Feasibility of Implementing **V**ideoteleconference **S**elf-management **TO P**revent Stroke

V-STOP

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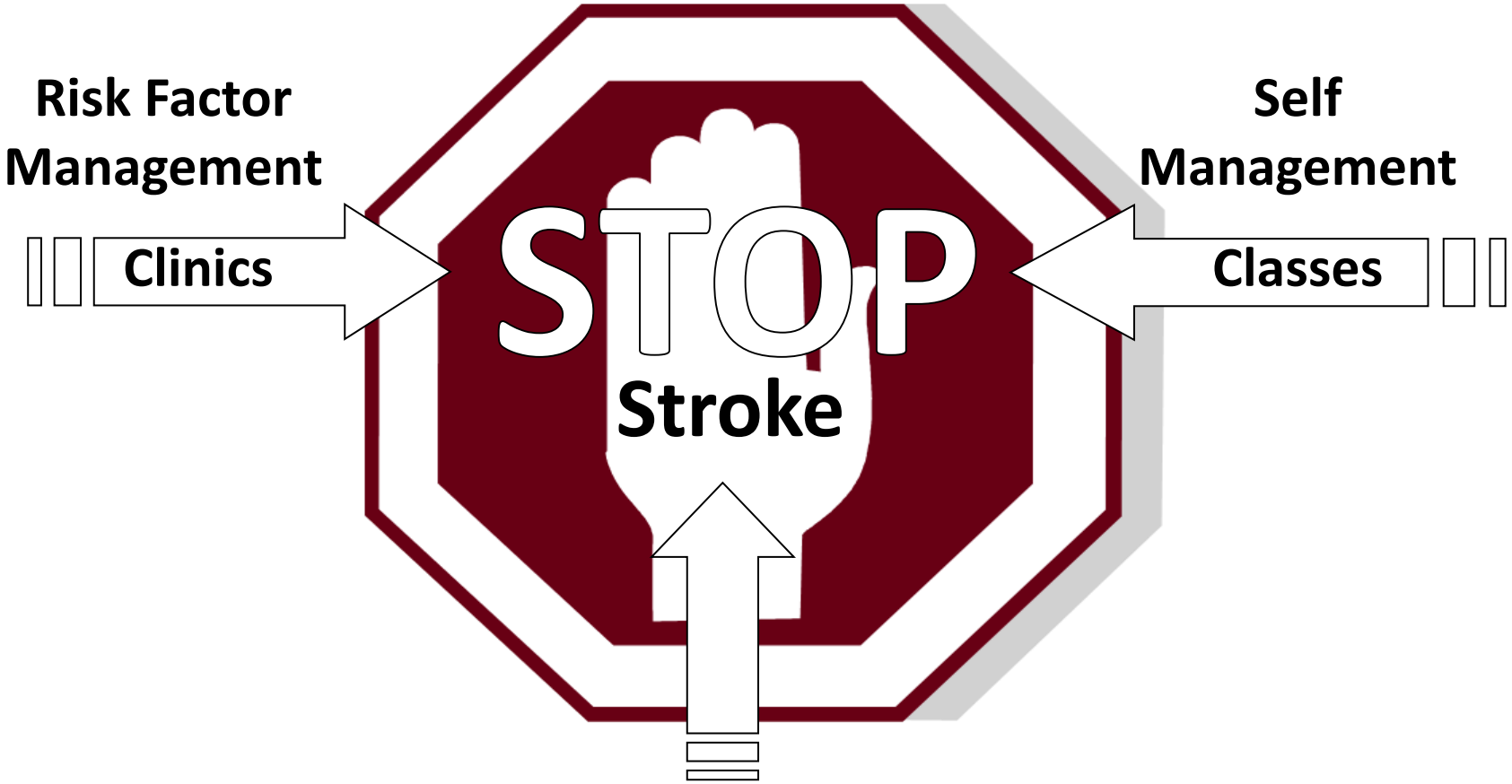
Self-management **TO P**revent



Primary & Secondary Stroke Prevention Guidelines

- American Heart Association/American Stroke Association (AHA/ASA)
  - Recently Updated Guidelines
    - Guidelines for the Prevention of Stroke in Patients with Stroke or Transient Ischemic Attack –
      - October 2010
    - Guidelines for the Primary Prevention of Stroke
      - December 2010

Stroke Etiology Risk Factor	AHA/ASA Stroke Secondary Prevention CPGs Outcome Measures
NonCardioEmbolic/Cardioembolic Stroke	1. **Antiplatelet/ Anticoagulation Therapy Prescribed** Aspirin, Plavix, Aggrenox or Warfarin
Hypertension Hypertension + Diabetes	2. **Hypertension Medications Prescribed** Angiotensin Converting Enzyme Inhibitor-Thiazide Diuretic Angiotensin-Receptor Blockers
Diabetes	3. **Oral hypoglycemic agents/Insulin Prescribed**
	4. **Dietary Counseling Provided**
Hypercholesterolemia	5. **Statin Agent Prescribed**
Smoking	6. **Smoking cessation recommended** Pharmacologic support offered/prescribed
Overweight/Obesity BMI	7. **Dietary Counseling and/or Exercise Training Provided**
Physical Inactivity	8. **Exercise Training - Provided**
Heavy Alcohol Consumption	9. **Reduced alcohol consumption recommended** Referral to alcohol dependency counseling
Patient specific risk factors	10. **Patient Education Materials Provided**
Behavioral risk factors	11. **Patient Self-management -Action Plan Completed**

