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I am submitting herewith a dissertation written by Steve Michael Dorman entitled "A Study of Health Promotion Programs of Selected Tennessee Employers." I have examined the final copy of this dissertation for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Doctor of Philosophy, with a major in Health Education.

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A STUDY OF HEALTH PROMOTION PROGRAMS OF
SELECTED TENNESSEE EMPLOYERS

A Dissertation
Presented for the
Doctor of Philosophy
Degree
The University of Tennessee, Knoxville

Steve Michael Dorman

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If thou criest after knowledge, and
liftest up thy voices for understanding;
If thou seekest her as silver, and
searchest for her as for hid treasures;
Then thou shalt understand the
fear of the Lord, and find the knowledge
of God.

For the Lord giveth wisdom: out
of his mouth cometh knowledge and
understanding.

The Proverbs of King Solomon
2:3-6

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ABSTRACT

The primary purpose of this study was to assess the current status of health promotion programs in order to develop a profile of the health promotion programs conducted by employers with over 100 employees in the state of Tennessee. Secondary purposes were to report the perceived effects of these programs on selected variables, to report the effects of selected variables on programs, and to project industrial health promotion needs in Tennessee.

This study consisted of a telephone survey of 226 randomly selected employers in the state of Tennessee. The listing was secured from the Tennessee Department of Employment Security with the assistance of the Tennessee Department of Health and Environment. Telephone interviews were conducted by the researcher making use of an instrument used previously in a similar study in California and developed by Fielding and Breslow.

The analysis of the findings of this investigation led to the following conclusions:

1. Health promotion programs in Tennessee consist primarily of accident prevention services.
2. Most Tennessee employers do not know what their health promotion program costs.
3. Health promotion programs in industry in Tennessee are primarily implemented by top management support or initiative.

4. Of all agencies available, the American Red Cross seems to be the most frequently used by Tennessee employers.
5. Tennessee employers perceive that health promotion programs benefit employee health and morale, and reduce accidents.
6. Health promotion in industry in Tennessee is a relatively new endeavor and a number of industries have no idea where to go for technical advice in implementing a program.

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CHAPTER I

INTRODUCTION

Health education has been called the key to a vigorous work force. The workplace provides an excellent opportunity for health promotion activities, and with increasing frequency, employers are providing such activities for their employees (Strasser, 1980, p. 25).

Consider the following:

1. The nation's businesses currently pay about half of the rapidly inflating health care bills in excess of \$34 billion for insurance programs (Berry, 1981, p. 8).
2. Experts estimate that there are between 2.5 and 3.0 million alcoholics on the job with a financial loss of up to \$7.5 billion (Berry, 1981, p. 20).
3. Xerox Corporation has estimated that it costs \$1,500,000 to replace a top executive lost due to premature mortality, and a Fozonto Insurance Company has estimated that the premature loss of a manager costs \$8,500 and \$4,500 for a clerical worker ("Company Health Programs Pay Off," 1983, p. 1).
4. In 1975 more than 140 million work days were lost to heart disease in United States industry (Chenoweth, 1981, p. 22).
5. Smoking costs the employer \$3 per day per smoking employee according to one source. This cost is based upon insurance cost, sick days, absenteeism and lost productivity (Danaher, 1980, p. 149).

6. Stress disorders cost business an estimated \$17 to \$25 billion each year in lost performance, absenteeism and health benefits (Marcotte and Price, 1983, p. 8; Appelbaum, 1980, p. 73).

The monetary factor alone is perhaps a major motivator for employer involvement in health promotion of employees, but there are other reasons. Studies have shown that a much higher degree of involvement occurs in health services offered at the worksite as compared to other locations (McGill, 1979, p. 34). There are several reasons for this increased involvement. One is that the service is convenient. Also, most company health services are offered to the employee at little or no cost. Finally, the quality of service offered is considered to be good or the company would not have "bought it."

The workplace also provides advantages that are thought to be critical to health behavior change (McGill, 1979, p. 34). The workplace provides social support for changes and facilitates the use of mass communication. There is also the advantage of being able to apply long-term intervention for health improvement.

There are administrative and economic advantages for using the workplace as a setting for health promotion activities. Since over half of the adult population goes to a fixed place of work daily, there is an excellent opportunity to reach a great majority of the population. The established structures and relationships of a company setting can facilitate the delivery of effective health promotion activity (McGill, 1979, p. 4).

There are a variety of options that are available to the

employer wishing to improve employee health. One option is to use outside facilities. Companies which choose this option usually pay all or part of the employee's expense for membership at a local YMCA, health club, or spa (Health Dividends, 1983, p. 11).

Another option which some companies employ is to use outside experts to conduct a program. Companies may use outside voluntary or for-profit agencies to visit their facilities and provide health promotion activities for employees (Health Dividends, 1983, p. 11).

A third option which some companies consider is to develop "in-house" resources. Some companies staff health promotion departments to provide ongoing programs for employees. Such staff might include educators, physicians, and nurses. Size of the program is dependent upon the extent to which the program wishes to invest, and facilities may be as elaborate as to include running tracks, swimming pools, and Nautilus equipment (Health Dividends, 1983, p. 11).

Future trends of health promotion suggest an even brighter future. Results of a recent survey of national leaders in health education predicted that a majority of major industries in the United States would employ health educators to implement wellness programs between the years 1985 and 1995 (Toohey and Shirreffs, 1980, p. 15; Golaszewski, 1982, p. 32). A consensus of those surveyed also say that industries employing health educators will receive reduced group health insurance rates between the years 1990 and 2000 (Toohey and Shirreffs, 1980, p. 15).

A. NEED FOR THE STUDY

There has been an increase in health promotion activities conducted in industry in recent years. Due to this rapid increase of activity, there has been very little research as to the classification and evaluation of these programs. While many companies are said to conduct a wide range of health promotion activities, others report only minimal health promotion activities. Some companies have their own personnel to conduct these activities, other companies employ the services of an outside consultant or agency. Elaborate facilities, including gyms, running tracks, swimming pools, and health clinics are constructed on the worksite by some companies, while others choose to sponsor employee memberships at a local health spa or YMCA/YWCA.

Ultimately, there must be a systematic evaluation as to the cost effectiveness of these varying approaches to health promotion in industry. A first step in this process, though, must be a thorough analysis and classification of what is presently being offered by industry in the way of health promotion activities to employees.

Such an analysis would reveal which companies have health promotion activities for their employees, what kinds of activities and to what extent they are being offered, who is conducting these activities, and what benefits these activities have brought to the workplace.

While this type of information has been collected from industry in other states, until now there has been no effort to compile such information on industry in the state of Tennessee. In fact, only one

other southern state, South Carolina, conducted a rather limited study concerning health promotion activities in its industry.

The Tennessee Department of Health and Environment, Health Promotion Division, is actively involved in acquiring information as to the health status and health practices of individuals within the state. The Department has collected information from individuals via a household telephone survey, and have expressed a desire to collect information from industry regarding health promotion practices. Such data would yield information on how the Tennessee Department of Health and Environment could better serve the individuals and industries in the state.

It is with these needs and others in mind that this study was undertaken.

B. PURPOSE OF THE STUDY

The primary purpose of this study was to assess the current status of health promotion programs in order to develop a profile of the health promotion activities conducted by employers with more than 100 employees in the state of Tennessee. Secondary purposes of the study were to report the perceived effects of these programs on selected variables, to report the effects of selected variables on programs, and to project the industrial health promotion needs in Tennessee.

C. RESEARCH QUESTIONS

This study attempted to address the following questions:

1. What types of health promotion programs are offered by Tennessee employers?
2. What is the estimated dollar cost per employee to conduct these programs?
3. Who within the organization/company is primarily responsible for conducting the health promotion program.
4. Which outside organizations, both voluntary and for-profit, does the employer use to complement or implement the health promotion program?
5. What is the relationship between employee number and availability of health promotion programs?
6. What are the perceived effects of health promotion programs on areas such as reduced absenteeism, reduced employee turnover, reduced accidents, improved employee morale, or reduced health insurance rates?
7. What type of health promotion programs do employers in Tennessee anticipate starting in the future?

D. DELIMITATION OF THE STUDY

This study was delimited to employers in the state of Tennessee whose unemployment insurance tax records were on file with the Tennessee Department of Employment Security as of March, 1984. A

further delimitation was accuracy or inaccuracy of the phone numbers used to contact these employers.

E. LIMITATION OF THE STUDY

This study was limited to employers with over 100 employees in Tennessee at the time of the study. The total number of employers in the population was 2,260. A 10 percent sample size was chosen as recommended by Champion (1981, p. 31) and by officials of the Tennessee Department of Health and Environment (Scheer, 1984).

F. DEFINITION OF TERMS

Employee. The individual who earns wages and compensation for services rendered to the employer.

Employer. The company, business, or industry.

For-profit organization. Any organization which charges a fee for profit rendered such as the YMCA, health consultants, or hospitals.

Health promotion. Any combination of health education and/or safety or related organization, economic, or political intervention designed to facilitate behavioral or environmental change conducive to health and/or safety. This does not include health insurance or direct health services.

Health promotion activity. Any activity which facilitates behavior conducive to health and/or safety, not including health insurance or direct health services.

Not-for-profit organization. A community agency which performs

activity without a fee--for profit (i.e., American Red Cross or the American Health Association).

G. ORGANIZATION OF THE STUDY

The study is organized as follows:

Chapter I contains the introduction and includes the purpose of the study, research questions, delimitations of the study, limitations of the study, definition of terms, and organization of the study.

Chapter II contains a review of related literature including an introduction, literature related to content, literature related to methodology, and literature related to both content and methodology.

Chapter III contains the methodology and procedure of the study and includes an introduction, selection of the sample, selection of the instrument, data collection procedures, and methods of data analysis.

Chapter IV contains the analysis of the data.

Chapter V contains the summary, conclusions, and recommendations of the study.

Chapter VI is the epilogue of the investigator.

CHAPTER II

REVIEW OF LITERATURE

This chapter consists of a review of literature related to the study. It is divided into three broad categories. Part A is a review of literature related by content to the study and descriptions of typical health promotion activities in industry. Part B is a review of literature related to telephone survey research methodology used in the study. Part C is a review of literature which was related to methodology and content and will focus on similar health surveys in industry.

A. CONTENT

Research of health promotion activities in industry has centered around establishing cost effectiveness justification for activities, and strategies for increasing employee involvement, and effectiveness of programs.

Implementation of health education activities have yielded favorable cost benefits in several foreign countries (Corroll, 1980, p. 35). In the Soviet Union and Japan, for example, physical activity at the workplace, including morning exercises, a five-minute exercise class held twice daily, health building groups, and hiking, proved to produce favorable socioeconomic benefits. The study showed a rise in productivity, increased working capacity and less fatigue, improved motor coordination, less vulnerability (two or three times) to

industrial accidents, fewer doctor visitations (four times), lower morbidity (22.5 percent compared to 60 percent of inactive workers), less complications in cases of chronic illness, and less relapse, all of which resulted in substantial addition of productive work days and profits (Corroll, 1980, p. 35).

Prior to 1970, a ship building company in Sweden had company losses totaling \$13 million with a 50 percent turnover rate in the work force. Determined to make a change in employee status, the company provided innovations for the health and physical recreation of their employees. The improvements included an employee recreation center, addition of company physicians, and decision-making advising councils made up of a cross section of company employees. These improvements contributed to a doubling of company profits in 1972 and 1973 (Corroll, 1980, p. 36).

In Canada, two insurance companies were the sites of experiments conducted in employee fitness. One company's employees were exposed to a comprehensive fitness and life style awareness program, the other company's employees were used as the control in which no such program existed. The researchers concluded that the company with the health promotion program netted a savings of \$84 per individual in medical and hospital costs. One interesting aspect of this study was that reduction of medical costs was seen among those who did not take part in the fitness program. It appears that the availability of the program made all employees more aware of their health. This program also yielded other benefits, resulting in a 20 percent total reduction in absenteeism and a substantial drop in turnover rate. The high adherence to the

program showed a 42 percent decline in absenteeism. The turnover rate was 1.5 percent in the company with the health education program compared to 15 percent in the company without a program. With an average cost of \$6,500 to train a new employee, this reduction was projected to be \$510,000 annual savings by the company ("Company Fitness Programs--A Good Investment," 1981, p. 114).

Smoking alone has been estimated to be responsible for 20 percent of all cancer, 25 percent of all cardiovascular disease, and 40 percent of all respiratory disease. Luce and Schweitzer (1978, p. 569) have estimated that cigarette smoking costs the country \$19 billion attributable to lost production alone. It has been estimated that smoking costs \$83 per day per smoking employee based on insurance cost, sick days, absenteeism, lost productivity, and maintenance costs. The Texas operating division of Dow Chemical Company found that work days lost by smokers cost the company an estimated \$500,000 per year. This resulted in the creation of an innovative smoking cessation program. The program was based on recruitment and change incentives. At the end of the program 76 percent of the 400 employees who began the program were abstinent, resulting in a substantial decrease in lost work days by smokers (Danaher, 1980, p. 154).

