移动
- S** – Speech (说话) - 口齿不清
- T** – Time (时间) - **及时拨打 911**

如何预防中风？

- 服药以控制您的
 - 高血压
 - 糖尿病
 - 胆固醇
 - 异常心跳
- 戒烟
- 进行锻炼以保持健康体重
- 遵守与医生的所有预约

Kaiser Permanente 员工可随时为您和您的家人提供帮助。

如需更多信息，请前往 [to kp.org/mydoctor](http://kp.org/mydoctor)。



Certificate of Translation Accuracy

I, Joyce Logrono, of Welocalize Life Sciences, hereby certify that to the best of my knowledge and belief, the following translation from English (United States) into Chinese (Simplified)

Stroke Education.Healing after a Stroke_ZHS.docx

is a true, complete and accurate translation of the Spanish document

Stroke Education.Healing after a Stroke.docx

I certify that the document/s listed above has/have been translated by qualified, accredited translators.

19800 MacArthur Blvd, Ste 200, Irvine CA 92612
July 2, 2018

DocuSigned by:

Joyce Logrono
Production Director
Welocalize Life Sciences

Appendix FF

Stroke Flyer Vietnamese

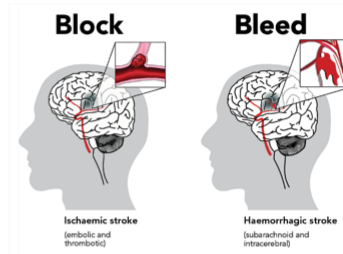
Đột quỵ: Điều quý vị cần biết

Đột quỵ có thể là một tình trạng tổn thương nguy hiểm. Chúng tôi muốn quý vị biết rằng quý vị **luôn có hy vọng** chữa trị căn bệnh này. Nhân viên của Kaiser Permanente sẵn lòng giúp đỡ quý vị và gia đình quý vị.

Đột quỵ là gì?

Có ba loại đột quỵ:

- Thiếu máu cục bộ - mạch máu não bị tắc nghẽn do cục máu đông
- Xuất huyết - vỡ mạch máu não
- TIA - khi mạch máu bị tắc trong một khoảng thời gian ngắn.



Dấu hiệu và triệu chứng đột quỵ

FAST là cụm từ giúp quý vị dễ nhớ

- F** – Face (Khuôn mặt) - một bên mặt bị méo
- A** – Arms (Cánh tay) - một cánh tay bị liệt
- S** – Speech (Lời nói) - bị méo tiếng khi nói
- T** – Time (Thời gian) - **thời gian để gọi 911**

Quý vị có thể ngăn ngừa đột quỵ bằng cách nào?

- Uống thuốc để kiểm soát
 - Huyết áp
 - Bệnh tiểu đường
 - Cholesterol
 - Nhịp tim bất thường
- Bỏ hút thuốc
- Tập thể dục để duy trì cân nặng khỏe mạnh
- Đi đến tất cả các buổi hẹn khám với bác sĩ

Nhân viên của Kaiser Permanente sẵn lòng giúp đỡ quý vị và gia đình quý vị.

Để biết thêm thông tin, hãy truy cập kp.org/mydoctor.



Certificate of Translation Accuracy

I, Joyce Logrono, of Welocalize Life Sciences, hereby certify that to the best of my knowledge and belief, the following translation from English (United States) into Vietnamese

Stroke Education.Healing after a Stroke_VI.docx

is a true, complete and accurate translation of the Spanish document

Stroke Education.Healing after a Stroke.docx

I certify that the document/s listed above has/have been translated by qualified, accredited translators.

19800 MacArthur Blvd, Ste 200, Irvine CA 92612
July 2, 2018

Digitally signed by
Joyce Logrono
DN: cn=Joyce Logrono, o=Welocalize Life Sciences

Joyce Logrono
Production Director
Welocalize Life Sciences

Appendix GG

Stroke Flyer Tagalog

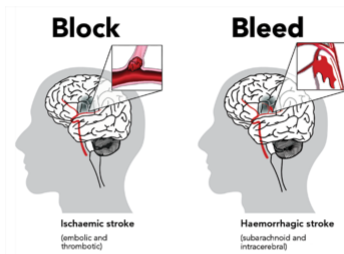
Stroke: Ano ang Kailangan Mong Malaman

Ang stroke ay isang pangyayaring maaaring traumatiko at nakakatakot. Gusto naming malaman mo na **palaging may pag-asa** para sa paggaling. Narito ang mga tauhan ng Kaiser Permanente para sa iyo at sa iyong pamilya.

Ano ang Stroke?

May tatlong uri ng karamdamang stroke

- Ischemic – ang daluyan ng dugo sa utak ay nababahiran ng namuong dugo
- Hemorrhagic – pumuputok ang isang daluyan ng dugo sa utak
- TIA – kapag ang isang daluyan ng dugo ay nabahiran nang panandaliang panahon.



