

## The Role of Churches in Disease Prevention Research Studies

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### Synopsis.....

*The design of a large-scale research project (The Health and Religion Project) in which church*

*volunteers deliver behavior change programming on major cardiovascular risk factors (smoking, elevated blood pressure, elevated serum cholesterol, excess weight, and physical inactivity) is described.*

*A total of 20 churches (Roman Catholic, Baptist, and Episcopal) were recruited throughout Rhode Island and randomly assigned to five experimental conditions. These conditions were designed to test the necessity of training special task forces to coordinate efforts within each church and to test the relative efficacy of high or low levels of professional (paid staff) involvement.*

*Churches have many characteristics that are compatible with behavior change programming for primary prevention of chronic diseases. However, there have been very few research studies of churches engaging in primary prevention activities. Thus, the first step was to test the churches' receptivity to participation in this type of project. To do this, all churches in Rhode Island were surveyed by mail and phone. Those that met several eligibility criteria were randomly selected for recruitment into the study.*

*The high receptivity of the churches was demonstrated by a response rate of 65 percent (20 of 31). This readiness is bolstered by the fact that all of the 20 churches that originally began the study have remained involved for at least 2 1/2 years.*

**T**HE HEALTH AND RELIGION PROJECT (HARP) is an experiment to test the efficacy of churches as sites for health promotion and the receptivity of church leaders and members to participation in tightly protocolled research efforts in primary prevention. We will describe (a) the specific target for primary prevention, (b) the procedures used to gain access to the church environment, (c), the receptivity of three major religious denominations—Roman Catholic, Baptist, and Episcopalian, and (d) the HARP intervention-evaluation protocols.

### Target for Intervention

Atherosclerotic coronary artery disease and other manifestations of arteriosclerosis are closely related

to the prevalence or intensity, or both, of several risk factors. These include cigarette smoking, high blood cholesterol, uncontrolled high blood pressure, low levels of physical activity, and excess weight (1-5). Each of these is powerfully influenced by behavior. Human behavior is, in turn, the result of a complex interplay of personal factors and physical and social environment. Existing epidemiologic and educational data (1,5,6) make it reasonable to hypothesize that altering human risk-related behavior will alter the risk factor itself and will, subsequently, reduce morbidity and mortality from high blood pressure, stroke, and myocardial infarction.

The target condition has three important characteristics: (a) most people are familiar with

cardiovascular disease, (b) specific physiologic indicators are available for assessing the extent to which behavior change has been achieved, and (c) major change programs and materials deliverable by volunteers were already available.

### Why Churches?

A major community research and development project (the Pawtucket Heart Health Program) began in the late 1970s based on the thesis that volunteers within organizations can effectively deliver behavior change programming while also providing the social support system for adopting and maintaining new behaviors (7). This initial research effort focused on organizations of diverse types, such as schools, churches, work sites, and civic organizations, as components of an entire community. Early successes of the Pawtucket Heart Health Program seemed to indicate that this approach should be also effective in single organizations not embedded in larger community-wide efforts. It was from this background that the Health and Religion Project emerged.

A number of factors were considered in selecting a single type of organization suitable for studying the use of volunteers in delivering cardiovascular disease behavior change programs. A type of organization that exists in virtually all areas of the country was needed if national generalizability was to be attained and if programming was to be readily available to most people. Explicit and implicit organizational rules consonant with the philosophy of the approach being planned were needed. A history of volunteerism with preexisting reinforcement contingencies for rewarding volunteerism was highly desirable. An organization that could influence entire families and had fewer existing structural limitations like production lines or minimal meeting room facilities was also considered important. Churches best fit these criteria.

In addition, churches have a history of "helping" in a wide range of programs, including individual and family counseling, community improvement, sex education, and health (8-13). Further, members are likely to live in the same neighborhood as the church they attend (particularly in urban areas). This circumstance increases the number of existing and potential social networks that members share and helps simplify program evaluation. Churches generally have relatively large memberships and are likely to facilitate widespread diffusion because many members also belong to other organizations throughout the community.

