An Environmental Scan of Health and Health Care in North Dakota:

Establishing the Baselines for Positive Health Transformation

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Foreword

In November 2008, at the invitation of the Dakota Medical Foundation, members of the Center for Rural Health met with the foundation board and staff to discuss health and health care in North Dakota. By the meeting's conclusion, the Dakota Medical Foundation and the Center for Rural Health formed a partnership to conduct an assessment on health and health care in North Dakota. The Dakota Medical Foundation agreed to fund the work of the Center for Rural Health (CRH) in developing an environmental scan. The environmental scan you are now reading introduces you to many dimensions of health and health care in the state, scores of programs underway to address health challenges, and measures that can ultimately help point to how well we are faring community to community, state to state, and even state to nation.

Just as North Dakotans know the contour of their land, so, too, they need to know the contours of the health of their communities, the health care available to meet their needs, and how these contours can be altered. From the environmental scan, the Dakota Medical Foundation and CRH hope to spark a call to action that focuses sharply on transforming North Dakotans' health and their health care system. This environmental scan is only the point of origin for what should be a shared commitment to continual assessment, to deploying strategic approaches, and to selecting and applying measures that capture the effects of both public and private efforts. All of this with the aim of developing new patterns of health and health related behaviors and a new generation of health care.

The Dakota Medical Foundation also hopes to inspire strategic thinking by everyone, from those within the health care workforce to the health care consumer. Tinkering with the current system will not work. Health and health care need to undergo a transformation. Individuals and groups need to coalesce and collaborate in defining new ways to improve North Dakotans' health and improve the quality of health care. They need to agree on evidence-based standards of health and health care that measure not only activity but also performance—better outcomes at lower cost. Bottom line—high quality health care is affordable health care.

The message that emerges from the environmental scan is that the best of North Dakota—a cooperative and collaborative spirit, a can-do attitude, concern for our neighbors, and clear recognition of the link between North Dakotans' health and the economic health of their communities—can be brought to bear directly on transforming the state of our health and health care. Capitalizing on these strengths, our efforts will need to be targeted, collaborative, strategic, and measurable. It is just the sort of thing that North Dakotans, pulling together and putting their minds to it, can do. It is time.

The Dakota Medical Foundation and the Center for Rural Health want the standards set and met for North Dakotans' health and health care to be the best in the nation—to make what is less than acceptable, good, and to make what is good, great. The ultimate aim can and should be that when other states seek solutions, their health and health care compasses will point to North Dakota.

This report provides an overview of selected health and health care issues in North Dakota. Where available, measures specific to these issues are identified and North Dakota's performance on the measures is presented. Performance measures are important because they can be used to track trends in health and health care and to evaluate the effect of programs and initiatives. Additionally, examples of programs designed to address the selected health and health care issues are briefly summarized. This summary can serve as a resource for individuals and organizations interested in capitalizing on current health care activities in the state.

Information presented in this report is drawn from a range of sources including reports, websites, data sources, queries of agencies and organizations, and perspectives of a small set of key stakeholders. The Environmental Scan was conducted from December 2008 to mid-February 2009. The following is a synopsis of the information and perspectives presented in the report.

Health and Health Care in North Dakota: The Environmental Context

North Dakota's health and health care are affected by demographic, social, and economic factors. Population characteristics, including age composition, income levels, educational achievement, and changes in the number and distribution of people, affect health status. North Dakota, with urban clusters and a small, geographically rural and frontier population, faces a unique set of challenges and opportunities that confront the population's health, the types of health care services needed, and the financial viability of health care systems. The state's growing elderly population (46 of the state's 53 counties will have 22% or more of their population age 65 or older by 2020), expanding minority population (13.8% increase from 2000 to 2006; primarily occurring on Indian reservations), and the significant decline in the number of youth, aged 19 and younger (a 15% decline from 2000 to 2005), have direct implications for health care services. Around 12% of the state's population lives in poverty. Rural poverty is greater than urban, and rural income is, on average, lower than urban income levels. Poverty and income levels have direct implications for public programs, such as Medicaid, and the financial status of providers. Related to these are the higher levels of unemployment on the state's reservations. The health system is also affected when patient volumes change, causing financial concerns for many types of providers (e.g., decreases in elective procedures due to economic concerns, depopulation of some rural communities). Dynamics external to the state, including a deepening recession and a compromised national economy, have implications for both the health of the state's population and the economic health of providers that serve the state's population. As strategies to strengthen both health and health care in North Dakota are contemplated, meaningful efforts by stakeholders need to consider these broader characteristics. Additionally, efforts directed toward improving health and health care should be accompanied by close attention to performance on key measures in order to ascertain effectiveness of strategies and programs.

The Health Status of North Dakota

Health-related behaviors and other selected topic areas. North Dakota has achieved improvement in many health related behaviors, particularly the 19.5% decrease in youth smoking since 1999 and seat belt use at an all time high at 82% in 2007. Still, serious behavioral health challenges exist in the state, including a large overweight and obese adult population (64.9%), 21% of the adult population that smokes, and the second-highest rate (23.2%) in the nation in binge drinking. Decreases in these and other health-compromising behaviors are important as they have significant consequences for individual health, morbidity, mortality, and health care service utilization and related costs.

Experience shows that improving the health of communities through behavioral change is possible. However, change is often slow and involves commitment of human and other resources and community engagement. In order to reduce the future burden caused by negative health behaviors, where they exist, proven strategies should be considered and supported and, where such evidence is lacking, pilot projects should be developed and evaluated related to selected priorities. As with all areas selected for action, measures need to be adopted and applied in order to track progress at individual, community, and state levels, with adjustments made as needed. A set of health-related measures, rankings, rates, and comparisons associated with the state of North Dakota can be found in Volume II of the report.

Chronic diseases. Cardiovascular disease and cancer are clearly the leading causes of death in North Dakota, comprising 49% of all mortality. Regarding morbidity, there are several chronic conditions that adversely affect the health, well-being, and quality of life among North Dakotans: arthritis (26.9% prevalence among ND adults), disability (15.0%), asthma (7.7%), and diabetes (6.3%). North Dakota's performance on measures of chronic disease-related conditions tends to be better than national averages and most states, with the following exceptions: prostate cancer (9th highest of 46); colorectal cancer in men (15th highest of 46); stroke mortality (16th highest of 51); and prostate cancer mortality (17th highest of 46).

To address the state's health issues related to chronic disease, private and public sector investments in prevention-related activity can be instituted or strengthened or both, from education (e.g., proper diet and exercise) to wellness activities to providing incentives for healthful decisions. For example, some evidence-based strategies to improve health and prevent disease in communities can be found at http://www.thecommunityguide.org/index.html. To ensure data-driven decision-making, rather than just anecdotally driven decisions, and to maximize the efficient use of resources directed to high need health care problems, it is also important to close information gaps regarding chronic diseases and other common health problems in North Dakota.

The Status of North Dakota Health Care

Both strengths and challenges are associated with health care infrastructure in North Dakota. Public and private insurers tend to obtain health care services at low cost compared to other states. However, an imbalance between reimbursement levels and cost of providing care is driving some health care facilities to decrease services (e.g., home health, public health, Emergency Medical Services [EMS]) or at least consider cutbacks in infrastructure, salaries, and staffing. Negative operating margins are increasing the financial fragility of health care in the state. Additionally, limited access to health services is a challenge due to geographic distances, health professions shortage areas, and, for uninsured and underinsured, lack of adequate insurance coverage. In terms of quality, the state does very well in the aggregate on a number of quality measures. However, performance of small rural hospitals is frequently not reflected in quality data, and consequently, significantly less is known about quality in some of these facilities (i.e., whether it is better, worse, or the same as urban North Dakota hospitals). Regarding quality, while there are clear areas in need of quality improvement, performance measurement indicates that hospitals and nursing homes frequently meet and exceed national averages in both individual rural and urban facilities. A challenge is to eliminate the variation in quality and aim for performance that is consistently high on quality measures, regardless of where in North Dakota health care consumers seek care.