Mga Palatandaan at Sintomas ng Stroke

Ang isang mabilis na paraan para matandaan ay **FAST**

- F** – Face (Mukha) – nakalaylay ang isang panig ng mukha
- A** – Arms (Mga Braso) – maaaring bumabagsak ang isang braso
- S** – Speech (Pagsasalita) – maaaring nabubulol
- T** – Time (Oras) – **oras na para tumawag sa 911**

Paano mo maiiwasan ang stroke?

- Uminom ng mga gamot na pangkontrol sa iyong
 - Presyon ng Dugo
 - Diabetes
 - Kolesterol
 - Abnormal na pagtibok ng puso
- Huminto sa Paninigarilyo
- Mag-ehersisyo para mapanatili ang timbang na mabuti sa kalusugan
- Puntahan ang lahat ng iyong appointment sa doktor

Narito ang mga tauhan ng Kaiser Permanente para sa iyo at sa iyong pamilya.

Para sa karagdagang impormasyon pumunta sa kp.org/mydoctor.



Certificate of Translation Accuracy

I, Joyce Logrono, of Welocalize Life Sciences, hereby certify that to the best of my knowledge and belief, the following translation from English (United States) into Tagalog

Stroke Education.Healing after a Stroke_TL.docx

is a true, complete and accurate translation of the Spanish document

Stroke Education.Healing after a Stroke.docx

I certify that the document/s listed above has/have been translated by qualified, accredited translators.

19800 MacArthur Blvd, Ste 200, Irvine CA 92612

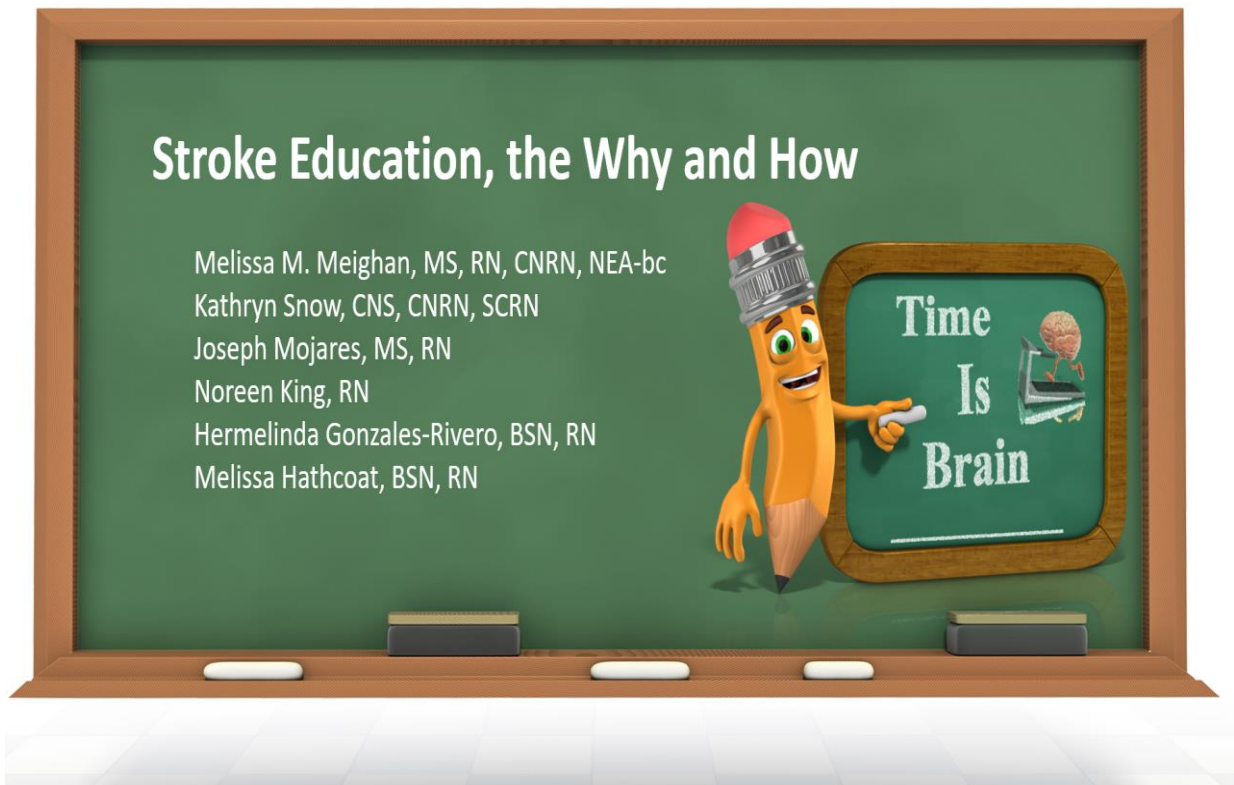
July 2, 2018

Digitized by:

 0E73048308F1473...

