

Project Connect: A Pilot Study Using Social Networks of African American Women With Cardiovascular Disease to Recruit African American Men Into Health Studies

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ABSTRACT

Background: Recruitment of African American (AA) males into health promotion programs and research is vital to the reduction of health disparities. This pilot study utilized social networks to recruit men at risk for cardiovascular disease (CVD) into screening. The key objective was to describe the feasibility of recruiting AA males at high risk for CVD through a female relative or friend with known CVD. **Methods:** One-hundred fifteen African American females, who had recently completed cardiac rehabilitation at a large urban health system, were contacted via recruitment letters and telephone calls. They were asked to bring or refer AA male friends and family members (FM) for screening and data collection. Surveys administered to female participants included an FM referral form, the Sickness Impact Profile, and the Social Network Index. FM were screened for blood pressure and body mass index (BMI), completed a demographic survey, and a relationships and family health history survey. All participants received a \$25 incentive. **Results:** Of the 115 AA females contacted, 19 (17%) participated and referred 53 FM, of which 36 (68%) completed the study. Sixty-four percent of FM had abnormal blood pressure and 58% had BMI \geq 25. The mean number of referred FM was 2.8 \pm 1.2 with twenty (57%) being biologically related to a female participant. Twenty-six (74%) FM currently resided with the female participant; mean years resided together was 15.9 \pm 14.9. The mean number of people in female participants' social networks was 17.9 \pm 14.9. Females who scored 17 or below referred 2.4 \pm 0.9 FM, while those who scored above 17 referred 3.4 \pm 1.5. **Conclusions:** This study successfully identified and recruited high-risk subjects by utilizing women to influence men in their social network to participate. Enrollment rates of FM by using females' social networks (68%) were vastly greater than rates of females using traditional methods (17%), and suggest it is an efficient recruitment technique. Results confirmed that FM were at high risk for CVD. This recruitment method has the potential to reduce CVD occurrence by engaging high risk subjects in preventive health screenings, and may be useful for research applications. Studies comparing this approach to traditional recruitment methods are warranted.

INTRODUCTION

A prominent example of health disparity due to race and ethnicity in the United States involves African American men and heart disease. Specifically, in 2004 the age-adjusted death rate for heart disease among African American men was 30% higher than white men.¹ Additionally, low education and low family income are significant independent risk factors, among others, for CVD among black men.² Thus, a concerted effort is needed to determine effective ways to recruit African American men into health promotion interventions which consider the influence of their socio-cultural context.

There is evidence supporting the utilization of social networks for the purposes of recruiting African American men into health programs.^{3,4} The value of health promotion strategies in urban communities which engage people through their social network has also been demonstrated. For example, smoking cessation by a friend decreased the chances of another network member smoking by 36%.⁵ The rate was even higher among family members such as a spouse. If social networks influence healthy behaviors such as smoking cessation, they also have the potential to play a role in promoting other preventive behaviors such as receiving regular health screenings.

PURPOSE

1. To examine the feasibility of an innovative recruitment model that enrolls African American men in health screenings through their female family members with known cardiovascular disease (CVD).

2. To describe the relationship between this innovative recruitment model and the extent to which African American male family members follow-up on screening recommendations.

We hypothesized that:

1. Twenty AA females with CVD would be recruited into the study, and data regarding the extent that recruitment of AA male FM was feasible would be obtained. Health screening visits would provide important baseline CVD-related data in high-risk African American males, and that those FM who were most affected by their female referrer's cardiac event would be more likely to participate in screening.

2. We will have identified African American men who had an abnormal health screening, advised them to seek appropriate clinical care, and tracked the level to which they followed this advice. We expected that men who were more affected by their female referrer's cardiac event would be more likely to follow-up with health care providers.

METHODS

Recruitment of AA females with CVD:

One hundred fifteen female African American graduates of the Henry Ford Hospital phase II Cardiac Rehabilitation program were contacted via recruitment letters and phone calls between August 1, 2009 and December 31, 2009. The following eligibility criteria were used to identify potential subjects:

- Age \geq 21 years.
- Diagnosed with CVD or a CVD-related event within the past year (myocardial infarction, revascularization, or angina).
- Completed the Cardiac Rehabilitation program within the past six months.
- Absence of congenital heart conditions, valvular conditions, ventricular assistive devices, infusion therapy, and/or non-ischemic cardiomyopathy.

At study intake visits, females completed the following surveys and were asked to refer AA males for preventive health screenings:

- Friend and Family Member Referral Form
- Sickness Impact Profile
- Social Network Index (SNI)

Recruitment of AA male family and friends:

Thirty six AA male friends and family members (FM) who had been referred by AA females with known CVD came for a preventive health screening visit that included:

- Blood pressure measurement.
- Height and weight measurements used to calculate Body Mass Index (BMI).
- Demographic survey.
- Relationships and family health history survey.

