Contact with Health Guides and Use of Health Services Among Blacks in Buffalo

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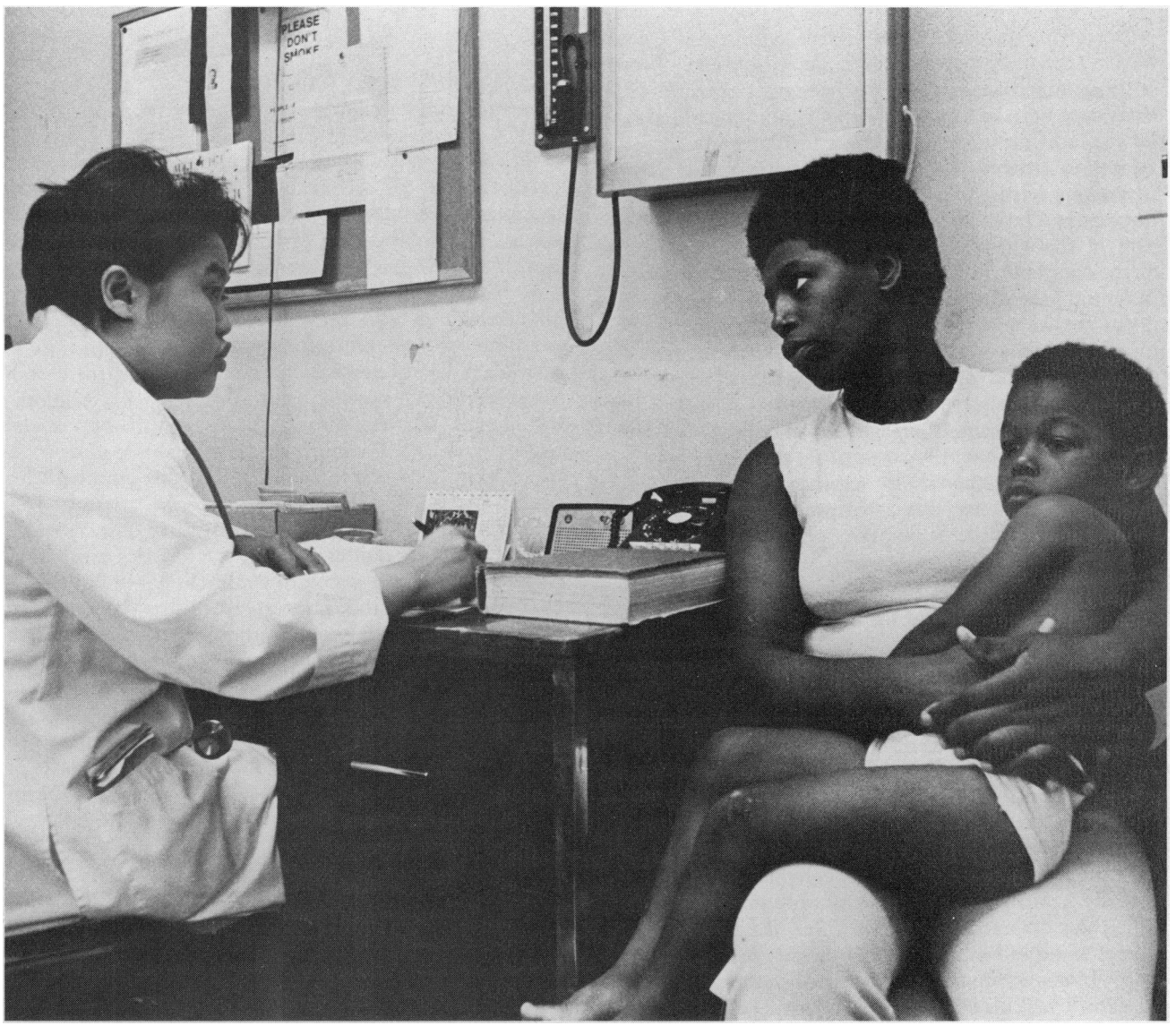
A CONTINUING CONCERN among practitioners and researchers in public health is to maximize community response to preventive and curative health programs. Until recently, studies of utilization and economic status have usually indicated that quality health care went to those who could afford it *(1,2)*. But the expanded scope of services offered by Federal, State, and municipal agencies has made a complete range of preventive care available to most people. In addition, health insurance programs have greatly expanded access to private medical services *(3,4)*.



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Despite increased availability of public and private health care programs, however, large numbers of those with demonstrable needs do not avail themselves of such care. The traditional demographic variables such as age, education, and income continue to be strongly related to differential use of health services, but there is increasing evidence that other social factors may also be important *(5–7)*. Among these factors are the motivation of the individual person to use the service; the form, character, and accessibility of the service to the potential user; the user's knowledge and understanding of the service's purpose and potential benefit; the community's social system and health values; and the degree of social distance between the user and the purveyor of the service. Although these variables have often been examined separately, they are not alternative explanations; they constitute a set of related factors which together help explain health behavior. Several researchers have attempted to integrate these factors in an effort to explain public responses to a variety of preventive programs *(8–12)*.