Guidelines for Stroke Patient Education

- The American Heart American Stroke Association
- Veteran Administration Department of Defense
  - All stroke and TIA patients should receive education on stroke risk factor reduction
- The Joint Commission
  - Patient education should be individualized for each patient admitted with stroke and TIA
  - 8 specific areas of stroke education are recommended for Primary Stroke Centers (PCS) Certification

Joint Commission areas of focus and specific patient education topics for Primary Stroke Center Certification

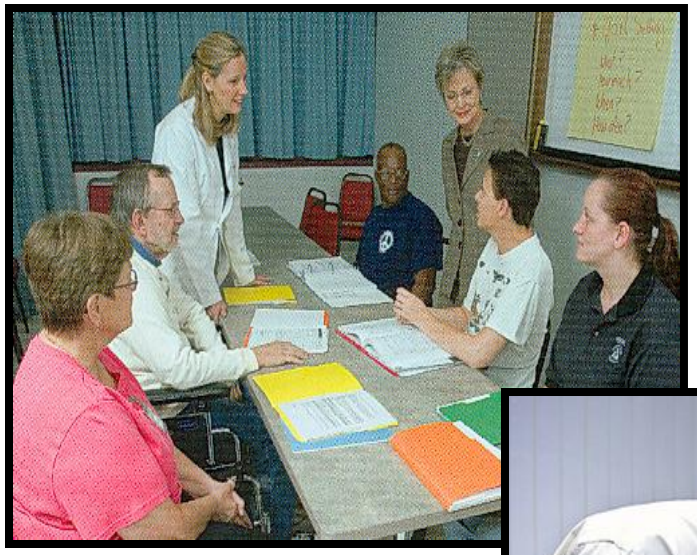
Areas of Focus for Individualized Patient Education after Stroke or TIA	Specific Patient Education Topics for Stroke Prevention
Etiology Treatment of Stroke or TIA event	1. Causes of stroke 2. Stroke workup and treatment plan
Personal stroke risk factors	3. Personal stroke risk factors
Lifestyle modifications	4. Self-management actions to prevent stroke
Prescribed medications	5. Review of prescribed medications
Discharge/Follow up	6. Plan follow up care including rehab
Safety	7. Warning signs of stroke 8. Activation of emergency medical system

Joint Commission Standards for Self-Management

- Supporting Evidence (SE)
- Patients are:
  - SE 1 - Involved in the decision-making process for managing their disease or condition.
  - SE 2 – Given lifestyle changes that support patient self-management actions.
  - SE 3 - Educational needs are addressed in the context of self-management.

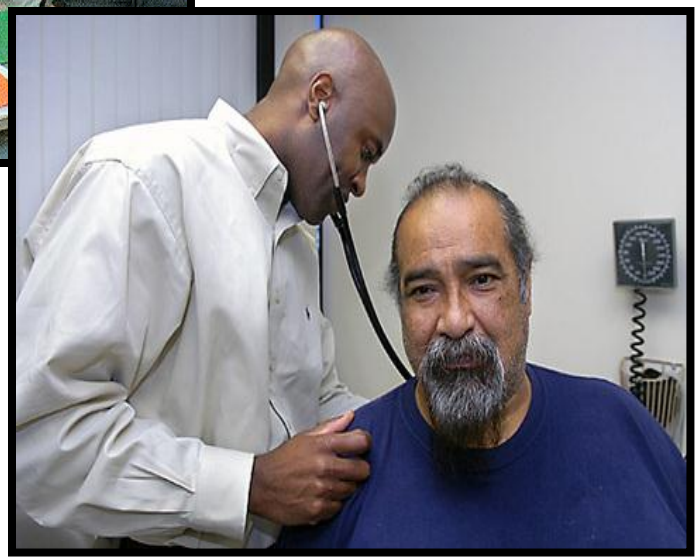
STOP Stroke Program Format
Face-to-Face & Telephone

