

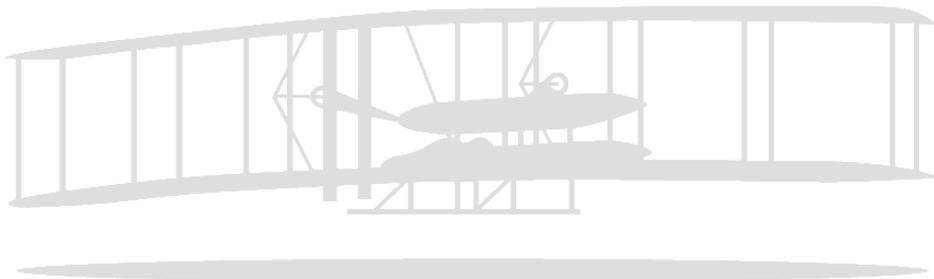
Know Your Numbers

Cincinnati Campaign

Final Report
June 30, 2006

**Center for Global Health Systems, Management, and Policy
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**Ohio Department of Health
Contract WPOZNV**



Cincinnati Know Your Numbers Campaign Final Report

Background

The Center for Global Health Systems, Management, and Policy (formerly the Division of Health Systems Management) at Wright State University Boonshoft School of Medicine in Dayton, Ohio, was contracted by the Ohio Department of Health to expand the Dayton Know Your Numbers Campaign, a mass media social marketing campaign, into the Cincinnati metropolitan area. The goal of the campaign was to reduce racial disparities in cardiovascular disease by reaching out to the African American public via a radio campaign. Key goals of this program were to increase awareness and change attitude regarding blood pressure (systolic and diastolic), cholesterol (LDL) levels, blood sugar (glucose) levels, and waist size/body mass index. It is hoped this knowledge will influence the community toward healthier habits and ultimately toward a positive change in behavior.

Statement of Work

The Center for Global Health Systems, Management, and Policy (CGHSMP) is pleased to present this report in response to the Ohio Department of Health (ODH) Contract WPOUMW. The CGHSMP team consists of Richard J. Schuster, M.D., M.M.M.-PI; Nancy Terwoord, R.N., B.S., CPHQ, Project Coordinator; Joseph Tasosa, M.B.A., M.S., Research Assistant; and Lori Metivier, Staff Support.

As outlined in the contract between CGHSMP and ODH this report includes the following:

- Executive Summary
- Survey Results
 - Baseline, 6-Month Follow-up, and 12-Month Follow-up
- Graphic Presentation of Data
- Conclusions and Recommendations

Executive Summary

Baseline data on cardiovascular disease risk factor awareness, attitude, and behaviors of the population of Hamilton County (Cincinnati) toward CVD, was acquired by CGHSMP with ODH support. The baseline survey was conducted in July 2003 studying the general population and the African American population. The study demonstrated awareness, attitude, and behaviors that were generally much below the national average.

The Cincinnati Know Your Numbers Campaign was specifically designed to be a mass media social marketing campaign targeted at the African American community. Its main aims were to increase awareness, change attitude, and alter behavior to reduce cardiovascular risk factors. A radio campaign was developed and conducted as a means to target the African American population efficiently. This campaign was conducted in partnership among Pfizer, ODH (Contract #WPOUMW) and the Cincinnati City Health Department with assistance from Wright State University in Dayton, Ohio. A total of 834 radio commercial spots have been aired over the

12-month period beginning in May 2005 (466 were aired prior to Aug. 1, 2005; 368 were aired from Aug. 1 through Oct. 24, 2005).

A random-digit dial phone survey of Hamilton County, Ohio, was conducted at baseline, after 6 months (follow-up 1) and after 12 months (follow-up 2) in order to assess the effectiveness of the campaign. Hamilton County, Ohio, also includes Cincinnati. All three surveys separately interviewed the African American population and the general population. About 23 percent of the Hamilton County population is African American.

A total of 2,490 telephone surveys were conducted from baseline to follow-up 2 (baseline=790, follow-up 1=825, and follow-up 2=875). A total of 1,346 (55 percent) African Americans responded to the surveys and identified their race (Table 1).

Table 1

All Respondents by Race	Frequency	Percent
White/Caucasian	1,031	42
Black/AA	1,346	55
Hispanic/Spanish	20	0.8
Other	69	2.8
Total	2,466	100
Refused	24	
Grand Total	2,490	

This report will compare the baseline data to the 6-month (follow-up 1) data collected in October 2005 to the 12-month data (follow-up 2) collected in April 2006. Comparisons will be made between the various survey groups (Table 2).

