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Creating Healthier Faith-Based Environments to Promote Health in Underserved Communities: Insights from the Faith, Activity, and Nutrition (FAN) Program in Rural South Carolina

Deborah Kinnard has indicated she has no relevant financial relationships within the past 12 months.



CREATING HEALTHIER FAITH-BASED
ENVIRONMENTS TO PROMOTE HEALTH IN
UNDERSERVED COMMUNITIES:

INSIGHTS FROM THE FAITH, ACTIVITY, AND
NUTRITION PROGRAM IN RURAL SOUTH CAROLINA

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PRESENTATION PURPOSE AND OVERVIEW



- Health and Barriers to Health in Rural Communities
- Overview of FAN
 - Evidence-based program
 - Targets policy, systems, & environmental change
- Results of Phase I of the FAN Dissemination & Implementation (D&I) Study
- Learnings and Recommendations

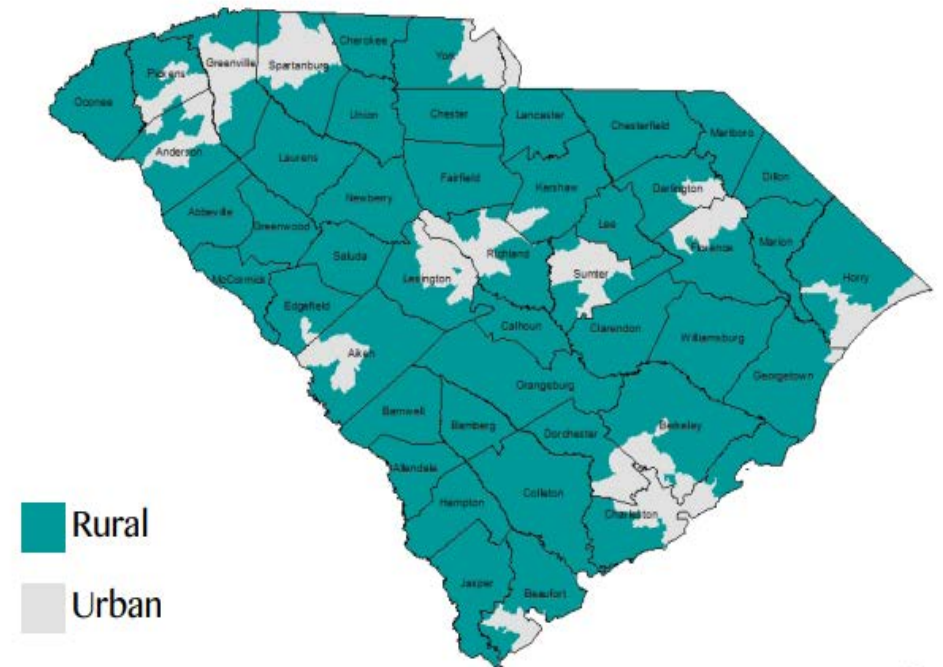
SC AT-A-GLANCE: RURAL & MEDICALLY UNDERSERVED AREAS

Selected Social Determinants of Health for Rural Areas

	US	Rural US	SC	Rural SC
Avg per capita income	\$51,640	\$38,188	\$41,633	\$34,310
Poverty rate	13.4%	16.4%	15.4%	22.3%
Not completed high school	12.7%	14.4%	13.5%	19.0%
Unemployment rate	4.4%	4.7%	4.3%	5.4%

Source: USDA-Economic Research Survey. (2017).

Rural Definition by Census Tract



Source: U.S. Census Bureau (2015).