STOP Stroke Course



Face-to-Face Group
SM Teaching
Telephone SM Counseling

STOP Stroke Clinic



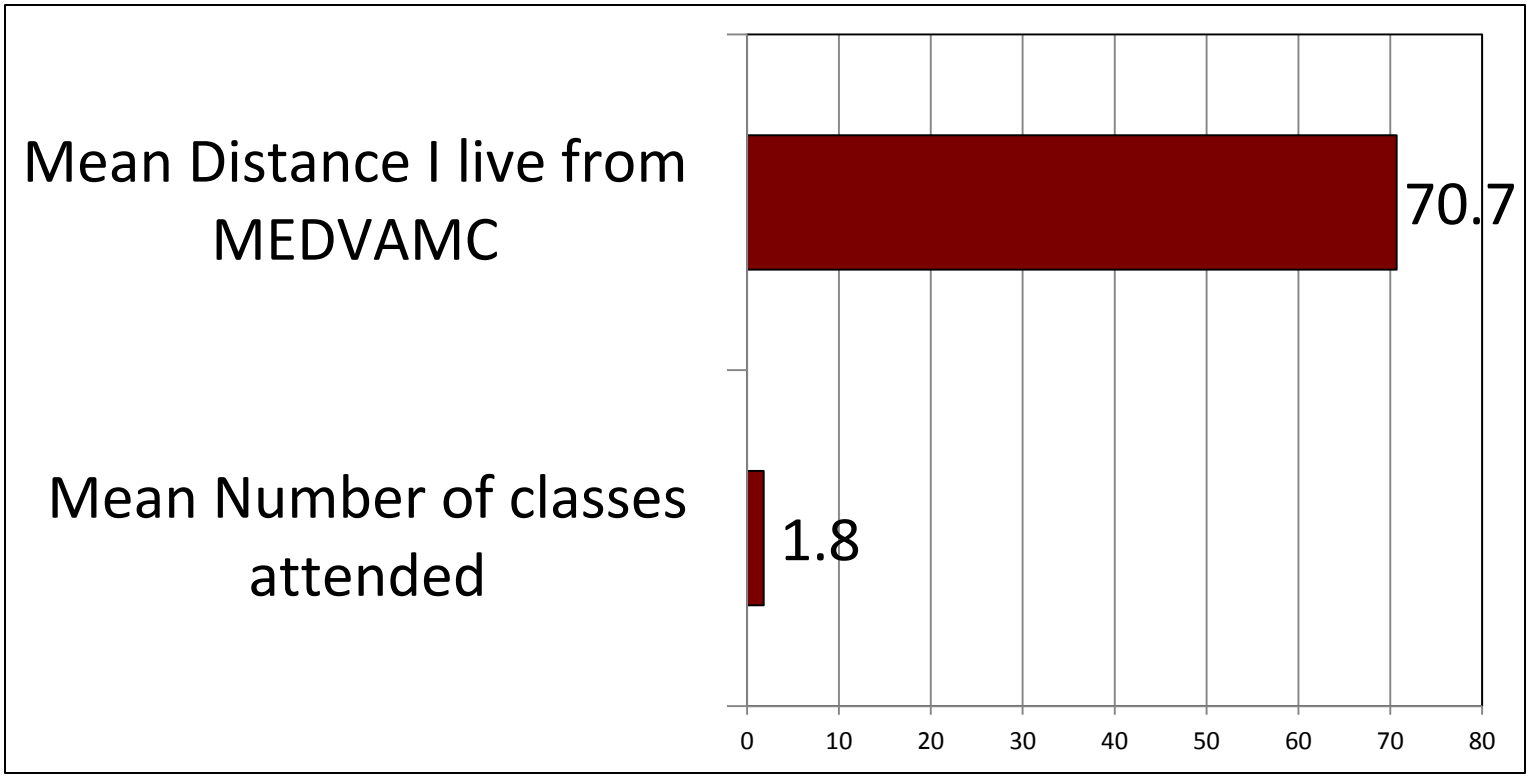
Face-to-Face
Risk Factor
Management
Clinic

STOP Stroke Program Evaluation

N = 60 Participants

Likert Scale 1 - 5

Travel Distance and Parking



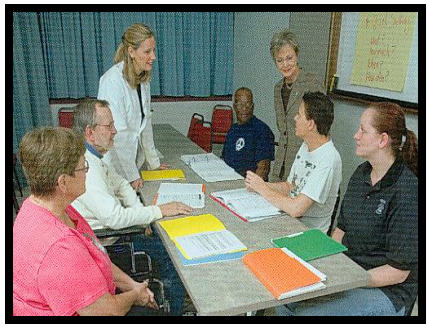
- <u>We found travel distance to be the most significant barrier to dissemination of this intervention.</u>

