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Consumer Incentives and Prevention Report

Minnesota
Health Care
Commission

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CONSUMER INCENTIVES AND PREVENTION

Recommendations to Improve Health and Reduce Health Care Costs

Minnesota Health Care Commission
February 1994

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SUMMARY

Responding to its charge from the Minnesota Legislature to develop a comprehensive plan to contain health care costs and achieve universal coverage, the Minnesota Health Care Commission (MHCC) presents this plan which incorporates valuable contributions which can be made through consumer incentives, prevention and public health. The recommendations in this report broaden and enhance strategies for achieving reform beyond restructuring care delivery and reimbursement. Our recommendations are based on an awareness that:

- *Seventy percent of our health care expenditures are spent on preventable conditions, while only three percent of our health care resources are invested in prevention.*

- *Current information and incentives do not adequately support cost-effective health decisions by purchasers, providers and consumers.*

- *There are missing links between our investments in health care and our progress in meeting health goals.*

This report recommends specific methods through which we can significantly improve our potential for achieving the three important components of health care reform -- cost containment, universal coverage, and quality outcomes. While each proposal has individual merit, in combination they generate the strength of multiple reinforcing strategies.

A portion of the funds for programs recommended in this report would be designated to develop means to effectively evaluate and report on state and local progress in achieving these health goals.

RECOMMENDATIONS

- *Increase Tobacco Taxes to decrease smoking-related diseases, with revenues dedicated to universal coverage and specific prevention initiatives, including smoking prevention and cessation, violence prevention, and improving birth outcomes.*

- *Make nonuse of vehicle restraints a primary offense, punishable by a fine of $100, with revenues going to seatbelt educational initiatives.*

- *Make nonuse of motorcycle, snowmobile, and all-terrain-vehicle (ATV) helmets a misdemeanor punishable by a fine of $25, with revenues dedicated to education programs for helmet use.*

- *Increase alcohol taxes to decrease alcohol abuse and adverse effects.*

- *Study and provide a report on consumer incentives that would enable consumers to make "the healthy choice the easy choice."*

- *Establish a stable, streamlined funding mechanism to effectively deliver core public health functions.*

- *Identify incentives and relationships for advancing Integrated Service Network (ISN) contributions to public health goals in an accountable and flexible manner.*

INCREASE TOBACCO TAXES TO DECREASE SMOKING-RELATED DISEASES

Recommendation

Increase the cigarette excise tax by $2.00 phased in over five years at 40 cents per year*, and dedicate the revenue generated by the additional excise tax for specific prevention initiatives outlined on the following pages, and universal coverage**. During the first year of the tax increase, revenues would be allocated according to the following percentages:

30 Percent of Generated Revenue for Prevention Proposals:

- **Consumer Education and Wellness** -- Tobacco use prevention initiatives and programs
- **Violence Prevention**
- **Improved Birth Outcomes** -- Increased funding for the Women's Infants and Children (WIC) Supplemental Food Program, chlamydia screening, and family planning

70 Percent of Generated Revenue for Universal Coverage:

- **MinnesotaCare Program** -- Supplement existing funding to support continuing the phase-in of the program.

* The MHCC recommends that excise taxes of all forms of tobacco be increased to reflect a proportionate tax increase to the recommended cigarette proposal.

** Estimated generated revenues and consumption rates: Attachment A; Recommendations on use of tobacco tax revenues: Attachment B.

EFFECTS OF SMOKING

Smoking is a serious health problem. Smoking-related diseases accounted for 6,100 deaths in Minnesota in 1990 and represented the leading cause of preventable mortality:

- 44% were due to cardiovascular disease, including heart disease and stroke;
- 33% were due to cancers, including cancers of the lung, uterine, cervix, bladder, pancreas, and kidney;
- 23% were due to respiratory diseases, including pneumonia, asthma, bronchitis, and emphysema;
- 0.4% were due to cigarette-ignited fires.[1]

Smoking is the principal cause of lung cancer, heart disease, stroke, emphysema, and chronic bronchitis[2]; and is now linked to adult leukemia and the development of cataracts[3].

The annual total of premature deaths in America from tobacco use is about 460,000 persons, including about 420,000 from active smoking and nearly 50,000 from exposure to environmental tobacco smoke (ETS).[4]

- About one-third of smokers will die from a tobacco-related illness or condition -- almost 25 percent of the total deaths in the U.S. [5]

- Worldwide, the death toll exceeds two million annually.[6]

- According to the Centers for Disease Control and Prevention, the number of estimated deaths from direct smoking have fallen; this is due in part to reductions in heart disease which in turn have been tied to decreased numbers of Americans who smoke.

- On the other hand, deaths from lung cancer and chronic lung diseases have increased slightly.[7]

Exposure to ETS, when nonsmokers inhale thousands of chemicals during "passive" smoking, kills as an estimated 50,000 Americans yearly:

- About 35,000 of these deaths are from heart disease; other studies, including new conclusions released by the U.S. Environmental Protection Agency, project about 3,000 lung cancer deaths from ETS exposure each year.

- In addition, ETS imposed upon children causes 150,000 to 300,000 cases of bronchitis and pneumonia each year, causes up to 26,000 new cases of asthma, and worsens asthma in up to one million children annually.[8]

Smoking among adults has fallen to the lowest level in over 50 years -- about 25 percent -- but teen smoking has not changed significantly since 1980:

- Eighty-five to 90 percent of new smokers begin before age 30.

- About 3,000 children begin smoking each day in the U.S.

- At current rates of cessation and mortality, five million children under age 18 alive today are expected to die prematurely because they started smoking.[9]

ECONOMIC BURDEN

The economic burden associated with smoking related diseases is enormous in Minnesota. For example, 1990 health expenditures due to smoking were estimated to be $355 million ($81 per Minnesota resident), and lost income resulting from premature death or disability was estimated to account for an additional $641 million ($146 per Minnesota resident). **Combined, these costs ($996 million) represented $227 for each Minnesota resident.**[10]

Nationally, health care costs, indirect costs such as lost productivity and missed work, and higher insurance for smoking-related problems are estimated to total between $68 and $100 billion annually.[11]

DUAL PURPOSE FOR TOBACCO TAX INCREASE

It is clear that a direct relationship exists between cigarette consumption rates, the incidence of smoking-related diseases, and health care expenditures associated with the treatment of these diseases. A number of studies have demonstrated that increasing the price of cigarettes will result in a subsequent decrease in consumption. The tax increase is an opportunity to both decrease consumption and generate revenues for other prevention programs and universal coverage.