Table 2

Surveys	Frequency	Percent
AA Baseline	385	16
GP Baseline	405	16
AA Follow-up 1	362	15
GP Follow-up 1	463	19
AA Follow-up 2	365	15
GP Follow-up 2	510	21
Total	2,490	100

Baseline data showed the following:

- There are dramatic disparities between the African American and the general populations in their personal awareness of cardiovascular risks.
- African Americans are more concerned and less aware of their cardiovascular risks than the general population.
- Both the general population and the African American population of Hamilton County (Cincinnati) have dramatically higher prevalence of CV disease and dramatically less awareness of their personal risk factors when compared to national averages.

Follow-up 1 data showed the following:

- There was a statistically significant increase in awareness, attitude and behavior in the African American community during the 6 months of the radio campaign.
- During the same time, no consistent increase was found in the general population.

Follow-up 2 data showed the following:

- A sustained impact of the campaign from follow-up 1 to follow-up 2 (6 months to 12 months) for both African Americans and the general population.
- Statistically significant improvement in some areas of awareness, attitude, and behavior change among African Americans from baseline to follow-up 2.

Survey Results

I. Results

a. Awareness

- i. Recognition of having seen a commercial in the AA population **increased from 71% to 81% (p = 0.001)** and then remained at 81% while in the GP the value increased from 75% to 78% (p=0.328) and then from 78% to 84% (**p=0.022**) - See Figure 1
- ii. Blood Pressure: Self-reported diagnosis of high blood pressure **increased in the AA population from 37% to 45% (p=.002)** where it remained at follow-up 2. It dropped without statistical significance in the GP from 33% to 31% (p=.469) and then increased without significance to 36% (p=0.122) - See Figure 2
- iii. Cholesterol: Self-reported diagnosis of high cholesterol **increased in the AA population from 29% to 42% (p=.002)** and remained there (41%) at follow-up 2 while it climbed without statistical significance in the GP from 36% to 42% (p=0.147) and then came down to 39% (p=0.467) at follow-up 2 - See Figure 3
- iv. Obesity: Awareness of obesity as measured by waist size actually went down in the AA community from 75% at baseline to 54% (p<0.001) and then rose insignificantly to 59% (p=0.165) at follow-up 2. Obesity awareness in the GP was not significantly altered going from 69% to 67% (p=.393) and then down to 63% (p=0.253) - See Figure 4

b. Attitude

- i. Blood Pressure
 1. Attitudinal change for having blood pressure checked annually **increased in the AA community from 35% to 44% (p=.007)** and remained there at follow-up 2. The same attitude remained constant in the GP at 25% (p=.914) from baseline to follow-up 1 and then rose significantly to 33% (**p=0.010**) at follow-up 2 - See Figure 5
 2. Attitudinal change was reported for planning to get blood pressure checked in the next 12 months in the AA population, **rising from 60% to 77% (p=.001)** and then to 79% (p=0.691) at follow-up 2. Attitudinal change in the GP without statistical significance in the GP, remaining at 68% (p=0.974) from baseline to follow-up 1 then rising significantly to 76% (p=0.006) at follow-up 2 - See Figure 6

- ii. Cholesterol
 1. Concern at the importance of having cholesterol checked every year **rose in the AA community from 24% to 31% (p=0.041)** and then to 34% (p=0.288) while it fell in the GP from 19% to 18% (p=.835) and then rose significantly to 27% (p=0.001) at follow-up 2 - See Figure 7
 2. Attitudinal change was reported for planning to get blood cholesterol checked in the next 12 months in the AA population, **rising from 46% to 58% (p=.001)** and remaining there at follow-up 2. Attitudinal change in the GP remained unchanged at 48% (p=0.999) from baseline to follow-up 1 but then rose significantly to 54% (p=0.033) at follow-up 2 - See Figure 8

c. Behavioral Change

- i. Cholesterol: Behavior change was noted by the **increased number of AAs who reported having their cholesterol ever checked being 75% at baseline and increasing to 82% at follow-up 1 (p=0.018)** and decreasing insignificantly to 80% (p=0.399) at follow-up 2. There was no statistical change in behavior in the general population, 83% at baseline dropping to 81% at follow-up 1 (p=0.518) and increasing to 84% (p=0.159) at follow-up 2 - See Figure 9
- ii. Blood Pressure: Behavior change was noted in the AA population regarding having blood pressure checked in the most recent 6 months, with the number having done so **increasing from 71% to 80% (p=0.002)** and then increasing to 83% (p=0.413) at follow-up 2. Behavior change actually decreased in the GP from 80% to 74% (p=0.060) and then up to 77% (p=0.304) at follow-up 2 - See Figure 10
- iii. Noting that the population of Hamilton County is 814,611 and 23% of that population is African American, **it can be concluded that approximately 36,000 AAs had their blood pressure checked and over 24,000 had their cholesterol checked because of this campaign. See Figures 6 and 8**

