

Engaging communities in education of stroke risk factors and acute care

Devin Brown, M.D.
Stroke Program
University of Michigan



Presenter Disclosure Information

Devin L. Brown

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No relevant commercial financial relationships exist

Unlabeled/Unapproved Uses Disclosure: none



Risk factor knowledge

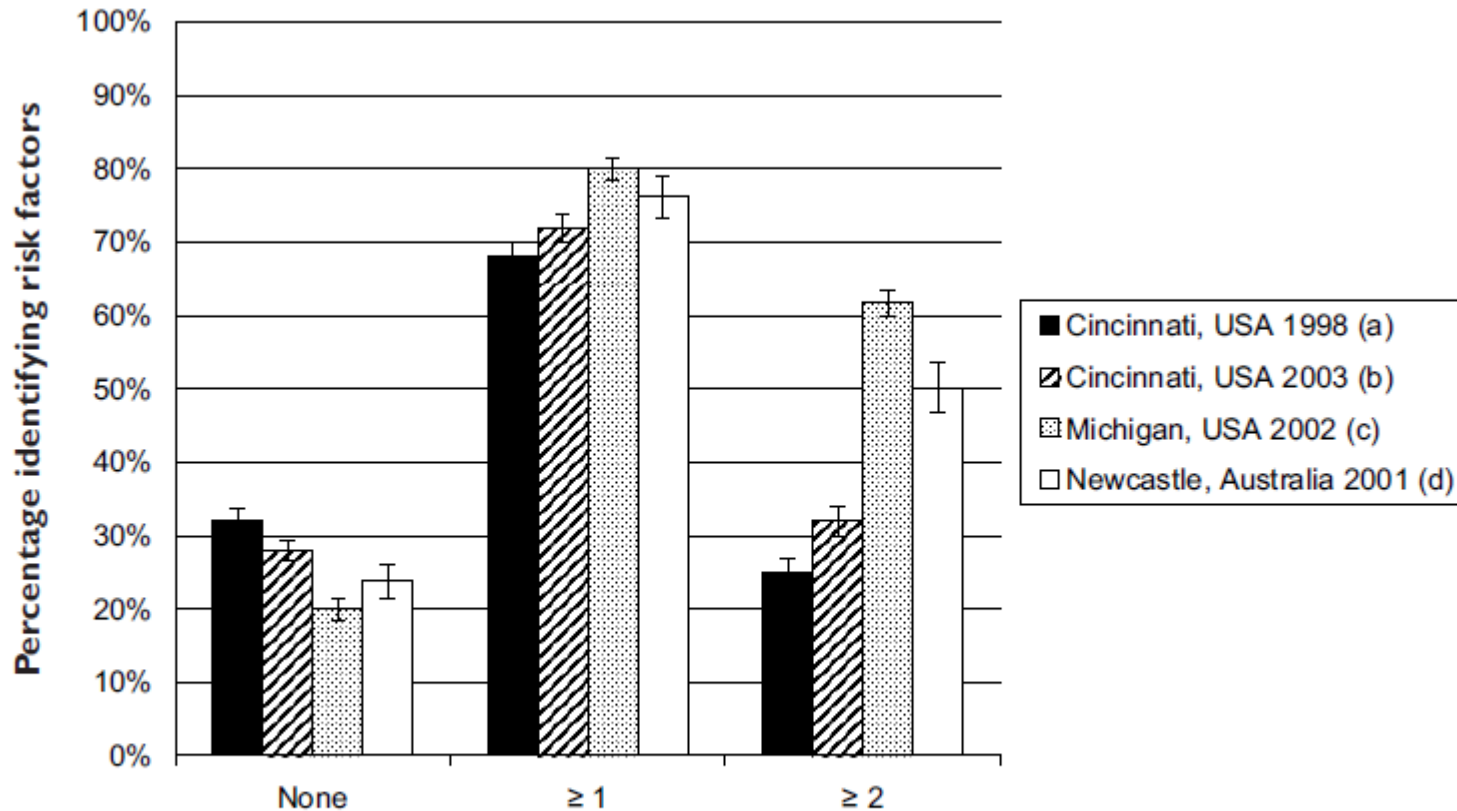


Figure 4 The number of risk factors correctly identified using free recall (community-based studies). (a) Pancioli et al 1998, (b) Schneider et al 2003, (c) Reeves et al 2002, (d) Yoon et al 2001b.

