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# Stroke Outreach in the Lao Community

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Stroke Outreach in the Lao Community

Noor A. Dythavon

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### **Stroke Outreach in the Lao Community**

The 2013 US Census, states that there are 246,000 people who identify themselves as being Laotian (Lao) including those of mixed-race and mixed-ethnicity who reside in the USA (United States Census, 2016). In 2015 an updated US census query found that a total of 84,683 Laotians live in California with approximately 10,000 residing in Sacramento (United States Census, 2016). Recent studies and community assessments on neighborhoods that were specifically Laotian showed increases in poor health due to chronic illness, poor language skills, and lack of faith in the American medical community. Mistrust of western medicine, misunderstandings of treatment modalities, and increases in mortality have caused devastating consequences in this very diverse minority population (Mayxay et al., 2013). Illnesses such as hypertension, stroke, heart failure, and diabetes have been exacerbated due to language disparities and confusing explanations regarding physical complaints. Attempts to address healthcare disparities in the Lao community have failed due to healthcare illiteracy issues, lack of English language fluency, cultural misunderstandings, and inconsistent primary care (Shah, Khan, O'Donnell, & Kapral, 2015). Increases in extremely costly fallouts with the non-English speaking community has prompted the Office of Minority health and other federal regulatory agencies to mandate that all facilities that receive Hill-Burton funding have language accessible community service options (Shah, Khan, O'Donnell, & Kapral, 2015).

### **Clinical Leadership Theme**

Though many CNL themes can be observed, this project the primary CNL theme is that of an outcomes manager and clinical educator. A clinical nurse leader (CNL) is a master prepared registered nurse whose has been trained to assess and improve clinical healthcare

outcomes in a diverse population throughout the healthcare continuum (American Association of Colleges of Nursing, 2013). For the Laotian (Lao) community and its complexed and culturally specific issues, the insertion of a clinical nurse leader to assess the community needs and engage with community leaders could greatly improve the healthcare outcome and ongoing needs in the community for all ages. The CNL improvement theme for Lao community would be to identify, assess, and mitigate poor healthcare outcomes. The CNL would also identify consistent chronic diseases that plague the Lao community, and decrease the poor compliance and recidivism rates in non-English speaking patients who reside in the facilities service area (American Association of Colleges of Nursing, 2013). The goals for this project is to implement an evidenced based outpatient hypertension and stroke awareness program in the facilities service area where one does not currently exist. For this non-English speaking, Southeast Asian Community South Sacramento California, our team will be using the Health Belief Model (Appendix A).

### **Statement of the Problem**

Available data from the Center for Disease Control (CDC) finds that there is high incidence of hypertension and stroke among Southeast Asians and the Laotian community in the United States (CDC, 2016). CDC data finds that 6.8% of Southeast Asians have heart disease, 4.5% have been diagnosed with coronary artery disease, 21.2% have been diagnosed with hypertension, and 1.8% have some form of stroke (CDC, 2016). A community health assessment (CHNA) written for the south Sacramento area in 2013 and 2016 respectively identified hypertension, strokes, stroke education as well as stroke outpatient outreach as being a high priority fallout for the Lao and Southeast Asian community who reside in the south Sacramento service area (Diaz & Schmidlein, 2016). Exacerbating this problem, the U.S.

Department of Health and Human Services (HHS) has identified the inability to emotionally, culturally and linguistically understand the English language as being part of disabilities that fall under the current Social Securities Act making the provision of language based services mandatory (National Council on Disability, 2009).

Addressing this problem in the affected populations will avoid catastrophic loss of revenue and to prevent limitations to quality improvement for the entire south Sacramento population. Immediate assessment and reconciliation of those patient populations who are identified as being at risk, high risk, identified as having disparities, or healthcare literacy issues must occur by all acute care facilities in the south Sacramento service area (National Council on Disability, 2009). The greatest fallouts were identified in south Sacramento neighborhoods and inner communities where SEA languages like Lao, Hmong, Iu Mien, and Cambodian were identified as the primary language. Recent studies sponsored by the American Stroke Association found that when treating patients who were diagnosed with hypertension and acute stroke, language barriers have indeed led to poor outcomes and increased recidivism (Shah, Khan, O'Donnell, & Kapral, 2015). Language barrier issues that include inability to obtain accurate clinical history by treating providers, poor knowledge of medication regimes, and misunderstanding of discharge instructions have had significant impact on the quality of stroke care as well as clinical outcomes in the south Sacramento (Shah, Khan, O'Donnell, & Kapral, 2015).

