Primary Results from the Faith, Activity, and Nutrition (FAN) Program: A Faith-Based, Community-Based Participatory Study

[1]Sara Wilcox, [1]Meghan Baruth, [2]Marilyn Laken, [3]Margaret D. Condrasky, [4]Allen Parrott, [1]Ruth Saunders, [1]Marsha Dowda, [1]Cheryl Addy

[1]University of South Carolina
[2]Medical University of South Carolina
[3]Clemson University
[4]7th Episcopal District of the AME Church

Outline

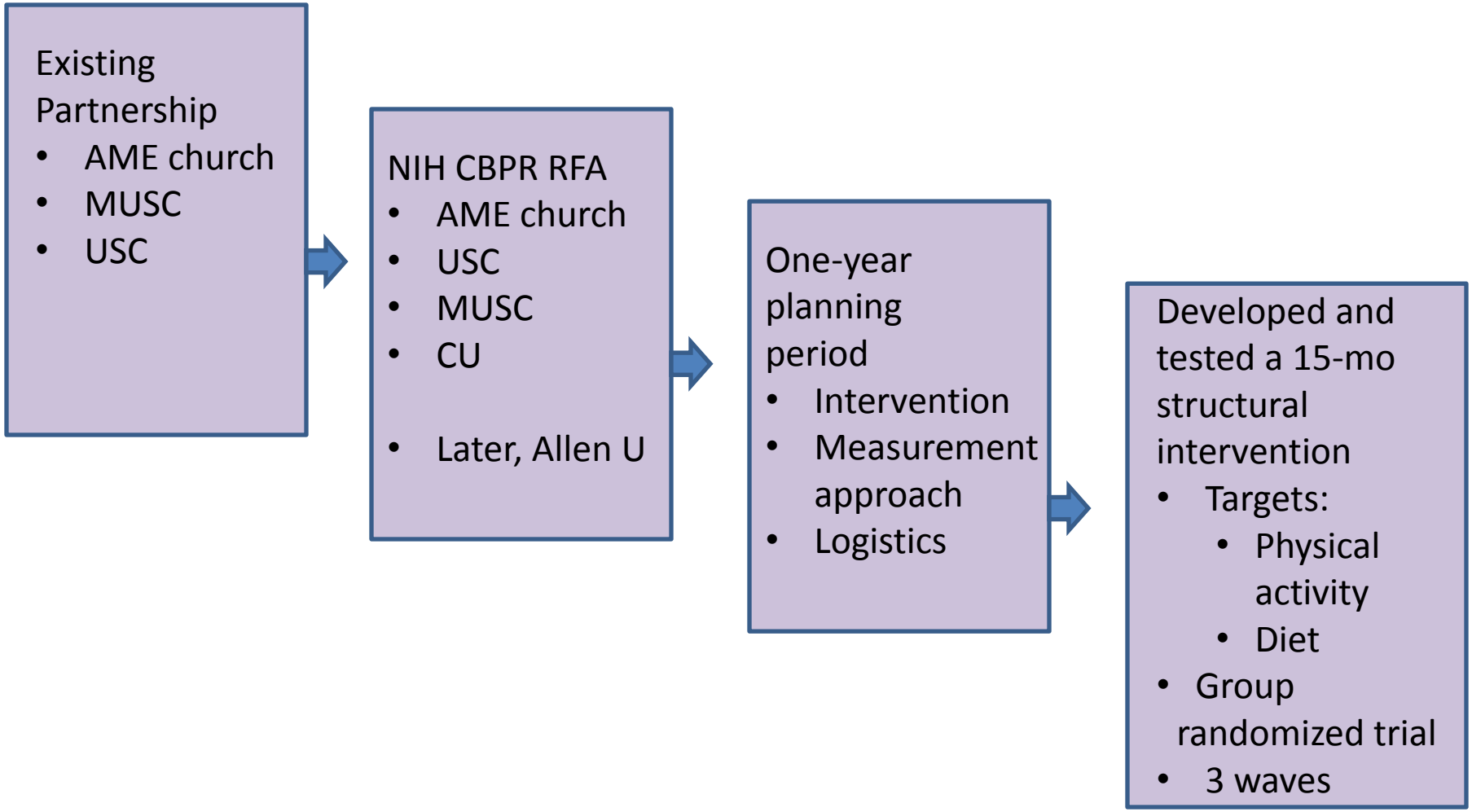
- Provide a brief rational for faith-based interventions
- Describe the Faith, Activity, and Nutrition (FAN) program
- Present primary outcomes

Methods paper: Wilcox et al., 2010, Contemporary Clinical Trials
Outcomes paper: Wilcox et al., 2013, American Journal of Preventive Medicine

Why Faith-Based Partnerships?