SOUTH CAROLINA HEALTH BEHAVIORS

County Health Rankings & Roadmaps

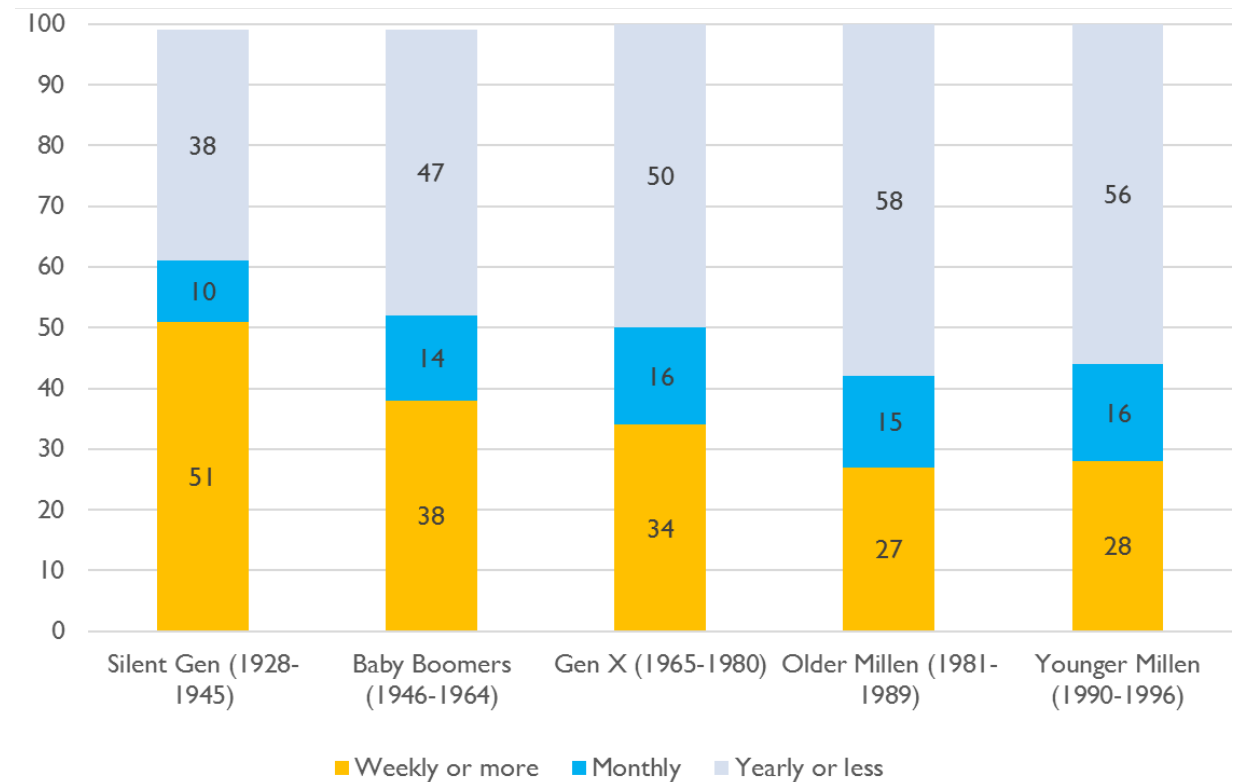
Building a Culture of Health, County by County

Measure	US	SC	SC Range
Adult obesity	29%	32%	23-43%
Physical inactivity	22%	25%	16-36%
Food environment index	7.7	6.3	5.0-8.2
Access to exercise opportunities	84%	69%	7-96%

Source: County Health Rankings. 2019.

WHY FAITH-BASED ORGANIZATIONS?

- Reach and diversity
 - Able to reach groups that would most benefit
 - Midlife and older adults
 - Racial and ethnic minorities
 - Rural communities
- Important and trusted
- Physical resources
- Spiritual and cultural tailoring



Attendance at religious services

Source: Pew Research Center, November 2015

DEVELOPMENT OF THE FAITH, ACTIVITY, AND NUTRITION (FAN) PROGRAM

- Partnership with 7th Episcopal District of the AME Church (NIH R01)
 - CBPR approach to develop, implement, and evaluate FAN
- Study results: significant increases in physical activity and fruit & vegetable intake in members (Wilcox et al., 2013, *Am J Prev Med*)
- Indexed in National Cancer Institute's Research Tested Intervention Program (RTIPs): <https://rtips.cancer.gov/rtips/index.do>