Studies of high risk, low socioeconomic level groups have found considerable lack of understanding of the scope and availability of such programs *(6,13)*. Studies of poliomyelitis vaccine trials also suggest that acceptance may be the result of the interaction of a complex of factors *(14–16)*.

The social system of the community and local beliefs and values can affect health behavior. In some studies, it has been found that the values of medically deprived communities conflict with those of the health professionals. Social isolation and alienation separate the community from the public health bureaucracy, and the health worker is thus unable to make contact with those in need of service. Often the public health worker is viewed as an alien more likely to criticize than help. In such communities, there was a generally high expectation of illness and a pessimistic response to the idea that anything can be done about it *(17–21)*.

The results of investigations of means of overcoming community resistance to public health programs have suggested that mass media are useful mainly as sources of information rather than as means of inducing greater participation *(22,23)*. Schools and other public forums have been shown to have some effect *(14,24)*, but their impact is limited to persons who have regular contact with them.

Direct, face-to-face contact has generally been found to be the most effective means of inducing participation *(25–27)*. Personal communication is most effective when the person making contact is known to the other person and is culturally and socioeconomically similar. Effective influentials are also believed to possess knowledge and technical skill which meet specific needs and are not generally available in the community. Thus, programs of health information and education are exploring the use of nonprofessional personnel, recruited from the community, to communicate health information within their own neighborhoods *(25–27)*.

The Health Guide Program

One such program was established by the Erie County (N.Y.) Department of Health, in October 1967. Six health guide units, comprising about 80 women, were established in inner-city census tracts with predominantly black populations of low socioeconomic levels. The goals of the program, as developed by the health department's division of public health education and information, were *(a)* to inform the members of the community of the preventive and curative services available and to motivate them to use them, *(b)* to provide followup assistance by health department staff for persons with specific health problems, *(c)* to inform the health department of unmet health and social needs, and *(d)* to improve relationships and communication between the community and public health professionals *(28)*.

An earlier paper reported quantitative data showing that the health guides had characteristics similar to those found among successful influentials in nonhealth contexts *(29)*. In this paper we explore the extent to which contacts with health guides were associated with use of services by their clients as compared with other sources of health information, such as the media, and the informal acquaintance and kinship networks to which the person belongs. We wished to compare use and knowledge of services by families living in parts of Buffalo served by health guides with families living in culturally similar districts without health guides.

Methods

Sampling. Data for this study were obtained in household interviews with a stratified random sample of black women in inner-city census tracts. Stratification was done in two stages. The first strata were defined by whether or not the respondent resided in an area served by health guides. One thousand addresses

were selected from census tracts served by the guides and another 1,000 from socioeconomically similar areas not so served.

Second-stage strata were defined according to the numbers of eligible households at each selected address. Most buildings at these addresses contained multiple dwelling units, and not every unit housed eligible respondents. It was necessary to account for different probabilities that a given eligible household would be selected. The actual household selected for study was determined before the assignment of the interview. The selection procedure was based on the number of eligible respondents at a given address. Eligible households were defined as those containing at least one black woman who was responsible for her health and that of her family. Dwelling units that were vacant, that lacked women, or those that contained white women or businesses were excluded from the sample.

We had not previously conducted research limited solely to this population, and because of reports of previous studies which indicated difficulties in completing sampling in similar communities, we devised procedures which would allow us to stop short of interviewing the whole sample while preserving its random character.

Subsamples were randomly drawn from the original sample and these persons were successively interviewed. Addresses were randomly assigned to interviewers to distribute randomly any interviewer effect. Termination of the study prior to completing interviews with the whole sample was necessary, for reasons to be discussed. In all, 1,095 households were finally sampled and found to contain eligible respondents.

The disposition of the eligible households follows:

Disposition	*Number*	*Percent*
Refusals	119	11
Not at home	271	25
Terminations	11	1
Complete interviews	[1]694	63
Total eligible households contacted	1,095	100

[1] 696 interviews were completed. 2 eligible respondents in 2 households accounted for the 2 additional interviews.

In all tables, data are presented in both unweighted and weighted form. The unweighted data show the actual numbers in the sample; the weighted data correct for unequal probabilities of selection. Rounding produces weighted totals of 1,144 in some tables and 1,145 in others. In all tables, the percentage distributions are based on weighted frequencies.

