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LEGISLATION AND EDUCATION AS STRATEGIES
TO REDUCE BEHAVIORAL HEALTH RISK FACTORS
IN THE STATE OF NEBRASKA

by

Kimberly M. Poindexter

A THESIS

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LEGISLATION AND EDUCATION AS STRATEGIES TO REDUCE
BEHAVIORAL HEALTH RISK FACTORS IN THE STATE OF NEBRASKA

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University of Nebraska, 1995

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In the interest of improving health care planning and practice, this paper examines legislation and educational strategies designed to reduce behavioral health risk factors in the state of Nebraska and the United States. The growing problem of modifying health behavior in the nation and Nebraska is reviewed, including trends in seat belt use, drinking and driving, smoking, hypertension, obesity, and sedentary lifestyle. Nebraska's rate of death associated with these risk factors is higher than the national average. Several of the strategies which Nebraska and the United States have implemented are reviewed.

Legislation to reduce the prevalence of seat belt nonuse, drinking and driving, and smoking, is one prevention strategy which has been developed and implemented in both Nebraska and the United States, although levels of enforcement and type of penalties vary.

Despite legislative action, many people still find ways to violate the laws without punishment; therefore, education plays a critical role in prevention. If programs are targeted to the right demographic groups with the right methodology, legislation may become less important in controlling or modifying human behavior. The most recent national goals and objectives (Healthy People, 1991) developed by the federal government

indicated that, although the rate of increase in the number of deaths which can be attributed to poor health behavior is rising more slowly than in previous years, there is still an increase, which ideally should be reversed by the year 2000.

Over the last few decades, both legislative and educational strategies have produced some moderate changes in the overall health of our nation, but with more resources devoted to planning and implementing legislative and educational strategies, Nebraska and the nation overall demonstrate potential for successfully addressing the problems and achieving the goal of preventing deaths due to poor health behavior. Since the financial impact on our health care system and the economy is a very critical issue at the present time, improvements in health care planning and practice, as well as further research and evaluation are warranted.

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LIST OF ABBREVIATIONS

ACS	American Cancer Society
ARBD	Alcohol Related Birth Defect
AHA	American Heart Association
ASSIST	American Stop-Smoking Intervention Study
BRFS	Behavioral Risk Factor Survey
CDC	Centers for Disease Control and Prevention
DMV	Department of Motor Vehicles
DWI	Driving While Intoxicated
FAS	Fetal Alcohol Syndrome
HBP	High Blood Pressure
HHS	Department of Health and Human Services
JNC	Joint American Committee on Detection, Evaluation, and Treatment of High Blood Pressure
MDA	Minimum Drinking Age
NCI	National Cancer Institute
MRFIT	Multiple Risk Factor Intervention Trial
NCEP	National Cholesterol Education Program
NCSH	National Clearinghouse for Smoking and Health
NDOH or DOH	Nebraska Department of Health
NHLBI	National Heart, Lung, and Blood Institute
NHTSA	National Highway Transportation Safety Administration

LIST OF ABBREVIATIONS, cont'd

NHBPEP	National High Blood Pressure Education Program
PAC	Physical Activities Club
PHS	Public Health Service
SADD	Students Against Drunk Drivers
SEP	Smoking Education Program
SEWP	State Employee Wellness Program
SIDS	Sudden Infant Death Syndrome
WELCOM	Wellness Council of the Midlands
WELCOA	Wellness Council of America

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Most of all, thank you Lord, for blessing me with this accomplishment.

CHAPTER I
INTRODUCTION

Need for Health Care Planning

With developing changes in our health care delivery system, health planning is becoming more and more valuable to our society. Because it is probably the single most determining factor of how well we function on a daily basis, the health of our nation impacts all sectors at all levels of government. Health planners often work to aid public health departments in planning, implementing, and evaluating disease prevention and health promotion strategies. Health planners develop tools for assessing and/or identifying current health problems, develop goals and objectives, design strategies, as well as evaluative methods for monitoring the impact and effectiveness of the strategies on prevention and intervention of current and future health problems.

The Federal and State governments' roles in planning for the delivery of health care services are critical. Their primary responsibilities are: to provide leadership in setting priorities and goals for prevention activities; to help expand the knowledge base through research and data collection; to assure that preventive services are provided to high risk groups on a priority basis; to determine and enforce health and safety standards protecting people; and if necessary, to provide

economic incentives to encourage health and safety.¹

Problem Assessment and Identification

Research has shown that the national economy is burdened by millions of dollars in unnecessary expenses each day because people develop unhealthy habits that lead to illness, injuries, and death.² This is only one problem facing health planners today. But it also seems to be a very simple one to solve if only we plan the right strategies and create the right incentives for people to change their behavior. The Nebraska Department of Health has conducted a Behavioral Risk Factor Survey (BRFS) which was designed by the Centers for Disease Control and Prevention (see appendix).³ This survey is used as a tool to collect information on safety belt use, hypertension, exercise, weight control, tobacco use, alcohol consumption, cholesterol, AIDS, and other preventive health practices. This survey is conducted in 50 other states, the District of Columbia, and three U.S. territories. The data has been used to assess the health practices of Nebraskans and differences among demographic groups. Recent surveys showed that many Nebraskans still take unnecessary risks which result in injuries and diseases associated with the leading causes of death in Nebraska and the nation.

¹U.S. Department of Health, Education, and Welfare, Healthy People, (1992) U.S. Government Printing Office, Washington D.C., stock # 017-001-00416-2: 120.

²Ibid.

³Centers for Disease Control and Prevention. Behavioral Risk Factor Questionnaire, (Atlanta, Georgia: Government Printing office)

Development of Goals & Objectives

The United States Department of Health and Human Services sets national goals and objectives to be achieved by reducing the prevalence of these risk factors. Each state, including Nebraska, uses these goals and objectives as guidelines.

Development of Strategies

This thesis focuses on Nebraska's need to plan new and improved strategies, both legislatively and educationally, to reduce the prevalence of illness, injuries, and death resulting from poor health behavior. Heart disease, cancer, stroke, and motor vehicle accidents are just a few of the leading causes of death in the State of Nebraska and the nation which are often caused by risks such as seat belt nonuse, alcohol misuse, cigarette smoking, hypertension, obesity, and sedentary lifestyle. Each of these risk factors is important because of its effect on the quality of life.

Without effective strategies to solve these problems, the population is at risk. Although opinion polls show greater interest in healthier lifestyles, many people are still apathetic and unmotivated to change.⁴ Many still leave preventable illness and death to chance. Many also consider strategies to promote healthy lifestyles as an infringement on personal liberties. Certain industries resist the threat of economic loss due to decreased use of a product or requirements for costly measures to protect workers and the public. This can

⁴U.S. Department of Health, Education, and Welfare, Healthy People, (1992) U.S. Government Printing Office, Washington D.C., stock # 017-001-00416-2: 120.

lead to bitter opposition to efforts to promote health or prevent disease and disability.

Need for Improved Methods of Evaluation

Some of the risk factors associated with the leading causes of death are not given adequate attention due to a lack of programs to address these issues. Some of the programs which have been formed to address these issues have not been successful in targeting population groups with specific demographic characteristics.⁵ Ongoing evaluation of Nebraska's programs is critical, because survey data indicates that the strategies used have resulted in only minimal changes for very high risk groups (i.e., groups with statistically greater occurrences of deaths or poor health due to behavioral health risks). With careful planning efforts, we can find solutions to these problems. Unnecessary death and disability can be prevented--and better health maintained through a national effort and commitment of individual citizens, the communities in which they live, the employers for whom they work, voluntary agencies, and health professionals. Government agencies at all levels have a responsibility to encourage and bolster the efforts of individuals and communities.

Health research is ongoing, but better measures are needed for providing people with information which will motivate them and provide them with the skills to control behaviors which they are trying to change. More accurate techniques must be developed with which to estimate program costs and to measure

⁵Ibid.

program effectiveness.⁶

The importance of local government units to successful prevention programs is unquestioned. The past successes of prevention and public health have been predominately community based. Local government, assisted and supported by its State and Federal counterparts, can establish and enforce important regulations.

Benefits to the Nebraska Department of Health

The Nebraska Department of Health works consistently towards developing successful special programs and increasing the effectiveness of legislation for the prevention and/or reduction of behavioral health risks. That is why further research and analysis of current legislation, programs, as well as the results of the Behavioral Risk Factor Surveys which play a major role in identifying target groups, is so important. This research would allow conclusions to be drawn about the impact of these strategies on different demographic groups and ways to increase the effectiveness of the strategies over a diverse population. Also, the Planning Division in the Nebraska Department of Health can utilize recommendations for formulating new policies, revising old policies, or proposing new legislation. Defining problems, setting new goals, applying for grant funds, and allocating funds to old and new agencies are steps in the planning process that may be influenced by this research also. The primary objective is to utilize this

⁶U.S. Department of Health, Education, and Welfare, Healthy People, (1992) U.S. Government Printing Office, Washington D.C., stock # 017-001-00416-2: 120.

analysis as a tool in strengthening current, and developing new, strategies so that behavioral risk factors will no longer contribute extensively to the leading causes of death and disability and overall economic decline in Nebraska.

Chapter Outline

Chapter Two assesses the risks in the State of Nebraska and the nation to show where the levels of prevalence differ by revealing results of the Behavioral Risk Factor Survey. It also shows the impacts of behavioral health risks on the economy. This chapter creates the basis for the critique of strategies in the following chapters. This critique serves as a basis for setting priorities in the planning process.

Chapter Three reviews legislative strategies which have been developed and implemented to reduce the prevalence of these behavior risks. Although for most strategies there is no scientific formula to prove direct cause and effect, certain trends do indicate strong relationships. Only three of the six risk factors are addressed by legislation: seat belt nonuse, drinking, and smoking. This chapter analyzes the impact of legislation on these behavioral risks.

Chapter Four reviews various programs which have been developed for the prevention and/or intervention of one or perhaps multiple risk factors. A literature review helps support the theory that prevention strategies could have a greater impact on the prevention of certain risk factors if more was done to target higher risk population groups. Chapters Two and Three also show similarities and differences in the methods

of risk factor prevention utilized by communities and/or agencies in Nebraska and the nation. Both chapters also show where the focus of the strategy tends to be in relation to demographic groups. The literature review also shows which kinds of legislative activity and programs have proven most effective or least effective and how some of these strategies could be fine tuned with results from evaluation and follow-up procedures. Chapter Five summarizes the research and findings, and outlines the conclusions. A set of recommendations is presented. The recommendations are directed towards the Planning Division of the Nebraska Department of Health and other State agencies dealing with similar issues presented in the thesis.

It is hoped that this thesis will serve as a planning tool at various levels, whether the planning involves volunteers at the community level or officials at the state level.

CHAPTER II
THE SIX MAJOR HEALTH RISKS AND
THEIR STATUS

Introduction

In 1990, in both the state of Nebraska and the nation, the seven leading causes of death were: Heart disease; Cancer; Stroke; Pneumonia; Accidents; Chronic Lung Disease; and Diabetes Mellitus. The order of these causes of death was only slightly different (see figure 1). Directly related to each of the seven leading causes of death is a modifiable behavioral health risk factor: safety belt nonuse; alcohol misuse, smoking, uncontrolled hypertension, obesity, and sedentary lifestyle. These risk factors are chosen for concentration in this and following chapters because of their direct association with the seven leading causes of death. The following paragraphs outline the status of the six risk factors in the nation and in the state of Nebraska.

Seat Belt Nonuse

Numerous injuries and deaths occur each year from car accidents in which occupants are not wearing seat belts. Severity of injuries sustained in motor vehicle accidents is found to be greater for those who do not wear seat belts. Many

LEADING CAUSES OF DEATH IN NEBRASKA AND THE U.S.

Nebraska	U.S
1. Heart Disease	1. Heart Disease
2. Cancer	2. Cancer
3. Stroke	3. Accidents
4. Pneumonia	4. Stroke
5. Accidents	5. Chronic Lung Disease
6. Chronic Lung Disease	6. Pneumonia
7. Diabetes Mellitus	7. Diabetes Mellitus

Figure 1

Sources:

U.S. Department of Health and Human Services, Prevention '93/'94: Federal Programs and Progress (Washington, D.C.: Office of Disease Prevention and Health Promotion, 1993-94), 15.

Nebraska Department of Health-Division of Health Data Systems, 1993 Vital Statistics, 5.

children, especially, die as a result of severe injuries.¹

Consequences most victims face are higher medical cost, longer hospital stays, and longer rehabilitation. Thus, the impact touches not only the accident victim and their families, but the state and national economy as well.² Following is an overview of the status of seat belt nonuse.

National Status on Seat Belt Nonuse

In the nation, in 1990, injuries were the leading cause of death among 5- to 34 year-olds and the third leading cause of death overall (see figure 2). Motor vehicle crashes are the most costly source of disability in the U.S.³

According to a report on the Nebraska Behavioral Risk Factor Survey from 1991 and 1992, 19 percent of adults in the United States were unrestrained.⁴

For a national representation, 1,364 patients at four Chicago hospitals were evaluated to assess the impact of seat belt use on injuries sustained. Out of the 791 victims who were wearing seat belts, only 54 had to be admitted to the hospital. Out of the 573 victims who were not wearing seat belts, 110 had

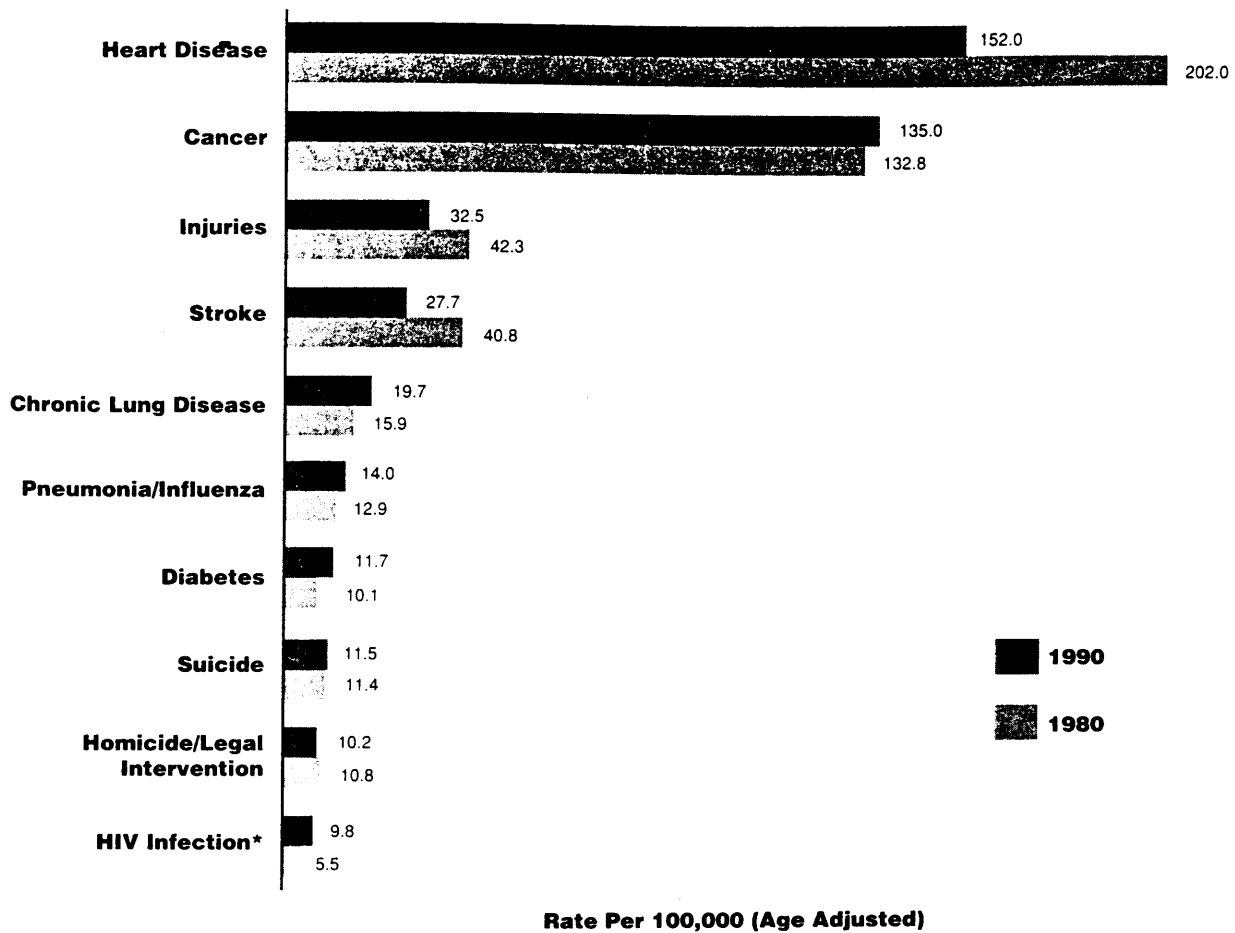
¹U.S. Department of Transportation. National Highway Traffic Safety Administration, Fatal Accident Reporting System 1987. ([Washington, D.C]: U.S. Department of Transportation, National Highway Traffic Safety Administration, 1987), 2: 18-19.

²Elizabeth Mueller Orsay et al, "Prospective Study of the Effect of Safety Belts on Morbidity and Health Care Costs in Motor-Vehicle Accidents," Journal of American Medical Association 260, no. 24 (December 1988); 3598.

³Ibid.

⁴Nebraska Department of Health, Behavioral Risk Factor Survey Report, 1991-1992.

Death Rates for Major Causes of Death in the U.S.
1980 to 1990



*Data are for 1987, the first year HIV infection was reported separately, and 1990

Figure 2

Source: U.S. Department of Health and Human Services, Prevention '93/'94: Federal Programs and Progress (Washington D.C.: Office of Disease Prevention and Health Promotion, 1993-94), 15.

to be admitted. In short, two-thirds of the total number admitted were not wearing seat belts at the time of injury. Consequently, five patients died during this study, all of which were not wearing seat belts.⁵

From this same study, it was determined that severity of injury was greatest among the seat belt nonusers. In fact, of the most severely injured, 36 were not restrained and only eight were restrained. Consequently, the unrestrained occupants incurred health care charges of nearly three times that of restrained occupants. Finally, with regard to payment of these charges, nearly 60% of unrestrained occupants had no health care coverage or were receiving governmental assistance. Of seat belt users, 60% were covered by private insurers, a health maintenance organization, or workers compensation. This study suggested that safety belts can provide significant benefits in reducing injuries, severity of injuries, deaths, and health care costs in the nation.⁶

Nebraska Status on Seat Belt Nonuse

Nearly fifty percent of Nebraskans did not buckle up in 1992 (see figure 3).⁷ Vital statistics showed Nebraska had 270 deaths and over 22,000 persons injured in 1992. Research indicates that the lack of seat belt use was a contributing

⁵Ibid., 3600.

⁶Ibid., 3602.

⁷Nebraska Department of Roads, Highway Safety Division Traffic Accident Facts, 1994 ([Lincoln, NE: Nebraska Department of Roads, Highway Safety Division), 7.

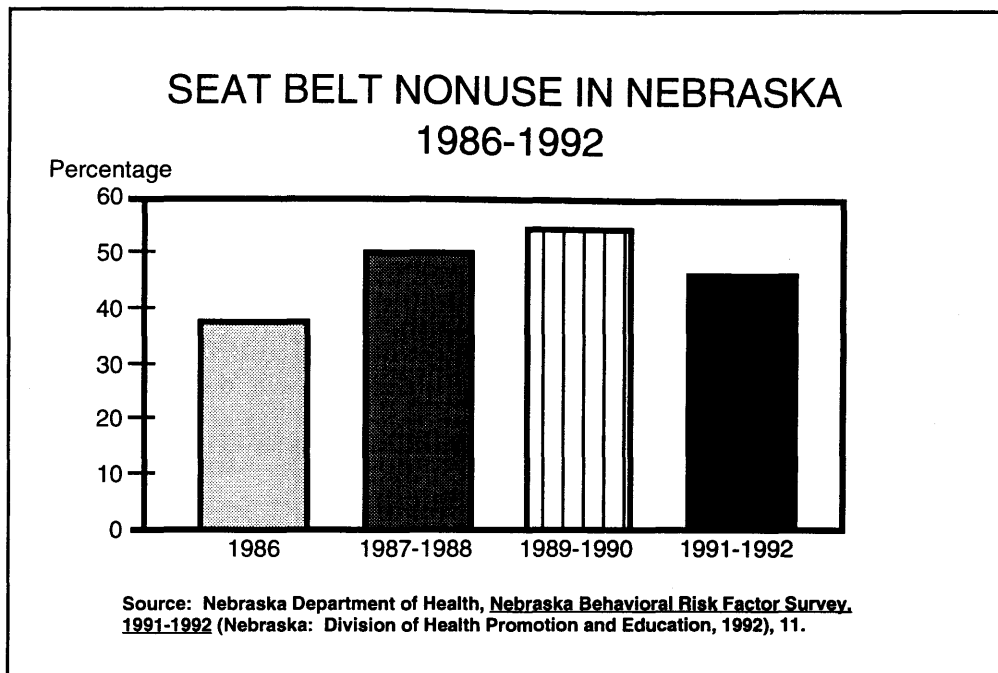


Figure 3

factor in many of these fatalities and injuries.⁸ Accident injuries was the 5th leading cause of death in Nebraska in 1993 (see figure 4).

In the 1991 and 1992 Behavioral Risk Factor Survey (BRFS), Nebraskans were asked to respond to questions about their use of seat belts. The following categories of seat belt use were used to show the frequency of seat belt use: (a) always; (b) nearly always; (c) sometimes; (d) seldom; and (e) never. Those who responded sometimes, seldom, or never were considered to be persons who need to change their behavior.⁹

According to the survey results, slightly fewer than half of all respondents were at risk due to seat belt nonuse. Young adults were in the highest risk group. Close to 60% of the respondents age 18 to 24 were seat belt nonusers, and persons who lived in rural areas were more likely to be seat belt nonusers than persons who lived in urban areas. Level of risk decreases as family income and level of educational attainment increase.¹⁰

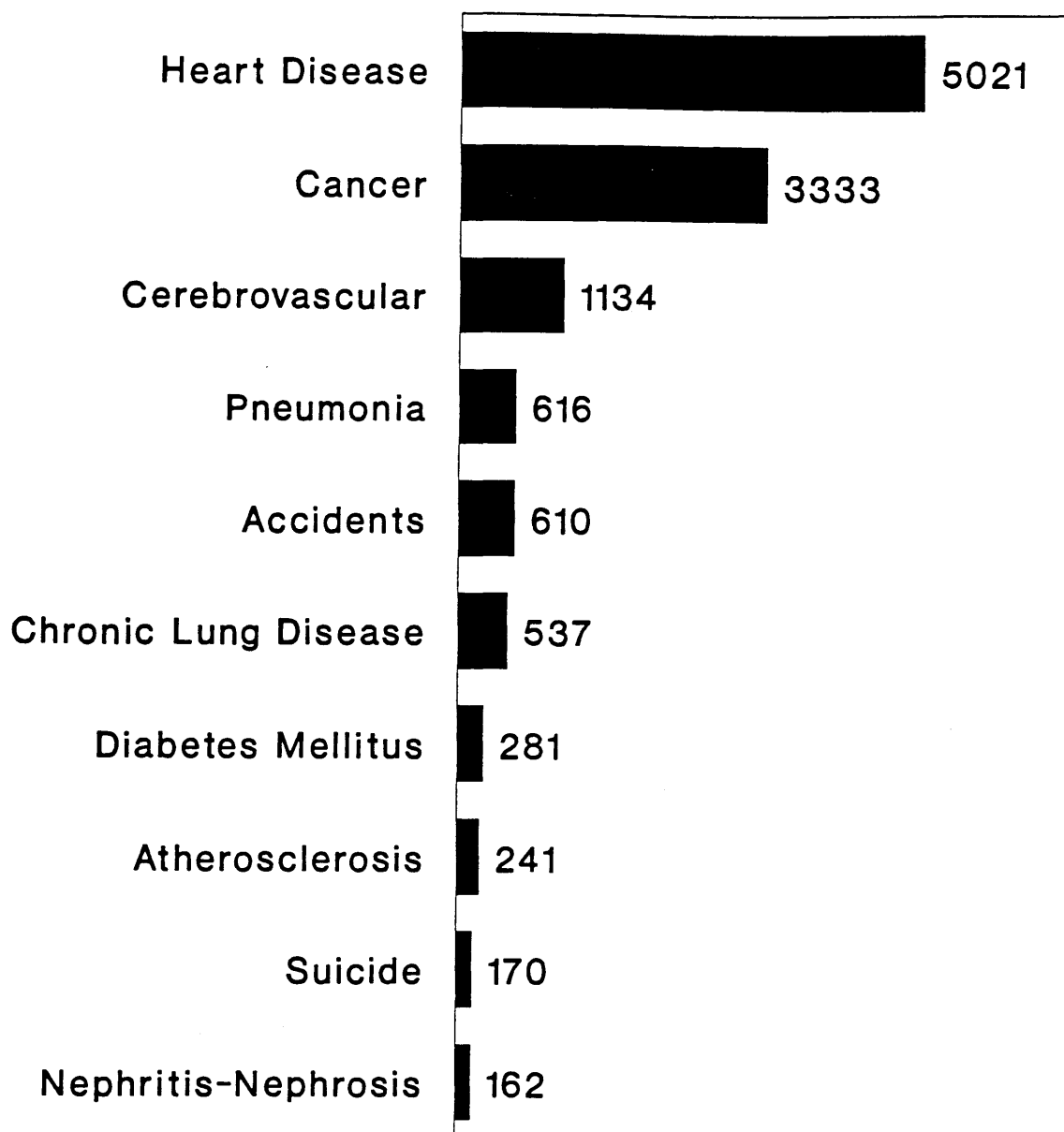
For a statewide representation, 416 patients at Lincoln General Hospital in Lincoln, Nebraska were evaluated to assess the impact of seat belt use on injuries sustained in motor vehicle accidents. Two-hundred eighty-one cases were able to be

⁸Nebraska Department of Health, Behavioral Risk Factor Survey 1991-1992.