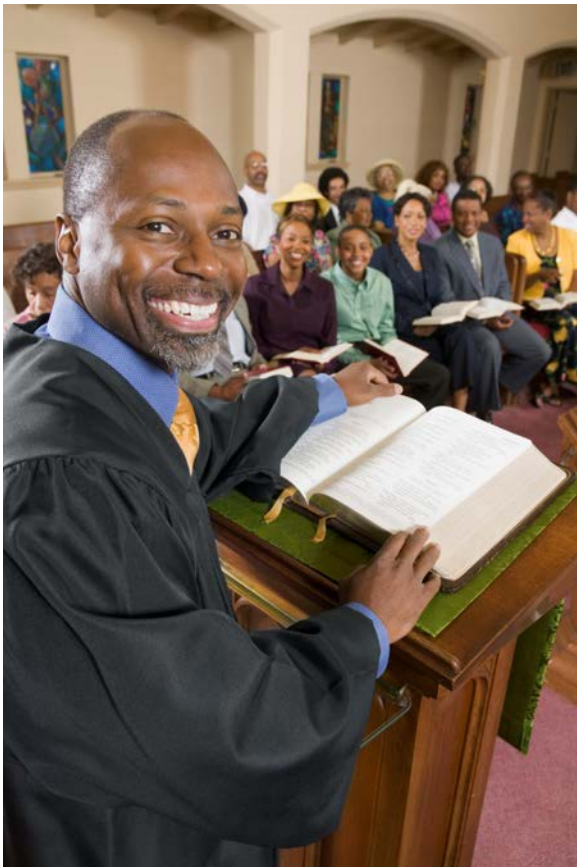
Greater St. Luke AME Church, N. Charleston, SC



PRIMARY GOAL & STRATEGIES OF FAN

- Help create a healthy church environment for physical activity (PA) & healthy eating (HE)
 - ❑ PA: 150+ minutes/week, moderate-intensity
 - ❑ HE: **Increase** fruits, vegetables, whole grains
Decrease unhealthy fats, sodium
- Focus on 4 primary strategies to reach all members
 - ❑ Guided by Cohen's Structural Model of Health Behavior (Cohen et al., 2000, *Prev Med*)
 - ❑ **Flexible** – churches choose activities for each strategy

EXAMPLES OF STRATEGIES



Strategy	Examples
Increase opportunities	Include fruits and vegetables with meals and snacks served before, during, or after church functions
Set church policies	All church meetings lasting >45 minutes will include a 10-min physical activity break.
Enlist leader support	Provide pastor pedometer & messages to share with congregation. Provide ideas for how pastor can support program.
Get the message out	Share healthy eating & physical activity messages on church bulletin boards, from the pulpit, and through church bulletin inserts.

FAN INTERVENTION

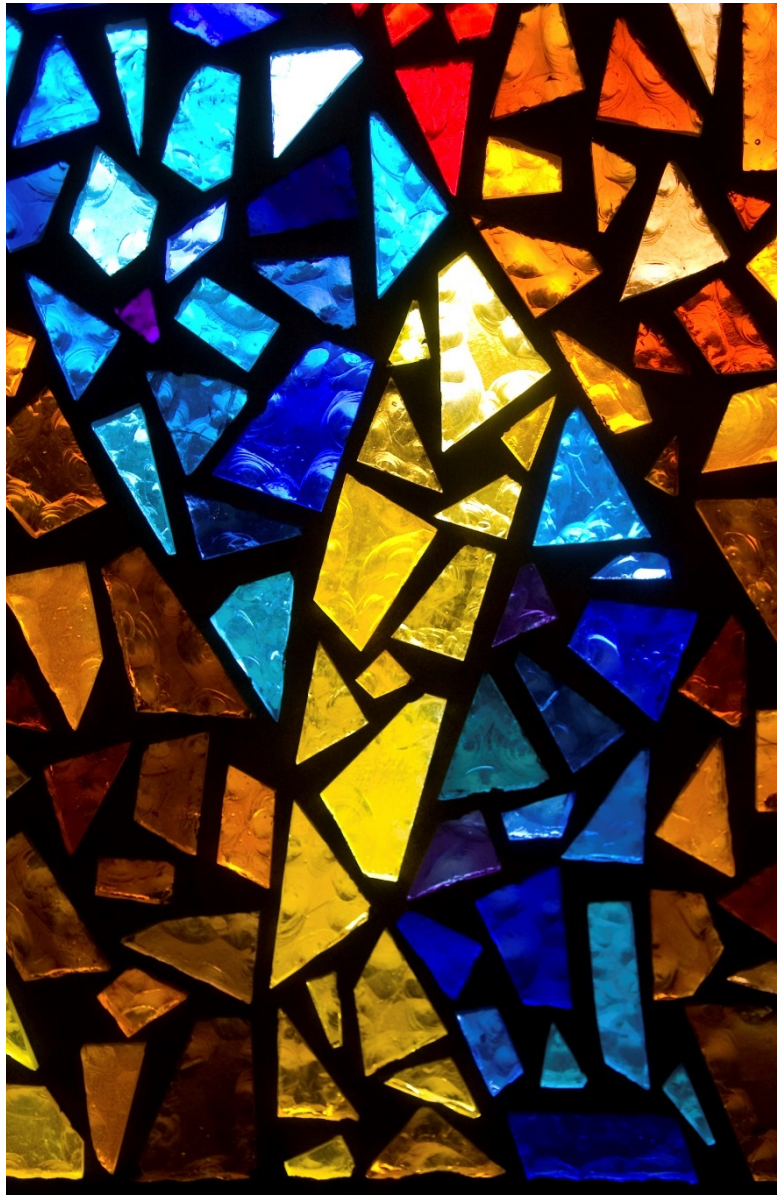
- Church creates FAN committee (3-5 people)
- Committee attends in-person training
 - ❑ Active breaks (3)
 - ❑ Healthy lunch & food demo/tasting
 - ❑ Resources
- Church submits FAN Program Plan and holds FAN kick-off event
- Committee meets regularly to plan activities and participates in 12 monthly TA calls (brief)