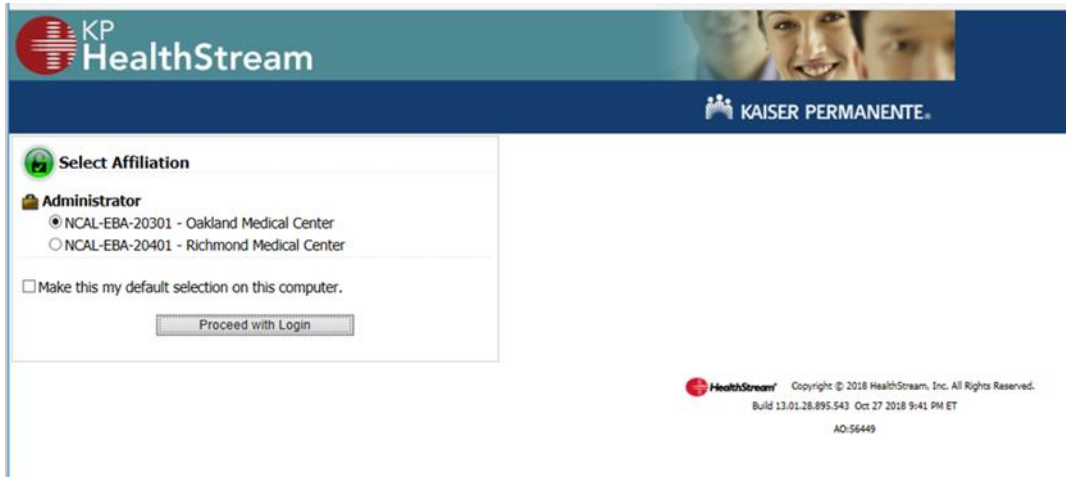
Appendix HH

Stroke Module Title Page



Appendix II

Health Stream Educational Platform



Appendix JJ

Excerpt from Stroke Novel Approaches to Teaching Stroke Patients

Approaching Stroke Patients

Patients with cognitive or memory challenges (frontal injury)

- Recruit family members for teaching
- Provide written material for later review
- Turn off the TV or close curtains to remove distraction
- Speak slowly and stay calm
- Repetition may lead to retention



Approaching Stroke Patients

Right sided brain injury:

- Vary topics and keep sessions short.
- Turn off the TV or close curtains to remove distraction.
- For neglect, begin communication on the attentive side and slowly move toward the neglected side.

Left sided brain injury:

- Consider using a visual aid board.
- May be especially sensitive to reading body language and intention.
- Do not talk louder or use a condescending tone. Remember, the deficit is in speech, not intelligence.



Approaching Stroke Patients

Novel approaches

- Try rhyming or singing the material to help retain.
- Ask that patient to draw what they are thinking about.
- If English is their second language, consider using the language line for translation. Sometimes patient recall information better in their language of origin.



Approaching Stroke Patients

Novel approaches

- Patients may be more alert at one time of day versus another – work with them at their most alert.
- Ask the patient to read materials out loud to you or their family member.
- Repeat the message that they can improve – they want to know there is hope.
- Let the patient know it is okay to express feelings of fear or sadness.



Appendix KK

Stroke Module Post Test

(Answers in Yellow)

1. **Stroke mortality rates continue to decrease steadily due to decreases in rates of diabetes and obesity in younger patient populations.**
 - a. True
 - b. **False**

2. **Select all correct answers about the stroke survivor patient experience.**
 - a. **Stroke is an overwhelming experience.**
 - b. **Patients worry about going home.**
 - c. Patients are hungry for information on complex neuroanatomy.
 - d. **Patients are not ready for stroke education immediately after a stroke.**

3. **The required elements of Joint Commission stroke education are:**
 - a. Stroke signs and symptoms, importance of calling 911, and risk factor management.
 - b. **Activation of emergency medical system, need for follow-up after discharge, medications prescribed at discharge, risk factors for stroke, and warning signs and symptoms of stroke.**
 - c. Disease process, activation of emergency medical system, need for follow-up after discharge, medications prescribed at discharge, risk factors for stroke, and warning signs and symptoms of stroke.
 - d. Joint Commission does not have required elements, but the patient and families should be taught according to their specific disease process and needs.

4. **The stroke flyer will completely replace the stroke booklet.**
 - a. True.
 - b. **False.**

5. **Select all items that are true when applying adult learning principles to stroke education.**
 - a. **Teach back – have the patient and family repeat the signs and symptoms of a stroke.**
 - b. Use the adult learner’s experience, i.e. the signs and symptoms the patient came in with.
 - c. Provision of printed material, no further explanations are required.
 - d. Assessment of the student, patient and family is key.