⁹Nebraska Department of Health, Division of Health Promotion and Education, Nebraska Behavioral Risk Factor Survey 1991-1992, ([Lincoln, NE]: Nebraska Department of Health, Division of Health Promotion and Education), 4.

¹⁰Ibid.

TEN LEADING CAUSES OF DEATH IN NEBRASKA, 1993



Number of Deaths

Figure 4

Source: Nebraska Department of Health-Division of Health Data Systems, 1993 Vital Statistics, 5.

documented. Out of 281 victims who were admitted, 67 were restrained and 214 were not. Ten of these patients died, nine of whom were not restrained.¹¹

The average length of stay was 2 days longer, and the total medical cost was, on average, \$2,488 more for unrestrained occupants. Of the 89 people who were unable to go home, but were transferred to nursing homes and rehab centers, 56 (63%) had not worn seat belts.¹²

In summary, this study determines that severity of injury is greatest among seat belt nonusers and that health care costs, hospital stays, and deaths, are also significantly higher among this same group. Belt use in Nebraska in 1989 was only 35 percent.

Alcohol Misuse

Alcohol consumption by drivers can be associated with a higher than normal probability of being involved in a fatal crash. The National Highway Transportation Safety Administration (NHTSA) estimates that 51% of all fatal traffic accidents involve a drinking driver or pedestrian.¹³ Furthermore, just as nonuse of seat belts can have a devastating impact on the economic system, drunk driving can as well. In fact, a person hospitalized for injuries sustained in an alcohol related accident could expect to pay double or more the amount

¹¹Lincoln General Hospital, Utilization of Restraints in Motor Vehicle Accidents January 1, 1986 - December 31, 1987, ([Lincoln, NE: Lincoln General Hospital), 1.

¹²Ibid.

¹³U.S. Department of Transportation, FARS 1990, 2: 14.

that a person in a non-alcohol related accident might pay. On average, a person in an alcohol related accident can also expect a higher degree of injury.¹⁴

Excessive alcohol consumption has been linked to a variety of health problems such as cirrhosis of the liver, and cancer (i.e. of the mouth, throat, esophagus and liver). Both diseases are leading causes of death in the U.S.¹⁵

To determine the number of persons who use and/or abuse alcohol, surveys break drinking habits into categories: (1) heavy drinkers, persons who exceed 60 drinks per month; and (2) binge drinkers, who have 5 or more drinks of alcohol on at least one occasion during a month. Some surveys use two different categories: non-drinkers, and moderate drinkers with no mention of heavy drinkers.

Alcohol abuse contributes to Fetal Alcohol Syndrome (FAS), which occurs in one out of 750 live births in infants whose mothers drink heavily during pregnancy. FAS is the most detrimental and prominent alcohol related birth defect and the leading cause of mental retardation.¹⁶ Most people, according to a public opinion survey, associate drinking with the potential hazards mentioned earlier, namely driving, and liver disorders. Only four out of ten people questioned in the public opinion survey were familiar with and understood the term, fetal alcohol

¹⁴Thomas R. Burke, "The Economic Impact of Alcohol Abuse and Alcoholism," Public Health Reports: Journal of the U.S. Public Health Services 103 no.6 (November-December 1988); 564

¹⁵Ibid., 566

¹⁶Kenneth R. Warren, PhD. and Richard J. Bast, "Alcohol-Related Birth Defects: an update," Public Health Reports 103, no.6, (November - December 1988): 638

syndrome.¹⁷

Consequences of consuming alcohol during pregnancy can be subtle, from small brain disturbances, reduced birth weight, to congenital abnormalities that exhibit FAS. Terms such as "alcohol-related birth defect (ARBD)", and "possible fetal alcohol effects (FAE)" are used to address less defined problems observed in children of women known to have consumed significant amounts of alcohol during pregnancy.¹⁸

National Status on Alcohol Misuse

Every year 105,000 individuals die from alcohol-related deaths. A liver transplant to treat the damages caused by alcohol abuse is estimated to cost \$250,000.¹⁹

In a report on the most recent survey (1991/92) of preventative health habits of Americans, 81% of adults say they never drive after drinking. It follows then that a fair proportion of adults drink responsibly even though the incidence of fatalities, injuries, and disabilities resulting from alcohol-related crashes is high.²⁰

Ironically, our nation spends millions of dollars on advertising to promote the purchase of beer, wine, and other

¹⁷U.S. Department of the Treasury, Bureau of Alcohol, tobacco and Firearms, Warning Label Study 1989 ([Washington, D.C.]: U.S. Department of the Treasury, Bureau of Alcohol, Tobacco and Firearms, 1989), 13.

¹⁸Warren and Bast, "Alcohol Related Birth Defects: an Update", 639

¹⁹Louis Harris & Associates, "Prevention in America," The Prevention Index '89 Summary Report (1989): 3

²⁰Ibid., 24-25

alcoholic beverages, as well as to encourage social drinking.

For every 100,000 adults, 12 died of liver disease in 1990, also a leading cause of death in the nation. A report on a national survey identified alcohol consumption in two categories: (1) non-drinkers; and (2) moderate drinkers. The most recent data is from 1992, when 487 (39%) out of 1,250 people surveyed did not drink, yet 750 (61%) were moderate drinkers.²¹

Survey data analysts reported that the least advantaged educational, income, and occupational groups in America were more likely to be either non-drinkers or heavy drinkers, while moderate drinkers were found mostly in advantaged social groups. Many socioeconomic patterns of drinking behavior were observed by analysts. The level of consciousness about weight and nutrition were the greatest influence on drinking behavior.²²

In 1992 (the most recent data), alcohol misuse cost our economy \$111.7 billion. In comparison, non-alcohol drug abuse costs our economy \$60 billion.²³ Costs of alcohol misuse are expected to increase. The nation, however, continues to spend millions of dollars on advertising to promote the purchase of beer, wine, and other alcoholic beverages, as well as to encourage social drinking.

Statistics on the Fetal Alcohol Syndrome (FAS) are not reliable, but the U.S. estimates that there are 3 cases per

²¹Louis Harris & Associates, "Prevention in America," The Prevention Index '91 Summary Report (1991): 3.

²²Ibid.

²³Burke, "The Impact of Alcohol," 564.

1,000 live births. The FAS is the leading known cause of mental retardation, ahead of Down's syndrome and spina bifida. Based on fourteen U.S. studies, the incidence of FAS among mothers who abused alcohol was 59 per 1,000 liver births.²⁴ These same studies confirmed that the most critical period in pregnancy when alcohol causes anomalies is around the time of conception (the first month) and that any brain disturbances resulting from prenatal alcohol exposure stay with a person for life.

Nebraska Status on Alcohol Misuse

In 1993, in the State of Nebraska there were 269 deaths due to motor vehicle accidents. At the time of the survey, 4 percent of the respondents to the survey reported drinking and driving during the past month. Males between the age of 18 and 24 were the most likely to report drinking and driving within the past month. Urban and rural areas had generally the same level of prevalence, as age increased the prevalence; of drunk driving decreased.²⁵

Data collected by Lincoln General Hospital in Lincoln, Nebraska, showed that alcohol involvement in motor vehicle accidents over a two year period appeared to be a significant problem. Four-hundred sixteen patients admitted to Lincoln General were evaluated to assess the impact of alcohol use on injuries sustained. A total of 106 involved alcohol. The average length of stay for these patients was 16.1 days,

²⁴Warren and Bast, "Alcohol Related Birth Defects: an update," 639.

²⁵Nebraska Department of Health, "BRFS 1991 & 1992," 20.

compared to 5.9 days for patients who were not in alcohol related accidents. Injury severity was 8.3 points higher, and it was found that a person hospitalized for injuries sustained in an alcohol related accident could expect to pay double or more the amount a person in a non-alcohol related accident might pay. Although only 3 of 10 deaths were alcohol-related, a larger proportion of these patients were transferred to nursing homes or rehabilitation centers.²⁶

Much like not using seat belts, drivers who are under the influence of alcohol stand a very high chance of suffering severe injuries, high medical costs, longer hospital stay, and a smaller chance of returning to the workforce.

According to the Nebraska BRFs from 1991 and 1992, drinkers are more likely to be binge drinkers (18%) than heavy drinkers (7%) and more likely to be male, between age 18 and 24.²⁷ As compared to previous years, binge drinking, heavy drinking, and drunk driving are decreasing (see figure 5).

While families at all income levels reported bingeing, heavy drinking was more prevalent in families with incomes of \$50,000 per year or more.²⁸

Consumption of alcohol was shown to be a major cause of cancer and liver cirrhosis. In 1987, 3,076 (21% for all deaths) Nebraskans died of cancer. There were 84 deaths due to

²⁶Lincoln General Hospital, Alcohol Involvement in Motor Vehicle Accidents: January 1, 1986 - December 31, 1987, ([Lincoln, NE]: Lincoln General Hospital), 1

²⁷Nebraska Department of Health, "BRFS 1991 & 1992," 20.

²⁸Ibid.

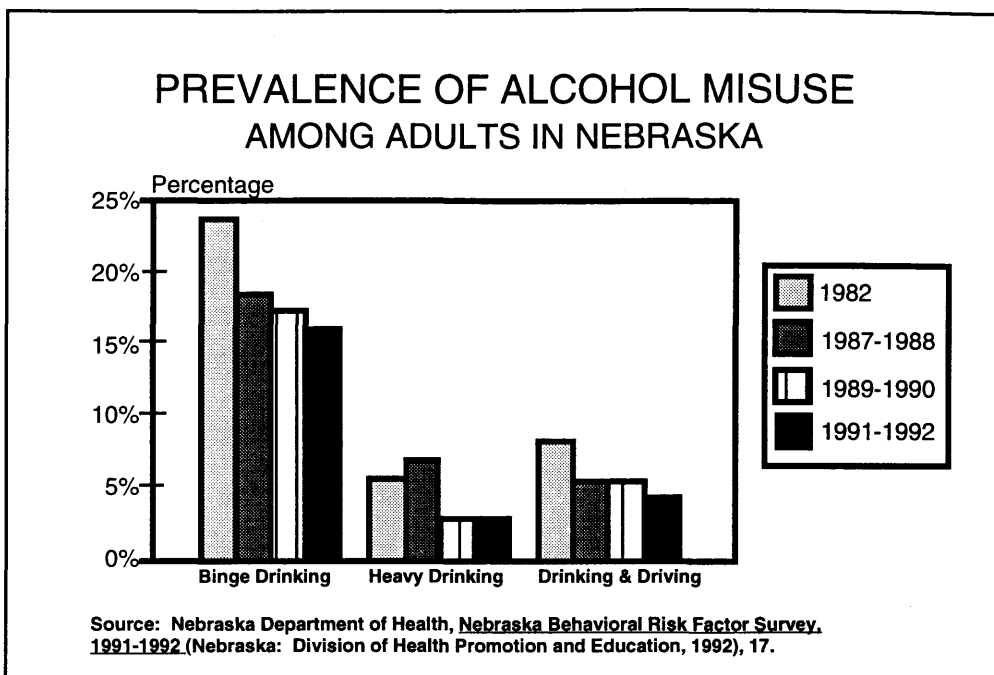


Figure 5

cirrhosis.²⁹

Smoking

One of the most serious risk factors that an individual can do something about is smoking. A reduction in cigarette smoking would have the greatest effect in reducing premature death and disability in the United States, namely through the reduction of heart disease, the number one cause of death in Nebraska and the nation (see figures 2 & 4).³⁰

As is true with drinking, smoking habits carry costs not only for smokers but for everyone else as well. It has been established that other persons' smoking is a cause of diseases, such as lung cancer, in healthy non-smokers.³¹ The children of parents who smoke have an increased frequency of various forms of acute respiratory illnesses, infections, and low birth weight. There are 260,000 low birth weight babies born each year. Low birth weight contributes to 23,000 deaths each year and requires more hospitalizations when compared with children of non-smokers.³² The average neonatal intensive care costs of treating and caring for a low birth weight baby is about \$10,000. This is most likely part of the impetus behind efforts

²⁹Nebraska Department of Health, Division of Health Data systems, Nebraska Vital Statistics Report 1987, ([Lincoln, NE]: Nebraska Department of Health), 57.

³⁰U.S. Department of Health, Education, and Welfare, Healthy People, 1993 ([Washington, D.C.]): U.S. Department of Health, Education, and Welfare), 122

³¹Ibid.

³²U.S. Department of Health and Human Services, National Heart, Lung, and Blood Institute. NHLBI Kit '89, ([Washington, D.C.]: U.S. Department of Health and Human Services).

to protect non-smokers from smokers and to protect smokers from themselves.

National Status on Smoking

In 1991 and 1992, the average rate of smoking was 23 percent across the nation; this is a total of approximately 53 million smokers.³³ The Centers for Disease Control and Prevention in Atlanta, Georgia estimates that over 90 million people could be smoking if the changes in the smoking and health environment since 1964 had not occurred. Cigarette smoking accounted for about 419,000 deaths throughout the U.S. in 1993. This represented more than one of every six deaths in the United States.³⁴

Lung disease is the number one related illness and cause of death from smoking. The estimated cost of treating a single individual with lung cancer is about \$29,000 from beginning to the end of treatment. The 1989 Prevention Index reported that the proportion of adults who smoked cigarettes that year (26%) was the lowest ever registered in a Harris survey that measured this trend. Between men and women rates are rather similar, 27% and 24% respectively.³⁵

Smoking was reported to be highest among people with less

³³Ibid.

³⁴U.S. Department of Health and Human Services, Centers of Disease Control, "Surgeon General's 1989 Report on Reducing the Health Consequences of Smoking: 25 years of Progress," Mortality and Morbidity Weekly Report, vol.38, no. s-2 ([Washington, D.C.]: U.S. Department of Health and Human Services), 8-9.

³⁵Louis Harris & Associates, The Prevention Index '89, 23.

than a college education, incomes under \$50,000 annually, and those who pay less attention to good nutrition and do not get frequently strenuous exercise. Smoking is also high among overweight people and those who are often under tremendous stress.³⁶

Nebraska Status on Smoking

In Nebraska in 1993, 1,153 deaths occurred as a result of smoking related diseases such as pneumonia and lung disease. Among these victims were children who died from respiratory problems because they were exposed to second-hand smoke, primarily from parents.³⁷

An estimated 10 to 15 babies die each year in Nebraska from premature low-birth weight and Sudden Infant Death Syndrome (SIDS) related to smoking.³⁸

In Nebraska, preventive efforts have recently been focused on the younger population to discourage them from developing a habit so difficult to break. Often the damage done to a teenager and young adult as a result of exposure to nicotine, tobacco, and smoke does not present itself as life threatening until the advanced adult years.

No national data was found which indicates whether men or women suffer the greatest effects of smoking. However, Nebraska vital statistics show that the lung cancer rate among Nebraska women is five times higher than it was in the 1960s. The rate

³⁶Ibid.

³⁷Nebraska Department of Health, BRFS 1987 & 1988, 13.

³⁸Ibid.

of occurrence changed from 4 deaths per 100,000 women in the early 1960s to 25.5 deaths per 100,000 women in 1993.³⁹

The 1991-1992 BRFSS survey showed that 20 percent of the respondents smoked as compared to 24 percent in 1989 and 1990 (see figure 6). This actually represents a five percent decrease since 1982. The prevalence of smoking was fairly equal between men and women (22 percent and 18 percent respectively). Twenty-five percent of the respondents between the age of 25 and 44 reported that they smoked, while only 11% of the respondents of age 65 and older smoked.⁴⁰

Smoking prevalence was slightly higher in urban areas (22%) as compared to rural residents (18%), but data showed that smoking incidence decreased with higher educational attainment. College graduates had the lowest rate of 11 percent, whereas smoking incidence for Nebraskans with less than a high school diploma was at 24 percent. Annual income made a significant difference in the prevalence of smoking. The rate dropped from 23 percent for incomes of less than \$20,000 to 16 percent for incomes of \$35,000 or more.⁴¹

Hypertension

High Blood Pressure (HBP) strikes thirty out of every 100 adults in the United States.⁴² Although it is believed that some

³⁹Nebraska Department of Health, BRFSS 1991 & 1992, 19.

⁴⁰Ibid.

⁴¹Ibid.

⁴²U.S. Department of Health and Human Services. " NHLBI Kit'89." 25

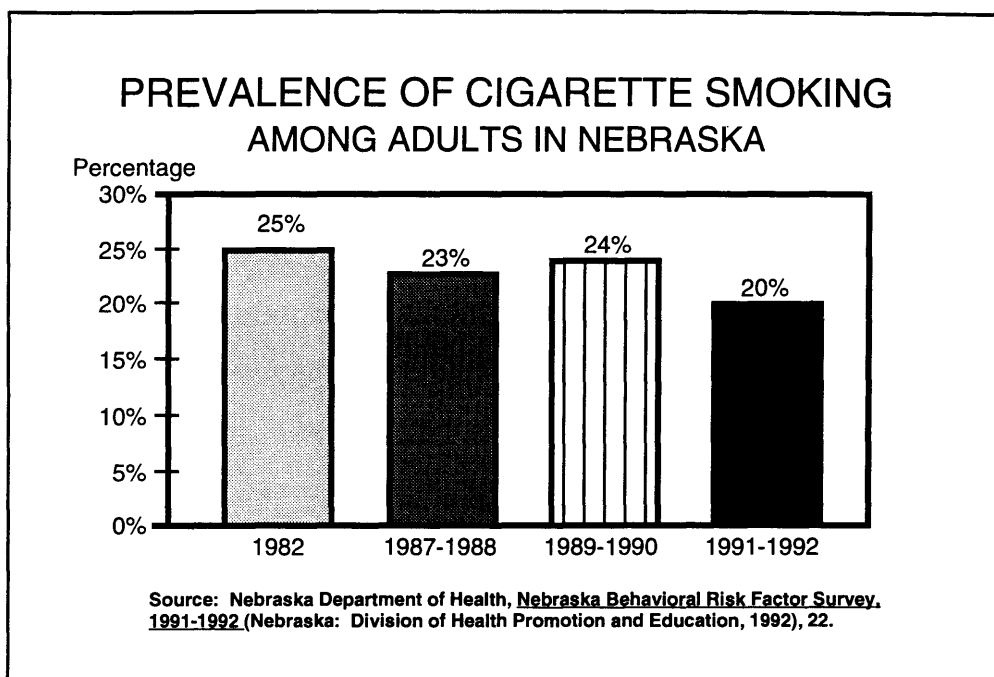


Figure 6

people are more prone to developing HBP, scientists say that any individual can cut the risk by eating a healthy diet and exercising, and if diagnosed with HBP, controlling the condition is vital.⁴³ HBP strikes a small number of children, but the cause is usually unknown and does not necessarily lead to full blown HBP as an adult. HBP is know to increase the risk of stroke, heart disease, and kidney failure. Each year 600,000 strokes occur, causing 150,000 deaths. The yearly cost to our economy for treating strokes is about \$22,000 per individual.⁴⁴ HBP is the result of too much force against the artery walls. A reading of 140.90 mm Hg or more defines HBP in adults. Although senior citizens and blacks have a greater chance of developing it, HBP can be controlled with daily treatment and medical supervision. Reduced salt and alcohol intake, weight loss, and moderate exercise are all forms of nondrug treatment, but HBP should first be diagnosed and controlled by following a doctor's advice.⁴⁵

National Status on Hypertension

High Blood Pressure (HBP) prevails among thirty out of every one-hundred adults in the United States⁴⁶, and it

⁴³Nebraska Department of Health, High Blood Pressure Control Program, High Blood Pressure: Things You and Your Family Should Know (Lincoln, n.d.).1.

⁴⁴American Heart Association, About High Blood Pressure in Children: What Parents Should Know. (Dallas, 1981), 4-5.

⁴⁵Nebraska Department of Health, High Blood Pressure Control Program, High Blood Pressure: Things You and Your Family Should Know (Lincoln, n.d.).1.

⁴⁶Ibid.

predominates among blacks. Thirty-eight percent of the black population is known to be diagnosed with HBP, compared to ⁴⁷28.8% of whites. In 1990, 14.1 out of every 100,000 people in the U.S. died of strokes.⁴⁸

The number of persons with HBP and who are aware of it is the highest it has ever been (65%). Awareness is still higher for females, and reports show that more women are controlling their HBP than men.

The most recent national survey showed that 83% of Americans surveyed had a blood pressure reading at least once per year. Certain programs are now targeted to alert people of the importance of periodic blood pressure examinations and to identify high risk groups. Chapter three examines those programs.

Nebraska Status on Hypertension

According to the 1991-1992 BRFSS, 18 percent of the respondents were defined as having hypertension, remaining fairly stable over the past four years (see figure 7). Respondents were defined as current hypertensives if they met all of the following criteria: (1) they had been told more than once by a nurse, doctor, or other health professional that they had hypertension; or (2) they were currently being prescribed antihypertensive medication, or (3) their blood pressure was

⁴⁷Louis Harris & Associates, The Prevention Index'89, 9.

⁴⁸U.S. Department of Health and Human Services, NHLBI Kit'92.

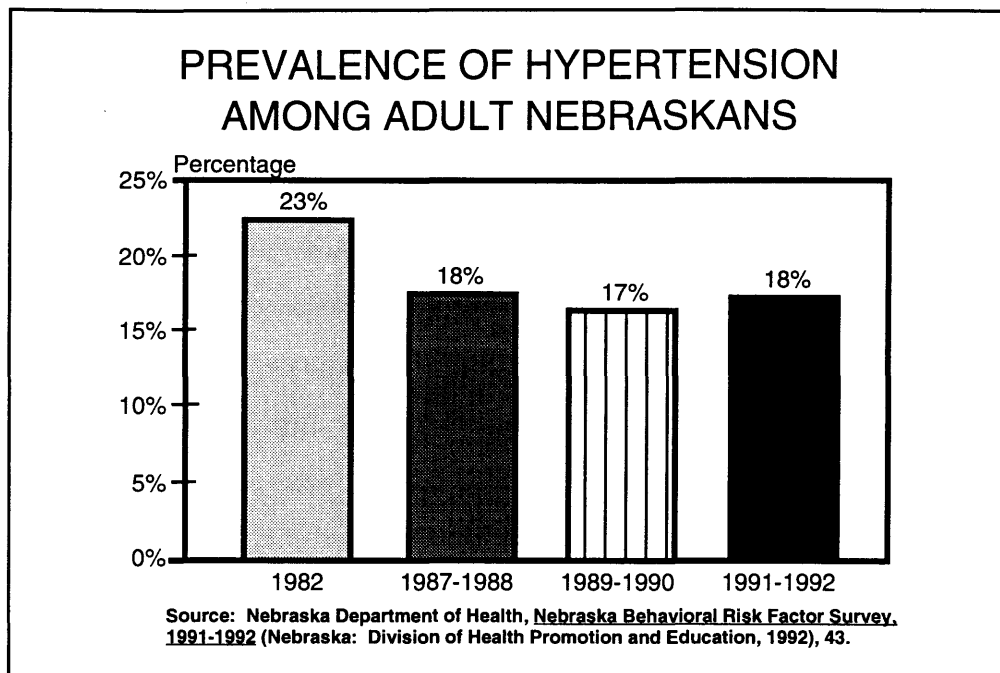


Figure 7

"still high" at the time of the interview.⁴⁹

The prevalence of hypertension was just slightly higher for women (19%) than men (16%). This prevalence increased for both sexes from 4% of persons age 18-24 to 41% of persons 65 years and older. A slightly larger portion of rural residents were current hypertensives than urban residents.⁵⁰

Obesity

Attaining and maintaining a proper diet and an ideal body weight has been a state and nationwide problem for many people. Being overweight may also increase blood cholesterol level. Most overweight individuals with high levels of cholesterol can help lower the cholesterol level by weight reduction.