Sources of bias. Some cautions should be observed in the interpretation of the data. They are generalizable only to black women in the sampled areas who were responsible for the health of their families. Reliability may be limited because of the respondents' faulty recall of both previous contacts with health guides and their use of the services. When the interview was conducted, the crucial question about previous contact with public health personnel was phrased in two standard forms, and the interviewers were instructed to use both forms of phrasing. In addition several other standard probes, designed to produce a uniform and full response on this variable, were used. However, despite these efforts, it is not inconceivable that some respondents who reported no visits from health guides, but visits from "other health workers," actually may have been referring to health guides. Since the other health worker category is a residual, not much can be said precisely about the identity of these workers. Debriefing sessions with the interviewers at the time indicated that, most commonly, the category included public health nurses, sanitarians, rodent controllers, housing inspectors, social welfare workers and, perhaps, some health guides.

Another problem which may have limited reliability was the large number of interviewers required to complete the study. All interviewers were professionally trained black women, hired and supervised by the Survey Research Center of the State University of New York at Buffalo. However, the high rate of turnover necessitated almost continuous recruitment and training of interviewers during the fieldwork phase of the study. Although we had excellent cooperation from the respondents who were contacted, the typical interviewer completed training, conducted a few interviews, and then resigned or disappeared. The result was a much inflated cost per interviewer and the need to limit the number of subsamples contacted.

The factors responsible for high staff turnover are still being investigated. Data from other, similar recent studies indicate that our experience was not unique *(30,31)*. Whatever the cause, and despite careful quality control maintained by telephone reinterviews with those the interviewer had contacted, it is difficult to assess the effects of such high personnel turnover.

Finally, there is the possibility of sample bias resulting from the 63 percent completion rate. Although the direct refusal rate of 11 percent was less than that experienced in similar studies, we experienced a greater than normal number of nonresponses (25 percent) when households were approached *(32)*. The nonresponses probably included persons not at home, some vacant dwelling units, and people who tacitly refused to be interviewed by not answering the door. It is also possible that some of the households in the nonresponse group were ineligible for the study.

Serious attempts were made to convert refusals and nonresponses. All households in these two categories were called upon at least three more times before final disposition. It was a strictly enforced requirement that all return calls be made at times when someone was mostly likely to be at home, that is, between the hours of 5 and 7 pm and on weekends. Moreover, no two callbacks were accepted if made on the same day of the week or at the same time of day. Such measures helped to cut the number of refusals and nonresponses, but 36 percent of the 1,095 households were not interviewed.

Although a 63 percent completion rate is not inconsistent with other studies of similar populations *(32)*, it possibly introduces significant bias.

Findings

Different sources of information and assistance for health problems were examined as to their relationship with use of eight health services readily available to residents of the area sample. Five of the eight were related to maternal and child health (well-baby clinics, planned parenthood services, visits of public health nurses, immunizations, and dental clinics). The other services were visits of housing inspectors, rodent control services, and chest X-rays.

Sources of health information. Personal contact has consistently been found to be more effective in inducing acceptance of new ideas than have the less personalized media *(22–24)*. Our data, given in table 1, are consistent with these previous findings. Respondents were read a list of various forms of mass communication—radio, television, newspapers and magazines, and public meetings—and asked if any were customarily used as sources of health information. Probes were used to determine the sponsorship of meetings respondents had attended. Sponsors mentioned included local community houses, local schools, community action groups, and the health department. Typically, the content of the meetings focused on specific health problems and provided those attending with access to a knowledgeable health worker with relevant information.

Most often used media were television (52 percent) and newspapers and magazines (42 percent). However, table 1 reveals no relationship between reliance on any of the mass media and use of the services examined. In contrast, attendance at meetings appears to be positively related to use of some services, particularly those related to maternal and child health. The percentage differences in use between attenders and nonattenders were small, but they reflected a consistent pattern of association.

This relationship between attendance at meetings and use is interesting because, alone among the sources of public information, meetings provide direct, personal contact with a knowledgeable health worker. Moreover, attendance is an indication that the respondent perceived the meeting as a source of help for a particular problem. Thus, perception of need could antedate both attendance at meetings and use of services.

The existence and beneficial effects of lay referral systems as sources of health information have been much debated in the literature. Some have found evidence of their positive effect *(33–37)*, others have reported evidence that they foster and perpetuate beliefs and values inimical to public health practice *(6)*, still others have found no evidence that such systems even exist, much less influence health practices and the use of health services *(13)*. Where such systems have been found beneficial, they have appeared generally to increase awareness of resources available to meet particular needs and to facilitate evaluation of their effectiveness. Discussion of health problems with associates, therefore, should be related to utilization. Although the presence or absence of such networks cannot be directly established from our data, respondents were asked if they discussed health with others. If they answered affirmatively, they were asked to indicate from a list with whom such discussions took place. A positive association between such discussion and use of services would be expected if a lay referral system operated in this community.

Our examination of the discussion relationship is presented in table 2. The data show that discussion of health with close relatives, friends, neighbors, and such other persons as ministers and druggists is positively related to the use of all services but chest X-ray. The differences in use between those who discussed health and those who did not are often small, although consistent and in the predicted direction. The strongest association between discussion and use is found in the relationship between discussion of health with relatives and use of services related to maternal and child health.