PREVENTION PROPOSALS TO BE FUNDED BY TOBACCO TAX INCREASE

The MHCC recommends that the following proposals -- related to tobacco use prevention initiatives, violence prevention, and improved birth outcomes -- be funded by revenues from the tobacco tax, in addition to allocating 70 percent of revenues for universal coverage.

TOBACCO USE PREVENTION INITIATIVES
Statewide Consumer Education and Wellness Programs

Recommendation

Fund tobacco use prevention initiatives and cessation programs.

Community prevention is based on the belief that the environment or "culture" in which people live influences their behavior. Therefore, in order to change behavior, we need to change community norms. This approach has several advantages:

- **Cost effectiveness** -- Communitywide prevention can reach larger numbers of people than individual approaches, and small changes in large population groups will result in greater improvements to the health status of communities than large changes in small population groups.

- **Health behaviors are interdependent** -- Change in one area of health behavior is likely to result in changes in other areas. For example, activities to reduce alcohol use/abuse may lead to increased physical activity, improved nutritional status, and reductions in activities that increase the risk of injury.

- **Long-term results** -- Programs to bring about change in cultural norms start with small steps, use a range of short and long-term strategies, and yield long-term results. For example, efforts to limit youth access to cigarette vending machines began with concerned citizens in White Bear Lake, spread to several other communities, and eventually resulted in statewide legislation.

Minnesota has established a statewide system of community health services through its 49 Community Health Services (CHS) Boards. These CHS Boards are assigned the statutory responsibility for "developing and maintaining an integrated system of community health services under local administration and within a system of state guidelines and standards." Although many of the CHS Boards have had successful experiences in planning, coordinating and implementing communitywide prevention programs that address some health-related behaviors, funding levels have not been sufficient to allow all CHS Boards to address the full range of health-related behaviors which influence the development of chronic diseases and the occurrence of injuries.

During the past several years, the Minnesota Department of Health has successfully combined statewide public information campaigns (utilizing mass media techniques) with communitywide prevention programs to promote healthy behaviors related to tobacco use prevention and the adoption of safer sexual practices to prevent the spread of AIDS. The experience gained with these public information campaigns can now be applied to other areas of health-related behavior. Combined with communitywide prevention activities, public information campaigns influence cultural norms by raising awareness, increasing knowledge, and reinforcing healthy behaviors.

Allocating additional funding from tobacco tax revenues will greatly enhance existing consumer education and tobacco use prevention and cessation programs.

Worksite Wellness Grants

Recommendation

Fund worksite wellness and health promotion.

The impact of preventable illness and lifestyles on health:

- Seventy percent of deaths in Minnesota are due to heart disease, cancer, stroke, and injuries.
- As shown in the figure below, lifestyle issues contribute to over 50 percent of the risk for these diseases and injuries.

It has been estimated that preventable illness makes up 70 percent of the illness burden and its related costs. Worksite wellness and health promotion programs are an effective strategy to address preventable disease and lifestyle issues. Work environments can contribute to health, both on and off the job, by preparing employees to cope with the physical and mental demands of their jobs, and often provide convenient locations for dissemination of information on healthier lifestyles, and for group or individual activities to monitor and improve health. Often relatively little funding or assistance is needed to provide employers with worksite-based wellness information and programs.

Studies of corporate health and wellness programs have demonstrated the potential for these programs to be cost effective, both in terms of reducing health care costs and decreasing health related absenteeism. Benefit to cost ratios of 5:1 and greater have been reported for worksite wellness programs.

The state of Michigan has targeted worksites with fewer than 500 employees for start-up assistance grants. In fiscal year 1990-1991, Michigan provided technical assistance to employers and awarded 1,020 grants, averaging $2,045 each, to small employers. The funding was used for 15 types of programs, including aerobic exercise, blood pressure screening, stress management, and weight loss.

Funding of approximately $2 million would enable Minnesota to undertake a grants program providing $2,000 for wellness programming and information to over 1,000 small employers around the state. Statutory authority already exists for the Department of Health to administer such a program. All that is needed is funding.

VIOLENCE PREVENTION

As in other parts of the United States, violence is becoming increasingly prevalent in Minnesota. The 1992 Office of Drug Policy and Violence Prevention (ODPVP) Report to the Legislature states that violence permeates the very structure of our community -- our families, our schools, and our neighborhoods.

- Violent crime accounted for seven percent of all crime index offenses reported in 1991. Arrests for violent crime were more than 300 times greater than the number of arrests in 1971.

- In 1991, there were 17,286 cases of child maltreatment reported. The number of cases in which maltreatment was determined has grown from 8,377 in 1987 to over 10,000 in 1991.

- An estimated 25-37 percent of all women experience battering. This is an estimated 382,000-566,000 women in Minnesota.

- The number of forcible rapes committed and reported in Minnesota increased 9.2 percent between 1990 and 1991, and has grown over 400 percent over the last 20 years.[12]

- The 1992 Student Survey conducted by the Minnesota Department of Education asked public school students in grades 6, 9, and 12 to report on their lifetime experience of having been sexually abused. Three to four percent of boys reported having been sexually abused. The percentages for girls increased with age. There were eight percent of 6th graders, 16 percent of 9th graders, and 19 percent of 12th graders who reported being sexually abused.

- For Minnesotans between the ages of 15 and 64, there is a higher rate of suicide than the rate of death in a crash while an occupant of a car, truck, or van.

- Death certificate data from 1991 show that more than four percent of Minnesota children 10 to 14 years old and over 22 percent of those 15 to 19 years old died of self-inflicted injuries.

- Between 17 and 18 percent of 9th and 12th grade girls and eight and nine percent of boys in those grades may have attempted suicide at least once in their lives.[13]

The health consequences of violence are tremendous, but traditionally our society has turned to the criminal justice sector to protect our society from such violence. Many community, medical, and advocacy organizations have recently become involved in violence prevention. Violence significantly affects the health of the population. Violence is a broad-based problem which affects the health, functioning, and well-being of large numbers of people. Violence can result in premature death, injury and chronic disability.

How much in health care costs could be saved if we were able to prevent violence? This question is important and timely. However, not enough is known about population-based interventions to prevent violence, in general, and even less is known about cost effectiveness of potential interventions. Distinguished groups of health professionals have not reached consensus regarding the most efficacious interventions which may control nonfatal violence.

Effective violence prevention strategies remain an unresolved issue, in part, because of lack of data. High quality epidemiological data are an essential part of generating some of the information needed to answer the leading question. Sometimes even critical detail has been lacking. In regard to the issue of firearm violence alone, the type of weapon has been infrequently recorded on the death certificate. Accessibility to detail is a greater concern when considering nonfatal injury from violent events.

