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Counseled women's perspectives on their interactions with lay health advisors: a feasibility study

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Abstract

Although the use of lay health advisors (LHAs) has become a popular intervention in public health promotion projects, few programs have conducted evaluations demonstrating program impact by interviewing people actually counseled by LHAs. This study used semi-structured, in-person interviews with 29 older, black women to elicit their perceptions of their interactions with the North Carolina Breast Cancer Screening Program's LHAs, and the ways in which these interactions affected their mammography attitudes and behavior. Interview data indicate that a majority of the respondents felt that LHAs had helped them in some way; most said that talking to advisors made them think more positively about mammograms and/or consider getting one. LHAs influenced the women they counseled because the women knew the advisors well, felt comfortable talking to advisors about private issues, considered advisors to be credible sources of information about mammography and because advisors offered women support with respect to their mammography behavior. These results elucidate some of the mechanisms through which LHAs affect the attitudes and behavior of individuals in their social networks.

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Introduction

Since the 1970s the number of lay health advisor (LHA) programs has grown dramatically and there are now dozens of them around the country (Brownstein *et al.*, 1992; Meister *et al.*, 1992; Eng, 1993). Although offering social support and providing a credible source of information are considered effective interventions for influencing behavior change, published results of completed evaluations of LHA programs are rare (Warrick *et al.*, 1991; Watkins *et al.*, 1994; Navarro *et al.*, 1995). Evaluations either do not attempt to elucidate the helping process or do not interview counseled individuals themselves to determine the impact of LHAs on these individuals' attitudes and behavior.

By conducting both a comprehensive literature review, and telephone interviews with LHA program managers and evaluators nationwide (Table I), we found that nearly all the programs for which information was available (18 out of 19) collected process evaluation data from their LHAs; the majority of these ($N = 11$) asked LHAs to report their activities using a structured form and/or measured changes in LHAs' knowledge immediately before and after training. Several of these programs ($N = 7$) also measured changes in the outcomes of their programs by comparing morbidity and mortality rates, for example, in intervention and comparison areas.

Although process and outcome data play a role in the overall evaluation of LHA interventions, neither of these types of evaluation provides the link between program components and behavior or attitude change that can be gained from an

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Table I. *Methods used to evaluate other lay health advisor programs by target group*

Lay health advisors
Structured pre/post-training knowledge test[1, 4, 6, 8, 10, 12]
Post-training questionnaire to evaluate satisfaction with training[15, 16]
Telephone interviews to assess satisfaction with training[8]
Structured pre/post interviews of knowledge and behavior[3]
Structured activity reports or helping contact forms[4, 6, 7, 9, 10, 13, 14, 15, 17, 19]
Telephone interviews to track advisor activities[4, 8]
Meetings with program coordinator to discuss how activities are going/satisfaction with the program[5, 9, 10, 12, 18]
Interviews with LHAs to document empowerment[15]
Semi-structured interviews to collect data on health service utilization, health behavior and satisfaction with the program[2]
Semi-structured interviews covering satisfaction with training, methods used to recruit participants, information on intervention implementation and perceived effects of the program on participants[5]
Counseled individuals
Pre/post or post only knowledge test[6, 13]
Structured pre/post interviews/questionnaires of knowledge and behavior[2, 3, 19]
Postcards filled out by women after being screened to monitor LHAs' impact[14]
Baseline and follow-up client information forms filled out by LHAs[16]
Structured exposure questionnaire to measure type of help offered, appropriateness of help offered, women's satisfaction with help and type of support offered[6, 13]
Structured interviews on access to health care services, health knowledge and previous preventive examinations[5]
Semi-structured interviews on life style, health service utilization, health behavior and satisfaction with the program[2]
Target population
Pre/post rates of the targeted behavior (in intervention versus control areas)[8, 9]
Pre/post comparison of service utilization rates[1, 7, 12, 17]
Pre/post comparison of health risks[1]
Pre/post comparison of morbidity and mortality rates in intervention and control communities[3]