Warning signs correct

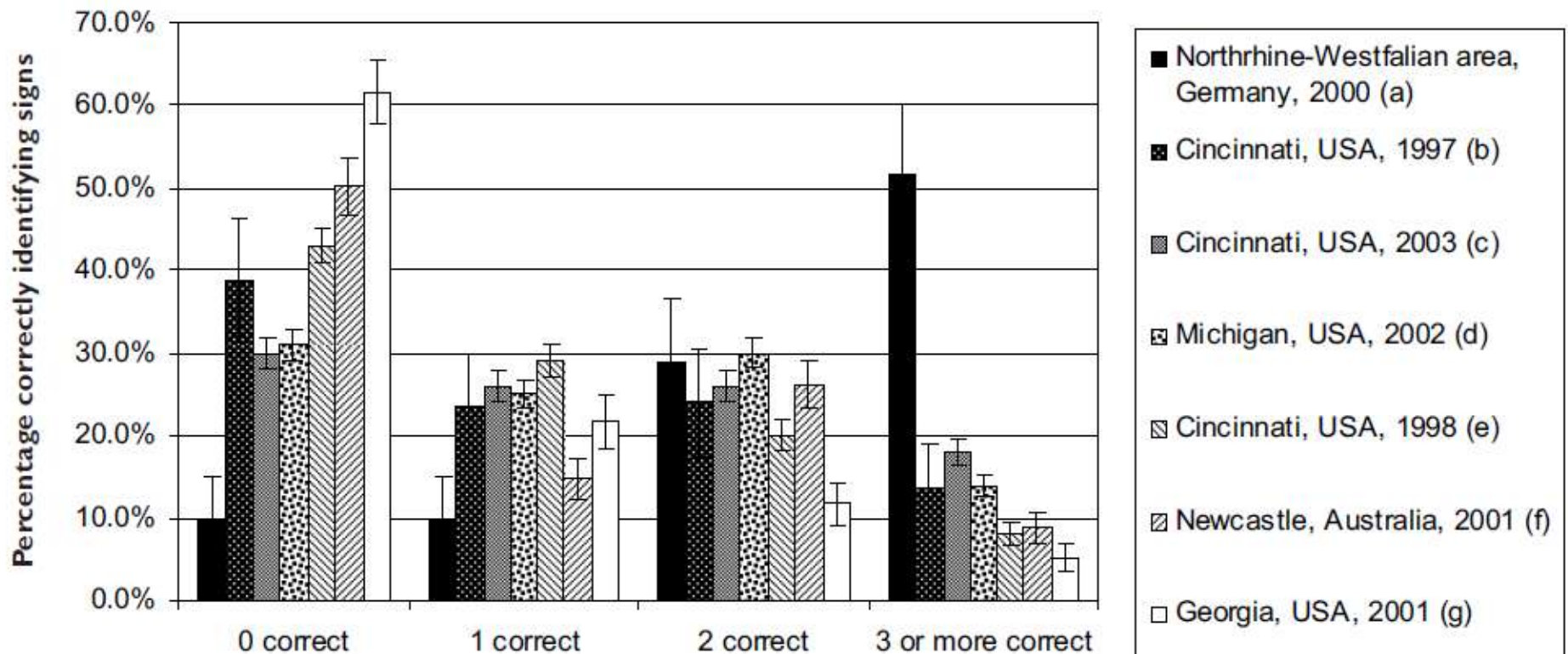




Figure 3 Number of stroke warning signs correctly identified using open-ended questions. (a) Weltermann et al 2000, (b) Kothari et al 1997, (c) Schneider et al 2003, (d) Reeves et al 2002, (e) Pancioli et al 1998, (f) Yoon et al 2001b, (g) Rowe et al 2001.

Action to take if stroke is suspected

	% call 911
Mikulik	27
Segura	45
DeLemos	47
Cheung	49
Parahoo	53
Nedeltchev	64
Yoon	67
Becker	68
Rowe	70
Schneider	74
Reeves	79
Carroll	80
Alkadry	94


Suddens

 Sudden numbness or weakness of the face, arm or leg, especially on one side of the body

 Sudden confusion, trouble speaking or understanding

 Sudden trouble seeing in one or both eyes

 Sudden trouble walking, dizziness, loss of balance or coordination

 Sudden, severe headache with no known cause

F-A-S-T

Face



Arm



Speech



Time



Is it a stroke?

Check these signs FAST!

Call 9-1-1 at any sign of stroke.



FAST vs Suddens

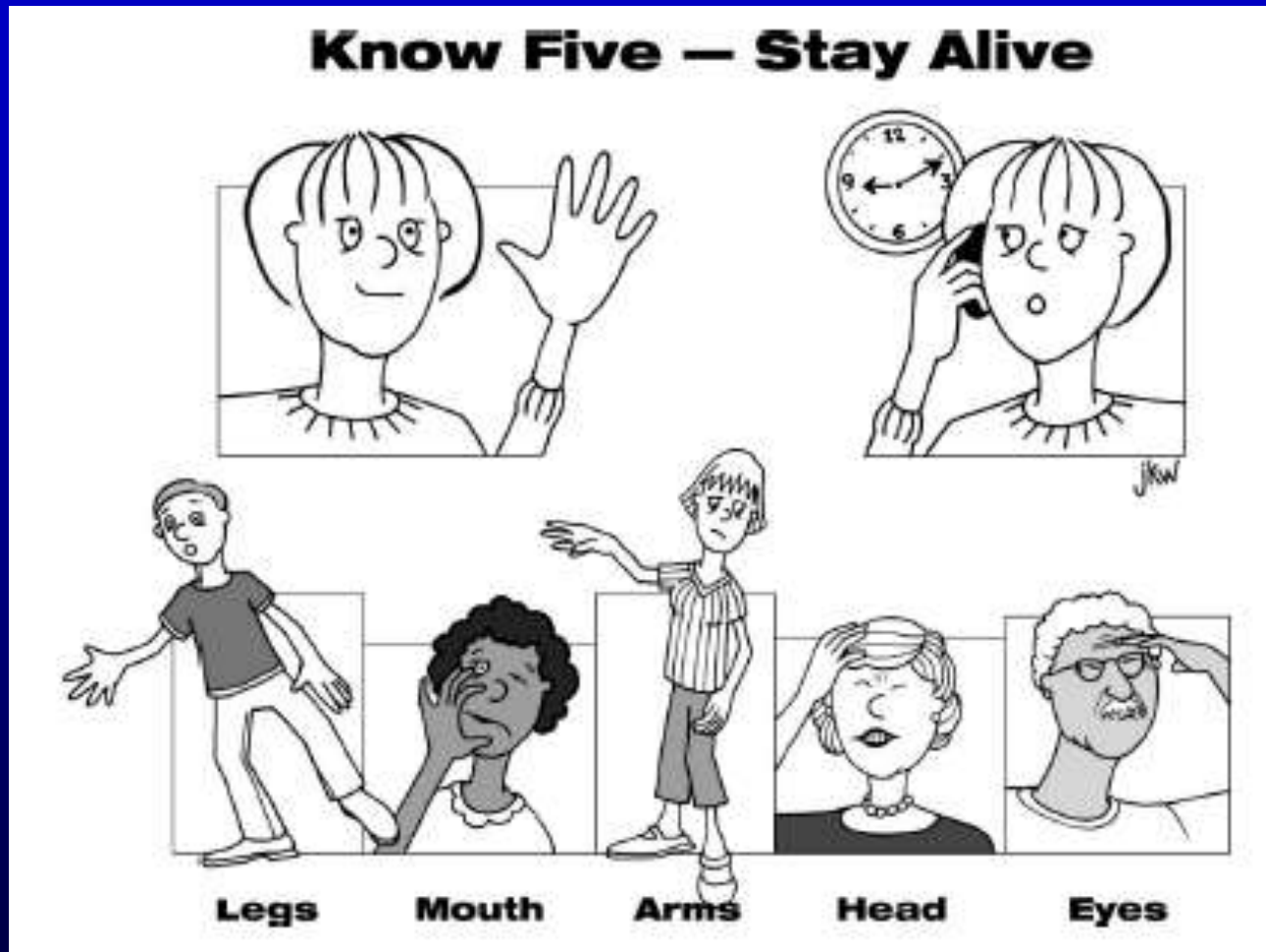
Stroke Subtype	n	Missed Cases	
		No SUDDENs	No FACE, ARM, or SPEECH
Ischemic	2141	2 (0.1%)	190 (8.9%)
TIA	965	0	79 (8.2%)
ICH/SAH	389	1 (0.3%)	119 (30.6%)
All Stroke	3498*	3 (0.1%)	388 (11.1%)