Graphic Presentation of Data

Figure 1

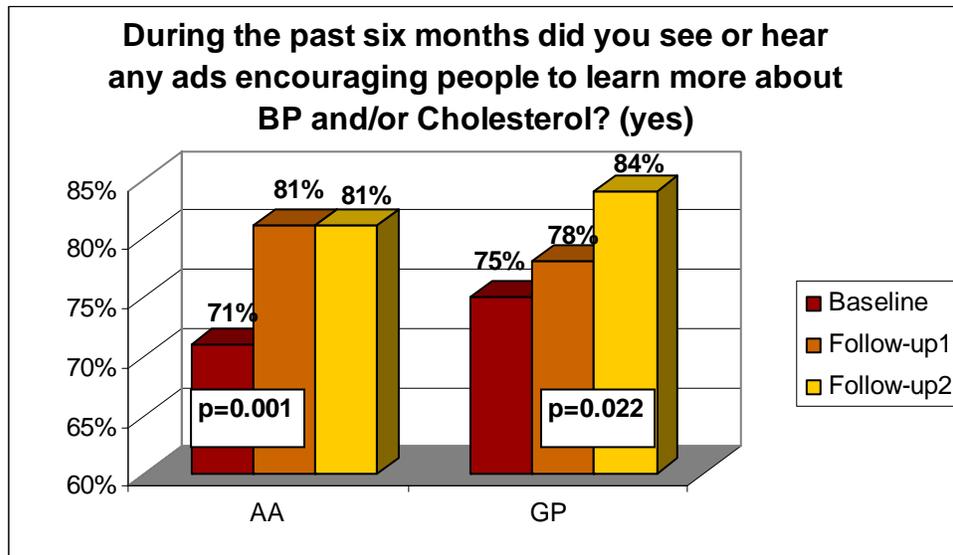


Figure 2

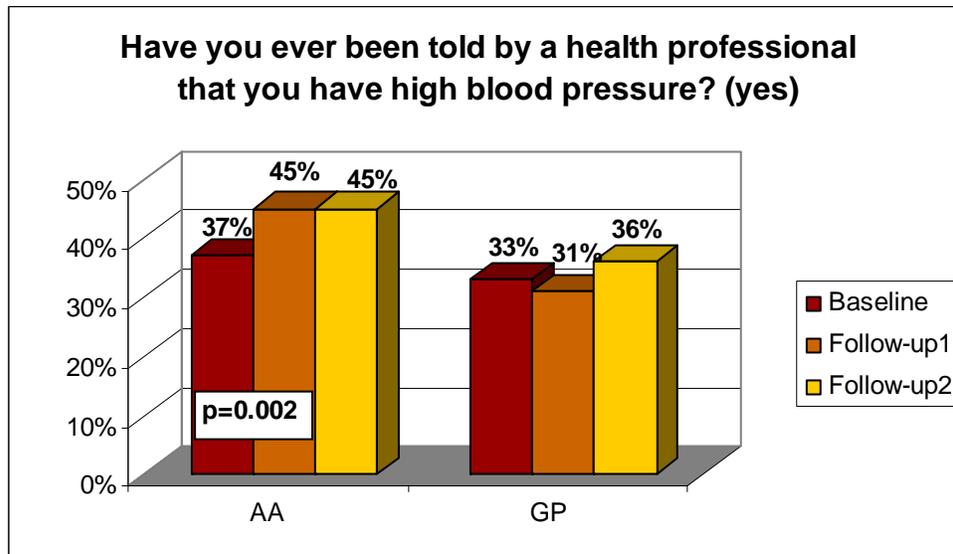


Figure 3