Compensation:

All participants, female and male, received \$25 cash for completing the visit.

Statistics:

Data is reported as mean \pm standard deviation (SD) in the tables. Wilcoxon two-sample test was used to compare female referral rates by social network size.

Table 1. Family member follow-up recommendations for hypertension

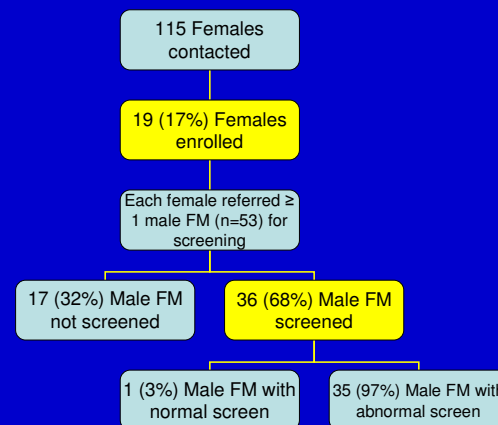
Category	Blood Pressure Reading		Follow-up Recommendations
	Systolic	Diastolic	
Normal	<120	And <80	Follow-up with PCP within 1-2 years
Pre-Hypertension	120-139	Or 80-89	Follow-up with PCP within 6 months
High	140-159	Or 90-99	Follow-up with PCP within 2 months
Urgent	160-209	Or 100-119	Urgent: Follow-up within 24 hours to 1 week depending on symptoms
Emergent	\geq 210	Or \geq 110	Emergent: Follow-up within 24 hours or immediately depending on symptoms

PCP=Primary Care Practitioner.

RESULTS

- Activity flow chart and recruitment numbers are shown in Figure 1.

Figure 1. Overview of Recruitment Process



- Recruitment rate of females into this pilot study using traditional mail and phone contact was 17%; in comparison 68% of male FM were recruited into preventive health screenings using the female social network (Figure 1).

- Table 2 shows female and male FM demographics.

Table 2. Subject demographics.

	Female (n=19)	Friends and Family Members (n=36)
Age, year	ND	43 \pm 15
Female gender, n (%)	19 (100)	0 (0)
Black race, n (%)	19 (100)	36 (100)
Size of social network, mean (SD)	17.9 \pm 14.9	N/A
Referrals mean, (SD)	2.8 \pm 1.2	N/A
FM biologically related to female n, (%)	N/A	20 (56%)
FM and female live together n, (%)	N/A	26 (72%)
Years living together mean, (SD)	N/A	15.9 \pm 14.9
BMI, kg-m ²	N/A	28.7 \pm 6.3

- 97% of FM were at moderate-high risk for CVD with at least one modifiable risk factor (Table 3).

- 92% of FM were at high risk for CVD with two or more modifiable risk factors (Table 3).

RESULTS (CONTINUED)

- Table 3 shows FM health screening results.

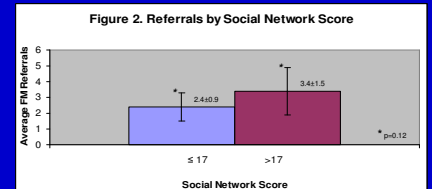
Table 3. Health Screening Results.

	Family Members (n=36)
Positive Health Screen, n (%)	
Hypertension (\geq 120/80)	23 (64)
BMI (\geq 25)	21 (54)
Smoking*	22 (61)
Inactive**	11 (31)
No risk factors, n (%)	1 (3)
One risk factor, n (%)	2(6)
Two or more risk factors, n (%)	33 (92)

*Self-reported. Inactive= $<$ 30 minutes for \leq 4 days weekly. BMI= body mass index. n=number.

- Females with larger social networks (SNI score $>$ 17) tended to refer more family members for health screenings (Figure 2).

- Figure 2 shows referrals by social network score



CONCLUSIONS/DISCUSSION

- The wide difference between traditional and networked recruitment rates, 17 and 68% respectively, suggest that use of social networks would be an efficient recruitment technique for preventive health screenings of African American men.

- Given the success of this recruitment technique and its ability to identify those at risk for development of CVD, it may have the potential to decrease future incidence in AA men. Future studies are warranted.

- Use of social networks may have recruitment applications in future research trials that enroll AA men. A limitation of this study was that recruitment techniques were not randomized, and such studies are warranted.

- Our pilot data suggest that targeting females with larger social networks may increase referrals.

- Monetary compensation did not explain greater enrollment rates of FM referred via social networking because all participants (both female and male) received \$25 cash for completed visits.

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