Give Me 5 for Stroke

- Walk — Is their balance off?
- Talk — Is their speech slurred or face droopy?
- Reach — Is one side weak or numb?
- See — Is their vision all or partly lost?
- Feel — Is their headache severe?



Know five- stay alive





**HARD WORK PAYS
OFF IN THE FUTURE
LAZINESS PAYS OFF
NOW**

NINDS: *Know Stroke* campaign

- ***Know Stroke* Community Education Kit (\$10):**
 - Brochures in English and Spanish
 - Posters
 - ***Know stroke. Know the signs. Act in time.*** 8-minute videotape with interviews of experts and stroke patients.
 - Facilitator's guide

<http://stroke.nih.gov/>



Community awareness: *Know Stroke*

- Select setting: community center, church, clinic
- Select format: could invite local expert, panel to answer questions
- Select date
- Arrange equipment: VCR/TV
- Handouts: *Know Stroke* brochures
- Publicize: kit comes with posters



NSA slide show

- 29 slides
- Ischemic vs hemorrhage
- Risk factors
- Signs
- Action
- Prevention
- Recovery

http://www.stroke.org/site/PageServer?pagename=sam_materials



Problems with these?

- ?

Problems with these?

- Who shows up?
- Target high risk groups?
- Barriers?
- Self efficacy?
- Sustained?



Ways to get the message out?

- ?



Interventions used

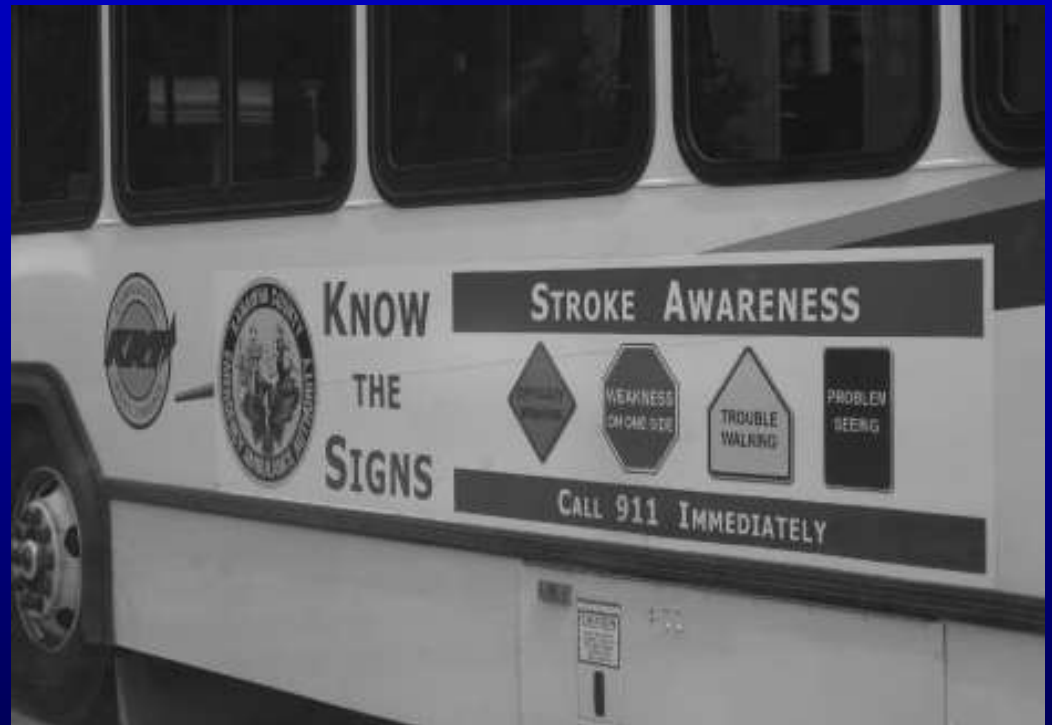
ASA magnets, bookmarks, posters, banners distributed to local businesses	Post-it notes created and distributed at sporting events and one high school graduation
Posters at local malls, pharmacies, tobacco shops	Article in local paper
Disseminated stroke risk cards at hot air balloon festival and county fair	Brief interview public information TV
Sign on city buses	Created refrigerator message boards
Designed bookmarks, gave to local bookstores to disseminate	

Know the signs....



....YOU could be having a stroke if you have any or all of these signs! Time is brain, so call 911 immediately.