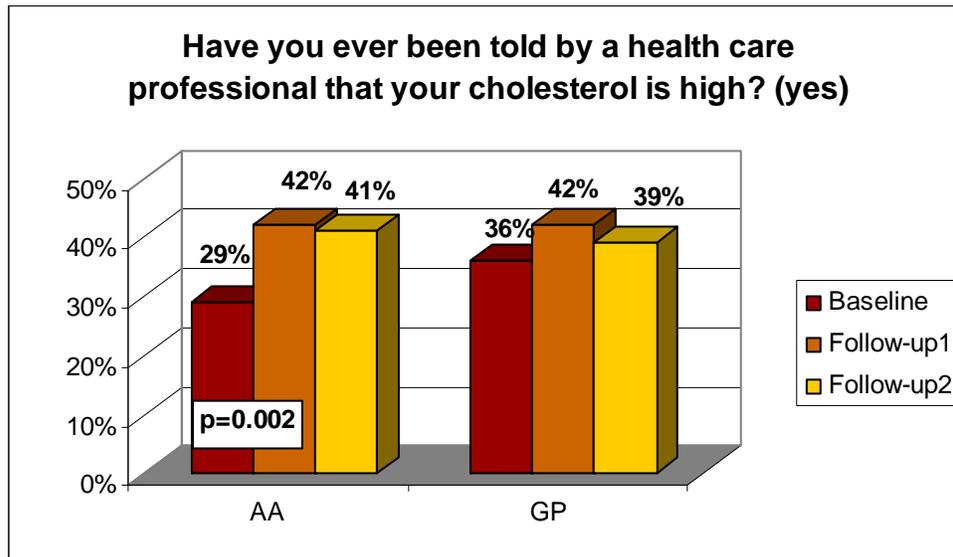


Figure 4

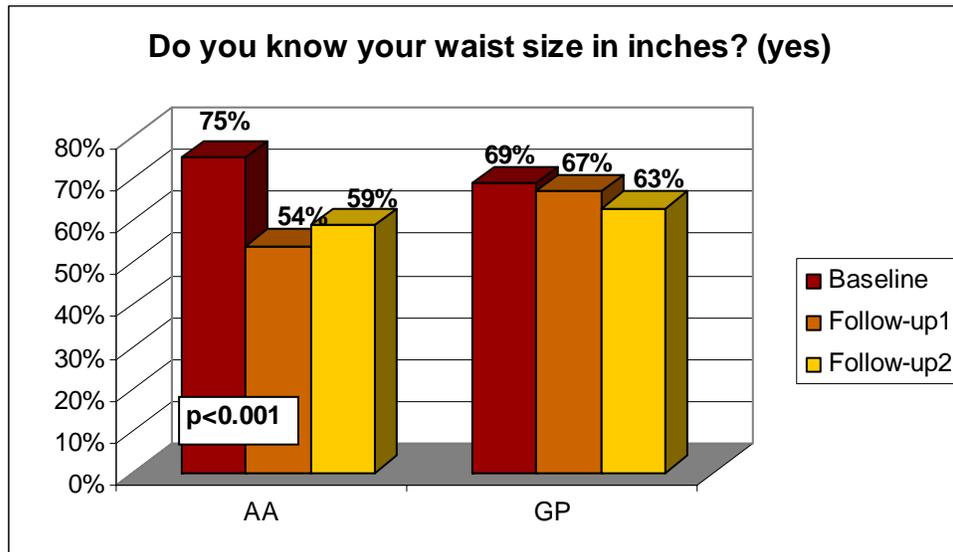


Figure 5

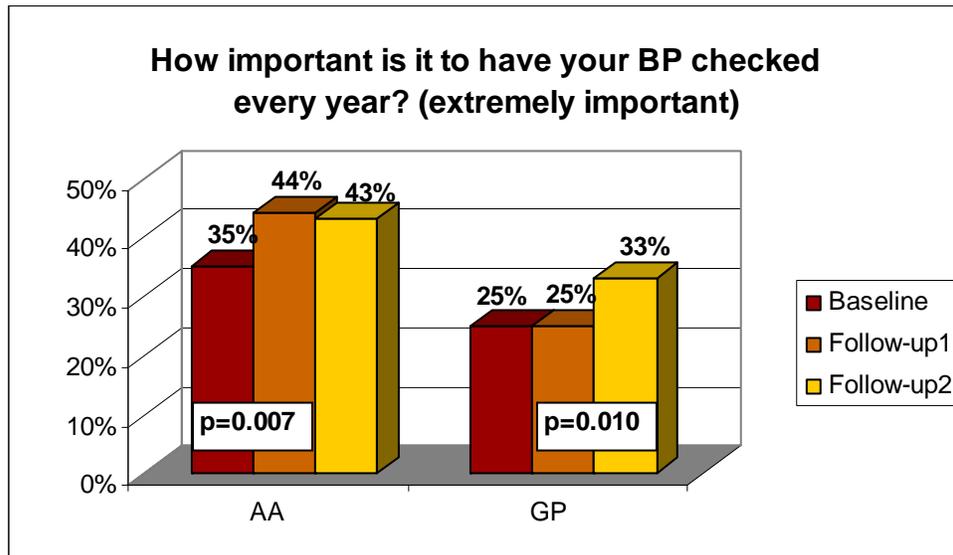


Figure 6

