

# A QUALITATIVE ASSESSMENT OF CHARLOTTE REACH: AN ECOLOGICAL PERSPECTIVE FOR DECREASING CVD AND DIABETES AMONG AFRICAN AMERICANS

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An ecological perspective of health promotion was used as the framework for a Charlotte community-based intervention to eliminate rates of health disparities in cardiovascular disease and diabetes. Interventions are targeted on 5 levels of influences, with interaction between levels creating a supportive system for sustained change. The purpose of this qualitative assessment was to explore changes that have occurred among and between the following levels of influences: intrapersonal, interpersonal, organizational, community, and policy. Data from 10 focus groups were analyzed to identify overarching themes and sub-themes. Results support positive changes within and between levels of change. REACH participants reported an increase in knowledge of preventative health behaviors, the development of health-related skills, and the diffusion of knowledge to family. Fellowship was identified as the primary motivator to continue positive health behaviors. Community Lay Health Advisors (LHAs) reported changes in individual health perceptions from disease-to prevention-oriented, and positive community changes, including the establishment of walking groups, and a farmers' market. The REACH program staff reported that collaboration between staff and LHAs was crucial to program success. The results of this assessment provide feedback for improving community health promotion activities and developing program sustainability. (*Ethn Dis.* 2004;14[suppl 1]:S1-79-S1-84)

**Key Words:** Ecology Model, Focus Groups, Health Disparities, REACH 2010

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## INTRODUCTION

The Charlotte REACH 2010 initiative focuses on the reduction and control of cardiovascular disease and diabetes in the Northwest Corridor of Charlotte, NC. The geographic area is bordered by 3 connected thoroughfares, and contains a population of 19,670, approximately 95% of which is African-American. Rates of local health disparities for cardiovascular disease and diabetes in this community have been documented in community health surveys and assessments.<sup>1</sup>

The Charlotte REACH initiative is an ecological approach to decreasing disparities in rates of cardiovascular disease and diabetes. This approach recognizes that health behaviors are multifaceted and are part of a larger social system of behaviors and social influences. An ecological approach to community health is important, because lasting changes in health behaviors require supportive changes in 5 levels of influences: intrapersonal factors, interpersonal processes and groups, institutional factors, community factors, and public policy.<sup>2</sup> Key characteristics of ecology models include multiple dimensions among these 5 levels, interaction of influences across levels, and the effects of multiple levels of environmental influences. Multi-level approaches to health promotion have been utilized in a variety of health-promotion initiatives, including tobacco control; prevention of substance abuse, cardiovascular disease, and obesity; and promotion of physical activity.<sup>3</sup>

In order to produce lasting health changes, the Charlotte REACH 2010 initiative targets modifications in the entire community's social system. The project is overseen by a diverse coalition

with representatives from partner health and human services organizations, and community representatives. The operational plan consists of connected interventions that focus on the primary prevention of cardiovascular disease and diabetes. These interventions build on community strengths, and involve service organizations with a history of working in the targeted community. Specific programs include community awareness and education, Lay Health Advisors, organizational supports, and environmental change strategies, all under the direction of a community coalition. Table 1 highlights ecological model levels, and Charlotte REACH activities developed to initiate supportive changes in the target community's social system.

In order to create sustained change, all levels of influences must be addressed and designed to work together to create a strong, supportive environment for change. Due to the complexity of multilevel ecological interventions, feedback on the process and impact of the activities is crucial for ensuring success.<sup>4</sup> The purpose of this qualitative evaluation is to explore changes that have occurred among and between levels of influences in an ecologic model for community health promotion. The results will be utilized to improve activities within and among levels, to promote lasting behavior change and program sustainability.

## METHODS

An exploratory assessment of the Charlotte REACH initiative was conducted, using focus group methodology. A qualitative approach was chosen for this assessment, as it enabled the re-

**Table 1. Charlotte REACH 2010 program strategies**

Ecological Approach to Reducing CVD and Diabetes	
Level	Charlotte REACH Strategy
Intrapersonal	Community programming to increase awareness of CVD, diabetes, and related risk factors; educational and skill programming for increasing positive health behaviors
Interpersonal	Lay Health Advisor (LHA) Program
Organizational	YMCA collaborative programming; diabetes support group; secondary prevention activities; working relationship between LHA and program staff of various health organizations; primary care provider prescription pad cues to action
Institutional	Primary care disease management/quality assurance project for diabetes care patterns.
Community Policy	Winners Circle Program, neighborhood farmers market Community advocacy for a state tobacco excise tax. Community advocacy for state-wide public health task force to address health disparities.

searchers to facilitate an exploration of the process and initial impacts of the ecologically framed health promotion program.