Ideal body weight has been determined from calculations by the Centers for Disease Control and Prevention. The Metropolitan Life Insurance Company height and weight tables were derived by using the mid-value of the medium-frame range. However, it must be noted that this system of measurement is not completely reliable because it excludes the small and large-framed population.⁵¹

Obesity is often a product of poor nutritional habits, which are acquired as a child but which can be changed. Obesity is considered a weight at least 20% over the "ideal weight". According to the U.S. Department of Health, obesity is a serious health risk when combined with other risk factors. For example,

⁴⁹Nebraska Department of Health, BRFS 1991 & 1992, 20.

⁵⁰Ibid.

⁵¹Louis Harris & Associates, The Prevention Index'89, 12-13.

it is clearly related to diabetes and high blood pressure. Additionally, poor eating habits, a diet high in fat and cholesterol, and smoking, can triple the risk of heart disease. Because of societal views, obesity can be not only a physical health problem but an emotional and social one in overweight individuals.

National Status on Obesity

A national survey report revealed that persons who try to lose weight usually follow recommended weight control guidelines, unlike persons who have not tried to lose weight. This same survey showed that 64% of Americans were overweight. Thirty-six percent were at least 10% over the recommended weight range for their height.⁵²

The actual number of adults within the proper weight range or who are underweight has declined a few percentage points in the last five years. People who remain in their proper weight range tend to be from the East and West, suburban areas, age 30 to 40, and college graduates. The survey revealed that the biggest problem fell among people who are overweight who do not "feel" overweight.⁵³

Good nutrition can make weight loss easier. In the nation, just over half of those surveyed (56%) reported that they avoided too many high-cholesterol foods (43%). The statistics were similar for persons who reported on salt and sodium intake. Fifty-five percent reported they avoided it.

⁵²Ibid.

⁵³Ibid., 16-17

Sixty percent of those surveyed avoid too much fat.⁵⁴

Sugar and sweets are avoided mostly by persons who try to lose weight. In 1989, 51 percent of the U.S. fell into this category. This statistic was not unexpected, since it is thought to be a well-known fact sugar consumption can contribute substantially to the overweight problem. However, the survey revealed that as little as 33% of those surveyed avoid caffeine in beverages such as coffee, tea, and certain soda pop. High sugar diets may be impossible to avoid if these types of beverages are consumed in regularity.⁵⁵

Nebraska Status on Obesity

Obesity has been a problem for Nebraskans as well. Three of the diseases most associated with obesity are also leading causes of death in Nebraska. These diseases include hypertension, heart disease, and diabetes.⁵⁶

Twenty-four percent of the Nebraskans who responded to the Behavioral Risk Factor Survey (BRFS) in 1991 and 1992 were overweight (i.e. at least 20% over their "ideal weight") (see figure 8). Of those who were overweight, only 61% were trying to lose weight. When those who were trying to lose weight were asked if they were eating less, 79% responded "yes". Half also responded that they were increasing their level of physical activity.

More men (24%) than women (23%) were defined as

⁵⁴Ibid.

⁵⁵Ibid.

⁵⁶Nebraska Department of Health, BRFS 1991 & 1992, 31.

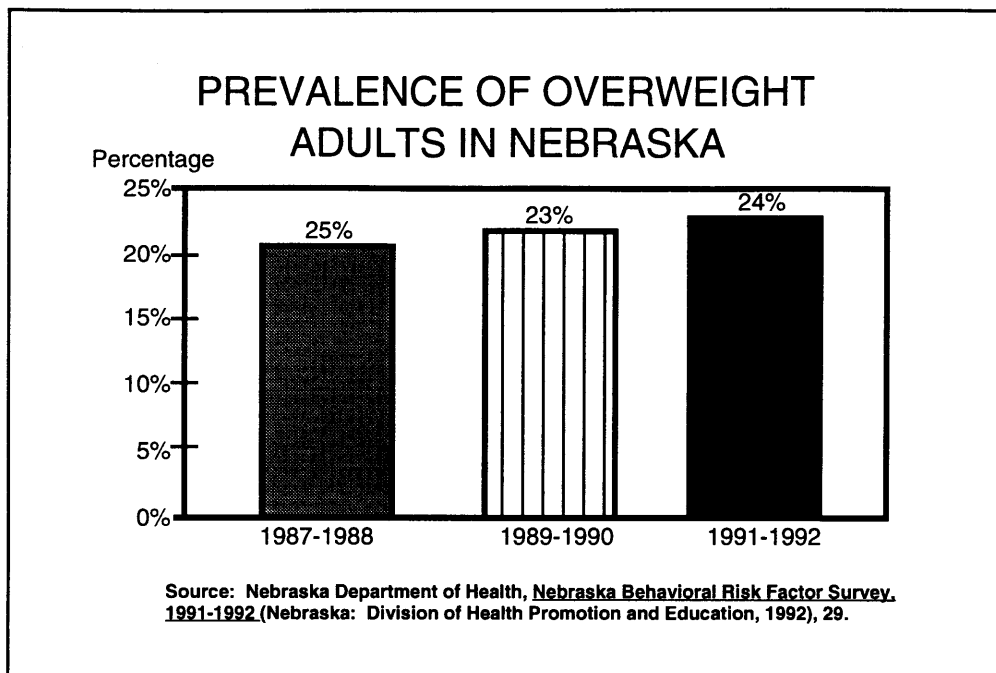


Figure 8

overweight. However, more women than men were trying to lose weight. The prevalence of obesity, as well as the number trying to lose weight, was highest among persons ages 45 to 64. The youngest adults surveyed (18 to 24 year olds) were more likely to increase activity and eat less than all other age groups. As age increased, fewer respondents were increasing physical activity as a method of achieving weight loss.⁵⁷

Prevalence of obesity was greater among rural residents than urban residents. In addition, fewer rural residents were trying to lose weight. Urban residents were more likely than rural residents to increase their activity in order to lose weight.⁵⁸

Sedentary Lifestyle

The number of Americans who engage in strenuous exercise on a regular basis remains stable but low. The lack of regular participation in any physical activity or exercise such as running, calisthenics, golf, gardening, or walking for exercise, increases the risk of developing cardiovascular disease brought on by factors like obesity and stress.⁵⁹ The most common cardiovascular disease is heart disease, the number one killer nationwide.⁶⁰ Although it is not clear whether physical activity can prevent heart disease, regular exercise may help an

⁵⁷Ibid.

⁵⁸Ibid.

⁵⁹Louis Harris & Associates, The Prevention Index'89, 14-25.

⁶⁰American Heart Association, Exercise and Your Heart, (Dallas, 1984), 3.

individual control weight, lower blood pressure, and increase the level of good cholesterol.

The American Heart Association prescribes strenuous exercise at least 15-30 minutes three times a week. Persons who exercise less than this are essentially leading a sedentary lifestyle.⁶¹

National Status on Sedentary Lifestyle

Aside from being the number one cause of death, coronary artery disease is also the number one cause of disability. Estimates are that 1 out of 5 men and 1 out of 17 women will have symptoms of heart disease before the age of 60. Men have three times the risk of developing heart disease as women. Although much national research is still being conducted to determine the causes and treatment, prevention is still the best way to beat this deadly disease.

Many of the nation's people could be exercising as a preventive measure but are not. A national survey showed that three out of ten Americans are weekend athletes, meaning they only exercise strenuously once a week or less.⁶²

From a survey of 1,250 people across the nation, 238 (19%) reported they never participated in strenuous exercise. Still another 75 (6%) reported that they exercised strenuously less than one day a month. Together this shows that one-quarter of the nation rarely, if ever, participates in strenuous exercise. The majority of those surveyed reported that they would get more

⁶¹Ibid.

⁶²Ibid.

involved in regular exercise if their doctor recommended it (85%), if they needed to lose weight (75%), and if exercise facilities were less expensive (56%).

Although it is a common assumption that exercise leads to fitness and healthy body weight, about half of those surveyed did not even walk for exercise frequently. Only one out of three exercised strenuously on a regular basis.⁶³

Nebraska Status on Sedentary Lifestyle

Nebraskans who exercise irregularly or not at all increase their chances of developing heart disease. Fifty-six percent of Americans aged eighteen and older reported not participating in "regular, sustained physical activity" in the 1991/1992 BRFSS (see figure 9).

Respondents were defined as leading a sedentary lifestyle if they reported the following criteria: (1) they performed irregular physical activity, less than 20 minutes or fewer than three times per week or (2) they reported no physical activity at all.

The prevalence of sedentary lifestyle was virtually equal between men and women, 82%. However, risk increased with age as more people reported sedentary lifestyles. Also, as age increased most respondents tended to exercise regularly or not at all. The prevalence of sedentary lifestyle in rural areas was 10% greater than that in urban areas. More urban residents tended to exercise regularly, whereas more rural residents

⁶³Ibid.

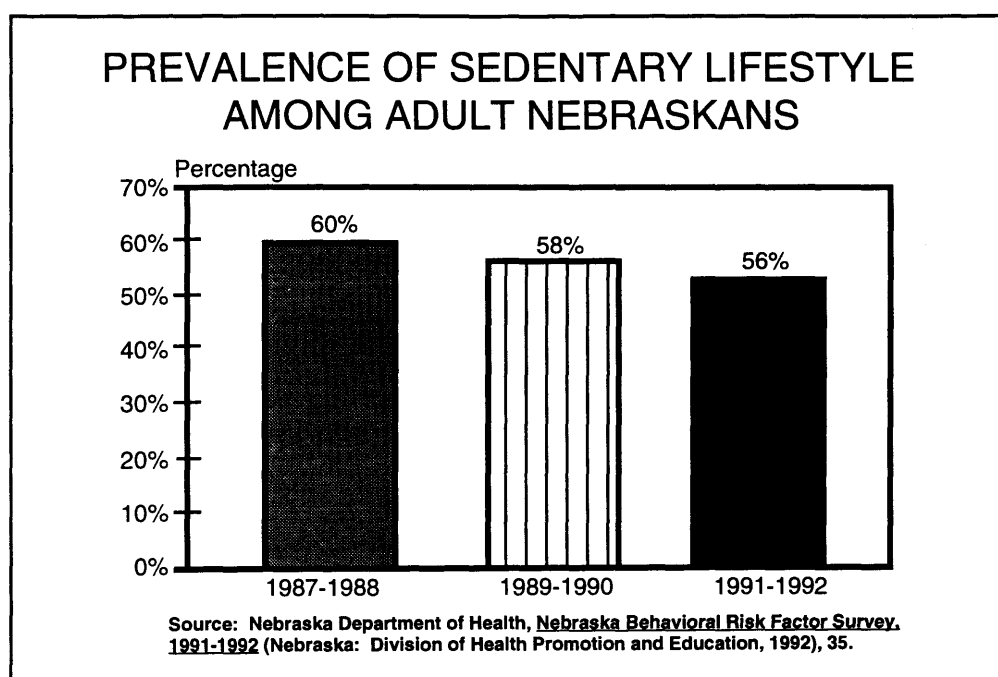


Figure 9

abstained from exercise completely.⁶⁴

Chapter Two Summary

The same six risk factors which contribute to leading causes of death in the nation also contribute to the same kinds of deaths in Nebraska. A national survey, on health behavior asked virtually the same questions as the Nebraska survey and although rates were not easy to compare, some similarities were quite apparent. Both surveys were good indicators of the status of Americans and Nebraskans with regard to their health and health behavior. Studies done by hospitals revealed that the ultimate cost to individuals and the U.S. economy were extremely high and that this number will only grow if America continues to take unhealthy risks. Disability and death from risks such as these create unnecessary emotional trauma and financial burden to the economy and our national health care system. The data reported in this chapter points to the importance of the state's effort to create and promote the incentives to change the health behavior for the better. Chapter three takes a look at legislation as a strategy to reduce some of the six major risks.

⁶⁴Nebraska Department of Health, BRFS 1991 & 1992, 34.

CHAPTER III

LEGISLATION AS A STRATEGY TO REDUCE BEHAVIORAL HEALTH RISKS

This chapter examines legislation as a strategy to reduce certain health risks. Three of the six health risks discussed in this thesis are addressed by legislation. They are: seat belt nonuse, alcohol misuse, and smoking. The chapter begins with an examination of both national and state legislation which also takes into consideration any significant public reaction. This chapter also presents conclusions about the use of legislation, based upon analysis of trend data that reflect changes in the prevalence of the risks in certain population groups and research which shows that legislative strategies have typically been effective nationwide. As stated in the introduction, it is difficult to show the exact causes and effects, but some objective conclusions can be drawn about the causes and effects where the time period during which new legislation was introduced coincides with a significant change in health behavior.

National Seat Belt Legislation

Between 1984 and 1987, seat belt laws were passed in 30 states and the District of Columbia. By 1990, 36 states and the District of Columbia had safety belt laws, and the rate of use across the nation was estimated to be the highest ever at 46

percent.¹

The common seat belt law passed by most state legislatures was described as follows:

Section 1. Any driver and front seat passenger of a motor vehicle operated on a street or highway in this state shall wear a safety belt, except that the number of front seat passengers required to wear a safety belt shall not exceed the number of safety belts which were installed in the front seat of such motor vehicle by the manufacturer.²

Under this law, all drivers and front seat passengers in motor vehicles built in 1973 or after would be required to wear their seat belts or face a \$25 fine. Seat belt laws vary in their requirements, enforcement, provisions, and penalties from state to state. Most enforcement is classified as primary or secondary. Primary enforcement allows police officers to issue fines to drivers not wearing their seat belts even though there has been no other type of traffic violation. Secondary enforcement provides that a driver and passenger can not be charged with a violation unless the vehicle has been stopped by a police officer for a different traffic violation.³

In some states the law also exempts certain vehicles and occupants. Some states' seat belt laws do not apply to rear seat occupants, children, rural letter carriers, delivery

¹Robert D. Foss, "Evaluation of a Community-Wide Incentive Program to Promote Safety Restraint Use," American Journal of Public Health, (March 1989) vol. 79: 3, 304.

²Revised Statutes of Nebraska, Legislative Bill 496, 1, sec. 39-669.26, (1985).

³U.S. Department of Transportation-National Highway Traffic Safety Administration (1986), Effectiveness of Safety Belt Use Laws: A Multi-National Examination, by Tore Vaaje, 1986 (U.S. Department of Transportation, 1986).

vehicles, or other light trucks, vans, and taxicabs.⁴

Some form of a child restraint law was enacted in all 50 states between 1978 and 1985. Minnesota, Missouri, and New York seat belt laws covered children older than most other states' seat belt laws. Only California, Montana, Nevada, Washington, and Wisconsin seat belt laws cover all passenger vehicle occupants regardless of age.⁵

New York was the first state to pass a mandatory use safety belt law. Two additional states (i.e., Massachusetts and Nebraska) had seat belt laws but repealed them. Nebraska did however, reinstate the law in 1993. Over 30 countries worldwide have passed mandatory seat belt use laws. The United States is the only developed nation that has not passed national safety belt legislation.⁶

Nebraska State Seat Belt Law

Nebraska Seat Belt Law

In January 1993, a law requiring use of safety belts in motor vehicles was implemented in Nebraska. According to the most recent data from 1992, Nebraska ranked third highest in the nation in prevalence of seat belt nonuse, still a long ways from the national average of 19 percent (see figure 10). Estimated

⁴JoAnn K. Wells et al, "Coverage Gaps in Seat Belt Use Laws," American Journal of Public Health 79 (March 1989): 304.

⁵Ibid.

⁶Terence L. Chorba et al, "Efficacy of Mandatory Seat-Belt Use Legislation," Journal of American Medical Association 260 (December 1988): 332.

Prevalence of Safety Belt Nonuse Nebraska and Surrounding States

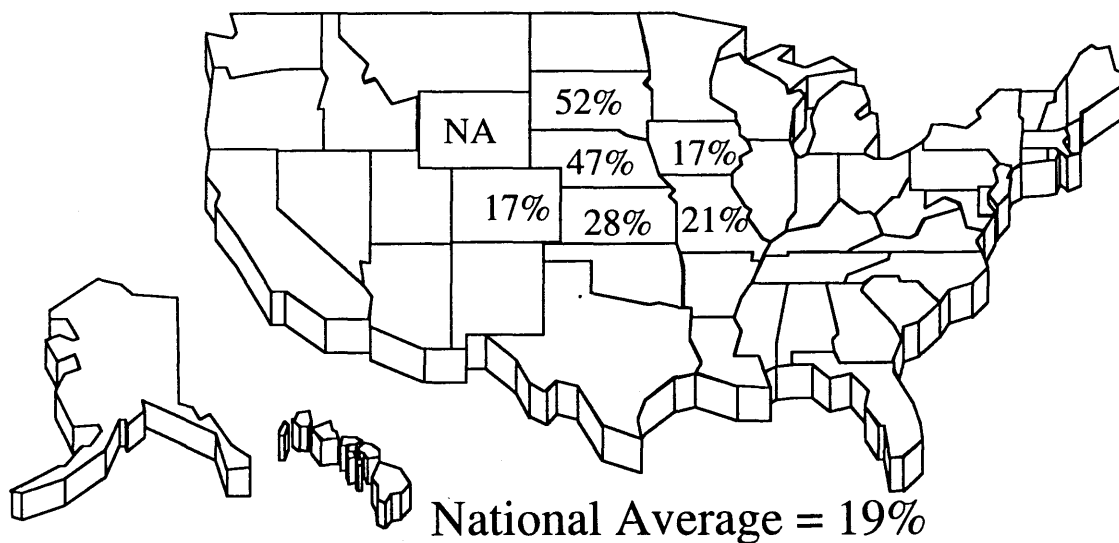


Figure 10

Source: Nebraska Department of Health, Behavioral Risk Factor Survey Report 1991 & 1992, 12.

economic loss in terms of dollars was \$1,996,785,800.00.⁷

Nebraska's seat belt law was first introduced in 1985, only to be repealed one year later. Nebraska's police officers use secondary enforcement, which, as stated earlier, provides that a driver and passenger could not be charged with a violation unless the vehicle had been stopped by a police officer for a different traffic violation.⁸

Child Restraint Law

According to the American Journal of Public Health,⁹ all 50 states and the District of Columbia now have enacted child safety restraint laws and many of the earliest laws have been strengthened. Yet, according to the same source, ongoing nationwide observation of child safety restraint use reveals that, only 27 percent of 3-year-old and 17 percent of 4-year-old children (most born after child safety seat laws were enacted in their states) rode buckled up in 1985. Nebraska passed a child restraint law on August 26, 1983. This law remains in effect, although it has been amended since this date. Section 39-6, 103.1 of the Reissue Revised Statutes of Nebraska, 1943 was amended on April 19, 1985 to read as follows.

9-6,103.1(1) Any person who resides in Nebraska and drives any motor vehicle which has or is required to have seat safety belts, shall ensure that all children under the age of four being transported in such vehicle use a child passenger restraint system,

⁷Highway Safety Division of the Nebraska Department of Roads, Traffic Accident Facts-Annual Report, 1984-1994.

⁸Ibid.

⁹JoAnn K. Wells et al, "Coverage Gaps in Seat Belt Use Laws," American Journal of Public Health 79 (March 1989): 304.

of a type which meets Federal Motor Vehicle Safety Standard 213 as developed by the National Highway Administration as of August 26, 1983, or use a seat safety belt for children over age one. This subsection shall apply to every motor vehicle which is equipped with seat safety belts or is required to be equipped with restraint systems pursuant to Federal Motor Vehicle Safety Standard 208 except taxicabs, mopeds, motorcycles, and any motor vehicle designated by the manufacturer as a 1963 model or earlier which is not equipped with a seat safety belt.¹⁰

Child Restraint Law: Public Reaction

According to annual statistics on motor vehicle accidents, for three years after the Nebraska Child Restraint Law took effect in 1983, death and injuries to children steadily decreased.¹¹ After the repeal of the mandatory seat belt law in 1986, the number of children age four and under who were killed or injured in vehicle crashes climbed from 411 to 501.¹² This occurred in spite of the Nebraska Child Restraint Law. A parent survey showed that among parents who never wear safety restraints, children were protected less than half the time (45 percent) when riding in a car. The survey also found that only 86 percent of parents with children under age 10 were aware that the state has a child restraint use law.¹³

Legislation has the potential to be a powerful strategy by itself, but laws do not have as much power to follow individuals to their homes, or to give them a more in-depth understanding of

¹⁰Revised Statutes of Nebraska, Legislative Bill 306, sec. 29-431, (1983).

¹¹Highway Safety Division of the Nebraska Department of Roads, Traffic Accident Facts-Annual Report, 1984-1994.

¹²Ibid., 1988

¹³Nebraska Department of Health, Parent Survey, 1990.

the importance of certain behavior on our economy.

General Seatbelt Legislation: Public Reaction

According to statistics, many Nebraskans continue to take the risk of not wearing seat belts despite laws to enforce it. Personal sentiment about the infringement on an individual's right to choose to use a seat belt became more and more apparent as it got closer to voting to repeal or retain the law. Polls which asked Nebraskans about their feelings about the proposed new law were conducted during a time when the state was proposing to consolidate school districts, and rural Nebraskans had very strong feelings about this issue.¹⁴

Jack Merritt, coordinator of Nebraskans for Safety in the Highway Safety Division of the Nebraska Department of Roads, felt that negative feelings about the school district consolidation sparked similar feelings about the seat belt law.¹⁵ This kind of response should have been predicted, and if the issue had been attacked separately over time the results might have been different. The Nebraska Lincoln Star newspaper wrote article after article revealing the intense public reaction to the proposed seat belt legislation, stating that this reaction was unlike that pertaining to other health risks,¹⁶ and it is significant to mention here because of its impact on state efforts to increase seat belt use. The seat belt law was

¹⁴Bruce Weible, "Poll Shows Support of Seat Belt Law Up," Lincoln Star, 27 February 1986.

¹⁵Ibid.

¹⁶Ibid.

repealed, and the state was forced to review and revise strategies to overcome the setback.

Impact of Seat Belt Laws on Behavior

To examine the results and effectiveness of seat belt legislation, experience in randomly chosen states are reviewed. Changes in statistics which coincided with changes in legislative activity may indicate some degree of relationship.

Seat belt use in New Mexico (in passenger cars) increased from 29 percent before the state enacted the law, to 53 percent during the first year the legislation was in effect. Two years later the rate had dropped to 46 percent. In Texas, belt use was 16 percent before the law and 64 percent immediately after the law took effect. Texas seat belt use also fell to 56 percent within two years. Literature reveals that an increase in seat belt usage followed by a decrease within two years from the enactment of the law is a typical pattern for states nationwide.¹⁷ This is evidence that seat belt legislation is not only moderately effective for a very short period of time.

The question remains as to why there is such a variance in the type of vehicle coverage state to state. For instance, in the beginning of Chapter Two, it was noted that all seat belt laws do not cover rear seat occupants, truck drivers, taxicab drivers, and many others. No known studies have been done to show what the impact has been on overall death and injury rates by making these types of vehicles exempt from the law.

¹⁷Terence L. Chorba et al, "Efficacy of Mandatory Seat Belt Use Legislation," Journal of American Medical Association 260 (December 1988): 3597.

Results and Effectiveness of Legislation

In Nebraska an increase in fatal motor vehicle accidents occurred between 1985 and 1994. During this time span the death toll increased from 237 deaths to 271 deaths, despite the fact that seat belt use increased during this same period.

It is this strange outcome that makes it very difficult to determine numerically the impact of the seat belt law on the rate of usage. Statistics suggest that other factors can also play a part in individual behavioral response to legislation. Much public controversy occurred during the year following the enactment of the seat belt law. Just prior to the repeal, polls showed a near 50/50 draw between those in favor and those against the law. During the year preceding the enactment of the seat belt law, seat belt usage rate decreased to an all time low of 11 percent. Only three months after the seat belt law was introduced, restraint use increased from 11 to 55 percent.¹⁸ Many states, including Nebraska, which passed seat belt laws, experienced a slight decrease in usage rate after enacting a seat belt law. Statistics suggest that seat belt laws have short-term impacts. According to an article on the "Efficacy of Mandatory Seat Belt Use Legislation," it is important to monitor seat belt usage over time, following the introduction of a seat belt law, because the impact wears off slowly afterward. As researchers Chorba, Reifurt, and Hulka found:

Dramatic increases in seat belt use that occur immediately after seat belt legislation are generally

¹⁸Highway Safety Division of the Nebraska Department of Roads, Traffic Accident Facts-Annual Report, 1983, 1984 eds., 18.

not sustained over time; the initial increase in belt use is followed by a decline, typically about four months after the law takes effect.¹⁹

For three years after the Nebraska Child Restraint Law took effect in 1983, death and injuries to children steadily decreased. After the repeal of the mandatory seat belt law in 1986, the number of children age four and under who were killed or injured in vehicle crashes had climbed from 411 to 501. This occurred in spite of the Nebraska Child Restraint Law. Responses to a 1990 Nebraska Parent Survey showed that among parents who always wear a seat belt, 90 percent made sure that their youngest child wore a safety restraint or was restrained in a child car seat. In contrast, among parents who never wear safety restraints, children were protected less than half the time (45 percent) when riding in a car. The survey also found that 86 percent of parents with children under age 10 were not aware that the state has a child restraint use law. The increased rate of injury to children suggests that the child restraint law is continuing to lose its impact.²⁰

National Legislation to Address Alcohol Misuse
Drunk Driving Law and Implied Consent Law

In the year 1919 it became unlawful for any person to operate or be in actual physical control of a motor vehicle while under the influence of alcoholic liquor or drugs. All

¹⁹Terence L. Chorba et al, "Efficacy of Mandatory Seat Belt Use Legislation," Journal of American Medical Association 260 (December 1988): 3597.