It has been estimated that problem drinking costs industry nearly \$8 billion in lost time, job performance, and associated illnesses. Several studies have been done to establish the savings that can result from the establishment of an alcohol and drug abuse program. Such a study was done at General Motor's Oldsmobile Division. After the implementation of the alcohol/drug education and rehabilitation

program, the division noted a savings of over \$226,000 yearly as a result of reduction in lost man hours. Indirect cost benefit savings were computed on indicators such as improved job performance and reduction of accidents (Dupont, 1980, p. 142).

Industrial health programs have been credited with decreasing monies paid out in worker's compensation insurance. A study conducted at The University of Michigan among machinery manufacturing firms and general merchandising stores found that among the machinery manufacturing firms, those companies not having an industrial health program paid \$.93 per \$100 of payroll. Among the general merchandising stores, the cost of worker's compensation was \$.54 per \$100 for those not having industrial health programs compared to \$.37 per \$100 payroll for those with such programs (Follman, 1978, p. 194).

Similar results were found in a study conducted by the Olin Mathieson Company at the company's North Carolina plant. Within a nine-year period of time after implementation of an industrial health program for the company's 2,400 employees, the workers's compensation claims were half the rate for all other places in North Carolina. Also found was a 30 percent reduction in insurance claims, a 10 percent reduction in absenteeism, and the rate of turnover was half the national average. Lost time accidents decreased from 60 to 9 days in one year. Accidents showed a substantial decrease also (Follman, 1978, p. 194).

Haskell and Blair (1980, p. 113) have extensively studied ways to increase employee recruitment and adherence to health promotion programs in industry. Their findings revealed that volunteer

participation in a supervised program is positively related to socio-economic status and that people in higher social classes are more educated and may have more free time to participate in health programs. For this reason Haskell and Blair have advised industry to establish health programs at times flexible for participation of all employees in industry. They also state that motivation to exercise or participate in a health program may be for reasons other than health, and that companies wishing to increase involvement should emphasize such benefits as a change of routine, enhancement of self-image, and positive social contact.

Feldman (1983, pp. 22, 23) has also studied strategies to improve employee participation. Feldman emphasized the use of social support systems to reduce non-compliance and urges companies to involve spouses, friends, etc. in health programs. Psychological techniques such as self-monitoring, contracting, and tailoring of health programs to meet individual needs were all found to improve compliance according to Feldman. Reinforcement and management support also contributed to employee compliance in health programs and Feldman said that money, gifts, or praise can function as incentives for employee compliance in health programs.

Company Programs

Employers have approached health prevention in various ways. This section contains some of the innovations of several companies.

Dow Chemical. Dow discovered that work days lost by smokers cost the company estimated \$500,000. In an effort to reduce these

costs, they instituted a lottery. Every month of non-smoking earned the employee one chance to win a boat and motor valued at \$2,400. In another contest, \$1 weekly and \$50 quarterly bonuses were given to abstinent ex-smokers (Danaher, 1980, p. 154).

Hospital Corporation of America. The Hospital Corporation of America instituted what they called the HCA Aerobic Challenge. The goal was for employees to collectively log enough mileage through 12 months of bicycling, running/walking, and swimming to take an imaginary trip around the world. As an incentive for participation, the company reimbursed employees for their total mileage. For example, bicycling earned \$.06 per mile and swimming earned \$.96 per mile ("HCA Aerobic Challenge," 1980).

Kimberly Clark Corporation. In 1983 the Kimberly Clark Corporation had a \$25 million health services center with a full time staff of 15 and an annual operating budget of \$600,000. The company offered its employees health hazard appraisals, health education and counseling, physical examinations, and exercise programs (Marcotte and Price, 1983, p. 6).

Johnson and Johnson. Johnson and Johnson implemented a program entitled Live for Life. This program offered employees a wide range of health enhancement programs. Program objectives included improvements in fitness, nutrition, weight control, stress management, smoking cessation, and health knowledge. The staff serves about 8,000 employees in active programs (Parkinson, 1982, p. 90).

New York Telephone Company. The New York Telephone Company undertook an integrated approach to offering its health programs. it focused on the physical, mental, and emotional needs of the individual. The total projected annual savings for the fully implemented program are estimated at \$24 million. The company also estimates that the program will save the lives of 51 employees annually ("Wellness: An Emerging Corporate Planning Strategy," 1982, p. 6).

Sentry Life Insurance Comapny. At Sentry Life Insurance Company, employees and members of their immediate families may use the physical fitness center regularly. The center offers a 25 meter pool, full-sized gymnasium, racquetball and handball courts, an in-door golf driving range, and a cardiovascular fitness laboratory. Special features include a "quiet room" for relaxation and stress reduction, and a variety of health education courses centered around fitness (Parkinson, 1982, p. 103; Cook, Walden, and Johnson, 1979, p. 5).

B. METHODOLOGY

This section reviews literature related to the methodology of the study. Dillman (1978) examined at length the advantages and disadvantages of telephone survey research. One advantage of telephone research identified by Dillman was the specific person at whom the questionnaire is aimed can easily be identified by telephone, whereas with the mail survey technique it is more difficult to make sure that the appropriate person receives the survey instrument (Dillman, 1978, p. 45).

A similar advantage to telephone survey research is that callbacks can be made repeatedly until the correct respondent is located. Dillman points out that "gate keepers" such as secretaries or receptionists may prevent a mail questionnaire from reaching the desired person. Also with the mail survey there is a lack of immediate feedback as to the location of the instrument, whereas with telephoning this information can be gathered with relative ease (Dillman, 1978 p. 47).

Dillman also reports that response rates to telephone surveys of the general public can be increased. The highest response rates, over 90 percent, are obtained when respondents receive a prior letter informing them that they would be called at a later time (Dillman, 1978, p. 51).

Closely associated with this, Dillman points out that mail questionnaires present a more serious concern about response selectivity than does the telephone technique. One reason is that recipients of the mail questionnaire have an opportunity to examine it in its entirety before deciding to respond. A second factor, Dillman points out, is that mail questionnaires must be responded to by written answers. Verbal response to oral questions is usually less difficult than having to read questions, follow directions, or write answers. When a refusal occurs in a telephone interview, the interviewer can make limited judgments about the individual's attributes, or may even get a specific reason for refusal. Researchers who use the mail survey method have no way of determining non-respondent characteristics, because there is no personal contact (Dillman, 1978, p. 53).

Typically, for longer surveys, the mail method has been preferred due to the cost-savings. However, length may be a factor in determining response rates. Evidence from several studies has revealed that once people are on the telephone, the length of the interview does not seem to be a problem. Colombotos (1969) reported having no difficulty with hour long interviews for a sample of physicians. And in a national survey on consumer behavior with interviews averaging 30 minutes, it was reported that only 4 percent of the sample terminated the interview after it had commenced (Dillman, 1978, p. 55).

The telephone survey method also presents some advantages to the types of questions that can be asked. With the telephone technique, open-ended and probing questions can be used, such as "Is there anything else?" or "Are there other reasons?" Also screening questions to assure that the respondent is eligible to meet study criteria may be asked with relative ease on the telephone. Sequencing of questions can be controlled by the telephone method, whereas with the mail survey the respondent is free to examine the entire survey prior to responding to any of the questions. Tedious questions or those which seem insignificant to the respondent may be looked over in the mail survey technique, however, the telephone interviewer may elicit a response to these questions (Dillman, 1978, p. 59).

The telephone survey method also allows the respondent to ask questions for clarification of survey items that seem unclear. Whereas with the mail survey technique there is an absence of immediate interviewer feedback (Dillman, p. 61).

In an effort to develop optimal telephone procedures, Miller and

Cannell (1982) studied the effect of experimental techniques in personal interviewing. The experimental techniques used by Miller and Cannell were commitment, instructions, and feedback. Commitment of the respondent was gained by reading a commitment statement to the respondent and asking for his/her agreement. Detailed instructions were also given as to how to answer questions and general goals of the study. Feedback was given by the interviewer in the form of positive feedbacks for answering the question in a way that fulfilled the goals of the question. These techniques were designed to better inform respondents about reporting tasks and to motivate them to perform tasks well. The findings of the study suggest that these procedures can improve reporting in telephone interviewing.

Gunn and Rhodes (1981) have researched the effects of monetary incentives on stimulating response rates to telephone surveys. In a Center for Disease Control sponsored study, Gunn and Rhodes found that a 58 percent response rate could be gained from physicians without the use of financial remuneration. By promising to pay the physicians \$25 for their time, the response rate was increased to 70 percent and by offering a \$50 incentive, response rates were increased to 77 percent (Gunn, 1981, p. 113).

Several other studies have examined effects of variables on household surveys but do not apply to this study. For example, Rogers examined quality of responses as they are effected by varying interviewing strategies in household interviews (Rogers, p. 51). Dillman, Gallego, and Frey have examined methods of reducing refusal rates in household interviews and compared their effectiveness (Dillman,

Gallego, and Fry, p. 77). And Vigderhaus studied the effects of time of day and season upon response rates in household surveys (Vigderhaus, 1981, p. 250).

C. METHODOLOGY AND CONTENT

This section is concerned with literature which is similar in content and methodology to the study.

As early as 1925 there was research concerned with the types of health education programs offered by insurance and other businesses for their employees. Schirmer collected data by sending letters of inquiry to 51 of the largest life insurance companies and 213 other business concerns. The focus of the survey of the insurance companies was health promotion among policyholders. It revealed 21 companies were doing nothing to forward good health, 26 were offering periodic medical exams to policyholders who wished to avail themselves of them, and 29 were carrying on systematic health education as a means of producing longevity among policyholders (Schirmer, 1979, p. 14).

Of the business concerns surveyed, 20 were doing nothing in the way of medical examination or health education of their employees. One hundred sixty-one companies were offering periodic medical exams and health education to employees wishing to avail themselves of them (Schirmer, 1979, p. 14).

In 1970, the Conference Board, an independent, non-profit institution for scientific research in the fields of business economics and business management, conducted a survey on a crosssection of United States firms in a wide range of industrial categories as to data on

drug abuse and drug abuse programs in industry. There were 222 firms participating in the survey--131 manufacturing companies and 91 non-manufacturing companies--ranging in size from 250 to 250,000 employees. Only 33 percent of the companies responding reported providing or referring medical treatment or counseling to the drug abusing employee. Thirty-six percent reported not knowing what to do with the drug abusing employee and 22 percent reported discharging the employee (Rush, 1971, p. 6).

In 1972, the Conference Board conducted another survey in which 858 companies responded. The survey of company health programs was based on a mail questionnaire sent to a stratified probability sample of 2,240 companies and a follow-up mail and telephone survey of non-respondent companies. This study included companies employing over 500 employees as reported by Dun and Bradstreet's Million Dollar Directory. About one-third (34 percent) of companies responding answered affirmatively to the question: "Does your company have a program of health education for employees?" Company size was revealed as the chief discriminant in this area, with only 15 percent of the companies who employed under 1,000 reporting having had such programs. In the 1,000-2,499 employee group, 45 percent reported having health education programs and in the 5,000 or more employee group, 58 percent reported having health education programs ("Industry Roles in Health Care," 1974, p. 49).

The type of employer or industry was found to be a factor in availability of health promotion activities. Only 10 percent of the wholesaling-retailing firms reported having health education programs.

At the opposite end of the spectrum, 63 percent of the utilities and transportation industries reported such activities. Health education programs were reported by 53 percent of the manufacturing firms, 42 percent of the financial firms, and 22 percent of those firms classified as miscellaneous ("Industry Roles in Health Care," 1974, p. 49).

A report published in 1975 by the National Institute for Occupational Safety and Health revealed the results of a survey on hearing conservation programs in industry. Two thousand, seventy-four companies (48 percent return) responded to a mail survey followed up by site visits. The major categories of national industries surveyed included manufacturing, construction, transportation, and mining. Over 23 percent of those responding indicated that they had hearing conservation programs for employees. Thirty-three percent of mining companies, 29 percent of manufacturers, 10 percent of the transportation industry, and 2 percent of the construction firms reported having employee hearing conservation programs (Schmidek, 1975, p. B-3).

More recently, in 1977, the Washington Business Group on Health reported the results of its survey of employee mental wellness programs. Of the 100 companies that responded to the questionnaire, 68 have a program that assists employees with personal problems that affect job performance, and 10 reported planning to initiate such a program in the near future. Of the 68 companies reporting offering mental health programs, 100 percent reported having alcoholism counseling services, 85 percent reported having drug abuse programs, 74 percent had family crisis counseling, 72 percent had psychiatric programs, and 48 percent had financial counseling services.

Seventy-seven percent of these programs reported providing ongoing supervisor training, 94 percent provide consultation to management or supervisors in dealing with problem employees, and 73 percent provide ongoing educational programs aimed at increasing awareness of the effect of personal difficulties on work performance (Kiefhaber and Goldbeck, 1980, p. 21; Kiefhaber and Curran, 1980, p. 55).

In 1979, the Washington Business Group on Health (WBGH) published a report on the results of a survey of its 160 members for the purposes of identifying those employers engaging in wellness activities (Kiefhaber, Goldbeck, and Weinberg, 1980). There were 59 companies which responded to the survey. Information was collected on 13 program categories: education, nutrition, obesity, control, smoking cessation, fitness/exercise, on-the-job safety, off-the-job safety, immunizations, CPR, hypertension, breast self exam, stress management, and special diseases. Ninety-two percent of the responding companies use nurses to provide education/promotion programs, and over 60 percent of the firms responding employed a full-time physician. A wide variety of voluntary and for-profit organizations were reportedly utilized by these firms, with 73 percent reporting having used the American Red Cross, 63 percent had used the American Cancer Society and the American Heart Association. Information was also gathered as to the type of communication methods used in each program (posters, films, slides, etc.) and to evaluation criteria used for each program.