6. **Techniques for teaching patients with frontal injuries that may result in cognitive or memory challenges include (select all that apply):**
 - a. **Recruit family members for teaching.**
 - b. **Turn off the TV or close curtains to remove distraction.**
 - c. **Speak slowly using repetition and stay calm.**
 - d. Speak loudly as people with cognitive defects may also be hard of hearing.

7. **Patients with neglect should always be approached from their neglected side first to stimulate that part of the brain.**
 - a. True
 - b. False

8. **Patients with left sided brain injury have deficits in:**
 - a. Speech and reading.
 - b. Speech, cognition and intelligence.

9. **Other novel ways of approaching stroke patients include (select):**
 - a. Asking patients to draw the material they are thinking about.
 - b. Talking with the family instead of the patient.
 - c. Asking the patients to read the material out loud.
 - d. Rhyming or singing the material to help retain.

10. **Caring Science principles of assessment, diagnosis, planning, implementation and evaluation have direct application to stroke education.**
 - a. True
 - b. False

Appendix LL

Nurse Practice Alert



Nursing Practice Alert

Patient Stroke Education Improvement

Introduction	Stroke Education is necessary for stroke survivor self-management after discharge. Nurses are consistently documenting that education with required elements is being given. Compliance is at 95% or above for all facilities. However, unfortunately, many stroke survivors are not perceiving adequate of education as evidenced by survey responses.
Expected implementation	June 4, 2018. Completion date: July 16, 2018.
Nursing Expectation	Nurses on Stroke Units will meet the stroke survivor's learning needs by applying learnings from stroke survivors, the evidence found in literature and Caring Science principles to stroke education. Nurses will provide a one-page flyer to the patient as a minimum requirement with the stroke booklet as a supplement.

Background	
BACKGROUND	Stroke education for patients who have suffered a stroke is important for patient self-management of risk factors to prevent a future stroke, understand their disease process and to take the correct action if they should have a second stroke. In addition, stroke education can involve the families and is part of community education on stroke signs and symptoms. The provision of the education is well documented with a Regional Stroke Booklet available to give to the patients and families. However, for several reasons, many stroke survivors are not reporting adequate stroke education. One reason that stroke survivors state both in the literature and in a focus group is that they are overwhelmed initially when in the hospital. Staff nurses state there are challenges in having time to teach adequately. In addition, there are challenges with the supplies of the Regional Booklets on the stroke units. One goal of this project is to provide a simpler flyer to serve as the minimum required printed material with all the required Joint Commission educational elements to give to the patients. Then the simpler flyer in easy to understand terms will be easier for the nurses to teach and for the patients to remember. Another goal is to apply evidence in the literature and the principles of Caring Science to stroke education.
NURSING IMPLICATIONS	Nurses will take a module on Health Stream. The literature on the challenges of stroke patient education will be presented along with the voice of the customer. Strategies on how to approach the stroke patient will be presented. Caring Science principles and their application to stroke education will be presented. Nurses will learn the new simpler work flow of either providing a flyer or they will be able to print the flyer directly from EPIC.

1





Nursing Practice Alert

NURSING TRAINING	How Long: Approximately one hour module on Health Stream.
Addl. Resources	Your Local Stroke Coordinator Your Local DCEPI Melissa M. Meighan, MS, RN, CNRN, Regional Stroke Coordinator Melissa.m.meighan@kp.org AHA 2018 Guidelines for Early Management of Ischemic Stroke AHA Comprehensive Overview of Nursing and Interdisciplinary Care of the Acute Ischemic Stroke Patient National Stroke Association

DRAFT



Appendix MM

Just the Facts on Stroke Education

Stroke Education: Just the FAST Facts ICU and ED

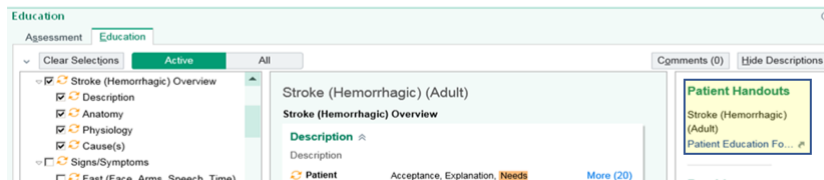
Stroke can be a traumatic, frightening event, especially in the hyper acute phase when they are in your care areas. Education can be a challenge.

Stroke education is well documented by nurses, however, patients are not reporting the best satisfaction with the education.

Based on stroke survivor feedback, staff feedback, regional health education consultation, evidence and clinical expert review, **a new stroke education flyer is now available for use.**

The flyer is the minimum requirement for stroke education with all the Joint Commission required elements. *The flyer is found through Health Connect on the Stroke Portal.*

The flyer is also translated into Spanish, Chinese, Tagalog and Vietnamese and will be on the Stroke Portal. The Regional Stroke booklet will still be available for more detailed information.