²⁰Robert D. Foss, "Evaluation of a Community-Wide Incentive Program to Promote Safety Restraint Use," American Journal of Public Health, (March 1989) vol. 79: 3, 304.

states passed legislation to require any person operating a motor vehicle upon a public highway to consent to a chemical test of his or her blood, urine, or breath, for the purpose of determining the amount of alcoholic content. This is called the Implied Consent Law. This law details several rules governing the outcome of a situation in which a person denies the test, specifically by way of penalties, fines, or other form of punishment. The law gives law enforcement officers authorization to make arrests for violation of this law and require a chemical test when the officer has reasonable grounds to believe that such person was driving on a public highway in the state while under the influence of alcoholic liquor.²¹

There is evidence to suggest that legal changes have produced declines in alcohol-related traffic fatalities. Well controlled studies of increases in the legal drinking ages revealed that although effects varied from state to state, in states that raised their drinking ages, night fatal crashes in targeted age groups declined 10 to 15 percent relative to states that did not.²²

Minimum Drinking Age (MDA)

The National Highway Traffic Safety Administration (NHSTA) studies the frequency of fatal crashes involving drivers influenced by alcohol according to their age. This research is

²¹Legislature of Nebraska, 91st legislature. First Session, Legislative Bill 799. Transportation Committee.

²²Public Health Reports, vol. 103, no.6, (November/December 1988), 660.

what led to legislation to lower the minimum age for alcohol purchase. MDAs established by each state range from 19 to 21.²³

Health Warning Labels on Alcoholic Beverages

The U.S. Supreme Court recognized alcohol use during pregnancy as a form of child abuse. Since alcohol use during pregnancy can lead to severe mental retardation and other defects, the mother has a responsibility to her unborn child to protect it.

At the federal level, legislation was introduced in 1989. The bill, S. 2047 called for a series of five rotating labels on alcoholic beverages, including one about drinking and pregnancy. The belief behind this new bill was that people need to be confronted with the facts about alcohol misuse as often as possible and that this, in turn, would decrease the incidence of related health problems.²⁴

The Department of Treasury's Bureau of Alcohol, Tobacco and Firearms recently completed a warning label study ordered by Congress to determine the need for, and the potential benefit of, warning labels to consumers relative to the potential costs associated with these labels. To their knowledge it was the first study of the warning labels issue which actually included consumers, perceptions on the need for, and the effectiveness

²³U.S. Department of Transportation, National Highway Traffic Safety Administration. The Impact of Minimum Drinking Age Laws on Fatal Crash Involvements: An Update of the National Highway Traffic Safety Association Analysis. DOT HS, 807/349: NHTSA Technical Report, January 1989 Revised.

²⁴Lincoln Council on Alcoholism and Drugs, Inc.

of, warning labels.²⁵

Nebraska Drunk Driving Law & Implied Consent Law

The law against driving while under the influence of alcohol is effective in Nebraska, as it has been in all other states, since 1919. In 1959, Nebraska passed the same Implied Consent Law which reads the same across the board nationally. Methods of performing the test must be approved by the Department of Health and by individuals issued a permit by the Department of Health. In Nebraska in 1992, the incidence of drinking and driving was at 4 percent, compared to the nation at 2 percent (see figure 11).

Nebraska Minimum Drinking Age (MDA)

Nebraska's minimum drinking age was originally 19 years of age. On January 1, 1985, the official minimum drinking age was changed to 21 years. Officials hoped that the change would reduce the number of automobile fatalities to young men and women at this age and that the number of nighttime fatal crashes would be reduced as well. The analysis at the end of this chapter will reflect the results of the change in the MDA.

Results and Effectiveness of Legislation

No statistics are available on the number of motor vehicle drivers who have consented to a chemical test or what percentage

²⁵Department of the Treasury, Bureau of Alcohol, Tobacco, and Firearms, Washington D.C. prepared by Karen T. Freelove, Acting Chief, Special Programs Branch.

Prevalence of Drinking & Driving Nebraska and Surrounding States

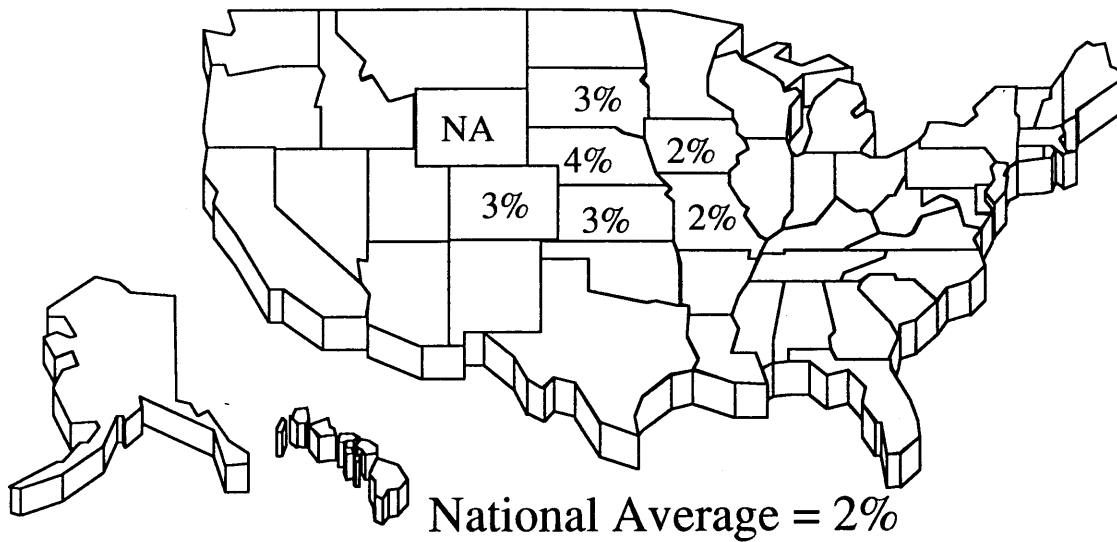


Figure 11

Source: Nebraska Department of Health, Behavioral Risk Factor Survey Report 1991 & 1992, 21.

of drunk drivers have been penalized for not consenting. The state keeps records, for public disbursement, on the number of injuries, and the number of deaths. The Implied Consent Law does discourage, to some unknown degree, drivers from driving while heavily intoxicated and may help reduce the number of these types of accidents. According to an article in Public Health Reports, experience in Great Britain and several other countries shows that declines in fatal crashes after the passage of drunken driving laws can be temporary, and this situation can occur if public discussion of the problem diminishes and if people become aware that the chances of being caught by the police are extremely low.²⁶ The same source stated that some studies have found few differences between drinking patterns of students who are legally able and not legally able to drink.²⁷

Another article by Gerald Williams, et al., suggests that there are no easy explanations for any trends in alcohol-related deaths and morbidity. Lower traffic fatalities due to drinking may be a result of lower per capita alcohol consumption or may indicate the public's increased awareness of drinking risks or the aging of the population. Ironically, Williams article states:

"the recent increase in alcohol-related motor vehicle fatalities may reflect stronger enforcement of drunk driving laws and increased blood alcohol content of

²⁶Ralph W. Hingson et al, "Effects of Legislative Reform to Reduce Drunken Driving and Alcohol-Related Traffic Fatalities", Public Health Reports, vol. 103. No. 6 (November/December 1988).

²⁷Ibid.

testing"²⁸

Research indicates that lowering the minimum age for alcohol purchase is "associated" with an increased rate of automobile crashes among people, and that raising the minimum age reduces that rate by approximately 4.4 percent.²⁹ Within a year following the change in Nebraska's MDA (January, 1986), there was a 13 percent reduction in nighttime fatal alcohol-related crashes among drivers aged 18 and 19, the most affected age group. The effect was consistent across regions and stable over time.

In 1991, the National Highway Transportation System Association performed a study to determine the impact of the MDA law on the fatal crash experience of affected drivers. This was done by comparing the blood alcohol levels for all drivers in crashes before and after the increased MDA law. Comparisons were made for the variables (1)with the change in fatal involvements of unaffected drivers over the same period; and (2) on a per licensed drivers basis. The National Highway Transportation Safety Administration based this analysis on the assumption that any difference in the before-after involvement rate between these two groups would be an indication of the effect of the increased MDA.³⁰

Since Nebraska was one of the states examined in this

²⁸Gerald D. Williams et al, "Trends in Alcohol-Related Morbidity and Mortality", Public Health Reports 103 (November/December 1988): 592

²⁹Elaine M. Johnson et al, "Theories and Models Supporting Prevention Approaches to Alcohol Problems Among Youth", Public Health Reports 103 (November-December 1988): 592.

³⁰Ibid.

study, it was only necessary to update the analysis by noting changes which occurred since 1986. This analysis had a 95 percent confidence level. Four years have elapsed since the MDA was changed to 21 years. Research had shown that in 1985 only the 19 year old Nebraskans had actually been affected by the MDA. This conclusion was based on statistics from the State of Nebraska-Traffic Accident Facts Annual Reports which showed a 13 percent reduction in nighttime fatal crashes among drivers age 18 and 19, as stated earlier.³¹ This effect was consistent across regions and stable over time.

The FY88 Annual Report by the Nebraska Office of Highway Safety reports that the biggest disappointment in the 1988 traffic accident figures were with alcohol related crashes and deaths. Alcohol related fatalities for 1988 were 46 percent of total fatalities (120 of 261). The 1987 fatalities were 39 percent. Young drivers, age 20 and under were involved in 361 alcohol related fatal and injury crashes, or 22.5 percent of the total (361 of 1,608). Young drivers make up only 11.3 percent of the total licensed drivers in Nebraska.³² A comparison of fatal crashes per licensed drivers age 18, 20, and 21 to 23 showed that either the number of accidents involving alcohol was the same or it had slightly increased. Although it is estimated that the cumulative number of lives saved by MDA laws from 1975 to 1987 was approximately 8,142, there was further indication that as the number of states with an MDA of 21 increased, the

³¹State of Nebraska - Traffic Accident Facts, Annual Report, Highway Safety Division, Nebraska Department of Roads, 1985.

³²Ibid., 2

number of lives saved had decreased.³³ Similar to the seat belt law, the MDA tended to lose its impact over a long period of time. This is all evidence that raising the MDA has only moderate short term effects on the reduction of teenage drinking and driving and related injuries and deaths.

As Chapter One revealed, although the Nebraska senior high school students surveyed were well below the MDA, their use of alcohol was surprisingly high. Overall, 44 percent of all the students who responded to the survey questions had consumed some alcoholic beverage.³⁴ Since there are apparently ways in which underaged minors may still obtain and consume alcohol, it is an indication that if stricter enforcement is not implemented, Nebraska may have to rely on better educational programs and more severe restraints in the media's promotion of alcoholic beverages as a part of social gatherings. There is a strong need to raise public awareness of the problem so that efforts will not only be on the state and local level but will trickle down to the individual's home, where promoting of abstinence from alcohol is set by parental example.

As is very apparent, preventing alcohol-related motor vehicle accidents is very dependent on the development of strategies and evaluative methods to determine what is effective for whom. But research has shown here that there are many

³³Katherine Womble, "The Impact of Minimum Drinking Age Laws on Fatal Crash Involvements: An Update of the NHTSA Analyses," National Highway Transportation Safety Administration, Washington, D.C. January 1989, DOT HS 807 349, NRD-31

³⁴Nebraska Department of Health-Division of Health Promotion, Nebraska Teen Wellness Survey Report, Nebraska Department of Health, 1988.

inconsistencies which indicate that legislative strategies have been only moderately effective.

Warning Labels

No known studies have been done to determine the effectiveness of warning labels on alcoholic beverages. No specific data is available on the number of low birth weight babies specifically resulting from alcohol related birth defects. However, according to the Nebraska Vital Statistics report from 1993, 68.2 babies per 1,000 births were low or very low birth weight, an increase from 65.8 per 1,000 births in 1989.³⁵ It is unknown how many of these births can be attributed to the use of alcohol.

National Legislation to Reduce Smoking

Although the nation as a whole has not passed any no-smoking legislation, forty-two states and more than 320 communities have passed Clean Indoor Air Acts which require all public use buildings to designate certain areas of the building as smoking and non-smoking.

National legislative and regulatory initiatives are designed to focus on antismoking advocacy and lobbying and national health agencies to help promote political action and the formulation of coalitions at the local, state, and national level.

³⁵Nebraska Department of Health, Nebraska Vital Statistics 1993 (Nebraska: Division of Health Data Systems), 32.

Roughly 31 years ago, on January 11, 1964, Luther L. Teny, M.D., Surgeon General of the U.S. Public Health Service, released the report of the Surgeon General's Advisory Committee on Smoking and Health. That landmark document, now referred to as the first Surgeon General's Report on Smoking and Health, was America's first widely publicized official recognition that cigarette smoking is a cause of cancer and other serious diseases.

During the quarter century that has elapsed since that report, individual citizens, private organizations, public agencies, and elected officials have tirelessly pursued the Advisory Committee's call for "appropriate remedial action." Early on, the U.S. Congress adopted the Federal Cigarette Labeling and Advertising Act of 1965 and the Public Health Cigarette Smoking Act of 1969. These laws required a health warning on cigarette packages, banned cigarette advertising in the broadcast media, and called for an annual report on the health consequences of smoking.³⁶

Restrictions of Cigarette Sales to Minors

As of January 1, 1988, laws in 43 States and the District of Columbia restricted the sale of cigarettes to minors. Tobacco products were relatively easy to obtain through vending machines and over-the-counter purchases until January 1, 1994

³⁶Centers for Disease Control. The Surgeon General's 1989 Report on Reducing the Health Consequences of Smoking: 25 Years of Progress (Executive Summary). MMWR 1989:38 (Suppl. no. S-2):preface 8-9.

when the Nebraska Vending Machine Law went in to effect. This law prohibits the placement of tobacco vending machines in areas accessible to the general public (i.e., restaurants, hotel & motel lobby areas, gas stations, arcades, laundromats).³⁷

High Tax on Cigarettes

Cigarette taxes have steadily increased as the Federal Government finds that it will discourage smokers or potential smokers from buying and to make the habit expensive if they do purchase. All State governments and nearly 400 cities and counties impose taxes on cigarettes as well, which may exceed that imposed by the Federal government. Other economic disincentives for smoking are imposed by life and health insurance companies.

Nebraska Clean Indoor Act

The Nebraska Clean Indoor Act was enacted on June 4, 1980, to protect the public health, comfort, and environment by prohibiting smoking in public spaces and at public meetings except in designated smoking areas.³⁸

Legislative Bill 269 went before the Health and Human Services Committee for a public hearing on March 3, 1989. The bill, sponsored by Senator Roger Wehrbein, strengthened the

³⁷Nebraska Revised Statutes, Sections 28-1429.01 to 28-1429,02 (1994 Cum.Supp)

³⁸Nebraska State Health Department-Division of Housing and Environmental Health, Chapter 71, Article 57, CIA, Section 71-5701-2, June 4, 1980: 955-958.

Nebraska Clean Indoor Air Act passed in 1979.³⁹ The new bill required proprietors or persons in charge of public places to post signs indicating where smoking was or was not allowed. Employers with 15 or more employees were required to adopt a written smoking policy for the work place. However, no structural changes or improvements in the ventilation system are required under the current law or LB 269.⁴⁰

Current Taxation on Cigarettes in Nebraska

In 1989, according to the Department of Revenue, sales tax on cigarettes sold in the state of Nebraska was \$0.20 for a pack of 20 or less and \$0.33-3/4 for bulk packages of 20 or more.

The impact of the tax levied by Chapter 77, article 26 is: on the vendee, user, consumer, or possessor of cigarettes in this state, and when such tax is paid by any other person, the payment is construed as an advance payment, and shall be added to the price of the cigarettes and recovered from the ultimate consumer or user. A sum of monies is dedicated to the General Fund from cigarette tax revenue. The remaining proceeds of such tax is distributed to the cause of various projects and programs. They are: (1) the Nebraska Outdoor Recreation Development Cash Fund; (2) the Nebraska Cancer Research Fund; (3) the University Buildings Renovation and Land Acquisition Fund; and (4) the University Facilities Construction Fund.⁴¹

Certain provisions are made by the Legislature for the distribution of the proceeds to projects and programs other than

³⁹Update 2000 Smoke Free Society - A Publication of the Nebraska Clean Indoor Air Coalition. Legislative Update Issue 6.

⁴⁰Ibid.

⁴¹Nebraska State Legislature. "Tobacco Use by minors; penalty. Chapter 77, Article 26.

those mentioned but are not given higher priority.⁴²

Restricting Sales of Cigarette and Tobacco Products to Minors

Currently, Nebraska law prohibits the sale of cigarettes and all other tobacco products to minors under the age of eighteen years. Therefore, a minor who smokes cigarettes or cigars or uses tobacco in any form whatsoever, in the state of Nebraska, is guilty of a Class V misdemeanor. If charged in violation of this section, the minor will be fired from prosecution after furnishing the name or other such evidence of the person or persons selling or giving the cigarettes, cigars, or tobacco to the minor. The person who provides the minor with any tobacco product will be guilty of a Class III misdemeanor for each offense.⁴³

Results and Effectiveness of Legislation

The Nebraska Behavioral Risk Factor Survey asks for information such as the number of cigarettes smoked per day, if there was a desire to quit, number of attempts to quit, and length of time actually abstained from smoking. These same questions were asked all four survey years. To better determine some relationships between behavior and legislation, the survey asks, "what stopped you from smoking?" or "why have you cut down?"

The 1991/92 survey asked smokers on average, how many

⁴²Nebraska State Legislature. "Tobacco Use by minors; penalty. Chapter 77, Article 26.

⁴³Nebraska State Legislature, Tobacco; use by minors; penalty, Article 14, Statute 28-1418 1975: 225

cigarettes a day did they smoke. In 1992, 20 percent of the respondents said they smoked more than 2 packs a day. This is a decrease of 4 percent from the previous survey. Among 18 to 24 year old respondents, 18 percent smoke.⁴⁴ The trend in survey data showed that as age increased, the percentage of "yes" respondents decreased by about nineteen percent.⁴⁵ In 1991 and 1992, the prevalence of smoking in Nebraska fell below the national average by 3 percent (see figure 12).

Until April 1, 1989, Nebraska was unable to get accurate statistics on the number of deaths attributable to smoking because this information was not required on death certificates. Nor did anyone obtain educational information from the families about the deceased.⁴⁶ This information could have been used for statistical studies and would have been most significant in bringing Nebraska into line with death certificates commonly used nationwide.⁴⁷ This also has implications for future legislation, because if information is recorded on patients who die of smoking related causes, then data on the total, or at least approximate, charges for medical treatment to that patient should be required also. It may be possible that a look at an accurate dollar figure would show an impact which smoking is

⁴⁴Nebraska State Department of Health, Nebraska Behavioral Risk Factor Survey, 1982.

⁴⁵Ibid., 1982-1987.

⁴⁶Kay Orr, "Better Health Newsletter, Nebraska State Department of Health, Spring 1989 Issue, 1.

⁴⁷Evening Journal, Lincoln, Nebraska, March 9, 1989 Universal.

Prevalence of Smoking Nebraska and Surrounding States

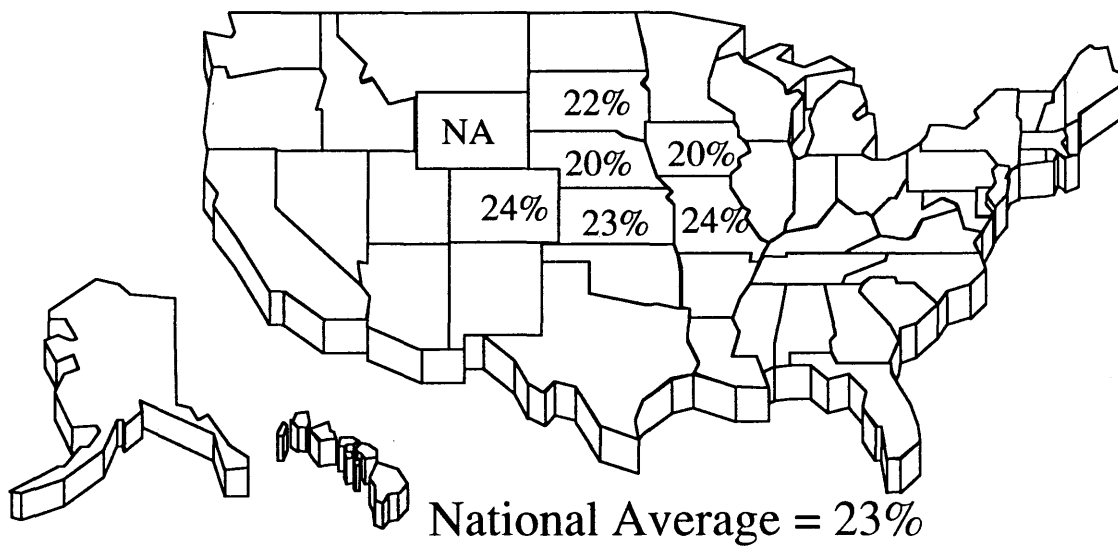


Figure 12

Source: Nebraska Department of Health, Behavioral Risk Factor Survey Report 1991 & 1992, 25.

having on Nebraska's economy, which strengthens or heightens efforts to address smoking even more aggressively.

It may be difficult to determine the impact which the \$0.20 minimum tax on the purchase of cigarettes is having on consumers. Like the seat belt law, and like the Implied Consent Law, research reveals the thought that the legislative impact could be short lived. The Behavioral Risk Factor Survey does not ask smokers what external factors have effected or could effect their smoking behavior (i.e., they might include the Clean Indoor Air Act, cigarette tax, media anti-smoking campaigns, or other preventive practices in various public institutions). Data from the Behavioral Risk Factor Survey shows insignificant change in smoking patterns by age and sex, and there is almost no change in behavior after adulthood is reached. When on a national basis there has only been an eleven percent decrease in the prevalence of smoking adults in the last 25 years, it begins to indicate a need for all smokers to be aware that the taxes they pay on their cigarette purchases are being dedicated to solving the problems which smoking has contributed to. It indicates a need for smokers to develop a stronger awareness of the consequences of their actions on the economy, the environment, and our future adults. It indicates that smoking prevention needs to begin at a more impressionable age. Finally, but inconclusively, it indicates that the very young adults need to have stronger external factors guiding their decision making.

The 1990 Teen Wellness Check Report⁴⁸ revealed that a large proportion (24 percent) of Nebraska high school students are guilty of a Class V misdemeanor. This indicates that again, like the MDA law, students have been able to and will continue to behave in a manner inappropriate for normal development and healthy living if state intervention is absent.

The question is, should Nebraska raise the minimum age at which young people can purchase and smoke tobacco products legally? To answer this question tactfully there is a need to review the national objective regarding smoking. The Surgeon General's objective is to have a smoke free society by the year 2000. The nation has had only an 11 percent decrease in the prevalence of smoking adults in the last 25 years. A positive achievement is that over half of all living adults who ever smoked have quit. Although this may seem like a big step, prevention counts the most before people even smoke their first cigarette--usually in high school. Smoking among high school seniors has leveled off from 1980 through 1987 after previous years of decline. This indicates that the problem still exists very strongly and will continue to exist if the soon-to-be high school students are not given attention through preventive education at school and home. In light of the current status of the problem, the Surgeon General's objective is not feasible. Efforts to halt teenage smoking appear stale and non-influential, as evidenced by little or no change in high school smoking prevalence in the last seven years.

⁴⁸Nebraska Department of Health, 1990 Teen Wellness Survey Report (Nebraska: Department of Health Education and Promotion), 24.