### **Project overview**

The nature of this project is to introduce and implement a clinical nurse leader (CNL) lead, evidenced-based outpatient hypertension and stroke awareness program where one does

not exist to the non-English speaking Southeast Asian Community in South Sacramento California. This CNL clinical outreach project begins with boots on the ground face to face community engagement by means of language specific outreach fairs for the Lao, Vietnamese, Cambodian and Hmong communities who reside within the south Sacramento area.

Incentivized to creating change, address healthcare disparities, and reduce SEA community fallouts project, the project staff approached acute care facilities, medical providers, and community leaders to understand what obstacles were present within the SEA community that cause access to care issues. Project staff found a lack of culturally competent healthcare educational programs for SEA in the greater Sacramento area (Ryskulova M.D. M.P.H., & Keppel, Ph.D., 2010).

Studies have found that to increase hypertension awareness and stroke literacy in non-English speaking communities, information must be given in the community's home language and in a non-threatening environment (Center for Disease Control, 2015). With this information in hand, project staff set an agenda and identified program goals. After meeting with both community leaders and local acute care facility leaders, the programs intended focus would be to raise the **Face, Arm, Speech and Time (FAST)** stroke warning sign acronym. FAST signs and symptoms literacy level for stroke and hypertension in the Laotian and SEA community to above the 40% national average to 75%. In addition to reaching this goal, program staff would capture undiagnosed hypertensive community members whose blood pressure is found to be greater than 140 systolic and refer them to available community resources for treatment without additional cost to the facility (Appendix B). By doing so, the project team can expect to appreciate a dramatic increase in awareness of the FAST stroke

signs and symptoms within that targeted community (Appendix C). Team members can also appreciate an increase in understanding with patient medication regimes and consistent follow up with primary care providers to address hypertension management.

### **Rationale**

Windshield assessments were conducted by USF CNL and team members to evaluate the availability of language-based community resources versus costly real or potential fallouts and disparities within the south Sacramento service area. Verified fallouts include inability to obtain accurate clinical history, poor knowledge of medication regimes, and misunderstanding of discharge instructions by members of the south Sacramento SEA.

A non-scientific student popup study found that less than 6% of the south Sacramento SEA community knew the FAST warning signs for stroke. None of the participants interviewed were aware that the nationally accepted baseline blood pressure was 140/90 for adults 60 years and under (Cruz-Flores et al., 2011). These facts have had significant impact on the quality of stroke care as well as clinical outcomes in the service area (Shah, Khan, O'Donnell, & Kapral, 2015). A SWOT analysis as well as a root cause analysis was completed by the CNL (Appendix D). It was found that mortality rates for non-English speaking Southeast Asian patients due to stroke caused by hypertension was found to be extremely high in 12 out of 15 south Sacramento communities located within the project area (Diaz Dr. PH & Schmidlein, Ph.D, 2016).

### **Method**

Community engagement for this CNL clinical project occurred via health fair booths stationed at community events, culturally specific supermarkets, cultural events, religious

celebrations, Tet Vietnamese Lunar New Year, Lao New Year, Hmong New Year and Cambodian Khmer New Year's celebrations. Multi-Disciplinary staff from local acute care facilities, local medical, nursing and pharmacy schools (student doctors, nurses, pharmacy residents), and local language proficient community members volunteer to staff the CNL clinical stroke booths throughout the south Sacramento SEA community. Using qualitative and quantitative data, the CNL implemented language-based educational materials for the population that included culture beliefs and values. Adapting the teams teaching style to meet the needs of the target audience. Children were engaged by creating games where age appropriate prizes could be won for memorization of stroke FAST warning symptomatology in their native language. At the beginning of the study, 82% of juvenile SEA participants stated that they would, "get Tiger Balm or Ya Doam (SEA Smelling Salts)," if their elders were exhibiting any of the FAST stroke warning signs. CNL project clinical staff collected initial data on 500 community participants (Appendix E). After removing exclusions 202 patients remained in the study. The following data was gathered for study purposes: date of encounter, race, vital signs, age, gender, location of the stroke booth and whether participants were knowledgeable about hypertension or FAST warning signs.