Table 1. Percent of women using each service, by use or nonuse of health communications media

Service used	Media used				Media not used			
	Radio	Television	Newspapers	Meetings	Radio	Television	Newspapers	Meetings
Well-baby clinic	45	52	54	58	51	46	47	49
Planned parenthood	27	28	29	35	23	20	20	23
Public health nurse	39	40	43	51	41	41	38	39
Immunization	42	48	52	58	44	38	36	42
Rodent control	34	37	34	34	33	30	32	33
Housing inspector	51	50	46	55	45	43	48	46
Chest X-ray	82	81	85	81	81	82	79	82
Dental clinic	46	44	46	49	42	42	41	43
Weighted number[1]	277	599	529	122	868	545	615	1,023
Unweighted number[2]	162	359	314	69	534	337	382	627

[1]Corrected for unequal probabilities of selection. [2]Actual sample.

Table 2. Percent of women using each service who discussed or did not discuss health problems with specific others

Service used	Mother	Father	Husband	Children	Other relatives	Friends	Neighbors	Druggist	Minister
					Discussion				
Well-baby clinic	63	59	56	59	51	51	52	53	52
Planned parenthood	33	42	28	24	28	25	26	26	30
Public health nurse	45	44	41	34	44	44	43	48	50
Immunization	53	59	52	52	48	46	46	47	49
Rodent control	36	36	37	43	36	35	42	41	44
Housing inspector	56	48	49	56	50	49	54	53	56
Chest X-ray	82	77	81	84	84	83	81	84	84
Dental clinic	55	55	43	45	47	47	46	50	46
Weighted number[1]	319	146	449	494	577	747	425	231	243
Unweighted number[2]	192	81	271	304	335	447	247	130	115
					No discussion				
Well-baby clinic	45	49	46	44	49	48	49	49	50
Planned parenthood	21	22	21	21	23	20	23	22	23
Public health nurse	39	40	40	49	36	34	39	38	38
Immunization	40	41	37	36	39	36	42	42	42
Rodent control	32	33	31	43	36	31	28	31	31
Housing inspector	43	46	46	39	43	42	42	45	45
Chest X-ray	82	82	82	80	79	79	82	81	81
Dental clinic	38	41	43	42	39	36	41	41	42
Weighted number[1]	825	998	695	650	567	397	719	894	933
Unweighted number[2]	504	615	425	392	361	249	449	566	581

[1]Corrected for unequal probabilities of selection. [2]Actual sample.

The relationship between contact with health guides and other health personnel and use of the eight services was examined. We hypothesized that personal contact with technically competent and informed health workers is an important factor in use of health services. The hypothesis received partial support in the observed relationship between use of services and attendance at meetings (table 1) and in the following data, given in percentages, on sample members' contacts with health workers:

Service used	Contact with— Health guide (*N*=161)	Other health worker (*N*=205)	No contact (*N*=778)
Well-baby clinic	64	63	44
Planned parenthood	32	28	21
Public health nurse	62	62	30
Immunization	52	50	40
Rodent control	37	41	30
Housing inspector	57	53	43
Chest X-ray	89	81	80
Dental clinic	46	51	40
Weighted number[1]	161	205	778
Unweighted number[2]	90	132	474

[1]Corrected for unequal probabilities of selection.
[2]Actual sample.

Recent studies of programs using community members as health influentials have indicated that nonprofessionals with accurate information have been more successful in inducing use than more highly paid and highly trained professionals (*13, 24–28*).

There was a positive association between the use of all eight services and personal contact with a health worker. Moreover, the percentage differences in use between those contacted by health guides and those contacted by other health workers suggest that contact with a health guide is as likely to be associated with use as is contact with other health personnel. As the preceding tables show, contact is most likely to be associated with use of those services related to maternal and child health.

Relationship of use to need. A primary assumption in most models that attempt to explain why people use health services is that use is increased when there is a clear association between awareness of the service and the belief of the client that the service will meet his specific needs. This rather obvious assumption suggests that the presence of children in the home would be positively associated with the use of maternal and child health services, as these data on the use of services, according to presence or absence of children, indeed demonstrate:

Service used	*Children*	*No children*
Well-baby clinic	69	16
Planned parenthood	36	4
Public health nurse	51	22
Immunization	60	14
Rodent control	39	23
Housing inspector	51	40
Chest X-ray	82	82
Dental clinic	50	32
Weighted number[1]	729	415
Unweighted number[2]	444	252

[1]Corrected for unequal probabilities of selection.
[2]Actual sample.

The existence of this relationship could imply that the associations observed previously—between discussion and use and contact with health workers and use—are spurious. Having children in the home could result in both more discussions of health matters with others and more contact with health workers and, therefore, greater use of services related to maternal and child health. The percentages of those having contacts with health personnel, according to the presence of children in the home, follow:

Contact	*Children*	*No children*
Health guide	15	12
Other health personnel	20	14
No contact	64	75
Total	99	101
Weighted number[1]	729	415
Unweighted number[2]	444	252

[1]Corrected for unequal probabilities of selection.
[2]Actual sample.