- Reach – particularly for African Americans
- Trusted setting & able to target messages
- Facilities
- Compatible missions

Development & Overview of the FAN Program



Wilcox et al., 2010, Contemporary Clinical Trials

Study Timeline

Intervention churches receive:

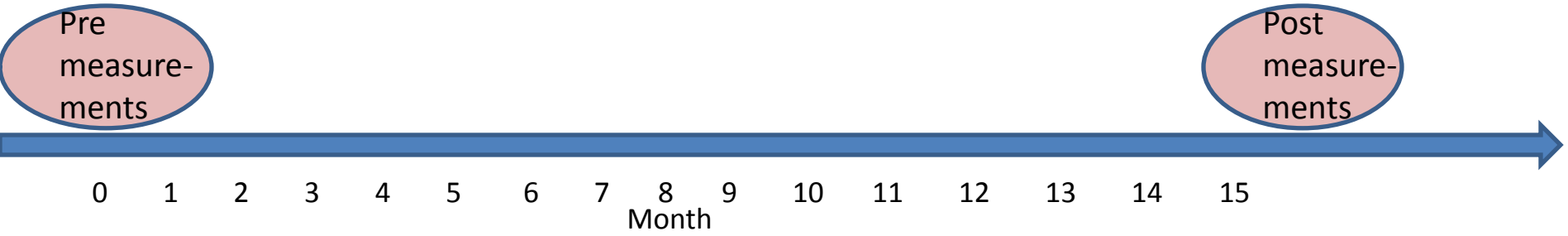
Committee Training
- 3-5 members/church
- Pastor
- FAN Coordinator
- Health Director
- Cook

Cook Training
- 2 members/church
- Cook or Lead Kitchen staff

Monthly mailings
- 15 months

Technical assistance calls
- Pastor, Cook, FAN coordinator

Control churches receive 15 month intervention



Theoretical Framework

- Structural Ecologic Model
  - Assumes that behavior is influenced by 4 structural factors:
    - the **availability and accessibility** of products that are associated with health outcomes
    - **physical structures** that reduce or increase opportunities for healthy behaviors
    - **social structures** that require or prohibit behaviors (laws/policies)
    - cultural and media **messages**

Cohen et al, 2000

Intervention: Trainings

- Committee training
  - Pastor, FAN Coordinator, Health Director, Other Health Champions
  - Assessment & planning process
  - Core & suggested activities
- Cook & lead kitchen staff training
  - Church cooks, hospitality members/leaders
  - Interactive, hands on
  - Learned to modify “favorites”
  - Emphasized taste & appeal

Wilcox et al., 2010, Contemporary Clinical Trials;
Condrasky et al., 2013, Evaluation and Program Planning

Intervention: Follow-Up Activities

- 15 months of mailings to support churches
  - Directed to Pastor, Cook & Committee
  - Incorporated strategies from Social Cognitive Theory

- Technical assistance calls
  - Delivered to Pastors, Cooks, FAN Coordinator
    - Rotational system

Model Applied to the Church

Target	Physical Activity Example	Nutrition Example
Increase **Opportunities**	Offer walking groups or other activities at church	Provide recipes with whole grains for members to try
Establish **guidelines & practices**	Incorporate a 10-min physical activity break into church meetings	Include fruits and vegetables at all church events with food
Promote messages through **church "media"**	Ask the Pastor to wear a pedometer and talk about the importance of physical activity from the pulpit	Provide bulletin inserts that describe components of the DASH diet and tips for incorporating.
Ensure messages are **culturally and spiritually appropriate**	Offer programs and materials that are designed for African Americans.	Link healthy eating to scripture.

Primary Outcomes

Baseline & 15 months later

Physical activity
- CHAMPS (Stewart et al., 2001)
- MVPA & leisure-time MVPA

*r with Actigraph MVPA = .33

Fruit & vegetable intake
- NCI Screener
- Cups/d

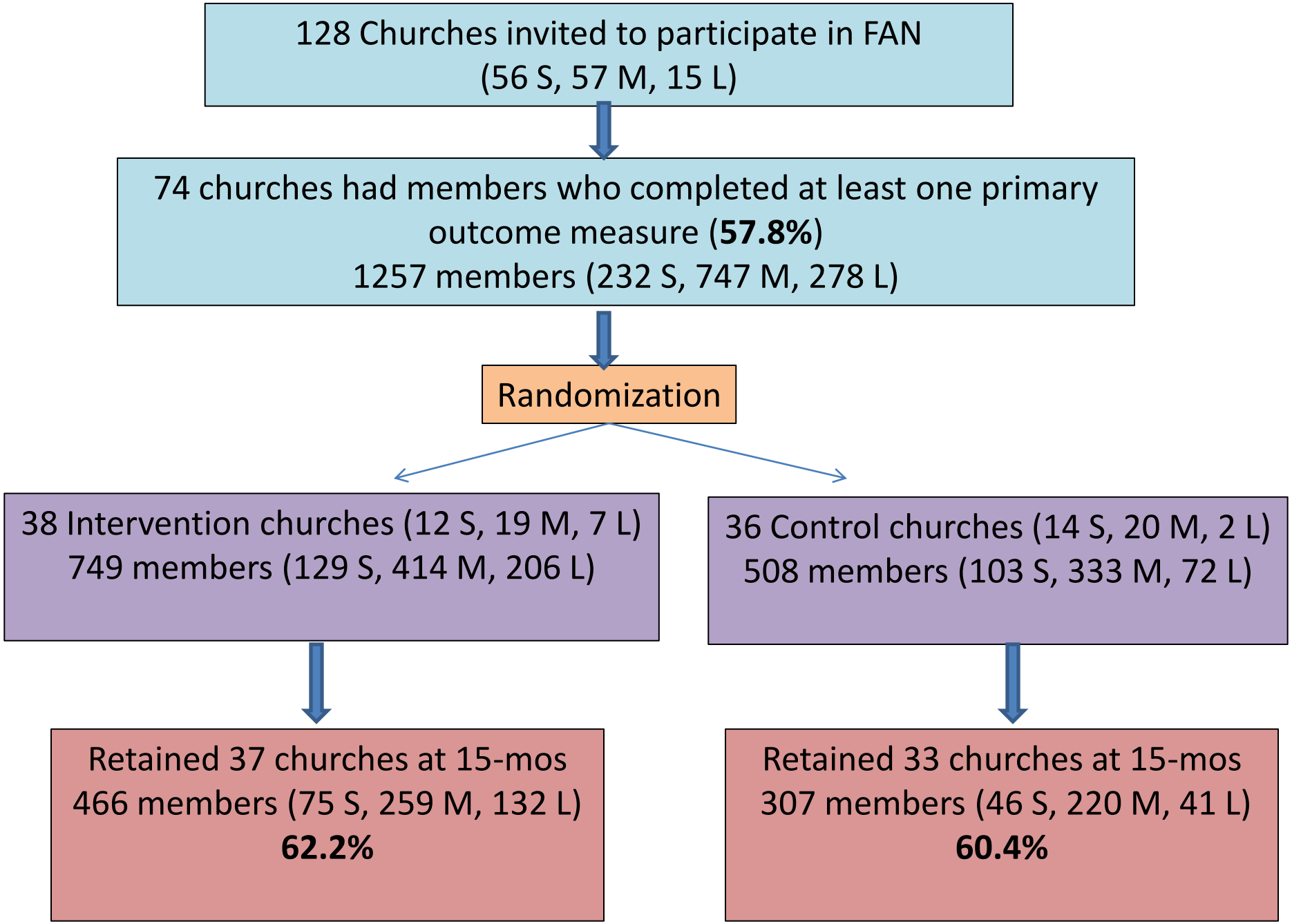
Blood pressure
- Dinamap ProCare automated monitor
- Average of 2nd & 3rd readings