The clinical team gathered blood pressure data on any community participant aged  $>$  or  $=$  30 years of age as per American Heart Association guidelines. Using the American Stroke Association measures for blood pressure control of 140 systolic as a clinical quality performance measure (Cruz-Flores et al., 2011). Blood pressure was considered high if the systolic level was above 140 or the diastolic was above 90 (Diaz & Schmidlein, 2016) Data was collected to evaluate potential care outcomes for this specific microsystem and compared



to current national standards and best practices. When looking at medical history, 41 out of 202 participants or 20.3% had prior history of hypertension or stroke (Appendix F). Of the group of 202 participants, 66 or 32.6% of participants were found to be hypertensive but had no prior history of hypertension and all the 66 were unaware of the FAST stroke warning signs.

### **Interventions**

Healthcare fairs were scheduled throughout the south Sacramento SEA community and was open to all community participants regardless of race and their children. All participants were given a 3x5 card that detailed their blood pressure screening readings and stroke educational information taken from the ASA website in their own language. Participants who did not have a primary care providers were given community resources translated into in their own language. Participants who did not have healthcare coverage were given online application assistance. Using the Health Belief Model (HBM) to learn and understand this group's definition of health and its healthcare beliefs all participants were given stroke, hypertension and heart failure education in their native language.

The Health Belief Model (HBM) for healthcare promotion, was selected as it was the most appropriate model for change at the outpatient level (Butts & Institute of Quality Improvement, 2009). The HBM is a behavior (psychosocial) based community specific care model was more appropriately applicable to address and mitigate hypertension, stroke, chronic illness, and healthcare disparities. This model was more versatile as it had tools that assisted with participants who had issues with language and assimilation (Heydari, Kamran, Ahari, Biria, & Malepour, 2014).

Health fair participants who were found to be at mild to moderate risk were given free electronic BP monitors, free pill reminder boxes and free first aid kits. Lab services were made available at the health fairs where free cholesterol monitoring and hepatitis screening were offered. Participants watched a 4-minute stroke awareness video available in their language and by doing so, were taught the FAST stroke warning signs. Stroke, hypertension, heart failure, dialysis materials were translated into various languages and were made available to all health fair participants regardless of inclusion into the study.

During blood pressure screenings, our team found that elderly grandparents were the primary care providers for small children during the day. Because of this finding, stroke Bingo for children ages 6 and above was used to teach younger fair participants the FAST stroke warning signs, with all children participants winning gifts and prizes.

Clinical staff worked with community leaders to complete applications for AED grants to be placed in temples, churches and supermarkets. This prompted clinical staff to initiate free Heartsaver BLS classes for temple leadership with AED training to ensure community safety. Health fair participants who were found to be at mild to moderate risk were given free electronic BP monitors, free pill reminder boxes and free first aid kits. Participants who were considered high risk were sent to the local urgent care or emergency departments for assessment if they were found to have dangerously high readings.

Multi-Disciplinary staff from the medical center, and nursing and pharmacy schools (student doctors, nurses, pharmacy residents) volunteered to man the stroke booths as part of their mandatory community service hours keeping the cost of the stroke health fair cost at a minimum (Appendix G).