Source: WYSE Stroke Center, HMDL, Moxiplex B10



EMS based intervention

- Intervention and control counties
- 1 month
- EMS trained using slides – 2 hours
- EMS identified educational materials in their communities
- EMS identified community locations: churches, senior centers, supermarkets, mass gathering, events, schools, voting centers, etc

Results

- Pre and post testing by random digit dialing

	Intervention Counties (n=1182 residents)			Control Counties (n=1193 residents)		
	Pre (n=578)	Post (n=604)	Post–Pre	Pre (n=593)	Post (n=600)	Post–Pre
At least 1 risk factor	82.50%	72.70%	-9.80%	78.40%	71.80%	-6.60%
At least 1 warning sign	63.30%	68.20%	+4.90%	57.50%	57.30%	-0.20%
Call 911	77.50%	77.50%	0.00%	72.30%	73.00%	+0.70%





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CHITAN



Temple TLL – community intervention (15 mos)

- Mass media: billboards (5), radio (3376), TV (675) PSAs and news stories
- Small media: brochures (60K), posters (>5K)
- Volunteers trained to teach coworkers
- Community figures shown role modeling 911, with fast response, and good outcome
- Encouraged to ask for tpa

Stroke. 2002; 33:160-166.



Delay times reduced

Proportion of Patients Presenting Within 2 Hours of Symptom Onset

Community					Delay Time Analysis		
	Phase I, %	Phase II, %	OR (95% CI)	<i>P</i>	Phase I, Median	Phase II, Median	<i>P</i> *
All cerebrovascular events (ischemic stroke, intracranial hemorrhage and TIA)							
Intervention	26.5	36.5	1.59 (1.03–2.47)	0.04	8.4	3.7	<0.0001
Comparison	21.4	30.3	1.59 (0.98–2.60)	0.07	8.4	3.7	<0.0001
Ischemic stroke							
Intervention	28.1	31.7	1.19 (0.68–2.07)	0.55	9.1	4.5	<0.0001
Comparison	20.7	27.6	1.46 (0.78–2.75)	0.28	10.9	6.75	<0.0001

*Compares log delay time data.

Stroke. 2002; 33:160-166.



To accomplish

- Knowledge
 - Teach what need to know
 - Teach how to do it
- Self-efficacy
 - Confidence in ability to carry out activity
- Positive outcome expectation
 - Belief that response will result in better outcome
 - Overcome social discomfort



How?

- How can we create and deliver messages to the public that are relevant, interesting, informative, and ultimately have the greatest chance of being persuasive?





Know your audience: Health communications - customization

- General/Mass – undifferentiated
- Targeted – grouped (eg demographic category)
- Tailored – matching the needs and preferences of individuals



Purpose of tailoring: maximize...

- Attendance – message received?
- Processing of info – persuasion
- Emotional processing – hope, fear, etc; “they know me”
- Self reference – consider self; compare ideal and actual behaviors



Personalization

Tactic

Example

Identify recipient by name or other unique identifiers

Tailored materials integrate name of recipient

Makes overt claims of customization

'The information in this magazine was made just for you.'

Presents information in a meaningful context

'The Lord has given us a powerful tool to detect breast cancer early when it can still be treated effectively. Getting a mammogram together with the power of prayer can help you live a long life in the service of God.'



Feedback

Type of feedback	Description	Example
Descriptive	Reports what is known about the recipient based on his data	"You are currently eating 3 servings of F&V per day."
Comparative	Contrasts what is known about the recipient with what is known about others	"Compared to other women from this health center, you are eating fewer servings of F&V per day."
Evaluative	Makes interpretations or judgments based on what is known about the recipient	"Your F&V intake is well below the recommended level of 5-9 servings per day."