Analyses

- Intent to treat
  - Repeated measures ANOVA (SAS PROC MIXED)
    - Controlled for church clustering, wave, and size; participant age, gender, education
    - DVs: MVPA, LT MVPA, F&V, SBP, DBP
    - IV of interest: Group x Time (df = 1, 72)
- Post-hoc program measurement completers
    - ANCOVA
- Effect size for each model (d)

PRIMARY RESULTS

Reported in Wilcox et al., 2013, American Journal of Preventive Medicine

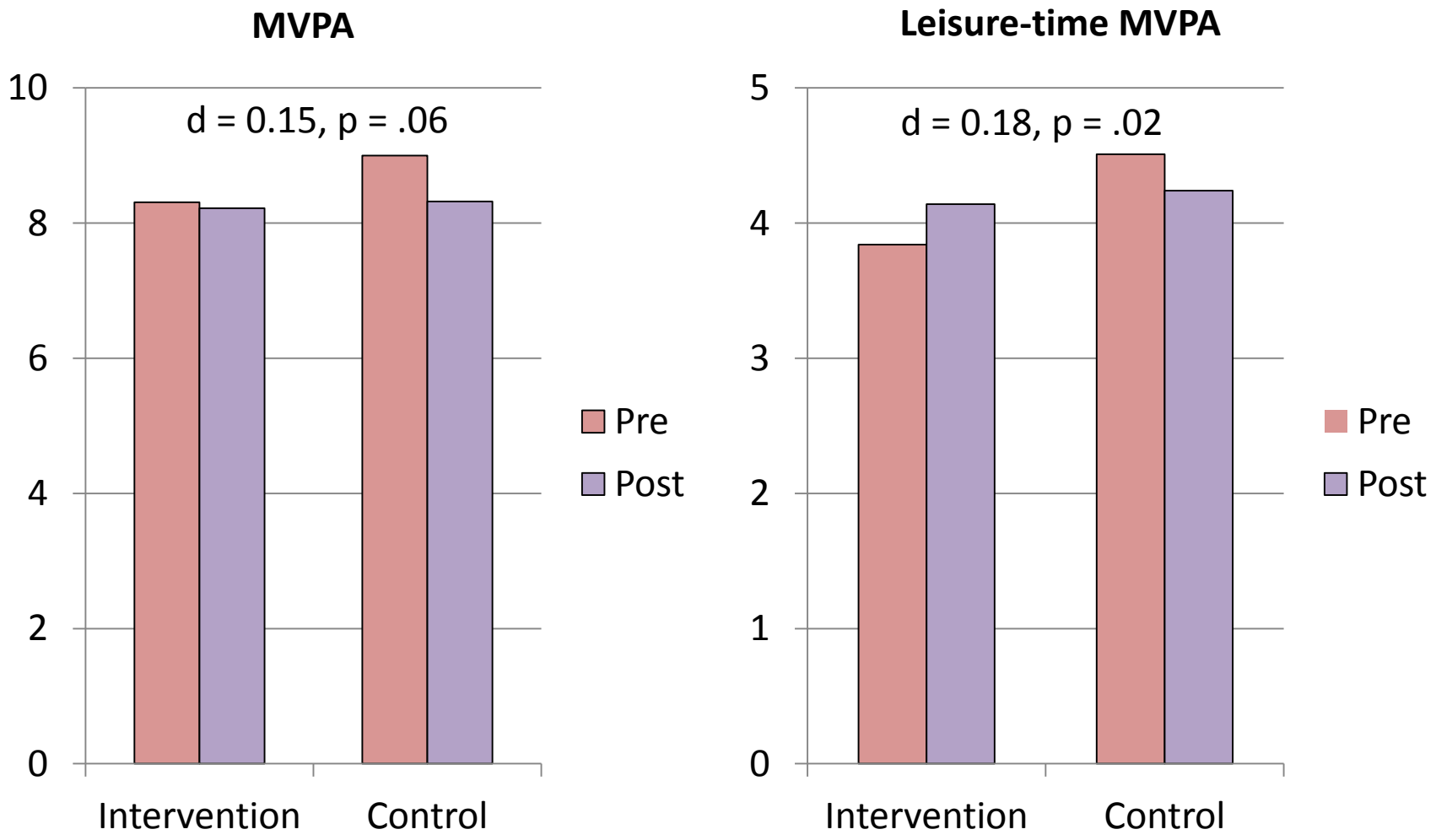

128 Churches invited to participate in FAN
(56 S, 57 M, 15 L)
74 churches had members who completed at least one primary outcome measure (**57.8%**)
1257 members (232 S, 747 M, 278 L)
Randomization
38 Intervention churches (12 S, 19 M, 7 L)
749 members (129 S, 414 M, 206 L)
36 Control churches (14 S, 20 M, 2 L)
508 members (103 S, 333 M, 72 L)