It was also found that most of the health promotion programs were initiated by medical departments with top management supporting the initiation, and that a large percentage of the programs had been

started after 1975 and that most had been started after 1970. A particularly revealing aspect of the survey was the perceived program problems. Evidence of effectiveness ranked as the most severe problem with low levels of participation following. Other problems also mentioned were staffing of program, referrals, and confidentiality.

In 1979, the National Interagency Council on Smoking and Health (NICSH) conducted a survey aimed at top-level management and medical officials of 3,000 United States companies. There was a 30 percent response rate to the survey which sought information regarding smoking policies in the workplace and health education programs geared to help employees stop smoking. Of those industry officials responding, 15 percent report having programs to encourage and assist employees to quit smoking. One-third of the respondents indicated an interest in developing or expanding smoking programs for their workers, and 70 percent of these indicated they would like assistance in doing so ("Smoking and the Workplace," 1980, p. 31).

Fitness Systems Incorporated published a report in 1980 of the results of a survey of physical fitness programs in business and industry. Mail surveys were sent to Fortune magazine's top 300 industrials, and top 50 of each of the life insurance, commercial banking, utilities, retailing diversified financials, and transportation business sectors. Of the total 600 sent, only 130 (22 percent) were returned. Most of the information gathered dealt with physical fitness activities alone although employers were asked as to the availability of an alcohol and drug, stress, smoking, and diet program. Of 130 companies responding, 34 reported having fitness programs, and

18 reported having plans for initiating one in the near future ("Corporate Fitness Programs," 1980, p. 2)

Growth and establishment figures collected in this survey revealed similar findings as the Washington Bureau Group survey, with 79 percent of the programs having been initiated after 1970. When asked to identify benefits of fitness programs, 70 percent of the respondents said that such programs improved health and/or reduced absenteeism. Thirty-five percent said that these programs increased productivity, boosted morale, and reduced turnover.

Chovil et al. (1983) conducted a mail survey of occupational health and safety practices in industrial manufacturing plants in South Carolina in 1982. Plants employing more than 50 employees were surveyed with a response rate of 60 percent. The primary interest of this survey was occupational health services. Health promotion activities, referred to as tertiary services were also a subject on the survey. Five programs specifically were asked about on the survey-- alcohol and drug abuse, smoking cessation, diet counseling, stress counseling, and physical fitness. Alcohol programs were reported as the most widely available type of program being available in 38 percent of the state workers over all. Other health promotion type programs were not readily available to employees except those in paper and petrol industries. According to Chovil, "health promotion--preventive medicine programs have as yet found little acceptance in South Carolina even in larger industries" (Chovil et al., 1980, p. 601).

In 1983, the Puget Sound Health Systems Agency surveyed industry on the Seattle-Tacoma, Washington, areas in an effort to find out what

businesses were doing to promote health among their employees. While the survey instrument was not very detailed, it did seek an answer to such questions as what programs are offered, what are the perceived long- and short-range benefits, program costs, and future plans. Results of this survey are currently not available, but should be compiled for publication in early 1984. In addition, the Puget Sound Health Systems Agency also plans to survey providers as to the services that are presently offering employers seeking outside help (Health Workings, 1983, p. 7).

A survey of health promotion programs sponsored by California employers conducted by Fielding and Breslow has served as a model for this study. Fielding and Breslow developed a very extensive telephone survey instrument. In 1981, experienced telephone interviewers called each randomly selected employer and inquired as to the health promotion activities being offered. One thousand companies were randomly selected from a complete listing of over 13,000 California employers with more than 100 employees. Of the 1,000 selected, only 424 companies completed the interviews due to refusals, inaccurate phone numbers or failure to meet study criteria.

Of the 424 employers completing the survey, 332 (78.2 percent) offered at least one health promotion activity, with accident prevention and CPR programs being the most frequently offered by 64 and 52 percent of the companies respectively. Eighteen percent of the companies reported alcohol/drug abuse programs and mental health counseling.

About three-quarters of the activities were reported to have

been in place for less than six years and one-half for less than four years. Main group or department responsible for initiating the programs by far was the personnel department with top management and safety groups following. Increasing number of employees correlated positively with the likelihood of having a health promotion program. Over 98 percent of the 5,000 plus employee group reported at least one program whereas 66 percent of the 100-249 group reported one program. Reasons cited most often for not having existing activities were "too costly," and "no need/employees healthy" (Fielding and Breslow, American Journal of Public Health, 1983, pp. 538-540; Fielding and Breslow, Public Health Reports, 1983, p. 27).

D. SUMMARY

This chapter has attempted to review the literature related to the study. It was divided into three broad categories for ease of reading. Part A consisted of a review of literature related to the content of the study focusing mainly upon reports of health promotion in the workplace and descriptions of a few industrial health promotions programs. Part B contained a review of the literature as it relates to the methodology of the study. Emphasized here was the telephone survey research methodology, particularly that of Don Dillman. Literature related in content and methodology of the survey was reviewed in Part C. This section contained data from several similar studies done in Washington, D.C., Washington state, and the model study from which this one was replicated by Breslow and Fielding in California.

CHAPTER III

METHODOLOGY AND PROCEDURES

A. INTRODUCTION

The primary purpose of this study was to assess the current status of health promotion programs in order to develop a profile of the health promotion programs conducted by employers with over 100 employees in the state of Tennessee. Secondary purposes of the study were to report the perceived effects of these programs on selected variables, to report the effects of selected variables in programs, and to project the individual health promotion needs in Tennessee. The methodology and procedures used in the study are discussed in this chapter in the following sections: Selection of the Sample, Selection of the Instrument, Data Collection Procedures, and Method of Data Analysis.

B. SELECTION OF THE SAMPLE

A complete listing of all Tennessee employers with more than 100 employees was obtained from the Tennessee Department of Employment Security. This list was based upon unemployment insurance tax records as of March 1984. The listings obtained were stratified according to number of employees into five cells (100-250, 250-500, 500-1,000, 1,000-2,500, 2,500 and up). Each stratification contained the number of listings as shown in Table 1.

TABLE 1

DISTRIBUTION OF POPULATION AND SAMPLE TO EMPLOYEE
NUMBER REPORTED BY TENNESSEE STATE DEPARTMENT
OF EMPLOYMENT SECURITY

Employee Number	Population Frequency	Sample Frequency	Percent
2,500 and Above	41	4	1.8
1,000-2,499	131	13	5.8
500-999	234	23	10.2
250-499	510	51	22.6
100-249	<u>1,348</u>	<u>135</u>	<u>59.6</u>
Total	2,264	226	100.0

A total of 2,264 employers appeared on the list. The listings of each stratification were numbered chronologically and a set of random numbers were generated from the Table of Random Numbers as found in Basic Statistics for Social Research by Champion. A 10 percent sample was taken from each strata, in agreement with Champion (p. 31) and officials of the Tennessee Department of Health and Environment to ensure proportional draw to size, making a total sample size of 226 employers.

C. SELECTION OF THE INSTRUMENT

The instrument selected for this survey (see Appendix A) was one which had been developed for a similar type survey conducted in

California and reported by Fielding and Breslow (1983). Permission was granted by Fielding for use of the instrument in this study (see Appendix B).

The survey instrument consisted of two parts. The first part contained an introduction and screening tool in which companies that somehow did not fit the limitations of the study were disqualified. In the introduction the company person responding was given the opportunity to make an appointment for a more convenient time to interview.

The second part of the survey was the questionnaire itself in which details about the company's health promotion activities were obtained.

Information regarding validity and reliability of the survey instrument were not available, since it was previously used only once.

The estimated time required to complete the survey interview was 20 minutes.

Several adjustments were made in the instrument following a pilot survey. Fifteen employers were randomly selected from the list in a manner similar to the selection of the study sample described previously. The greatest benefit of the pilot survey was the familiarity which the researcher gained with the instrument and with telephone technique. There were also some more changes in the original instrument due to the pilot study.

The first part of the instrument, the introduction and screening tool, was changed to reflect the involvement of the Tennessee Department of Health and Environment in the study. Also, many of the

screening questions were found not to be absolutely necessary and were somewhat cumbersome, so they were deleted.

In the more detailed section of the instrument some more changes were made. Because the average time for conducting the survey was 30 minutes, an effort was made to decrease time somewhat. Question 13 originally asked employers to rank order programs from highest to lowest. This question was changed, asking employers to rank only the top three and the lowest priority programs. Also, an entire question regarding detailed information on health insurance, but very time consuming, was deleted.

One other change which the researcher found helpful was the distinction between on-the-job programs only and the broader accident prevention programs. This distinction was noted when several employers mentioned that they had "safety" programs which included safety committees and inspections, but did not include involvement of all personnel or information regarding off-the-job safety. With this in mind, the researcher made an effort to distinguish between "safety" programs and accident prevention programs by creating a special key code on the keypunch sheet for each of these. Employers having the on-the-job safety only programs were not asked the more detailed present programs insert.

D. DATA COLLECTION PROCEDURES

The data obtained from the employers were collected during early 1984. Calls were made to the employers from the East Tennessee Regional Office of the Tennessee Department of Health and Environment

(TDHE), on WATTS lines made available by the TDHE. Time of day and day of week varied for each phone call made.

The researcher conducted the interviews of each randomly selected employer. In the event of a busy signal or no answer when dialing, a second attempt was made later in the day, and if still busy, later in the week. If after seven attempts no contact was made due to a busy signal or no answer, the listing was coded as incapable of completion. In the event that the employer was no longer at the phone number given, effort was made to locate the new number. If no number could be located, this was coded as such.

After having successfully reached the employer, the investigator asked to speak to the person in charge of employee health programs, the medical director, or the health benefits director. If no such person was available, the researcher asked to speak to the personnel director. The name of the company person and his/her title was recorded on the survey sheet, and the nature and the purpose of the study was explained and their cooperation requested. If time were of inconvenience to the employer, opportunity was given to make an appointment for interview at a later date. This information was recorded on the survey. If the appropriate individual were not available at that time, this was recorded and a call back was made later. Each participant was given the option not to participate should they have so desired. If the individual refused to provide the information, this was recorded, he/she was thanked, and the call was terminated.

Once the individual most knowledgeable about the organization's health promotion activities was reached, the interview began, first

with the screening portion. If the employer did not have 100 employees in one branch or location, the interview was terminated. If the 100 employees were at another location, other than the one contacted, the individual was asked who would be the person most knowledgeable about that particular branch. Once this person was reached, the interview involving the questionnaire began. The interview lasted approximately 20 minutes. Less time was taken with those employers having no health promotion program, while a greater time was spent with those offering several health promotion programs. An information packet consisting of results of the survey and other resources was sent to each employer who requested it. Data were collected on a keypunch sheet especially designed by the researcher after consultation with keypunch personnel in an effort to facilitate this process (see Appendix D).

E. DATA ANALYSIS

After the data were collected and keypunched, analysis was performed with the assistance of The University of Tennessee Computing Center, making use of the Statistical Package for the Social Sciences-X (SPSS-X). Frequencies of responses to questions were tabulated for the development of a profile of health promotion programs.

Cross tabulations were constructed on various industry variables as they related to program variables.

<u>Program Variable</u>	<u>Industry Variable</u>
Who administers program	Location of industry
Cost per employee	Number of Employees

Types of program offered	Years of existence
Number of years in existence	Type of process industry involved in
Perceived effectiveness	Sex of work force
Use of outside agencies	Race of work force
Future plans	Type of workers (technical, clerical, management)

Degrees of association were computed for the cross tabulations, and chi square and Cramer's V were applied. Statistics were applied at the .05 confidence level. The formula for chi square used was:

$$\chi^2 = \sum \left[\frac{(O_k - E_k)^2}{E_k} \right]$$

where:

O_k = observed frequencies in the kth cell.

E_k = expected frequencies in the kth cell.

Cramer's V was used to measure the strength of the association between two nominal level data. It was computed as follows:

$$V = \sqrt{\frac{\chi^2}{(N)(a-1)}}$$

where:

χ^2 = observed chi square for some r x c table.

N = sample size for the table.

a = smaller number associated with the rows and columns.

The following guide was used to assess the general strength of association coefficients:

- 0 to .20--slight, almost negligible relationship.
- .20 to .40--low correlation, definite but small relationship.
- .40 to .70--moderate correlation, substantial relationship.
- .70 to .90--high correlation, marked relationship.
- .90 to 1.0--very high correlation, very dependable relationship.

CHAPTER IV

ANALYSIS OF THE DATA

A. INTRODUCTION

This chapter contains an analysis of the data which were collected from the telephone survey of 226 randomly selected employers in the state of Tennessee. The purpose of the survey was to assess the current status of health promotion programs in order to develop a profile of the health promotion programs conducted by employers with more than 100 employees in the state of Tennessee. Secondary purposes of the study were to report the perceived effects of the programs on selected variables, to determine the effects of selected variables on programs, and to project industrial health promotion needs in Tennessee.