The preceding data indicate that women with children were only slightly more likely to have contacts with a health guide or other health worker than women without children. In contrast, a much greater percentage of women with children discussed health matters with others, particularly their mothers and other close relatives, than did those without children in the household.

The percentages of women with and without children in the home, according to those with whom they discussed health matters, follow:

Discussed health with—	*Children*	*No children*
Mother	35	15
Father	16	9
Husband	41	37
Children	50	31
Friend	68	61
Druggist	23	20
Minister	17	17
Weighted number[1]	728	416
Unweighted number[2]	444	252

[1]Corrected for unequal probabilities of selection.
[2]Actual sample.

Given the higher percentages of women with children in the home who discussed health matters with others, the question of the spuriousness in the original relationship between discussion of health with others and use of services was re-examined in table 3. To ease presentation, in table 3 the association between discussion and use of services under the conditions of children present in the home and no children in the home is re-examined. Although the data in table 3 continue to show a minimal relationship between discussion and use, it is clear that the major portion of the variation in table 2 is due to the strong association between presence of children and discussion of health with relatives.

The most immediate impression from the data in tables 2 and 3 is that women with children in the home are more likely than those without children to use all services, regardless of whether or with whom they discuss health matters. If discussion of health with others and use of services are both derived from an overall concern with health engendered by the presence of children, or whether one promotes the other, is difficult to determine at this point.

In table 4, the relationship between use of services and contact with health workers was re-examined, again controlling for the presence of children. It was expected that, given the presence of children, there would be a strong, positive, and independent relationship between contact with health guides and use of those services established to meet the needs of maternal and child health. The data in table 4 are consistent with this expectation. If children are present, contact is positively related to the use of all services but rodent control. Moreover, these relationships are, if anything, stronger than those observed between either presence of children and use of services or contact with health workers and use of services alone. If there were no children present, only use of public health nurses was conspicuously related to contact with health guides or other health workers. This association may be explained by the role of public health nurses in aiding elderly shut-ins and the emphasis the health guides placed on serving the elderly.

The relatively greater importance of contact with health workers compared with discussion with associates in the use of health services is clearly shown in table 5. In this table the relationship between use of services and contact with health guides and other health personnel is re-examined, controlling for discussion of health with the close relatives, previously observed in table 2 to be the associates most likely to influence use of services. Although table 5 shows increased use among those who discussed health with relatives in comparison with those who did not, under both conditions—discussion or no discussion—the positive relationship between contact with health workers and use remains undiminished. Moreover, a comparison between contrasting conditions of "no contact, but discussion" and "contact but no discussion" indicates that contact alone is as likely or more likely to be positively associated with use than is discussion alone. Thus, well over half of those with contact with health department personnel used public health nurses even in the absence

of discussing health with their mothers, as compared to only 29 percent of those without such contact. The difference was even greater (71 percent among those seeing guides and 32 percent among those with no contacts) for women who did discuss health with their mothers.

Discussion and Conclusions

The data we have examined imply that need and articulation of need with services through contact with knowledgeable health workers are the most important factors that lead to use of services. Our analysis also in-

Table 3. Percent of women using each service and discussion of health with specific others by presence or absence of children in the household

Service used	Mother		Father		Husband		Children		Minister		Friend		Neighbor		Druggist	
	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
	Households with children															
Well-baby clinic	75	66	80	67	73	67	70	68	70	69	70	68	74	67	71	69
Planned parenthood	38	34	53	32	40	32	39	34	42	34	37	32	40	33	44	33
Public health nurse	53	49	57	50	51	50	57	45	54	50	54	44	56	48	56	49
Immunization	60	60	72	58	69	54	64	56	68	58	62	56	65	57	66	58
Rodent control	40	39	48	38	41	38	47	32	54	36	40	37	50	33	48	37
Housing Inspector	60	46	58	49	50	52	57	45	63	48	53	46	60	46	49	58
Chest X-ray	82	81	79	82	80	83	84	79	88	80	83	78	83	80	86	80
Dental clinic	59	45	63	47	48	51	50	49	53	49	52	45	57	46	58	47
Weighted number[1]	257	472	109	620	297	431	365	364	141	588	493	236	273	456	168	561
Unweighted number[2]	157	287	62	382	181	263	220	224	76	368	295	149	159	285	89	355
	Households without children															
Well-baby clinic	16	17	0	18	22	14	26	12	17	16	15	18	12	19	16	16
Planned parenthood	10	3	8	4	6	3	5	4	6	4	5	3	3	5	2	5
Public health nurse	11	24	5	24	20	23	29	19	41	18	24	20	21	23	31	20
Immunization	26	12	22	13	19	12	18	12	13	14	15	12	11	16	7	16
Rodent control	19	23	3	24	28	19	31	19	23	22	23	22	28	20	26	21
Housing inspector	36	40	19	41	46	36	55	32	42	39	42	35	44	37	44	38
Chest X-ray	82	82	71	83	83	81	84	81	76	83	84	79	78	84	80	82
Dental clinic	42	30	31	32	33	31	30	32	34	31	37	23	28	34	34	31
Weighted number[1]	62	353	37	378	151	264	129	287	72	343	254	161	153	263	83	332
Unweighted number[2]	35	217	19	233	90	162	84	168	39	213	152	100	88	164	41	811

[1]Corrected for unequal probabilities of selection. [2]Actual sample.