Retained 37 churches at 15-mos
466 members (75 S, 259 M, 132 L)
62.2%
Retained 33 churches at 15-mos
307 members (46 S, 220 M, 41 L)
60.4%

Participant Characteristics (N=1,257)

Characteristic	Mean (SD) or %
Age, years	54.1 (14.1)
% Black or African American	99.4
% Women	75.7
Education	
< High school	10.3
High School / GED	32.2
Some college	29.5
College graduate	28.0
% Married / partnered	53.7
BMI, kg/m2	33.0 (7.5)
Normal weight	11.1
Overweight	27.1
Obese	61.8

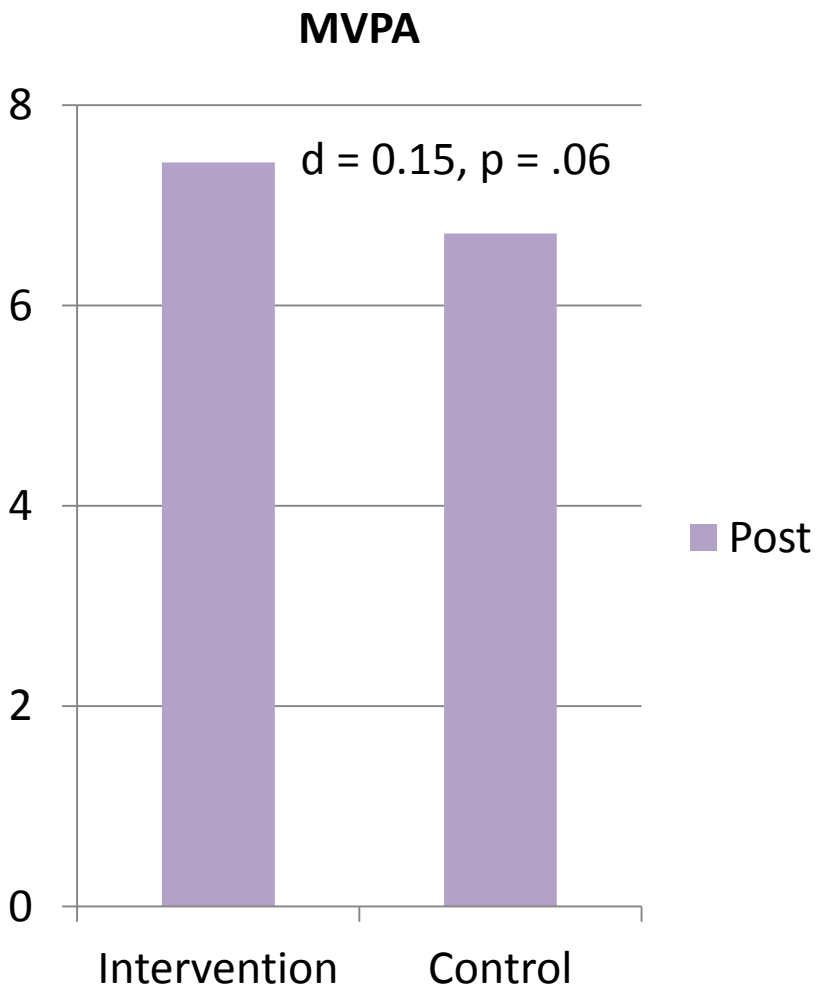
Characteristic	Mean (SD) or %
% Current smokers	6.8
Health conditions:	
Hypertension	64.7
High cholesterol	39.7
Arthritis	35.4
Diabetes	23.5
Asthma	11.5
Osteoporosis	8.5
Angina or CHD	6.8
MI	3.7
Stroke	3.4
Total # health conditions	1.9 (1.6)
Self-rated health	
Excellent or VG	29.1
Good	52.3
Fair or Poor	18.7