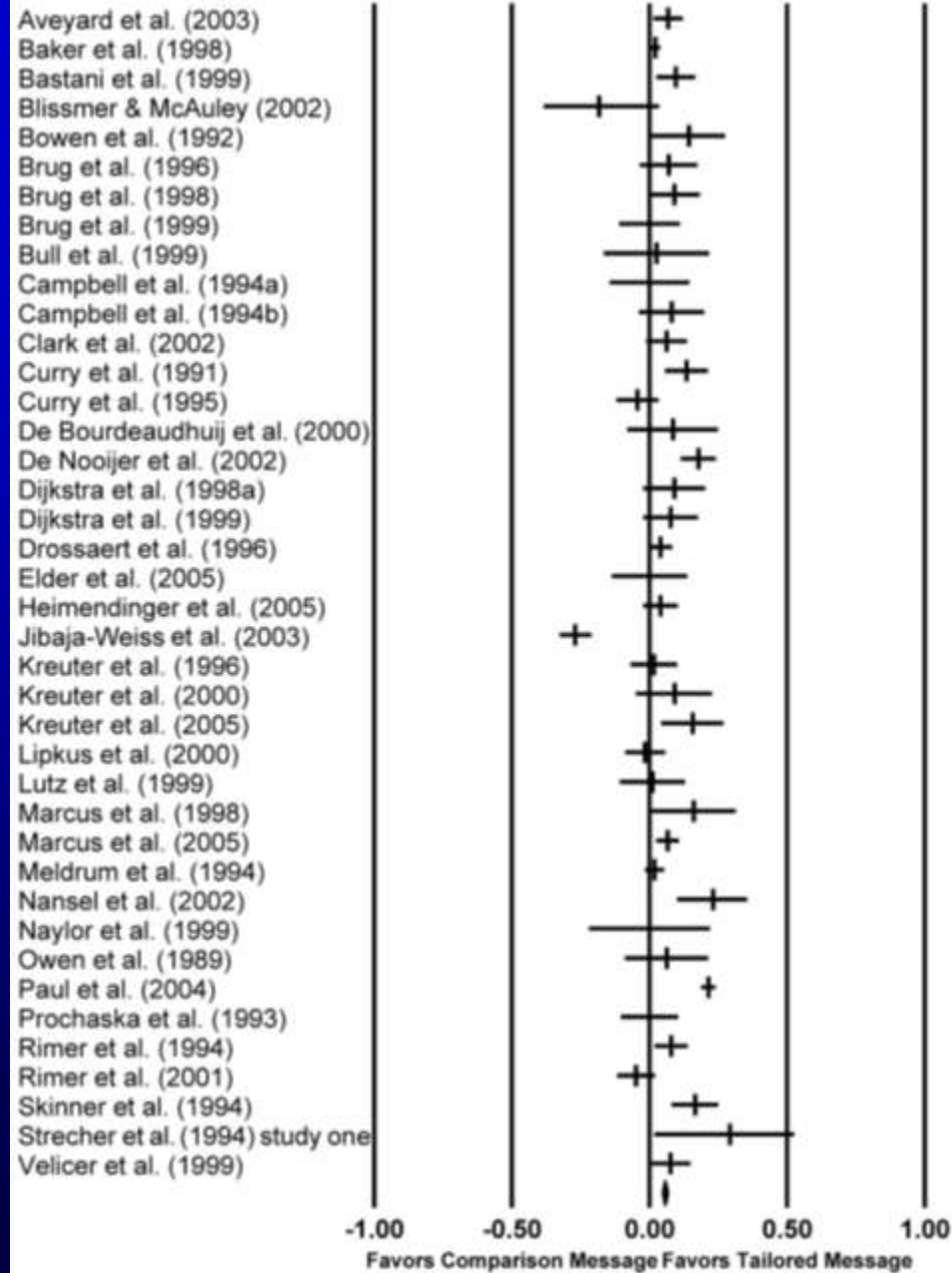
Putting it all together

- Based on the information you provided, you are not getting the amount of F&V recommended by X. You mentioned that you would like to be a better role model for your two children, but you are concerned about the cost. Given your concerns about lack of cost, here is a list of possible strategies that might help you...



Do people really fall for that?

- OR = 1.21 vs generic/targeted print health behavior change messages



DESIGNR.COM



INDIVIDUALITY

ALWAYS REMEMBER THAT YOU ARE UNIQUE. JUST LIKE EVERYBODY ELSE.



How do we say it?



How to seem smart so people will do what you say

- Use long sentences with many phrases
- Use fancy words
- Use Latin to sound scholarly



Plain language

- ?

Plain language

- Short sentences
- Common, everyday words
- Begin with main clause
- Active voice
- Easy to read design
 - Use headings
 - Use tables, lists



Example

- “The Dietary Guidelines for Americans recommends a half hour or more of moderate physical activity on most days, preferably every day. The activity can include brisk walking, calisthenics, home care, gardening, moderate sports exercise, and dancing.”



Plain language

- “Do at least 30 minutes of exercise, like brisk walking, most days of the week.”



Venues

- ?

Venue



High risk groups?



Race/Ethnicity

	HTN	DM	Obesity	Smoking	Inactivity	Fewer F&V
African American	++	++	++/?	+/?	+	+/-
Hispanics	+/?	++	++/?	--	++	++
American Indian/ Alaska Native	--/?	++	++	++	+	



School-based

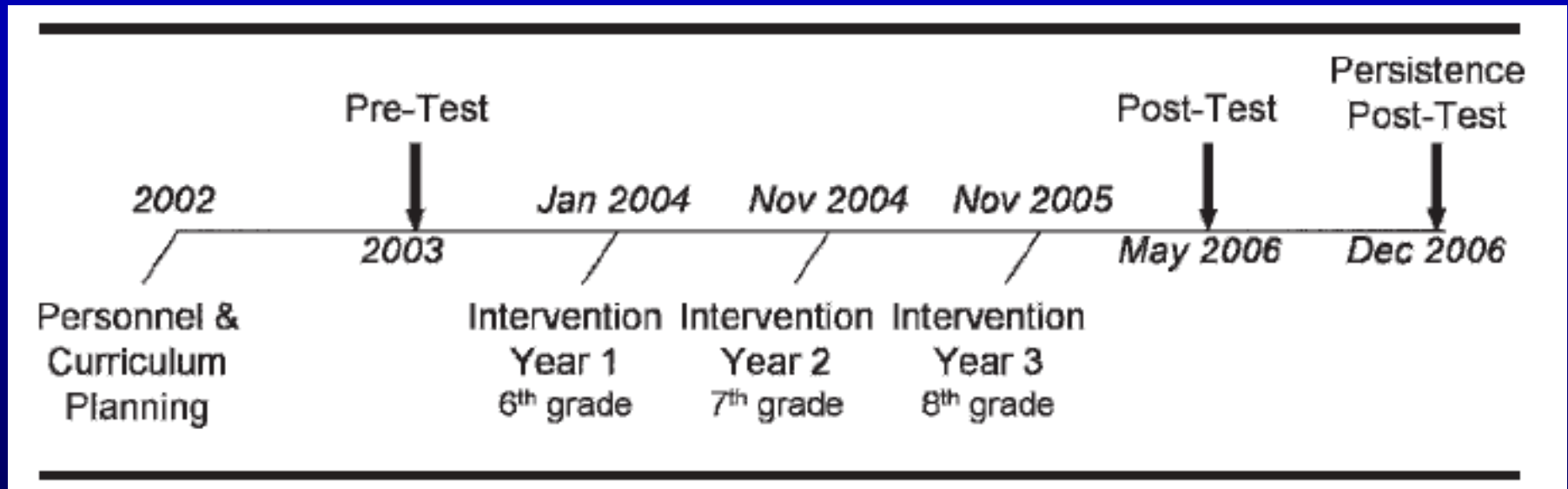
- Examples
- Challenges



Kids Identifying and Defeating Stroke (KIDS) Project

- RCT, pre-post
- 3-year curriculum starting in 6th grade
- Four 50-minute classroom-based lessons each year (grades 6, 7, and 8)
- Taught by 2 KIDS project staff (neurologist, health teacher)
- Student → parent