Thank you for your efforts.

Appendix NN

Data Management Variables

Variable	Brief Description	Data Source	Possible Range of Values	Level of Measurement	Timeframe for Collection	Statistical Test
HCAHPS score	Explained stroke signs/symptoms - patient response is yes/no and then transformed into a percent	HCAHPS	0% - 100%	Continuous	3 months before and 3 months after intervention	Chi2
	Explained stroke diagnosis - patient response is yes/no and then transformed into a percent	HCAHPS	0% - 100%	Continuous	3 months before and 3 months after intervention	Chi2
	Explained stroke risk/prevention - patient response is yes/no and then transformed into a percent	HCAHPS	0% - 100%	Continuous	3 months before and 3 months after intervention	Chi2
EMS/walk-in	Percent who present via EMS versus private care	MIDAS stroke alert database	0% - 100%	Continuous	3 months before and 3 months after intervention	Chi2
Stroke alerts cancelled due to LKW changed	Percent of stroke alerts cancelled immediately at triage due to last known well time changed and out of window	MIDAS stroke alert database	0% - 100%	Continuous	3 months before and 3 months after intervention	Chi2
Alteplase not given due to out of time window	Percent of patients not treated due to being out of time window over all cancellations	MIDAS stroke alert database	0% - 100%	Continuous	3 months before and 3 months after intervention	Chi2

Appendix OO

Pre-Intervention Stroke HCAHPS Data

HCAHPS Stroke Related Questions (Q2 2018)				
De-identified Medical Center	Question		Num (Y)	Denom (n)
Hospital A	N16.1 41046 STK Staff explained stroke diagnosis	_N	3	4
		_Score		75.00%
Hospital B	N16.1 41046 STK Staff explained stroke diagnosis	_N	4	10
		_Score		40.00%
Hospital C	N16.1 41046 STK Staff explained stroke diagnosis	_N	4	10
		_Score		40.00%
Hospital D	N16.1 41046 STK Staff explained stroke diagnosis	_N	3	6
		_Score		50.00%
Hospital E	N16.1 41046 STK Staff explained stroke diagnosis	_N	6	10
		_Score		60.00%
Hospital F	N16.1 41046 STK Staff explained stroke diagnosis	_N	1	1
		_Score		100.00%
Composite			21	41
				51.22%
Hospital A	N16.2 41047 STK Staff explained stroke risk/prevention	_N	2	5
		_Score		40.00%
Hospital B	N16.2 41047 STK Staff explained stroke risk/prevention	_N	7	11
		_Score		63.60%
Hospital C	N16.2 41047 STK Staff explained stroke risk/prevention	_N	5	10
		_Score		50.00%
Hospital D	N16.2 41047 STK Staff explained stroke risk/prevention	_N	4	6
		_Score		66.70%
Hospital E	N16.2 41047 STK Staff explained stroke risk/prevention	_N	5	10
		_Score		50.00%
Hospital F	N16.2 41047 STK Staff explained stroke risk/prevention	_N	0	0
		_Score		
Composite			23	42
				54.76%
Hospital A	N16.3 41048 STK Staff explained stroke signs/symptoms	_N	2	4
		_Score		50.00%
Hospital B	N16.3 41048 STK Staff explained stroke signs/symptoms	_N	5	10
		_Score		50.00%
Hospital C	N16.3 41048 STK Staff explained stroke signs/symptoms	_N	4	10
		_Score		40.00%
Hospital D	N16.3 41048 STK Staff explained stroke signs/symptoms	_N	3	6
		_Score		50.00%
Hospital E	N16.3 41048 STK Staff explained stroke signs/symptoms	_N	5	10
		_Score		50.00%
Hospital F	N16.3 41048 STK Staff explained stroke signs/symptoms	_N		
		_Score		
Composite			19	36
				52.78%