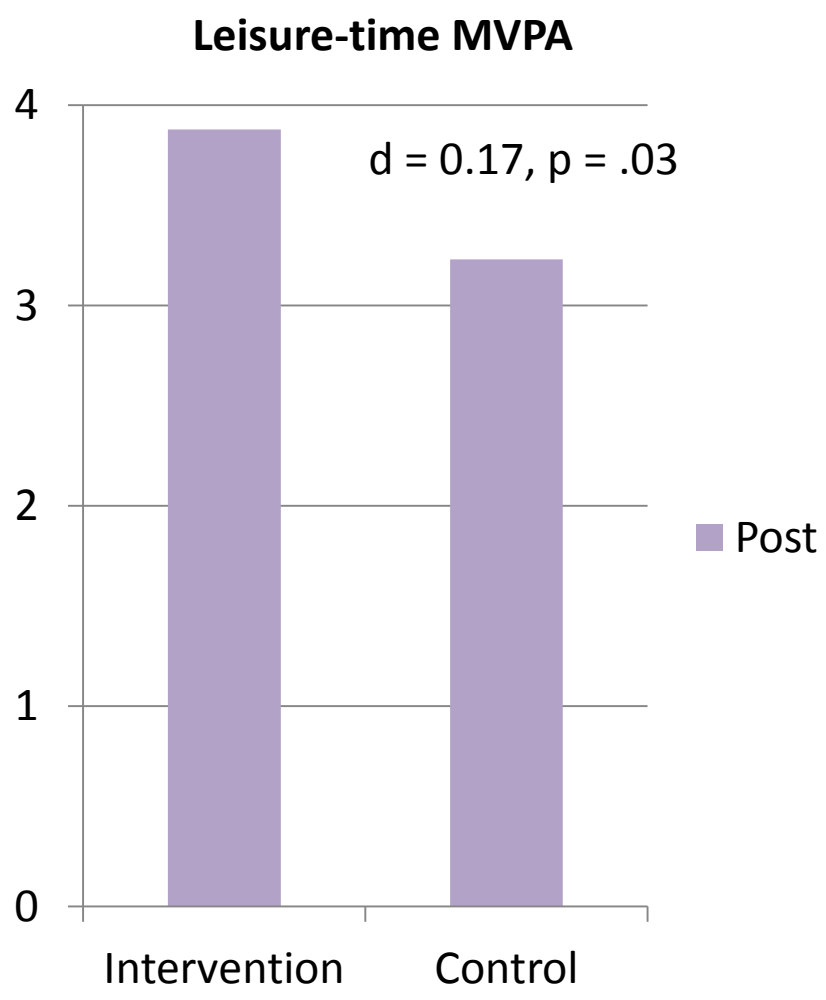
Intent to Treat Results
Physical Activity (hr/wk)



** Note that lsmeans are presented in the original unit; analyses used sqrt value due to skewed distributions

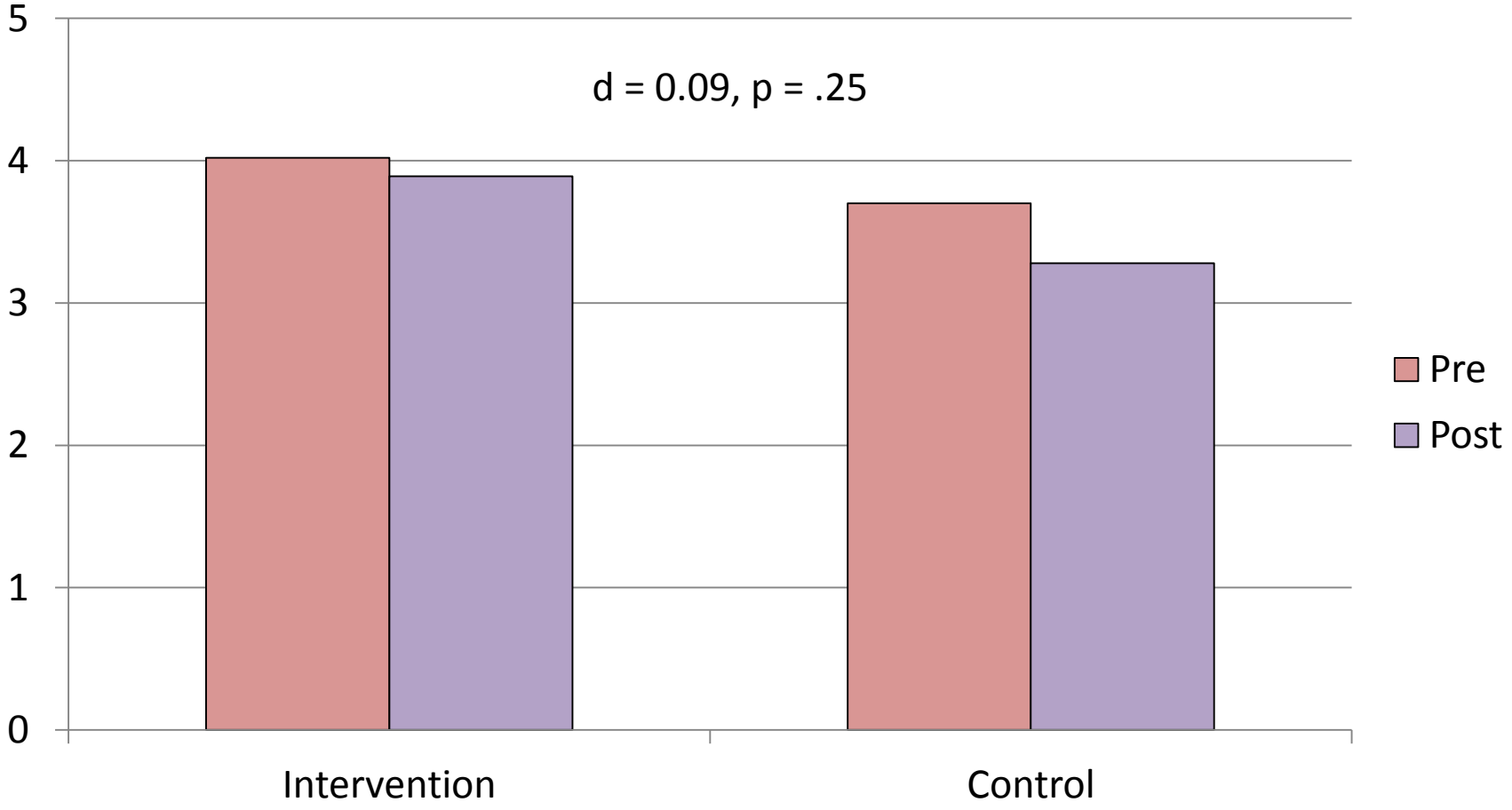
ANCOVA Results
Physical Activity (hr/wk)