Infrastructure. North Dakota hospitals (6 urban and 39 in rural areas) tend to be highly integrated with other services (e.g., medical clinics). This integration can help position North Dakota to respond to new emerging care models such as medical homes and new payment strategies (e.g., episodic payment) currently being contemplated by both national-level public and private payers. Supply of health workforce, aging physical plants, reimbursement levels, demographic changes, and the prospect of increasing numbers of uninsured associated with deteriorating economic conditions are systemic issues facing health care facilities, both urban and rural alike. Public health (28 single and multi-county local public health units), home health (35 entities), and EMS (at least one ambulance service in each county) are, in many cases, challenged to continue their current activities across their current service areas. Decreasing or delaying access to these services can have direct implications for patient outcomes. Regionalization of more health care infrastructure, network building, and use of telemedicine can help to strengthen health care services and extend these services to hard-to-reach populations. For example, the state's trauma system needs further development of a system-wide approach to performance improvement, development of a formal critical care transportation network (with combined ground and air medical resources), and improved access to data to better inform and respond to injuries.

Slightly different problems affect special services, including oral health care and pharmacy services. Access to dental services is hampered by both workforce shortages and payment systems such as Medicaid. Financial vulnerability is illustrated by the fact that less than one-fourth of North Dakota dentists in 2005 accepted all Medicaid patients and one-third limited the number of Medicaid patients. Access to dental health services for patients on Medicaid and those unable to pay out-of-pocket for services is essential. The availability of oral health education and preventive services delivered using new approaches merits consideration. The transformation of a number of rural pharmacies to "telepharmacies" utilizing pharmacists and pharmacy technicians as well as technology is a successful example of addressing some workforce shortage dimensions. Harnessing technology, developing networks, and deploying different levels of health care providers can ensure access to high quality services ranging from home health to mental health.

Quality. Based on available data, the state's health care systems perform better than many others in providing consumers with relatively high-quality and efficient health care services (the 13th highest performance average in the country, according to the Commonwealth Fund, 2007). Nevertheless, within the state, there are clear opportunities for quality improvement. Enhanced networking and communication, and sustaining and strengthening primary care are pivotal to quality health care. Additionally, encouraging consumers to access publicly available information about care quality can assist them in making informed decisions when choosing health care facilities.

From the vast number of measures that currently exist to monitor quality, a subset could be selected that is most relevant for North Dakota. As with most topics discussed in this report, there are improvement opportunities and relevant measures. A multi-stakeholder approach (private and public entities) can be important to selecting priorities and related measures that can track progress in specific areas. In terms of quality, annual reviews could be conducted to track how well the state's facilities do compared to each other and to other states in order to identify areas and approaches to improve care. Some collaborative efforts are currently underway in the state, but they are fragmented.

Access. Access to health services in North Dakota is influenced by geographic, economic, and other factors. Payment methods, workforce supply, and even area population fluctuations influence the availability of services. In rural states, the availability and location of services are important considerations, and potential and actual decreases in service areas or closures of health facilities (e.g., dental clinics and home health agencies) should be carefully evaluated to determine their effect on local communities. While community leaders engage in discussions about facility closures, no mechanism is used to engage a larger group of experts to consider, along with the community, potential strategies to continue obtaining services using new approaches.

Health Insurance: With an uninsured prevalence of 8.2% (approximately 51,900 people), North Dakota has variability across geography, race, income, and other factors in rates of insurance. Particularly with current economic conditions, ongoing assessment of insurance coverage across vulnerable groups is important, in addition to ensuring comprehensive dissemination of information regarding the availability of public programs. The lack of health insurance has a profound impact on individuals and families as it seriously limits access to health care, contributes to poorer health outcomes, increases inefficiencies within the health care system (e.g., seeking care in more expensive service centers such as the emergency room), and reallocates financial responsibility for the payment of care in inequitable ways. Public policy can be used as a means to strategically address specific problem areas, targeting resources to better meet standards of efficiency and equity. In North Dakota, specific groups that are more likely to be uninsured include the following: rural residents, young adults, American Indians, and workers of small employers.

Workforce: Given the demographic trajectory of North Dakota as well as anecdotal and quantifiable information about the health care workforce, the state clearly faces emerging challenges to ensure access to an adequate workforce, ranging from primary care shortages to shortages of dentists. Total reported health care provider vacancies in North Dakota indicate a need for 271 physicians, nurses, clinical laboratory science practioners, mental health professionals, and X-ray technicians. A comprehensive approach to generate interest and support for greater production, recruitment, and retention of health care providers require assessing successful strategies targeting all components of the workforce pipeline and replicating them where possible. This effort could involve a range of stakeholders from high school teachers to health care employers to policymakers.

Utilization of Services: Health care costs are directly tied to utilization of health services. Data indicate that the state has higher admission rates (9th highest in the nation; 137 admissions per 1,000 population in 2005) and longer lengths of stay than the national average (8.8 days compared to the U.S. average of 5.7 days in 2005). Research that explores the reasons behind utilization patterns can inform strategies to further decrease health care spending in the state.

Financing health services. Health expenditures in North Dakota increased annually by 6% from 1991 to 2004. In 2004, the most recent year for state–national comparisons, the per capita health spending level in North Dakota was $5,808, whereas the U.S. per capita rate was $5,283. North Dakotans spend more on hospital care, drugs, other medical nondurables, and nursing home care than found for the overall United States. However, North Dakotans spend less on physician and other professional services, home health care, and other personal health care compared to the U.S. population.

The current economic recession is likely to affect public and private payers of health services as well as health care systems, businesses, and families. Projections for a growing population of older citizens in North Dakota indicate that Medicare will remain a dominant payer, and consequently, the state's health care providers will be particularly sensitive to the adequacy of the program's reimbursement rates. With very low or negative margins across many North Dakota hospitals and other signs of health system vulnerability, such as contraction of home health services, measures of viability and access are important to monitor. Data that tracks access measures at local and regional levels as well as factors influencing the viability of the local health care sector (e.g., local and regional population characteristics) can facilitate planning for strengthening or redeploying health care services to minimize access-to-care problems. Local communities and health facility leaders can embark on community assessments to ensure an alignment between what community members want in terms of health care and what providers offer.

Improving the Health Status of North Dakota: Key Stakeholder Perspectives

In their interviews, key stakeholders recommend investment in prevention-related activity. Similarly, a majority of recently surveyed North Dakotans indicate strong interest in wellness programs. The sensitivity of chronic illness to healthful behaviors and the interest on the part of the public and opinion leaders in addressing health promotion and disease prevention strategies speak to the importance of and opportunity for offering related programs, education, and services, including fitness activity, encouraging more work and community-based wellness programs and incentives, and encouraging businesses and insurers to leverage health coverage and activities that include wellness benefits.

Summary

Health and health care in North Dakota present an array of challenges and opportunities. To achieve improvement in both areas, collaborative efforts are important and there is significant potential to extend their reach and expand their focus. Collaboration and broad-based approaches to addressing health care cost, access, and quality issues are supported by key stakeholders. Networking can offer opportunities to build new linkages and capitalize on sharing resources and expertise.