Table 4. Percent of women using each service, by contact with health personnel

Service used	Children, contact with —			No children, contact with —		
	Health guides	Other health personnel	No contact	Health guides	Other health personnel	No contact
Well-baby clinic	83	81	62	21	14	16
Planned parenthood	45	38	32	2	2	5
Public health nurse	64	68	42	57	48	12
Immunization	69	64	57	14	12	15
Rodent control	43	48	36	25	22	22
Housing inspector	67	55	45	34	45	39
Chest X-ray	90	83	79	86	74	82
Dental clinic	63	56	44	9	39	34
Weighted number[1]	112	149	468	50	56	310
Unweighted number[2]	65	99	280	25	33	194

[1]Corrected for unequal probabilities of selection. [2]Actual sample.

dicated that information transmitted via impersonal media was the least effective means of inducing people to use health services.

Initially, the analysis showed that those who discussed health with close relatives, friends, neighbors, and such others as druggists or ministers were more likely to use the available services than those who did not discuss health with others. However, when the relationship between need and discussion with others was examined, it was apparent that most of the association between discussion and use was attributable to the common association between need and both discussion of health and use of services. Thus, it would appear that women with children were more likely than those

Table 5. Percent of women using each service, by contact with health personnel and discussion of health with mother, father, husband, and children

Service used	Health guides	Other health personnel	No contact	Health guides	Other health personnel	No contact
	Yes			No		
Discussed health with mother:						
Well-baby clinic	81	78	54	55	57	40
Planned parenthood	44	32	29	24	27	18
Public health nurse	71	62	32	57	63	29
Immunization	81	45	48	36	52	37
Rodent control	39	43	32	36	40	30
Housing inspector	76	64	47	47	48	41
Chest X-ray	90	70	83	88	85	79
Dental clinic	73	50	52	31	52	36
Weighted number[1]	58	61	200	103	144	578
Unweighted number[2]	32	40	120	58	92	354
Discussed health with father:						
Well-baby clinic	80	70	50	62	62	43
Planned parenthood	73	36	36	25	27	19
Public health nurse	63	50	38	61	65	29
Immunization	95	52	53	45	49	38
Rodent control	52	54	26	35	38	31
Housing inspector	85	49	39	53	54	43
Chest X-ray	90	64	79	89	84	80
Dental clinic	85	46	51	40	52	39
Weighted number[1]	22	34	90	139	171	688
Unweighted number[2]	12	19	50	78	113	424
Discussed health with husband:						
Well-baby clinic	67	66	51	62	61	39
Planned parenthood	35	39	25	30	23	19
Public health nurse	65	53	34	60	67	29
Immunization	64	58	49	44	46	34
Rodent control	36	45	35	38	39	27
Housing inspector	54	54	46	59	52	40
Chest X-ray	95	77	79	86	83	81
Dental clinic	53	42	41	42	56	40
Weighted number[1]	63	67	318	98	138	460
Unweighted number[2]	36	42	193	54	90	281
Discussed health with children:						
Well-baby clinic	62	72	53	66	53	37
Planned parenthood	30	31	27	33	26	17
Public health nurse	63	64	42	61	61	22
Immunization	57	59	49	48	39	34
Rodent control	44	55	39	33	26	25
Housing inspector	57	61	55	57	44	35
Chest X-ray	95	82	82	85	79	79
Dental clinic	54	58	39	41	44	41
Weighted number[1]	68	107	319	94	98	459
Unweighted number[2]	39	65	200	51	67	274

[1]Corrected for unequal probabilities of selection. [2]Actual number.

without children to use health services, whether or not they discuss health matters. It seems plausible that women with children were more likely than those without children to be interested in health matters and thus to use more services and to discuss them more often with others.

Attendance at public meetings appeared to be positively related to use of some services, especially those related to maternal and child health. However, such meetings were attended by few respondents (approximately 10 percent) and attendance seemed to be limited to those with specific concerns.

The central focus of this study was the relationship between contact with health guides and the use of eight services. The results showed that among women already predisposed to use the services because of children in the home (64 percent of the sample) those contacted by health guides or other health personnel were considerably more likely to use the services than those not contacted. If there were no children in the home, the effects of contact were less apparent. Among those without children, only use of the public health nurse appeared to be affected by contact with a health worker. In each instance (that is, use of maternal and child health services among those with children and use of public health nurses among those without children) the effects of contact seemed to be most obvious if there was an acute or apparent need.