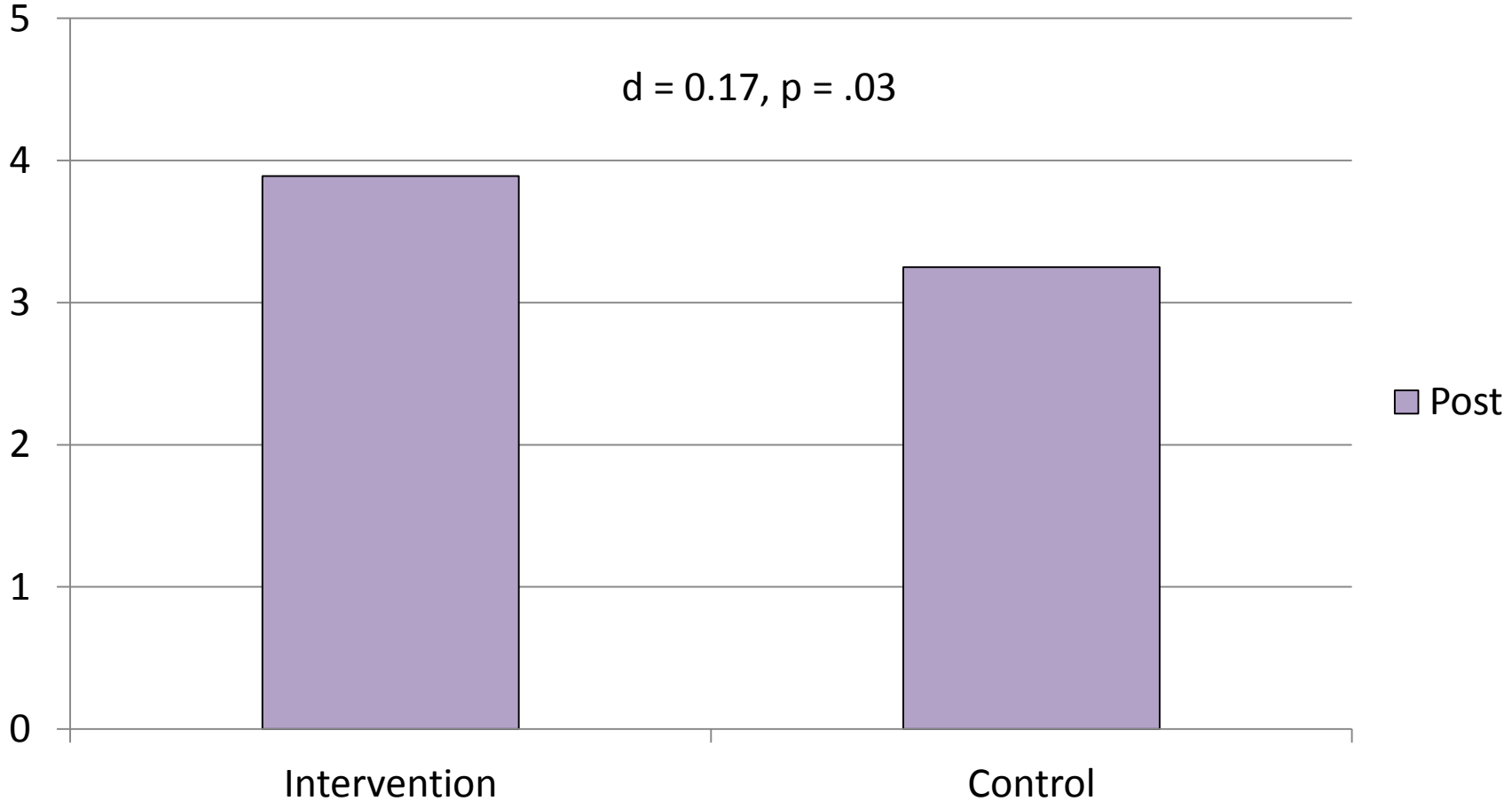
** Note that lsmeans are presented in the original unit; analyses used sqrt value due to skewed distributions