**Data Source/Literature Review**

The literature search relevant to this topic includes searches on the following databases: Institute for Healthcare Improvement, Google Scholar, Researchgate, Pubfacts, and USF CINAHL. The keywords used for this work included; outpatient hypertension management, outpatient health fairs, community assessment, hypertension disparities, stroke disparities, healthcare literacy and language disparities. The articles selected for this work were screened using PICO components, were limited to English, and focused on the following elements for the non-English speaking population in the U.S.: (a) acute stroke and hypertension discharges; (b) emergency department stroke and hypertension admissions and discharges; (c) outpatient management of strokes and hypertension. The time frame for the query was 2006 to 2016. There were no exceptions to this time frame as data and information were found from recent and relevant scholarly articles and best practices. The types of studies reviewed included randomized research studies, systematic reviews, evidence based clinical practice guidelines, well designed case control studies, and expert opinions in the form of best practice reports.

An example of the evidence based resources used for this literature review was, “Blood Pressure Screenings Through Community Nursing Health Fairs: Motivating Individuals to Seek Health Care Follow-Up.” This resource was taken from the Researchgate database and was extremely helpful in supporting this CNL project. Clinical data was found in this scholarly article that was appropriate in scope and applicability to the subject matter of this CNL project. National baseline data numbers like 140/90 were also found that was needed to analyze and evaluate the effectiveness of blood pressure screenings through community health fairs (Lucky, Turner, Hall, Lefaver, & De Werk, 2011).

### **Timeline**

For this unique community, raising FAST stroke warning signs literacy to above the 40% national average to at least 70% was an immediate and critical goal. Historically speaking, implementation of healthcare change management can often be a lengthy process when attempting to address health behaviors, language barriers and cultural norms. Combining that with cultural misinformation and fear will often lengthen time lines (Appendix H). Participants in this study spoke several different southeast Asian languages and had a variety of uniquely different cultural practices and understandings regarding medicine and healthcare. To address these significant issues, our CNL project team focused on bridging education, and generational and age gaps within the community. Evaluating participant's readiness to change and attention to how our team could engage the various individual cultural hierarchies was integral to our team's success.

To accomplish this, the CNL and team members met with Buddhist Monks, Buddhist Nuns, shaman and spiritual Tiems (not quite a fortune teller but an individual who can see and speak to ghost) from the Lao, Hmong, Iu Mien, Cambodian, Vietnamese to obtain permission to meet with citizens who lived in their community. CNL project staff worked with religious leaders to assist them in understanding the importance of healthcare literacy and how it would benefit the community to maintain good heart and cardiovascular health. Southeast Asian culture is extremely family orientated and entry success only occurred when a duty to remain alive paradigm was used to work with the elder and religious leaders.

### **Expected Results**

Laotian's believe that illness is due to imbalances in the body, bad weather or spirit possession. The CNL's goal was not to attempt to interfere with cultures and traditions that are not dangerous but rather disperse critically need information into a language challenged community. While doing so, the CNL and project members were successful in incorporating cultural beliefs into explanations from western medicine which are generally accepted within the community (Lee & Nadeau, 2011, p. 750). Hypertension has been devastating to the Laotian community because of its lack of symptomatology and the Laotian cultural perceptions about health.

### **Nursing Relevance**

To effectively assess successful change, it will be important to continue to assess outpatient blood pressure data. It is critical to ensure that non-English speaking patients continue to receive language specific patient education that is meaningful to ensure return demonstrations or correct patient specific responses. The savvy clinical nurse leader will master the communication strategies needed to work with the team and the patient population. Capitalizing on team member's individual characteristics that support interdisciplinary team work will ensure quality outcomes in the care setting where individuals are respected and feel safe to advocate for the patients within their care (Doody & Doody, 2012). The outpatient outreach educational program can be a very inexpensive program that once vetted and initiated; can be volunteer-based capitalizing on the facilities teaching credentials to encourage interns, pharmacy, and nursing students to use continuing education hours or outpatient community service hours to sustain the programs for years to come.