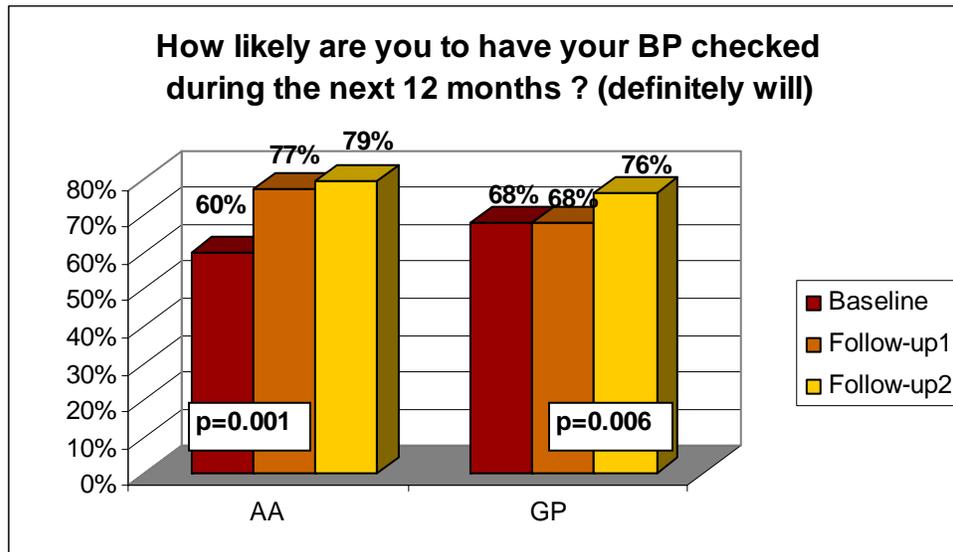


Figure 7

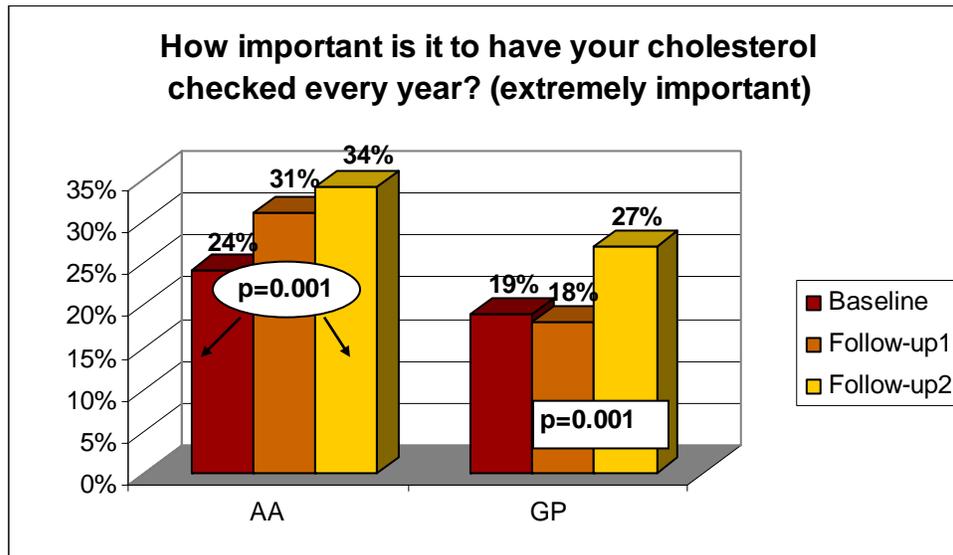


Figure 8

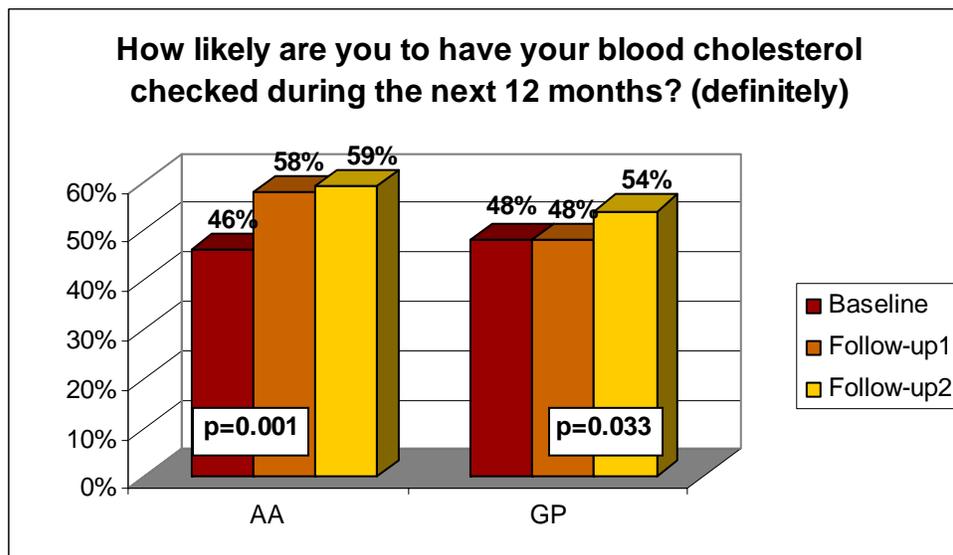


Figure 9