Intent to Treat Results
Fruit & Vegetables (cups/d)



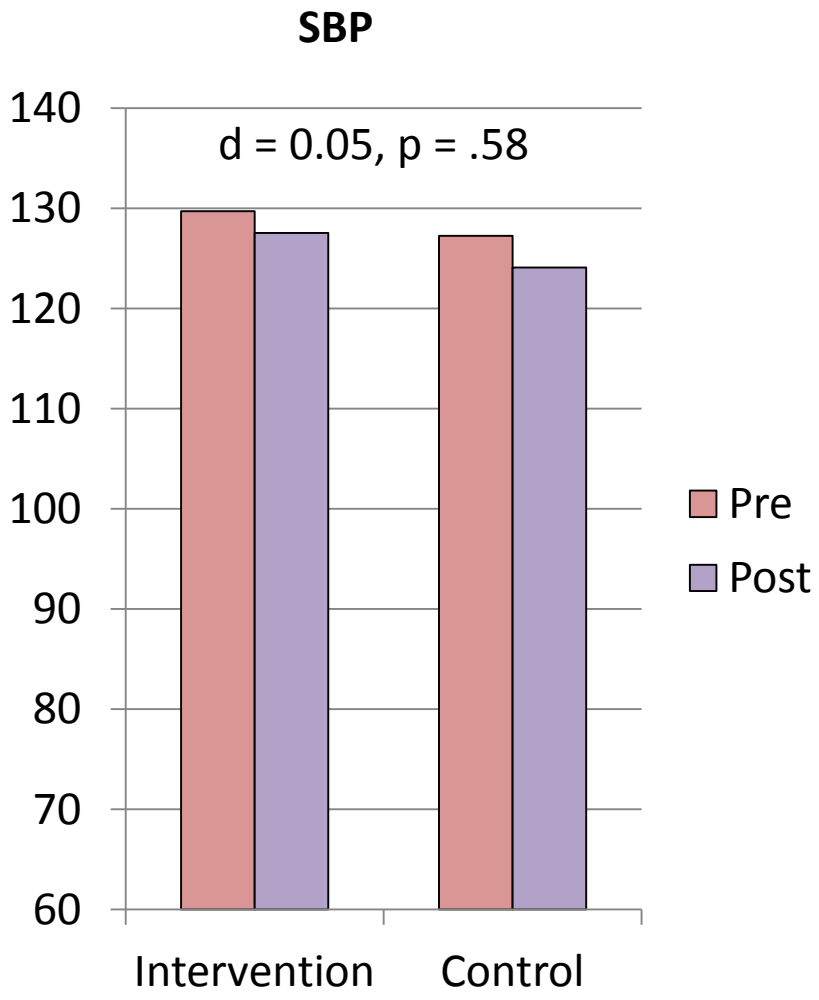
** Note that lsmeans are presented in the original unit; analyses used sqrt value due to skewed distributions

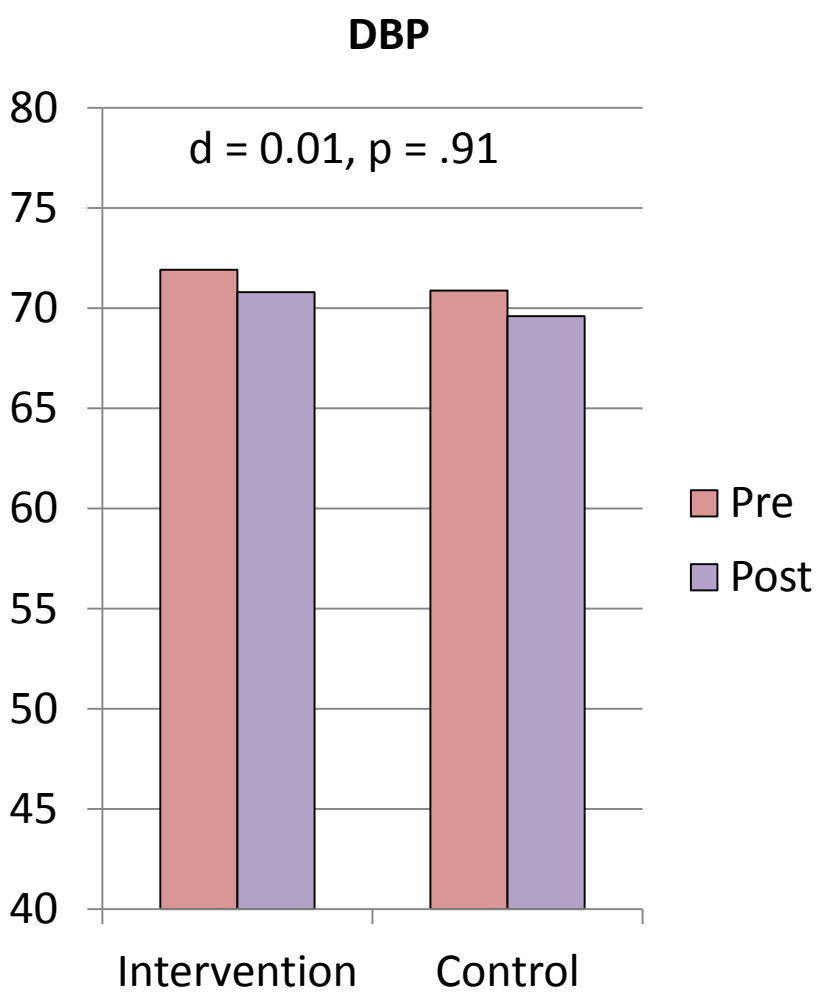
ANCOVA Results
Fruit & Vegetables (cups/d)