CHAPTER IV

EDUCATION AS A STRATEGY TO REDUCE BEHAVIORAL HEALTH RISKS

National Programs to Increase Seat Belt Use and Reduce Drunk Driving

Over the past several years many small cities across the United States have planned and implemented community traffic safety programs. Both State and Federal agencies, including the NHTSA have worked with city task forces to create and implement a number of projects. These programs grew out of single issues, such as local drunk driving, safety belt, and engineering improvement efforts. Through a combination of resources the focus became a more comprehensive approach. As Community Traffic Safety Programs spread they began to include an even wider variety of traffic issues including pedestrians, bicycles, motorcycles, speed enforcement, and emergency medical services.¹

These programs have great potential to simultaneously address a variety of local traffic safety problems. Tailored to meet the needs of the community, these programs are headed by lead agencies or organizations which vary by state. All of the programs have actively participating citizen advocacy groups or task forces and elected officials. Each state's Highway Safety Office plays a critical role in providing technical assistance

¹U.S. Department of Transportation; National Highway Traffic Safety Administration, Community Traffic Safety Programs, 1989 DOT HS 807 391: 1.

for these programs.

A close look at these nationwide programs shows that many communities have an overriding concern for traffic safety and have worked to identify their most serious problems. For example, one large, mobile, suburban community in Suffolk County, New York, focused its program on dissolving the problem of overcrowded roadways, the young driving population, speeding, and drunk driving.² Although safety belt use was not the most immediate concern, it was a problem because of the large number of drivers and automobile owners.

After enacting legislation and beginning a special effort to stop driving while intoxicated (DWI), New York counties were able to receive all fine monies collected for alcohol related traffic convictions in the county where the arrests and convictions were made, for use with DWI countermeasures. New York counties were the first to submit a plan on how these funds were to be used, and they began their efforts (1982) through promotion, education, and legislation. The STOP-DWI programs generated \$2.5 million annually. One year after this program began (1983), Suffolk County in New York applied for and received a grant to increase safety belt use and was selected as a model Comprehensive Community Safety Belt site by the National Highway Traffic Safety Administration (NHTSA).³ Activities involved a special speaker's bureau, advertising on buses, radio, and other outlets, implementation of a child safety seat

²Ibid., 5.

³Ibid., 7.

loan program for low income parents, and a DWI Alternative Facility for repeat offenders; all of these were built and funded with STOP-DWI monies for treatment prior to probation and high school and college education programs conducted by towns with STOP-DWI funds.⁴

The success of these programs (i.e., in Suffolk Counties and New York Counties) was determined by impact analysis.⁵ According to the National Highway Traffic Safety Administration, alcohol related fatalities declined by 35 percent; DWI arrests increased by 50 percent. Also, a result of the programs was improved training for police officers and assistant district attorneys; greater cooperation with bars and taverns for designated driver programs and responsible servicing practices; and greater public awareness of penalties and alternatives to driving while intoxicated.⁶

In various other counties across the United States communities coordinated programs with the assistance of county law enforcement, state law enforcement, county and state highway department emergency medical services (i.e., for data analysis and planning), and state, and city/county health department's health promotion and education divisions.⁷ Some strong components of these programs were: (1) campaigns to create the incentive for responsible behavior through radio announcements,

⁴Ibid.

⁵Ibid., 8.

⁶Ibid.

⁷Ibid., 10.

(2) child safety seat promotion with public training and occupant protection programs to promote the correct use of safety belts and child safety seats, (3) mall displays and safety belt checks at day care facilities, (4) distribution of safety belt literature, (5) promotion of the statewide safety belt law implementation project, and (6) providing educational and awareness programs on the hazards of drinking and driving.⁸

A valuable and growing component is parent education committee activities to give parents a chance to influence the choices their children make about drugs and alcohol. One community began a K-12 Design Contest Committee Activities to allow kindergarten through 12th grade students to submit designs with positive messages on sober driving, safety belts, or saying "no" to drugs. Hospital committee activities provide free training in minor identification for servers and managers of taverns, restaurants, and stores. Youth conference activities and public information committee activities are also some components making a debut as part of these community traffic safety programs.⁹

Again, these programs have been associated with marked improvements in these communities: (1) Roanoke County, Virginia, reduced total crashes by 68 percent during the first year of the programs, reduced injury crashes by 91 percent for the same period, and reduced property damages by 86 percent; (2) Hamilton County, Indiana, has raised seat belt usage from 28 percent prior to program implementation in 1986, to 68 percent

⁸Ibid.

⁹Ibid., 12

in 1988. They got over 125 county organizations/businesses to include safety messages in their publications which were sent to employees, customers and members, and 1,600 county Students Against Drunk Drivers (S.A.D.D.) participated in a special, "Say No to Drinking and Driving" event; (3) Stillwater, Oklahoma, reduced driving under the influence (DUI) related traffic collisions 30 percent after the first year and 39 percent after the second year. They also raised safety belt usage from 19 percent to 45 percent; (4) Missoula, Montana, raised their safety belt usage rate of 8 percent in February 1985 to 32 percent by March 1986 following the "Get Caught Missoula" incentive program. When the mandatory safety belt law went into effect on October 1, 1987, the usage in Missoula increased to 55 percent.¹⁰

For the communities represented above, community traffic safety programs have produced the following effects: (1) saved lives, (2) reduced injuries and length of rehabilitation, and (3) increased economic savings for individuals, families, the city, and the state.¹¹

Although most incentive programs have focused on adults, it has been demonstrated that both elementary and nursery school children can be induced to buckle up, as well, by carefully designed incentive programs. They are also a cost-effective way when focused on a community. Some disadvantages are that it is

¹⁰Ibid., 18

¹¹U.S. Department of Transportation; National Highway Traffic Safety Administration, Community Traffic Safety Programs, 1989 DOT HS 807 391: 1-37.

difficult to maintain high visibility for a substantial amount of time because drawing widespread attention to a dispersed population is not a simple task. In an evaluation of a community wide incentive program to promote safety restraint usage, results showed that shortly after a campaign was implemented only 59 percent of communities surveyed were aware of the campaign and only 35 percent learned about it from the radio. Twenty-six percent learned from flyers. Ninety-one percent knew that they had to buckle up to win, but only 18 percent accurately reported the specific but crucial requirement that everyone in the car had to be buckled. Almost nobody knew when the campaign contest began, ended, or how much the prizes were worth.¹²

Marked differences, according to the same study, showed that incentives to buckle up by various age groups point to second, third, and fourth years of life as a pivotal time in safety restraint use. These children, who are least likely to be restrained, are also the most difficult to reach with programmatic effort.¹³

Nebraska State Programs to Increase Seat Belt Use
and Reduce Drunk Driving

The Division of Health Promotion and Education at the DOH has been providing support to physicians and nurses to counsel patients and increase their awareness of seat belts as

¹²Robert D. Foss, "Evaluation of a Community-Wide Incentive Program to Promote Safety Restraint Use," American Journal of Public Health 79, no. 3 (March 1989): 304.

¹³Ibid.

lifesavers. This kind of support is only part of the DOH's efforts to provide incentives for future drivers to be more responsible. Since the seat belt law was repealed, other ways of influencing people have had to be used.

Accurate and thorough data collection is important for isolating at-risk groups. Health professionals need to design methods of effective communication to help parents teach their children, since children fall into a higher risk category, and to inform patients of possible types of injuries and likely outcomes of those injuries such as disabilities or death. Whether a child, adult, or patient, those at risk should be made aware that their chances of an accident and/or injury increase if they take risks.

The Nebraska Highway Safety Program was coordinated by the Nebraska Department of Motor Vehicle's (DMV) Office of Motor Vehicles and administrative staff. Primary funding for this program came from the state. Any outside funding was limited to section 402, Highway Safety Act Funding. By reinstating its state seat belt law, Nebraska should be qualified for federal aid to handle certain costs for the safety program. To uphold the federal-aid agreement, a Highway Safety Program cost summary must be provided to refine program areas to concentrate on, delegate funds, and determine if other organizations will match funds.¹⁴

The program plan is part of the three year highway safety plan. It outlines program plan objectives and anticipated

¹⁴Office of Highway Safety, "Nebraska Highway Safety Program," State of Nebraska Highway Safety Plan, 1988-1992.

expenditures for various tasks. To examine efforts by the Office of Highway Safety, the 1990 annual report for the highway safety plan is the primary focus. Objectives for programs in traffic safety support were outlined, and any course of action taken in part or full by state officers was guided by this plan. Based on the objectives, programs were outlined. Educational programs and promotional activities which the state organized for 1988 through 1992, as well as their impact on Nebraskans, are reviewed.

Based on the decline in seat belt use since the repeal of the seat belt law and based on the increasing incidence of drunk driving fatalities and injuries, especially for drivers twenty years and younger, the main objectives were as follows:

To coordinate and direct Highway Safety activities primarily in the ten top identified counties, to improve skills of judges, prosecutors, and law enforcement officers in identified problem areas, and to improve State Traffic Records System.¹⁵

Dating as far back as the mid-1960s, Nebraska Highway Safety officials had sponsored educational programs on safety belts to strengthen educational programs, training and certification of instructors, and for the provision of non-basic additional traffic training. Public information and education on traffic safety took the form of traffic service materials, posters, brochures, etc., and of public service announcements. For traffic training, contractors were hired to bring relevant courses to the state. DMV traffic records were modernized by updating a sixteen year old computer system, and driver

¹⁵Office of Highway Safety, "Nebraska Highway Safety Program," State of Nebraska Highway Safety Plan, 1988-1990.

examinations were made to be conducted and scored more efficiently. Manuals on traffic offenses and DWI charges were also designed to make information readily available to the public. After twelve months of coordination, 402 funded programs were begun in five of ten problem counties, and over 600 individuals were trained in law enforcement. This training included DWI enforcement, radar training, accident formulas, operation of police vehicles, accident investigation and instructor training.

Programs for alcohol and drug traffic problems were given separate attention, and objectives were as follows:

- (1) to reduce the expected number of alcohol related fatal and injury crashes by 2 percent per year and
- (2) to reduce the number of alcohol related fatal and injury crashes in 5 problem counties by 3.5 percent per year.¹⁶

In 1988 efforts produced a program on alcohol, which involved such approaches as crash reduction to increase DWI arrests. Through additional manpower, equipment and public information and education, enforcement would be strengthened. Also, efforts created youth programs to assure teacher training for intervention. Student activities to support prevention included "Project Graduation", S.A.D.D. assistance and promotion, and student organizations for community team building and planning. Follow-up and evaluation were also a part of this effort. To involve the entire community, team building, training, and planning were coordinated and each was given a follow-up evaluation at the end of 1988. A support program for alcohol and drug traffic problems provided training for

¹⁶Ibid.

detection, prosecution, and adjudication. Equipment for maintenance and education was also provided. To increase perception of the problem caused by alcohol, educational materials were printed and distributed. Public service announcements and holiday campaign support played a significant part also. One staff person for NDOH was responsible for coordination. This included monitoring and evaluation, as well as management and consultation.

One change which could be associated with the 1988 alcohol and drug traffic programs was a 7 percent reduction in alcohol related fatal and injury crashes. Alcohol-related fatal and injury crashes in problem counties in 1988 fell from 1,598 to 1,115 in 1988.¹⁷

The last program area planned by the Office of Highway Safety was Occupant Restraints. The first objective of this program was to increase safety belt usage to more than 29 percent and child restraint usage to more than 42 percent. As noted earlier in Chapter One, the 1991 and 1992 usage rate was 53 percent. The BRFs revealed that 30 percent of the 1,202 respondents reported that they always wore their seat belts.¹⁸

The second objective of the Occupant Restraint Programs was to encourage acceptance of the safety belt law concept as a method of increasing usage. Promotional programs were begun for seat belt use in Scottsbluff County, Nebraska. Also forming similar promotional programs were: Omaha Safety Council,

¹⁷Ibid.

¹⁸Nebraska Department of Health, BRFS 1991 & 1992, 8.

Lancaster County, Douglas County High School, and the Nebraska Department of Health. One support program included public information and education to distribute overall statewide public service announcements (PSAs). Another support program dealt with the coordination of safety belt activities. Newsletter and conference communications were also a part of this support programs. Following implementation of the safety belt use promotional and support programs, child restraint usage was at 60 percent of 107 observed.¹⁹

An organization called Volunteers of America in Lewellen, Nebraska, the Nebraska Dental Auxiliary, and the Satellite Office in Scottsbluff, Nebraska, were recipients of grant monies from the DOH. During an interview with Mary Appleby, head of the Nebraska Healthy Highways Program, it was explained that the Nebraska Dental Auxiliary has begun a similar program (Interview, June 1989). The purpose of the grant money was to educate patients about the potential for dental or facial damage in motor vehicle crashes which could result from not wearing a seat belt or from driving while intoxicated. The DOH's Nebraska Healthy Highways program, which began in 1988, supported physicians and nurses in educating their patients, especially children and teenagers, about the risks taken by not 'buckling up' and the dangers of impaired driving. Many of the educational and promotional devices used in this program are duplicated service announcements for holiday travel safety designed by the NHTSA. For instance, the public service

¹⁹Office of Highway Safety, "Nebraska Highway Safety Program," State of Nebraska Highway Safety Plan, 1988-1990.

announcement for holiday travel safety was designed by the NHTSA but was slightly revised by substituting the name of a certain agency within a certain city or state and announced over public radio station.

The NOHS offers a service to the public which includes an audiovisual library which loans films, filmstrips, slides, and videotapes about various traffic safety issues. These can be borrowed and viewed by children, teenagers, adults, and school administrators and can be a valuable tool for expanding incentive campaigns.

Conclusions: Seat Belt Use and Drunk Driving Education

As of 1994, evidence shows that Nebraska has not established evaluation and research as a high priority, but does continue to develop new programs and modify active programs to expand their target audience.

Research on attitude and behavior modification suggests that role-playing group dynamics and model training are effective means of triggering change in attitudes or behavior and transfer of learning of five year old pedestrians with respect to traffic safety rules. If educational activities begin in kindergarten, a more valuable instrument of measurement would be to create simulation activities to put the child in a quasi-real life traffic risk situation and to develop models to analyze changes in the attitude, behavior, and transfer of learning. Research indicates that behavior triggering elements in a simulation game appeared to motivate cautious behavior.

For changes in adult behavior in regard to alcohol use and

restraint use, the primary measurement to determine the impact of legislation and programs has been to calculate the percentage of injuries and deaths over time, and the BRFSS has been a very useful tool in helping to monitor these trends.

National Programs for Smoking Intervention and Prevention

In 1964, the Public Health Service established a small unit called the National Clearinghouse for Smoking and Health (NCSH). Through the years, the Clearinghouse and its successor organization, the Office on Smoking and Health, have been responsible for 20 reports on the health consequences of smoking. In close cooperation with voluntary health organizations, the Public Health Service has supported highly successful school and community programs on smoking and health, has disseminated research findings related to tobacco use, and has ensured the continued public visibility of antismoking messages.²⁰

Many promising results are coming from recent efforts to organize community resources for health promotion. Examples include the Stanford Heart Disease Prevention Program and the Multiple Risk Factor Intervention Trial (MRFIT), both funded by the National Heart, Lung, and Blood Institute.²¹

One very successful program, called the Stanford program, which began in 1972, has been monitoring the rates of cigarette

²⁰U.S. Department of Health and Human Services, Center for Disease Control, Morbidity and Mortality Weekly Report 38, no. S-2, (March 24, 1989):

²¹U.S. Department of Health Education and Welfare, Healthy People, 1993, U.S. Government Printing Office, Washington D.C., stock # 017-001-00416-2: 120.

smoking, serum cholesterol levels, and uncontrolled hypertension in three northern California communities. Two of the three communities employed active risk reduction activities including messages designed for television, radio, newspapers and other media. In one of these two communities, face-to-face counseling also was provided for a sample of high risk individuals.²²

Successful programs on the prevention of cigarette smoking have been developed to counteract hypothesized determinants of smoking onset. Although the rate of smoking onset is decreasing for Americans on a whole, some evidence indicates that smoking onset may be increasing among certain minority groups and that minority groups may be at relatively high risk for lung cancer and other smoking related diseases.²³ The findings that different variables predict whether adolescents from different ethnic backgrounds may try smoking possibly reflects unique social and cultural contexts. Further research may need to be done to make these determinations. Capitalizing on treatment components that are socially relevant may make them more effective in reducing smoking onset rates across several adolescent subgroups. Although studies suggest that all adolescents should be taught how to refuse offers of cigarettes, environmental and cognitive interventions could also be modified to better meet the needs of different subgroups. Caucasians may need self-instructional approaches to counteract tendencies to

²²U.S. Department of Health Education and Welfare, Healthy People, 1993 U.S. Government Printing Office, Washington D.C., stock # 017-001-00416-2: 120.

²³U.S. Department of Health and Human Services, Centers for Disease Control, Morbidity and Mortality Weekly Report 36, No. 4S, (March 24, 1993): 11S.

model the smoking behavior of other. Hispanics may need more environmental incentives against smoking as well as information on smoking's unpopularity among most people. Blacks may need to learn how to change their risk-taking behavior or to modify their expectations that smoking is exciting. Finally, Asians may need to counteract feelings of low-esteem and to have more opportunities to be successful at school. In large, school-based studies, personalized "treatment menus" could be offered to youths with different beliefs regarding smoking onset, or all of the above interventions could be provided to all youths.²⁴

Within a two-year period in the two experimental communities, overall heart disease risk fell by about 25 percent. In both, there were reductions in average serum cholesterol and a six percent lowering of blood pressure. A substantial reduction (net decrease of 35 percent) in smoking was achieved only among the high-risk individuals receiving counseling. In the community without an active information program, overall risk for heart disease actually increased during the first two years of the study.²⁵

The Multiple Risk Factor Intervention Trial program also sought to change behaviors with respect to smoking, serum cholesterol, and high blood pressure. In 22 communities, trial satellite clinics were established to determine whether, for men at high risk, a concentrated program based on counseling and directed simultaneously toward the three risks will result in a

²⁴Ibid.

²⁵U.S. Department of Health Education and Welfare, Healthy People, 1993, U.S. Government Printing Office, Washington D.C., stock # 017-001-00416-2: 120.

significant reduction in heart disease deaths.²⁶

A good example of a strong communitywide health-promotion program is the Minnesota Heart Health Program, funded by the National Heart, Lung, and Blood Institute, the National Institutes of Health, Public Health Service (PHS), and the U.S. Department of Health and Human Services (HHS). This program has provided the structure in which strategies derived from theoretical work may be tested and healthier behavior may be promoted. Educational methods, including use of mass media, community organization, and direct education and risk-factor screening programs, are the main strategies used to encourage healthful changes in eating habits, exercise, and smoking and to control high blood pressure. The conceptualization, development, refinement, dissemination, and evaluation of strategies to deter the onset of smoking among 7th graders have been primary focuses of Minnesota's youth-education efforts. This study tested the hypothesis that smoking behavior among adolescents would be better understood and accounted for if it were studied in its functional context and that prevention strategies could be more effective if they addressed those functions. The Minnesota Smoking Prevention Program was based on the findings of this study, and its goal was to prevent the onset of tobacco use among 7th graders in the community and to promote health-enhancing alternatives. The program addressed the functional meanings of smoking according to parents and students by involving them in group discussions. Other aspects

²⁶U.S. Department of Health Education and Welfare, Healthy People, 1993, U.S. Government Printing Office, Washington D.C., stock # 017-001-00416-2: 120.

of the program involved interviews with parents to reveal reasons why they think adolescents might be compelled to smoke, comparisons of expected advantages of smoking, skills training to help students identify what others feel is the functional meaning of smoking, social skills to resist influences to smoke, and statements from each student concerning his/her reasons for remaining a smoker.²⁷

The Minnesota Smoking Prevention Program is now being evaluated as part of a longitudinal study that compares all of the students in the graduating class in West Fargo and Fargo, North Dakota, and Moorhead, Minnesota.²⁸

Trends in Smoking Behavior: National Progress

The population has been giving up smoking in increasing numbers. Nearly half of all living adults who ever smoked have quit. The most impressive decline in smoking has occurred among men. Smoking prevalence among men has fallen from 50 percent in 1965 to 32 percent in 1992. These changes represent nothing less than a revolution in behavior. The antismoking campaign has been a major public health success. Those who have participated in this campaign can take tremendous pride in the progress that has been made.²⁹

The Office of Smoking and Health, Center for Health

²⁷U.S. Department of Health and Human Services, Morbidity and Mortality Weekly Report 36, No. 4S (September 4, 1987): 44S.

²⁸U.S. Department of Health and Human Services, Morbidity and Mortality Weekly Report 36, No. 4S (September 4, 1993): 44S.

²⁹U.S. Department of Health and Human Services, Centers for Disease Control, Morbidity and Mortality Weekly Report 38, No.S-2 (March 24, 1993): 26.

Promotion and Education, CDC, initiated the Adult Use of Tobacco Survey to study the U.S. adult population's knowledge, attitudes, and practices regarding the use of tobacco. The results of this survey showed the lowest prevalence of current cigarette smoking among adults ever recorded in the United States.³⁰

Analysis of this report shows that in the absence of the campaign, there would have been 91 million American smokers (15 to 84 years of age) in 1990 instead of 56 million. As a result of decisions to quit smoking or not start, an estimated 789,000 smoking-related deaths were avoided or postponed between 1964 and 1990. Furthermore, these decisions will result in the avoidance or postponement of an estimated 2.1 million smoking-related deaths between 1986 and the year 2000.³¹

Although the rate of smoking onset is decreasing for Americans as a whole, some evidence indicates that smoking onset may be increasing among certain minority groups and that minority groups may be a relatively high risk for lung cancer and other smoking-related diseases. Since the content of successful smoking prevention programs is tailored according to psychosocial predictors, health professionals need to determine whether these predictors vary significantly among different cultural groups. Yet, data are limited regarding ethnic-group differences in psychosocial predictors of smoking onset. One

³⁰U.S. Department of Health and Human Services, Centers for Disease Control, Morbidity and Mortality Weekly Report 36, No.35 (September 11, 1987): 1.

³¹U.S. Department of Health and Human Services, Centers for Disease Control, Morbidity and Mortality Weekly Report 38, No.S-2 (March 24, 1993): IX.

study identifies ethnic group differences in self-reported rates of smoking initiation among Southern California white, black, Hispanic, and Asian adolescents as they move from 7th to 8th grade and psychosocial predictors of smoking initiation.³²

Conclusions: National Smoking Education

Though tremendous progress has been made in reducing the prevalence of smoking, smoking will continue as the leading cause of preventable premature death for many years to come, even if all smokers were to quit today. Smoking cessation is clearly beneficial in reducing the risk of dying from smoking-related diseases. It is critical, however, to continue the progress towards prevention because for some diseases, such as lung cancer and emphysema, quitting may not reduce the risk to the level of lifetime nonsmokers even after many years of abstinence. The residual health risk is one reason why approximately 390,000 Americans died in 1993 as the result of smoking, even after two decades of declining smoking rates.³³

Just maintaining the current rate of progress is a challenge. Compared with nonsmokers, smokers are disproportionately found in groups that are harder to reach, and this disparity may increase over time. Greater effort and resources will need to be devoted to achieve equivalent reductions in smoking among those whose behavior has survived

³²U.S. Department of Health and Human Services, Centers for Disease Control, Morbidity and Mortality Weekly Report 36, No.48 (September 4, 1990): 115.

³³U.S. Department of Health and Human Services, Centers for Disease Control, Morbidity and Mortality Weekly Report 38, No.S-2 (March 18,1993): XI-X.

strong, countervailing social pressures.³⁴

Nebraska State Programs for Smoking Prevention/Intervention

Through the National Heart, Lung, and Blood Institute, the Nebraska based American Heart Association, literature on the physical consequences of smoking are provided for the public. Some topics discussed in the literature are: "Children and Smoking: A message to parents", "How to stop smoking". The Nebraska State Department of Health Division of Health Promotion and Education also distributes a booklet which highlights the facts and figures of smoking tobacco and smokeless tobacco products, the risks to smokers as well as non-smokers, the benefits of non-smoking, the benefits of quitting, tips on quitting, and resources for information on smoking.³⁵

The Nebraska Department of Health has created a display for the public which reveals the death toll for smoking related deaths in the state. The purpose of the display is to help people realize the extent of the effect that smoking has on their health. The display also provides a breakdown of those deaths from health risks that resulted from smoking, such as cancer, low birth weight and SIDS.³⁶

Nebraska's smoking cessation is promoted among employees through the motto "smoke-free environment" and through

³⁴U.S. Department of Health and Human Services, Centers for Disease Control, Morbidity and Mortality Weekly Report 38, No.S-2 (March 18, 1993): 11.

³⁵Nebraska Department of Health, The Good Life Through Good Health: Tobacco Use in Nebraska, #589-029.

³⁶Governor Kay A. Orr, Nebraska Department of Health, Better Health, a NOD Newsletter, Lincoln, NE (Spring, 1989).

literature which describes the facts about smoking, the risks to smokers and non-smokers, the benefits of non-smoking, and the benefits of quitting. It also provides tips on how to quit and presents additional resources through which people can obtain more information about smoking. This same literature is provided for the general public as well.