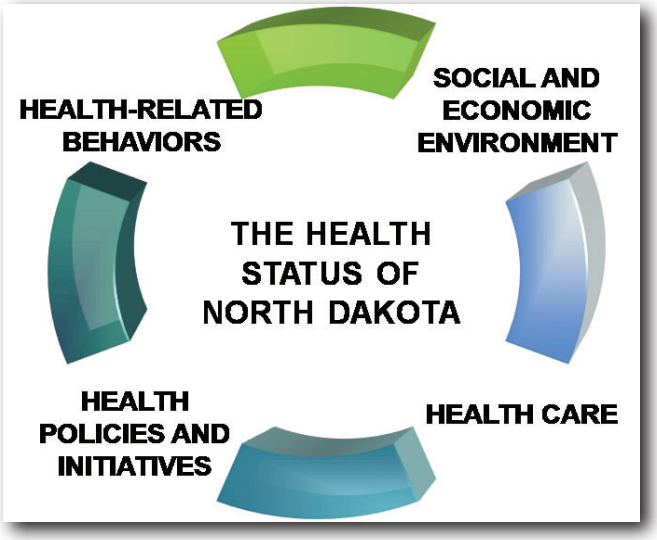
Improving the health status of the population includes engaging communities in the process of enacting new policies (e.g., school-based) and programs that are, when possible, evidence based and transportable to other communities. Involvement of representatives from a wide range of public and private (health and non-health), local to statewide entities that are open to new ideas is essential. When instituting new initiatives, the most effective initiatives (from either within or external to the state) should be selected, promoted, and replicated, and related progress tracked. Current and future health and health care plans should be assessed against clearly defined and North Dakota relevant performance measures.

Introduction to the Report

Purpose: An Environmental Scan of Health and Health Care in North Dakota is designed to:

(1) provide an overview of the status of selected health and health care issues in North Dakota, (2) identify some of the key programs and organizations involved in these issues, (3) highlight gaps in information or resources, (4) present measures that can help to assess the status of each of the issues, and (5) inform the development of programs and policies that can advance solutions to health problems. The information presented in the environmental scan can be used by a variety of stakeholders to support efforts to improve health and access to high quality health care services, as well as enhance practical knowledge and collaboration. Meaningful, public-private collaboration is needed among all major stakeholders in order to create conditions necessary to assure the best possible health (Committee on Assuring the Health of the Public in the 21st Century, Institute of Medicine [IOM], 2003).

Approach: The framework used to guide the development of this report derives from frameworks presented in two important documents. First, the Environmental Scan adapts some elements of the Institute of Medicine's *State of the USA Health Indicators*, which establishes the influences of (1) social and physical environment, (2) health-related behaviors, and (3) health systems on health outcomes (2009). The Scan is also aligned with the framework from Healthy People 2010, which recognizes the significance of the combined effects of individuals and community as well as policies and interventions that can promote health, prevent disease, and ensure access to quality health care (U.S. Department of Health and Human Services, 2000). For the purposes of this report, *health* is defined by health-related quality of life, population morbidity, mortality, and major health conditions (e.g., chronic diseases). *Health care* includes institutions and actors directly involved in care delivery as well as the *public health* system that attempts to improve or maintain health by affecting health-related behaviors and environmental factors (IOM, 2009).



The Center for Rural Health team used multiple methods and data sources to obtain perspectives on health and health care in the state. Conducted from December 2008 through mid-February 2009, the Environmental Scan includes

1. A review of the existing literature and information on a pre-determined set of North Dakota health and health care issues (the issue set was developed with input from Dakota Medical Foundation);

2. Descriptive analysis of information pertinent to the selected issues, including a scan of public and private initiatives designed to address these issues; and

3. A series of interviews with health care stakeholders to provide current perspectives on directions in health and health care in North Dakota.

Selection of the health and health care measures in this scan is based on their importance to and their impact on health status, severity of the problem at present, and data availability to measure change in the measures over time. A comprehensive search for relevant information was conducted related to each topic included in the Environmental Scan. However, for the sake of brevity and utility, only key descriptive and actionable information is presented. Where possible, relevant state-based trend information and national benchmarks are included and financial data are provided. Typically, an array of measures are used to characterize both health and health care (Mathers, Murray, Ezzati, Gakidou, Salomon, & Stein, 2003) given the complexity and multidimensional nature of health. Consequently, many measures associated with the topics are delineated and accompanied by the most recent, comparative data (for illustrative purposes, a number of measures, and items that lend themselves to being measured, are italicized throughout the narrative).

Where data is available, comparisons are made between urban and rural areas of the state and between various subpopulations. Such comparisons are useful in order to efficiently target both attention and public and private interventions. While future efforts should factor in differentials based on regional variation, a comprehensive approach to addressing the state's health-related issues should involve key stakeholders working together to leverage the ideas and strengths available across the entire state and on behalf of all citizens of North Dakota.

Uses: The environmental scan is intended to stimulate collaborative action by health organizations, health providers, policy makers, community representatives and others. In addition to information about health and health care topics, there is also information presented about projects underway to address these topics, as well as measures that can be used to track changes in health and health care status. Working together, policymakers can use the scan to identify health and health care challenges and potential public policy interventions. Researchers can use the report to determine gaps in knowledge that need to be filled. Community representatives can find useful facts to generate local dialogue across businesses, non-profit organizations and others to improve the well being of communities. Media can use the information provided to inform their reporting on some of the state's priority health problems. The material presented in the report can be of use to grant writers developing proposals on health related issues. From local to across the state, new partnerships that are collaborative, strategic, and focused on measurable change can be pursued. The environmental scan provides a foundation for initiating some of this important work.

Organization: Volume I of the report presents information about environmental context (social, demographic, economic, and educational); health status of the North Dakota population (leading health indicators, causes of death, and health problems common in the state); and health care in North Dakota (types and features of health infrastructure including information regarding quality, access, and financing). Volume II includes information about health-related resources (initiatives and organizations) in North Dakota (federal, state, and non-governmental) and a set of health-related measures, rankings, rates, and comparisons associated with the state of North Dakota. These health measures are commonly used to track the health of individuals, communities, states and nations. Individuals that provided information for the report as well as the references used in the report are presented in this volume.

Regarding the strengths of health care in North Dakota—

"They have a really keen sense of their mission and their obligation to make sure their neighbors have the best possible care…They're all in the boat together and they have to pull together."

McCarthy et. al, The Commonwealth Fund, 2008.

National economic conditions can have a profound impact on health status and the overall health system. Due to recessionary pressures, Americans are cutting back on health care, physician visits are down, insurance claims are down, and there is growing concern that short-term individual health decisions based on economic pressures will lead to long-term medical problems and prompt higher spending later (*Public Health*, 2008). While the overall North Dakota (ND) economy appears to be weathering much of the national economic storm (witness a state budget surplus of approximately $1 billion), North Dakota does have economic concerns that are linked to geographic areas (i.e., some rural and tribal areas have less favorable economic circumstances than urban North Dakota) and the state is feeling some pressure due to the national reach of downturns in business operations permeating regional and state economies. Changing economic straits are likely to have an impact on ND's aging population. Fixed incomes (retirement savings and Social Security) are more vulnerable during hard economic times and the elderly are faced with challenging decisions concerning the cost of health care. Difficulty in making out-of-pocket payments for physician visits, scaling back on medications (e.g., skipping days or cutting pills in half), eliminating preventive care services, and seeking care less frequently are some of the arduous options that the elderly face as the economy ratchets downward. These trends are important to track going forward because of their direct and indirect influence on health and health care.