Appendix PP

Post-Intervention Stroke HCAHPS Data

HCAHPS Stroke Related Questions (July 2018)				
De-identified Medical Center	Question		Num (Y)	Denom (n)
Hospital A	N16.1 41046 STK Staff explained stroke diagnosis	_N	0	3
		_Score		0.00%
Hospital B	N16.1 41046 STK Staff explained stroke diagnosis	_N	18	25
		_Score		72.00%
Hospital C	N16.1 41046 STK Staff explained stroke diagnosis	_N	4	7
		_Score		57.00%
Hospital D	N16.1 41046 STK Staff explained stroke diagnosis	_N	3	3
		_Score		50.00%
Hospital E	N16.1 41046 STK Staff explained stroke diagnosis	_N	4	9
		_Score		60.00%
Hospital F	N16.1 41046 STK Staff explained stroke diagnosis	_N	3	3
		_Score		100.00%
Composite			32	50
				64.00%
Hospital A	N16.2 41047 STK Staff explained stroke risk/prevention	_N	0	3
		_Score		0.00%
Hospital B	N16.2 41047 STK Staff explained stroke risk/prevention	_N	12	25
		_Score		48.00%
Hospital C	N16.2 41047 STK Staff explained stroke risk/prevention	_N	5	7
		_Score		71.00%
Hospital D	N16.2 41047 STK Staff explained stroke risk/prevention	_N	1	3
		_Score		33.30%
Hospital E	N16.2 41047 STK Staff explained stroke risk/prevention	_N	4	8
		_Score		50.00%
Hospital F	N16.2 41047 STK Staff explained stroke risk/prevention	_N	2	3
		_Score		100.00%
Composite			24	54
				44.44%
Hospital A	N16.3 41048 STK Staff explained stroke signs/symptoms	_N	0	3
		_Score		0.00%
Hospital B	N16.3 41048 STK Staff explained stroke signs/symptoms	_N	13	25
		_Score		50.00%
Hospital C	N16.3 41048 STK Staff explained stroke signs/symptoms	_N	3	7
		_Score		42.00%
Hospital D	N16.3 41048 STK Staff explained stroke signs/symptoms	_N	3	6
		_Score		50.00%
Hospital E	N16.3 41048 STK Staff explained stroke signs/symptoms	_N	3	9
		_Score		50.00%
Hospital F	N16.3 41048 STK Staff explained stroke signs/symptoms	_N	3	3
		_Score		100.00%
Composite			25	53
				47.17%

Appendix QQ

Initial Presentation Mode with Suspected Stroke Symptoms

Mode of Stroke Alert Initial Presentation 1.1.18 to 7.31.18						
	Hosp A		Hosp B		Hosp C	
	(n)	Percent	(n)	Percent	(n)	Percent
ED Ambulance	31	59.62%	68	76.40%	33	66.00%
ED Stroke Onset in ED	3	5.77%	2	2.25%	0	0.00%
ED Walk In	15	28.85%	18	20.22%	15	30.00%
Inpatient	3	5.77%	1	1.12%	2	4.00%
Total	52		89		50	
	Hosp D		Hosp E		Hosp F	
	(n)	Percent	(n)	Percent	(n)	Percent
ED Ambulance	44	55.70%	17	51.52%	20	60.61%
ED Stroke Onset in ED	2	2.53%	2	6.06%	1	3.03%
ED Walk In	19	24.05%	12	36.36%	12	36.36%
Inpatient	14	17.72%	2	6.06%	0	0.00%
Total	79		33		33	
	Aggregate					
	(n)	Percent				
ED Ambulance	213	63.39%				
ED Stroke Onset in ED	10	2.98%				
ED Walk In	91	27.08%				
Inpatient	22	6.55%				
Total	336					

Mode of Stroke Alert Initial Presentation 7.1.18 to 7.31.18						
	Hosp A		Hosp B		Hosp C	
	(n)	Percent	(n)	Percent	(n)	Percent
ED Ambulance	12	64.00%	14	70.00%	6	27.27%
ED Stroke Onset in ED	0	0.00%	0	0.00%	0	0.00%
ED Walk In	4	25.00%	6	30.00%	15	68.18%
Inpatient	0	0.00%	0	0.00%	1	4.55%
Total	16		20		22	
	Hosp D		Hosp E		Hosp F	
	(n)	Percent	(n)	Percent	(n)	Percent
ED Ambulance	16	42.11%	6	66.67%	8	72.73%
ED Stroke Onset in ED	0	0.00%	0	0.00%	0	0.00%
ED Walk In	17	44.74%	3	33.33%	3	27.27%
Inpatient	5	13.16%	0	0.00%	0	0.00%
Total	38		9		11	
	Aggregate					
	(n)	Percent				
ED Ambulance	62	72.94%				
ED Stroke Onset in ED	0	0.00%				
ED Walk In	17	20.00%				
Inpatient	6	7.06%				
Total	85					

Mode of Stroke Alert Initial Presentation 8.1.18 to 8.31.18						
	Hosp A		Hosp B		Hosp C	
	(n)	Percent	(n)	Percent	(n)	Percent
ED Ambulance	13	72.22%	16	72.73%	11	31.43%
ED Stroke Onset in ED	0	0.00%	0	0.00%	1	2.86%
ED Walk In	4	22.22%	6	27.27%	15	42.86%
Inpatient	1	5.56%	0	0.00%	8	22.86%
Total	18		22		35	
	Hosp D		Hosp E		Hosp F	
	(n)	Percent	(n)	Percent	(n)	Percent
ED Ambulance	19	48.72%	3	33.33%	20	60.61%
ED Stroke Onset in ED	1	2.56%	0	0.00%	1	3.03%
ED Walk In	14	35.90%	6	66.67%	12	36.36%
Inpatient	5	12.82%	0	0.00%	0	0.00%
Total	39		9		33	
	Aggregate					
	(n)	Percent				
ED Ambulance	82	52.56%				
ED Stroke Onset in ED	3	1.92%				
ED Walk In	57	36.54%				
Inpatient	14	8.97%				
Total	156					