In addition to present efforts to prevent smoking, The National Cancer Institute (NCI) and the American Cancer Society have joined forces to mount the world's largest demonstration project for tobacco control and health promotion ever conducted.

ASSIST, the American Stop-Smoking Intervention Study, is designed to reach over one-fifth of the U.S. population and at least 15 million smokers through 20 community based tobacco control coalitions in large metropolitan areas or through entire states.

National Programs to Reduce High Blood Pressure,
Sedentary Lifestyle, Smoking, and Obesity

The primary educational program strategy used nationally to reduce the four cardiovascular risk factors is the National Heart, Lung, and Blood Institute kit which contains information and materials that support other programs designed to reduce the same health risks. This kit contains ideas and information about heart health, as well as more specific details about special issues confronting program planners and health professionals. For each of the major modifiable risk factors, a critical issue has been identified. For high blood pressure, the key issue continues to be adherence to treatment. For high blood cholesterol, the direction is to identify those with high

blood cholesterol and focus on dietary and physical activity types of intervention to bring it down. And for smoking, those people who have relapsed in their smoking cessation efforts are of special interest because of the high numbers of relapsed smokers and new opportunities in this field. Messages addressing these issues are repeated throughout the kit and reinforced by educational materials that can be reproduced and distributed.

The National High Blood Pressure Education Program (NHBPEP) is the oldest NHLBI education program. It was founded in 1972 to reduce death from high blood pressure through public, patient, and professional education. The Coordinating Committee for the NHBPEP is made up of representatives from professional, public, and voluntary health associations at the national level. The committee provides guidance to the NHBPEP by looking at important issues and recommending policy and program directions. Through its large network, the Coordinating Committee helps to spread high blood pressure information across the country. In January 1988, the NHBPEP Coordinating Committee approved the 1988 Report of the Joint National Committee on Detection, Evaluation, and Treatment of High Blood pressure (JNC). This report provides health professionals with new guidelines for high blood pressure control. The JNC report broadens the step-care approach to provide more flexibility for physicians and examines the needs of special populations. It encourages increased involvement of high blood pressure patients in their

care through the use of nonpharmacologic approaches.³⁷

National Cholesterol Education Program

In January 1984, the results of the Lipid Research Clinics Coronary Primary Prevention Trial provided the first conclusive evidence in humans that reducing elevated blood cholesterol levels reduces the rate of heart attacks and heart attack deaths. These data resulted in more and more evidence that diet modification and exercise could significantly reduce the prevalence of elevated cholesterol in the United States. Also at this time the National Cholesterol Education Program (NCEP) was launched. The program worked in partnership with its Coordinating Committee to develop strategies and materials to educate professionals, patients, and the public. This effort has contributed to heightened professional and public awareness of high blood cholesterol.³⁸

The NHLBI Smoking Education Program

The National Heart, Lung, and Blood Institute (NHLBI) established the NHLBI Smoking Education Program (NHLBI SEP) in 1985. The goal of this program was to reduce morbidity and mortality from tobacco-related cardiovascular and pulmonary disease. The NHLBI SEP identified and implements strategies for reaching critical target audiences that could serve as

³⁷U.S. Department of Health and Human Services, National Institutes of Health, NHLBI Kit '89; Ideas and Materials for Preventing Heart Disease, Lung Disease, and Stroke (1989).

³⁸U.S. Department of Health and Human Services, National Institutes of Health, NHLBI Kit '89; Ideas and Materials for Preventing Heart Disease, Lung Disease, and Stroke (1989).

intermediaries in reaching smokers. For example, health care professionals encountered frequent opportunities to advise smokers to quit; therefore, a key initiative of the NHLBI SEP has been to reach smokers through health professionals.

Along with other Federal, State, professional, and voluntary health organizations, the NHLBI SEP is working toward the Surgeon General's goal of a smoke-free society by the year 2000. Because other Federal agencies focus on public education, the NHLBI SEP directs its efforts toward health professionals and worksites. The specific role of the program is to motivate and educate physicians and other health professionals to intervene with their smoking patients. A variety of NHLBI SEP tools and publications support this strategy.³⁹

Conclusions

The three education programs described above represent a national effort for heart health education. In addition to these programs, the NHLBI Work Place Initiative addresses strategies to reduce cardiovascular disease in the work place, and the NHLBI Minority Initiative focuses on cardiovascular risk factors among minority populations.

Another strategy that the NHLBI uses is to tie activities to national events, such as health promotion months, to heighten awareness of heart health issues. This strategy has the added advantage of access to prepared materials, themes, and publicity. The NHLBI Kit contains information, materials, and

³⁹U.S. Department of Health and Human Services, National Institutes of Health, NHLBI Kit '89; Ideas and Materials for Preventing Heart Disease, Lung Disease, and Stroke (1989).

resources for help in planning activities for National High Blood Pressure Month (May), National Cholesterol Education Month (September), and other health promotion campaigns.⁴⁰

Nebraska Programs to Reduce High Blood Pressure,
Sedentary Lifestyle, Smoking, and Obesity

Health Education Risk Reduction Program

One program at the DOH which deserves to be highlighted is the Health Education/Risk Reduction Program, particularly because it addresses all of the major risk factors including tobacco use, stress, alcohol misuse, injuries, and accidents. Its main purpose and objective is to reduce premature death and disability to Nebraska residents through a team effort. The primary strategy is to educate Nebraskans about controlling behavioral risks to their health. Other educational program strategies work to complement this program as well, such as the BRFS, as introduced earlier. The BRFS is one part of the program which serves as a tool to identify the segments of the population at highest risk. Identification and subsequent reporting of these segments is what helps to stimulate efforts by program coordinators who can then target promotional and educational activities to the appropriate groups. This and other programs became strategies to achieve the goal of reducing the major risk factors.⁴¹

⁴⁰U.S. Department of Health and Human Services, National Institutes of Health, NHLBI Kit '89; Ideas and Materials for Preventing Heart Disease, Lung Disease, and Stroke (1989).

⁴¹Nebraska Department of Health, Education/Risk Reduction Program Summary, Lincoln, NE, 1989.

High Blood Pressure Control Program

The DOH has been in partnership with the Lincoln division of the American Heart Association (AHA) since 1975. The AHA, Nebraska Affiliate, is the state's leading non-profit health agency dedicated to increasing people's awareness of HEP and educating those with the condition about methods of monitoring and controlling their HEP. Fifty thousand volunteers coordinate and conduct blood pressure control activities across the state. Activities include screening to identify persons with HEP, physician referral, follow-up, and public and professional education to patients and community performed by contract staff and volunteers.

The DOH receives federal funding from Centers for Disease Control and Prevention (CDC) to provide the services of blood pressure and cholesterol testing. Four agencies and 10 local health departments receive preventive block grants to help support their projects.

Compared to previous years there has been a decrease in the number of subcontracting agencies and a decreased interest in mass blood pressure screening by volunteers. The number measured in this manner has decreased from 126,770 in 1983 to 37,416 in 1988. However, the percentage of those found to have HBP has remained relatively constant, averaging 2.8 percent of those tested.⁴²

Benefits from blood pressure testing by volunteers and subcontractors are long-term. During 1988, 47.2 percent of

⁴²Nebraska Department of Health, High Blood Pressure Control Program Progress Report, FY 1988.

participants said they had a history of HBP. Of those who said yes, 89.7 percent said they were on treatment. A close look at both the number of persons with HBP simultaneously with the number under treatment showed that, although the percentage of people with HBP went up, the percentage under treatment increased as well. An estimated twenty-eight percent of Nebraska residents had HBP in 1985. An estimated 29 percent were white, 38 percent were black, 33 percent were men and 27 percent were women.⁴³

There was no report of the number of men versus the number of women tested in the HBPC program. The decrease in the number of persons measured as a part of this program may be evidence that the program is weakening. Overall, Nebraska is still taking significant steps to meet the challenge of preventing deaths from HBP. The National Heart, Lung, and Blood Institute produced information on how to handle complex issues and to benefit the majority of patients through better management of the disease.

The DOH has used the reports distributed by this national committee to form materials for the public and to plan and implement strategies for education and promotion. In an interview with DOH staff, Barbara Pierson stated that all public information packets were layed out. It became apparent after a quick review that the materials were actually duplications of literature from NHLBI either left in the original form or supplemented with general facts about Nebraska's HBP population.

⁴³Nebraska Department of Health, Education/Risk Reduction Program Summary, Lincoln, NE, 1989.

The NHLBI kit '89 presented a package of program ideas and education materials. The DOH essentially uses the reproducible materials as handouts, table tent cards, payroll stuffers, and graphic aids.

One report included information on the second task force on blood pressure control in children in 1987. This report stressed the need for early identification of children with HBP so that they may be placed under surveillance. The goal in caring for children is surveillance and possible prevention, as well as identification of fixed hypertension requiring treatment when such cases could not be prevented.⁴⁴

This has implications for the Nebraska Department of Health, which could institute a program urging physicians to measure childrens' blood pressures once a year beginning at age three and then comparing results to the average child in accordance with weight and height. Currently, slides and tapes of materials from the NHLBI kit are given to health professionals in Nebraska for dissemination to the public. Some announcements are broadcast publicly via radio or television. Materials are sent to county health departments so that they can train their staff for HBP testing. However, since most of the DOH's funding for these activities is federal, they are limited to restrictions set by the Centers for Disease Control and Prevention.

One activity which the Nebraska DOH takes part in is

⁴⁴U.S. Department of Health and Human Services, National Heart, Lung, and Blood Institute's Task Force on Blood Pressure Control in Children, Report of the Second Task Force on Blood Pressure Control in Children--1987: 2.

distributing packets to health professionals. The only problem is that the information does not get to persons who do not see a physician regularly.

A personal interview, was held with Barbara Pierson and Joleen Huneke to discuss cardiovascular health in the Health Education and Promotion Division of the DOH. The interview was conducted to determine the status of cardiovascular health in Nebraska and how efforts to prevent the HBP have been coordinated and the degree of impact which these efforts have achieved. Neither Pierson and Huneke have been involved in an assessment of the impact which HBP prevention programs have had on Nebraska. The primary reason for starting HBP prevention was because statistics showed that HBP was a controllable risk factor which has been associated with heart disease and stroke. Pierson and Huneke were asked what programs were used as strategies to promote good cardiovascular health and which tool and tools of measurement was/were used to monitor the impact of HBP prevention and to monitor trends in the status of HBP in Nebraska. The response was that the data from the BRFSS had not yet been analyzed and that since the problem was a national one, education and promotion programs and activities would be duplicated by national efforts.⁴⁵

HBP is a risk factor which does not lend itself to legislation as a method of prevention or control, but certain other habits associated with the onset or prevalence of HBP can be fought with legislation, such as through legislation to cut

⁴⁵Barbara Pierson and Joleen Huneke of Nebraska, interview by author, 19 June 1989, Lincoln, Nebraska Department of Health, Nebraska.

down the prevalence of smoking which has been known to trigger HBP. Significant work has gone into the planning and implementation of educational programs and promotional activities. Thus, results of the BRFSS and a comparison of the national trend are good indicators of the strength and impact of the state's efforts. A review of the impact HBP programs have had on Nebraska in comparison to the U.S. should help determine if certain changes in the prevalence of HBP are significantly associated with prevention efforts by the State of Nebraska.

State Employment Wellness Program

The State of Nebraska meets the national average for prevalence of overweight citizens at 24 percent (see figure 13) and just slightly over the national average for sedentary lifestyle at 82 percent (see figure 14). Educational programs coordinated and implemented by the DOH often utilize promotional literature to substitute for personal instruction. A complement to the HBP program is the DOH's primary program which serves to reduce or prevent all of the risk factors which contribute to cardiovascular disease. These educational programs serve to promote opportunity and incentive to exercise, quit smoking, and to control blood pressure and weight. An outcome of this philosophy was the promotion of work site wellness via the State Employee Wellness Program (S.E.W.P), coordinated by the Division of Health Promotion and Education. This program offers health promotion activities to all state employees, and it consists of four phases: communication/ education, health screening, risk intervention, and program evaluation. The program publishes an

Prevalence of Obesity Nebraska and Surrounding States

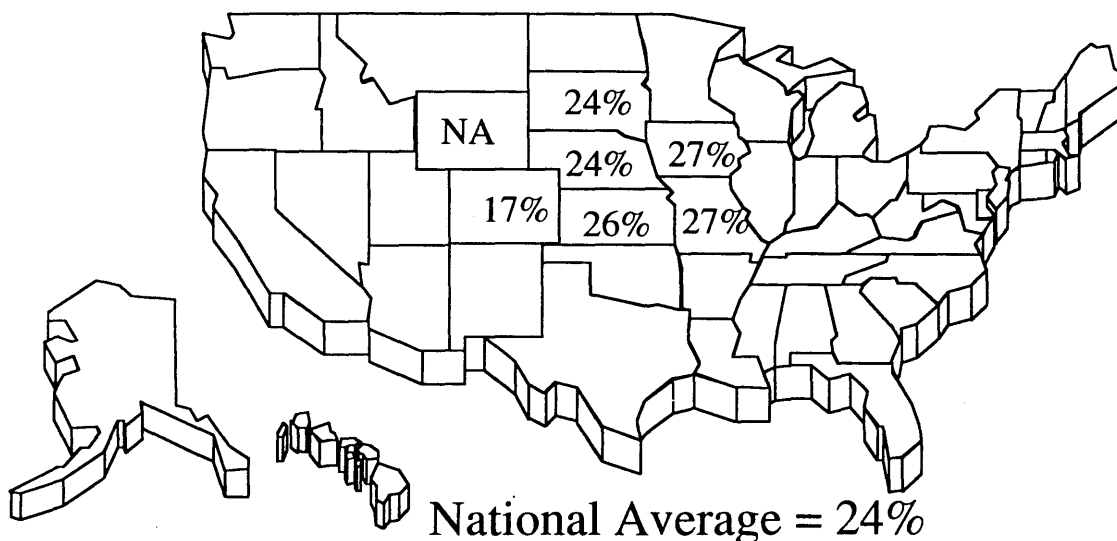


Figure 13

Prevalence of Sedentary Lifestyle Nebraska and Surrounding States

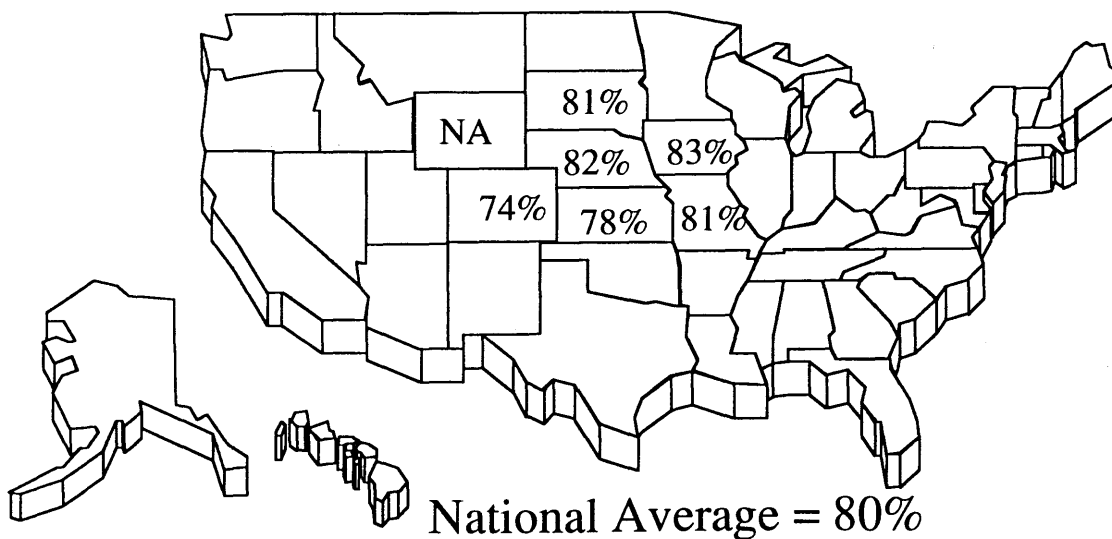


Figure 14

Source: Nebraska Department of Health, Behavioral Risk Factor Survey Report 1991 & 1992, 31, 39.

in-house publication which is distributed to all state employees on a quarterly basis. Each issue discusses current information on a variety of health topics, such as exercise and fitness, nutrition and weight control, stress management, and cholesterol education. Health screening is conducted to collect data on height, weight, cholesterol, and blood pressure. This data is used to plan and prioritize wellness program needs for the following two years of the program. Risk Intervention offers wellness activities to state employees including Physical Activities Club (PAC), Walk 88, and Health Risk Appraisal Screenings. Other programs offered, depending on space availability, staff and time resources, are aerobic dance, cholesterol testing, blood pressure checks, weight management workshops, and body compositional testing.

Since the majority of the population is at work for a large number of hours everyday, and since there are many incentives for employers to invest in employee health promotion, logical expectations were that worksite health risk reeducation programs would be successful. Results of a survey conducted in California supported the premise that employers have adopted these activities fairly rapidly. Results of the first systemic nationwide assessment of worksite health promotion activities showed that nine activities prevailed in states across the United States. They were: health risk assessment, smoking cessation, blood pressure screening and treatment, exercise and physical fitness, weight control, nutrition education, stress management, back problem prevention and care, and off-the-job accident prevention.

A statewide random sample of employees (N=230) were surveyed to determine how many had altered their lifestyles as a result of participating in the HRA program the last time it was offered (1986-87). The survey showed a positive impact: 35% had increased their level of physical activity, 26% had reduced their weight, 11 percent had increased their usage of seat belts, 9% had lowered their serum cholesterol level, 7% had reduced their alcohol intake, 6% had quit smoking, and 5% had lowered their blood pressure.⁴⁶

Health Risk Assessment Program

Health risk assessment (HRA) activity generally means activity designed to measure employee health status or health risk. The Nebraska Department of Health coordinates a health risk appraisal program which does periodic health or physical examinations of employees. These examinations include tests of physical fitness, cancer screening, and blood tests for cholesterol or sugar. In terms of cholesterol checks, Nebraska falls close to the national average at 34 percent.

According to national surveys on health promotion activity, there is a lack of information on the life cycle of health promotion activities, which of course makes any trends tentative. Over 50 percent of the activities have been in place for less than five years.

As part of the program designed to meet the needs of

⁴⁶Nebraska Department of Health, Wellness Program Summary, Division of Health Education and Promotion, Lincoln, NE (1989).

employees, one important requirement in developing work site wellness programs is to ensure that the minority population is equally represented in the efforts to promote exercise on the job. According to the American Journal of Public Health⁴⁷, there is a larger disadvantaged group aside from heavy laborers, whose jobs are "exercise", aside from the upper- and middle-class persons who constantly receive reinforcement about practicing healthful behaviors such as exercise, non-smoking, eating properly, and maintaining an ideal body weight. An opportunity to exercise should be everyone's privilege whether at home or at the job.⁴⁸

Project Lean in Nebraska

One project serves to provide Nebraskans with information on good nutrition practices, important for the prevention of some cancers, diabetes, stroke, and other diseases which are diet related. More than one-third of the population in Nebraska, 623,200 live in Douglas and Lancaster Counties. The major cities in these counties are within 50 miles, or a one hour drive from each other. The on-site Project Lean intervention activities are focused primarily in communities with "middle-of-the roaders". According to the Nebraska DOH, the middle-of-the-roaders are younger (over 60 percent are below age 44), married (over 70 percent), with children under 12 (38

⁴⁷Evridiki I. Hatzianndrea, et al, "A Cost-Effectiveness Analysis of Exercise as a Health Promotion Activity," American Journal of Public Health 78:11, 1417.

⁴⁸Nebraska Department of Health, Division of Health Education and Promotion, Health Risk Appraisal: How to Interpret the Results (1990), Lincoln, NE.

percent), with slightly higher incomes. Over one-third have professional level positions.

In cooperation with the DOH, two wellness councils have been formed in the same communities as Project Lean. They are Workwell and WELCOM.

The Lincoln-Lancaster County Health Department which has conducted BRFS's on a bi-annual basis each year since 1982, with the exception of 1986, has been very active as a community health coalition. This coalition was divided into four major task forces, one of which is Workwell, a worksite wellness task force that has 41 member companies representing over 34,000 employees. This program continues to be successful.

In Omaha, the Wellness Council of the Midlands (WELCOM) was created which the Wellness Councils of America (WELCOA) has evolved. WELCOM began in 1982 with fifty-three member companies, and now has 135 companies reaching 70,000 employees. The Wellness Council exists to promote wellness at the worksite. WELCOM's mission is guided by the conviction that the quality of life in any community is to a large degree measured by the health of its people. As more employers offer quality programs, not only will more individuals benefit, but spiraling health care costs can be better contained. WELCOM gains the active support of the chief executive officers in the business community for health promotion at the worksite. The WELCOM program provides health information and related resources to businesses, and its staff acts as an advisory body to businesses

regarding worksite wellness endeavors.⁴⁹

Smoking Cessation Program

Smoking cessation is promoted among employees through the motto "smoke-free environment" and through literature which describes the facts about smoking, the risks to smokers and non-smokers, the benefits of non-smoking, and the benefits of quitting. It also provides tips on how to quit and presents additional resources through which people can obtain more information about smoking. This same literature is provided for the general public as well.

Although it appears that the promotion of physical activity among employees has had a positive impact on Nebraska, the question that still remains is whether these programs are most dominant among white collar executives and larger industries. Truly everyone should be able to enjoy the privileges of such programs, and if this strategy is to work to the benefit of all Nebraskans, similar efforts need to be directed towards non-executive workers, as well as smaller industries.

Food Consumption Patterns

Very little data is presently available regarding food consumption patterns in Nebraska. The DOH received a five-year "data-based interventions" grant from the National Cancer Institute in 1987. As part of this multidimensional project, a

⁴⁹Nebraska Department of Health, A Report on Project Lean in Nebraska (1989), Lincoln, NE.

dietary advisory committee was formed to collect and review statistics and other information about diet, cancer, and food consumption patterns in the state. According to the Project Lean report, the Cancer Prevention Study III, conducted in 1991, by the American Cancer Society, provides the most relevant food consumption data for the Project LEAN target population. This data suggests that in comparison, consumption rates of some high fat foods, such as beef, were significantly higher in Nebraska than in the United States. This suggests that health educators should pay special attention to diet, and Nebraskans should be educated about the potential dangers of a high beef diet.

All of the DOH's programs to reduce the incidence of smoking, obesity, sedentary lifestyle, and uncontrolled high blood pressure have received impetus from the growing number of deaths and/or illness and an exorbitant financial loss to the economy. However, they have also received impetus from the growing national concern about health and fitness. Public interest in nutrition is at an all-time high; increasing public awareness and behavioral changes are evidence that Americans are actively trying to improve their health.⁵⁰

⁵⁰Nebraska Department of Health, A Report on Project Lean in Nebraska (1989), Lincoln, NE.

CHAPTER V
CONCLUSIONS AND RECOMMENDATIONS

This chapter provides a summarization and overview of the research, presented in the order that each of the six behavioral risk factors were discussed in the preceding chapters. It also highlights major issues pertaining to legislative and educational strategies discussed. Since each risk must be addressed differently, this section of the chapter is followed by a set of recommendations which are presented in two different categories--educational and legislative--and subcategorically by type of behavioral risk.

Seat Belt Use

Conclusions

In 1992, injuries associated with motor vehicle collisions were the fourth leading cause of death in the United States and the third leading cause of years of potential life lost. The use of seat belts has been shown to reduce the number and severity of such injuries.

Surveys were conducted nationally to determine attitudes about the use of seat belts. Some surveys involved the observation of automobile occupants to estimate the prevalence of seat belt use. According to the Morbidity and Mortality Weekly Report (MMWR), the proportion of persons failing to use seat belts, as determined by direct observation, was nearly

double that estimated from the telephone survey. Although self-report surveys, compared with observational surveys, tend to underestimate failure to use seat belts, their use permits the collection of demographic and behavioral data that may aid in the development of intervention strategies.

There is a continuing need to educate the public about the efficacy of seat belts in preventing injuries. Furthermore, efforts must be made to dispel the misconceptions that, for example, short-distance travel is not necessarily safer than long-distance travel. According to the MMWR, it is well known that many motor vehicle collisions occur while the drivers are travelling short distances. Regarding the fear of entrapment, research shows that, despite the notion that "being thrown clear" of a vehicle has a protective effect in a collision, fatality rates for occupants ejected from vehicles are 40 times greater than rates for occupants not ejected.