### Summary

Insert Abstract here. A recent community health needs assessment for the service area prompted concern regarding access to quality healthcare for non-English speaking Southeast Asians (SEA) in the south Sacramento area. Goals used for successful initial investigations and subsequent implementations of sustainable stroke health fairs in surrounding non-English speaking communities were evaluated to assess primary healthcare concerns that the SEA community face and to suggest long-term solutions. Initial investigation required researching population-specific minority health statistics to quantify the prevalence of chronic diseases and conditions which were prioritized in terms of needs versus disparities. Research came from evidence-based practice guidelines and personal concern from SEA community leaders to qualify the need for resolutions. A two year-long, investigation, and collaboration with inpatient and community healthcare resources resulted in no cost sustainable health fairs for the service area that focused on stroke, hypertension, and heart failure education in multiple SEA languages (Appendix C). The goals were to 1) provide face to face stroke education to the non-English speaking SEA community, 2) educate patients on disease prevention and community resources, and 3) improve FAST stroke warning sign literacy to 75% in the service area. This implemented process is intended to serve as a model for future disparity health initiatives in this community and across the nation.

By focusing on CNL competencies of advocacy, education and outcomes management, the CNL project team could create evidence based educational material that could be used throughout all clinical settings (American Association of Colleges of Nursing, 2013). At the completion of this successful microsystem intervention, data verified that FAST stroke warning

sign knowledge went from 5.45% in this target community to 65.35%. In the time frame that our team gathered data, 60 out of 202 or 30% of participants consistently returned to have their blood pressures rechecked and 77.2% were connected to new primary care providers in the community.

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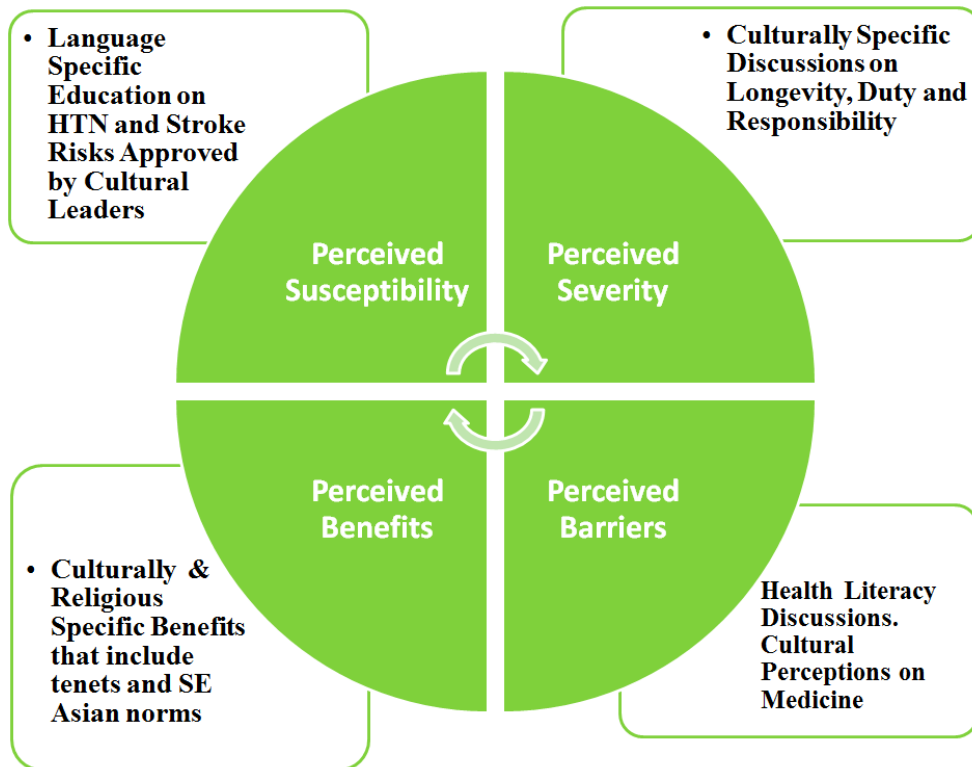


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**Appendix A**

The Health Belief Model (HBM) was created by a team of psychologist named Hochbaum, Rosenstock and Kegels who work with the US. Department of Public Health Services in the 1950ies. The HBM model is designed to predict healthcare behaviors and attitudes.