Social and physical determinants play an important role in health and have both direct and indirect impacts on health outcomes. For example, socioeconomic status and income inequality are identified as some of the most important determinants of health (IOM, 2009). This section describes conditions such as population demographics (including population change and trends; age, race, and ethnicity indicators) and economic and social factors that have implications for health and health care in North Dakota. Understanding these characteristics as well as their projected changes can inform public and private sector decision-making about both health and health care.

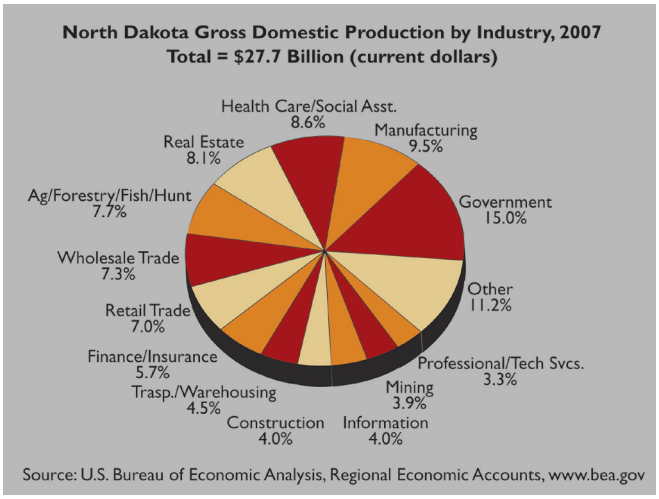
From a demographic perspective, North Dakota has a small population and large geographic areas that can be defined as rural or frontier (the latter defined as six or fewer people per square mile). This presents a unique set of circumstances and challenges that confront the economic expansion of the state, the viability of health systems, and even the sustainability of some rural communities. The 2007 *estimated population* is recorded as 639,715 (NDSU Data Center, 2008). North Dakota's *population density* ranks 47th with about nine people per square mile, ahead of Montana (six people per square mile) and Wyoming (five per square mile). A significant majority of North Dakota's counties (36 of 53) are classified frontier. Only four counties are part of metropolitan areas (Burleigh, Cass, Grand Forks, and Morton) and the remaining 13 counties can be classified as either rural or micropolitan.[1] Micropolitans are areas that may be a county or a group of counties with a population center of 10,000 to 49,999. Based on federal guidelines, there are eight micropolitan counties in the state. The remaining five counties are rural.

Unique challenges confront the state as it had the smallest population gain in the 1990s and was the only state to lose population from 2000 to 2005. In comparison to all other states, North Dakota has the highest percentage of population in the 85 and older cohort (ND: 2.3%; US: 1.5%; ND Department of Human Services, Aging Services Division, 2008). In addition, this age cohort is also the fastest growing in the state. Health care providers and health organizations in rural and frontier areas of the state are particularly vulnerable financially to population decline. Additionally, they must realign services to meet the needs of the dominant age cohorts that typically have significant co-morbidities.

Population Characteristics. North Dakota, in general has population characteristics that follow national trends, such as a growing elderly population, and an expanding minority population, the latter primarily occurring on Indian reservations. North Dakota also has an out-migration of youth and young families. Over the past 20 years, most U.S. rural counties gained population while North Dakota's rural counties lost population. From 1980 to 2000, 47 of 53 ND counties lost population. This included all rural counties with the exception of two counties with a significant American Indian population. The Economic Research Service, USDA, classifies counties as "population loss counties" if there are two consecutive census periods of *population loss*. Forty-five North Dakota counties are so classified. Of the 373 communities in North Dakota, only 17 have a population of 2,500. Over 60% (about 230 of these communities) have populations of *250 people or less* (NDSU Data Center, 2002). At the other end of the continuum, the four largest cities range from 35,000 to 93,000. Due in part to a significantly expanding energy economy in the western part of the state,

Percent Change in Population		
Area	1990-2000	2000-2005
U.S.	**13.1%**	**5.3%**
North Dakota	**0.5%**	**-0.9%**
Metropolitan	10.3%	4.3%
Nonmetropolitan	-6.1%	-5.0%
Micropolitan	-1.6%	-4.3%
Noncore	-9.1%	-5.5%
Source: U.S. Census Bureau		

North Dakota is experiencing a recent population increase. The stability of this population increase is directly tied to fluctuations in the energy economy. One challenge for North Dakota is if overall population dynamics will impede local (rural) and statewide economies. Younger and middle-aged individuals and families have or are leaving many ND rural areas, having a significant effect on health care as hospitals, clinics, and other health providers have both decreasing population bases to drive volume as well as difficulty recruiting and retaining health professionals. Significant population loss and outmigration lowers the purchasing power and business potential for rural economies (Kean, 1998).



Age, Race and Ethnicity. As previously indicated, the fastest growing age cohort is people 85 and older. From 2000-2005, this age cohort increased by over 16%. By 2020, 46 of the state's 53 counties will have 22% or more of their population age 65 or older. At the other end of the age continuum, people from birth to age 19 witnessed a decline of approximately 15% over the period from 2000 to 2005 (NDSU Data Center, 2006). During this time, all 53 counties experienced a loss in the number of people 19 years of age and younger (NDSU Data Center, 2006).

In 2005, North Dakota had the fourth lowest percentage of children age 17 and younger (21.7%) (KIDS COUNT, 2007). North Dakota's *median age* (38.8) ranks ninth overall and is higher than the national median age of 36.2. The American Indian population in North Dakota, in contrast, has a median age of 18, which compares to a national median age for American Indians of 28.5. The median age of the ND Hispanic population is 24.5 (U.S Census, 2007).

In terms of *race/ethnicity,* North Dakota's population consists of 92.3% Caucasian, 5.3% Native American, 1.6% Hispanic/Latino, 0.8% African American, and 0.7% Asian (based on the 2005 U.S. Census Bureau estimate). From 2000 to 2006, the minority population increased by 13.8% (6,269 people) while the white population declined by 2.1% (12,602 people). The Hispanic population rose by 36.6% (2,851 people); the Asian population increased by 28.8% (1,128); African-Americans experienced a 26.6% increase (1,109); the population of people of multiple races increased by 21.5% (1,286); and the American Indian population increased by 8.7% (an increase of 2,750). Additionally, an estimated 5,000–7,000 Hispanic migrant farm workers and their families traveled to North Dakota from their home state to work in agriculture (Heuer, Personal communication, 2008). While North Dakota's population is largely Caucasian, increases in other races have significant implications for health care services, ranging from language translation services to the ability to deliver culturally competent care.

Economic and Social Characteristics. North Dakota's *Gross Domestic Product (GDP)* ranks 49th out of 50 states at approximately $28 billion, increasing by 3% from 2006 to 2007 (NDSU State Data Center, 2008). By way of comparison, the largest state economy, California, had a GDP in 2007 of $1.8 trillion. The total GDP for the United States in 2007 was approximately $14 trillion (Bureau of Economic Analysis, 2008). In terms of *GDP growth,* North Dakota fares better. From 1997 to 2006, North Dakota's GDP grew by 29% ranking it 24th overall (Workforce Associates, Inc., 2007). Thus, while the state's GDP is relatively small in comparison to other states, the economy is reasonably strong and growing at a moderate rate.

The government sector (including public schools and government-provided health services) accounted for the largest part of the state's GDP at 15%, followed by manufacturing at 9.5%. North Dakota is one of 16 states where the government sector accounts for this level of state GDP (Trust for America's Health, 2008). **The health sector is a significant and growing part of the ND economy,** [2] accounting for the third largest share of the state's GDP at 8.6%, with agriculture coming in fourth. Workforce statistics indicated that eight of the top ten private employers in the state are in the health care industry. Health care represents about $2.4 billion in the overall $28 billion state economy (NDSU State Data Center, 2008).