Assessment & Planning Guide



University staff trained Community Health Advisors to deliver all intervention components.



RESULTS

TWO PHASES OF FAN DISSEMINATION & IMPLEMENTATION STUDY

Phase I: Fairfield County, SC

- ❑ Population of ~23,000
- ❑ 59% African American
- ❑ 15% with BA or higher
- ❑ 21% below poverty level
- ❑ Rural & medically underserved
- ❑ DHEC priority county
- ❑ Health Ranking: 39/46



Phase II: South Carolina Conference of the United Methodist Church

- ❑ ~1,000 churches; 238,000 members
- ❑ Substantial proportion of predominantly AA churches



FAN D&I Study Aims

- ❑ Use RE-AIM model to study
 - Reach: # and % of people
 - Efficacy/Effectiveness: impact on outcomes
 - Adoption: # & % of churches
 - Implementation
 - Maintenance
- ❑ Use Consolidated Framework for Implementation Research (CFIR) to examine factors that influence adoption, reach, implementation, & maintenance

(Glasgow, Vogt & Boles, 1999, *Am J Pub Health*)

(Damschroder et al., 2009, *Implement Sci*)

CHURCH ADOPTION OF FAN

Phase I: Fairfield County

- 55 churches trained in FAN (of ~132 in county)
- **42% adoption**
 - Predominantly African-American congregations (92%)
 - Many churches participated in earlier tobacco-free initiative (67%)



IMPLEMENTATION RESULTS

- FAN Coordinators interviewed at baseline and 12-months later (N=54)
- Intervention churches had significantly greater implementation changes than control churches:
 - All areas except opportunities for fruit ($p=.10$) and vegetables – but scores almost 4/5 at baseline
- Effects were large
- Results replicated earlier study (Wilcox et al., 2013, *Am J Prev Med*)

Key implementation targets	Effect Size (d)
Physical activity	
Opportunities	*1.5
Guidelines	*1.2
Pastor support	*1.6
Messages	*1.1
Healthy eating	
Opportunities – fruit	0.5
Opportunities – vegetables	0.0
Guidelines – fruit	*1.2
Guidelines – vegetables	*0.7
Pastor support	*1.1
Messages	*1.4

FAIRFIELD COUNTY: EVALUATION OF EFFECTIVENESS

- Administered anonymous surveys after worship service between June and October of 2016
 - 8-12 months after training of early churches (before training of delayed churches)
 - Post-test only
- 35 early (intervention) churches
- 19 delayed (control) churches