The data were collected, keypunched utilizing the services of The University of Tennessee Data Inquiry Services, and analyzed by The University of Tennessee Computer Center using the Statistical Package for the Social Sciences--X (SPSS-X).

This chapter is organized into three sections: 1) the introduction, 2) the sample description in which a profile of the sample is developed, and 3) the presentation of the data in which a profile of health promotion programs, their perceived effects, effects of selected variables, and projected industrial health needs are reported.

B. SAMPLE DESCRIPTION

A total of 226 employers, constituting a 10 percent sample, were randomly selected from a listing of employers with more than 100 employees provided by the Tennessee Department of Employment Security. The employers were stratified according to the number of employees as shown in Table 1 (page 28). Since the listing provided by the Tennessee Department of Employment Security was based upon worker's compensation reports, actual employee size differed as seen in Table 2.

TABLE 2
DISTRIBUTION OF STUDY SAMPLE ACCORDING
TO ADJUSTED ACTUAL EMPLOYEE NUMBER

Employee Number	Frequency	Percent
2,500 and Above	4	1.8
1,000-2,499	15	6.6
500-999	20	8.8
250-499	46	20.4
100-249	114	50.4
Below 100	26	11.5
Undetermined	<u>1</u>	<u>0.4</u>
Total	226	100.0

Due to a number of reasons, completed survey forms were completed by 122 of the 226 employers in the original sample, constituting a 54 percent success rate, as seen in Table 3. Reasons for failure to complete survey forms with the remaining companies include refusals by the company personnel to participate (9.3 percent), termination due to failure to meet study requirements (21.7 percent), inability to find appropriate in-state phone listing (14.1 percent), and disconnected phone service (0.9 percent).

TABLE 3
DISTRIBUTION OF STUDY SAMPLE ACCORDING
TO RESPONSE TO SURVEY

Response	Frequency of Employer Response	Percent of Employer Response
Completed	122	54.0
Terminated Due to Failure to Meet Study Requirements	49	21.7
Unable to Find Listing in State	32	14.1
Refusals to Participate	21	9.3
Disconnected Service	<u>2</u>	<u>0.9</u>
Total	226	100.0

Of the 122 employers interviewed, employee size stratification was as shown in Table 4. There were 68 (55.7 percent) industries with 100-249 employees, 29 (23.8 percent) with 250-499 employees, 14 (11.5 percent) with 500-999 employees, eight (6.6 percent) with 1,000-2,499 employees, and three (2.5 percent) with over 2,500 employees. When compared with the stratification of the original population (Table 1, page 28), it can be seen that the differences are not appreciable.

TABLE 4
DISTRIBUTION OF COMPLETED INTERVIEWS
ACCORDING TO EMPLOYEE NUMBER

Employee Number	Frequency of Employer Response	Percent of Employer Response
2,500 and Above	3	2.5
1,000-2,499	8	6.6
500-999	14	11.5
250-499	29	23.8
100-249	<u>68</u>	<u>55.7</u>
Total	122	100.0

Upon reaching a company, the researcher would ask for the person in charge of health, health programs, or the company nurse; this yielded a variety of respondents as presented in Table 5. Personnel managers constituted the largest group of respondents to the survey, making up 40.2 percent. Health benefits coordinators followed, comprising 23 percent of the final respondents. Nurses were the respondents 11.5 percent of the time, owners 8.2 percent of the time, and plant managers 5.7 percent of the time, while safety coordinators and health educators only made up 1.6 and 0.8 percent of the sample respondents, respectively.

TABLE 5
DISTRIBUTION OF RESPONDENTS TO INTERVIEWS
ACCORDING TO COMPANY POSITION

Company Position	Frequency of Employer Response	Percent of Employer Response
Personnel Manager	49	40.2
Health Benefits Coordinator	28	23.0
Physician/Nurse	14	11.5
Owner of Firm	10	8.2
Plant Manager	7	5.7
Safety Coordinator	2	1.6
Health Educator	1	.8
Other	<u>11</u>	<u>9.0</u>
Total	122	100.0

The region of the state in which the 122 responding employers were located was as presented in Table 6. The grand division of Middle Tennessee contained the largest frequency of respondents with 39.3 percent, while East Tennessee employers made up 36.9 percent. West Tennessee employers comprised 21.3 percent of the sample.

TABLE 6
DISTRIBUTION OF COMPLETED INTERVIEWS BY REGION OF STATE

Region of State	Frequency	Percent
East	45	36.9
Middle	48	39.3
West	26	21.3
Not Determined	<u>3</u>	<u>2.5</u>
Total	122	100.0

Table 7 shows the type of employers which were included in the 122 completed interviews. Of the total, 58 or 47.5 percent said they were manufacturers. Service industries, such as medical services, food services, etc., accounted for 37 or 30.3 percent. Government organizations made up 8.2 percent and educational institutions accounted for 7.4 percent.

TABLE 7

DISTRIBUTION OF COMPLETED INTERVIEWS ACCORDING
TO TYPE OF EMPLOYERS

Type of Employer	Frequency	Percent
Manufacturer	58	47.5
Service	37	30.3
Government	10	8.2
Education	9	7.4
Retail	3	2.5
Other	<u>5</u>	<u>4.1</u>
Total	122	100.0

C. PROFILE OF HEALTH PROMOTION PROGRAMS

Profile of Health Promotion Programs

Table 8 shows the type of health promotion programs which were reported by the 122 respondents as being made available to employees. Accident prevention was reported by 80 (65.5 percent) industries as being offered to their employees. When asked to make a distinction between on-the-job only safety programs, 38 (31.1 percent) employers reported an accident prevention program that cover on-the-job and off-the-job safety.

Cardiopulmonary resuscitation programs were reported by 47 or 38.5 percent of the employers. Twenty-five industries or 20.5 percent of the total reported hypertension screening and control programs,

while exercise and fitness programs were reported by 18 or 14.8 percent, and stress management programs by 16 or 13.1 percent. Fifteen industries (12.3 percent) reported having a drug and alcohol abuse program and 13 (10.7 percent) reported smoking cessation programs. The least mentioned program by employers was cancer risk reduction, reported by only eight industries or 6.6 percent.

TABLE 8
HEALTH PROMOTION TYPE BY FREQUENCY AND PERCENT

Type of Program	Frequency of Employer Response	Percent of Employer Response
Hypertension Screening/Control	25	20.5
Smoking Cessation/Control	13	10.7
Weight Control	10	8.2
Mental Health	13	10.7
Nutrition Training	10	8.2
CPR	47	38.5
Exercise/Fitness	18	14.8
Drug/Alcohol Abuse	15	12.3
Stress Management	16	13.1
Accident Prevention	80	34.4
On and Off Job	42	34.4
On Job Safety Only	38	31.1
Cancer Risk Reduction	8	6.6

Several of the employers reported using outside agencies either to complement or implement their health promotion program (Table 9). Forty-one (33.6 percent) of the employers reported using the American Red Cross. The American Heart Association and American Cancer Society had been used by 19 (15.6 percent) and 14 (11.5 percent) of the employers, respectively. Weight Watchers and the YMCA-YWCA were reported used the least by employers.

TABLE 9
DISTRIBUTION OF EMPLOYER USE OF OUTSIDE AGENCIES
BY TYPE, FREQUENCY, AND PERCENT

Agency	Frequency of Employer Response	Percent of Employer Response
American Red Cross	41	33.6
American Cancer Society	14	11.5
American Heart Association	19	15.6
American Lung Association	10	8.2
Public Health Agency	13	10.7
YMCA/YWCA	2	1.6
Weight Watchers	3	2.5
Local Hospital	12	9.8

The industry personnel were also questioned as to other services that are sometimes provided for employees. Results of this series of questions can be seen in Table 10. Eleven (9.0 percent) respondents offered on-site doctors to their employees and 36 (29.5 percent) offered on-site nurses. Thirty-two (26.2 percent) reported they had facilities for exercise. Forty-seven (38.5 percent) industries reported that they required routine physicals for active managers while only 13 (10.7 percent) said they required routine physicals for all other level employees, and 55 (45.1 percent) said they required some form of pre-employment physical. Special disease screening, such as for sickle cell anemia, diabetes, or hearing testing was offered by 23 (18.9 percent) industries. Forty (32.8 percent) industries offered family crisis counseling, four (3.3 percent) offered legal counseling, and three (2.5 percent) said they offered family planning services for their employees.

Employers who responded that they had health promotion programs were asked a series of more detailed questions about their programs. One of the questions asked pertained to the length of time they had offered health promotion programs. Employers who said they offered on-the-job safety only were not asked this question. There were a total of 39 employers responding to this question and results are presented in Table 11. Results revealed that nine (23.1 percent) of the programs had been started within the last 18 months. Twenty-three (59 percent) of the programs were 24 months old or less, and 30 (76.9 percent) had been started within the last three years (36 months). Thirty-two (82 percent) of the programs had been started within the

TABLE 10
 EMPLOYEE HEALTH PROMOTION SERVICES OFFERED
 BY FREQUENCY AND PERCENT

Service Offered	Frequency of Employer Response	Percent of Employer Response
On-site Doctor	11	9.0
On-site Nurse	36	29.5
Facilities for Exercise	32	26.2
Cafeteria	53	43.4
Vending Machines	115	94.3
Health Risk Appraisals	11	9.0
Routine Physicals for Active Management	47	38.5
Routine Physicals--All Employees	13	10.7
Pre-employment Physicals	55	45.1
Special Disease Screening	23	18.9
CPR	63	51.6
First Aid Training	63	51.6
Financial Counseling	23	18.9
Legal Counseling	4	3.3
Family Crisis Counseling	19	15.6
Retirement Planning	40	32.8
Family Planning	3	2.5

TABLE 11

DISTRIBUTION OF HEALTH PROMOTION PROGRAMS
BY MONTHS IN EXISTENCE

Months in Existence	Frequency	Percent	Cumulative Percent
0-6	5	12.8	12.8
7-12	2	5.1	17.9
13-18	2	5.1	23.1
19-24	14	35.9	59.0
25-36	7	17.9	76.9
37-48	2	5.1	82.1
49 and Above	7	17.9	100.0

last four years, leaving only seven (17.9 percent) to have been in existence for greater than four years.

When asked where health programs were offered, 32 (69.6 percent) of the employers responded that their programs were typically offered on the work-site (Table 12). Twenty-three (50 percent) of the respondents said their programs were run by in-house personnel (Table 13), and 15 (32.6 percent) said they used both in-house and outside personnel. Programs were typically offered to all employees (84.4 percent), with only one (2.2 percent) employer reporting availability to executives or management only, and only six (13.3 percent) employers reporting that there was some other eligibility criteria as shown in Table 14. As shown in Table 15, 33 (71.7 percent) of the

TABLE 12

DISTRIBUTION OF HEALTH PROMOTION PROGRAMS
BY WHERE THEY ARE OFFERED

Where Offered	Frequency	Percent
On-site	32	69.6
Off-site	7	15.2
Both	7	15.2

TABLE 13

DISTRIBUTION OF HEALTH PROMOTION PROGRAMS
BY WHO THEY ARE RUN BY

Who Programs are Run By	Frequency	Percent
In-house Personnel	23	50.0
Outside Personnel	8	17.4
Both	15	32.6

TABLE 14

DISTRIBUTION OF HEALTH PROMOTION PROGRAMS
BY WHO PROGRAMS ARE OFFERED TO

Who Programs Are Offered To	Frequency	Percent
All Employees	38	84.4
Executive/Management Only	1	2.2
Other Selected Groups	6	13.3

TABLE 15

DISTRIBUTION OF HEALTH PROMOTION PROGRAMS BY WHETHER
THEY ARE OFFERED CONTINUOUSLY OR INTERMITTENTLY

Continuous/ Intermittently	Frequency	Percent
Continuous	33	71.7
Intermittently	13	28.3

employers reported that their programs were offered continuously, with only 13 (28.3 percent) saying that their programs were offered intermittently.

When asked to report the total dollar cost of the program per employee for the last fiscal year, 97.9 percent of all respondents answered that they did not know, with only one respondent (2.1 percent) giving an actual dollar figure of \$40 per employee, as shown in Table 16.

TABLE 16

DISTRIBUTION OF DOLLAR COST PER EMPLOYEE
REPORTED BY SURVEY RESPONDENTS

Dollar Cost Per Employee	Frequency	Percent
\$40	1	2.1
Don't Know	47	97.9

D. PROGRAM EFFECTIVENESS

A series of questions on the instrument were aimed at collecting data regarding the perceived effectiveness of the health promotion programs. Only those companies who answered positively that they had a health promotion program were asked these questions. The first question asked was: "Do you routinely evaluate the effectiveness of your health promotion program?" There were a total of 49 respondents to this question. Twenty-two (44.9 percent) said that they did evaluate program effectiveness, while 27 (55.1 percent) said they did not evaluate program effectiveness (Table 17). It must be kept in mind that this statement says nothing as to the quality or sort of evaluation, only that the employers reported some form of evaluation.