[1]Eng and Hatch, 1991; Eng *et al*., 1985; [2]Meister *et al*., 1992; Warrick *et al*., 1991; [3]Brownstein *et al*., 1992; [4]Eng, 1993; [5]Navarro *et al*., 1995; [6]Watkins *et al*., 1994; [7]Eng and Parker, 1994; [8]Erwin *et al*., 1992; [9]Wolff, pers. commun., 1995; [10]Smith, pers. commun., 1995; [11]Prado, pers. commun., 1995; [12]Gugel, pers. commun., 1995; [13]Murillo, pers. commun., 1996; [14]Hansen, pers. commun., 1996; [15]Robinson, pers. commun., 1996; [16]Myers, pers. commun., 1996; [17]Houston-McCall, pers. commun., 1995; [18]Kaiser, pers. commun., 1996; [19]McGoin, pers. commun., 1996.

impact assessment (Israel *et al*., 1995; Simons-Morton *et al*., 1995). Fewer than half the programs ($N = 8$) attempted to measure how the interaction with LHAs affects counseled individuals. Six of these used a structured interview method to collect data on changes in the counseled people's knowledge or behaviors. Only two programs tried to determine, from the counseled individuals' point of view, what type of help or support was offered, how appropriate the help was and how satisfied the advisees were with it; both programs administered structured questionnaires to collect these data. One of these programs had developed the data collection instrument but had not used it at the time they were contacted. The other found a relationship between contact with LHAs and clinic visits; however, their structured questionnaire did not allow them to explore how the helping process worked. They suggested that in-depth interviews would have increased their understanding of the interactions that took place (Watkins *et al*., 1994).

This study takes the next step suggested by Watkins *et al*. (1994). It tests the feasibility of carrying out in-depth, semi-structured interviews with older, black women and reports on counseled women's perceptions of their interactions with the North Carolina Breast Cancer Screening Program (NC-BCSP)'s LHAs. In addition, it attempts to understand, from the counseled women's perspective, the ways in which LHAs affect women's attitudes and behavior.

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Background

The NC-BCSP is a comprehensive, community-based public health intervention program designed to increase breast cancer screening rates among older, low-income black women in five rural eastern North Carolina counties. The intervention uses networks of LHAs to increase awareness and use of screening mammography among older, black women.

NC-BCSP's advisors are women of the same race, and similar age and income level as the community women they contact. There are currently networks of 25–45 trained LHAs in each of NC-BCSP's intervention counties. In general, the advisors contact one to two individual women a week to talk about breast cancer screening; they also organize a variety of community and church activities, including group presentations, designed to reach older, black women. The LHAs in each county are linked to health care providers by a Community Outreach Specialist, an older woman paid by NC-BCSP and recruited from the community, who works out of the local public health department or rural health center in each county.

From its inception, NC-BCSP's LHA intervention has included an evaluation component. LHAs complete a pre/post-training knowledge questionnaire, standardized quarterly activity reports, and a self-administered questionnaire on their knowledge, attitudes and behaviors toward breast cancer screening. The project also collects process data from the Community Outreach Specialists through periodic interviews and monthly reports of their activities. The outcomes of the program are measured by a three-wave survey of a cohort of 2000 women randomly selected from the 10 program counties (five intervention and five comparison) (Earp *et al.*, 1995).

Methods

Study protocol

Participants in this study were black women over 50 years old who were contacted by Bertie County LHAs. All 45 Bertie County LHAs were asked to obtain written consent from two women whom they had contacted, one who had and one who had not received a mammogram. A total of 66 out of 90 possible consent forms were returned. Eighteen of the 66 forms were not included in the sampling frame for the following reasons: the women named were LHAs, the same women were named by more than one LHA or they were extras (i.e. more than two) from the same LHA. In the latter case, a coin toss determined which contacted woman would be included in the sample.