Face-to-Face Format

STOP Stroke Course

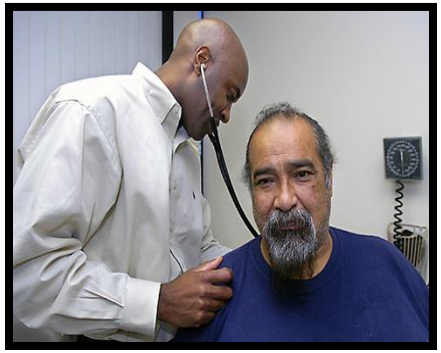
2 - Face-to-Face Group Classes

4 - Telephone Counseling Sessions



STOP Stroke Clinic

2 – Face-to-Face Clinic Visits



Clinical Video Teleconference Format

STOP Stroke Course

2 – CVT Group Classes

4 - Telephone Counseling Sessions

STOP Stroke Clinic

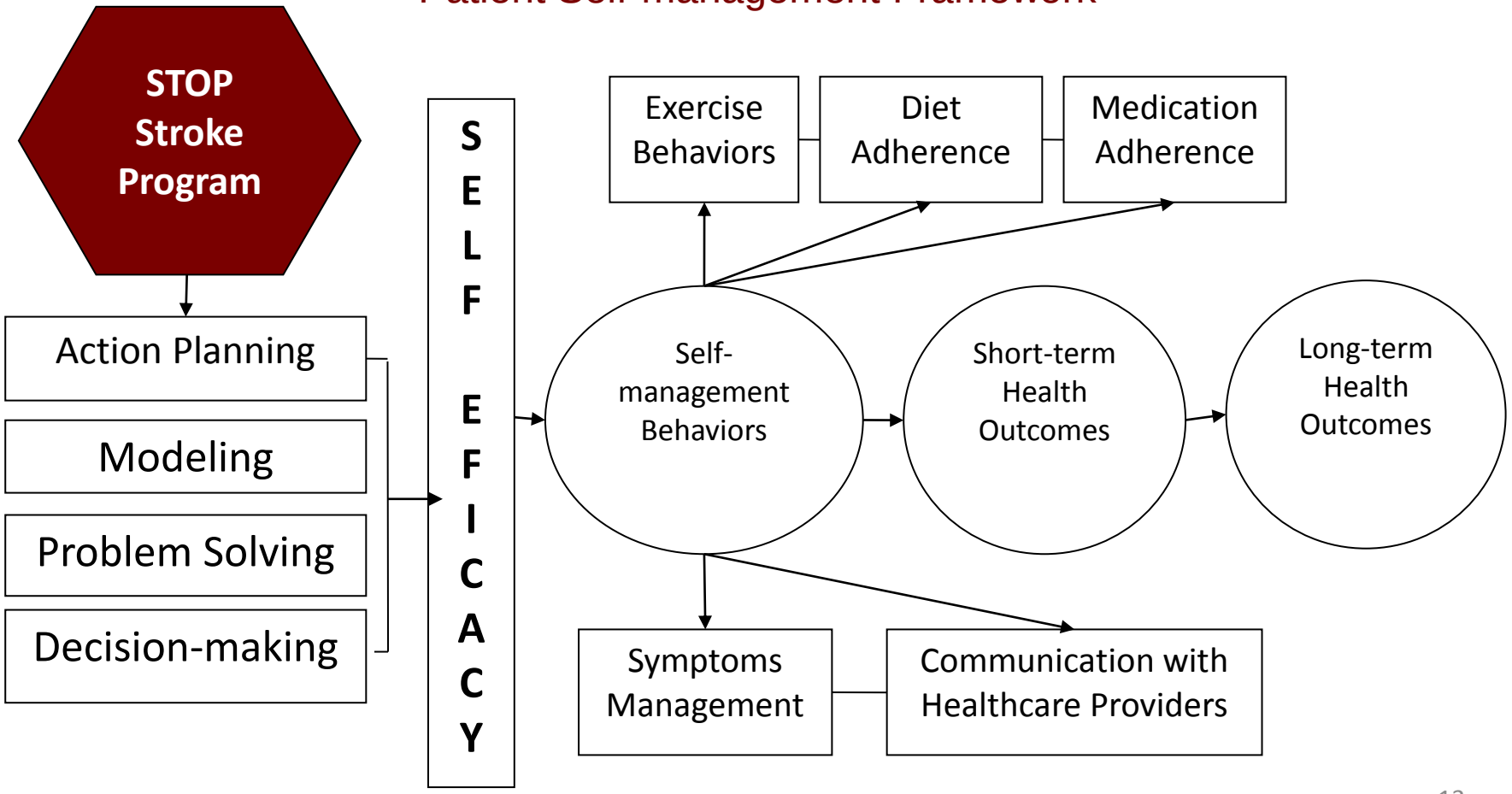
2 – CVT Clinic Visits

Overall Objectives

- Determine system/patient/provider barriers and facilitators to implementing V-STOP
- Describe the effects of V-STOP on:
  - Access to care
  - Acceptability of the program
  - Knowledge about stroke risk
  - Self-management behaviors
  - Self-efficacy
  - Quality of Life (QOL)

Theoretical Framework

Self-efficacy Theory
&
Patient Self-management Framework



Study Design

- Mixed Methods
  - Qualitative
    - Focus Group
    - Content Analysis
  - Quantitative
    - Descriptive Statistics
    - Pre/post – Paired T-Test

Research Questions

- What are system/patient/provider barriers and facilitators to implementing V-STOP?
- What is the effect of V-STOP on primary outcomes of knowledge about stroke risk management and self-management of stroke risk factors?
- What is the effect of V-STOP on secondary outcomes of self-efficacy for chronic disease management, health status and functional status?
- What is the effect of V-STOP on biophysical measures of blood pressure, Body Mass Index, Hemoglobin A1C (in diabetic patients) and lipid profile?
- What is the effect of V-STOP on access to care and patient satisfaction?

Setting

- Community Based Outpatient Clinics (CBOC)
  - Beaumont, Texas
  - Richmond, Texas
- Approximately 20% of patients with stroke/TIA receive their primary care in an affiliate CBOC

# Patients seen in Stroke Clinics @ MEDVAMC	Patients' Assigned Primary Care Clinic
364	Houston
42	Beaumont (BOPC)
24	Galveston (GOPC)
21	Lufkin (CWOPC)
18	Conroe (COPC)

Sample Size & Eligibility Criteria

Sample size:

- Phase 1, Goal N = 10 - Actual N = 13
- Phase 2, Goal N = 20 - Actual N = 25

Eligibility criteria:

1. *Inclusions*
   - male and female Veterans who are age 18 or older
   - history of stroke/TIA
   - at risk for stroke/TIA due to multiple stroke risk factors
   - have the ability to read and speak English
   - have access to a telephone
   - willing to participate in video teleconference group self-management education
2. *Exclusion*

   Individuals who demonstrate severe cognitive or speech deficits.

Description
V-STOP Phase 1 Format

- 2 V-Tel Group SM Education Sessions (2.5 hours) per session
  - Class 1
    - Understanding Stroke/TIA Risk
    - Acute vs. Chronic Disease
    - Stroke Symptoms Cycle
    - Making an Action Plan
    - Health-related problem-solving
  - Class 2
    - Adoption of exercise programs for strength, flexibility and endurance
    - Nutritional change – portion control
    - Use of cognitive symptom management relaxation techniques
    - Taking medications
    - Communication with health professionals
- 4 Individual SM Telephone Counseling Session (15 – 20 minutes) per session
  - Review progress with action plan
  - Discuss accomplishments and/or problem solve barriers
  - Determine confidence in goal attainment
  - Record self-management behaviors practiced
- 2 V-Tel Individual Clinic Visits
  - Clinical follow-up for stroke risk factor management