The *median household income* (2007) in North Dakota was $43,753 compared to the national median of $50,740 (U.S. Census, 2007). *Per capita income* varies by geographic location with rural ND per capita income lower than urban areas. In 2006, the rural per capita income of $30,865 compared to an urban income of $34,852. Between 2005 and 2006, rural per capita income in North Dakota actually declined by 1.8% while urban North Dakota increased by 0.8% (USDA 2008). ND urban income exceeding rural income has been constant since 1975.

Another key characteristic highly relevant to the health of individuals and communities and to the financial viability of health care systems is poverty. Poverty is highly associated with geography as 88% (340 counties) of persistent-poverty counties in the United States are nonmetropolitan or rural (persistent-poverty counties are counties with 20% or more of their *population living in poverty* for four consecutive census

periods: 1970, 1980, 1990, and 2000; Rural Policy Research Institute, 2006). In North Dakota, five rural counties are classified as persistent poverty: Benson, Grant, Rolette, Sheridan, and Sioux. About 74,000 North Dakotans live in poverty (11.6% of the state's population) with rural poverty greater than urban: 12.7% compared to 10.4% (USDA, 2008). Over 18,000 (approximately 13% of ND children, 18 and younger) live in poverty (KIDS COUNT, 2007). The 2000 Census indicated that poverty is a significant problem for children in specific subcategories: about 39% of non-white ND children lived in poverty, 42% of children on American Indian reservations, and 44% of children in single-parent homes. Five ND counties have 25% or more of their children living in poverty and another nine counties have one in five children in poverty (KIDS COUNT, 2007). Another indicator of childhood poverty is the percentage of *children enrolled in the Women, Infant, and Children (WIC) food program*. In 2007, 57% to 60% of children born that year were enrolled in WIC (ND WIC State Office, personal communication). Also over 31,000 ND children 18 and younger (21.4%) are in families that *receive food stamps*. A final indicator for children and poverty is the number of those who *receive free or reduced-price school lunches*. In 2006, approximately 32,000 children (31% of all school-age children) were enrolled (KIDS COUNT, 2007). Income disparity is an environmental characteristic that links to health outcomes (IOM, 2003).

One example that illustrates the relationship between low income access to health care and unmet health care needs is evident in the opening of a dental clinic in 2007 in Grand Forks, a branch of the federally supported Valley Community Health Center in Northwood. In the first year of operations, approximately 75% of the caseload was Medicaid. 95% of the over 1,800 patients who had not seen a dentist in five years or more and 30% of the children had at least one cavity. Financial circumstances combined with limited access to care can have a profound impact on health status.

A positive trend in North Dakota is a low *unemployment rate* ranging from 2.8% to 3.6% (2001–2008), while the U.S. unemployment rate averaged 4.6% to 6% (Rhode Island Department of Labor and Training, 2008). Given current economic conditions due to the recession, national unemployment rates are rising and while the current unemployment rate for North Dakota is about 3.5%, it is expected to increase somewhat but continue to track behind the national average. Similar to income and poverty trends, rural North Dakota unemployment is higher than urban (3.6% versus 2.6% in 2007; USDA, 2008). The highest unemployment rates in the state are found on reservations, averaging 63% (ND Indian Affairs Commission, personal communication, September 2008). Given the tie between employment and health insurance, for many unemployed, access to health care services is directly affected. Even for those with insurance, hard economic times will likely force some to make difficult choices between purchases of necessities (e.g., food, shelter, auto, and other basics) and out-of-pocket health costs for copayments and deductibles and for medications. Another troubling economic indicator is that North Dakota ranks 6th in terms of *people holding multiple jobs* at 8.7% of ND workers compared to the U.S. rate of 5.2%. According to NDSU State Data Center director, Richard Rathge, factors that contribute to this situation are the number of low paying seasonal jobs and a per capita income that is below national levels (The Associated Press, 2009, February 6).

Formal education is associated with better health status, and North Dakota does better than the national average in *high school graduation rates* (ND 88% versus U.S. 84%) and is comparable in *college graduation rates* (ND 26% and U.S. 27%; U.S. Census, 2007). A higher percentage of rural North Dakotans have not completed high school than found in urban areas (20% and 11%, respectively), and a lower percentage have completed college (17% and 29%; United States Department of Agriculture, Rural Economic Research Service, 2008, December 15).

The 1992 National Adult Literacy Survey (the most recent data available) found that 46%–51% of the U.S. adult population scored at an *acceptable literacy rate* with North Dakota attaining a 39%level (in comparison to MN, 35%; MT, 39%; and SD, 41%; Council of State Governments, 2002). A recent study of the health literacy of North Dakota adults age 18 and older found that about 18% of respondents functioned at a marginal or inadequate functional *health literacy* level (Dakota Medical Foundation [DMF], 2008). Low health literacy has significant implications, often associated with "poor health status, lack of knowledge about diseases, lack of use of preventive services, increased hospitalizations, increased healthcare costs, lower self-reported health status, and decreased understanding of health problems and treatment" (DMF, 2008). Efforts that can improve health literacy are important investments in decreasing both compromised health and associated costs.

Implications. North Dakota's health and health care are affected by demographic and socioeconomic factors over time, including age, employment status, education and income. These and other external characteristics can markedly influence the health of individuals and communities and the structure and financial conditions of health systems. North Dakota, with urban clusters and a small and geographically rural and frontier population, faces a unique set of challenges

that confront the health of populations, the viability of health systems, and even the sustainability of some rural communities. Health care providers and health organizations in rural and frontier areas of the state are particularly vulnerable to population decline. With external support as needed, communities affected by changing age, economic and other demographics need to be nimble and prepared to realign services. As strategies to strengthen both health and health care in North Dakota are contemplated, meaningful efforts should consider these factors, and close attention paid to performance on key measures in order to address emerging concerns.

Part II. Health Status of North Dakotans

The health of individuals and communities is influenced by factors ranging from health-related behavior (accounting for 40% of deaths in the U.S.; IOM, 2009) to the onset of chronic disease commonly associated with aging. The health of a state, community or individual can be assessed using a variety of measures ranging from health-related quality of life to health-condition specific measures to death rates. Measures can focus in a number of different areas ranging from mortality measures (e.g., life expectancy at birth) to prevalence of chronic disease (percentage of adults with cancer). While there are scores of measures that can be selected to build a set reflective of priority areas, there are a few key measures that are common to many health status assessments. *Life expectancy at birth* is a leading indicator of a population's state of general health. In 2000, the nation's life expectancy at birth was at a record high of 76.9 years. North Dakota is tied in rank for the third longest life expectancy, 78.7 years (U.S. Census Bureau, Populations Division, 2005). Another measure used to judge general health is the *age-adjusted death rate* of a population (the rate is adjusted to control for variations in age across populations). In the United States this rate is 776.4 deaths per 100,000 population. North Dakota ranked 17th in age adjusted death rate at 726.7 deaths per 100,000 population in 2006 (Heron, Hoyert, Xu, Scott, & Tejada-Vera, 2008). *The percentage of adults reporting fair or poor health* is another important indicator of the health of a population. Overall, North Dakotans report better health status than the national average. On the measure "How is your general health?" 12.5% of North Dakotans answered "fair" or "poor" versus the national average of 14.8%; whereas more North Dakotans (55.7%) reported "excellent" or "very good" versus the national average (54.2%; U.S. Department of Health and Human Services, Centers for Disease Control, Behavioral Risk Factors Surveillance System [CDC, BRFSS], 2008).[1]

Health-Related Behaviors and Other Selected Topic Areas

The extent to which North Dakotans engage in health related behaviors such as tobacco use, dietary practices, physical activity, and alcohol consumption is important to consider because of the significant impact they can have on overall health. Dimensions of health-related behaviors are measurable and amenable to interventions ranging from individual responsibility to community efforts to public policy and employment-based programs.