TABLE 17
EMPLOYER PROGRAM EFFECTIVENESS EVALUATION
STATUS BY FREQUENCY AND PERCENT

Evaluation	Frequency	Percent
Do Evaluate	22	44.9
Do Not Evaluate	27	55.1

A more probing question then was asked of the employers. This question sought to determine if the employer had noted any effects of their health promotion program on a series of variables, including improved employee morale, reduced employee absenteeism, reduced rate

of rise of health insurance costs, improved employee health, reduced disability claims and lost time, reduced hospital and medical utilization, reduced health insurance or disability costs, reduced employee turnover, improved hiring assignment, improved output or production, reduced accidents on the job, and the attraction of a better caliber of applicant. Improved employee health was mentioned most frequently as being one of the effects of health promotion programs (31 or 63.3 percent). Twenty-nine employers said that they thought their programs had reduced accidents on the job, 28 (57 percent) said they had improved employee morale, and 24 (51 percent) said their programs had improved production. Only four employers said that health promotion programs had helped them attract a better caliber of applicant and six said health promotion had helped reduce the rate of rise of health insurance costs (Table 18).

E. RELATIONSHIP OF SELECTED VARIABLES TO HEALTH PROGRAMS

One of the variables analyzed was employee size. Employee size was broken into five categories: 100-249, 250-499, 500-999, 1,000-2,499, and 2,500 and greater. Employee size was then crossed with the types of programs offered: hypertension control, smoking cessation, weight control, mental health counseling, nutrition training, CPR, exercise and fitness, drug and alcohol abuse, stress management, accident prevention, and cancer risk reduction programs.

Table 19 shows the results when employee size was compared to the availability of hypertension screening programs. As shown, 66.6 percent of the companies with 2,500 or more employees offered a

TABLE 18

DISTRIBUTION OF EMPLOYER RESPONSES TO QUESTION: "HAS YOUR
HEALTH PROMOTION PROGRAM PRODUCED ANY MEASURABLE
EFFECTS IN ANY OF THE FOLLOWING AREAS?"

Effects of Health Promotion Program	Yes	No	Don't Know
Improved Employee Morale	28 (57%)	2 (4%)	19 (39%)
Reduced Absenteeism	15 (31%)	8 (16%)	26 (53%)
Reduced the Rate of Rise of Health Insurance Costs	6 (12%)	18 (37%)	25 (51%)
Improved Employee Health	31 (63%)	5 (10%)	13 (27%)
Reduced Disability Claims	16 (33%)	7 (14%)	26 (53%)
Reduced Hospital/Medical Utilization	15 (31%)	7 (14%)	27 (55%)
Reduced Health Insurance or Disability Costs	9 (18%)	15 (31%)	25 (51%)
Reduced Employee Turnover	11 (22%)	16 (33%)	22 (45%)
Improved Employee Selection or Hiring Assignment	16 (33%)	14 (29%)	19 (39%)
Reduced Accidents On-the-Job	29 (55%)	6 (11%)	18 (34%)
Improved Production/Output	25 (54%)	7 (16%)	13 (30%)
Attracted a Better Caliber of Applicant	4 (8%)	26 (53%)	19 (39%)

N = 49.

worksite hypertension program, followed by 50 percent of the 1,000-2,499 group, 50 percent of the 500-999 group, 14 percent of the 250-499 group, and 12 percent of the 100-249 employee group. When chi square was applied, the association between employee size and hypertension screening programs was significant at the .05 confidence level. Furthermore, the application of Cramer's V yielded .3779 indicating a definite but small degree of association.

TABLE 19
DISTRIBUTION OF HYPERTENSION SCREENING PROGRAMS
ACCORDING TO EMPLOYEE NUMBER

Employee Number	Yes	No
2,500 and Above	2 (66.6%)	1 (33.3%)
1,000-2,499	4 (50.0%)	4 (50.0%)
500-999	7 (50.0%)	7 (50.0%)
250-499	4 (14.0%)	25 (86.0%)
100-249	8 (12.0%)	60 (88.0%)

$$\chi^2 = 34.85, p < .05, V = .37793.$$

$$N = 122.$$

As shown in Table 20, when employee size was related to the availability of smoking cessation programs, 33.3 percent of the 2,500 and above group had such a program, followed by 25 percent of the 1,000-2,499 group, 35.7 percent of the 500-999 group, none of the 250-499 group, and it was available by only 7 percent of the 100-249

employee group. When chi square was applied the relationship was found to be significant at the .05 confidence level and a Cramer's V of .3713 was calculated indicating a low correlation.

TABLE 20
DISTRIBUTION OF SMOKING CESSATION PROGRAMS
ACCORDING TO EMPLOYEE NUMBER

Employee Number	Yes	No
2,500 and Above	1 (33.3%)	2 (66.6%)
1,000-2,499	2 (25.0%)	6 (75.0%)
500-999	5 (35.7%)	9 (64.3%)
250-499	0 (0.0%)	29 (100.0%)
100-249	5 (7.0%)	63 (93.0%)

$$\chi^2 = 16.82, p < .05, V = .37132.$$

$$N = 122.$$

Table 21 presents the results of the cross tabulation of weight control programs and employee size. Weight control programs were available in 33.3 percent of the 2,500 and above group, 12.5 percent of the 1,000-2,499 group, 28.6 percent of the 500-999 group, 7 percent of the 250-499 group, and 3 percent of the 100-249 group. The relationship between weight control programs and employee size was found to be significant at the .05 confidence level when chi square was applied, and Cramer's V yielded .3264 indicating a definite but small correlation.

TABLE 21

DISTRIBUTION OF WEIGHT CONTROL PROGRAMS
ACCORDING TO EMPLOYEE NUMBER

Employee Number	Yes	No
2,500 and Above	1 (33.3%)	2 (66.6%)
1,000-2,499	1 (12.5%)	7 (87.5%)
500-999	4 (28.6%)	10 (71.4%)
250-499	2 (7.0%)	27 (93.0%)
100-249	2 (3.0%)	66 (97.0%)

$$\chi^2 = 13.00, p < .05, V = .3264.$$

$$N = 122.$$

Mental health programs were reported in 66 percent of the 2,500 and above group, 25 percent of the 1,000-2,499 group, 35.7 percent of the 500-999 group, 3 percent of the 250-499 group, and 4 percent of the 100-249 group when cross tabulated. Chi square applications yielded a significant relationship at the .05 confidence level and Cramer's V yielded .4546 for a moderate correlation or substantial relationship (see Table 22).

Only 33.6 percent of the employers in the 2,500 and above group offered nutrition training to employees. Of the 1,000-2,499 group, 12.5 percent offered nutrition training, and 21.4 percent of the 500-999 group, none of the 250-499 group, and 7 percent of the 100-249 group. When chi square was applied, this relationship proved not to be significant at the .05 confidence level (see Table 23).

TABLE 22

DISTRIBUTION OF MENTAL HEALTH PROGRAMS
ACCORDING TO EMPLOYEE NUMBER

Employee Number	Yes	No
2,500 and Above	2 (66.6%)	1 (33.3%)
1,000-2,499	2 (25.0%)	6 (75.0%)
500-999	5 (35.7%)	9 (64.3%)
250-499	1 (3.0%)	28 (97.0%)
100-249	3 (4.0%)	65 (96.0%)

$$\chi^2 = 25.21, p < .05, V = .4546.$$

N = 122.

TABLE 23

DISTRIBUTION OF NUTRITION TRAINING PROGRAMS
ACCORDING TO EMPLOYEE NUMBER

Employee Number	Yes	No
2,500 and Above	1 (33.3%)	2 (66.6%)
1,000-2,499	1 (12.5%)	7 (87.5%)
500-999	3 (21.4%)	11 (78.6%)
250-499	0 (0.0%)	29 (100.0%)
100-249	5 (7.0%)	63 (93.0%)

$$\chi^2 = 8.62, \text{ was not significant at } p < .05, V = .26592.$$

N = 122.

Table 24 shows the relationship between employee size and CPR programs. In the 2,500 and above group, 66.6 percent of the employers offered CPR to their employees, followed by 75 percent of the 1,000-2,499 group, 57.1 percent of the 500-999 group, 44.8 percent of the 250-499 group, and 26.5 percent of the 100-249 group. This relationship was significant at the .05 level of confidence when chi square was applied and yielded a Cramer's V of .3162 indicating a definite but small correlation between employee size and CPR programs.

Exercise and fitness programs were reported in 33.3 percent of the 2,500 and above employers, 25 percent of the 1,000-2,499 employers, 50 percent of the 500-999 group, 10.3 percent of the 250-499 group, and 7 percent of the 100-249 group. Chi square yielded a significant relationship at the .05 confidence level and Cramer's V indicated a small but definite relationship with a score of .3918. See Table 25.

Table 26 shows the relationship of drug and alcohol abuse programs and employee size. As shown, 66.6 percent of the 2,500 and above employers offered the program, followed by 42.8 percent of the 1,000-2,499 group, 35.7 percent of the 500-999 group, 3 percent of the 250-499 group, and 6 percent of the 100-249 group. Chi square yielded a significant relationship and Cramer's V showed a substantial relationship with a score of .4036.

Table 27 records the relationships between stress management programs and employee size. A total of 33.3 percent of the 2,500 and above group offered stress management programs, followed by 37.5 percent of the 1,000-2,499 group, 28.6 percent of the 500-999 group,

TABLE 24

DISTRIBUTION OF CPR PROGRAMS BY EMPLOYEE NUMBER

Employee Number	Yes	No
2,500 and Above	2 (66.6%)	1 (33.3%)
1,000-2,499	6 (75.0%)	2 (25.0%)
500-999	8 (57.1%)	6 (42.9%)
250-499	13 (44.8%)	16 (55.2%)
100-249	18 (26.5%)	50 (73.5%)

$$\chi^2 = 12.20, P < .05, V = .3162.$$

$$N = 122.$$

TABLE 25

DISTRIBUTION OF EXERCISE AND FITNESS PROGRAMS
ACCORDING TO EMPLOYEE NUMBER

Employee Number	Yes	No
2,500 and Above	1 (33.3%)	2 (66.6%)
1,000-2,499	2 (25.0%)	6 (75.0%)
500-999	7 (50.0%)	7 (50.0%)
250-499	3 (10.3%)	26 (89.7%)
100-249	5 (7.0%)	63 (93.0%)

$$\chi^2 = 18.72, p < .05, V = .3918.$$

$$N = 122.$$

TABLE 26

DISTRIBUTION OF DRUG AND ALCOHOL ABUSE PROGRAMS
ACCORDING TO EMPLOYEE SIZE

Employee Size	Yes	No
2,500 and Above	2 (66.6%)	1 (33.3%)
1,000-2,499	3 (42.8%)	5 (57.2%)
500-999	5 (35.7%)	9 (64.3%)
250-499	1 (3.0%)	28 (97.0%)
100-249	4 (6.0%)	64 (94.0%)

$$\chi^2 = 39.74, p < .05, V = .4036.$$

N = 122.

TABLE 27

DISTRIBUTION OF STRESS MANAGEMENT PROBLEMS
ACCORDING TO EMPLOYEE SIZE

Employee Size	Yes	No
2,500 and Above	1 (33.3%)	2 (66.6%)
1,000-2,499	3 (37.5%)	5 (62.5%)
500-999	4 (28.6%)	10 (71.4%)
250-499	2 (7.0%)	27 (93.0%)
100-249	6 (9.0%)	62 (91.0%)

$$\chi^2 = 10.26, p < .05, V = .2901.$$

N = 122.

7 percent of the 250-499 group, and 9 percent of the 100-249 group. Chi square yielded a significant relationship and Cramer's V indicated a low correlation (.2901).

On-the-job and off-the-job accident prevention was offered by 66.6 percent of the 2,500 and above group, 50 percent of the 1,000-2,499 group, 78.6 percent of the 500-999 group, 31 percent of the 250-499 group, and 23.5 percent of the 100-249 group. Chi square yielded a significant relationship and Cramer's V showed a small but definite relationship with a score of .3846 (see Table 28).

TABLE 28
DISTRIBUTION OF ACCIDENT PREVENTION PROGRAMS
ACCORDING TO EMPLOYEE SIZE

Employee Size	Yes	No
2,500 and Above	2 (66.6%)	1 (33.3%)
1,000-2,499	4 (50.0%)	4 (50.0%)
500-999	11 (78.6%)	3 (21.4%)
250-499	9 (31.0%)	20 (69.0%)
100-249	16 (23.5%)	52 (76.4%)

$$\chi^2 = 18.05, p < .05, V = .3846.$$

$$N = 122.$$

When cancer risk reduction programs were compared with employee size, 33.3 percent of employers with 2,500 or more employees had programs. Twenty-five percent of the employers in the 1,000-2,499 group had this program, followed by 14.3 percent in the 500-999 group, 3.4 percent of the 250-499, and 3 percent of the 100-249 groups. When chi square was calculated there was a significant relationship and Cramer's V yielded .3027 signifying a slight correlation, as shown in Table 29.

TABLE 29
DISTRIBUTION OF CANCER RISK REDUCTION PROGRAMS
ACCORDING TO EMPLOYEE NUMBER

Employee Number	Yes	No
2,500 and Above	1 (33.3%)	2 (66.6%)
1,000-2,499	2 (25.0%)	6 (75.0%)
500-999	2 (14.3%)	12 (85.7%)
250-499	1 (3.4%)	28 (96.6%)
100-249	2 (3.0%)	66 (97.0%)

N = 122.