Taking into account all the questions that need yet to be answered, there are many measures that can be taken to combat violence. Two proposals are recommended as outlined on the following two pages.

Violence Prevention: State Data Analysis Support

Recommendation

Collect and disseminate information on health care costs related to violence and effective prevention measures.

Comprehensive and accurate data are needed to define the incidence of violence-related-injury, the numbers of Minnesotans who live with disability resulting from those injuries, and the cost that those injuries inflict on the injured, their families, and society. In 1991, about half of the 135 homicides and about half of the 503 suicides in Minnesota resulted from firearm injuries. While this much is known about fatalities, there is inadequate knowledge about the magnitude and distribution of nonfatal firearm related injury and disability. The problem of violence is further complicated by the variety of means, weapons (other than firearms), nature of violent acts that account for the other half of homicides and suicides, as well as for nonfatal violence-related injuries. The current level of knowledge is inadequate to guide sound, coordinated prevention strategies.

A step toward gaining the required knowledge and generating effective prevention and control strategies is the implementation of an ongoing, statewide injury surveillance effort. The data collected would address the nature, circumstance, and consequence of violence-related injuries. The information derived from surveillance is essential in defining how many people are victims of violent acts, who are the most likely victims, where the problems are more serious, and what are the variety of factors that lead to violent acts.

A surveillance effort needs the support of a research component that would provide more detailed information about victims and perpetrators of violence, the nature of the environments in which violent events occur, the various systems and methods already in place that impact on violence prevention and control, and the cost of violence. Research information, targeted to address specific aspects of the injury problem, supplements that which can be derived through surveillance.

Taken together, surveillance and research information can guide the design, implementation, and evaluation of strategies to prevent and control events which can lead to violence-related injury.

Violence Prevention: Home Visiting Program

Recommendation

Increase funding for the Home Visiting Program.

During the 1992 legislative session, the Legislature established the Home Visiting Program (Minnesota Statutes, Section 145A.15) for the prevention of child abuse and neglect through the expansion of public health home visiting services. This grant program funds activities that serve families at risk of child abuse and neglect, including adolescent parents; parents with a history of alcohol or other drug abuse; parents whose family of origin has a history of child abuse, domestic abuse, or other dysfunction; parents with a reduced cognitive function; parents who have experienced domestic abuse, rape, or other victimization; parents with a lack of knowledge about child growth and development stages; or parents experiencing difficulty dealing with stress, including stress caused by discrimination, mental illness, a high incidence of crime or poverty in the neighborhood, unemployment, divorce, or lack of fulfillment of basic needs, often found in a pattern of family isolation.

Additional funding is necessary for adequately funding home visiting programs and completing outcomes evaluations.

MEASURES TO IMPROVE BIRTH OUTCOMES

Women's Infants and Children (WIC) Supplemental Food Program

Recommendation

Increase funding for the WIC Supplemental Food Program to meet higher participation levels.

WIC is administered through 61 local agencies in Minnesota. These agencies provide the following services to WIC participants:

- Nutrition education,
- Referral for health care services,
- Vouchers for specified foods (infant formula, juice, cereal, milk, cheese, eggs, beans)

The Minnesota WIC program participated in a 1991 national study which demonstrated that, for each dollar spent on WIC benefits during pregnancy, $4.21 was subsequently saved in lower Medicaid costs because these women gave birth to fewer premature and larger birth weight infants. Similar studies have not been conducted to determine the specific cost/benefit ratio of providing WIC services to postpartum women, infants or children, although it is assumed that significant medical care cost savings accrue as a result of providing WIC services to these groups of participants.

WIC participants include pregnant women, breast feeding women, nonbreast feeding women for six-months postpartum, infants, and children (through four years of age), who are low income (at or below 185% of the federal poverty level), and at nutritional risk. It is estimated that 133,000 Minnesota women, infants, and children meet WIC eligibility requirements. However, the current funding level limits participation. Increased funding is needed to more fully meet the nutritional needs of low-income pregnant women.

Screening for Chlamydia Infection

Recommendation

Increase funding for chlamydia screening.

Chlamydia is the most common sexually transmitted bacterial pathogen in Minnesota. It is most prevalent among young adults and adolescents. Chlamydia may cause pelvic inflammatory disease, and increases the risk of infertility and ectopic pregnancy. Chlamydia has been associated with growth retardation of babies in the womb, preterm delivery, conjunctivitis, and pneumonia.

Currently, financial support is available for five screening sites, performing a total of 500 chlamydia tests per month, or 6,000 per year. It is estimated that a total of approximately 40,000 chlamydia screening tests are needed in Minnesota each year. A network of additional "sentinel clinics" is needed to provide the screening and collect basic data on patients. Recommendations of the national Centers for Disease Control and Prevention would be followed in conducting the screening tests. The budget for the additional testing sites and tests is $235,000. This amount includes personnel, training and support, laboratory supplies, and other administrative costs.

Screening for chlamydia can potentially prevent serious, costly health complications for women and during pregnancy. California has initiated wider chlamydia testing, and projects estimated overall savings to be $6 million the first year, and $13 million in subsequent years. Colorado's testing program is projected to produce overall savings of $700,000 in one year. Screening is believed to be most cost effective when the prevalence of the infection was two percent or greater. In Minnesota, a recent screening of over 7,000 women among 26 clinics reported an overall prevalence rate of 5.8 percent, nearly three times the minimum level needed to be cost effective.

Family Planning

Recommendation

Increase funding for Family Planning Special Project Grant Program.

The Family Planning Special Project (FPSP) Grant Program provides funding for family planning services as defined in Minnesota Statute, Section 145.025 and Minnesota Rules, Parts 4700.1900 to 4700.2500. The program is administered by the Minnesota Department of Health. The main goal of this program is to help fulfill the goal of assuring that subsidized family planning services are provided throughout the entire state.

Ambivalence about unintended pregnancy is an important psychological barrier to seeking prenatal care, and results in some pregnant women not receiving timely, appropriate prenatal care needed for good birth outcomes. Each dollar invested in publicly subsidized family planning, returns an estimated savings in medical care expenditures of $3.21 over a two-year period. Increased funding for subsidized family planning services, for women who are at risk of unintended pregnancy and with incomes at less than 200 percent of the poverty level, will greatly reduce the number of unintended pregnancies.