Appendix RR

Stroke Alerts Initially Cancelled

Stroke Alerts not Cancelled, Alteplase Not Given Due to Out of Time Window 1.1.18 to 7.31.18							
	Hosp A	Hosp B	Hosp C	Hosp D	Hosp E	Hosp F	Total
Not given due to time window	4	20	3	6	7	3	43
Total Not Given	19	54	23	47	26	15	184
% Not given due to out of time window	21.05%	37.04%	13.04%	12.77%	26.92%	20.00%	23.37%
Total Treated	34	27	25	38	7	17	148
Stroke Alerts not Cancelled, Alteplase Not Given Due to Out of Time Window 7.1.18 to 7.31.18							
	Hosp A	Hosp B	Hosp C	Hosp D	Hosp E	Hosp F	Total
Not given due to time window	1	3	0	0	0	1	5
Total Not Given	4	9	2	7	0	1	23
% Not given due to out of time window	25.00%	33.33%	0.00%	0.00%		100.00%	21.74%
Total Treated	6	27	0	6	0	1	40
Stroke Alerts not Cancelled, Alteplase Not Given Due to Out of Time Window 8.1.18 to 8.31.18							
	Hosp A	Hosp B	Hosp C	Hosp D	Hosp E	Hosp F	Total
Not given due to time window	0	6	2	2	0	0	10
Total Not Given	1	10	6	7	0	2	26
% Not given due to out of time window	0.00%	60.00%	33.33%	28.57%		0.00%	38.46%
Total Treated	5	2	7	5	0	0	19

Stroke Alert Not Cancelled and Alteplase not Given Due to Time Window

Appendix SS

Signed Statement of Non-Research Determination Form

Student Name: Melissa M. Meighan, MS, RN, CNRN

Title of Project:

Empowerment of Nurses and Stroke Survivors

Brief Description of Project:

Stroke survivors are hungry for knowledge (Danzl et al., 2016). This knowledge is critical for risk factor management and understanding appropriate actions to take if a second stroke is experienced. However, stroke survivors and caregivers are often discharged home without feeling adequately educated on the disease process (Livesay, 2014). According to patients, acute care providers do not explain important elements of stroke education (Danzl et al., 2016).

Currently only 40% of Kaiser's Northern California stroke patient population is reporting adequate education in disease process, when to call 911 and risk factor management in their HCAHPS responses. This is in spite of an apparent compliance rate of 90-100% of stroke education documentation that is required by Joint Commission for primary and comprehensive stroke center certification.

A) Aim Statement:

By August 1, 2018, Kaiser Regional effort will improve, expand and provide additional infrastructure for the current stroke education program.

B) Description of Intervention:

Based on the evidence, multi-modal education which actively involves the patient and caregiver is most likely to have an impact on their perception of adequate education. (Danzel, M.M., et al., 2016; Eames Eames, S., Hoffman, T., Worrall, L., & Read, S., 2010; Green, T., Haley, E., Eliasziw, M., & Hoyte, K., 2007; and Yu-Feng et al, 2015). Active involvement does require engagement of the health care provider in assessment of the patient's emotional status at the time (Danzel, M.M., et al, 2016). The patient and caregiver may be overwhelmed by the traumatic event of a stroke which has fundamentally changed their life (Danzl et al, 2016 and Livesay, 2014) and yet the knowledge is crucial. Assessment, engagement and repetition of information are all elements to be addressed in the provision of stroke education to ensure positive perception, and then subsequent appropriate actions. The stroke survivor suffering from a second stroke who activates the EMS system in time may save years of disability or a life.

Development of a comprehensive educational program module for the nursing staff for Kaiser Northern California Region assist in improving, expanding and providing the necessary infrastructure. The program will utilize evidence-based practice, the expertise of facility stroke coordinators, input from front line staff and stroke survivors. A stroke booklet which is given to all stroke survivors in Kaiser Northern California will be revised based on new evidence and stroke survivor input. Online educational material which is available for staff to print out when the booklets are not in stock will be reviewed and revised. Assessment of available video kiosks and promotion of obtaining educational kiosks will be part of the project.

C) How will this intervention change practice?

By developing a comprehensive educational program there will be the potential increase in the ability of staff nurses in adequately assessing the patient's readiness for education and provide focused evidence-based education which also incorporates input from stroke survivors.