Past research has suggested that the influential person is perceived as having a certain kind of competence which makes him a credible resource *(38,39)*. Furthermore, the influential person is typically well-integrated in the community, both culturally and socially, and has many contacts with others in organizations and social groups *(39)*. Elsewhere, we have shown that the health guides were more likely than the average member of the community to possess these characteristics *(29)*. Both in her role as defined by the health department and because of her personal characteristics, the health guide was in a position to supply information and bring the community resident into contact with the specific service needed to resolve a problem.

In the beginning of the paper we noted that a major problem in delivering needed services to the medically disadvantaged community is the disparity between the cultural and social position of the public health professional and the community member *(12,17,19)*. Studies of successful influential persons have consistently shown them to be similar in social status to those whom they influence *(38,39)*. Most of the health guides were women between the ages of 30 and 45 years. All were black and of similar socioeconomic status to the average community member. Eighty-five percent had children. Thus, in most relevant characteristics, they were similar to those whom they served.

The health department views the health guide's role as supplemental to those of other health professionals. It is expected that they will function to spread information about relevant health services and to encourage their use *(28)*. In this respect, our data are encouraging. Not only was contact with health guides positively associated with use of services, but the association was as strong or stronger than that found with contact with other health personnel. Moreover, of all sources of information and persuasion which we examined, contacts with health guides and other health workers appeared to be most clearly related to use. These findings suggest that health guides may be as effective as other, more highly trained and highly paid health professionals in insuring that services are utilized by those who need them. In fact, our data indicated quite clearly that where need was associated with use, contact by health guides increased the likelihood of use even more.

The fact that the association between contact with health guides and use was most conspicuous if children were present in the home complicates somewhat the interpretation of these results. Among women with no children in the home, the association between contact and use was limited to use of public health nurses, despite the fact that rodent control, housing inspectors, and chest X-rays were services of potential benefit to such respondents. This complication is clarified to some degree if we re-examine the role of need in the observed relationships. Both women with children, who were more likely to use maternal and child health services, and women without children, who were more likely to use the services of a public health nurse, were also more likely to have an apparent and immediate need. Among other clients without children, the health guide is more likely, as part of her regular calling schedule, to discover an acute condition which might require a public health nurse. Thus, it is possible that the positive relationship between contact by a health guide and use of many of these services is due to the immediacy of the need and the ability of the health guide to respond effectively when she discovers specific needs. It is also possible that the presence of children may heighten awareness of the need for a variety of services which seem less urgent to those without family responsibilities. Moreover, although no differences appeared in whether those with or without children had been contacted by a health guide, since most health guides had children themselves, it is conceivable that they were most successful with those clients who had children simply because they had more common concerns. It is obvious that this line of inquiry requires further investigation.

An important caution should be noted at this point. What we have presented are correlations. On the basis of these data, we are unable to argue conclusively that the health guides obtained participation; all we can state is that greater use was positively associated with contact with health guides. It might be that those who were most concerned about health were also those most likely to remember and report having been visited by health guides or other health personnel. But we feel that each correlation and the consistency in the pattern

of the correlations were sufficiently strong, even after controls were introduced, to suggest that health guides can be successful influentials. Careful questioning of populations served should accompany future efforts to study health guides to determine whether contact actually does affect the use patterns observed.

The primary implication of our findings is that personal contact with health guides was positively associated with greater use of public health services among a sizable proportion of those studied. This would suggest that the health guide may be effective in increasing use of public health services by families who need them. The guides were recruited, according to Erie County Health Department policy, from the neighborhoods where they worked. They worked part time and did not need advanced education. They were trained to discover health problems and to recommend the type of service most suited to the specific situation. Their preferred approach was to teach the householders to secure health services for themselves. The cost of a visit by a health guide was considerably less than that of a visit by a public health worker with professional training, and our findings suggest that they were effective as communicators. Although unable to provide the technical services of which nurses, sanitarians, and other more highly trained public health workers are capable, they appear able to discover problems and to help their clients solve them.