REDUCING TRAUMATIC BRAIN INJURY (TBI)

An estimated 9,500 Minnesotans are injured, permanently disabled, or killed by traumatic brain injuries (TBI) each year.[14] The medical costs alone of these injuries in Minnesota have been estimated to be over one billion dollars during the five-year period 1983-1988.[15]

In 1993, the Minnesota Health Care Commission embraced a safety strategy to save lives, reduce health care costs, alleviate personal loss and suffering, and lessen the public's share of the costly burden of traumatic brain injury in this state by strengthening helmet and seat belt laws. While the strategy was not implemented through legislation during the 1993 legislative session, strengthening both the vehicle restraint and helmet laws continues to be recommended.

VEHICLE RESTRAINTS

Recommendation

Make nonuse of vehicle restraints a primary offense, punishable by a fine of $100 with revenue going to educational initiatives.

The annual health care costs of TBI associated with nonuse of vehicle restraints are estimated at over $30 million.[16] State taxpayers also pay nonhealth care costs for persons injured in crashes when not using vehicle restraints, including disability payments, vocational rehabilitation, social services, and other costs. Total lifetime health care and other social costs of moderate or severe TBI are estimated to average $4.6 million **per case**.[17] On average, Minnesota taxpayers paid an estimated $3 million in 1991 in post-acute care and rehabilitation Medical Assistance costs for persons with TBI from crashes when they were not using vehicle restraints.[18] Hospital costs of those injured in crashes when not using vehicle restraints have been estimated to be approximately three times greater than for those using restraints.[19] For unrestrained severe injuries, this three-fold difference amounts to over $10,000 in additional hospital costs.[20] The health care cost savings from severe injuries that could have been prevented or alleviated by use of vehicle restraints for those injured when unrestrained is potentially over $10 million in annual hospital costs alone.[21]

Persons not using vehicle restraints at the time of their crash are nearly five times as likely to be killed as those wearing vehicle restraints, and over twice as likely to be seriously injured.[22]

In 1991, use of vehicle restraints could potentially have saved over 180 lives, and prevented or alleviated an estimated 742 injuries.[23] Nonuse of vehicle restraints is currently a secondary offense punishable by a $25 fine. Vehicle restraint use is estimated at 54 percent statewide. Child restraint use rates are estimated to be 90 percent for infants and 76 percent for toddlers. These usage rates compare to U.S. rates of 50 percent, 85 percent, and 65 percent, respectively.[24] If vehicle restraint nonuse were a primary offense, enforcement would be much easier.

Will increasing the number of potential survivors of crashes increase overall health costs? Increasing the survival rates of those who might otherwise have been killed in vehicle crashes, and who now require acute and post-acute care as a result, may offset some of the savings from preventing or limiting injuries by requiring use of vehicle restraints. The range of costs that might be incurred by additional survivors will vary, and some new survivors may incur relatively few costs. The number of survivors will also generally be small compared to the much larger group whose injuries are limited or prevented as a result of increased vehicle restraint use.[25]

HELMETS

Recommendation

Make nonuse of motorcycle, snowmobile, all-terrain-vehicle (ATV) helmets a misdemeanor, punishable by a fine of $25 dedicated to education programs for helmet use.

Annual health care costs of TBI associated with nonuse of helmets are estimated at potentially $13 million or more.[26] State taxpayers also pay nonhealth care costs for persons injured in crashes when not using helmets, including disability payments, vocational rehabilitation, social services, and other costs. Total lifetime health care and other social costs of moderate or severe TBI are estimated to average $4.6 million per case.[27]

The average acute-care costs of moderate to severe motorcycle injuries is estimated to be over $19,000; the average cost of minor injuries over $2,000.[28] Nonhelmeted motorcyclists are more likely to: Be admitted for inpatient hospitalization, require ambulance services, have higher than average hospital charges, need neurosurgery and intensive care, need rehabilitation, and be impaired and require long-term care.[29]

Studies report that half or more of those injured in motorcycle accidents studied were uninsured or covered by public programs; taxpayers pay for much of the care of motorcyclists injured in crashes.[30,31] On average, Minnesota taxpayers paid an estimated $1.4 million in 1991 for Medical Assistance post-acute and rehabilitation care costs for 49 persons receiving case management for TBIs incurred when not using helmets.[32]

Head injury is the leading cause of death in motorcycle crashes.[33] In Minnesota during the four year period of 1988-1991, the risk of dying as a result of motorcycle crash averaged 2.3 times greater for nonhelmeted riders than helmeted riders. Persons not wearing helmets were involved in crashes approximately twice as often as persons wearing helmets.[34]

In Minnesota in 1991, 10 lives could have potentially been saved, and over 70 TBIs prevented, if those involved in motorcycle accidents and not using helmets had used them.[35] At an average acute care cost of $19,000 for each severe injury prevented, preventing 70 severe injuries would save over $1.3 million annually in health care costs alone. If Minnesota achieved savings similar to Louisiana, one of six states that reinstituted helmet laws, reducing the severity of the estimated 450 to 500 motorcycle-related TBI events which occur in the state each year, the potential long-term disability cost savings would be approximately $28 to $31.5 million.[36]

When helmet use is voluntary for all or most motorcyclists, use rates range anywhere from about 30 to 60 percent, but are generally 40 to 50 percent, when all motorcyclists are required by law to wear helmets, use rates typically approach 100%. Studies of other states which have reinstituted helmet laws have shown compliance in the 90 to 100 percent range.[37] The six states that have reinstituted helmet laws in the past three years experienced dramatic reductions in the number of motorcycle fatalities. The U.S. Supreme Court has ruled that the public has a valid interest in having motorcyclists wear helmets.[38]

Will increasing the number of potential survivors of crashes increase overall health care costs? Increasing the survival rates of those who might otherwise have been killed in vehicle crashes, and who now require acute and post-acute care as a result, may offset some of the savings from preventing or limiting injuries by requiring use of helmets. The range of costs that might be incurred by additional survivors will vary, and some new survivors will incur relatively few costs. The number of survivors will also generally be small compared to the much larger group whose injuries are limited or prevented as a result of increased helmet use.[39]

INCREASE ALCOHOL TAXES TO DECREASE ABUSE AND ADVERSE EFFECTS

Recommendation

Reduce use and abuse of alcohol and its adverse effects by increasing the excise tax on alcohol to bring about a five percent reduction in overall consumption.

EFFECTS OF ALCOHOL ABUSE

Using an Alcohol Related Disease Impact (ARDI) software package, 1991 estimates were calculated by the Minnesota Department of Health for alcohol-related death, injury, and disability. For that year, 1,580 deaths were caused by alcohol abuse:

- 41 percent were the result of injuries (including acts of violence),
- 18 percent were due to cardiovascular and respiratory diseases,
- 17 percent were caused by cancers,
- 16 percent involved digestive diseases,
- 6 percent related to mental disorders.