### Church Recruitment Procedure

In order to increase the generalizability of the study's findings and explicitly test the receptivity of churches as institutions for health promotion programming research, it was decided to select churches randomly for inclusion in the study from all the churches in the State that met certain eligibility criteria. Under the criteria, each church had to

- be outside the city limits of Pawtucket, RI, to avoid the influence of the Pawtucket Heart Health Program,
- be within a 20-mile radius of the research base,
- have a congregation which was 94 percent English speaking,
- have an income distribution that made the congregation neither predominantly affluent nor poor,
- have a membership of between 250 and 5,000 adults,
- have had no more than one pastor or priest change in the past year,
- have a written medium of communication such as a bulletin or a newsletter,
- have ample meeting space

Church data were gathered in the summer of 1983 in a brief mail and telephone survey that enjoyed a 95 percent response rate.

An examination of the resulting pool of eligible churches revealed some important factors. A large number of Catholic churches met the criteria, but their membership sizes appeared to be bi-modal. The decision was made to separate small Catholic churches (adult membership from 250 to 2,500) from large Catholic churches (more than 2,500 adult members). The sizes of the Catholic churches are greatly inflated with respect to the Protestant denominations because all residents of a designated area (parish) who are classified as "Catholics" are included on the rolls even if they have no contact with the church.

It was discovered that none of the specific Protestant denominations had a sufficiently large number of eligible Rhode Island churches to assure two churches per treatment condition. The Protestant churches eventually chosen had memberships ranging from 250 to 900 each. It also seemed likely that there would be relevant denominational differences within the Protestant category and that it would not be scientifically sound simply to select Protestant churches for inclusion without attention to denomination. Thus the two largest Protestant

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denominations in Rhode Island—Baptist and Episcopalian—were selected with the aim of recruiting five of each denomination. Obviously, there are differences between churches within denominations as there are across denominations. The assumption made, however, was that there would be less diversity within than across denominations. Other controls for intra-denomination differences included random assignment to one of four experimental conditions and the anthropological profiles of each church obtained through interviews of the clergy.

Using a random procedure, the next step was to select six small and six large Catholic churches and six Episcopalian and six Baptist churches. Letters were sent to the clergy of the 24 churches indicating that their church had been selected for possible inclusion in a health study and indicating that an appointment would be arranged shortly.

The letters were followed by face-to-face recruitment meetings with the priest or pastor of each of these churches. The HARP team attending the meetings consisted of two of the project supervisors (a social psychologist and a health educator) and the staff member responsible for the initial scheduling of the baseline survey of all adult church members and training sessions. The team members emphasized their association with the Memorial Hospital of Pawtucket and incidentally mentioned their affiliation with Brown University. It was thought that the university affiliation might be more threatening. The team members were also careful to avoid attempting to integrate health and religion except to state that they certainly seemed compatible. In this way, the expert status of the priest or pastor in the religious area was implicitly recognized.

All recruitment meetings began with the priest or pastor being shown a letter (from the Catholic Bishop for priests and from the President of the

State Council of Churches for Protestant pastors) endorsing the study. Next, a short presentation of the incidence, prevalence, and prevention of cardiovascular disease was made. This was followed by an overview of the study design and a solicitation of the church's involvement in the project. This was done with the explicit understanding that assignment to a specific experimental condition would not be determined until all required churches had agreed to participate. The importance of the annual risk factor survey of a sample of the church membership was also strongly emphasized as was the possibility that the church could be a "control" church and not receive any health promotion programming. Thus the commitment solicited was to participate in the full 4 years of the research project regardless of condition assignment and to maintain the yearly evaluation sessions for the duration of the study, even if programming attempts in the church failed or were not undertaken.

It was explained that the priests or pastors would be responsible for recruiting the volunteers necessary to form task forces or to lead the risk factor programs and that the project would provide the training. However, they were also asked to participate without financial inducement of any kind. In fact, they understood from the beginning that anyone participating in the programs would have to pay for the materials used. Although registration fees were allowed to exceed the actual cost of the materials, it was only with the stipulation that any additional revenue generated could be used solely for program-related costs. The program could not be used to generate income for other church activities.

The pastors or priests who indicated interest in volunteering their churches were further required to consult with their vestry or boards to obtain their approval as well. This was done to assure sufficient member interest, to guard against loss of church commitment if a specific pastor or priest left or was not popular, and to assure some level of clerical commitment. If either the pastor or priest or the vestry or board declined to commit themselves to the project, that church was eliminated from further consideration and additional churches were added, using the random numbers procedure, to the original 24 selected for recruitment.