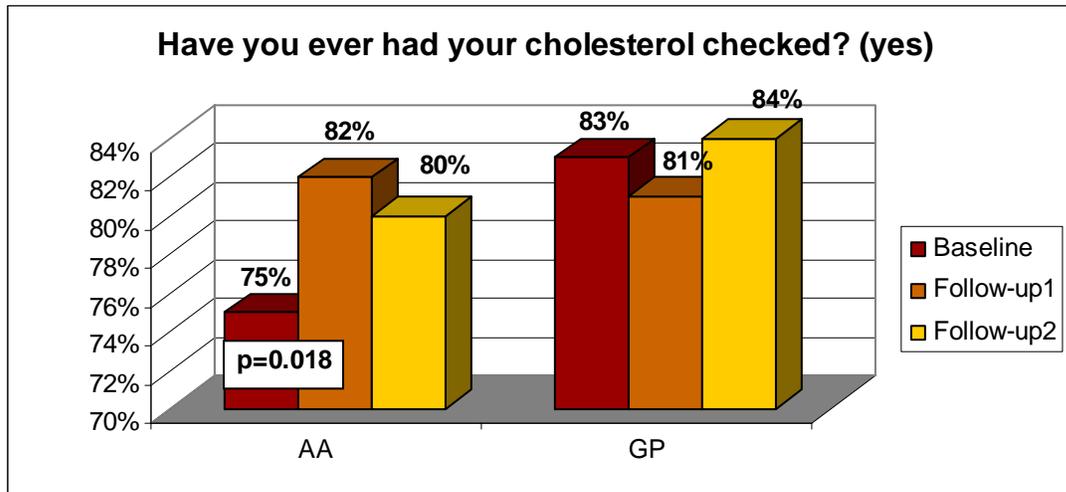
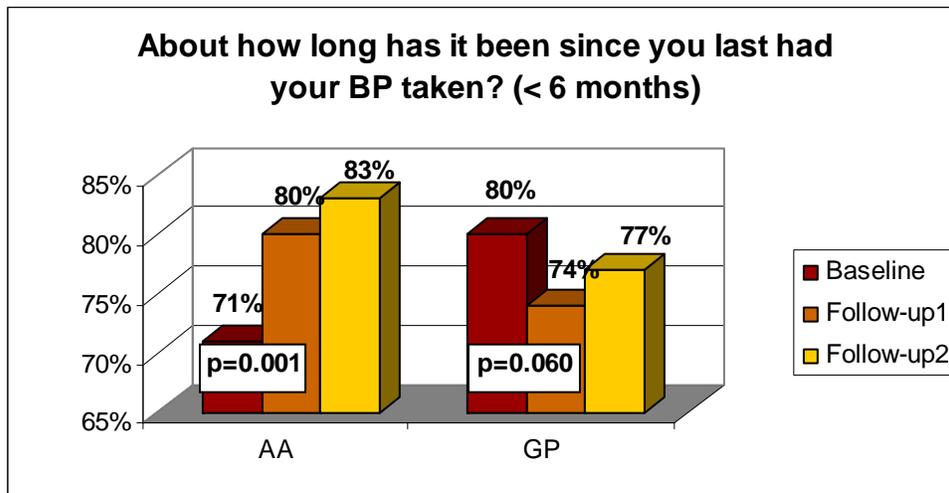
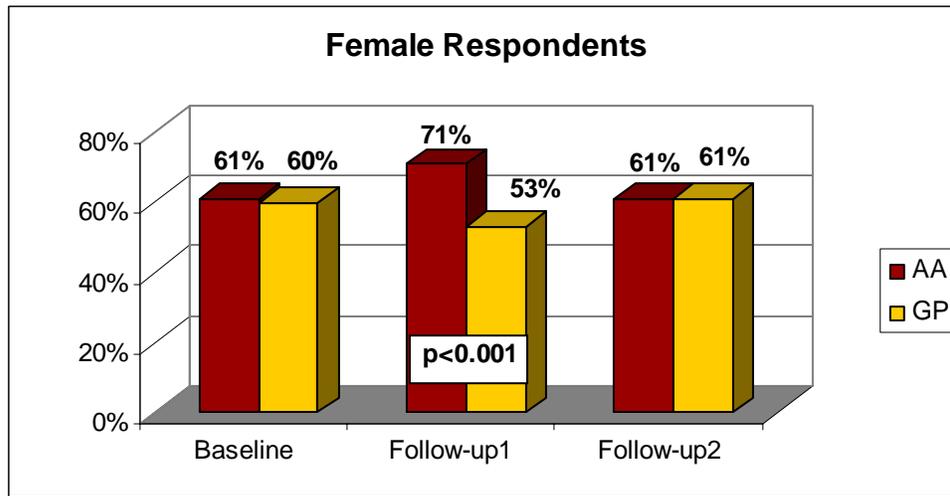


Figure 10



Demographic Results:

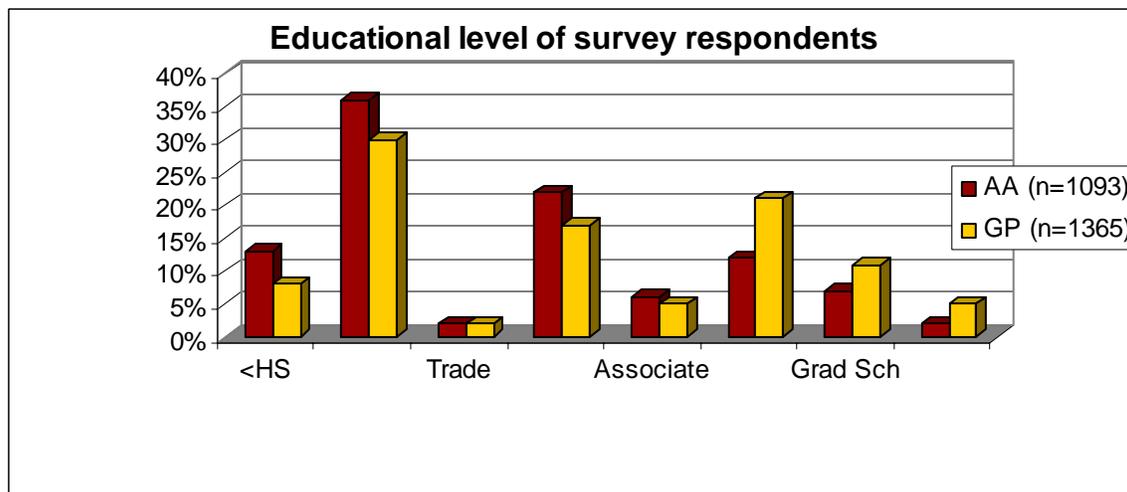
Figure 11



There were more female respondents to the survey both among AAs and GP. There was a significant increase from 61% to 71% ($p=0.007$) in the distribution of female AA respondents from baseline to follow-up 1 and then a significant decrease back to 61% ($p=0.005$) at follow-up 2.

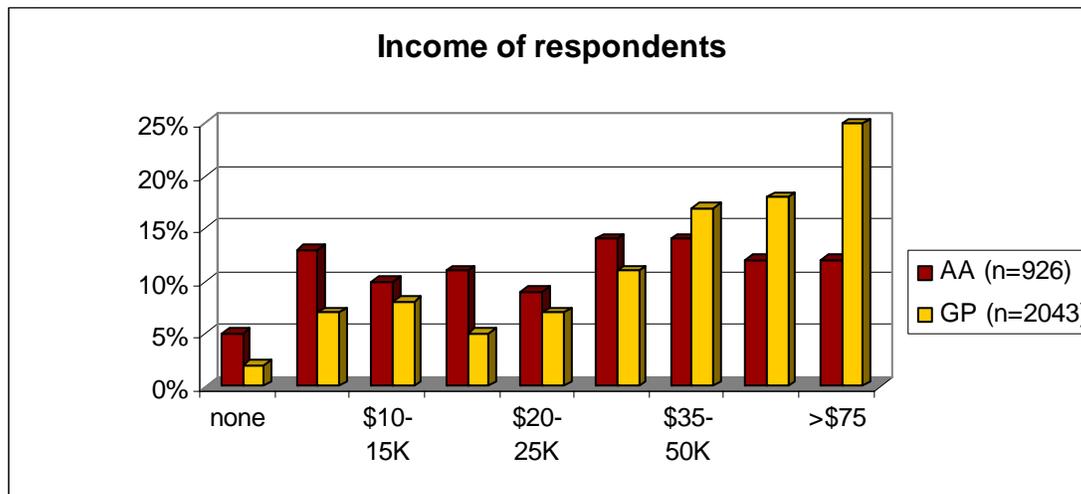
In the GP; however, there was a significant decline in female respondents from baseline to ($p=0.049$) in the gender distribution of GP respondents from baseline to follow-up 1 and then a significant increase back to 61% ($p=0.011$) at follow-up 2.

Figure 12



Overall when all 3 surveys were combined ($n=2,458$), we found **highly significant differences** ($p < 0.001$) in the level of education between AA and GP.

Figure 13



Overall we found **highly significant differences** ($p<0.001$) in income between AA and GP when all respondents were considered ($n=2,043$).

Conclusions and Recommendations

Awareness

There was an increased awareness in the AA community from baseline to follow-up 2 as measured by the:

- 10% increase ($p=0.001$) in the number of people who saw or heard ads encouraging people to learn more about cholesterol and BP
- 26% increase ($p<0.001$) in the number of people who had heard the phrases “Know Your Numbers” in the past 6 months
- 12% increase ($p=0.004$) in those who had been told by a health care professional they have high blood cholesterol
- 8% increase ($p=0.026$) in those who had been told by a health care professional they have high blood pressure
- 9% increase ($p=0.022$) in awareness of BP numbers and 8% increase ($p=0.004$) in awareness of blood sugar numbers and no change in awareness of cholesterol numbers

Regarding obesity awareness, it is interesting that over the study period, African Americans reported less awareness of their waist size, dropping from 75% at baseline to 59% ($p<0.001$) at follow-up 2. It is interesting to wonder if this decrease in awareness represents a more truthful response to the question “Do you know your waist size in inches?” This more “truthful” response could be a result of an increased awareness of other “numbers” as noted above. This hypothesis could be tested by more sophisticated questions in a future survey.