**Participants**

This qualitative assessment consisted of 10 focus groups. The focus groups were composed as follows: the Charlotte REACH Lay Health Advisors (1), Charlotte REACH program staff (1), residents of the target population who had participated in Charlotte REACH program activities (4), and residents of the target area who had not participated in Charlotte REACH activities (4).

**Instruments**

Structured moderator guides were developed for the Lay Health Advisor, program staff, participant, and non-participant focus groups. The principal investigator developed all guides, utilizing input and feedback from the evaluation team. Questions were developed following guidelines described by Hawe, Degeling, and Hall,<sup>5</sup> which involve organizing questions to allow for a funneling effect. (Table 2)

**Procedures**

The principal evaluator, who is experienced with focus group and interview procedures, moderated all focus

groups. The site’s Institutional Review Board granted approval for the study. Ten 1.5-hour focus groups were held at various locations within the target community. Each focus group consisted of 5–12 participants, who were each provided with a \$10.00 incentive for participation. The optimal size of a focus group should be 8 to 12 participants.<sup>6</sup> However, Carey<sup>7</sup> notes that a group as small as 5 may increase the opportunity for participation. Inclusion criteria for the community focus groups included the following: 1) being over the age of 18 years, and 2) living in the NW Corridor of Charlotte, NC.

Prior to each focus group, each participant was asked to read and sign a consent form. The procedures and purpose of the group was explained by the moderator, and participants were presented with an opportunity to ask any questions. All focus groups and interviews were audio-taped, and later transcribed verbatim. All focus group and interview transcriptions were reviewed for errors, prior to coding.

**Data Analysis**

Three independent coders hand-coded all focus groups, utilizing modified coding methods developed by Spradley.<sup>8</sup> Coding was then compared, and an agreement of final codes was

reached. Final codes were entered into NVivo qualitative analysis software.<sup>9</sup> Once entered, codes were compared and contrasted into overarching themes and sub-themes.

**RESULTS**

Eighty-four participants were involved in the focus groups: 12 LHAs, 6 program staff, and 66 community residents (29 who had participated in REACH activities, and 37 who had not participated in REACH activities).

**Intrapersonal Level Changes**

REACH program participants were asked to describe changes in personal health since participating in REACH activities. The majority of participants indicated that they had learned a new health skill, improved their health, lost weight, and were regularly exercising. For example, participants stated:

I went to [Food Lion] and other stores and then we started working with the restaurants, too, about the menus and what was fat and what was not fat and all that.

... it has definitely been because of REACH because they taught me exactly how to eat, and I go to exercise every ... some time I go everyday.

Doing different type exercises and most of the time when I go to my doctor my blood pressure is all the way down and I feel a whole lot better.

My high blood medicine was cut in half, my diabetes medicine was from 2 pills per day to one pill per day. I was checking my blood sugar level everyday, now the doctor said I can check it twice a week.

The majority of residents who participated in REACH activities indicated that improvements in social health through fellowship were the main reason they continued to participate. Other responses included improvements in physical health, such as having more energy, feeling well, being in better shape, and experiencing less stress. Examples of

**Table 2. Sample focus group questions**

Focus Group	Sample Questions
Lay Health Advisor (LHA)	<ul style="list-style-type: none"> <li>■ Describe your role as a LHA                             <ul style="list-style-type: none"> <li>○ What changes, if any, have you experienced in your role since you began as a LHA</li> </ul> </li> <li>■ Describe how you have changed during the time that you first started as a community LHA</li> <li>■ How do you perceive the residents in your community would describe health</li> <li>■ Discuss how you have impacted community residents as a LHA</li> <li>■ Describe how you have influenced the community in enhancing their quality of life</li> <li>■ Discuss how the REACH program as impacted your community</li> </ul>
REACH program staff	<ul style="list-style-type: none"> <li>■ Describe the role of the LHA in contributing to the mission of the Charlotte REACH initiative</li> <li>■ Describe your role as staff in contributing to the mission</li> <li>■ Describe your perceptions on how the 2 roles (LHA and staff) work together in working towards the mission</li> <li>■ Describe some successes of the REACH initiative</li> <li>■ What do you perceive needs to be changed, if anything, in the REACH project model to improve the impacts and outcomes of the program</li> </ul>
REACH participants	<ul style="list-style-type: none"> <li>■ Describe how you became involved in REACH activities                             <ul style="list-style-type: none"> <li>○ What got you to actually try one of these activities</li> <li>○ What got you to continue participating in these activities</li> </ul> </li> <li>■ Describe any changes you have seen in your health due to these activities</li> <li>■ Describe any changes you have seen in your family due to these activities</li> <li>■ Describe any changes you have seen in your community due to these activities</li> </ul>
REACH non-participants	<ul style="list-style-type: none"> <li>■ Describe what you like about living in your community</li> <li>■ Describe what you dislike about living in your community</li> <li>■ What are some issues that are affecting the people in your community</li> <li>■ How would you describe your health</li> <li>■ Describe your perceptions about the health of the people in your community</li> <li>■ Describe what you think your community is doing to improve the health of the people who live here</li> <li>■ Describe what you are doing to improve your health</li> <li>■ What have you heard about project REACH</li> </ul>