This study utilized a combination of sampling strategies (Patton, 1990). Our reliance on LHA recommendations represents the use of a snowball sampling process, allowing us to contact people we knew had had contact with LHAs, whether or not they had had mammograms as a result of being counseled. These individuals were thus relatively unbiased and expected to be rich sources of information about the experience of being counseled, regardless of outcome. The women interviewed were also typical cases, chosen because they fell into our intervention parameters as rural, African-American women over the age of 50 and 'typical' of the range of women that the LHAs in the NC-BCSP came in contact with. Finally, considering the larger implications of this feasibility research, this study also utilized critical case sampling, which facilitates logical generalization based on the fact that these participants shared many of the characteristics which would seem to constrain the feasibility of this type of study. It was theorized that if these older, rural, African-American women could be reached and interviewed about a socially stigmatized behavior such as breast cancer screening with good results, then it is likely that other 'challenging-to-reach' groups might be feasible sources of this type of information as well.

Each of the 48 women returning usable forms was called at least five times or until she refused or agreed to be interviewed. Twenty-nine interviews were completed, 26 in person

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and three by telephone. The same questions were asked in in-person and telephone interviews.

Data collection instrument

We used a semi-structured questionnaire (copy available by request), which allowed for open-ended as well as structured questions. This method was selected for two reasons. First, the research was exploratory and no valid instruments for interviewing women contacted by LHAs could be found anywhere in the country. Second, in order to better understand the interactions between LHAs and the women in their social networks, as well as how those interactions influenced the women's behavior, it was necessary to elicit the women's stories about what took place. This type of 'rich information' is rarely obtained through structured survey instruments (Patton, 1990).

After initial piloting, the final version of the questionnaire consisted of 55 questions. The first 40 were open-ended and asked for information about the following areas: who women talked to about health issues, women's conversations with the LHAs, their relationship and comfort level with the LHAs, their beliefs about breast cancer, and their mammography experience. The last 15 questions were a combination of closed and open-ended questions to obtain sociodemographic and insurance information. The questionnaire provided suggested probes to be used throughout the interview.

Data analysis

Interviews were tape recorded and transcribed verbatim. On average, each interview lasted approximately 45 min. The transcribed interviews were analyzed qualitatively using the code and retrieve strategy (Patton, 1990). A code list was developed based on questions from the questionnaire and inductive analysis of the data (Patton, 1990). A total of 50 different codes were eventually used to sort the data. Coded data were grouped using Ethnograph, a computer software program for text-based analysis (Seidel *et al.*, 1988). By analyzing the grouped data, we were able to identify patterns and themes.

Results

Feasibility

The 29 interviews indicate that it is, indeed, feasible to conduct this type of qualitative interview with older, black women in the rural south. We were able to contact by telephone 94% of the women whose names were included on usable consent forms. Telephone and face-to-face interviews elicited similar responses with the same amount of, or even less, missing data in the telephone interviews. It should be noted, however, that establishing rapport with some women interviewed by telephone was more difficult and would not be the preferred method. Further, it would not have been effective to conduct telephone interviews with approximately one-third of the women in the sample because they were either hard-of-hearing or had trouble understanding the interviewer's non-indigenous and racially different speech patterns.

The majority of women contacted kept their interview appointments (83%) and remembered talking to the LHAs about breast cancer or mammograms (94%). Only two women stated that a LHA had never talked to them. It is unclear whether these interactions were so brief that the women did not remember their content or whether these discussions truly did not take place.

Less feasible elements of this research were the consent procedure, getting adequate directions to the women's houses and having privacy during interviews.

Sociodemographic profile

The sociodemographics and mammography status of the study population are presented in Table II. Nearly two-thirds of respondents had had a mammogram at some point in their lifetime. Forty percent of these women had had at least two mammograms within the last 4 years and were 'on schedule', given current screening guidelines. All of the remaining women with mammograms had had only one; half had a mammogram in the past 2 years and planned to

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Table II. *Sociodemographic characteristics of the study sample (*N *= 29)*[a]

Characteristic	%	*N*
Rural residence	79	23
Marital status		
widowed	52	15
married	31	9
divorced/separated	14	4
missing	3	1
Household composition		
lives alone	31	9
lives with husband only	14	4
lives with husband and other family members	17	5
lives with other family members	34	10
lives with non-family members	3	1
Mean age	68 years	
Educational attainment		
grade 8 or less	35	10
grade 9–12	48	14
1–2 years college	10	3
3–4 years college	7	2
Attends church once a week or more	73	21
Retired	76	22
Monthly household income $1000 or less	70	20
Health insurance		
Medicare only	38	11
Medicare and Medicaid	24	7
no insurance	10	3
Able to pay for medical care last year	80	23
Never had a mammogram	34	10

[a]Due to rounding, not all percentages total to 100.

get another within the time frame of the guidelines, while the other half said they did not plan to get another mammogram.