References

1. Anderson, O. W.: Utilization of health services. *In* Handbook of medical sociology, edited by H. Freeman, S. Levine, and L. Reader. Prentice-Hall, Englewood Cliffs, N.J., 1963, pp. 345–365.
2. Simmons, O.: Social status and public health. Social Sciences Research Council, New York, 1958.
3. Kriesberg, L.: The relationship between socioeconomic rank and behavior. Social Problems 10: 334–353, spring 1965.
4. Anderson, O. W., and Feldman, J. J.: Family medical costs and voluntary health insurance. McGraw-Hill, Inc., New York, 1956.
5. Cornely, P. B., and Bigman, S. K.: Acquaintance with municipal government health services in low-income urban populations. Am J Public Health 52: 1877–1886, November 1962.
6. Suchman, E. A.: Social factors in medical deprivation. Am J Public Health 55: 1725–1732, November 1965.
7. Graham, S.: Studies of behavior change to enhance public health. Am J Public Health 64: 327–334, April 1973.
8. Rosenstock, I. M.: Why people use health services. Milbank Mem Fund Q 44: 94–127, July 1966.
9. Kegeles, S. S.: Some motives for seeking preventive dental care. J Am Dent Assoc 67: 90–98, July 1963.
10. Hochbaum, G. M.: Public participation in a medical screening program. Public Health Service Publication No. 572, U.S. Government Printing Office, Washington, D.C., 1958.
11. Kegeles, S. S., Kirscht, J. P., Haefner, D. P., and Rosenstock, I. M.: Survey of beliefs about cancer detection and taking Papanicolaou tests. Public Health Rep 80: 815–824, September 1965.
12. Heinzelmann, F.: Determinants of prophylaxis behavior with respect to rheumatic fever. J. Health Hum Behav 3: 73–81, March 1962.
13. Cowles, W., Poljar, S., Simmons, L., and Switzer, J.: Health and communication in a Negro census tract. Social Problems 10: 230–276, winter 1963.
14. Deasy, L. C.: Socioeconomic status and participation in the poliomyelitis vaccine trials. Am Sociol Rev 21: 185–191, April 1956.
15. Winkelstein, W., and Graham, S.: Factors in participation in the 1954 poliomyelitis vaccine field trials, Erie County, New York. Am J Public Health 49: 1454–1466, October 1959.
16. Johnson, A. L., Jenkins, C. D., Patrick, R., and Northcutt, T. J., Jr.: Epidemiology of polio vaccine acceptance. Florida State Board of Health Monograph No. 3, Miami, 1962.
17. Strauss, A.: Medical organization, medical care and low income groups. Soc Sci Med 3: 143–177, August 1969.
18. Koos, E.: The health of Regionville. Columbia University Press, New York, 1954.
19. Sellars, R. V.: The black health workers and the black health consumer: new roles for both? Am J Public Health 60: 2154–2170, November 1970.
20. Haynes, M. A.: Professionals and community confront change. Am J Public Health 60: 519–523, March 1970.
21. Cornely, P.B.: Community participation and control: a possible answer to racism? Milbank Mem Fund Q 48: 347–361, April 1970.
22. Swinehart, J. W.: Voluntary exposure to communications. Am J Public Health 58: 1265–1275, July 1968.
23. Swinehart, J. W., and Kirscht, J. P.: Smoking: a panel study of beliefs and behavior following the Public Health Service report. Psychol Rep 18: 519–528, April 1966.
24. Lindamann, F. C., and Costa, M. A.: The voice of the community. Am J Public Health 62: 1245–1248, September 1972.
25. Kent, J. A., and Smith, C. H.: Involving the urban poor in health services through accommodation. Am J Public Health 57: 997–1003, June 1967.
26. Cauffman, J. G., et al.: Community health aides: how effective are they? Am J Public Health 60: 1904–1909, October 1970.
27. Roberts, B. J., Mico, P. R., and Clark, E. W.: An experimental study of two approaches to communication. Am J Public Health 53: 1361–1381, September 1963.
28. Montgomery, E. B.: Health helpers in Erie County, New York. HSMHA Health Rep 86: 879–887, October 1971.
29. Warnecke, R. B., and Graham, S.: Health guides and the diffusion of information. Erie County, N.Y., 1973. Mimeographed.
30. Kegeles, S. S.: Problems of experimental research in the urban ghetto. Med Care 7: 395–405, September-October 1969.
31. Weinberg, E.: Community surveys with local talent. National Opinion Research Center, Chicago, 1971.
32. Lansing, J. B., Withey, S. B., and Wolfe, A. C.: Working papers on survey research in poverty areas. Institute for Social Research, Ann Arbor, Mich., 1971.
33. Kirscht, J. P., Haefner, D. P., Kegeles, S. S., and Rosenstock, I. M.: A national study of health beliefs. J. Health Hum Behav 7: 248–254, July 1966.
34. Wade, S.: Trends in public knowledge about health. Am J Public Health 60: 485–491, March 1970.
35. Griffith, W.: Achieving change in health practices. 9th annual Dorothy B. Nyswander Lecture, Berkeley, Calif., 1965.
36. Jolly, E., Blum, H. E., Keyes, G., and Smith, G.: Experiences of public health nurses in obtaining family pedigrees. Public Health Rep 80: 44–46, January 1965.
37. Friedson, E.: Patient's views of medical practice. Russell Sage Foundation, New York, 1961.
38. Rogers, E., and Shoemaker, F.: Communication and innovation. Free Press, New York, 1971.
39. Katz, E., and Lazarsfeld, P. F.: Personal influence. Free Press, New York, 1955.