Health-Related Behaviors

Alcohol and Substance Abuse. Alcohol and illicit drug use exact a heavy toll on the lives and families of North Dakotans and the economy of the state. Compared to the nation as a whole and to other states, alcohol use and abuse is the biggest substance-related problem facing North Dakota (U.S. Department of Health and Human Services, Office of Applied Studies [OAS], 2007; CDC, BRFSS, 2008). North Dakota has some of the highest state rates in recent alcohol use and binge drinking, regardless of age group. For example, among North Dakotans aged 12 to 20 years, 38.5% *consumed alcohol in the past 30 days* and 29.5% *engaged in binge alcohol use in the past 30 days* (OAS, 2007). These figures rank North Dakota as second-highest in recent alcohol use and highest in recent binge alcohol behavior among all states. North Dakotans rank near the bottom among the states with persons (33.8%) who perceive great harm associated with consuming five or more drinks at a time once or twice a week (OAS, 2007). Both attitudes and knowledge are contributing factors that could be targeted through pilot projects or evidence-based strategies to alter substance abuse behavior that carries with it significant potential for physical, mental, and societal harm.

In addition to concern regarding alcohol abuse among ND adults, there is also evidence that it extends to younger individuals (North Dakota State Epidemiological Outcomes Workgroup, 2008). Children and young adults are following the pattern of the state's adults who use and abuse alcohol at rates that are high relative to other states. North Dakota children and young adults, who are not of legal drinking age, engage in recent and binge alcohol use at elevated frequency (OAS, 2007). Further, North Dakota students in grades 9–12 are substantially more likely than their U.S. counterparts to *have recently driven a vehicle after consuming alcohol* (U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Division of Adolescent and School Health, 2008). Among DUI arrests in the state, persons aged 21–24 are the most frequent offenders and their arrest rate has substantially increased in recent years (Weltz, 2006).

Associated with *illicit drug use*, arrests in North Dakota have increased by 3% from 2,256 in 2006 to 2,323 in 2007. Approximately 76% of drug arrests involved males in 2007, and 12% of arrests involved juveniles under the age of 18. In the past decade, 89% of drug arrests were for possession (versus sale or manufacture) and about three-quarters of drug arrests involved marijuana (Weltz, 2008). Methamphetamines are also a problem in North Dakota, but to a lesser extent. North Dakota's 2004 *meth lab seizure rate per 100,000 population* placed it in the top 20% of all states. In 2005, North Dakota followed the lead of other states by restricting the availability of cold medicines containing pseudoephedrine. The restriction of pseudoephedrine, a key ingredient in manufacturing methamphetamine, is part of

a nationwide movement to cut meth use. In recent years, meth lab incidents have been drastically reduced and meth possession arrests have been somewhat reduced in North Dakota (Weltz, 2008).

Immunization. In North Dakota, immunization rates and vaccine preventable outbreaks are monitored by the Immunization Program of the Disease Control Division, North Dakota Department of Health (ND DoH). This program maintains and updates a statewide computerized vaccination database (the North Dakota Immunization Information System [NDIIS]). This system keeps vaccination records for both adults and children in one centralized source that is accessible by providers and school personnel. Unfortunately, at this time, the NDIIS is not linked to medical records and does not have important capacity such as providing reminder notices for upcoming vaccinations (ND DoH, 2008).

Capacity such as this is an important strategy given that North Dakota is now below the national average for immunization rates (National Immunization Survey, 2008). The national average for *children receiving recommended immunizations* in 2007 was 77.4%, while North Dakota's rate was 77.2%. Beginning in 2008, due to the increase in the number of recommended childhood vaccines and the lack of corresponding increase in federal funding, North Dakota's Immunization Program is only supplying free vaccines to providers for children eligible for the Vaccines for Children program. This is a federally funded program that supplies vaccines for children through the age 18 who are either Medicaid eligible, uninsured, underinsured or Indian (American Indian or Alaska Native.) All other vaccines in the state are now required to be ordered and paid for separately by providers and subsequently billed to insurance companies (ND DoH, Division of Disease Control, 2008). It is still unclear whether immunization rates will be influenced by this change. Vaccination rates among ND children should be monitored very closely given recent program changes. New opportunities to strengthen vaccination rates should be considered.

Among adults aged 65 and over, North Dakota ranks above the national average for both influenza and pneumonia vaccinations. North Dakota ranks 25th in *adults aged 65 and over that have had influenza vaccines within the past year* (73% of population, compared to the national average of 72%). North Dakota ranks 14th in *adults aged 65 and over that have ever had a pneumonia vaccination (*70.5% of population, compared to the national average of 67.3%; CDC, BRFSS, 2008). There is clearly room to increase vaccination rates among North Dakota adults.

Injury and Violence. Injuries are often predictable, preventable and carry significant cost. Both intentional injuries (e.g., suicide, homicide, and assaults) and unintentional injuries (e.g., falls, motor vehicle crashes, and sports injuries) typically result in costly emergency department visits, hospitalizations, loss of productivity, disability and/or death. In North Dakota, unintentional injury is the leading cause of death for ages 1 through 34; the second leading cause of death for ages 35 through 44; and the fifth leading cause of death overall (ND DoH, Division of Injury Prevention and Control, 2005). Among all injuries motor vehicle crashes are the leading cause of injury-related death, followed by suicide, falls, poisoning, and homicide (North Dakota Division of Vital Records, 2008). Significantly more can be learned about the incidence and the impact of non-fatal injuries in North Dakota; however, North Dakota is one of a minority of states that does not collect statewide hospital discharge data. Without this data, state officials, policymakers, and researchers are unable to gain a clearer understanding of how non-fatal injuries affect North Dakota, in spite of the fact that they are a major cause of death in the state. Due to the absence of hospital discharge data, North Dakota is unable to compete for the CDC's Core Injury Grant program which provides funding to states for injury prevention in excess of $100,000 per project year.

Motor vehicle related injuries. Motor vehicle crashes (MVC) remain the leading cause of injury-related death and disability in the state. In 2006, North Dakota had a rate of 1.44 *motor vehicle fatalities per 100 million vehicle miles traveled,* higher than the national average of 1.37. Among surrounding states, Minnesota's rate is lower at .89; and South Dakota's and Montana's rates are higher at 1.7 and 2.4, respectively. Among fatal crashes in 2007, 57% involved alcohol; in 59%, victims were not wearing seat belts; and in 43%, victims were driving at excessive speed (North Dakota Department of Transportation [ND DoT] Drivers License and Traffic Safety Division, 2008). Traffic death totals did decline by six percent in ND from 2007-2008. Contributory factors include increased enforcement of seat belt and drunk driving laws along with decreased road traffic due to high fuel costs and recessionary pressures (Copeland, Unze, Brunno, and Puckett, 2009). MVC fatalities disproportionately affect American Indians in North Dakota. Despite accounting for only 4.9% of the population, American Indians accounted for 17.3% of the MVC fatalities from 1999 to 2003 (Division of Injury Prevention and Control, 2005).