Women's relationships to LHAs

Respondents generally had close relationships with the LHAs who counseled them and they tended to interact with LHAs frequently. Nearly half the respondents in this study were related in some way to the LHAs who gave their names. Other LHAs were most often described as friends or as having been raised in the same community as the respondent. Over two-thirds of the respondents said that they talked at least once a week with the LHAs who gave their names.

Types of helping interactions

To determine whether women could remember specific interactions with LHAs, we asked them whether they had ever talked about breast cancer screening with the LHA who gave their name and, if so, to describe the interaction. Several women initially said they had never discussed breast cancer or mammograms with LHAs; however, most of these respondents later described conversations they had had with LHAs on one of these topics. The types of interactions catalogued ranged from individual contacts to group presentations; some women described more than one type of interaction with a particular advisor. The majority of respondents said they were counseled by LHAs individually with most of these encounters taking place in person.

Women's level of comfort in talking to LHAs

Most women said they were comfortable talking to LHAs about breast cancer screening and identified several reasons for this comfort, including: closeness between themselves and LHAs, LHAs' credibility as a source of information about screening, and LHAs' personal characteristics. The majority of respondents felt free to talk to LHAs about breast cancer, a socially stigmatized topic of discussion among older, rural southern black women (Eng and Smith, 1995), because they had known them for years and had developed close personal relationships with them even when no direct familial relationship existed.

Respondents explained that LHAs were credible sources of information because the LHAs had taken a course (the NC-BCSP training sessions), or had professional or personal experience with breast cancer. As one respondent explained, "I think she knows a great deal. I think she reads up on it. I think she goes to the seminars and workshops". LHAs' experience as nurses or breast cancer survivors also made them seem knowledgeable about screening or cancer. One respondent who talked to a LHA who was a nurse said, "...she was in the hospital workin'

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in intensive care...and she knows the right things to say''. A respondent whose LHA was a breast cancer survivor felt she knew a lot because ''she has been through it''.

When asked what made them comfortable talking to LHAs or what made LHAs good advisors, most women indicated positive characteristics such as friendliness, understanding, open-mindedness and 'plain talking'. Being both friendly and able to motivate were elements of LHAs' personalities that women said made an advisor effective. One respondent described the LHA who talked to her as ''a very outgoing person, [with] a way of motivating you to talk with her''. The LHAs' assurance of confidentiality was important for several women, while for others it was important that the LHAs could explain things to them in a way they could understand. Finally, one woman noted her LHA's patience in answering numerous questions.

Although the majority of women interviewed had positive things to say about the LHAs and felt comfortable talking to them, some women described LHAs' negative characteristics or explained why they were uncomfortable talking with them. One woman thought the LHA she talked with was not open to others' opinions. Another respondent questioned whether her LHA had revealed personal information about her to others, failing to keep her promise of confidentiality. A third respondent felt the LHA was condescending and dismissive of others' intelligence; another woman explained that she was only comfortable talking to family members about health problems.

Types of social support offered

The concept of social support has been separated into four categories of supportive or helping behaviors: emotional, instrumental, informational and appraisal support (House, 1981). Every woman in this sample was offered some type of support by LHAs. Nearly all the women were offered informational support in the form of advice, suggestions or information about breast cancer or mammograms. Over two-thirds of the respondents described ways in which the LHAs had provided them instrumental support, most often rides to town or to the doctor. Slightly fewer than half the women explained how the LHAs supported them emotionally, either in their decision to get a mammogram or when they had health problems. Occasionally appraisal support was given in the form of positive feedback when a mammography appointment had been made or a mammogram actually gotten.