After the required 20 acceptances had been received, a person totally unfamiliar with the churches assigned them to five groups, each containing a large and a small Catholic church, a

Baptist church, and an Episcopal church. A random procedure was then used to assign the specific experimental treatment to each of these five church groupings. All pastors or priests were then notified of their specific treatment assignment, and schedules were established for the baseline evaluation survey and for the recruitment and training of volunteers who would conduct the health promotion programming. Each church was administered the baseline survey during a 2-week period. This was followed almost immediately by training of task forces (where applicable) and then risk factor leader training. Programming began soon after the training. A total of 9 months was required to complete all baseline surveys and initial training sessions.

### **Results of Church Recruiting**

Results data fall into three categories: the number of churches actually volunteering for the study; the major concerns expressed at the recruitment meeting with the pastors or priests; and the reasons given for refusal to participate.

Of 50 Catholic churches that met the eligibility criteria for participation, 14 were approached to obtain the required approvals of both the priest and the parish council in each of the 10 churches required by the research design. Twelve Baptist churches were eligible. Of these, 8 were approached for the 5 required approvals. For the Episcopalians, the comparable figures were 24 eligible with 9 approached to obtain the necessary 5 churches. A total of 31 churches were approached to obtain 20 for an overall response rate of 65 percent.

No church withdrew because of its experimental condition assignment nor during the first 2 1/2 years of participation.

Several major concerns were expressed by the pastors and priests. More than half mentioned that the project might take too much of their time. The second most frequent concern (about half) was that too few members would volunteer to staff the project adequately. Third, a number were worried that the project would "use up" all those members willing to help the church and thus create recruitment problems for the more traditional church committees such as finance, vestry, and so on. Other, less frequently mentioned concerns included potential reactions of physicians who belong to the church, general member apathy, difficulty of scheduling facilities, and potential conflict with already scheduled activities.

All but one clergyman in each denomination agreed to the initial meeting. One Episcopal pastor refused to meet because his physicians were "negative." The Baptist pastor indicated interest but stated that the first year of the project coincided with a major anniversary year for his church, and all the energy and resources were committed to that extensive celebration. The Catholic priest simply said he was not interested and refused further comment.

Of those who consented to the initial meeting, two churches in each denomination gave failure of the vestry or board to approve it as the reason for rejection of the project. The only additional information they would give was "lack of interest" or "too busy." One Episcopal pastor and one Catholic priest rejected the project after hearing the description. Both stated that their members would not be interested. Finally, one Catholic church was rejected by project staff members following the initial meeting. It was felt that the internal political situation was much too unstable.

### **Discussion of Church Recruitment**

The fact that 65 percent of the churches contacted agreed to a 4-year commitment to participate in the study, regardless of program success, is particularly impressive. Additionally impressive is the fact that none of the churches withdrew from the project upon learning their particular experimental assignment.

The chief reason that pastors or priests gave for agreeing to participate in the study was to provide an opportunity for their members to reduce the risk of cardiovascular disease. Some pastors and priests also saw the project as a program with potential for increasing participation and commitment of current church members, and for recruitment of new members.

Another attractive feature of the project to pastors was that while primary prevention of chronic diseases has contemporary relevance for church members, it does not involve contradiction or liberalization of church dogma. There is an easy link between spiritual and physical wellness, and the establishment of this link was a natural rationale for pastoral involvement.

Thus, the program provided a church activity with positive outcome for members. Both Catholic and Protestant pastors emphasized that their jobs made extreme demands on their time and limited resources. The Health and Religion Project required little commitment of their time. We assume

that this increased the attractiveness of the program, and we would caution against generalizing our results to programs that require significant clergy involvement.

### Intervention Theory

Having selected churches as the educational channel, the project staff developed a comprehensive program for each cardiovascular risk factor from a theoretically sound behavior change approach. The early developmental work of the Pawtucket Heart Health Program had included the application of a synthesis of behavior change theories (14). The major theoretical underpinnings were derived from social learning theory (15) and the related concepts of reciprocal determinism and self-efficacy. Reciprocal determinism is the recognition of the idea that each individual is both influenced by and influences his or her social and physical environment. Self-efficacy relates to an individual's confidence that he or she can accomplish a specific goal, such as stopping smoking, losing weight, teaching others.