participants' statements regarding developed fellowship include the following statements:

We are happy to see each other, so there's a camaraderie there. So it's in a way excited about what we're doing and we're encouraging to each other.

The camaraderie, it's almost like a, well not almost, it is a family atmosphere that we share.

When residents who have not participated in REACH activities were

asked what they disliked about living in their community, lack of fellowship was identified as a dominant theme. For example, residents stated:

I've been over here 2 years and they really haven't found enough friends, you know, and really fitted in. They be in the house all the time and drive me crazy and I wish they had like fun day at the park or something where they can like bring the kids and families out, you know, to get to know one another and meet each other, something like that.

As far as having gatherings, meeting, talking, they very seldom do.

I feel like the senior citizens, they need more fellowship.

Those who had not participated in REACH activities also indicated that the top issues affecting people in their community were those involving health and lack of activities for children. For example, participants stated:

By not knowing enough of my neighbors I don't know whether they're sick or not.

I know just about who is unable. Who is not sick but who's unable.

You know that there are diabetes. You know that there is high cholesterol because of the way that we used to eat. We are changing.

Intrapersonal level changes were also identified in the focus groups with LHAs. When asked to discuss how their perceptions of "health" have changed since becoming LHAs, the majority stated that they now have shifted from a "disease-free" perception of health to a prevention-based definition. Examples of LHAs' statements regarding intrapersonal changes are as follows:

I think a person is in good health even if they are, say they have elevated blood pressure. If they are taking their medication and they're eating properly and they're exercising properly to keep it at a normal rate, then I would consider that their health is good because they are doing the things that it takes to keep it on that level.

You can be not healthy and not have no [disease]. You can be healthy and still have a disease, as long as you're doing what you're supposed to do to correct whatever the problem is.

### Interpersonal Level Changes

In addition to changes in personal health, residents who participated in REACH activities also promote positive health behaviors with their families. For example participants stated:

We have a family reunion meeting every month, and I really push because heart disease run in my family. To really cut

back on every week, every month I preach it, cut the red meat, fried foods, sugars, and salt, eat more vegetables, it works, I know it works. I'm proof that it works.

Our children live in Greensboro, but they have noticed their dad, and we have helped them because they said, "Oh, no, mom, dad, they don't do this, so we're going to have to learn not to do this." And they have children, we have grandchildren, so it's sort of filtering through to our children down to our grandchildren, that hopefully if you follow this plan that you won't have diabetes. Hopefully it'll be a preventive to them. So it filters.

Several factors were identified that motivate LHAs to continue their roles at the interpersonal level. Themes that emerged included discovering health problems in their neighborhood, witnessing positive changes in the community, experiencing a sense of community connectedness, and motivation from other LHAs.

... but then after I got in the community and seen the need of the disparity that was going on, that made it more motivation for me cause what I seen about the young kids that were diabetics and everything, that there was a sure 'nough pick me up and wake up call to get out and try to do more in my neighborhood that I'm working in.

Going out into the community and finding that there are so many people out there with health problems. I was in awe to find that there were so many people with diabetes, heart disease, and being able to at least pass information on to them that would be useful to them motivates me to continue.

I was just really amazed at the people that had really started doing exercises, especially the seniors.

... because I see the difference that is happening in my community because now I got a lot of younger people out walking. I got a lot of younger people talking about eating more healthier and that gave me, and then my nephew he's only six but he's overweight and I was concerned about him and his health, so now he's also walking with us too.