Drunk Driving

Conclusions

All States in the United States were required to establish 21 years as their minimum alcohol purchase age no later than July 1987 if they wished to continue receiving Federal Highway funds. Some studies have found little difference between drinking patterns of students who were legally able and not legally able to drink. One reason for this lack of differentiation may be that students were able to drive to neighboring states with different drinking laws to purchase or consume alcohol. Over the past two decades, many changes have

been made in the drinking laws of various states that have effected students and the general population. The drunk driving law, the implied consent law, minimum drinking age, and numerous health warning labels work simultaneously to reduce the occurrence of accidents and death across the nation and in Nebraska. However, the numbers of alcohol related crashes is still disappointing. Research has shown that minimum drinking age laws lose their impact over time and surveys have found that students find ways to break the law. Education promoters found that parents and community programs will have to play a bigger part in future efforts to reduce drinking behavior in all population groups.

Smoking Reduction

Conclusions

In the nation and in the State of Nebraska, smoking remains the leading cause of preventable death. Research found that there are harder to reach demographic groups and that, despite legislation such as the Clean Indoor Air Act, as well as educational programs to encourage abstinence from smoking, smoking remains a difficult behavior to change. Nebraska has utilized three basic strategies for its smoking reduction campaign: (1) a Smoking Cessation program which basically provides literature to the public on the how-to's of quitting and the benefits; (2) a "smoke-free environment" motto; and (3) the creation of a "Better Health" newsletter which provides Nebraska statistics on diseases and deaths due to smoking.

In the United States in 1988, 942(75%) of 1254 school

districts had antismoking educational programs at the elementary school level (up from 61% in 1986); 1016 (81%) at the middle school level (up from 64% in 1986), and 982 (78%) at the high school level (up from 74% in 1986).

The Morbidity and Mortality Weekly Report (MMWR) stated that approximately 3,000 persons, most younger than 21 years old, begin to smoke each day in the U.S. In Nebraska the demographic group which showed the most significant difference in smoking prevalence was defined most clearly in terms of education, specifically those who have earned a high school diploma or less. This research showed that younger children often try their first cigarettes with family members and that this is the critical time and age at which competing attitudes, motives, and/or expectations provide the means for justifying smoking behavior.

Research also indicated that adolescents of different social and cultural backgrounds may have different motivations for smoking, but that more research is needed to determine what these motivations are, how well they can predict certain behavior, and how to more effectively modify it.

High Blood Pressure Control (HBP)

Conclusions

High Blood Pressure is recognized as one behavioral risk factor in the cause of heart disease and stroke. With several national programs like the National Heart, Lung, and Blood Institute (NHLBI) and the Joint National Committee on Detection, Evaluation, and Treatment of Blood Pressure (JNC), much is being

done to disseminate information about HBP across the country, as well as to develop and recommend policy and program directions. Many public awareness programs and written publications have been developed. Programs to reduce cardiovascular disease in the work place and promotional kits packed with strategies, ideas, and materials can be used by employers, program planners, grocery stores, cafeterias and restaurants, neighborhood groups, etc.

Based on research, much is still unknown about the direct cause of HBP, although numerous studies suggest it is more prevalent among blacks than whites. This prevalence is greater still among blacks in the southeastern area of the United States.

Early diagnosis and management of HBP can prevent the complications of the disease which may lead to death.

Obesity

Conclusions

Obesity is a behavioral health risk associated with numerous metabolic disorders and is often the primary cause of non-insulin dependent diabetes, a major cause of death in the nation and the State of Nebraska.

To combat the risk of obesity, diet and exercise are the primary strategies encouraged by professionals in the medical field, nutritionists, and persons who have themselves combatted obesity and wish to develop programs to assist others in doing the same.

According to the American Journal of Public Health, those

most at risk for obesity are women whose body composition is characterized by more subcutaneous fat at the nape of the neck and a higher ratio of fat to muscle in the arm than in the thigh. Generally the greater the upper body obesity, the greater the risk for diabetes.

Research shows that, aside from programs to promote exercise and healthy diets, almost nothing is documented about the kinds of strategies used to target women and men in the high risk category for weight gain and diabetes (i.e., women and men with a genetic pre-disposition for greater upper body fat distribution).

Sedentary Lifestyle

Conclusions

In the U.S., research indicated that the median prevalence of sedentary lifestyle is somewhat higher for women than for men; however, the distribution of prevalence estimates for the two genders overlap considerably. The prevalence of sedentary lifestyle for adults also increased with increasing age. By region, the median prevalence of sedentary lifestyle is somewhat higher for the southeastern states and lowest in the southwestern and mountain states but there is still considerable overlap.

Eleven of the Surgeon General's year 2000 objectives for the nation relate to physical fitness and exercise. Most of these 11 objectives emphasize "appropriate physical activity," which is defined as "exercise which involves large muscle groups in dynamic movement for periods of 20 minutes or longer, three

or more days per week, and which is performed at an intensity of 60 percent or greater of an individual's cardio-respiratory capacity." The Morbidity and Mortality Weekly Report indicated that an average of 55% of 25,221 persons interviewed by telephone in the 22 states participating in the 1991/92 BRFS reported so little physical activity in the previous month as to be considered sedentary. Rates increased with age and were slightly higher for women than for men. Very similar trends for age, gender, and region were noted in other national surveys.

The year 2000 physical fitness and exercise objectives are also concerned with the regular monitoring of national trends, the use of community recreation programs and facilities, public and professional awareness of the benefits of regular physical activity, worksite fitness programs, and the evaluation of the short- and long-term effects of physical activity.

In spite of the fact that physical activity is a complex behavior and difficult to assess, progress has been made in the ability to characterize national levels of physical activity. Unfortunately, these results indicate that less than half of the American population is physically active at a level likely to confer health benefits. Because of the multiple health benefits of physical activity and because of the high prevalence of sedentary lifestyle documented among the U.S. population, the promotion of prudent physical activity should be a national priority for the Public Health Service.

Recommendations for Seat Belt Nonuse ReductionEducational

1. Research showed that community traffic safety programs organized in various states in the nation have had an effect on reducing a variety of traffic safety problems in addition to increasing seat belt use. Drunk driving, speeding, overcrowded roadways etc., are some of the other issues addressed in communities across the United States. The Nebraska Department of Public Safety and the Department of Motor Vehicles should encourage and support future development and enhancement of community traffic safety programs across the state to facilitate stronger community focus and commitment to increasing seat belt use.

2. The results of the behavioral risk factor survey showed that only 86 percent of children under 10 were aware that the state has a child restraint use law. Efforts should be increased by health care givers and the public and private school system to educate children and parents that this is the law, and it is for the safety of the child to restrain them.

3. Research showed that certain misconceptions or fears exist regarding the use of safety belt use, such as fear of entrapment and the fear of injuries from seat belts during an accident. Some believe that short-distance travel is safer than long-distance travel. This shows a critical need to educate the public about the efficacy of seat belts in preventing injuries, and to dispel the fears and misconceptions that prevent some

people from wearing safety belts.

4. Research shows that, particularly with seat belt use, strategies produce different results on different age groups. Incentive programs and safety belt laws need to be evaluated for their distinct and separate impacts on adults and children so that these programs can be designed to be more effective.

Legislative

1. Seat belt laws typically pertain to certain vehicles and seating positions. Delivery vehicles, rural letter carriers, buses, taxicabs and other types of vehicles and some rear seat occupants are exempt from the seat belt law. This leaves many people on the road unprotected, and therefore at risk for greater injuries and possible death. A legislative proposal should be made to require that all occupants of any type standard or business type vehicle to wear seat belts unless for some reason there is a reason why it would be unsafe to the occupant.

2. Currently, Nebraska uses secondary enforcement to fine people for safety belt nonuse on highways. Other states use primary enforcement which is more restrictive because drivers do not have to violate any other laws except for being caught without their seat belt. Police officers and state highway patrol officers can fine drivers for this single violation. Primary enforcement is a stronger incentive and therefore legislative action should be taken to adopt this method of

enforcement on Nebraska roads.

Recommendations for Drunk Driving Prevention

Educational

1. Research showed that parent education committee activities give parents a chance to influence the choices their children make about drugs and alcohol. Efforts within the school system should be made to involve parents in as many activities as possible in their child's education about drugs and alcohol.

2. Based upon the success of several community drunk-driving reduction projects, the promotion of community interventions and design and evaluation of these activities should become a stronger focus in Nebraska. The local, city, and state health department could monitor trends and determine the effectiveness of these strategies.

3. Evaluation of activities and programs should become an integral part of community intervention.

4. Public education campaigns should continue to focus on the consequences of alcohol misuse, such as drunken driving and fetal alcohol syndrome.

5. Research indicates that the persons who could benefit the most from programs like Alcoholics Anonymous (AA) are the least likely to get involved in one. Strategies for identifying this at risk group should be developed so that more can be done to

assure their success in getting treated for alcohol abuse.

Legislative

1. The state of Nebraska should maintain a Minimum Drinking Age Law of 21. Research shows that overall, a 10 to 15 reduction in nighttime fatal crashes among teenagers can be achieved with this law.

2. Research shows that the public is less likely to pay attention to drunk driving laws if they know that the chances of being caught are low. Roadside sobriety check points are highlighted in the media more noticeably during the holidays. It is important then, that Nebraska Department of Traffic Safety, let the public know and appreciate that enforcement is just as present and critical during the non-holiday season.

Recommendations for Smoking

Educational

1. Research shows that smoking, although it is a risk that good health education and incentive programs can discourage, it is also a result of environment and cognitive reasoning. Groups of different ethnic backgrounds may respond to different strategies with quite different results. The Nebraska Department of Health could encourage more studies to be done in this area so that more effective intervention programs can be designed.

2. Research showed that a successful smoking prevention

program, whose goal was to prevent the onset of smoking among 7th graders and promote health enhancing alternatives was quite successful, although it still being evaluated. It involved both students and parents in group discussions about why they were compelled to smoke and the advantages and disadvantages. Social skills training was also a part of this training. Nebraska schools should experiment with these strategies to see if the results might help improve existing programs to help students gain better self control of circumstances that motivate them to smoke.

3. Nebraska's special programs on smoking cessation concentrate more heavily on the adult population and those who are able to obtain literature on the effects of smoking and methods that have been successful in helping people to stop smoking. Other than the general health education children get in school, no special programs are targeted towards children under 18 years of age. More should be done to create the kind of cessation program that will address the needs of minors who need help in quitting.

4. The Behavioral Risk Factor Survey asks smokers which category they fall into depending on how many cigarettes they smoke per day. What it does not ask is what external factors have effected or could effect their smoking behavior. For evaluative purposes, it would be helpful to know which strategies (i.e. the Clean Indoor Air Act, cigarette tax, anti-smoking campaigns, etc) have influenced the behavior of those

surveyed.

Legislative

1. In 1990, 24 percent of minors were guilty of a class IV misdemeanor (i.e. smoking under legal age of 18 years old), it shows that not enough is being done by our legal system to assure that minors are not able purchase cigarettes. Research shows that increasing penalties can discourage the sale of cigarettes to minors. Nebraska may, within federal limits, consider establishing tougher penalties.

2. Currently employers with 15 or more employees are required to adopt a written smoking policy for the work place. It is important to recognize the second-hand smoking issue as having a negative impact on the non-smokers. Nebraska legislature needs to re-assess the advantages and disadvantages of allowing small offices of less than 15 people exempt from the no-smoking policy.

3. Where quarters are tight, as with small offices, second-hand smoke can be an even bigger problem. Currently, no structural changes or improvements in the ventilation system are required under the current law or LB 269. A proposal to make it mandatory that in small office spaces, quality ventilation is installed and/or maintained.

Since hypertension, obesity, and sedentary lifestyle are three risks which tend to overlap (i.e., individuals tend to

fall into more than one category), many programs have been developed to address all three. Thus, any one of the following recommendations could be coupled together to produce a single program with multiple purposes and goals.

Recommendations for Hypertension

Educational

1. Most Americans have had their blood pressure measured within the last year; therefore, mass screenings to detect unaware hypertensives should be continued, however one improvement can be made to have better follow-up services (i.e., maintain contact with patients to assure that they are now managing their condition).
2. Continue the Health Risk Assessment program in Nebraska. It addresses all six of the risk factors and has been very successful in helping to identify persons on worksites with undiagnosed high blood pressure, and those who will need to obtain additional medical services to control the condition.
3. Research shows that disadvantaged groups are a forgotten group when it comes to communicating information about health care and behavioral risk reduction. Community or regional high blood pressure councils who conduct the mass high blood pressure screenings should coordinate activities to ensure that disadvantaged groups are included.

Recommendations for Obesity Prevention

Educational

1. The Nebraska BRFS showed that almost one-quarter of the state of Nebraska is overweight. The BRFS does not obtain information on what percentage of those overweight is a result of poor diet or lack of exercise, but as a result of a more serious medical problem. Because it is important for accuracy in statistics to determine what portion of our those overweight can reduce their weight with diet and exercise, the BRFS should be revised to reform the question for those who may be obese do to a known medical problem.

2. Since research shows that excess weight increases the risk for diabetes, health care providers need to give a higher priority to diabetes as a major health risk for persons who are have a high tendency for excess weight gain.

3. The State Employment Wellness Program has been well designed to address risk intervention and health screening as a way of promoting healthy diet, and regular exercise. This program should continue for the benefits it provides employees and the activities that will help employees to maintain their weight.

4. The Health Risk Assessment program complements the state employee wellness program but is available to non-state employees as well. Measuring employee health status and encouraging physical examinations is an excellent way to ensure good health in a work place. Therefore this program should also

be continued.

5. Project Lean, which serves Nebraskans with information on good nutrition practices is important and should be continued because of the critical need to educate Nebraskans on how to eat healthy balanced meals to control weight, and minimize the risk of heart disease, stroke, and other diseases associated with a high fat diet.

6. Research by the American Cancer Society showed that a high beef content is potential dangerous to our health. Information from the Project Lean program shows that Nebraska consumes far more beef than the nation as a whole, therefore health educators should focus on informing Nebraskans of the risk of high beef diets.

Recommendations for Sedentary Lifestyle Prevention Educational

1. The Health Risk Assessment Programs have also been instrumental in helping to determine overall individual fitness level. Since research shows that sedentary increases the risk for obesity and diabetes, health care providers need to give a higher priority to making exercise more appealing and routine for people who feel that exercise takes up too much time or is too hard.

2. The State Employment Wellness Program has been well designed to address risk intervention and health screening as a way of promoting healthy diet, and regular exercise. This program should continue for the many benefits, including exercise, that it provides employees.

3. The Health Risk Assessment program complements the state employee wellness program but is available to non-state employees as well. Measuring employee health status and encouraging physical examinations is an excellent way to ensure good health in a work place. Therefore this program should also be continued.

Other Recommendations

Other recommendations or suggestions are summarized below; however, because no research has been done to show that these strategies have been used effectively, more research in this area is warranted. The following recommendations may or may not have been tested, but are mainly ideas to consider.

Alcohol misuse

1. Data collected by organizations and health care institutions should be entered and stored in a database for easy access. This data could be used to determine the level of benefit by persons at different stages of alcohol abuse.

2. The Nebraska State Legislature should research propose higher taxation, greater restrictions for server and host liability,

and land use laws governing the location of alcohol outlets. Also, greater prohibitions on advertising alcoholic beverages could effect driver access to alcohol.

3. Nighttime curfews for teenagers could be adopted and/or continued to discourage illegal activity like drinking alcoholic beverages.

Smoking

1. Incentives should be instituted to reward store owners for removing vending machines and for limiting purchases to adults.

2. Assure all school districts in Nebraska have a written policy regarding smoking, such as a smoking ban which accomplishes several goals: Discourage students from starting to smoke; 2) Reinforce knowledge of the health hazards of cigarette smoking; and 3) Promote a smoke-free environment as the norm. Smoking policies can and should be initiated by school boards, district administrators, teachers, building administration staff, parents, community, students, or any other interested party.

3. Smoking policies should now be directed at adults as well as students. School policies that restrict smoking tend to apply only to students. Banning smoking on school premises effects staff, faculty, and administration, parents, and other school visitors.

High Blood Pressure

1. Studies to determine ways to prevent hypertension are in progress. Until the results of these investigations are available, definite recommendations cannot be made. However, data from populations studies suggest that low sodium intake, weight reduction, and moderation of alcohol consumption, may prevent blood pressure levels from rising.

Obesity

1. In past population studies, according to the American Journal of Public Health, prevalence of diabetes nearly doubled when oral glucose intolerance tests were used. Glucose tests should be used with more frequency in this high risk category, since many cases are undiagnosed.

Sedentary Lifestyle

1. The Nebraska Department of Health should promote the development of community-based opportunities to make exercising more accessible to everyone. Such opportunities include the development and construction of new, or improvements of existing, recreational facilities, bicycle paths, etc.

2. Since sedentary lifestyle is a leading factor in causes of heart disease and other circumstances that lead to heart disease, such as obesity and HBP, it is important for physicians to explain the risks of inactivity to patients. According to research, this strategy has not been addressed as thoroughly as it should be.

3. Television and a variety of written publications do an excellent job of addressing and promoting exercise; however, it should be a national priority by the Public Health Services to design other strategies, especially since the prevalence of this risk increases with age and therefore can significantly affect a person's health in mid-forties to late life.

4. More studies need to be done to determine demographic differences in levels of activity on a national basis. This information would be helpful in targeting educational programs to appropriate groups who are not being adequately reached.

5. Studies need to expand beyond the relationship of exercise to heart disease or the costs of sedentary life. Focusing on determining the kinds of obstacles people experience could be a good place to start.

6. Since insurance companies provide financial incentives to clients each year for not smoking, there should be similar incentives for exercisers. Or, perhaps, more negative incentives could be created to discourage sedentary lifestyle.

APPENDIX

1992 Behavioral Risk Factor Questionnaire

FIPS STATE CODE	STRATUM CODE	PSU NUMBER	RECORD NUMBER	DATE OF INTERVIEW MM DD YY	ID
3 1 <small>(1-2)</small>	1 <small>(3)</small>	 <small>(4-8)</small>	 <small>(9)</small>	 <small>(10-15)</small>	 <small>(16-17)</small>

HELLO, I'm _____ calling for the _____ residents.
 We're doing a study of the health practices of _____ residents.
 Your number has been chosen randomly by the _____ to be included in
 the study, and we'd like to ask some questions about things people do which may affect their health.

Is this Area code Prefix Suffix

Thank you very much, but I seem to have dialed the wrong number. It's possible that your number may be called at a later time. STOP

Is this a private residence? *Thank you very much, but we are only interviewing private residences. STOP*

	Date	Time	Time	Time	Time	Time	ID	Comments
<input type="radio"/> Line busy	_____	_____	_____	_____	_____	_____	_____	_____
<input type="radio"/> No answer	_____	_____	_____	_____	_____	_____	_____	_____

Appointments:

	Today's date/time	Spoke with	Ask for	Callback date/time	ID	Comments
1.	_____	_____	_____	_____	_____	_____
2.	_____	_____	_____	_____	_____	_____

Refusals:

	Date/time	Spoke with	ID	Comments
1st	_____	_____	_____	_____
2nd	_____	_____	_____	_____

Call Disposition Codes	
01 - Completed interview. 02 - Refused interview. 03 - Nonworking number. 04 - No answer (multiple times). 05 - Business phone. 06 - No eligible respondent at this number.	07 - No eligible respondent could be reached during time period. 08 - Language barrier prevented completion of interview. 09 - Interview terminated within questionnaire. 10 - Line busy (multiple tries). 11 - Selected respondent unable to respond because of physical or mental impairment.

Edited by: _____
 Date: ____/____/____
 Final disposition of telephone call: (26-27)
 Wind down: (28)



Our study requires that we interview only one person who lives in your household.
How many members of your household, including yourself, are 18 years of age or older?

--	--

(29-30)

If "1" go to page 3



How many are men and how many are women?

Men	Women
(31)	(32)



Who is the oldest man who presently lives in this household?
Who is the next oldest man who presently lives in this household? Etc.



Who is the oldest woman who presently lives in this household?
Who is the next oldest woman who presently lives in this household? Etc.

Suffix: _____

Last digit of phone number

		Last digit of phone number											
		0	1	2	3	4	5	6	7	8	9		
Total adults	1.	_____	1	1	1	1	1	1	1	1	1	1	Total adults
	2.	_____	2	1	2	1	2	1	2	1	2	1	
	3.	_____	3	1	2	3	1	2	3	1	2	X	
	4.	_____	1	2	3	4	1	2	3	4	X	X	
	5.	_____	2	3	4	5	1	2	3	4	5	1	
	6.	_____	5	6	1	2	3	4	X	X	X	X	
	7.	_____	2	3	4	5	6	7	1	X	X	X	
	8.	_____	8	1	2	3	4	5	6	7	X	X	



The person in your household that I need to speak with is _____

If "you." go to page 3.

To correct respondent

Hello, I'm _____ calling for the _____ I'm a member of a special research team. We're doing a study of _____ residents regarding their health practices and day-to-day living habits. You have been randomly chosen to be included in the study from among the adult members of your household.

The interview will only take a short time, and all the information obtained in this study will be **confidential**. First, I'd like to begin by asking you about using seatbelts. . . .

Section A: Seatbelts

1. How often do you use seatbelts when you drive or ride in a car? (33)

Would you say:

Please Read

- a. Always..... 1
- b. Nearly always 2
- c. Sometimes..... 3
- d. Seldom..... 4
- or
- e. Never..... 5
- Don't know/Not sure..... 7
- Never drive or ride in a car 8
- Refused 9

Do not read
these
responses.

Section B: Hypertension

These next questions are about hypertension or high blood pressure:

2. About how long has it been since you last had your blood pressure taken by a doctor, nurse, or other health professional? (34)

Was it:

Please Read

- | | | |
|------------------------------------|---|---|
| | a. Within the past six months (0 to 6 months ago) | 1 |
| | b. Within the past year (7 to 12 months ago) | 2 |
| | c. Within the past two years (13 to 24 months ago) | 3 |
| | d. Within the past five years (25 to 60 months ago) | 4 |
| | or | |
| | e. More than five years ago (61+ months ago) | 5 |
| | Don't know/Not sure | 7 |
| Do not read
these
responses. | Never | 8 |
| | Refused | 9 |

3. Have you ever been told by a doctor, nurse, or other health professional that you have high blood pressure? (35)

- | | | |
|---|---|---|
| | a. No <i>Go to Section C (p. 6)</i> | 1 |
| | b. Yes, by a doctor | 2 |
| Probe for
doctor, nurse,
or other health
professional. | c. Yes, by a nurse | 3 |
| | d. Yes, by other health professional | 4 |
| | Don't know/Not sure <i>Go to Section C (p. 6)</i> | 7 |
| | Refused <i>Go to Section C (p. 6)</i> | 9 |

4. Have you been told on more than one occasion that your blood pressure was high, or have you been told this only once? (36)

a. More than once 1

b. Only once 2

Don't know/Not sure 7

Refused 9

5. Is any medicine currently prescribed for your high blood pressure? (37)

a. Yes..... 1

b. No 2

Don't know/Not sure 7

Refused 9

Section C: Exercise

The next few questions are about exercise, recreation, or physical activities other than your regular job duties.

6. During the past month, did you participate in any physical activities or exercises such as running, calisthenics, golf, gardening, or walking for exercise? (38)

- a. Yes 1
- b. No *Go to Section D (p. 9)* 2
- Don't know/Not sure *Go to Section D (p. 9)* 7
- Refused *Go to Section D (p. 9)* 9

7. What type of physical activity or exercise did you spend the most time doing during the past month? (39–40)

Activity (specify): _____
See coding list A

Refused *Go to Q. 11 (p. 7)* 9 9

➡ Ask question 8 only if answer to question 7 is running, jogging, walking, or swimming. All others, go to question 9.

8. How far did you usually walk/run/jog/swim? (41–43)

- | | |
|---|---------------------------------|
| See coding list B if response is not in miles and tenths. | Miles and tenths — — |
| | Don't know/Not sure 7 7 7 |
| | Refused 9 9 9 |

9. How many times per week or per month did you take part in this activity during the past month? (44–46)

- a. Times per week 1 — —
- b. Times per month 2 — —
- Don't know/Not sure 7 7 7
- Refused 9 9 9

10. And when you took part in this activity, for how many minutes or hours did you usually keep at it? (47–49)

Hours and minutes : ..

Don't know/Not sure 7 7 7

Refused 9 9 9

11. Was there another physical activity or exercise that you participated in during the last month? (50)

a. Yes 1

b. No *Go to Section D (p. 9)* 2

Don't know/Not sure *Go to Section D (p. 9)* 7

Refused *Go to Section D (p. 9)* 9

12. What other type of physical activity gave you the next most exercise during the past month? (51–52)

Activity (specify): _____
See coding list A

Refused *Go to Section D (p. 9)* 9 9

➡ Ask question 13 only if answer to question 12 is running, jogging, walking, or swimming. All others go to question 14.

13. How far did you usually walk/run/jog/swim? (53–55)

See coding list B if response is not in miles and tenths.