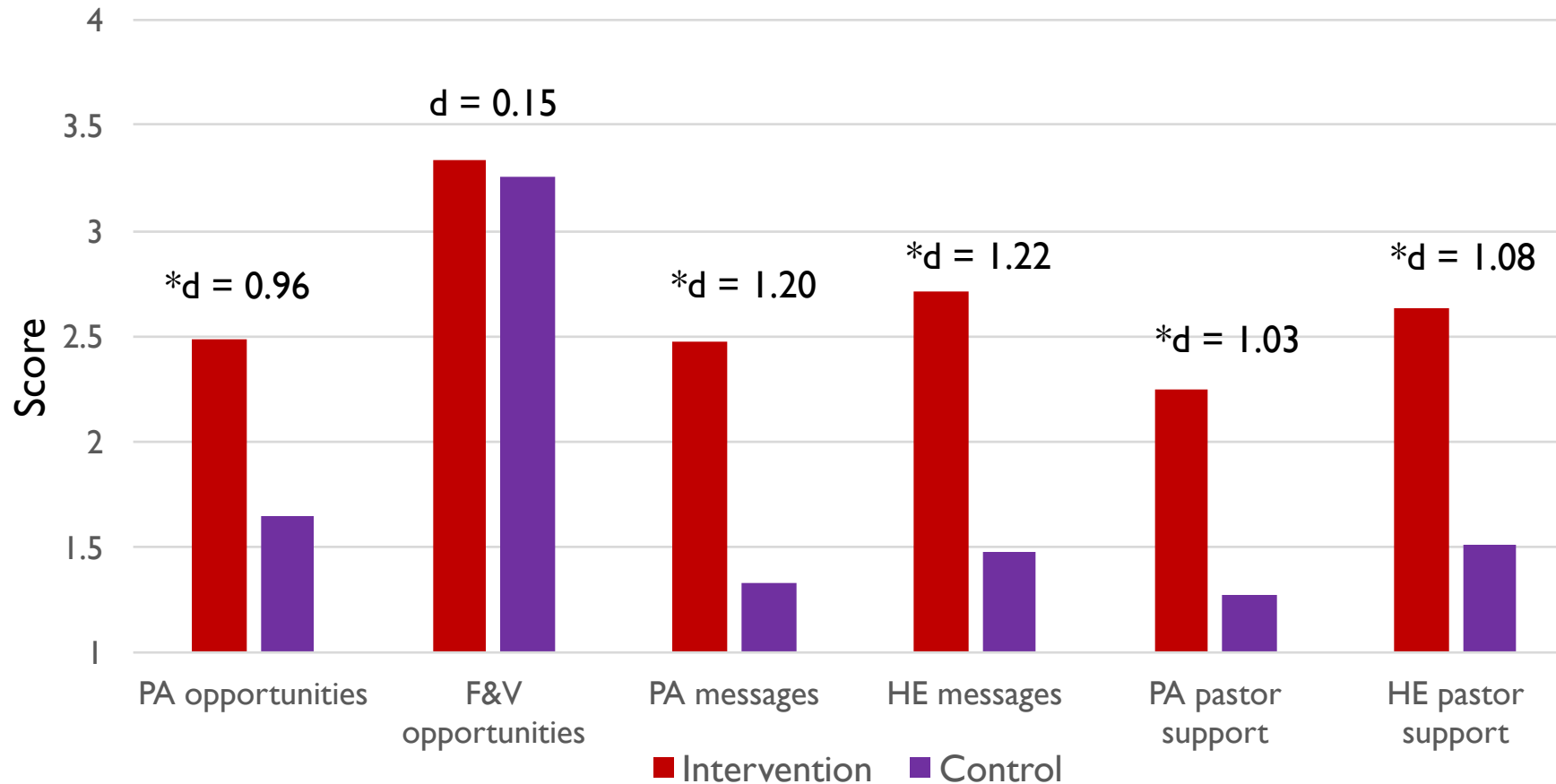
Data collection staff visiting a church for a practice session

FAIRFIELD COUNTY: SELECTED SAMPLE CHARACTERISTICS (N=1,308)

Characteristic	Early (n=811) Mean (SD) or %	Delayed (n=497) Mean (SD) or %
Age, years (SD)	53.0 (15.6)	56.7 (15.4)
Black or African American, %	96	84
Women, %	70	67
Some college or college graduate, %	50	51
Body mass index, kg/m ² (SD)	31.3 (6.9)	30.6 (6.7)
Overweight or obese, %	85	83
Self-reported health conditions, %		
Hypertension	54	57
High cholesterol	35	38
Arthritis	34	33
Diabetes	23	25