F. PROJECTED INDUSTRIAL HEALTH PROMOTION NEEDS

This section discusses information collected from the survey which might effect the future need of industry regarding health promotion programs. Ninety-eight percent of the industries responding

indicated that they would continue the health promotion programs they currently have in place. When asked if there were plans to implement other health promotion programs in the next year, 31 (25.4 percent) employers responded "yes," 70 (51.4 percent) responded "no," and 21 (17.2 percent) said they did not know (Table 30). As shown in Table 31, 15 employers indicated that they had plans to implement a smoking cessation program for employees in the next year. Nine employers indicated that they would be implementing weight control, exercise and fitness, accident prevention, and cancer risk reduction programs. Mental health, drug and alcohol abuse, and stress management programs were planned by eight of the industries, with seven planning nutrition training, and five planning hypertension and CPR programs.

TABLE 30

EMPLOYER PLANS TO IMPLEMENT NEW HEALTH PROMOTION PROGRAMS
WITHIN NEXT YEAR BY FREQUENCY AND PERCENT

Plan to Implement Program	Frequency	Percent
Yes	31	25.4
No	70	57.4
Don't Know	21	17.2

N = 122.

TABLE 31

DISTRIBUTION OF NEW PROGRAMS PLANNED
BY TYPE OF PROGRAM

Type	Frequency
Hypertension Screening	5
Smoking Cessation	15
Weight Control	9
Mental Health	8
Nutrition Training	7
CPR	5
Exercise/Fitness	9
Drug/Alcohol Abuse	8
Stress Management	8
Accident Prevention	9
Cancer Risk Reduction	9

Employers who did not indicate that they would begin new or continue old health promotion programs in the future were asked as to their reason why (Table 32). A variety of reasons were given why implementation would not occur but the largest response was from those who did not know why their industry would not begin a program (31). Fourteen responded that the programs would be too costly and eight said they would be too difficult to implement. A variety of other reasons were given as to why; most of the reasons had to do with internal affairs of the company.

TABLE 32

DISTRIBUTION OF RESPONSE TO QUESTION: "WHY DOES YOUR COMPANY
NOT IMPLEMENT HEALTH PROMOTION PROGRAMS?"
ACCORDING TO REASON GIVEN

Reason Given	Frequency
Too Costly	14
Benefits Not Proven	2
No Need	5
Lack Facilities	4
High Employee Turnover	2
Can't Get Management Support	3
Too Difficult to Implement	8
Employees Don't Want	3
Other	20
Don't Know	31

When asked who or what department within their organization would have the most influence in bringing about the implementation of new health promotion programs, 67.2 percent said that top management would, 36.1 percent said that personnel would, 5.7 percent said it would come from the medical director, and 4.1 percent said the safety group would have to initiate the new program. (If employers named more than one response to this question, both were recorded; this accounts for the total percent being over 100) (see Table 33).

TABLE 33

DISTRIBUTION OF RESPONSES TO QUESTION: "WHO IN YOUR ORGANIZATION BROUGHT ABOUT OR COULD BRING ABOUT THE IMPLEMENTATION OF HEALTH PROMOTION PROGRAMS?"

Response	Frequency	Percent
Top Management	82	67.2
Personnel Department	44	36.1
Medical Department	7	5.7
Safety Group	5	4.1
Employee Action Group	1	0.8
Health Benefits Director	0	0.0
Union	0	0.0
Other	2	1.6

Table 34 presents a summary of the desirability of each program as reported by employers. Employers were asked how desirable such a program would be if it were feasible to implement. Desirability was sub-divided into several categories labeled very desirable, somewhat desirable, somewhat undesirable, and very undesirable. As shown in Table 34, CPR and accident prevention led the list as being very desirable, while cancer risk reduction, stress management and hypertension programs were rated high in the somewhat desirable category. Nutrition training, mental health counseling, and weight control programs received high marks in the somewhat undesirable category, while both nutrition training and mental health counseling scored high in the very undesirable category.

TABLE 34

DISTRIBUTION OF REPORTED DESIRABILITY OF PROGRAMS BY TYPE

Type of Program	Very Desirable	Somewhat Desirable	Somewhat Undesirable	Very Undesirable	Don't Know
Hypertension	42	55	14	3	8
Smoking	44	45	16	6	11
Weight Control	34	52	22	5	9
Mental Health	17	53	26	9	17
Nutrition	14	54	33	11	10
CPR	83	29	1	2	7
Exercise/ Fitness	38	50	19	6	9
Drug/Alcohol	40	50	17	4	11
Stress Management	38	56	16	4	8
Accident Prevention	75	29	7	3	8
Cancer Risk Reduction	24	62	14	8	14

After rating desirability, employers were asked to prioritize the health promotion programs in the order they would be if they were going to implement them. Only the first, second, third, and lowest priority programs were asked for (see Table 35). Accident prevention was scored highest priority by 22 employers, and CPR and stress management programs were mentioned as first priority programs by 17 employers.

TABLE 35
DISTRIBUTION OF REPORTED PRIORITY OF
NEW PROGRAMS BY PROGRAM

Program	1st Priority	2nd Priority	3rd Priority	Lowest
Hypertension	11	11	18	3
Smoking	11	17	12	7
Weight Control	7	11	12	13
Mental Health	2	8	1	13
Nutrition Training	1	2	4	23
CPR	17	16	11	2
Exercise/ Fitness	13	13	13	8
Drug/Alcohol	10	10	10	16
Stress Management	17	18	11	10
Accident Prevention	22	14	7	2
Cancer Risk Reduction	8	8	6	11

Leading the way in the second priority category were stress management mentioned by 18 employers and smoking cessation programs rated by 17 employers. Third priority programs most frequently mentioned were hypertension screening and control (18), exercise and fitness (13), smoking (12), and weight control (12). In the lowest priority rating, nutrition training was mentioned by 23 of the employers, drug and alcohol programs were mentioned by 16 employers, and mental health and weight control were mentioned by 13 employers each.

When asked where they would go for technical advice if they were going to implement a health promotion program, respondents answered as shown in Table 36. Twenty-eight percent of the respondents said they would seek help from the medical community, 14 percent said they would go to a voluntary agency such as the American Red Cross or the American Heart Association, 12 percent said they would seek help from their private insurance carrier or other industry, and 22 percent said they would not know where to go for technical advice.

G. SUMMARY

This chapter contained an analysis of the data which were collected from the telephone survey of 226 randomly selected employers in the state of Tennessee. After a brief description of the sample, a profile of health promotion programs of the responding employers was reported. Also reported was the employers perceptions about the effectiveness of their health promotion programs. Employee size was

then compared to the availability of types of programs. Finally, data reporting the projected employee health promotion needs were discussed.

TABLE 36

DISTRIBUTION OF RESPONSES TO THE QUESTION: "WHERE
WOULD YOU GO FOR TECHNICAL ADVICE IF YOU WERE
GOING TO IMPLEMENT A NEW HEALTH
PROMOTION PROGRAM?"

Where	Frequency	Percent
Voluntary Agency (e.g., American Red Cross, American Heart Association, American Lung Association)	7	14.0
Insurance Carrier	6	12.0
Other Industry	6	12.0
Hospital-Medical Community	14	28.0
University	1	2.0
Corporate Offices	2	4.0
Employee Assistance Program	3	6.0
Don't Know	11	22.0

CHAPTER V

SUMMARY, FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS

A. SUMMARY

Purpose

The purpose of this study was to assess the current status of health promotion programs in order to develop a profile of health promotion programs conducted by employers with more than 100 employees in the state of Tennessee. Secondary purposes of the study were to report the perceived effects of these programs on selected variables, to report the effects of selected variables on programs, and to project industrial health promotion needs in Tennessee.

Importance of the Study

There has been an increase in health promotion activities conducted in industry in recent years. Due to this rapid increase of activity, there has been very little research as to the classification and evaluation of these programs.

Ultimately there must be a systematic evaluation as to the cost effectiveness/benefit of the varying approaches to health promotion in industry. A first step in this process, though, must be a thorough analysis and classification of what is presently being offered by industry in the way of health promotion to employees.

While this type of information has been collected to some extent in other states, until now there has been no effort to compile such

information in industry in the state of Tennessee. Under the auspices of the Tennessee Department of Health and Environment, this study has been conducted with the desire that such information would help this Department provide better services to individuals and industry in Tennessee.

Specifically this study attempted to answer the following questions:

1. What type of health promotion program is most frequently offered by Tennessee employers?
2. What is the estimated dollar cost per employee to conduct these programs?
3. Who within the organization is primarily responsible for implementing health promotion activities?
4. Which outside organizations, both voluntary and for-profit, does the employer use to complement or implement the health promotion program?
5. What is the relationship between employee number and availability of health promotion programs?
6. What are the perceived effects of health promotion activities in such areas as reduced absenteeism, reduced employee turnover, reduced accidents, improved employee morale, and reduced health insurance rates?
7. What type of health promotion programs do employers in Tennessee anticipate starting in the future?

Methodology

This study was a telephone survey of 226 randomly selected employers in the state of Tennessee who had more than 100 employees at any one location. With the support of the Tennessee Department of Health and Environment, a complete listing of all employers in the state with over 100 employees was secured from the Tennessee Department of Employment Security. This list was stratified according to employee size and a 10 percent sample was drawn.

Telephone calls were made during the months of March, April, and May. Results from telephone interviews were coded on keypunch sheets. Once all calls had been made, the data were keypunched and analyzed by The University of Tennessee Computing Center.

B. FINDINGS

Based on analysis of data, the findings of this investigation are presented as follows using the format by which the data were analyzed in the previous chapter:

Profile of Health Promotion Programs

1. Of the industries responding to the survey, the most frequently reported health promotion program was accident prevention.
2. Over 97 percent of the responding employers did not know the cost to operate their programs.
3. Top management was reported by 67.2 percent of all

employers as the group within their organization who would initiate health promotion programs.

4. Of the outside agencies reported to be used by industry in their health promotion programs, 33.6 percent of the employers reported having used the American Red Cross to either implement or complement their program.

Relationship of Selected Variables to Health Programs

5. Employee size was found to have a substantial relationship with the offering of drug and alcohol abuse programs and mental health programs.
6. Employee size was found to have a definite but small relationship with availability of hypertension, smoking cessation, weight control, CPR, exercise and fitness, stress management, accident prevention, and cancer risk reduction programs.

Program Effectiveness

7. Improved employee health was cited most frequently (63.3 percent) by the respondents as being an effect of their health promotion program. Over 59 percent of the employers said that their health promotion program had reduced accidents, 57.1 percent reported it had improved production.

Projected Industrial Health Promotion Needs

8. Smoking cessation programs were the most frequently mentioned health promotion program planned by industries in the coming year.

Other Findings

9. A total of 82.1 percent of all health promotion programs reported by the survey were started in the last four years.
10. The medical community is where 28 percent of the industries report they would go for technical advice when implementing a program, while 22 percent reported that they did not know where to go for technical advice.

C. CONCLUSIONS

Based upon analysis of the findings, the following were concluded:

1. Health promotion programs in industries in Tennessee consist primarily of accident prevention services.
2. Most Tennessee employers do not know what their health promotion program costs.
3. Health promotion programs in industry in Tennessee are primarily implemented by top management support or initiative.
4. Of all agencies listed, the American Red Cross is reported to be the most frequently used by Tennessee employers to complement or implement their health promotion programs.

5. Tennessee employers perceive that health promotion programs benefit employee health and morale, and reduce accidents.
6. Health promotion in industry in Tennessee is a relatively new endeavor and a number of industries are unaware of where to go for technical advice in implementing a program.

D. RECOMMENDATIONS

The following recommendations are offered after careful study of these findings and in accordance with the stated conclusions of this study:

1. Further study should be given to specific programs offered in the workplace, as to techniques used and effectiveness of specific programs.
2. Since most health promotion programs are implemented at the management level of an industry, greater efforts should be made to educate these people as to the benefits of health promotion in the workplace.
3. Further study should be given to the employers of small work forces in an effort to identify ways in which they might offer more health promotion programs to their employees.
4. Further study should be directed toward the benefits of health promotion programs, perhaps beginning with the benefits most frequently reported by respondents of this survey: improved employee health, reduced accidents, improved employee morale.
5. Officials of Tennessee should consider the development of a

resource network whereby industry in the state could seek guidance and technical assistance for the development of health promotion programs.

6. Industry personnel working in health promotion should be urged to evaluate the effectiveness of their programs and record costs of programs.

CHAPTER VI

EPILOGUE

A. INTRODUCTION

The purpose of this study was to assess the current status of health promotion programs conducted by employers with more than 100 employees in the state of Tennessee. Secondary purposes of the study were to report the perceived effects of the programs on selected variables, to determine the effects of selected variables on programs, and to project industrial health promotion needs in Tennessee.

This chapter is divided into three parts: 1) Introduction, 2) Comparison to California Study, and 3) Observations of the researcher.

B. COMPARISON TO CALIFORNIA STUDY

This study was an attempt to replicate as much as possible the study done by Fielding and Breslow in California as reported in the American Journal of Public Health, Volume 73, Number 3, May 1983. Permission was granted by Fielding to use the same instrument used in California for the Tennessee study. Some minor changes were made in the instrument in order to make it more suitable to the needs of Tennessee.