D) Outcome measurements:

- Increase the knowledge of proper stroke education of front line staff by 10% from baseline.
- Increase patient's perception of adequate stroke education received while in the facility from the current baseline of 40% to at least 60% for Kaiser Northern California Region

References

- Danzl, M. M., Harrison, A., Hunter, E. G., Kuperstein, J., Sylvia, V., Maddy, K., & Campbell, S. (2016). "A lot of things passed me by": Rural stroke survivors' and caregivers' experience of receiving education from health care providers. *Journal of Rural Health, 32*(1), 13-24. doi:10.1111/jrh.12124
- Eames, S., Hoffman, T., Worrall, L., & Read, S. (2010). Stroke patients' and carers' perception of barriers to accessing stroke information. *Topics in Stroke Rehabilitation, 17*(2), 69-78. doi:10.1013/tsr1702-69.
- Green, T., Haley, E., Eliasziw, M., & Hoyte, K. (2007). Education in stroke prevention: Efficacy of an educational counselling intervention to increase knowledge in stroke survivors. *Canadian Journal of Neuroscience Nursing, 29*(2), 13-20.
- Livesay, S. (Ed.). (2014). *Comprehensive review for stroke nursing*. Chicago: American Association of Neuroscience Nurses.
- Yu-Feng, Y. C., Richardson, L. D., Nagurka, R., Hao, K., Zaets, S. B., Brimacombe, M. B., & Levine, S. R. (2015). Stroke education in an emergency department waiting room: A comparison of methods. *Health Promotion Perspectives, 5*(1), 34-41. doi:10.15171/hpp.2015.005

Appendix TT

Letter of Support from the Organization

To Whom It May Concern.

This letter is to state executive leadership support of the Northern California Regional Stroke Education Improvement Project.

The goal of the project is to increase the percentage by 10% the number of yes responses by patients over 18 discharged with a stroke diagnosis to Hospital Consumer Assessment of Healthcare Providers and Systems stroke related questions and one balancing question. The specific stroke questions are:

- N16.1 41046 STK Staff explained stroke diagnosis(Yes, definitely)
- N16.2 41047 STK Staff explained stroke risk/prevention(Yes, definitely)
- N16.3 41048 STK Staff explained stroke signs/symptoms(Yes, definitely)

The balancing question is:

- H09.2 Received info re: symptoms to look for: Yes

The proposed plan is to:

- Revise a current regional stroke booklet based on voice of the customer input and expert consultation.
- From the printed booklet design a web based easily printable version.
- Revise the currently available on-line education material.
- An on-line education module on how to educate the stroke patients will be designed. The voice of the customer will be incorporated into the design.
- The health stream module will be completed by the nurses working on the stroke units in the twenty one medical centers.
- A survey of the front line staff has been completed before the survey and one will be conducted after the survey.
- Estimated kick off date is by the end of January 2018.

Funding for the nursing education hours has been approved by regional nursing leadership. This project is in alignment with the organizational priorities to increase patient satisfaction. Improvement of stroke education is also in alignment with the Center for Disease Control's call to action on improvement of public awareness of stroke symptoms as the rate of stroke mortality decrease has slowed and is increasing for subsets of the population.

Thank you for your time.

From: [Anne M. Goldfisher](#)
To: [Melissa M Meighan](#)
Subject: RE: Letter of Support for Patient Education Project **Date:**
Tuesday, November 07, 2017 9:38:22 AM

I approve

Anne M. Goldfisher, RN, MA, CPHQ, CENP
Executive Director, Quality & Regulatory Services NCAL
Kaiser Foundation Hospital and Health Plan

1950 Franklin St 14th Floor
Oakland, CA 94612
Email: Anne.M.Goldfisher@kp.org
Office Phone: 510-987-3702 (Teline 8-427-3702)

Executive Assistant: Loranth Otvos
Office Phone: 510-987-4156 (Teline 8-427-4156)
Email: Loranth.Otvos@kp.org

From: Melissa M Meighan
Sent: Tuesday, November 07, 2017 9:37 AM
To: Anne M. Goldfisher <Anne.M.Goldfisher@kp.org>
Subject: Letter of Support for Patient Education Project

Hi Anne,

Attached please find a leadership letter of support for the patient stroke education improvement project for your review. Feel free to edit.

It can be returned to myself via email and I will PDF the response for documentation.

Thank you again.

Melissa M. Meighan, MS, RN, CNRN
Regional Stroke Coordinator/Clinical Practice Consultant
Regional Quality, Accreditation, Regulation & Licensing Department
1950 Franklin Street, Oakland, CA. 94612
Kaiser Foundation Hospitals
Office: (510) 510-987-3433/Tie Line: 8-427
Fax: (510) 987-3548
Cell: (510) 301-5177
E-mail: Melissa.m.meighan@kp.org