Miles and tenths — — —

Don't know/Not sure 7 7 7

Refused 9 9 9

14. How many times per week or per month did you take part in this activity? (56–58)

a. Times per week 1 _ _

b. Times per month 2 _ _

Don't know/Not sure 7 7 7

Refused 9 9 9

15. And when you took part in this activity, for how many minutes or hours did you usually keep at it? (59–61)

Hours and minutes _ : _ _

Don't know/Not sure 7 7 7

Refused 9 9 9

Section D: Weight Control

The next few questions are about efforts to lose weight.

16. Are you now trying to lose weight? (62)

a. Yes..... 1

b. No *Go to Section E (p. 10)*..... 2

Refused *Go to Section E (p. 10)* 9

17. Are you eating fewer calories to lose weight? (63)

a. Yes..... 1

b. No 2

Don't know/Not sure..... 7

Refused 9

18. Have you increased your physical activity to lose weight? (64)

a. Yes..... 1

b. No 2

Don't know/Not sure..... 7

Refused 9

Section E: Tobacco Use

Now I'd like to ask you a few questions about cigarette smoking.

19. Have you smoked at least 100 cigarettes in your entire life? (65)

- | | | | |
|-----------------------------|----|--|---|
| 100 cigarettes
= 5 packs | a. | Yes..... | 1 |
| | b. | No <i>Go to Section F (p. 12)</i> | 2 |
| | | Don't know/Not sure <i>Go to Section F (p. 12)</i> | 7 |
| | | Refused <i>Go to Section F (p. 12)</i> | 9 |

20. About how old were you when you first started smoking cigarettes fairly regularly? (66–67)

- | | |
|------------------------------|-----|
| Code age in years | — — |
| Don't know/Not sure | 7 7 |
| Never smoked regularly | 8 8 |
| Refused | 9 9 |

21. Do you smoke cigarettes now? (68)

- | | | |
|----|--|---|
| a. | Yes..... | 1 |
| b. | No <i>Go to Q. 24 (p. 11)</i> | 2 |
| | Refused <i>Go to Section F (p. 12)</i> | 9 |

22. On the average, about how many cigarettes a day do you now smoke? (69–70)

- | | | | |
|---------------------------|----|----------------------------|-----|
| 20 cigarettes
= 1 pack | a. | Number of cigarettes | — — |
| | b. | Don't smoke regularly..... | 8 8 |
| | | Refused | 9 9 |

23. During the past 12 months, have you quit smoking for 1 day or longer? (71)
- a. Yes *Go to Section F (p. 12)* 1
 - b. No *Go to Section F (p. 12)* 2
 - Don't know/Not sure *Go to Section F (p. 12)* 7
 - Refused *Go to Section F (p. 12)* 9

24. About how long has it been since you last smoked cigarettes regularly? (72)

Was it:

Please Read

- a. Less than 1 month 1
- b. One month to less than 3 months 2
- c. Three months to less than 6 months 3
- d. Six months to less than 1 year 4
- e. One year to less than 5 years 5
- or
- f. Five or more years ago 6
- Don't know/Not sure 7
- Never smoked regularly 8
- Refused 9

Do not read
these
responses.

Section F: Alcohol Consumption

These next few questions are about the use of beer, wine, wine coolers, cocktails, or liquor, such as vodka, gin, rum, or whiskey, all kinds of alcoholic beverages that people drink at meals, special occasions, or when just relaxing.

25. Have you had any beer, wine, wine coolers, cocktails, or liquor during the past month, that is, since _____? (73)

a. Yes..... 1

b. No *Go to Section G (p. 14)* 2

Refused *Go to Section G (p. 14)* 9

26. During the past month, how many days per week or per month did you drink any alcoholic beverages, on the average? (74–76)

a. Days per week 1 _ _

b. Days per month 2 _ _

Don't know/Not sure *Go to Q. 28 (p. 13)*..... 7 7 7

Refused *Go to Q. 28 (p. 13)* 9 9 9

27. A drink is 1 can or bottle of beer, 1 glass of wine, 1 can or bottle of wine cooler, 1 cocktail, or 1 shot of liquor. On the days when you drank, about how many drinks did you drink on the average? (77–78)

Number of drinks _ _

Don't know/Not sure..... 7 7

Refused 9 9

28. Considering all types of alcoholic beverages, that is beer, wine, wine coolers, cocktails, and liquor, as drinks, how many times during the past month did you have 5 or more drinks on an occasion? (79-80)

- a. Number of times — —
- b. None 8 8
- Don't know/Not sure 7 7
- Refused 9 9

29. And during the past month, how many times have you driven when you've had perhaps too much to drink? (81-82)

- a. Number of times — —
- b. None 8 8
- Don't know/Not sure 7 7
- Refused 9 9

Section G: Preventive Health Practices

Some people visit a doctor for a routine checkup, even though they are feeling well and have not been sick.

30. About how long has it been since you last visited a doctor for a routine checkup? (83)

Was it:

Please Read

- | | | |
|------------------------------------|---|---|
| | a. Within the past year (0 to 12 months ago) | 1 |
| | b. Within the past two years (13 to 24 months ago) | 2 |
| | c. Within the past five years (25 to 60 months ago) | 3 |
| | or | |
| | d. More than five years ago (61+ months ago) | 4 |
| | Don't know/Not sure | 7 |
| Do not read
these
responses. | Never | 8 |
| | Refused | 9 |

These next questions are about blood cholesterol, which is a fatty substance found in the blood.

31. Have you ever had your blood cholesterol checked? (84)

- | | |
|--|---|
| a. Yes | 1 |
| b. No <i>Go to Q. 36 (p. 16)</i> | 2 |
| Don't know/Not sure <i>Go to Q. 36 (p. 16)</i> | 7 |
| Refused <i>Go to Q. 36 (p. 16)</i> | 9 |

32. About how long has it been since you last had your blood cholesterol checked? (85)

Was it:

Please Read

- a. Within the past year (0 to 12 months ago) 1
- b. Within the past two years (13 to 24 months ago) 2
- c. Within the past five years (25 to 60 months ago) 3
- or
- d. More than five years ago (61+ months ago) 4
- Don't know/Not sure 7
- Never 8
- Refused 9

Do not read these responses.

33. Have you ever been told your blood cholesterol level, in numbers? (86)

- a. Yes 1
- b. No *Go to Q. 35 (p. 16)* 2
- Don't know/Not sure *Go to Q. 35 (p. 16)* 7
- Refused *Go to Q. 35 (p. 16)* 9

34. What is your blood cholesterol level? (87-89)

- Record the number — — —
- Don't know/Not sure 7 7 7
- Refused 9 9 9

35. Have you ever been told by a doctor or other health professional that your blood cholesterol is high? (90)

- a. Yes..... 1
- b. No 2
- Don't know/Not sure..... 7
- Refused 9

36. Next, I'd like to ask you about diabetes, sometimes called sugar diabetes. Have you ever been told by a doctor that you have diabetes? (91)

- a. Yes..... 1
- b. No 2
- Don't know/Not sure..... 7
- Refused 9

Section H: Health Insurance

These next questions are about health care plans which include health insurance, prepaid plans such as HMOs (health maintenance organizations), or government plans such as Medicare.

37. Do you have any kind of health care plan? (92)
- a. Yes 1
 - b. No *Go to Q. 41 (p. 18)* 2
 - Don't know/Not sure *Go to Q. 41 (p. 18)* 7
 - Refused *Go to Q. 41 (p. 18)* 9
38. For hospital bills, does your health care plan cover all, most, some, or none of your expenses? (93)
- a. All 1
 - b. Most 2
 - c. Some 3
 - d. None 4
 - Don't know/Not sure 7
 - Refused 9
39. For visits to a doctor's office when you are sick, does your health care plan cover all, most, some, or none of your expenses? (94)
- a. All 1
 - b. Most 2
 - c. Some 3
 - d. None 4
 - Don't know/Not sure 7
 - Refused 9

40. When you are not sick, does your health care plan cover all, most, some, or none of your checkups or other preventive services? (95)

- a. All 1
- b. Most 2
- c. Some 3
- d. None 4
- Don't know/Not sure 7
- Refused 9

41. Was there a time during the last 12 months when you needed to see a doctor, but could not because of the cost? (96)

- a. Yes 1
- b. No 2
- Don't know/Not sure 7
- Refused 9

Section I: Demographics

These next few questions ask for a little more information about yourself.

42. How old were you on your last birthday? (97-98)

- Code age in years — —
- Don't know/Not sure 0 7
- Refused 0 9

43. What is your race? (99)

Would you say: *Please Read*

- a. White 1
- b. Black 2
- c. Asian, Pacific Islander 3
- d. Aleutian, Eskimo, or American Indian 4
- or
- e. Other: (specify) _____ 5

- Do not read these responses. | Don't know/Not sure 7
- Refused 9

44. Are you of Hispanic origin such as Mexican American, Latin American, Puerto Rican, or Cuban? (100)

- a. Yes 1
- b. No 2
- Don't know/Not sure 7
- Refused 9

45. What is the highest grade or year of school you completed? (101)

Read only if Necessary

- a. Eighth grade or less 1
- b. Some high school 2
- c. High school graduate or GED certificate 3
- d. Some technical school 4
- e. Technical school graduate 5
- f. Some college 6
- g. College graduate 7
- h. Postgraduate or professional degree 8
- Refused 9

46. Are you currently: *Please Read* (102)

- a. Employed for wages 1
- b. Self-employed 2
- c. Out of work for more than 1 year 3
- d. Out of work for less than 1 year 4
- e. Homemaker 5
- f. Student 6
- or
- g. Retired 7
- Refused 9

47. And are you: *Please Read* (103)

- a. Married 1
- b. Divorced 2
- c. Widowed 3
- d. Separated 4
- e. Never been married 5
- or**
- f. A member of an unmarried couple 6
- Refused 9

48. Which of the following categories best describes your annual household income from all sources? (104)

Please Read

- a. Less than \$10,000 1
- b. \$10,000 to less than \$15,000 2
- c. \$15,000 to less than \$20,000 3
- d. \$20,000 to less than \$25,000 4
- e. \$25,000 to less than \$35,000 5
- f. \$35,000 to \$50,000 6
- or**
- g. Over \$50,000 7

Do not read
these
responses.

- Don't know/Not sure 8
- Refused 9

49. About how much do you weigh without shoes? (105–107)

Weight — — —
pounds

Don't know/Not sure 7 7 7

Refused 9 9 9

50. About how tall are you without shoes? (108–110)

Height — / — —
ft / inches

Don't know/Not sure 7 7 7

Refused 9 9 9



Interviewer: Ask if necessary.

51. Indicate sex of respondent. (111)

a. Male *Go to Section K (p. 28)* 1

b. Female 2

Section J: Women's Health

I would like to ask you a few questions about a medical exam called a mammogram. A mammogram is an x-ray of the breast and involves pressing the breast between two plastic plates.

52. Have you ever had a mammogram? (112)

- a. Yes..... 1
- b. No *Go to Q. 55 (p. 24)* 2
- Don't know/Not sure *Go to Q. 55 (p. 24)* 7
- Refused *Go to Q. 55 (p. 24)* 9

53. How long has it been since you had your last mammogram? (113)

Read only if Necessary

- a. 1 year ago or less..... 1
- b. More than 1 year ago, but less than, or equal to, 2 years ago 2
- c. More than 2 years ago, but less than, or equal to, 3 years ago ... 3
- d. More than 3 years ago, but less than, or equal to, 5 years ago ... 4
- e. More than 5 years ago 5
- Don't know/Not sure..... 7
- Never..... 8
- Refused 9

54. Was your last mammogram done as part of a routine checkup, because of a breast problem other than cancer, or because you've already had breast cancer? (114)

- a. Routine checkup 1
- b. Breast problem 2
- c. Had breast cancer 3
- Don't know/Not sure 7
- Refused 9

The next questions are about a clinical breast exam. During this exam, the breast is felt for lumps by a doctor, nurse, or other medical professional.

55. Have you ever had a clinical breast exam? (115)

- a. Yes 1
- b. No *Go to Q. 58 (p. 25)* 2
- Don't know/Not sure *Go to Q. 58 (p. 25)* 7
- Refused *Go to Q. 58 (p. 25)* 9

56. How long has it been since your last breast exam? (116)

Read only if Necessary

- a. 1 year ago or less 1
- b. More than 1 year ago, but less than, or equal to, 2 years ago 2
- c. More than 2 years ago, but less than, or equal to, 3 years ago ... 3
- d. More than 3 years ago, but less than, or equal to, 5 years ago ... 4
- e. More than five years ago 5
- Don't know/Not sure 7
- Never 8
- Refused 9

57. Was your last breast exam done as part of a routine checkup, because of a breast problem other than cancer, or because you've already had breast cancer? (117)

- a. Routine checkup 1
- b. Breast problem 2
- c. Had breast cancer 3
- Don't know/Not sure 7
- Refused 9

These next questions are about Pap smears. A Pap smear is a test where material is taken from the cervix, that is the mouth of the womb, to see if any cancer cells are present.

58. Have you ever had a Pap smear? (118)

- a. Yes 1
- b. No *Go to Q. 61 (p. 26)* 2
- Don't know/Not sure *Go to Q. 61 (p. 26)* 7
- Refused *Go to Q. 61 (p. 26)* 9

59. How long has it been since you had your last Pap smear? (119)

Read only if Necessary

- a. 1 year ago or less 1
- b. More than 1 year ago, but less than, or equal to, 2 years ago 2
- c. More than 2 years ago, but less than, or equal to, 3 years ago ... 3
- d. More than 3 years ago, but less than, or equal to, 5 years ago ... 4
- e. More than 5 years ago 5
- Don't know/Not sure 7
- Never 8
- Refused 9

60. Was your last pap smear done as part of a routine exam, or to check a problem, or for some other reason? (120)
- a. Routine exam 1
 - b. Check problem 2
 - c. Other 3
 - Don't know/Not sure 7
 - Refused 9

61. Have you had a hysterectomy (that is, an operation to remove the uterus/womb)? (121)
- a. Yes *Go to Section K (p. 28)* 1
 - b. No 2
 - Don't know/Not sure 7
 - Refused 9

⇒ **Interviewer: Ask these two questions only of females between 18 and 45 years of age. Otherwise, go to Section K (p. 28).**

62. To your knowledge, are you now pregnant? (122)
- a. Yes 1
 - b. No *Go to Section K (p. 28)* 2
 - Don't know/Not sure *Go to Section K (p. 28)* 7
 - Refused *Go to Section K (p. 28)* 9

63. During what month is your baby due?

(123-124)

Code Months	Code Month	— —
Jan 01		
Feb 02		
Mar 03	Don't know/Not sure	7 7
Apr 04		
May 05	Refused	9 9
Jun 06		
Jul 07		
Aug 08		
Sep 09		
Oct 10		
Nov 11		
Dec 12		

Section K: AIDS

These next few questions are to determine your beliefs and opinions about the national health problem of AIDS.

64. Have you ever heard the AIDS virus called by the name HIV? (125)

- a. Yes 1
- b. No 2
- Don't know/Not sure 7
- Refused 9

65. To your knowledge, are there drugs available that can lengthen the life of a person infected with the AIDS virus? (126)

- a. Yes 1
- b. No 2
- Don't know/Not sure 7
- Refused 9

66. Do you think a person who is infected with the AIDS virus can look and feel well and healthy? (127)

- a. Yes 1
- b. No 2
- Don't know/Not sure 7
- Refused 9

67. Do you think a person can get infected with AIDS or the AIDS virus from:				
	Yes	No	DK/NS	Ref
a. Donating blood?	1	2	7	9 (128)
b. Being cared for by a nurse, doctor, dentist, or other health care worker who has the AIDS virus?	1	2	7	9 (129)
68. Do you think a pregnant woman who has the AIDS virus can give it to her baby? (130)				
a. Yes	1			
b. No		2		
Don't know/Not sure			7	
Refused				9
69. Do you have a child or children in kindergarten through eighth grade? (131)				
a. Yes	1			
b. No <i>Go to Q. 72 (p. 30)</i>		2		
Don't know/Not sure <i>Go to Q. 72 (p. 30)</i>			7	
Refused <i>Go to Q. 72 (p. 30)</i>				9
70. Would you allow your child to be in the same classroom with a child who is infected with the AIDS virus? (132)				
a. Yes	1			
b. No		2		
Don't know/Not sure			7	
Refused				9

71. At what grade do you think your child should begin AIDS education in school? (133-134)

Code Grades K=55 1st=01 2nd=02 3rd=03 4th=04 5th=05 6th=06 7th=07 8th=08 9th=09 10th=10 11th=11 12th=12	a. Code grade..... — — b. Never 8 8 Don't know/Not sure..... 7 7 Refused 9 9
---	---

72. Would you eat in a restaurant where the cook is infected with the AIDS virus? (135)

a. Yes..... 1 b. No 2 Don't know/Not sure..... 7 Refused 9

73. Would you be willing to work with a person who is infected with the AIDS virus? (136)

a. Yes..... 1 b. No 2 Don't know/Not sure..... 7 Refused 9

74a. Where could you go to be tested for the AIDS virus infection? (137-138)

Probe for other places if only one response is given.

Facility code — —

⇒ If respondent answered "No place," "Don't know," or "Refused," go to question 75.

74b. Where else could you go? (139-140)

Facility code — —

⇒ Please do not read list.

- a. Private doctor, HMO 01
- b. Blood bank, plasma center, Red Cross 02
- c. Health department 03
- d. AIDS clinic, AIDS testing site 04
- e. Hospital, emergency room 05
- f. Family planning clinic 06
- g. STD clinic 07
- h. Community health clinic, primary care clinic 08
- i. Company or industry clinic 09
- j. Military induction or examination 10
- k. Other 87
- l. No place 88
- Don't know/Not sure 77
- Refused 99

75. Some people use condoms to keep from getting the AIDS virus through sexual activity. How effective do you think using a condom is in preventing getting the AIDS virus through sexual activity? (141)

Would you say: *Please Read*

- | | | |
|-----------------------------------|--------------------------------|---|
| | a. Very effective | 1 |
| | b. Somewhat effective | 2 |
| | or | |
| | c. Not at all effective | 3 |
| | Don't know how effective | 4 |
| Do not read
these
responses | Don't know method | 5 |
| | Refused | 9 |

76. How many different residential telephone numbers do you have at this household? (142)

⇒ **Differentiate between telephone numbers and telephone set if necessary. Include all telephone numbers that can reach household.**

Total telephone numbers

Closing Statement

That's my last question. Everyone's answers will be combined to give us information about the health practices of people in this state. Thank you very much for your time and cooperation.

⇒ **Note: This column is always blank.**

(143)

Module 1: County of Residence

- 1. What county do you live in? (144-146)
 - County code..... — — —
 - Don't know/Not sure 7 7 7
 - Refused 9 9 9

Module 2: Smokeless Tobacco Use

These next questions are about certain kinds of smokeless tobacco products.

1. Have you ever used or tried any smokeless tobacco products such as chewing tobacco or snuff? (147)

Probe for chewing tobacco, snuff, or both.	a. Yes, chewing tobacco	1
	b. Yes, snuff.....	2
	c. Yes, both	3
	d. No, neither <i>Go to Next Module</i>	4
	Don't know/Not sure <i>Go to Next Module</i>	7
	Refused <i>Go to Next Module</i>	9

2. Do you currently use any smokeless tobacco products such as chewing tobacco or snuff? (148)

"Yes" includes occasional use.	a. Yes, chewing tobacco	1
	b. Yes, snuff.....	2
	c. Yes, both	3
	d. No, neither <i>Go to Next Module</i>	4
	Don't know/Not sure <i>Go to Next Module</i>	7
	Refused <i>Go to Next Module</i>	9

Module 4: Injury Control and Child Safety

1. Is there a working smoke detector in your household? (158)
 - a. Yes 1
 - b. No 2
 - Don't know/Not sure 7
 - Refused 9

2. In the past 12 months have you (or has anyone in your household) used a thermometer to test the temperature of the hot water? (159)
 - a. Yes 1
 - b. No 2
 - Don't know/Not sure 7
 - Refused 9

3. What is the age of the youngest child in your household? (160–161)
 - a. Age in years *If over 10, Go to next module* —
 - b. Age is less than one year 8 9
 - c. No children in household *Go to Next Module* 8 8
 - Don't know/Not sure *Go to Next Module* 7 7
 - Refused *Go to Next Module* 9 9

4. Do you have the telephone number for a poison control center in your area? (162)

a. Yes 1

b. No 2

Don't know/Not sure 7

Refused 9

5. There is a medication called Ipecac (ip' i kak) Syrup, which is sometimes taken to cause vomiting after something poisonous is swallowed. Do you now have any Ipecac Syrup in your household? (163)

a. Yes 1

b. No 2

Don't know/Not sure 7

Refused 9

6. When riding in a car, how often is the youngest child buckled in a car safety seat or seatbelt? (164)

Would you say: *Please Read*

a. All of the time 1

b. Most of the time 2

c. Sometimes 3

d. Rarely 4

or

e. Never 5

Do not read these responses.

Don't know/Not sure 7

Refused 9

Module 7: Fruits and Vegetables

These next questions are about the foods you usually eat or drink. Please tell me how often you eat or drink each one, for example, twice a week, three times a month, and so forth. Remember, I am only interested in the foods you eat. Include all foods you eat, both at home and away from home.

1. How often do you drink fruit juices such as orange, grapefruit, or tomato? (215–217)

- a. Per day 1 _ _
- b. Per week 2 _ _
- c. Per month 3 _ _
- d. Per year 4 _ _
- e. Never 5 5 5
- Don't know/Not sure 7 7 7
- Refused 9 9 9

2. Not counting juice, how often do you eat fruit? (218–220)

- a. Per day 1 _ _
- b. Per week 2 _ _
- c. Per month 3 _ _
- d. Per year 4 _ _
- e. Never 5 5 5
- Don't know/Not sure 7 7 7
- Refused 9 9 9

3. How often do you eat green salad? (221–223)
- a. Per day 1 _ _
 - b. Per week 2 _ _
 - c. Per month..... 3 _ _
 - d. Per year 4 _ _
 - e. Never 5 5 5
 - Don't know/Not sure 7 7 7
 - Refused 9 9 9

4. How often do you eat potatoes (not including french fries, fried potatoes, or potato chips)? (224–226)
- a. Per day 1 _ _
 - b. Per week 2 _ _
 - c. Per month..... 3 _ _
 - d. Per year 4 _ _
 - e. Never 5 5 5
 - Don't know/Not sure 7 7 7
 - Refused 9 9 9

5. How often do you eat carrots? (227–229)

- a. Per day 1 _ _
- b. Per week 2 _ _
- c. Per month..... 3 _ _
- d. Per year 4 _ _
- e. Never 5 5 5
- Don't know/Not sure 7 7 7
- Refused 9 9 9

6. Not counting carrots, potatoes, or salad, how many **servings** of vegetables do you usually eat? (For example, a serving of vegetables at both lunch and dinner would be two servings.) (230–232)

- a. Per day 1 _ _
- b. Per week 2 _ _
- c. Per month..... 3 _ _
- d. Per year 4 _ _
- e. Never 5 5 5
- Don't know/Not sure 7 7 7
- Refused 9 9 9

**Activity Codes and Intensity Factors for Common Leisure Activities
Coding List A**

Code description	Code description
01. Aerobics class	28. Racketball
02. Backpacking	29. Raking lawn
03. Badminton	30. Running
04. Basketball	31. Rope skipping
05. Bicycling for pleasure	32. Scuba diving
06. Boating (canoeing, rowing, sailing for pleasure or camping)	33. Skating—ice or roller
07. Bowling	34. Sledding, tobogganing
08. Boxing	35. Snorkeling
09. Calisthenics	36. Snowshoeing
10. Canoeing/rowing—in competition	37. Snow shoveling by hand
11. Carpentry	38. Snow blowing
12. Dancing-aerobics/ballet	39. Snow skiing
13. Fishing from river bank or boat	40. Soccer
14. Gardening (spading, weeding, digging, filling)	41. Softball
15. Golf	42. Squash
16. Handball	43. Stair climbing
17. Health club exercise	44. Stream fishing in waders
18. Hiking—cross-country	45. Surfing
19. Home exercise	46. Swimming laps
20. Horseback riding	47. Table tennis
21. Hunting large game—deer, elk	48. Tennis
22. Jogging	49. Touch football
23. Judo/karate	50. Volleyball
24. Mountain climbing	51. Walking
25. Mowing lawn	52. Waterskiing
26. Paddleball	53. Weight lifting
27. Painting/papering house	54. Other _____
	55. Bicycling machine exercise
	56. Rowing machine exercise

Coding List B

Lap Swimming

<i>Size pool</i>	<i>Laps</i>
50 ft. pool	10 laps = .1 mile
100 ft. pool	5 laps = .1 mile
50 meter pool	3 laps = .1 mile

Running/Jogging/Walking

1/2 mile = .5 mile
1/4 mile = .3 mile
1/8 mile = .1 mile
1 block = .1 mile

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