As in the California study, an approximate 10 percent sample was drawn from a listing made available by the Department of Employment

Security in both states and stratified according to employee size. In California, the total population size was 13,558 with a sample size of 1,000. In Tennessee, the total population size was 2,260 with a total 226 in the random sample. Out of the 1,000 randomly selected industries in California, only 424 completed interviews accounting for a 42.4 percent return rate. In the Tennessee study, 122 out of 226 completed the survey accounting for a 54 percent return rate. Table 37 shows the comparisons of the samples from both studies as to completion or noncompletion of the survey.

TABLE 37
COMPARISON OF DEVELOPMENT OF SURVEY SAMPLE
FROM CALIFORNIA AND TENNESSEE STUDIES

	California	Tennessee
Population	13,558	2,260
Total Listings Pulled	1,000	226
Fewer Than 100 at Any Site	378 (37.8%)	49 (21.6%)
Company Already Interviewed	65 (6.5%)	0 (0.0%)
Phone Disconnected	27 (2.7%)	2 (0.9%)
No Answer	15 (1.5%)	0 (0.0%)
Other	19 (1.9%)	32 (14.1%)
Respondent Not Available or Refused	87 (8.7%)	21 (9.2%)
Completed Interviews	424 (42.4%)	122 (54.0%)

Accident prevention was the most frequently offered program in California with a total of 64.6 percent of all employers surveyed responding that they had such a program. Similar results were found in Tennessee; 65.5 percent of employers surveyed reported having an accident prevention program. CPR was reported by 52.8 percent of the employers in California and 38.5 percent of the employers in Tennessee. Alcohol and drug abuse was made available by 18.6 percent of the respondent industries in California while only 12.3 percent of those in Tennessee reported such programs. Mental health counseling was offered by 18.6 percent of the California respondents and only 10.7 percent of the Tennessee respondents. Table 38 shows the comparison of programs from each state.

Main departments responsible for initiation of health promotion activities were personnel (35.1 percent), top management (20.5 percent), safety groups (18.2 percent), medical department (14.3 percent), and health benefits group (7.4 percent) in California. In Tennessee, the main departments for initiation of health promotion programs were, top management (67.2 percent), personnel (36.1 percent), medical department (3.7 percent), and safety groups (4.1 percent). A comparison is shown in Table 39.

In California, approximately one-third of the programs were conducted by outside groups; in Tennessee, under one-fifth were conducted by outside groups. In both California and Tennessee, around two-thirds of the programs were offered on a continuous basis, and in both states, programs were reported to be available to all employees by the vast majority of the respondents. As was the case in Tennessee, increasing

TABLE 38

COMPARISON OF FREQUENCY OF HEALTH PROMOTION PROGRAMS IN
CALIFORNIA AND TENNESSEE AS REPORTED BY
RESPONDENTS TO SURVEY

Program	Percent California (N = 424)	Percent Tennessee (N = 122)
Hypertension Screening	10.1	20.5
Smoking Cessation	8.3	10.7
Weight Control	*	8.2
Mental Health Counseling	18.4	10.7
Nutrition Training	*	8.2
CPR/Choke Saver	52.8	38.5
Exercise/Fitness	11.6	14.8
Drug/Alcohol Abuse	18.6	12.3
Stress Management	13.0	13.1
Accident Prevention	64.6	65.6
Cancer Risk Reduction	*	6.6

*Not reported in the California study write up.

numbers of employees correlated positively with the likelihood of having a health promotion activity among California employers.

When questioned about the implementation of new programs in the coming year, in California, the most frequently mentioned was stress management followed closely by exercise and fitness and hypertension screening and CPR. In Tennessee, the most frequently mentioned programs planned for the future year by employers was smoking cessation

TABLE 39

COMPARISON OF DEPARTMENT RESPONSIBLE FOR INITIATION OF HEALTH
PROMOTION PROGRAMS IN RESPONDENT INDUSTRIES
IN CALIFORNIA AND TENNESSEE

Department	California	Tennessee
Top Management	20.5%	67.2%
Personnel	35.1%	36.1%
Medical Department	14.3%	5.7%
Safety Group	18.2%	4.1%
Health Benefits Group	7.4%	0.0%

followed by exercise and fitness, weight control, accident prevention, and cancer risk reduction. Mental health counseling was reported the least in California and hypertension and CPR were reported the least in Tennessee.

The American Red Cross was the most frequently mentioned outside agency used in both states either to complement or implement their program, and the American Heart Association was also frequently mentioned in both states. Local hospitals were reported used more by California employers than those in Tennessee.

C. OBSERVATIONS OF THE RESEARCHER

It must be remembered that the survey technique employed in this study has several limitations. Responses to the survey questions are strongly colored by individual perceptions, since only one individual

of each employer was interviewed. The researcher noted a tendency for some individuals, especially those in personnel offices, to exaggerate the prevalence of activities. Also, because there is no commonly agreed upon notion as to what constitutes a "program," some employers may have reported having a "program" that others would have not considered to be a "program." There was no attempt made to determine the effects of such programs on variables like behavior change or knowledge acquisition. Similarly, nothing can be inferred as to the quality of the programs, only that they were available.

Another limitation may have been the great variance in size of employers examined. Smaller companies may not have the same personnel or need as larger companies. For example, the personnel director of a small company may also be the plant manager and safety director, whereas in larger companies, there may be whole divisions devoted to each of these tasks. This may have influenced several of the study questions.

A further limitation of the instrument itself is the fact that validation information was not available. Due to time constraints, validation was not done on this instrument. Hopefully, information gained in this study can be compared to the California study in order to facilitate the validation process.

The success rate of 54 percent, while higher than the California study of 42 percent, is still somewhat low. Letters sent prior to calls could have increased the success rate. Several employers stated that company policy dictated that they have information in writing prior to completing such information. A greater

knowledge about the population could have also influenced this, because a substantial percentage of those not completed were due to failure to meet study requirements (they did not have 100 personnel at any one location).

An inherent limitation to doing a telephone survey in Tennessee is the differing time zones. This presented a small problem when trying to coordinate "call backs" to individuals. Also, the phone system at the East Tennessee Regional Office required some patient waiting due to the nature of sharing of the WATTS line.

The researcher feels that the study has several significant implications. Certainly the high incidence of accident prevention programs in the workplace has implications for health and safety educators. Those who are training "health educators" to work in the industrial setting might well advise these students to get an area of emphasis in safety, accident prevention, and cardiopulmonary resuscitation. Also, the industrial health educator may need some expertise in personnel and administration due to the sort of corporate individuals they are going to interact with.

Perhaps closely associated with the above idea is the fact that the researcher only interviewed one individual who reported holding the position of health educator, out of all of the corporate individuals interviewed. It is apparent that traditionally trained health educators are not getting jobs in industry in Tennessee.

Also of concern to the researcher was the fact that the university was not seen as a resource for technical advice or information, and the Public Health Department was not mentioned as a resource

by many employers. This may be due to inadequacies on both sides, but it would seem beneficial for business and industry to collaborate with both university and public health officials.

The researcher was shocked at the large percentage of employers who did not know what their programs cost. This idea, combined with the fact that a large proportion did not evaluate their programs, further emphasizes the great need for technical assistance in program planning and evaluation.

It would be beneficial, perhaps, to develop a resource network either at the state level or at the university level whereby employers might seek technical advice and exchange information or health promotion programs. Several employers, in fact, did report to the researcher that a sort of grass roots effort was arising in their business communities as employers have formed coalitions in an effort to provide an exchange of ideas to decrease health care expenditures. This sort of network could provide technical assistance, underwrite and oversee model programs, and provide a powerful lobby for health promotion in the state.

In the future, greater study should be given to several areas. In depth studies of each particular program would yield beneficial information, as to techniques which are most appropriate and effectiveness of these techniques and programs. Future studies should also be aimed at the "small" employer who very often finds it difficult to hire a separate individual to coordinate health promotion activities. Model programs should certainly be implemented and evaluated and written in the literature with special effort at how a variety of

employers could apply these to their situations. Finally, studies of this type should be conducted in other states and compared, and future studies in Tennessee should ascertain growth and/or expansion of health promotion in the workplace in this state.

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APPENDICES

APPENDIX A

INSTRUMENT USED IN TELEPHONE SURVEYS

HEALTH PROMOTION

Good morning/afternoon. I'm Steve Dorman from the Tennessee Department of Health and Environment. We are conducting a survey of activities that Tennessee companies engage in to promote the health of their employees.

The purpose of this study is to determine the types of existing health promotion activities among companies in Tennessee, and to understand the opportunities that exist for developing and/or expanding them. By health promotion activities we mean programs to stop smoking, to control weight, exercise/fitness programs, hypertension screening and control, and such. We do not mean health insurance or direct health care services your organization might provide. There is major interest in such programs since health care experts believe that one highly promising opportunity for health promotion is in the workplace. Programs in the workplace provide exposure to large numbers of individuals as well as benefiting the employer by reduced absenteeism, increased productivity, and a reduction of medical claims.

In order to plan effective employee health promotion programs and provide relevant employer opportunity to health planners and policy-makers in the state, it is vital that we include organizations representative of all employers in this state. Your organization has been selected from the state's corporation lists based on various characteristics such as employee size, type of industry, and geographic locale. It is important we include you in our survey. Everything you tell us will be kept strictly confidential. Our findings are reported in statistical summaries only. Neither your name nor the name of your organization will be linked in any way with the findings of this study.

The interview will take approximately 15-20 minutes to conduct. Would it be convenient for you to talk now or shall I make an appointment for a better time?

Appt. Date: _____

Time: _____

Telephone No.: _____

Name: _____

- A. Do you have 100 full-time employees in any one location in Tennessee?

QUESTIONNAIRE

1. Does your organization presently provide any of the following programs to its employees?

- a. Hypertension screening and control program
- b. Smoking cessation control program
- c. Weight control program
- d. Mental health counseling
- e. Nutrition training program
- f. CPR (cardiopulmonary resuscitation), choke saver
- g. Exercise/fitness program
- h. Drug/alcohol abuse program
- i. Stress management program
- j. Accident prevention program
- k. Cancer risk reduction
- l. Other (specify) _____

2. Which organizations, both voluntary and for profit, does your organization use to either complement or implement your health promotion programs?

- a. American Red Cross
- b. American Cancer Society
- c. American Heart Association
- d. American Lung Association
- e. Public health agencies
- f. YMCA and YWCA's
- g. Weight Watchers
- h. Local hospital based programs
- i. Visiting Nurses Association
- j. Other (specify) _____
- k. None

3. Does your organization routinely evaluate the effectiveness of its health promotion programs?

- a. Yes
- b. No

4. Has the introduction of employee health promotion programs in your organization produced a measurable effect in any of the following areas:

- a. Improved employee morale?
- b. Reduced absenteeism?
- c. Reduced rate of rise of health insurance costs?
- d. Improved employee health?
- e. Reduced disability claims and lost time?
- f. Reduced hospital and medical utilization?
- g. Reduced health insurance or disability costs?
- h. Reduced employee turnover?
- i. Improved employee selection/hiring assignment?
- j. Improved output/production/quality?
- k. Reduced accidents on the job?
- l. Attracted better caliber applicants?
- m. Any other? (Specify) _____

5. For the last fiscal year, how many employees in total were served by all your health promotion programs and activities?

Record # _____

Circle One:

Real
Estimate

- A. Again, for the last fiscal year, what was the total dollar cost or estimated cost for all your health promotion programs and activities?

Record \$ _____

6. (When you are/If you were) considering implementing a new employee health promotion program, where would you go for technical advice about implementing the program?

7. Does your organization plan to continue all or some of the health programs currently in place?

- a. Yes, all
- b. Yes, some
- c. None

A. Which ones?

- a. Hypertension screening and control program
- b. Smoking cessation control program
- c. Weight control program
- d. Mental health counseling
- e. Nutrition training program
- f. CPR (cardiopulmonary resuscitation), choke saver
- g. Exercise/fitness program
- h. Drug/alcohol abuse program
- i. Stress management program
- j. Accident prevention program
- k. Cancer risk reduction
- l. Other (specify) _____

8. Does your organization have plans to implement any (other) health promotion programs for its employees in the next year?

- a. Yes
- b. No
- c. Not sure/don't know

9. Do you plan to or think you might implement any of the following health promotion programs in the next year?

- a. Hypertension screening and control program
- b. Smoking cessation control program
- c. Weight control program
- d. Mental health counseling
- e. Nutrition training program
- f. CPR (cardiopulmonary resuscitation), choke saver
- g. Exercise/fitness program
- h. Drug/alcohol abuse program
- i. Stress management program
- j. Accident prevention program
- k. Cancer risk reduction
- l. Other (specify) _____

10. What are the reasons for your organization not offering (other) health promotion programs for its employees?

- a. Too costly
- b. Benefit not proven/dubious
- c. No need/employees healthy
- d. Lack facilities/expertise
- e. High employee turnover
- f. Can't get management/exec. support
- g. Too difficult to implement
- h. Employees don't want/wouldn't participate
- i. Other (specify) _____
- j. Don't know

11. In your organization, who, that is, what position(s) has(have) or would have the influence to bring about the implementation of employee health promotion programs? (Titles Only)

- a. Medical Director
- b. Health Benefits Director
- c. Union
- d. Safety Group
- e. Majority Employee Action
- f. Top Management
- g. Head of Personnel/Employee Relations
- h. Other (specify) _____
- i. Don't know

12. Now I am going to read you a list of some of the employee health promotion programs most commonly in use today. For each one I would like to know, considering your organization's needs and employee types, how desirable such a program would be if it were feasible to implement. Would a (. . .) be very desirable, somewhat undesirable, or very undesirable in your organization?