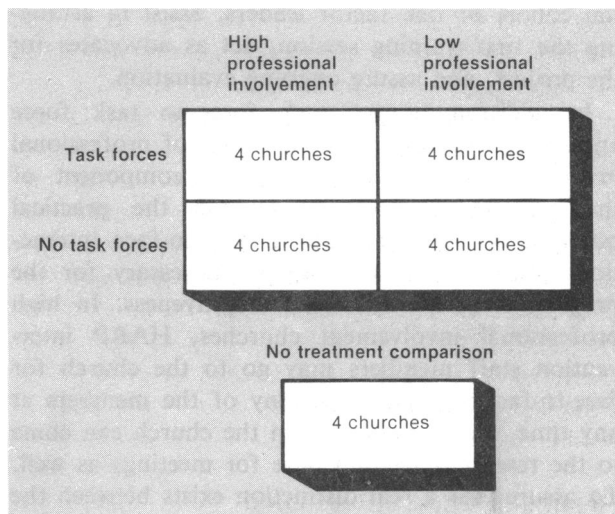
Added to these concepts were problem-solving technology derived from Kanfer's self-control theory (16) and the Goldfried and D'Zurilla model for training in social problem-solving (17). The model also incorporates principles from Behavioral Community Psychology (7, 18) and of the Locality Development Model for Community Organization (19). A more extensive explanation of this theoretical model is available elsewhere (14).

The operationalization of the theoretical model relies on the recruitment and training of volunteers to conduct change efforts in the areas of smoking cessation, nutrition, blood pressure control, physical fitness, and weight loss.

### Variants in Treatment Interventions

In addition to answering the core questions of church receptivity and the overall efficacy of church-based primary prevention efforts using volunteers, the intervention was designed to answer two other major questions. The first is whether program initiation and maintenance are improved when a task force of members is created within participating churches. The second relates to both effectiveness and cost, and it examines whether such volunteer-led programs can be productive with little high-cost professional guidance. As illustrated in the chart, half of the intervention churches received task force training when the effort began in September 1983, while the other half did not. Then half of the task force churches

Figure 1. Research design variables for the Health and Religion Project in 24 Rhode Island churches<sup>1</sup>



<sup>1</sup> Each cell includes a large and a small Catholic church, a Baptist church, and an Episcopal church.

and half of the others received high professional involvement following training, while the other half received a much lower level of involvement.

The primary roles of the pastors or priests in all of the task force churches were to recruit the initial task force members, assist in arranging the training sessions, act as advocates for the project, and assure continuing evaluation.

Task forces were composed of volunteers specifically responsible for the overall management and coordination of the HARP programming in their church. It was not certain that this type of training would be either necessary or desirable since churches are already committee-oriented and such training could be expensive. However, it seemed that the task force concept might be useful in fostering local ownership, participant control, consistency with local norms, and an evaluation orientation. The task forces were also given the major responsibility for the initial recruitment of leaders to conduct risk factor groups and other change efforts in their churches, and to ensure replacements for risk factor leaders who resign. The task force members received approximately 8 hours of training in three 2 1/2-hour weekly sessions by project staff members. The major topics covered included planning and promotion of programs, overall coordination, recruitment of risk factor leaders, and the procedures and importance of evaluation. A total of 71 persons completed task force training; the task forces ranged from 4 to 16 members, averaging 9 per church.

For those churches without task forces, the primary roles of the clergy were to recruit the initial cohort of risk factor leaders, assist in arranging the first training session, act as advocates for the project, and assure ongoing evaluation.

In addition to the task force-no task force approach, we are testing two levels of professional involvement—high and low. This component of the program is included to test the practical question of whether frequent face-to-face interactions (after initial training) are necessary for the program's maintenance and effectiveness. In high professional involvement churches, HARP intervention staff members may go to the church for face-to-face meetings with any of the members at any time, and members from the church can come to the research-program base for meetings as well. To assure that a real distinction exists between the high and the low condition, a specific number of face-to-face visits are required by the HARP staff. At least once a month a HARP staff member must meet with church volunteers in high professional involvement churches. HARP staff members also initiate biweekly phone calls with these churches. In the low professional involvement churches, a monthly phone call between HARP and the church suffices as a contact, and all face-to-face contacts are restricted to the official visits that occur at 6-month intervals.