Time line



Homework problem

Table 4. Homework return rate

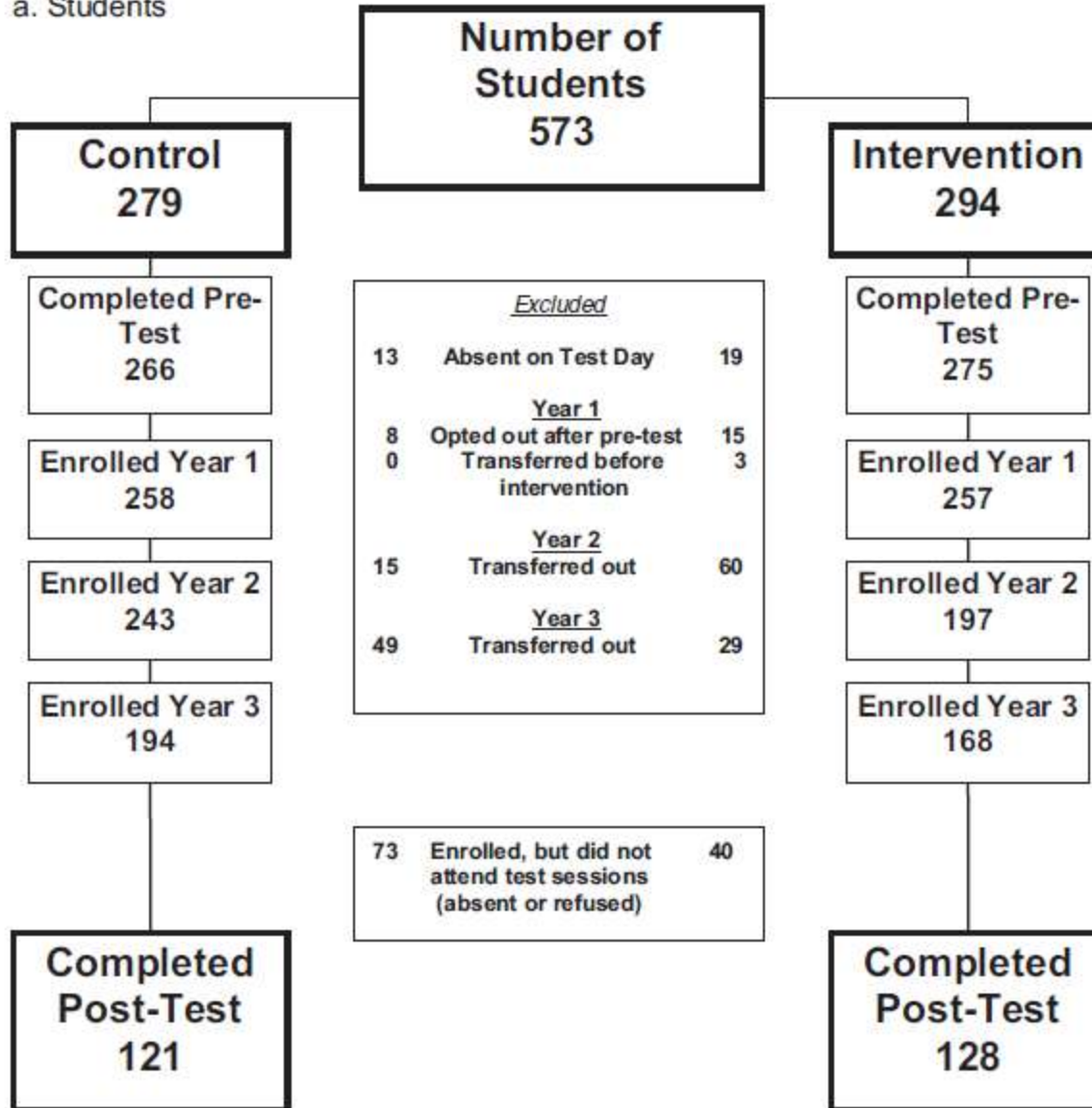
Number of Students Who Returned:	Year 1	%
3 assignments	75/276*	27.17
2 assignments	17/276	6.16
1 assignment	21/276	7.61
0 assignments	163/276	59.06
≥1 assignment	113/276	40.94