Seat belt use in North Dakota is showing a positive trend, steadily rising and reaching an all time high in 2007 of 82.2%, up 4% from the previous year (ND DOT, Drivers License and Traffic Safety Division, 2008). However, even with this increase in seat belt use, the state still ranks below the national average of 82.4%. North Dakota currently has a secondary seat belt law, meaning nonusers can only be cited after being stopped for another reason. Nationally, states with primary seat belt laws (nonusers may be stopped and cited independently of any other traffic behavior) have higher seat belt use percentages (Hedlund, Gilbert, Ledingham, &

Preusser, 2008). Given the direct link between motor-vehicle-crash-related deaths and seat belt use, encouraging this no-cost preventive behavior can save lives

Suicide. Suicide is the second leading cause of injury deaths among North Dakotans (North Dakota Division of Vital Records, 2008). For more information on this important topic see Part III of this report on Health Care in North Dakota-mental health.

Falls. In 2007, falls were the third leading cause of injury death among North Dakotans (North Dakota Division of Vital Records, 2008). During the period from January 2000 through July 2004, according to the state's trauma registry, falls were the leading cause of trauma admissions (Division of Injury Prevention and Control, 2005). *Fall-related injuries and deaths* are most common among women over the age of 60. Age often complicates recovery from falls and may lead to secondary medical conditions, decreases in strength, and limited mobility. The high proportion of falls among the elderly is a particular concern given the state's aging population (ND DoH, Division of Injury Prevention and Control, 2005). Acute and chronic debilitation in the elderly resulting from falls can carry high costs (e.g., require ongoing rehabilitation or nursing home care) which drives up the costs of public programs like Medicaid and Medicare and ultimately affects health care costs for virtually everyone. Fall prevention education could be extended across North Dakota through senior citizen centers, media campaigns and other venues.

Nutrition and Physical Activity. Healthful nutrition and physical activity are key components in preventing obesity and have a positive effect on overall health. Unfortunately, North Dakotans are part of the national trend toward a decrease in healthful eating and an increase in sedentary lifestyles. Tracking measures of physical activity (e.g., *percentage of adults meeting the recommendation for moderate physical activity—at least five days per week for 30 minutes per day of moderate intensity activity*) and health nutrition (e.g., *percentage of adults eating the recommended five or more fruits and vegetables a day*) are important given the association of physical activity and healthful nutrition with decreased risk for diabetes, high blood pressure, depression and colon cancer as well as maintaining healthy bones and joints. Lack of physical activity and poor nutrition are also the major contributors to the rapidly growing problem of obesity, which is associated with many chronic conditions, poor quality of life, and premature death (Office of the Surgeon General, 2008). This is of increasing concern since in 2007, 62.9% of the nation was *overweight or obese* and North Dakota was slightly higher at 64.9% (Calorielab, 2008).

Healthful eating includes a diet rich in fruits, vegetables, and whole grains and decreasing red meat intake and foods high in saturated fats. Among North Dakota adults only 21.9% of ND adults *eat the recommended five or more fruits and vegetables a day*, less than the national average of 24.4% (CDC, BRFSS, 2008). Even more significant, among ND youth in 9th through 12th grade, 83.4% reported they do not eat the recommended five or more fruits or vegetables a day, compared with the national average of 78.6 % (U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion [NCCDPHP], 2008). On a more positive note related to physical activity, more North Dakota adults (52.7%), even though they comprise just over half the ND adult population, report *moderate physical activity* compared to a national average of 49.5% (NCCDPHP, 2008). And, related to physical activity, fewer ND students (25%) in 9th through 12th grade report *watching 3 or more hours of television per day* than the national average of 35.4% (Youth Risk Behavioral Survey, 2008).

Healthful nutrition and physical activity can be particularly difficult to engage in given the expense of healthful foods, time demands on individuals, weather during winter months, and lack of wellness facilities in small towns. However, many efforts (e.g., school, workplace) are underway to encourage healthful eating and exercise. Of particular note is the newly formed North Dakota Healthy Eating and Physical Activity Partnership whose mission is to collaborate across the state to prevent and control chronic conditions through healthful eating and physical activity. The Partnership has developed a state action plan creating a framework for improving policies and programs related to healthful food and physical activity. This framework is designed to help communities work together to create environments that support individuals ability to make healthful food choices and increase overall physical activity by increasing access to good nutrition and places for physical activities (D. Askew, personal communication, January 2009).

Tobacco Use. The use of tobacco is the number one preventable cause of death and disease in North Dakota. Every year, 874 North Dakotans die from tobacco-related illness. Secondhand smoke exposure contributes to the deaths of 80–140 North Dakotans annually. Smoking costs North Dakota $375 million annually in direct medical expenditures and lost productivity. North Dakota adults and children smoke cigarettes at rates that are comparable to U.S. rates. However, the percentage of the state's American Indian *adults who smoke cigarettes* is over twice as high as the rate of white adults (48.9% vs. 20.1%; Behavioral Risk Factor Surveillance System, 1997–2006). *Smokeless tobacco use* in North Dakota appears higher than the U.S. rate for both adults (CDC, BRFSS, 2008) and children (NCCDPHP, 2008). Regarding *recent use of any tobacco product*, North Dakota adults' prevalence is equivalent to the U.S. prevalence, and North Dakota children's prevalence is higher than the U.S. children's prevalence (OAS, 2007). *Smoking among students in*

grades 9 through 12 dropped 19.5% between 1999 and 2007; however, *adult smoking* has declined much more slowly, from 23.3% in 2000 to 20.9% in 2007.

Beginning in 2001, the Department of Health received funding for statewide tobacco programs through the Community Health Grant Program, funded by the Master Settlement Agreement (ND DoH, Division of Tobacco, 2008). These statewide efforts have been associated with significantly reducing the number of youth who start using tobacco, providing assistance with quitting for adults and youth, and working to reduce exposure to secondhand smoke. A statewide smoke-free law in 2005 prohibits smoking in all public places and places of employment with some exceptions (ND DoH, Division of Tobacco, 2008). In order to further tobacco control, North Dakotans voted in 2008 to fund tobacco control programs to CDC-recommended levels and established a North Dakota Tobacco Prevention and Control Advisory Committee (N.D. Tobacco Prevention, 2008). A number of important steps have been taken to decrease smoking rates among North Dakotans through legislation, education and other strategies. However, given available information, targeting American Indian populations in particular and adult populations could be priority areas of focus.

Selected Topic Areas

Children's health is discussed as a separate topic to draw attention to its importance. Other sections in the Environmental Scan provide additional focus to selected children's health issues.

Children's Health. The health of children is a critically important focus for a number of reasons, ranging from the effect of significant childhood illnesses as a stressor for ND families to chronic illness (e.g., diabetes) that can bring a lifetime of health care costs and the need for health care services. On some measures, ND children do extremely well while on others, there are clear opportunities for improvement in their health and well being. In 2008, North Dakota ranked 7th in the nation for *child well-being* by the National Kids Count Program. This program uses 10 measures to rate states in children's health. Areas where North Dakota ranks high include ranking 1st in the nation in low *percentage of teen drop-outs* and 1st in *children living with a parent with full-time employment*. Another indicator used worldwide as a measure of community health is the infant mortality rate. North Dakota ranks 15th in the nation for *infant mortality* rates. In 2005, there were 6 infant deaths per 1,000 with a significant decline in deaths since 2001 at 8.8 deaths per 1,000. The ND infant mortality rate is better than the national average of 6.7 infant deaths per 1,000. While the decline in the state's infant mortality rate has tended to mirror a national trend, since 2000, nationwide improvements have stalled (Annie E. Casey Foundation, 2009).