Costs associated with alcohol abuse for 1991 were estimated as follows:

- $179 million for direct health care costs (excluding fetal alcohol syndrome);
- $45 million for neonatal and long-term care of individuals with fetal alcohol syndrome;
- $1.3 billion for lost income and productivity due to premature death and disability;
- $228 million for nonhealth sector costs associated with crime (including incarceration), motor vehicle property damage, fire destruction, and social service administration.

The total estimated costs for 1991 were $1.7 billion or $393 for each Minnesota resident.

It is estimated that 22 infants are born in Minnesota each year with fetal alcohol syndrome and approximately ten times that number are born with fetal alcohol effects. In utero exposure to alcohol is the most preventable cause of mental retardation.

Alcohol use is a major contributing factor associated with motor vehicle crashes in Minnesota. In 1990, 37,458 DWI arrests were made and 45 percent (235) of all traffic fatalities were alcohol-related. In addition, 6,762 alcohol-related crash injuries occurred and 3,771 alcohol-related property damage crashes occurred. The total cost of alcohol-related crashes in 1990 was estimated at $227 million including wage losses, medical expenses, insurance administration and motor vehicle property damage.

Price elasticity (the relationship between price increase and subsequent change in demand for a product) varies depending on the type of alcoholic beverage. The Minnesota Department of Revenue has estimated a price elasticity of −0.278 for beer, −0.571 for distilled spirits, and −0.680 for wine. In order to achieve a five percent decrease in consumption for each category of alcoholic beverage, excise taxes on beer would need to be increased from 8 to 38 cents per six pack; on wine from 12 to 39 cents per liter; and on distilled spirits from $1.33 to $1.97 per liter. The five percent decrease in consumption could be maintained if the method of taxation was changed to an ad valorem tax. This would mean that beer would be taxed at 22.8 percent of wholesale price, wine at 13.6 percent of wholesale price, and distilled spirits at 27 percent of wholesale price.

Heavy drinkers are less likely to change their behavior due to price increases than moderate or occasional drinkers. However, if a five percent consumption reduction resulted in even a modest one percent decrease in health care and other costs, $8.5 million could be saved each year.

CONSUMER INCENTIVES

Recommendation

Study and provide a report on consumer incentives that would enable consumers to make "the healthy choice the easy choice."

Consumer education and incentives will empower and motivate consumers to make appropriate choices about buying and using health care services and to adopt healthy life-styles that will reduce health care costs. Consumers often do not have the information and incentives that would increase their knowledge and empower them to use the health care system more effectively and efficiently. Many consumers covered by insurance rarely face or recognize the full costs of care because most of the costs are paid by a third party. Consumers need information and assistance to make choices about lifestyles and behaviors which reduce the prevalence of illness and injury. Consumers also need information to make good choices about health care and to use the health care system appropriately and effectively. These changes should help make healthy choices easy choices, and the most cost-effective choices the most desirable choices.

Payers, employers and other group purchasers are encouraged to consider methods of educating consumers on the cost impact of their decisions and empowering and motivating them to make choices that will ultimately reduce the costs of health care for themselves and others. Consumer incentives should be consistent with the role of the consumer as one of many collaborators in decisions on health and health care spending.

Consumer education and incentives must remain in the discussion of health care reform. Empowering consumers to make healthy choices and appropriately use the health care system will contribute to cost containment. The Commission recommends that resources be provided to support a study of consumer incentives which will lead to specific recommendations for the 1995 legislative session.

PUBLIC HEALTH

Recommendation

Establish a stable streamlined funding mechanism to effectively deliver core public health functions. Develop incentives and relationships for advancing Integrated Service Network (ISN) contributions to public health goals in an accountable and flexible manner.

CORE PUBLIC HEALTH FUNCTIONS

Public health is a critical element in any health care system and should be included in any reform proposal. Core public health functions and the associated population-based services -- those public services and interventions which protect entire populations from illness, disease and injury -- are essential to any effort to address such problems as spiraling health care costs, lack of access to care, and the poor health status of too many state residents. Prevention, promotion and protection strategies are an integral part of the larger health care system.

A reformed health system can be viewed as the union of two components -- the health care delivery subsystem and the public health subsystem as described in the Minnesota Department of Health's discussion paper entitled "Public Health in a Reformed Health System." In the past, health care has emphasized the treatment of medical conditions, while public health has targeted whole populations and prevention of disease and injury.

Appropriate roles of both subsystems must be identified and assigned. Without the identification of those roles, important components may be overlooked or eliminated, putting vulnerable populations at risk of adverse consequences.

As the health care delivery system reforms, public health will be able to give primary attention to its core functions. These are broadly described in the following way:

- **Assessment** -- Regularly and systematically collecting, assembling, and analyzing information on the health of populations, factors affecting people's health, and the health system itself.

- **Policy development** -- Leading and assisting in the development of sound, comprehensive policies in matters related to health.

- **Assurance** -- Working both independently and with partners to assure that the appropriate public health activities are carried out. This often involves the direct delivery of services to individuals not served by the private health care providers.

A stable, streamlined, broad-based funding mechanism is essential to enable the public health system to effectively deliver these services for the entire population and achieve public health goals. The relationship between the local public health system, the health care delivery system and communities is described in Attachments C and D.

CONTRIBUTION OF ISNS TO PUBLIC HEALTH

It cannot be stressed enough that public health goals must be incorporated into the role of ISNs. The following incentives and relationships provide a framework for advancing ISN contribution to public health goals in an accountable and flexible manner.

- **Collaboration on regional public health goals.**
  Existing law allows ISNs to be exempted from a percentage of their spending limit by the Commissioner of Health for demonstration of effective community collaboration on select public health goals determined by the community health boards in the region, and in partnership with the Minnesota Department of Health. Regional Coordinating Boards (RCBs) will serve in a facilitating and evaluating role for these collaborations. State funding made available for collaborative projects will be directed through the local units of government and their respective community health board, which may join together to coordinate functions in working with ISNs on collaborative initiatives.

- **Medical care for special needs populations.**
  Financial incentives for ISNs to enroll special needs populations will be determined by a means which will redistribute a portion of ISN capitation funds based on the mix of enrollment of special needs populations as determined by the Commissioner of Health. As a condition of licensure, each ISN will be required to submit its plan for serving special needs populations. This plan and its evaluation will be reviewed by local units of government and their respective community health boards. Comments and recommendations on the plan will be forwarded to both the ISN and the Commissioner.