For the same awareness outcomes in the GP from baseline to follow-up 2:

- 9% increase ($p=0.001$) in the number of people who saw or heard ads encouraging people to learn more about cholesterol and BP

- 16% increase ($p < 0.001$) in the number of people who had heard the phrases “Know Your Numbers” in the past 6 months
- 3% **non-significant increase** ($p = 0.431$) in those who had been told by a health care professional they have high blood cholesterol
- 3% **non-significant increase** ($p = 0.454$) in those who had been told by a health care professional they have high blood pressure
- 4% **non-significant increase** ($p = 0.221$) in awareness of BP numbers and 4% **non-significant increase** ($p = 0.224$) in awareness of blood sugar numbers and no change in awareness of cholesterol numbers

It is also interesting to note that over the study period, GP reported less awareness of their waist size, dropping from 69% at baseline to 63% ($p < 0.044$) at follow-up 2.

Attitude

There was positive attitude change from baseline to follow-up 2 among AAs as measured by:

- 4% increase ($p = 0.069$) in extreme concern over high blood cholesterol
- 10% increase ($p = 0.002$) in those who saw the extreme importance of having cholesterol checked every year
- 8% increase ($p = 0.015$) in those who saw the extreme importance of having blood pressure checked every year

For GP there were also positive attitude changes in similar areas, from baseline to follow-up 2 as measured by:

- 2% **non-significant increase** ($p = 0.271$) in extreme concern over high blood cholesterol
- 8% increase ($p = 0.002$) in those who saw the extreme importance of having cholesterol checked every year
- 8% increase ($p = 0.018$) in those who saw the extreme importance of having blood pressure checked every year

Behavior Change

There was positive behavior change by AAs in some areas from baseline to follow-up 2 as measured by:

- 13% increase ($p = 0.001$) in those who would definitely have their cholesterol checked in the next year
- 12% increase ($p < 0.001$) in those who had had their BP taken within the past 6 months
- 19% increase ($p < 0.001$) in the definite likelihood of checking blood pressure within the next 12 months

There was no change in those respondents cutting down on salt intake and no change in respondents cutting down on fat and cholesterol in diet.

There was also positive behavior change by GP in some areas from baseline to follow-up 2 as measured by:

- 6% increase ($p = 0.041$) in those who would definitely have their cholesterol checked in the next year

- 3 % **non-significant decrease** ($p < 0.352$) in those who had had their BP taken within the past 6 months
- 8% increase ($p < 0.009$) in the definite likelihood of checking blood pressure within the next 12 months

There was no change in GP respondents cutting down on salt intake and no change in respondents cutting down on fat and cholesterol in diet.

During the period of the campaign the disparities between African Americans and the general population appear to have been significantly reduced. In some cases awareness, attitude, and behavior outcomes of AAs were more favorable than those of the general population in addressing cardiovascular risk factors.

It is important to note that there were dramatic disparities in the levels of income and education between AAs and GP. Household incomes for AAs were on average in the \$20,000-\$25,000 bracket, while on average the GP was in the \$25,000-\$35,000 bracket. It must be noted that these demographic factors play an important role in changing awareness, attitude, and behavior and it would be interesting to investigate the extent their impact on the results. This could possibly be done in the future through more sophisticated sampling techniques and more sophisticated survey questions.

It is reasonable to conclude that some process was able to successfully market to AAs during the study period. Although it cannot be directly proven that the Cincinnati Know Your Numbers mass media campaign was the cause of the improved awareness, attitude, and behavior in the African American community, we can reasonably assume that this campaign was the cause for these improved outcomes. Our study may objectively show that racial disparities in health care can be reduced by focusing efforts on the population that is less served.

Summary

Overall, AAs had significantly better outcomes at the end of the survey than did the GP. It can be proposed that the Know Your Numbers Cincinnati social marketing campaign to reduce cardiovascular risk factors in the African American community did significantly improve awareness, change attitude, and change behavior over 12 months. The most dramatic differences were found among AAs between baseline and the first 6 months. Generally for AAs, the survey had less impact between follow-up 1 (6 months) and follow-up 2 (12 months). It can be hypothesized that AAs quickly adsorbed the campaign message during its first 6 months. Because the AA community reached its saturation point early, there was less increase in outcomes during the next 6 months.

The survey also improved outcomes in the general population from baseline to follow-up 1 although with less impact. While outcomes in AAs increased dramatically at first and then leveled off, they generally continued to improve significantly in the GP from follow-up 1 to follow-up 2. Because the campaign was not directly targeted at the GP, it can be hypothesized that GP had a slower rate of adsorption and therefore a slower rate of saturation. This hypothesis could be tested by additional surveys.