### Organizational Level Changes

Data from REACH participants suggest changes in awareness and use of services provided by the healthcare system, because the majority of them had been referred by their primary care providers to the various program activities. Current health issues (hypertension, hypercholesterolemia, obesity, and diabetes) were the motivating factors for referral and ultimate participation. For example, participant comments included:

And last summer my blood-pressure was up, I mean it was like way up, and my doctor was gonna put me in the hospital, but I told her if she just tell me what to do at home I would do it.

I started going to these diabetic classes by taking exercise with Ms. [Alex].

Well, I felt like I really needed to come because I knew I had gained a little weight.

Well, for me, I went and got tested and I had high cholesterol, so I figured I need to quit, so I tried.

Collaboration between interpersonal and organizational levels of change was also addressed. The LHA program was designed to address the organizational level of change by shifting the focus of contact to the community. The Charlotte REACH program staff perceived the LHAs to be the link between the community and the program staff. As one staff participant stated:

Really the basis is using the Lay Health Advisors to provide information to the neighborhoods and to bring the information from neighborhoods back to the REACH Project staff, so that if there are programs or projects that the neighborhood would like for us to do, if we get that information directly from the Lay Health Advisors and then would proceed with any type of the activities for the neighborhoods. Really I think that the Lay Health Advisor is being the foundation.

Program staff also reported the need for additional organizational change. The majority of staff indicated that although not planned and implemented by the LHAs, the LHAs provide the

staff with the suggestions/ideas, followed by individual ideas, and committee—and community-driven insights. When the staff were asked to provide their perceptions regarding the collaboration between the staff and LHAs, the majority of the staff indicated the existence of this collaboration, stressed its importance in reaching the ultimate goal, but also mentioned that it needs improvement.

... they may call and share what they're doing in the community, the community that they're working in, and there's an idea for a cooking demonstration or smoking cessation. And they also do referrals as well.

It could be more. We don't, on a regular basis, see them and talk to them.

[I]think that in the very beginning of the project that this was a huge issue because the Lay Health Advisors didn't feel directly connected to the project as a whole and then to the intervention staff. Through time, I think we've tried to assist with that by giving the Lay Health Advisors a direct phone line to us.

When staff participants were asked to describe changes that should be made to improve the probability of success in accomplishing REACH goals, the majority discussed the need to develop a stronger working relationship with the LHAs. For example, one program staff member stated:

We've talked a lot about the LHAs and becoming interconnected, and also the interventions becoming more interconnected, and at one point I think we had started as just a staff of intervention to kind of try to link some things together, and it just didn't happen. So I think that's a piece that's missing. We've worked with the LHAs, but sometimes it just doesn't happen.

### Community Level Changes

All focus groups were asked to describe positive changes they have witnessed in their community. The majority of participants indicated that the implementation of the neighborhood farmers' market was the biggest change, followed by a better-developed sense of

**Table 3. Identified themes among levels of influence**

Socio-Ecological Model and Reducing CVD and Diabetes			
Level	Charlotte REACH Strategy	Themes within Levels	Themes between Levels
Intrapersonal	Community programming to increase awareness of CVD, diabetes, and related risk factors; educational and skill programming for increasing positive health behaviors	<ul style="list-style-type: none"> <li>REACH program participants residing in target area</li> <li>■ Identified health issues as cue to action</li> <li>■ Improved knowledge regarding preventative health behaviors</li> <li>■ Expressed improved health status</li> <li>■ Developed health related skill</li> </ul> Non-program participants residing in target area <ul style="list-style-type: none"> <li>■ Indicated lack of fellowship and activities for children were what they disliked about living in community</li> <li>■ Perceived self as “healthy” because disease free</li> </ul>	<ul style="list-style-type: none"> <li>■ REACH program participants supporting each others continued behavior change</li> <li>■ REACH program participants diffusing health risk reduction activities to family</li> <li>■ Primary care providers referring patients to REACH activities</li> <li>■ LHAs changed perceptions of health to prevention oriented</li> <li>■ Identified importance of program staff and LHA collaboration</li> <li>■ Collaboration between LHA and program staff in the implementation of walking groups identified as a positive community change</li> </ul>
Interpersonal	Lay Health Advisor (LHA) Program	<ul style="list-style-type: none"> <li>■ LHAs motivated by witnessing health issues of fellow residents and positive changes in community</li> </ul>	<ul style="list-style-type: none"> <li>■ Overcoming cultural barriers identified as a success</li> </ul>
Organizational	PCP referral to REACH program activities, YMCA programming, diabetes support group, secondary prevention activities, working relationship between LHA and program staff	<ul style="list-style-type: none"> <li>■ Referral from primary care provider cue to action</li> <li>■ Collaboration between staff and LHA exists</li> </ul>	<ul style="list-style-type: none"> <li>■ All levels identified farmers market as positive change in community</li> </ul>
Community	Winners Circle, farmers market	<ul style="list-style-type: none"> <li>■ Farmer’s market and establishment of walking groups by LHAs identified as positive community changes</li> </ul>	

helping neighbors. Other community change included overcoming Latino culture barriers, and the establishment of community walking groups.