- **Preventive services for enrollees.**
  Through internal focus on the health of its enrolled population, an ISN can develop and implement effective preventive strategies. This would be accomplished through incorporating effective prevention strategies in clinical practice as well as implementing enrollee educational strategies. Incentives for enrollees to practice health behaviors, that are within their sphere of control, can also contribute to the health of the enrolled populations. Methods of improving health have innate business benefit to the ISN and its goal of meeting the health care needs of its enrolled population within a global budget.

Through these three basic, but powerful means, ISNs will enhance the contribution of the health care delivery system and contribute in a measurable way to making progress toward our public health goals.

ENDNOTES

1. Smoking-Attributable Mortality, Morbidity, and Economic Costs (SAMMEC 2.1, 1992) using 1990 Minnesota mortality, population, smoking prevalence, and cigarette consumption data and CDC health care costs and future earnings data using 1989 dollars (resulting in an underestimate of true costs), Minnesota Department of Health, 1992.

2. "Cigarette Smoking - Attributable Mortality and Years of Potential Life Lost - United States, 1990," Morbidity and Mortality Weekly Report, Vol 42, No. 33, pp. 645-649.

3. "Cigarette Smoking - Attributable Mortality and Years of Potential Life Lost - United States, 1990," Morbidity and Mortality Weekly Report, Vol 42, No. 33, pp. 645-649.

4. Stanton A. Glantz, Ph.D., and William W. Parmley, M.D., "Passive Smoking and Heart Disease: Epidemiology, Physiology, and Biochemistry," Circulation, Vol. 83, No. 1, January 1991, pp. 1-12.

5. R. Peto and A.D. Lopez, "Worldwide Mortality From Current Smoking Patterns," In Tobacco and Health 1990 - The Global War. Proceedings of the 7th World Conference on Tobacco and Health, April 1990, Perth, Western Australia.

6. R. Peto and A.D. Lopez, "Worldwide Mortality From Current Smoking Patterns," In Tobacco and Health 1990 - The Global War. Proceedings of the 7th World Conference on Tobacco and Health, April 1990, Perth, Western Australia.

7. "Cigarette Smoking - Attributable Mortality and Years of Potential Life Lost - United States, 1990," Morbidity and Mortality Weekly Report, Vol 42, No. 33, pp. 645-649.

8. Respiratory Health Effects of Passive Smoking: Lung Cancer and Other Disorders. U.S. Environmental Protection Agency, Office of Research and Development, Office of Air and Radiation, December 1992. (EPA 600/6-90/006F), pp. 1-4 to 1-6.

9. R. Peto and A.D. Lopez, "Worldwide Mortality From Current Smoking Patterns," In Tobacco and Health 1990 - The Global War. Proceedings of the 7th World Conference on Tobacco and Health, April 1990, Perth, Western Australia.

10. Smoking-Attributable Mortality, Morbidity, and Economic Costs (SAMMEC 2.1, 1992) using 1990 Minnesota mortality, population, smoking prevalence, and cigarette consumption data and CDC health care costs and future earnings data using 1989 dollars (resulting in an underestimate of true costs), Minnesota Department of Health, 1992.

11. Smoking-Attributable Mortality, Morbidity, and Economic Costs (SAMMEC 2.1, 1992) using 1990 Minnesota mortality, population, smoking prevalence, and cigarette consumption data and CDC health care costs and future earnings data using 1989 dollars (resulting in an underestimate of true costs), Minnesota Department of Health, 1992.

12. "Violence Prevention: A Report to the Minnesota Legislature." Minnesota Department of Public Safety, Office of Drug Policy and Violence Prevention, January 1993.

13. Minnesota Student Survey, 1991.

14. Minnesota Department of Human Services, "Traumatic Brain Injury Program's Annual Report for Calendar Years 1990-1991," January 1993.

15. Rosenwinkel, K., Kinde M. "Traumatic Brain Injuries in Minnesota, 1984-1988," Minnesota Department of Health, Minnesota Injury Prevention Program, 1991.

16. Preliminary calculations as follows: $1 billion total TBI health costs over 5 years = average of $200 million in TBI related health care costs per year. Assume that 30% of TBI related to motor vehicle accidents produces proportional amount of total annual TBI, or 30% *$200 million = $60 million dollars. According to Minnesota Motor Vehicle Crash Facts, unrestrained motor vehicle occupants suffered about one half of the severe injuries. Again, assuming this ratio in proportional to the medical care costs generated by these injuries, unrestrained motor vehicle accident victims potentially accounted for 1/2 *$60 million dollars = $30 million dollars in TBI related health costs. Note: these estimates are not adjusted for health care inflation during the period 1984-present, and are likely to be conservative.

17. Minnesota Department of Human Services, "Traumatic Brain Injury Program's Annual Report for Calendar Years 1990-1991," January 1993.

18. This estimate is calculated using data for the Medical Assistance Case Management Program for all TBI for 1991. In 1991: 98% of all those receiving case management received nursing home care at an average annual cost of $25,030 per case; 8.7% received home and community care at an average cost of $24,525 per case; 1.1% received care in regional treatment centers at an average cost of $68,540 per case; and .3% received neurobehavioral hospitalization at an average cost of $230,071. These same average percentages of the types of post-acute and rehabilitation care needed, and their corresponding costs, were applied to the 114 persons in the case management program in 1991 who received their TBI as a result of a motor vehicle crash, and who were not wearing seatbelts at the time they sustained the injury.

19. Giese D., Carl W., Kinde M. "Decreasing Traumatic Brain Injury in Minnesota: A Minnesota Department of Health Report", Minnesota Injury Prevention Program, December 1992.

20. Mueller E, Turnbull T, Dunne M, et. al. "Prospective Study of the Effect of Safety Belts on Morbidity and Health Care Costs in Motor Vehicle Accidents. JAMA 1988; 260(24):3598-3603; and
Reath D, Kirby J, Lynch M and Maull K. Injury and Cost Comparison of Restrained and Unrestrained Motor Vehicle Crash Victims. J Trauma 1989; 29(8): 1173-77.

21. This estimate is derived from the 450 children whose injuries would have been prevented or alleviated with vehicle restraints, at an estimated savings $2.7 million dollars. The average difference in hospital costs alone between restrained and unrestrained crash victims is estimated to be $10,000. For the 742 severe injuries among persons over five that might have potentially been prevented in 1991 with the use of seatbelts, this amounts to potential savings of $7.4 million dollars, for a total of over $10 million dollars. (Based on Giese, D., Carl, W., Kinde, M., 1991)

22. Minnesota Department of Public Safety, "Minnesota Motor Vehicle Crash Facts, 1991", pp. 53. Analysis assumes all crash victims were reported to DPS.