**Appendix B****Treatment Goals & Best Practices**

<b>Treatment Guideline</b>	<b>Risk Factor</b>	<b>Treatment Goal</b>
American Association of Family Practice	Hypertension Management	< 140/90 in patients <60
American Heart Association	High blood pressure – 140/90 millimeters of mercury or above	< 140/90 in patients <60
American Medical Association	2014 Guideline for management of high blood pressure in adults	In population aged $\geq 60$ years, begin treatment to lower blood pressure (BP) at systolic blood pressure (SBP) $\geq 150$ mmHg or diastolic blood pressure (DBP) $\geq 90$ mmHg and treat to a goal SBP <150 mm Hg and goal DBP <90 mm Hg.
American Society of Hypertension	Initiation of pharmacological treatment	Patients <60 years of age: start pharmacotherapy at 140/90 mmHg.
HEDIS	Hypertension Control	Percent of participants diagnosed with HTN who were controlled <140/90 mmHg

Appendix C

Teaching Tools

Autonomy does not exist if the patient does not understand what is being said. Title VI and the Americans with Disability Act increases awareness and compliance to laws designed to ensure that individuals with Limited English Proficiencies (LEP) and disabilities have access to health information and language assistance. Title VI places non-English speakers in the same category as the disabled.

The inability to emotionally, culturally and linguistically understand healthcare literature causes dramatic fallouts in all communities.



	Khuôn mặt bị xệ
	Cánh tay bị tê Cánh tay bị yếu
	Nói lắp bắp Khó nói hoặc khó hiểu
	Gọi 911

<p>Facial weakness</p> <p>ບາກບັ້ງວ</p>	<p>Arm weakness</p> <p>ແຂນອ່ອນເພຍ</p>	<p>Speech problems</p> <p>ບາກບໍ່ຂອດ</p>	<p>Time to call 999</p> <p>ຖ້າຫາກວ່າເປັນ ເມະຍານໂທໂວງ</p>
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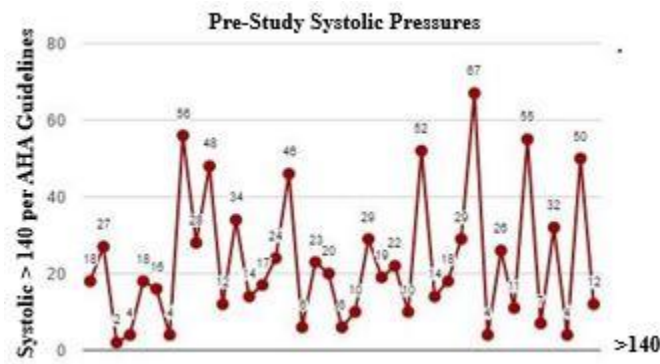
**Appendix D****SWOT Analysis - Community Outreach**

The SWOT analysis table represents the internal and external strengths and weaknesses of the outreach opportunities program.

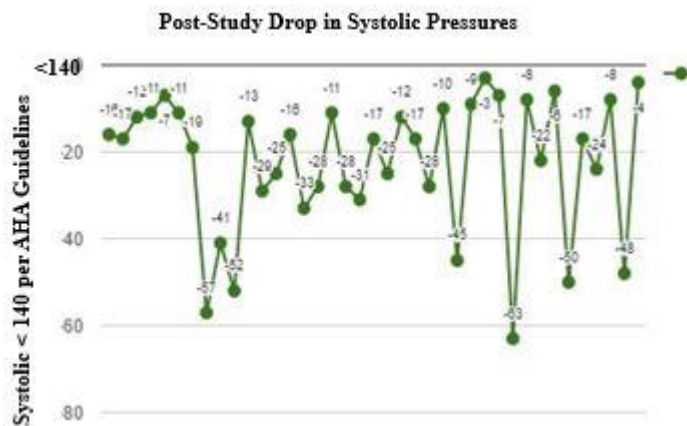
<b>Strengths</b>	<b>Weakness</b>
<ul style="list-style-type: none"> <li>● Large volunteer pool</li> <li>● Sustainable through Health Field Schools</li> <li>● Consistent community engagement</li> <li>● Targeted outreach population will also capture general population</li> </ul>	<ul style="list-style-type: none"> <li>● Lack of primary care follow up</li> <li>● Missing languages</li> <li>● Staff don't know about fairs</li> <li>● Lack of supplies</li> <li>● Lack of community interest</li> <li>● Poor Weather</li> </ul>
<b>Opportunities</b>	<b>Threats</b>
<ul style="list-style-type: none"> <li>● Global Community Outreach</li> <li>● Multi Media Outreach Education</li> <li>● Onsite Training</li> <li>● Succession Plan</li> <li>● Collaboration with outpatient providers</li> <li>● Training opportunities for staff</li> <li>● Data for other high profile projects</li> </ul>	<ul style="list-style-type: none"> <li>● Cost of supplies</li> <li>● Failure to obtain admin program sponsor</li> <li>● Failed support from stroke program coordinator</li> <li>● Failure to get clinical translators</li> <li>● Failure to gain community trust</li> <li>● Participation Failure</li> </ul>