Women's perceptions of LHAs as role models

Most of the respondents in this study indicated that the LHAs' own mammography behavior did not influence whether they listened to the LHAs' advice or decided to get mammograms, many not knowing whether the LHA had ever had a mammogram. Among those women who did know about the LHAs' own mammography behavior, most said that it did not affect their decision. Three respondents said that the LHAs' mammography behavior influenced whether they listened to the LHAs' advice.

Influence of LHAs on women's mammography attitudes and behavior

About two-thirds of the respondents said that LHAs had made a difference to them in some way. Talking to LHAs led two women to actually get mammograms. Another respondent made an appointment for a mammogram after her conversation with the advisor. Several women said they thought differently or more extensively about mammograms or breast cancer since talking to the LHAs. The information provided by advisors enabled other women to get mammograms free of charge, find a more convenient place to get screened or helped motivate them to continue getting mammograms. Other ways the LHAs helped women included: providing advice or information on health, influencing how the respondent took care of her health, making the respondent feel better and helping the respondent avoid procrastinating about health check-ups. About one-third of the respondents

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felt that LHAs having talked to them had no effect on their attitudes or behavior with regard to mammography use.

Discussion

Feasibility

Service and Salber first suggested interviewing individuals counseled by LHAs in order to evaluate LHA programs in 1979, yet no published papers have tested this particular evaluation methodology. Consequently, the feasibility of such a process was unknown at the outset of this study. Many of the assumptions underlying scholarly doubt about the feasibility of studies such as this are at work in the communities we studied, assumptions that question the ability of counseled women to participate in a study because of a lack of communication skills, the inability to recall specific 'unmarked' events and the general difficulty of reaching marginalized, often isolated populations. Thus, the fact that this study was generally feasible suggests that a logical generalization may be made to other challenging-to-interview groups. The main stumbling block to the feasibility of conducting these interviews was obtaining written consent (as required by the IRB) from women before their names and phone numbers could be released to the investigators. If this initial consent were either eliminated or modified in some way (perhaps by obtaining consent verbally), the data collection process would be greatly facilitated. The only other problem we noted, that telephone communication was potentially less effective because of racially differing speech patterns, could easily be solved by selecting interviewers who are indigenous and of the same race as the interviewees, at least for telephone interviews.

Our open-ended qualitative questioning methods seemed well suited for obtaining the type of rich information we needed for this study. However, the fact that the women interviewed sometimes did not recognize interactions with LHAs as 'helping events' until the interviewer probed the topic may imply that open-ended questions asking respondents to recall events may not be enough; more structured questions that rely on recognition of events, people or circumstances may be desirable for a more complete evaluation of these programs.

Major themes from the interviews

Most respondents in this study participated in face-to-face individual discussions with LHAs, rather than attending group presentations. The women generally described their interactions with the LHAs positively and about two-thirds said that the LHAs had made a difference to them in some way. Also, the fact that women who had different mammography behaviors described the ways LHAs helped them shows that LHAs can provide effective support or assistance to women who have never had mammograms as well as those who want to get regular mammograms and those who have stopped getting them for some reason.

Although the women interviewed generally said that LHAs had offered them assistance or support, their interactions with LHAs were not seen or remembered as 'helping events'. Instead, they were described as part of the regular flow of conversation. This fact, together with the frequency of contact and high level of reciprocity among these women, indicates that the LHAs in this program are advising women in their existing social networks, as would be expected given the theories on lay helping (Israel, 1985; Eng and Hatch, 1991; Eng and Smith, 1995).

Respondents generally felt comfortable talking with LHAs. In this study, LHAs were described as credible sources of information about breast cancer or mammography in addition to being pleasant, communicative people. LHAs' perceived credibility was associated with the view of LHAs as experts who had received NC-BCSP's training and as trustworthy individuals who keep the women's personal information to themselves. This finding is supported by O'Keefe's formulation of persuasion theory (1990) which posits that credibility is comprised of both expertise and trustworthiness.