Ethnicity & Disease 2007; 17: 320-326



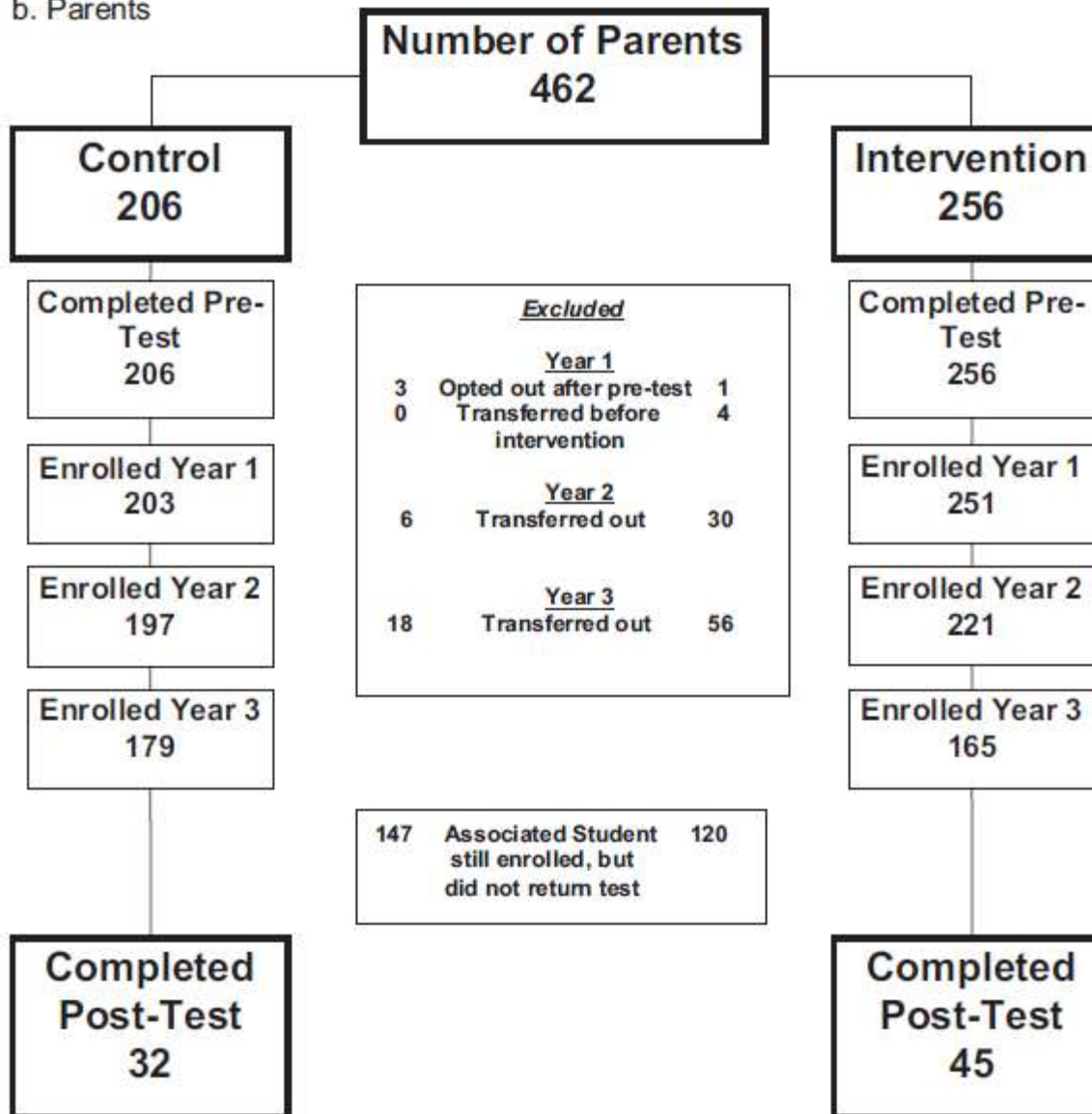
Children

a. Students



Parents

b. Parents



Learning

Table 2. Comparison of Means of the Proportion of Correct Responses for Pretest vs Posttest by Domain for Students

	Domain 1 (Pathophysiology), Mean (SD)	Domain 2 (Symptom Knowledge), Mean (SD)	Domain 3 (Behavioral Intent to Call 911), Mean (SD)
Intervention group, n=257			
Pretest	0.29 (0.19)	0.28 (0.25)	0.36 (0.23)
Posttest	0.34 (0.21)	0.43 (0.29)	0.54 (0.31)
<i>P</i> value*	0.0013	<0.001	<0.001
Control group, n=258			
Pretest	0.28 (0.20)	0.25 (0.23)	0.32 (0.23)
Posttest	0.25 (0.20)	0.29 (0.24)	0.34 (0.23)
<i>P</i> value*	0.007	0.018	0.049



Hip-Hop Stroke

- 4-6th grade
- Central Harlem
- 3- day interactive didactic curriculum
 - Culturally and age appropriate music and dance
- 1 hour sessions
- Doug E. Fresh – wrote, performed rap (live at first school)

Hip-Hop Stroke

- Approvals
 - NYC Board of Education
 - Principals at the collaborating schools
 - Parents signed IC
- Testing: pretest, immediate post, 3 mos

Hip-Hop Stroke

	Pretest	Immediate post	3 months post	p (pre vs imm and pre vs 3 mos)
Stroke is a “brain attack” (%)	16	95	86	<0.001
Urgent action plan (call 911) (%)	78	99.8	98	<0.001
Stroke sign and symptom recognition (mean correct out of 8)	3.2	6	5.9	<0.001

(Not matched design)



The Beauty Shop Stroke Education Project

- Beauty Shop Training Luncheon
 - PI presentation on warning signs and risk factors
 - Stroke survivor
 - Coordinator – details of project
- Beautician selected 10-20 “regulars”
 - Gave pretest
 - Educated during hair appt
 - Gave info for home

The Beauty Shop Stroke Education Project

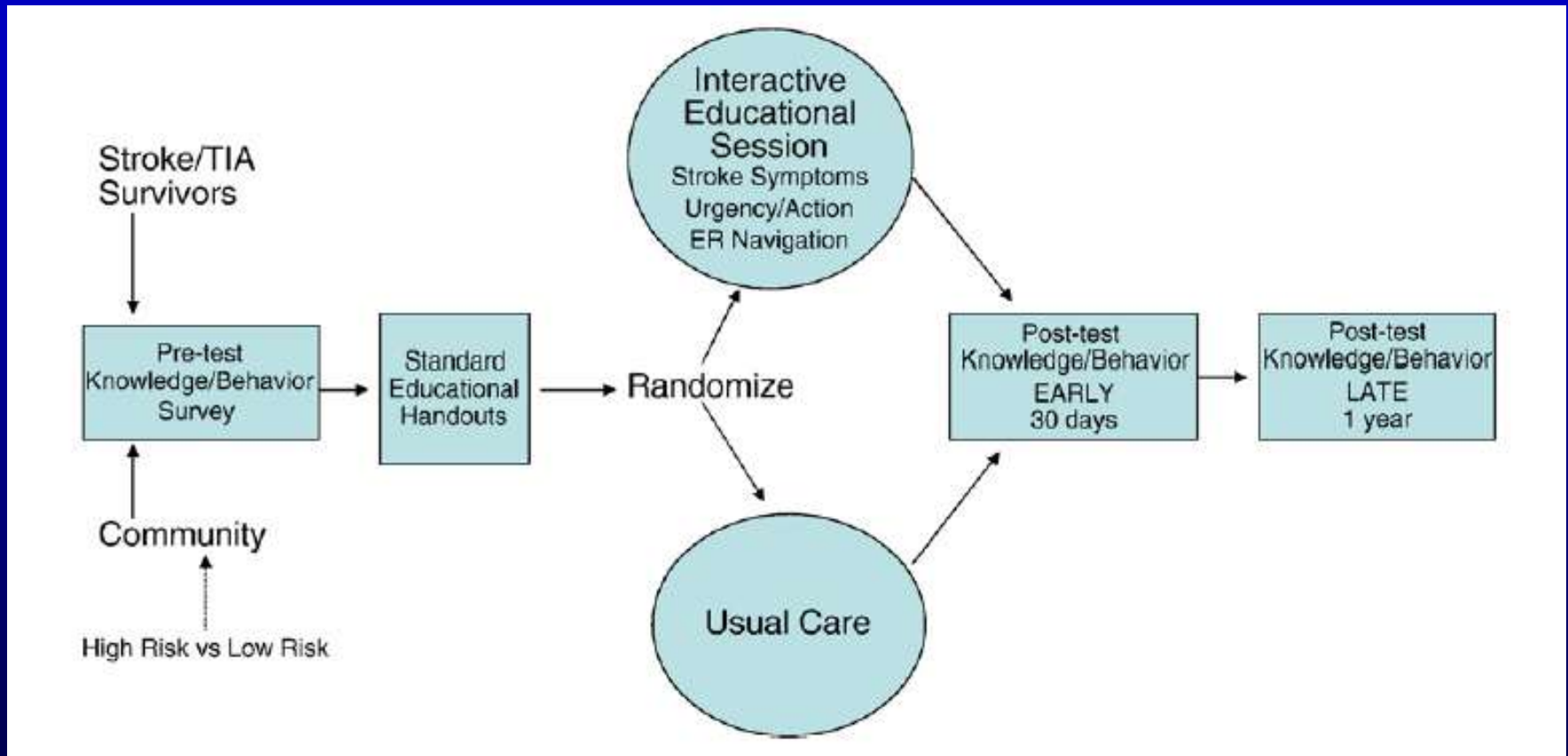
- Post test at 6 wks and 5 mos
- \$5 to client/\$5 to beautician