Aim 1 - Test the feasibility of implementing V-STOP at two CBOC


Phase 1

Focus Group Evaluation

N = 13

Clinician Interviews

All Clinicians

- Identify system, patient, and provider barriers and facilitators to implementing V-STOP

- Refine the V-STOP based on feedback from participant and clinicians

V-STOP Phase 1 Format Barriers

Barriers Themes - Patients	Barrier Themes - Clinicians
• Too much information for 2 classes • Too long – 2.5 hours • More specific information on dietary changes • Less telephone more classes	• No time to help with technology malfunction • Limited clinic space

V-STOP Phase 1 Format Facilitator

Facilitator Themes - Patients

- Provided a Support System
- Personalized Information
- Peer Encouragement
- Convenient Location
- Information Easy to Understand
- Encouraged Behavior Change

Facilitator Themes - Clinicians

- Made Staff More Aware
  - High Risk Patients
- Mechanism to Help
  - High Risk Patients
- Opened Communication
  - Patient & Staff
- Endorsed Need to Continue

Description
Revised V-STOP Format

- **3 V-Tel Group SM Education Sessions** (1.5 hours) per session
  - Class 1
    - Acute vs. Chronic Disease
    - Stroke Symptoms Cycle
    - Making an Action Plan
    - Health-related problem-solving
  - Class 2
    - Adoption of exercise programs for strength, flexibility and endurance
    - Communication with health professionals
    - Review progress with action plan
    - Discuss accomplishments and/or problem solve barriers
  - Class 3
    - Nutritional change – portion control
    - Use of cognitive symptom management relaxation techniques
- **1 SM Telephone Counseling Session** (15 – 20 minutes) per session
  - Review progress with action plan
  - Discuss accomplishments and/or problem solve barriers
- **2 V-Tel Individual Clinic Visits**
  - Understanding Stroke/TIA Risk
  - Taking medications
  - Clinical follow-up for stroke risk factor management

Barriers Addressed

- No time to help with technology malfunction
  - Sent team member to CBOCs as facilitator/troubleshooter
  - Involved IT staff at hub site to facilitate VTEL activation to CBOC
- Limited clinic space
  - Arranged 2 VTEL rooms at each CBOCs to insure backup space
  - Establish system for planning and scheduling of VTEL room use at the CBOCs

Aim 2 - Describe the Effect of V-STOP

Outcomes

Access - Acceptability

Patient Knowledge
Self-management Skills

Patient Outcomes

Baseline	Wk 1	Wk 2	Wk 3	Wk 4	Wk 5	Wk 6	Wk 12	Wk 18
Data Collection	V- STOP Intervention						Data Collection	Data Collection

Results

- Primary outcome measures
  - Stroke risk knowledge
  - Self-management of stroke risk factors
- Exploratory outcome measures
  - Self-efficacy for managing chronic disease
  - Health status
  - Functional status
  - Biophysical measures
- V-STOP Course Evaluation Outcomes
  - Access/Acceptability Measures