### **Components Common to All Treatments**

In all four of the intervention conditions (16 churches), volunteers were recruited from within the church membership by task forces if they existed and by the pastor or priest in the other condition. These volunteers were trained to serve as risk factor leaders and carry out risk factor reduction programs in the major cardiovascular risk factor areas.

Risk factor leaders participated in a minimum of 12 hours of training composed of four 3-hour sessions conducted over a 1-month period. The final session included a written and a performance examination. Passing these certification criteria was required for further participation as a risk factor leader. HARP recommended that two persons from each church be trained in each risk factor area, a total of 10 per church. While each new specialist is primarily responsible for his or her own risk factor area, the specialist is encouraged to work with the others to coordinate their efforts across risk factor programs. In addition to recruiting for and leading small group lifestyle change programs, these risk factor leaders are also

taught how to identify, plan for, and implement environmental changes in the church and in the home to support lifestyle change efforts, for example, providing low-fat and low-sodium food choices at church suppers, teaching members how to provide reinforcement for others attempting change and avoiding negative reactions such as "kidding". They also are to serve as active health promoters throughout the year, distributing health related information to their church membership.

To assure continuity of the program, an additional duty of the task force members and risk factor leaders is to help recruit new leaders for their particular areas. New leaders are trained primarily by apprenticeship with the more experienced risk factor leaders and through written materials. Testing and certification of these new leaders takes place during the official staff visits. These formal visits by HARP staff members are scheduled for every intervention church once every 6 months. During this visit, progress of the previous 6 months is also detailed, plans for the next 6 months discussed, and volunteers given recognition for service.

### **Evaluation**

Program evaluation consists of a random sample survey and frequent shorter term measures of the process of implementation and the effectiveness of various components. Also included is an extensive profile of each church compiled by an anthropologist through lengthy interviews with the pastors and priests before the program was initially implemented.

The surveys were designed to assess the overall cardiovascular risk factors of the entire congregation and changes over time. The baseline survey was conducted in each church during the 2 weeks prior to the beginning of training, with post-tests 12 and 36 months later. The sampling frame includes all 18-64-year-olds on the most up-to-date church membership (formal and informal) rolls in September 1983.

Since the primary focus of HARP is a change in the status of cardiovascular risk factors of church members, the most critical measurements are blood pressure, blood lipids (LDL, HDL and total cholesterol), smoking status, levels of physical fitness, and body mass index (height in centimeters squared). In addition to the physiologic assessments, an interview-administered questionnaire includes self-report of smoking behavior, dietary habits, attempts during the previous 12 months to change each risk factor, social

support questions, estimate of physical activities, and level of participatory activity within the church. All this measurement requires a total of approximately 40 minutes per person and is conducted during the same 2-week period each year for each church.

The data that are gathered more frequently and the measures of shorter term impact include such assessments as self-reported change of participants, course evaluations, follow-up measurements of blood pressure, and process notes on all telephone and face-to-face contacts between staff and volunteers. Problems that arise and their solutions are also documented. The anthropologist's profiles have been used to classify each church on a number of dimensions such as past history with health programming, decision-making structure and styles, pastoral interests, types of membership and changes, factions in the congregation, and the perceived outreach goals of the church.

### Conclusions

In summary, it appears that the enthusiastic response of the churches to this particular research project bodes well for the receptivity of churches to participating in other research. Even more importantly, the positive responses, both initially and during the first 30 months of programming, seem to indicate that churches may have strong potential as sites for major health promotion activities. This potential has wide implications, particularly in primary prevention where cost effectiveness is at a premium and where reaching large numbers of individuals is a necessity. The establishment of health promotion programs in religious settings may further help assure long-term maintenance of the behavior changes with the potent social support networks churches may offer. Finally, of course, few other institutions in our society allow such convenient access to entire families as do churches. Thus, the types of behavior change being advocated for the primary prevention of chronic diseases (including both heart disease and cancer) that require major nutritional and other types of proximal environmental changes should find churches to be appropriate catalysts of change.

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