**Farmers’ Market:**

It’s just like a meeting place on Saturday mornings, you know, everybody be up there on Saturday mornings to get your little vegetables, you stand around and talk. Somebody will give you advice on how to cook them.

**Helping Neighbors:**

A program like REACH, and I think, overall, the community at large, all over everyone is encouraging better health, exercise, eating better, and the fact that we encourage friends and family to come, you know, is a real plus, and I think it’s like a snowball effect: the more we talk about it, the better we look. As you said, we got to walk the walk, to talk the talk, and by losing, health, and people commenting, you know, it does make a difference.

... and taking REACH another step further, it’s about caring about your fellow man in the community. Maybe they are in the home, but sometimes a phone

call can be better than any exercise, just to find out how they’re doing, are you okay today? Or you could probably go by their house and visit and ask how they’re doing or if it’s anything you can do, see if they need you to run errands, or pay bills or clean the house or something, you know, you can ask them different things like that, or cook for them or whatever. Plus the fact we are the community, you know, we’re individuals and we’ve seen changes, but we are the community, and then we share with our neighbors, we share with our neighborhood associations.

**DISCUSSION**

Effective health promotion programs are grounded in theories suitable for reaching the anticipated outcomes.<sup>10</sup> In establishing a community-based intervention in which the mission is to eliminate health disparities in rates of cardiovascular disease and diabetes, the Charlotte REACH 2010 initiative was developed within an ecological frame-

work. Due to the nature of this multi-level approach, an assessment of program processes and initial impacts was used to evaluate the effectiveness of program processes, and to document early outcome indicators. The qualitative nature of this evaluation enabled researchers to explore changes that have occurred within and between levels. The authors recognize the lack of generalizability of data due to the use of non-random samples. However, because of the exploratory nature of this assessment, the authors believe that the findings yielded rich descriptive data about the status of the development of supportive systems for sustained change.

Table 3 provides a summary of identified themes representing changes within and between levels of the project. Overall, our findings support positive changes within and between levels of change. Intrapersonal level changes were identified among target area residents who have participated in REACH activ-

ities. Changes in knowledge, attitudes, and behaviors regarding cardiovascular disease and diabetes prevention strategies were voiced among participants in various REACH activities, including the initiation of nutrition groups, diabetes support groups, and exercise interventions. The LHAs changed their perception of health from a disease-focused definition to a prevention-oriented one.

Interpersonal mediators included support and role definition from peers, family, and friends. Our findings indicate that the LHAs have been established as peer role models, and provide individual support for residents in the target community. The establishment of interpersonal support among program participants within the various program activities is indicative of an interpersonal level change supportive of sustained behavior change. Evidence of interaction between intrapersonal and interpersonal levels is supported by the diffusion of knowledge, skills, and behaviors from REACH participants to various family members. Fellowship was identified as a motivating factor for continuation of health-promoting activities.

Organizational level changes included institutional/organizational rules, policies, or informal structures that promote targeted behavior change. Our findings suggest that this community health promotion approach was well accepted by the healthcare system, and a formal communication structure was developed with the LHAs serving as li-

aisons between the community residents and the REACH program staff. Both program staff and LHAs noted the existence and importance of collaboration, however they also agreed that improvements must be made to continue the process.

Community and public policy level changes include social norms, policies, and laws that promote preventive health behaviors. It is apparent from this assessment that the neighborhood farmers' market and walking groups were important examples of such changes.

Findings from this assessment are encouraging in that they reveal positive steps toward mobilizing community efforts to influence healthy behavior changes, and risk reduction for cardiovascular disease and diabetes. The findings also demonstrate the challenge of implementing multifaceted, connected interventions from an ecological perspective. A primary concern is the need for on-going, effective communication between community representatives, project staff, and service providers, in order to maximize understanding of local needs and strengths, and to identify further opportunities for planning or modifying community-sensitive intervention strategies for sustained change.

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