**Appendix E**

Five hundred participants were screened over a three-month period, looking for subjects whose BP was greater than 140/90 regardless of diagnosis. The below systolic variance chart depicts those participants whose blood pressure was found to be above or greater than 140 on at least one of the three encounters.



The below systolic drop chart depicts participants who succeeded in decreasing their systolic blood pressure over the study period through CNL project staff intervention at community health fairs.



**Appendix F**

**FAST Dash Board (Adult):** Ambulatory blood pressures were obtained on 500 subjects aged > or = 40 years using American Health Association guidelines from August through October 2016.

Two hundred and two participants were left in the study after removing study exclusions.

<b>Outcomes</b>	<b>%</b>
Of the 500 participants surveyed understood English SAMPLE stroke discharge instructions	<b>1%</b>
Of the 500 participants surveyed could read English	<b>22%</b>
Of the 500 participants surveyed said they would drive a family member to the emergency department pre-study	<b>87%</b>
107 out of 202 are hypertensive $\geq 140$ systolic	<b>52.97%</b>
66 out of 202 were found to have HTN had no prior diagnosis of stroke or HTN	<b>32.67%</b>
60 out of 202 return x3 consistently for repeat blood pressure screening	<b>29.70%</b>
11 out of 202 knew FAST warning symptomatology on initial encounter	<b>5.45%</b>
99 out of 202 remembered ALL FAST warning symptomatology w/o prompting at end of study	<b>49.01%</b>
132 out of 202 remembered (3 of 4) FAST warning symptomatology at end of study	<b>65.35%</b>

**Exclusions:**

- Data from participants < greater or less than 30 years of age
- Data from participants who did not return for 3 random screenings
- Data from participants who were not identified as being high risk
- Data from participants who were not identified in CHNA disparity categories
- Data from participants who did not live in the service area
- Data from participants who primary English language speaking



### Appendix G

#### Healthcare Cost Analysis Over Three Months (August – October 2016)

Expense	Unit Cost	Potential Cost	Actual Costs
Table (x3)	\$15.33	\$46	\$46
Chairs (x4)	\$6.75	\$27	\$27
Educational Materials		\$140	\$140
CNL Hours		\$11,000	\$0
Staff Hours (x16)		\$6,400	\$0
Translation Hours (36 hrs)	\$75.00	\$2,700	\$0
Blood Pressure Monitors (x100)	\$10.00	\$1000	\$1,000
Pill Boxes (x150)	\$1.00	\$150	\$150
First Aid Kits (x25)	\$1.00	\$25	\$25
<b>Totals</b>	<b>N/A</b>	<b>\$21,488</b>	<b>\$1,388</b>

#### Notes

- ❖ Medical/Nursing Professional Programs would require students who are completing their clinical residency requirements at local facilities, allocate part of their clinical internship hours to value added sponsored programs (**Stroke, Trauma, Burn, Peds Outreach fairs and face to face community engagement**).
- ❖ Clinical volunteer, internship and residency hours would be tracked through database and becomes 100% accessible and available for program re-certification, regulatory as well as best practice and magnet validation and verification.
- ❖ Clinical professional progression ladders for licensed staff would include community service components
- ❖ Clinical staff professional ladder would include community outreach tracked in the database.

Appendix H

Stroke outreach timeline