Demographics

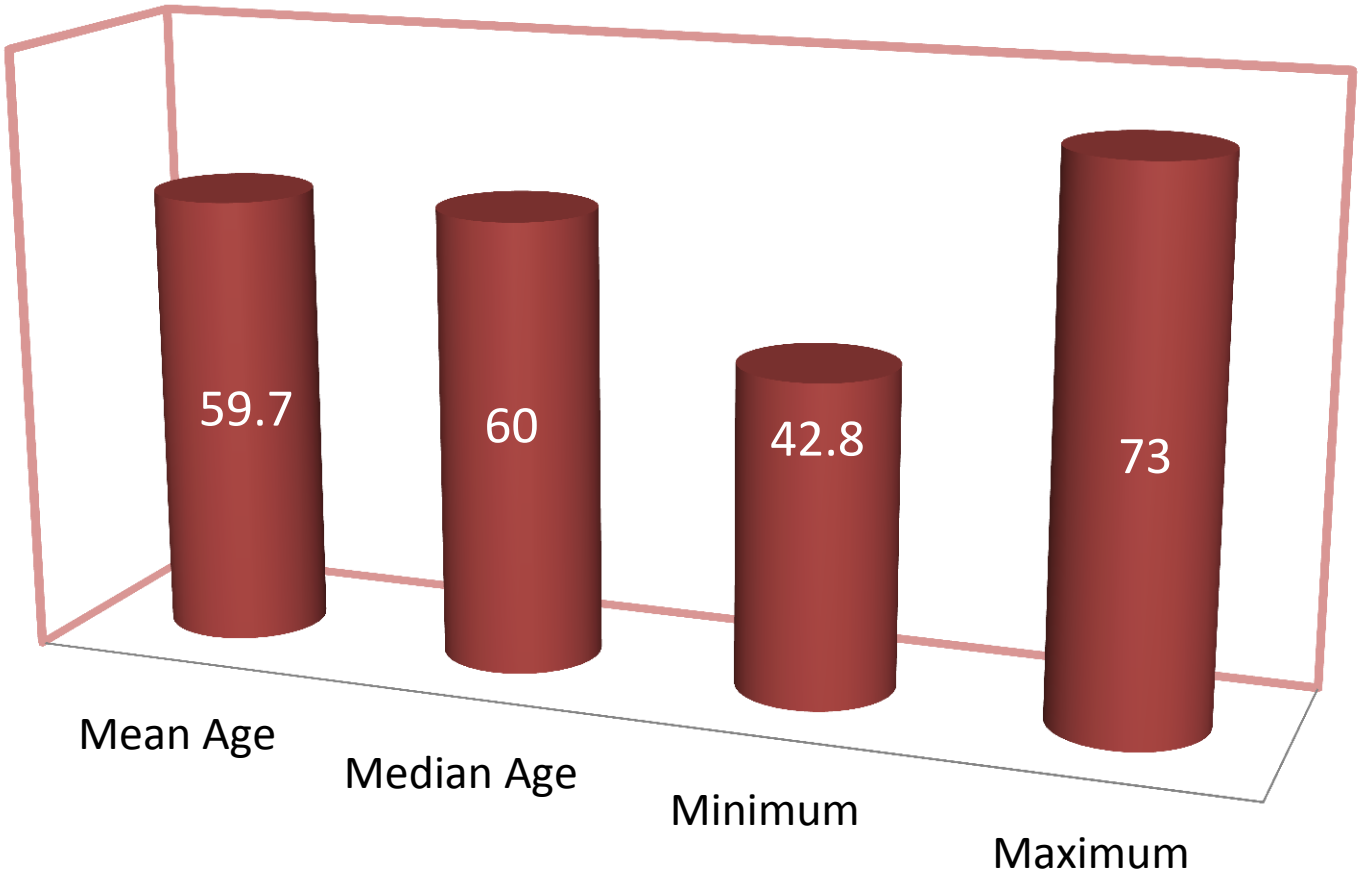
Sample N=13

- Gender
  - 100% males
- Race
  - 62% White
  - 38% African American
- Educational Level
  - 58% High school or less
  - 42% High school plus

Chronic Conditions

- COPD 69%
- High BP 92%
- Diabetes 38%
- Arthritis 46%
- CAD 31%

AGE



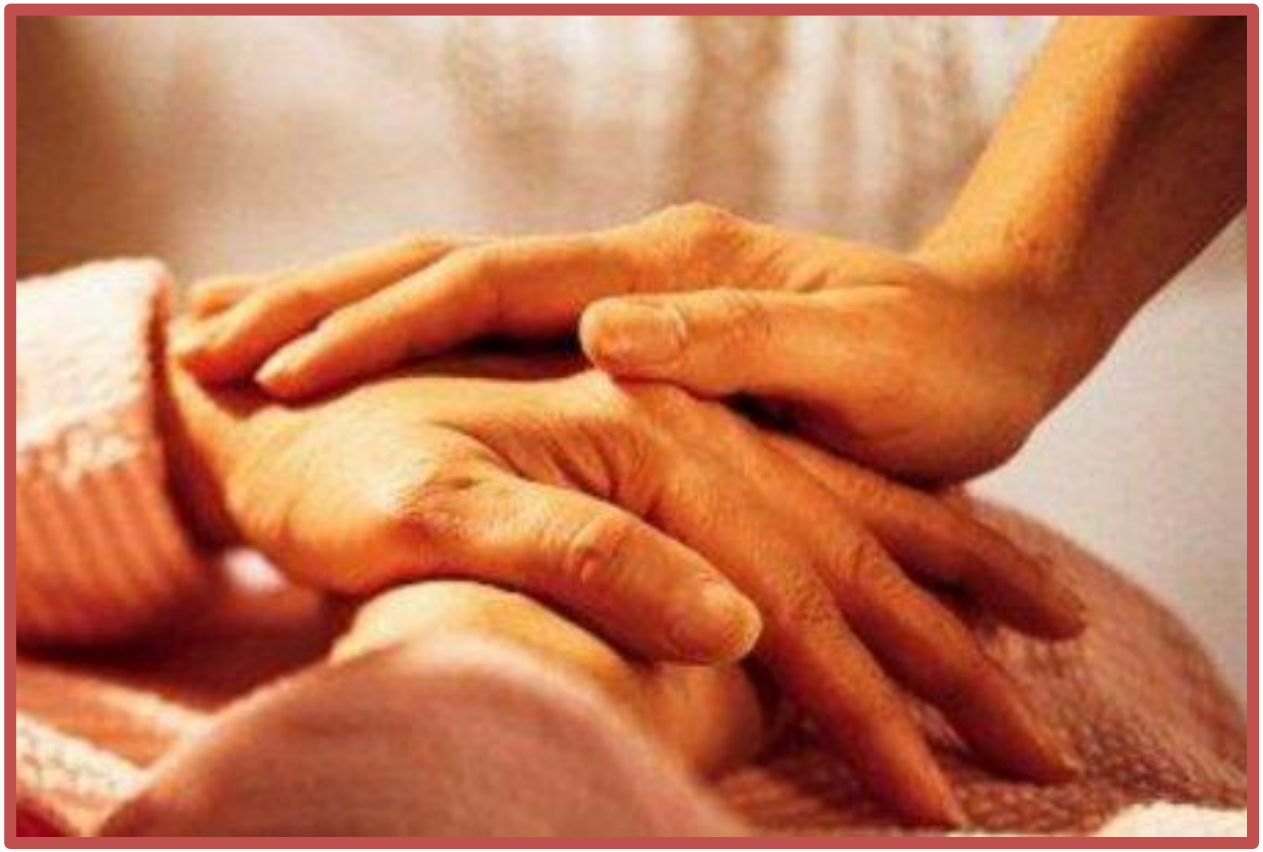
Stroke Risk Scorecard

- No mean difference from baseline at 18 months (p=0.7938)