	Baseline	6 week	5 month
All 3 risk factors	16.4%		18.2%
All FAST	5.0%		22.6%*
All 3 warning signs	40.7%	50.8%*	50.6%
Call 911	85.9%	94.1%*	94.3%

Stroke Warning Information and Faster Treatment Study (SWIFT)

- Test a culturally tailored interactive stroke preparedness strategy
- TIA/ischemic stroke
- Usual care – AHA pamphlets
- Intervention group – multi-media
 - Group session – during hospitalization
- Second session - discussions, role play, and view video material about stroke, stroke symptoms, early treatment, navigate ER, etc

Stroke Warning Information and Faster Treatment Study (SWIFT)



Entrance into the community



Establish community partnership

- Meet with community leaders
 - Develop collective goals and guidelines
 - Acknowledge differences in agendas
- Identify issues
 - Collectively brainstorm about community concerns
 - Gather local beliefs and experiences
- Prioritize



Establishing community partnerships

- Develop strategy
 - Most effective approach locally
- Implement approach
- Transition
 - Adapt strategy based on reflection
- Evaluation
 - Intervention activities
 - Partnership



CBPR principles

- Recognize community as main building block
- Emphasize local relevance of problems
- Recognize strengths and resources of community
- Equitable partnership in all phases
- Capacity building
- Balance research/action
- Ongoing system of collaboration
- Disseminate findings and involve partners
- Long-term commitment among partners



Benefits of Faith-Based Interventions

- Resources – kitchen, meeting areas
- Pre-existing groups that meet
- Health may already be part of mission
- Stable participant group for recruitment and retention
- Visible, trusted establishment



Mexican Americans and Religion

- 70% Catholic
- 45% - church attendance at least 1/week
- 7.5% - never attend church
- In every day life, religion:
 - 21% most important
 - 47% very important
 - 25% important
 - 6% not important



Cultural Sensitivity

- Surface structure
 - People, places, language, music, food, clothing familiar and preferred by target audience
- Deep structure
 - How family, religion, family, society, economics, and government influence the target behavior



Sensitivity

- Group name (“Latino,” “Hispanic”...)
- Language/dialect
- Income/insurance/PCP



Cultural Insensitivity Prevention



Research

- Formative research
 - Focus groups
- Community Advisory Board
- Pretest – for cultural relevance, acceptability



Targeted Messages

- Ethnicity
- Language
- Acculturation



Program Example

- Sroke Health and Risk Education (SHARE) behavioral intervention:
 - Church-based
 - Culturally sensitive
 - Multiple components





S·H·A·R·E
STROKE HEALTH AND RISK EDUCATION

- Churches randomized: intervention or control
- Participants enrolled in pairs
- 1-year
- Goal:
 - Lower salt
 - More fruits and vegetables
 - More exercise



Building Partnerships



- Priests as Partners workshop
- Incentives to church for enrollments
- Use of staff from within the community
- Commitment to deliver intervention to control group
- Leave behind resources - sustainability

Intervention

1. Self-help materials

- Motivational film
- Written physical activity guide with pedometer
- High blood pressure prevention and treatment photonovella
- Nutrition guide/cookbook

Intervention

2. Motivational interviewing

Five calls by lay counselor:

- Discuss risk factor screening results with physician
- Increasing physical activity
- Increasing consumption of fruits and vegetables
- Reducing sodium consumption
- Weight control/loss



Intervention

3. Targeted/tailored newsletter	Two newsletters based on ethnicity, level of acculturation, and social support answers
4. Social environmental change	Expanded food options at church activities



Focus Groups

- “Tex-Mex” Spanish
- Barriers to behavioral change – traditional Mexican foods
- Body-spirit/health-faith connection
- Essential role of Priests in intervention
- Endorsement of mechanisms of contact, types of intervention materials, partner model



Mexican-American

Catholics

Corpus Christi, Texas



Mexican-American
Catholics
Corpus Christi, Texas



Devin Brown





WRONG.
(Always!)



S·H·A·R·E

STROKE HEALTH AND RISK EDUCATION



Summary

- Create partnerships - establish trust and credibility in community
- Train study staff – culture, religion, ethnic values
- Formative research/discussion with key informants and community members
- Involve the community in the intervention delivery
- Leave something behind



Your experiences?

- What works?