** Note that lsmeans are presented in the original unit; analyses used sqrt value due to skewed distributions

Intent to Treat Results
Blood Pressure (mmHg)





Summary & Conclusions

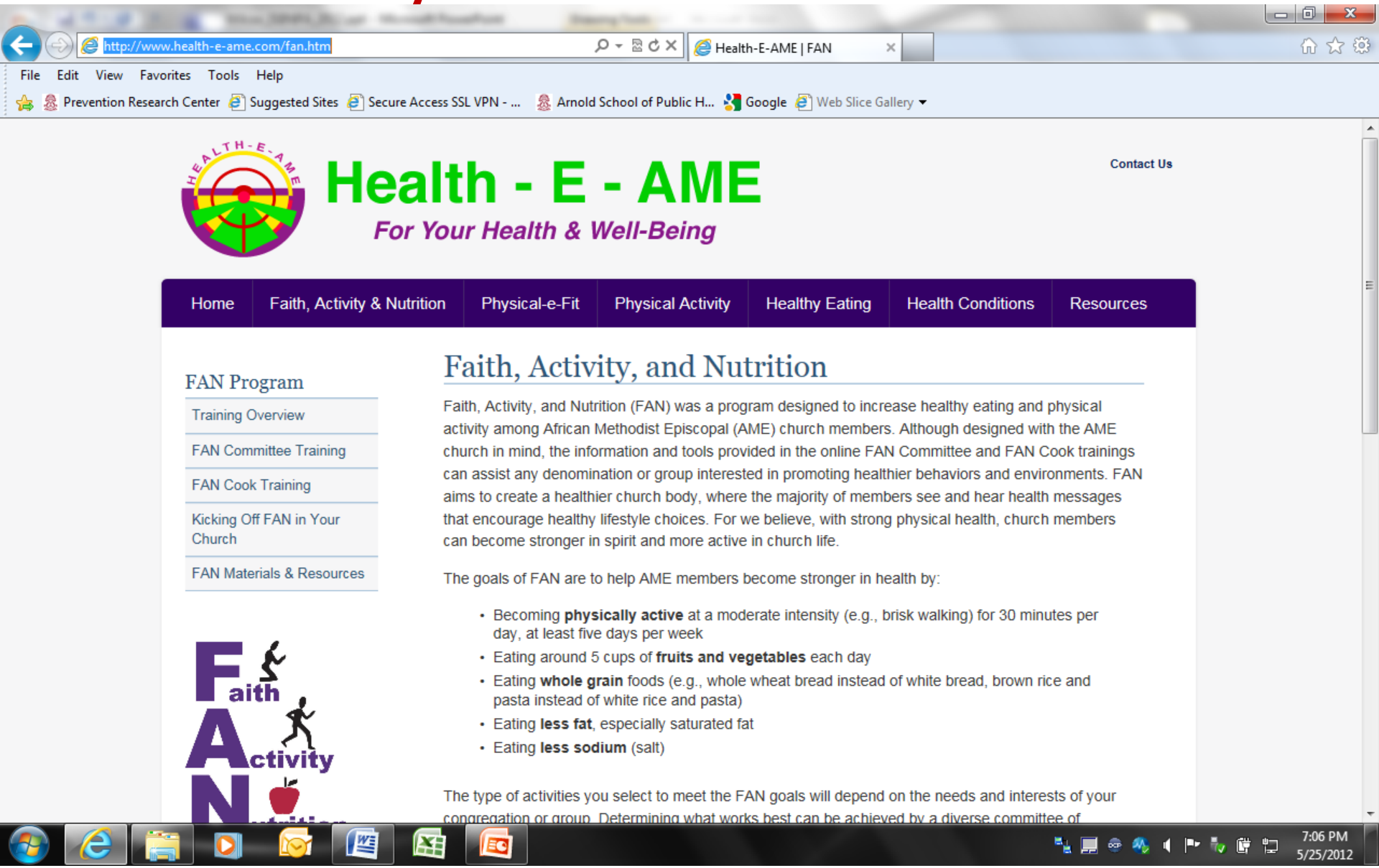
- FAN positively impacted LT MVPA and F&V consumption
  - Small effect sizes, but statistically significant
  - Could be meaningful if implemented broadly and sustained over time

- Major limitation: low evaluation post response rates & self-reported PA

- Challenges: Engaging busy church leaders, structural changes take time

- FAN was innovative in its use of:
  - CBPR
  - Structural approach
  - Potential for greater reach & sustainability

All Study Materials are Available



http://www.health-e-ame.com/fan.htm

Acknowledgements

- The project described was supported by Grant Number R01HL083858 from the National Heart, Lung, and Blood Institute. The content is solely the responsibility of the authors and does not necessarily represent the official views of NHLBI or NIH.

- AME Church Leaders
- Lead staff
  - Deborah Kinnard
  - Harriet Cunningham
  - The late Gilbert Smalls
- Graduate Research Assistants
  - Tatiana Warren
  - Kara Goodrich
- Other (many) staff and students
- Consultants
  - Peter Hannan
  - The late Marci Campbell