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For the majority of women interviewed, LHAs did not serve as role models for mammography behavior. One explanation may be that mammography is not a highly visible behavior (Bandura, 1986). Another possible explanation may be that since women often struggle with the decision to get a mammogram, most women may focus on their own needs in relation to this behavior rather than trying to emulate the actions of the LHAs. As one respondent explained, ''At the time when she was tellin' me about [the mammogram] I didn't think about herself. I was thinkin' about myself''.

Limitations

Because this was a qualitative study, it was not our goal to select a representative sample and catalog quantitatively the full range of experiences of individuals counseled by LHAs. Rather we wished to determine the feasibility of such studies by beginning to elucidate how the helping process works and what kinds of effects LHAs have on the mammography attitudes and behaviors of the people they counsel. The 29 person sample was large enough to obtain both feasibility data and a great deal of 'information-rich' qualitative data (Patton, 1990).

It is important, however, to consider the limitations of these data. Because we interviewed a relatively limited variety of women, we must consider how these women may have differed from those who were not interviewed and thus in what situations our results are relevant. It is possible that the women who were not interviewed had had less positive experiences with LHAs or were different in some other way from those who agreed. Our results may thus provide more information about how the helping process works when it is going well than about what goes wrong for individuals who have less positive experiences. On the other hand, it is equally likely that some women refused to be interviewed or canceled their interview appointments because they did not know the person calling to set up the appointment or were wary of having a stranger come to their homes. These issues may call into question the feasibility of carrying out a larger scale study using random sampling methods, where generalizability back to a given population is desirable, but they do not negate the data we did gather.

Third, the use of LHA recommendations to identify the participants in this study may have created a selection bias. Although we requested that the LHAs name one advisee who had, and one who had not, received a mammogram, in many cases the LHAs were unable to determine this information at the sampling selection stage. Also, because LHAs were asked to select only two people they had advised, it is possible they picked those women they thought would make them 'look good'. On the other hand, since 35% of the women interviewed had never had mammograms and another 21% did not intend to get another mammogram in the next 2 years, it is unlikely that these women were selected to make the LHAs appear more successful as advisors.

Another potential limitation of this study, one that may have dissuaded other researchers from trying this type of impact evaluation, is recall bias. Since women in this study were recalling events at different times in the past, their ability to recall interactions with LHAs or the timing of past mammograms may have faltered. In general, however, interactions between LHAs and respondents had taken place within the past 3 months, thus reducing the possibility that women had totally forgotten what had happened. In fact, only two respondents were unable to recall their interactions with LHAs. Age is another factor that may be assumed to contribute to recall bias (Sudman and Bradburn, 1973); however, in this research we did not find that older women were any less likely to recall their interactions with LHAs than younger respondents.

Finally, one must consider the target population that this intervention addressed. Although there is no reason to suspect that the women interviewed are any different from other older, black women in Bertie County or in NC-BCSP's other intervention counties, caution must be used in extending the results of this study of older, rural, black women to younger, more urban populations or to other ethnic groups.

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Implications for research and practice

This study confirms the feasibility of interviewing counseled individuals to evaluate LHA programs. Its replication with other groups, in other locations and with larger, more various samples is highly desirable. It might be possible to select a random sample of people advised by LHAs by asking LHAs to keep track of *all* the people they counseled during a certain period of time. This method of forming a sampling frame would provide the denominator (i.e. the total population of advisees) that is lacking in the current exploratory research. An effort should also be made to select a sample of individuals advised by less active as well as more active LHAs.

The information this study provides about how the helping process works is of value to organizations planning LHA interventions. Respondents' discussion of the qualities that make LHAs effective can inform the process of recruiting LHAs. In addition, data on the types of influence LHAs have on individuals' lives may guide evaluators as they determine which outcomes to measure. Although an increase in mammography screening is the primary outcome of interest, this study indicates that other important changes occur in counseled individuals. They may be more likely to continue screening because they have learned ways to get cheaper or more convenient screening, or they may have progressed to a more advanced stage in the process of change (Rakowski *et al*, 1993). This study suggests that LHA programs can have an impact on changing both attitudes and behavior. As the number of projects around the country using LHA interventions continues to grow (Warrick *et al*., 1992), a thorough knowledge of how the helping process works can aid in increasing the effectiveness of these interventions.

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