Est. 71% of church
attenders completed
the survey

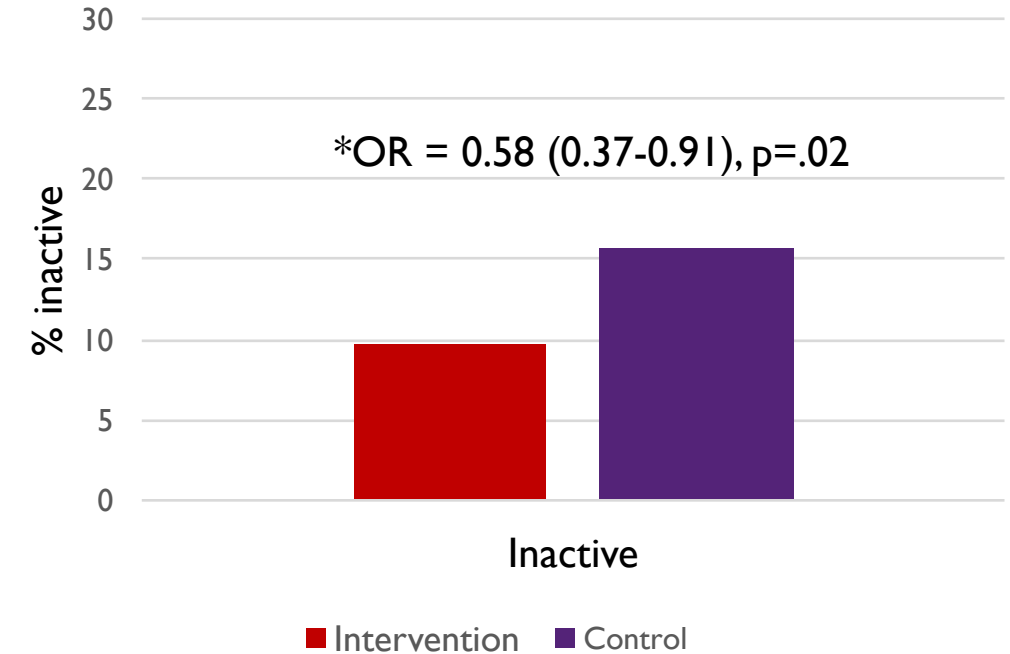
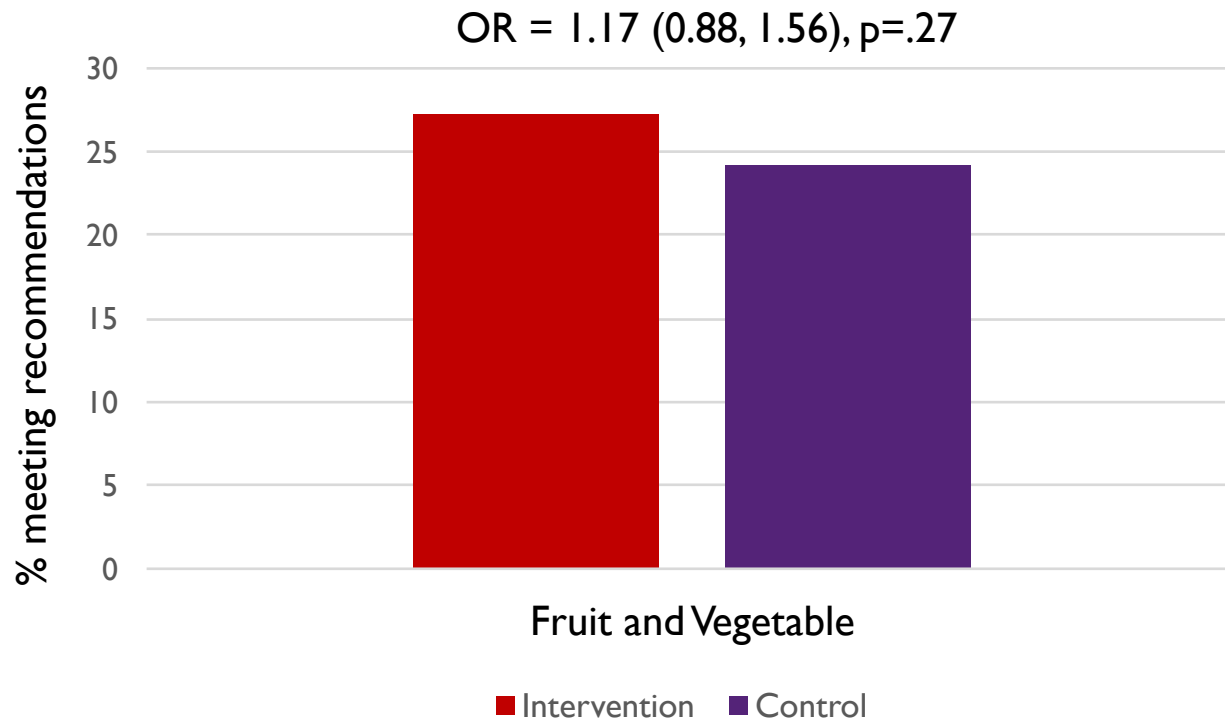
FAIRFIELD COUNTY EFFECTIVENESS: CHURCH ENVIRONMENT