Risk Factor	High Risk	Caution	Low Risk
Blood Pressure	> 140/90 or I don't know	120-139/80-89	<120/80
Cholesterol	>240 or I don't know	200-239	<200
Diabetes	Yes	Borderline	No
Smoking	I still smoke	I'm trying to quit	I am a non-smoker
Atrial Fibrillation	I have an irregular heartbeat	I don't know	My heartbeat is not irregular
Diet	I am overweight	I am slightly overweight	My weight is healthy
Exercise	I am a couch potato	I exercise sometimes	I exercise regularly
I have stroke in my family	Yes	Not sure	No
Score (each box=1)			

Caregivers

- 85% of the Veteran's did NOT have a caregiver



Access Affects Attendance

Drive Distance

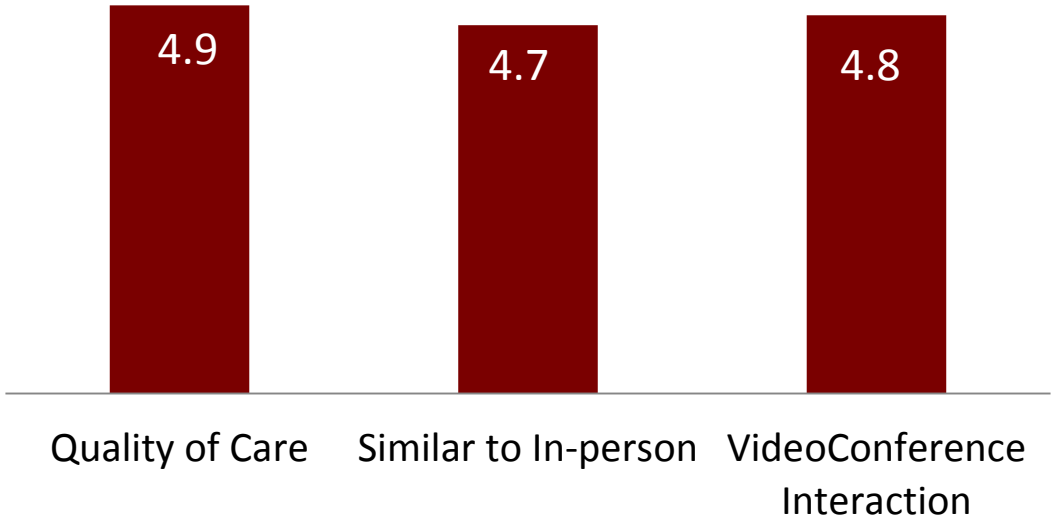
- Home to Clinic
  - 22.4 miles
- Home to MEDVAMC
  - 109.5 miles
- Miles saved
  - One way - 87.1 miles
  - Round trip - 174.2 miles

Attendance Rate

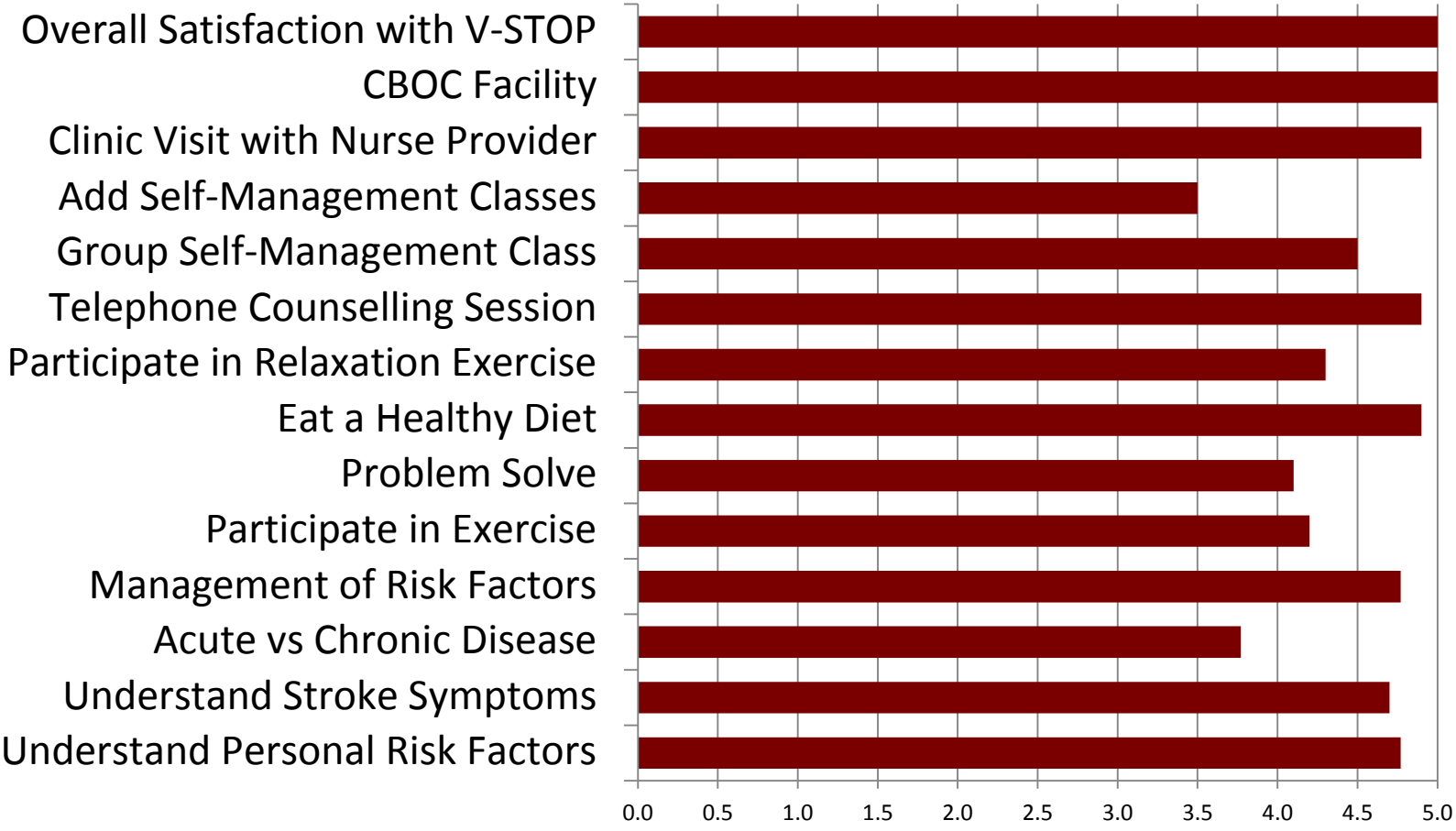
- Classes 69%
- Clinic visits 93%
- Phone visits 93%
- Total visits
  - 6 encounters 46%
  - 7 encounters 54%