- a. Hypertension screening and control program
- b. Smoking cessation control program
- c. Weight control program
- d. Mental health counseling
- e. Nutrition training program
- f. CPR (cardiopulmonary resuscitation program), choke saver
- g. Exercise/fitness program
- h. Drug/alcohol abuse program
- i. Stress management program
- j. Accident prevention program
- k. Cancer risk reduction program

13. Again, thinking of these programs, how would you rank them in a priority order if you were planning on implementing them in the future? Please pick the top three in order of priority. Which would have the lowest priority?

Rank Order
#

- | | |
|--|-------|
| a. Hypertension screening and control program | _____ |
| b. Smoking cessation control program | _____ |
| c. Weight control program | _____ |
| d. Mental health counseling | _____ |
| e. Nutrition training program | _____ |
| f. CPR (cardiopulmonary resuscitation),
choke saver | _____ |
| g. Exercise/fitness program | _____ |
| h. Drug/alcohol abuse program | _____ |
| i. Stress management program | _____ |
| j. Accident prevention program | _____ |
| k. Cancer risk reduction | _____ |

14. Now I have a few questions about other employee services organizations sometimes provide for their employees. Does your organization have an:

- a. On-site doctor?
- b. On-site nurse?
- c. Facilities for exercise?
- d. Cafeteria?
- e. Vending machines?
- f. Administration of a health risk appraisal instrument?
- g. Routine physicals for active management/executive level employees?
- h. Routine physicals for all level employees?
- i. Pre-employment physicals?
- j. Special disease screening (e.g., diabetes, sickle cell anemia)?
- k. CPR (cardiopulmonary resuscitation), choke saver?
- l. First aid training?
- m. Financial counseling?
- n. Legal counseling?
- o. Family crisis counseling?
- p. Retirement planning?
- q. Family planning?
- r. Something not mentioned (specify) _____

15. What was the average amount of each medical claim for insured employees in the past fiscal year?

Record # _____

16. What was the average number of sick days per employee last year?

days _____

17. What were the principal causes of death among employees in the past 3 years?

18. What were the principal causes of disability among employees in the past 3 years?

Finally, I have a few questions about your organization.

19. What type of services or products does your organization produce?

20. Are there particular kinds of employment in your organizations that are considered a health risk by you and/or government agencies?

a. Yes

b. No

A. Which ones?

21. Approximately what percent of your employees in this branch are:

Male _____

Female _____

TOTAL _____

18-29 _____

30-39 _____

40-49 _____

50-59 _____

60 and over _____

TOTAL _____

White _____

Black _____

Hispanic _____

Asian _____

TOTAL _____

Management _____

Clerical _____

Supervisory/ _____

Foreman _____

Skilled labor _____

Unskilled labor _____

Technical _____

TOTAL _____

PRESENT PROGRAMS INSERT

PROGRAM NAME: _____

1. How long has (. . .) program been offered to your employees?
INSERT PROGRAM FOR (. . .)

(CIRCLE ONE)

RECORD: _____

2. Is (. . .) offered:

On-site, or
Somewhere away from the work site?
BOTH
DON'T KNOW

3. Is (. . .) run by:

In-house personnel, or
An outside group?
BOTH
DON'T KNOW

4. Is (. . .) offered to:

All employees,
Executives or management only,
Is there some other eligibility criteria, or
Is it offered in one branch or division only?
DON'T KNOW

5. Is (. . .) a:

Continuous program, or
Is it offered intermittently?
DON'T KNOW

6. Approximately how many employees presently participate in (. . .)?

RECORD # EMPLOYEES: _____

7. Which of the following methods do you utilize in (. . .) program?
INSERT PROGRAM FOR (. . .). Do you use:
- a. Posters, leaflets, handouts, booklets?
 - b. Lectures?
 - c. Participation programs/classes?
 - d. Individual counseling?
 - e. Group sessions?
 - f. Referral?
 - g. Treatment?
 - h. Follow-up?
 - i. Screening?
 - j. Films/slides?
 - k. Some other method? (specify) _____
8. What is the estimated dollar cost per employee to run your (. . .) program for the last fiscal year?
- RECORD \$: _____ PER EMPLOYEE
9. Health promotion programs for the employees are usually provided by the organization for a variety of reasons such as to reduce absenteeism, decrease health benefits costs, improve employee health status, increase production, etc. Thinking now of your organization and the reasons you selected (. . .) program, would you say the results have generally been:
- a. Very effective,
 - b. Somewhat effective,
 - c. Somewhat ineffective, or
 - d. Not effective at all in reaching your goal?
 - e. DID NOT HAVE GOAL
 - F. CAN'T TELL/TOO SOON/DON'T KNOW
10. Generally speaking, would you say the employees who participate in (. . .) program:
- a. Feel they have benefited from it,
 - b. Do not feel they have benefited from it, or
 - c. Did they just participate because it was there?
 - d. DON'T KNOW

11. How do you promote or advertise the availability of (. . .) program?

- a. Fliers in paychecks
- b. Posters
- c. Condition of employment
- d. Supervisors announcements
- e. Memo to individuals
- f. Newsletters
- g. Referral
- h. Booklets
- i. Other
- j. Other (specify) _____

12. What department or group was responsible for initiating (. . .) program in your organization? CIRCLE ALL THAT APPLY.

- a. Top management
- b. Medical department
- c. Health benefits department
- d. Union
- e. Safety group
- f. Employees
- g. Head of personnel/employee relations
- h. Other (specify) _____

APPENDIX B

PERMISSION TO USE INSTRUMENT USED BY FIELDING AND BRESLOW

UNIVERSITY OF CALIFORNIA, LOS ANGELES

UCLA

BERKELEY • DAVIS • IRVINE • LOS ANGELES • RIVERSIDE • SAN DIEGO • SAN FRANCISCO



SANTA BARBARA • SANTA CRUZ

November 8, 1983

CENTER FOR HEALTH ENHANCEMENT
EDUCATION AND RESEARCH
CENTER FOR THE HEALTH SCIENCES
LOS ANGELES, CALIFORNIA 90024

Dear Colleague:

The enclosed instrument was used as the document to collect information that has been summarized in "Health Promotion Programs Sponsored by California Employers", an article in May 1983 issue of American Journal of Public Health by Jonathan E. Fielding, M.D., M.P.H. and Lester Beslow, M.D., M.P.H.

We are pleased to forward it to you and hope that it can prove useful in your endeavors.

If you decide to use it we would appreciate the source being cited and also receiving any results of surveys that you may perform using it or using an instrument which is somewhat modified from the one we employed.

Thank you very much.

Sincerely yours,

A handwritten signature in cursive script, reading "Jonathan Fielding".

Jonathan E. Fielding, M.D., M.P.H.
Professor, Schools of Medicine and
Public Health
Co-Director, Center for Health Enhancement,
Education and Research
University of California, Los Angeles

JEF/ljd

Enclosure

APPENDIX C

HUMAN SUBJECTS FORM A

FORM A
THE UNIVERSITY OF TENNESSEE, KNOXVILLE
Certification of Exemption from Review
for Research Involving Human Subjects

CRP 1 1 1

Date Received _____

Project Director and Co-Director: Steve M. Dorman and Dr. Bill C. Wallace

Address and Phone Number of Project Director and Co-Director: (For student projects, list both student and advisor.)

Division of Health and Safety, UTK (615) 974-5041

Title of Project:

A Study of Health Promotion Programs of Selected Tennessee Industry

Department: Division of Health and Safety

Supporting Agency and Identification Number (if known): Tennessee Dept. of Health and Environment

Estimated starting date and completion date: March-May, 1984

Grant submission deadline:

I. Objective(s) of Project:

The primary purpose of this study is to assess the current status of health promotion programs in order to develop a profile of the health promotion activities conducted by employers with more than 100 employees in the state of Tennessee. Secondary purposes of this study are to report the perceived effects of these programs on selected variables, to report the effects of selected variables on programs, and to project the industrial health promotion needs in Tennessee.

II. Subjects (selection method, population, description):

The subjects in this study will consist of the medical directors, health service directors and personnel directors of 250 industries of the 2550 industries in the state with over 100 employees. The industries will be randomly selected from a list of employers provided by the Tennessee Department of Employment Security. No subject will be identified in the report, and an option will be presented not to participate.

III. Methods or Procedures:

A list of randomly selected employers will be generated from a larger list of Tennessee employers provided by the Tennessee Department of Employment Security. Individuals most knowledgeable about the employer's health promotion programs will be interviewed in a 20 minute telephone survey to be conducted at the East Tennessee Regional Office of the Tennessee Department of Health and Environment. Only the statistical summaries will be used in the research report. No employer will be identified or subjected to any adverse contact by the researcher. All will have the option not to participate in the study. Only the chief researcher will have access to the names and addresses of the individuals which participated. Individuals who participate will be given the name and address of the chief investigator should they desire further information or wish to have their responses not included in the survey.

IV. Category of Exempt Research per 45 CFR 46:

(See reverse side of form for Exempt Categories)

Certification: The research described herein is in compliance with 45 CFR 46 101(b) and presents subjects with no more than minimal risk as defined by applicable regulations.

Signatures:

Investigator

Steve Michael Dorman

3/12/84

Date

Advisor

Bill C. Wallace

3/13/84

Date

Department Head or Chair

James H. Dorman, Jr.

3/13/84

or Departmental Review Committee

Date

Dean for Research

James H. Dorman, Jr.

3/13/84

Date

THE UNIVERSITY OF TENNESSEE, KNOXVILLE
KNOXVILLE 37996-0140
OFFICE OF THE VICE CHANCELLOR
FOR RESEARCH

404 ANDY HOLT TOWER

March 14, 1984

AREA E15
TELEPHONE 974-3466

Steve M. Dorman
Division of Health and Safety
HPER Building
CAMPUS

Dear Mr. Dorman:

The project which you submitted entitled, "A Study of Health Promotion Programs of Selected Tennessee Industry," CRP #A-201, has been reviewed.

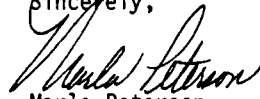
This project comes within the guidelines which permit me to certify that the project is exempt from review by the Committee on Research Participation.

The responsibility of the project director includes the following:

1. Prior approval from the Dean for Research must be obtained before any changes in the project are instituted.
2. A statement must be submitted (Form D) at 12-month intervals attesting to the current status of the project (protocol is still in effect, project is terminated, etc.).

The Committee wishes you success in your research endeavors.

Sincerely,


Maria Peterson
Dean for Research

SCW

cc: Dr. L. Evans Roth
Dr. Bill C. Wallace
Dr. Robert J. Pursley

APPENDIX D

KEYPUNCH FORM DEVELOPED BY RESEARCHER

ID Dup 1-6		CARD	NAME	MONTHS	4	5	6	7	7-15
8	9	A B C D E F G H I J	K L	10	11	12			16-37
13		A B C D E F G H I J	K L						38-56

ID Dup 1-6		CARD	NAME	MONTHS	4	5	6	7	7-15
8	9	A B C D E F G H I J	K L	10	11	12			16-37
13		A B C D E F G H I J	K L						38-56

ID Dup 1-6		CARD	NAME	MONTHS	4	5	6	7	7-15
8	9	A B C D E F G H I J	K L	10	11	12			16-37
13		A B C D E F G H I J	K L						38-56

VITA

Steve Michael Dorman, son of James H. and Rachel Dorman, was born on June 13, 1957 in Durham, North Carolina. He attended public schools in Durham, and after graduation from Durham High School he entered Lee College in Cleveland, Tennessee. While at Lee, he served as vice president of the student government association and was elected to Who's Who Among Students in American Colleges and Universities by the faculty in 1978-79. He graduated from Lee in May 1979 with a Bachelor of Science degree, majoring in Biology, and minoring in Religion.

After working as a technician in a waste water treatment laboratory for one year, he entered The University of Tennessee at Knoxville to pursue the Master in Public Health in Community Health Education. He was awarded the M.P.H. in June 1982. In the fall of that year he accepted a graduate teaching assistantship with the Division of Health and Safety at The University of Tennessee and began his efforts toward the Ph.D. in Health Education.

In addition to his studies and teaching, he has been a frequent speaker for many community organizations and has consulted with several area industries on health promotion programs. He is especially interested in health promotion in the workplace and has a collateral study in industrial engineering to complement this interest.

He is a member of the American Public Health Association; the American Alliance for Health, Physical Education, Recreation, and

Dance; Eta Sigma Gamma; and the Society for Public Health Education, Inc. He has served as vice president of the Tennessee Chapter of the Society for Public Health Education.

He is married to the former Carla Jane Johnson of Oak Ridge, Tennessee, and they are currently expecting their first child.