Note: Linear regression models adjusted for age, gender, education & self-report of cancer diagnosis (individual) as well as church clustering and predominant race of congregation [Cohen's $d = (\text{mean early} - \text{mean late})/\text{pooled SD}$]. * $p < .05$.

Source: Wilcox et al., 2018, Am J Prev Med

FAIRFIELD COUNTY EFFECTIVENESS: MEMBER BEHAVIORS



Note: Logistic model adjusted for age, gender, education & self-report of cancer diagnosis (individual) as well as church clustering and predominant race of congregation. OR indicates odds ratio (95% CI). *p<.05.

FAN CHURCHES IN ACTION!

“Coming from this county, I knew you chose the right place with all of the health issues I see and the growth of fast food places. FAN opens a door of opportunity for better health. Many uninsured and unemployed here use the hospital like a doctor’s office. They don’t have a regular doctor. FAN provides information that any church member can pick up and use and get out to the community. Having FAN in churches gives people support and encouragement in a nonthreatening way. With improved health, members will be better able to serve, do more outreach, and be more active in sharing the good news.”

*Ms. Josephine (Joey) Beckham, FAN Coordinator
Bethel United Methodist Church, Winnsboro, SC*



SUMMARY OF LESSONS LEARNED & RECOMMENDATIONS



- FBOs are important partners in eliminating health disparities & improving population health
 - Important resource in rural & low resource communities
 - Way to reach people in routine and trusted settings
- FAN is an evidence-based, flexible, and relatively low cost/resource dependent program
 - Training & TA delivered by community health advisors
 - Led to large organizational changes & small member changes
- Selecting interventions that target policy, systems, and environments and have greater reach and adoption, even if paired with lower effectiveness, can lead to greater public health impact (RE-AIM)
- Future analyses will examine predictors of implementation & maintenance of FAN in both phases



FAN MATERIALS ARE AVAILABLE!

- ❑ Visit the UofSC PRC website to download FAN materials from the Resources tab. <http://prevention.sph.sc.edu/resources.htm>
- ❑ FAN is included in the Rural Health Information Hub as an intervention with a “promising evidence” ranking. <https://www.ruralhealthinfo.org/project-examples/1011>
- ❑ FAN is indexed in the National Cancer Institute’s Research Tested Intervention Programs <https://rtips.cancer.gov/rtips/programDetails.do?programId=10977999>
- Coming soon– Fall 2020! FAN online training modules!

A BIG THANK YOU TO.....

- The AME church leaders & members who partnered with us to develop FAN
- Current Partners
 - ❑ Fairfield Behavioral Health Services
 - ❑ Fairfield Community Coordinating Council
 - ❑ SC Conference of the United Methodist Church
- Pastor Health Advisors & Community Health Advisors
- USC PRC Co-investigators, staff and students
- All participating churches

This project is supported by Cooperative Agreement Number U48DP005000 from the Centers for Disease Control and Prevention. Its contents are solely the responsibility of the authors and do not necessarily represent the official views of the Centers for Disease Control and Prevention.



<http://prevention.sph.sc.edu/>

Be a **FAN**
for your health

Increase your
faith, be more
physically active,
and eat more fruits
and vegetables.

May you "prosper in all
things and be in health,
just as your soul prospers"

III John 1:2 (New King James Version)



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