23. In 1991, 10,030 unrestrained motor vehicle crash victims were recorded. Approximately 2.3%, or 231 persons, were killed. Approximately 13.9%, or 1394 persons, were severely injured. The corresponding fatality rate for restrained crash victims was .5%, and 6.5% suffered severe injuries. Applying these lower rates to the 10,030 unrestrained crash victims results in approximately 50 deaths, and 652 injuries. This is a difference of over 180 deaths and 742 severe injuries.

24. Giese D., Carl W., Kinde M. "Decreasing Traumatic Brain injury in Minnesota: A Minnesota Department of Health Report", Minnesota Injury Prevention Program, December 1992.

25. Even under extreme assumptions regarding the severity of injuries afflicting survivors, the probability that this proposal will add to overall health care costs remains very low. In the example cited in the summary, over $10 million in hospital costs would potentially be saved by averting serious injuries through use of vehicle restraints. This potential savings would be completely offset only if **all** of the potential 190 new survivors incurred medical expenses that averages more than $50,000 each. By comparison, the average medical costs of injuries from motor vehicle accidents ranges from $534 (Mueller, et. al., 1988) to $9631 (Reath, et. al., 1989).

26. Preliminary calculations as follows: $1 billion total TBI health costs over 5 years = average of $200 million in TBI related health care costs per year. Assume that 30% of TBI related to motor vehicle accidents produces proportional amount of total annual TBI, or 30% *$200 million = $60 million dollars. According to Minnesota Motor Vehicle Crash Facts, unrestrained motor vehicle occupants suffered about one half of the severe injuries. Again, assuming this ratio in proportional to the medical care costs generated by these injuries, unrestrained motor vehicle accident victims potentially accounted for 1/2 *$60 million dollars = $30 million dollars in TBI related health costs. Note: these estimates are not adjusted for health care inflation during the period 1984-present, and are likely to be conservative.

27. Minnesota Department of Human Services, "Traumatic Brain Injury Program's Annual Report for Calendar Years 1990-1991," January 1993.

28. Injury Prevention Network Newsletter "Motorcycle Helmet Laws: Questions and Answers", vol. 8, No. 1, spring 1991, p. 8.

29. General Accounting Office RCED 91-170. Effect of motorcycle helmet laws, July 1991.

30. McKenzie E., et. al., The Economic impact of traumatic injuries. JAMA Vol. 260, No. 22, December 1988, pp. 3290, 3294, 3296; and
Rivara F., et. al., The Public Cost of Motorcycle Trauma. JAMA 1988; 260 (2):221-223.

31. "Motorcycle Helmet Laws: Questions and Answers", Injury Prevention Network Newsletter, Vol. 8, No. 1, Spring 1991, p. 10.

32. This estimate is calculated using data for the Medical Assistance Case Management Program for all TBI for 1991. In 1991: 98% of all those receiving case management received nursing home care at an average annual cost of $25,030 per case; 8.7% received home and community care at an average cost of $24,525 per case; 1.1% received care in regional treatment centers at an average cost of $68,540 per case; and .3% received neurobehavioral hospitalization at an average cost of $230,071. These same average percentages of the types of post-acute and rehabilitation care needed, and their corresponding costs, were applied to the 114 persons in the case management program in 1991 who received their TBI as a result of a motor vehicle crash, and who were not wearing seatbelts at the time they sustained the injury.

33. US Department of Transportation, National Traffic Highway Safety Administration "State Legislative Fact Sheet", August 1992, p.1.

34. Minnesota Department of Public Safety, "Minnesota Motor Vehicle Crash Facts, 1991", pp. 53. Analysis assumes all crash victims were reported to DPS.

35. Giese D., Carl W., Kinde M. "Decreasing Traumatic Brain Injury in Minnesota: A Minnesota Department of Health Report", Minnesota Injury Prevention Program, December 1992.

36. Giese D., Carl W., Kinde M. "Decreasing Traumatic Brain Injury in Minnesota: A Minnesota Department of Health Report", Minnesota Injury Prevention Program, December 1992.

37. Bowman BL and Rounds DA. Restraint System Usage in the Traffic Population. US DOT, Publication No. DOT-HS-807-342, NHTSA, Washington, DC, 1988.

38. Injury Prevention Network Newsletter, Motorcycle helmet laws; Questions and Answers" Vol. 8, No. 1, Spring 1991.
see also
McSwain N.E., and Belles A. "Motorcycle Helmets -- Medical Costs and the Law", the Journal of Trauma Vol. 30, No. 10, October 1990.

39. Staff of the Minnesota Department of Health have developed a preliminary model that explores the health care costs of potential survivors in greater detail, but which demonstrates the very low probability of medical care costs of survivors exceeding the medical care savings of reducing the number of severe injuries. (Giese D., Carl W., Kinde M., 1992)

ATTACHMENTS

Attachment A

Estimated Consumption Impact of Increasing Minnesota's Cigarette Tax by $2.00 over 5 Years (40 cents/year)

	1993	1994	1995	1996	1997	1998
State tax if increased: $2 over 5 years	$0.48	$0.88	$1.28	$1.68	$2.08	$2.48
Federal Tax, constant at 1993 rate	$0.24	$0.24	$0.24	$0.24	$0.24	$0.24
Estimated average pre-tax price of cigarettes @ 4% inflation	$1.54	$1.60	$1.66	$1.73	$1.80	$1.87
Percent increase in retail price:		16.46%	13.08%	10.67%	8.86%	7.46%
Estimated decrease in consumption: Percent decrease in packs consumed:		8.23%	6.54%	5.34%	4.43%	3.73%
Number of packs consumed:	336,332,250	302,652,106	288,466,258	273,062,160	260,965,506	253,231,493

Some assumptions about these figures:

- Pre-tax price is inflated by 4% annually. This is probably conservative, since actual increases have been about 11% per year. However, the tobacco industry has cut prices lately.
- Pre-tax price is based on a 1992 figure of 147.6 cents from the Tobacco Institute.
- Federal tax price is likely to increase, but we kept it constant becuase we don't know the amount of the increase.
- Did not include sales tax in calculations because it's such a small part of the whole.
- Used .050 price elastricity.
- In calculating the percent increase in cost over 5 years, we corrected for the fact that state and federal taxes are not tied to inflation.