Acceptability
Telemedicine Care Delivery

- Mean Score for Each Domain
- Likert Scale with 1 = Strongly Disagree & 5 = Strongly Agree



Acceptability
V-STOP Program



- Mean Score for Each Item
- Likert Scale with 1 = Strongly Disagree & 5 = Strongly Agree

Exploratory Outcomes

- Patients' knowledge about stroke risk, self-efficacy for chronic disease self-management, and self-management behaviors.
  - *Stroke Knowledge Test
  - *Self Efficacy for Managing Chronic Disease
  - Exercise Behaviors
  - Cognitive Symptoms Management
  - *Communication with Health Care Provider

Stroke Risk Knowledge

- Participants showed a significant increase in knowledge about stroke risk

Stroke Risk Knowledge Test							
Mean Pretest	SD	Mean Posttest	SD	Mean Difference	SD	T Value	*P* Value
8.5	1.5	9.8	0.6	1.23	1.2	3.81	0.0025*

Self-Efficacy Scores

Mean BL	SD	Mean 12 Wks	SD	Mean 18 Wks	SD
7.0	2.3	7.6	2.0	7.0	3.0

Mean Difference Self-Efficacy Scores BL, 12 Wks, & 18 Wks			
Mean Diff BL to 12 Wks	SD	t Value	*P* Value
0.6057	0.6237	3.50	0.004*
Mean Diff BL to 18 Wks	SD	t Value	*P* Value
0.0546	1.3301	0.15	0.8848
Mean Diff 12 Wks to 18 Wks	SD	t Value	*P* Value
-0.5511	1.3128	-1.51	0.1560

Communication with Healthcare Provider

Mean BL	SD	Mean 12 Wks	SD	Mean 18 Wks	SD
2.5	1.5	2.7	1.5	2.9	1.2

Mean Difference Communication with Healthcare Provider			
Mean Diff BL to 12 Wks	SD	t Value	*P* Value
0.2792	0.3573	2.82	0.0155*
Mean Diff BL to 18 Wks	SD	t Value	*P* Value
0.6108	0.5831	3.63	0.0040*
Mean Diff 12 Wks to 18 Wks	SD	t Value	*P* Value
0.3358	0.5260	2.21	0.0491*

Selected Patient Outcomes

- Health & Disability HAQ 8
- Blood Pressure
- HgA1C
- BMI

(HAQ8) – Mean Disability Scores

Mean BL	SD	Mean 12 Wks	SD	Mean 18 Wks	SD
0.423	0.380	0.356	.388	0.346	0.463

Mean Difference in Disability 12 Wks & 18 Wks

Mean Diff BL to 12 Wks	SD	t Value	*P* Value
-0.0673	0.1209	-2.01	0.0678
Mean Diff BL to 18 Wks	SD	t Value	*P* Value
-0.0769	0.2075	-1.34	0.2062
Mean Diff 12 Wks to 18 Wks	SD	t Value	*P* Value
-0.00962	0.1872	-0.19	0.8562

Mean Blood Pressure Values

Systolic Blood Pressure							
Mean BL	SD	Mean 6 Wks	SD	Mean 1 2 Wks	SD	Mean 18 Wks	SD
133	10.7	136	13.6	141	17	129	6.9

Diastolic Blood Pressure							
Mean BL	SD	Mean 6 Wks	SD	Mean 1 2 Wks	SD	Mean 18 Wks	SD
70.5	8.11	76.9	12.8	82.8	19.2	78.1	15.4

Blood Sugar Control and Body Mass Index

HgbA1C					
Mean BL	SD	Mean 12 Wks	SD	Mean 18 Wks	SD
7.6	2.10	8.8	3.46	7.3	1.2

Body Mass Index					
Mean BL	SD	Mean 6 Wks	SD	Mean 12 Wks	SD
40.6	9.9	38.9	9.5	38.2	10.6

V-STOP Summary

- Barriers and facilitators were identified and addressed
- Knowledge about stroke risk management and self-management were increased
- Self-efficacy for chronic disease management, health status and functional status were improved
- Blood pressure, Body Mass Index, Hemoglobin A1C (in diabetic patients) were improved
- Accessible and high patient satisfaction levels
- A clinical video teleconference delivery model is feasible for the delivery of patient self-management and clinical management of stroke risk factors.

Thank You !

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