Revenue Impact of a $2 Increase in the Cigarette Excise Tax Phased in Over 5 Years at 40 cents per year ($millions)

Fiscal Year	Excise Tax	Sales Tax	Total Impact
1995	$104.0	$3.5	$107.5
1996	211.2	7.7	218.9
1997	302.2	11.7	313.9
1998	393.5	15.9	409.4
1999	483.0	20.1	503.1

* Shaded Area (Excise Tax Column) -- funding for proposed initiatives.

Attachment B

Minnesota Health Care Commission

Recommendations on Use of Tobacco Tax Revenues

Fiscal Year 1995

Prevention and Consumer Education (MDH):	
Statewide Consumer Education and Wellness Programs:	13,490,000
Violence Prevention: Home Visiting Program - 5,900,000 Data Analysis Support - 100,000	6,000,000
Family Planning	6,000,000
Chlamydia Screening	236,000
MDH Prevention Program Evaluation with Technical Support and Funding for Conducting Consumer Incentives Study	3,000,000
WIC Funding	2,474,000
Subtotal:	$31,200,000
Universal Coverage:	$72,800,000
Total:	$104,000,000

(Figures based on Department of Revenue's projected revenue figures for an increase in the cigarette excise tax and a 30/70% split between Prevention Initiatives Funding and Universal Coverage.)

Attachment C

HEALTH CARE REFORM
SERVICE COMPONENTS
delivered through
THE LOCAL PUBLIC HEALTH SYSTEM
. . . local units of government and their respective
Community Health Boards
(referred to in this document as "CHB"s)

	EXAMPLES
CORE PUBLIC HEALTH FUNCTIONS . . . governmental responsibilities	• Community-wide health assessment • Surveillance, monitoring and control of communicable diseases • Lead abatement • Public health nursing visits to high risk populations • Case management for special needs populations • Emergency medical care system coordination • Enforcement of public health standards and laws • Disease & food-borne illness investigations & follow-up • Water testing, food, beverage & lodging inspections • Potential role for information clearinghouse & ombudsman services
COLLABORATIVES	• Community coalitions addressing community-wide problems such as HIV infection, violence • Early Intervention Services for children with special needs (school, social services, parents, providers) • ASSIST program (tobacco prevention) • Immunizations to high risk populations • Projects to meet defined regional public health goals
CONTRACTUAL SERVICES	• Work site wellness programs • Day care consultation • Targeted services to high risk populations (pregnant women, children, frail elderly, adolescents) • Occupational health (blood-borne pathogens) • Adolescent-based school services • "Skilled nursing" home health care
ESSENTIAL COMMUNITY PROVIDER FUNCTION	• Family planning clinics • School-based clinics • Primary medical care • Home care

Attachment D

HEALTH CARE REFORM
SERVICE COMPONENTS
delivered through
THE LOCAL PUBLIC HEALTH SYSTEM
. . . local units of government and their respective Community Health Boards (referred to in this document as "CHB"s)

	FUNCTIONS	STRUCTURE	FINANCE	ACCOUNTABILITY
CORE PUBLIC HEALTH FUNCTIONS . . . governmental responsibilities	Community-wide core public health responsibilities and related services described in MDH "white paper", MACHA, MPHNDA position paper, Public Health Nursing Directors position paper, U.S. Department of Health and Human Services paper on "Public Health in the New American Health System". Many of these functions are frequently referred to as population-based services.	The structure is the existing state-local partnership between the State Health Department and 49 local CHBs with their respective city and county government structures. CHBs may join together to have service areas congruent with service patterns to work together on select functions and services.	1. The current CHS subsidy will continue to be available for CHS established through the CHS plan prioritization process. 2. A dedicated percent of the Health Care dollar will build the capacity of Public Health to effectively implement core functions. 3. Local government funds will be levied for community health priorities. 4. Grants that focus on targeted community health problems and functions. 5. Fees for service.	Under the Local Public Health Act CHBs are accountable for developing and maintaining an integrated system of community health services under local administration. Where the state has delegated its authority through a delegation of authority agreement for a specific service, CHBs are accountable to the state. Otherwise, CHBs are accountable to their constituency through their city and county elected officials.
COLLABORATIVES	Partnerships with other government units, providers and community groups to work on defined health problems, strategies and goals.	The structure will be through formal and informal relationships between CHBs, other government programs, ISNs, all-payer providers and community entities.	1. Incentive funds (i.e., tobacco tax revenues). 2. In-kind contributions and pooled resources from community partners. 3. Grants 4. Local government tax.	Each party will be accountable for their contribution to the collaborative. In the case of a grant, the accountability will be outlined in the contract or grant application.
CONTRACTUAL SERVICES	Provision of services as part of contractual relationships with such entities as ISNs, schools, day cares and businesses.	The structure will be through contracts for select services from CHBs by such entities as schools, ISNs, work sites, day cares.	CHBs will enter into contractual relationships with such constituencies as ISNs, "regulated all-payer" providers, schools and worksites wherein CHBs will be reimbursed for specified purchased services.	CHBs will meet the standards and outcomes as stated in the contract and will be accountable to the contracting party for services delivered.
ESSENTIAL COMMUNITY PROVIDER FUNCTION	Criteria for designation as an ECP will focus on a demonstrated record of service to impoverished and/or medically underserved populations that face language, ethnic, or other cultural barriers to accessing health care or that have health care needs that other providers are currently incapable of satisfactorily addressing. This function is expected to be unnecessary within five years.	CHBs that meet the criteria of an essential community provider could provide health care services independently or through their existing structure as part of another delivery system.	1. ISNs and all-payer system providers will compensate CHBs directly for services meeting essential community provider legislative criteria. 2. Local government levies. 3. Fee for service.	CHBs in their role of essential community provider will be held accountable for meeting standards required by state law and the Commissioner of Health as well as requirements of the payer for services.

Approved :
Minnesota Association of Community Health Administrators (MACHA)
Minnesota Public Health Nursing Directors Association (MPHNDA)

Actual Causes of Death in the United States in 1990

Attachment E

Cause	Estimated No.*	Percentage of Total Deaths
Tobacco	400,000	19
Diet/activity patterns	300,000	14
Alcohol	100,000	5
Microbial agents	90,000	4
Toxic agents	60,000	3
Firearms	35,000	2
Sexual Behavior	30,000	1
Motor Vehicles	25,000	1
Illicit use of drugs	20,000	<1
Total	**1,060,000**	**50**

*Composite approximation drawn from studies that use different approaches to derive estimates, ranging from actual counts (eg. firearms) to population attributable risk calculations (eg. tobacco). Numbers over 100,000 rounded to the nearest 100,000; over 50,000 rounded to the nearest 100,000; below 50,000, rounded to the nearest 5,000.

Minnesota Health Care Commission

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