Areas of concern that present improvement opportunities for North Dakota are the child death rate and teen death rate. North Dakota ranks 31st in the nation for *child death rate* and 35th in the nation for *teen death rate*. Both the child and teen death rates show worsening trends since 2000. The teen death rate has risen by 54% and the child death rate has risen by 21% (North Dakota Kids Count, 2008). In North Dakota, the North Dakota Child Fatality Review Panel (NDCFRP) reviews all deaths of children up to age 18 in order to understand child death causes and provide information for future prevention efforts. According to the NDCFRP, motor vehicle crashes are the leading cause of childhood death in North Dakota. All 27 vehicular childhood deaths in 2006 were determined to be preventable. In 19 of these deaths, safety restraints were not used, 14 deaths involved excessive speed, 7 involved drugs or alcohol, and 7 involved an unlicensed or suspended driver (North Dakota Child Fatality Review Panel, 2008). Given that these are preventable deaths, there are opportunities to strengthen or create strategies ranging from public education campaigns and safety programs to legislative remedies.

Implications. Monitoring the extent to which North Dakotans engage in health-influencing behaviors is important in order to reduce future burden caused by negative health behaviors. Behaviors that compromise health come with very high costs, and existing networks of concerned groups that include education, health care, faith-based, public sector, law enforcement, and other stakeholders should examine how they can work collaboratively to build on or realign current programs designed to address these issues. Where they exist, proven strategies should be considered and supported, and where such evidence is lacking, pilot projects should be developed and evaluated. For example, some evidence-based strategies to improve health and prevent disease in communities can be found at http://www.thecommunityguide.org/index.html (a website sponsored by the Community Guide Branch, National Center for Health Marketing [NCHM], Centers for Disease Control and Prevention).

Leading Causes of Death in North Dakota

While the proportion of the population affected differs somewhat, generally speaking, leading causes of death found across the nation are also common in North Dakota. Knowing key characteristics about leading causes of death facilitates targeting efforts (e.g., prevalence, urban or rural, men or women) in order to decrease both loss of life and financial loss. Information regarding trends over time can assist in determining whether new or strengthened efforts are effective. In 2007, the *causes of death* for North Dakota residents included heart disease (26%)[1], cancer (23%)[1],

Alzheimer's disease (7%), stroke (6%)[1], accidental (5%), chronic lung disease (5%), diabetes (4%), influenza/pneumonia (2%), and all other causes (23%); (North Dakota Division of Vital Records [NDDVR], 2008). Heart disease as a cause of death in North Dakota has steadily declined over the past twenty years. In 2006, for the first time, the age-adjusted rate fell below that of cancer. Over the years, cancer death rates have declined but at a much slower rate than heart disease (NDDVR, 2008). This section summarizes key information and trends related to these and other common causes of death in North Dakota.

Cardiovascular Disease. Cardiovascular disease affects about one in three Americans (American Heart Association, 2008). Conditions that fit in this category include heart attacks, angina, coronary heart disease, and high blood pressure. Heart attacks levy a heavy toll on the health of Americans, accruing a prevalence of 8.1 million in 2005 and causing 158,000 deaths in 2004 (Ho et al., 2007; American Heart Association, 2008). *The prevalence of heart attacks in North Dakota* has been decreasing (e.g., 4.4% in 2005 and 4% in 2006, 3.9% in 2007) (NCCDPHP, 2008). This compares to a higher national rate of 4.2% of U.S. adults experiencing a heart attack in 2007. In North Dakota, men (5.2%) have a higher prevalence for heart attacks, compared to women (2.6%). *Heart attack prevalence by race* in North Dakota is unknown. *Counties with the highest prevalence of heart attacks* tend to be rural in nature (North Dakota Department of Health [NDDH] 2007). The estimated cost (including direct and indirect) of cardiovascular disease in North Dakota in 2006 was $920 million (Moum, Mormann, Ehrens & Paxon, 2007).

North Dakota matches the nation in terms of the *percentage of the overall population with coronary heart disease* (4.1% for both); (Moum, Mormann, Ehrens & Paxon, 2007; National Center for Chronic Disease Prevention and Health Promotion, 2008). Men in North Dakota have a higher prevalence (5.2%) of angina/coronary heart disease than women (2.9%). As with heart attacks, angina/coronary heart disease prevalence by race in North Dakota is largely unknown and counties with the highest prevalence of angina/coronary heart disease tended to be rural (NDDH, 2007). The higher prevalence of cardiovascular disease in rural North Dakota is likely due in part to a higher average age of rural residents, compared to their urban counterparts.

High blood pressure, a risk factor for cardiovascular disease, is a highly prevalent condition that contributes to premature death, heart attack, stroke, and renal disease (United States Preventive Services Task Force, 2007; American Heart Association, 2008). In 2007, 26% of North Dakota *adults said they have been told they have high blood pressure*. This figure is lower than the national prevalence of 27.8% (NCCDPHP, 2008). Men and women in the state tend to be equally affected by blood pressure (26% and 25.9%, respectively). As with coronary heart disease, counties with the highest prevalence of high blood pressure tend to be rural (NDDH, 2007).

Stroke contributes substantially to morbidity and mortality among U.S. residents, afflicting 5.8 million Americans in 2005 and accounting for 17% of *cardiovascular disease-related deaths* (AHA, 2008). In 2007, stroke affected 2.3% of North Dakota adults, compared to 2.6% of U.S. adults (Moum, Paxon & Mormann, 2007; NCCDPHP, 2008). Stroke is the third-leading cause of death in both North Dakota (5.5% of deaths in 2007; ND Division of Health, 2008) and the United States (5.9% of deaths; Kung et al., 2008). Women in North Dakota (2.5%) have a higher prevalence of stroke than men (2.0%) and once again rural regions present with higher prevalence of stroke than urban regions (NDDH, 2007).

In North Dakota, stroke prevalence appears to be increasing, which is likely due in part to the state's increasingly aging population. To illustrate, 1.8% of the population had a stroke in 2003, compared to 2.3% in 2007 (NCCDPHP, 2008).

Cancer.[2] Cancer is the second leading cause of death in the nation, accounting for one-fourth of all mortality. Each year about 1.43 million persons are diagnosed with cancer and 566,000 persons die of the disease (American Cancer Society [ACS], 2008). Approximately 10.8 million Americans were living with cancer in 2004 (ACS, 2008). Although people of all ages contract cancer, it is primarily an older person's disease. About three-quarters of all cancers are diagnosed in persons 55 years and older. By gender, U.S. males have a 45% chance of developing cancer in their lifetime; for females it is approximately 37% (ACS, 2008). Research indicates that some racial minorities (e.g., Africans and Native Americans) have higher age-adjusted rates of some cancers and cancer-related health risk factors (ACS, 2002; Denny, Holtzman & Cobb, 2003; Kaur, 2005).

Each year in North Dakota approximately 3,500 people are *diagnosed with a new cancer,* and approximately 1,400 state residents *die from cancer.* In 2004, there were approximately 23,370 state residents (3.7%) *living with cancer.* In general, North Dakota males are substantially more likely than North Dakota females to die from cancer (NDDVR, 2008). This trend is true even after accounting for age. Overall cancer diagnoses and deaths rise dramatically after age 54 for both sexes, but particularly males. Four cancer sites—lung, colorectal, breast, and prostate—account for 55% of cancer cases in North Dakota (North Dakota Cancer Coalition, 2008), and these same four cancers account for 49% of cancer deaths in the state (NDDVR, 2008). This pattern of common cancer sites parallels national data. The estimated cost (including direct and indirect) of cancer in North Dakota in 2007 was $500 million (ACS, 2008).

Cancer survival rates for the United States have steadily increased over the past several decades. This is believed to be the result of a number of factors including higher rates of cancer screening, fewer late-stage diagnoses, and improvements in health care treatment and technology. The survival rates for all cancer types are highest when diagnoses are made at earlier stages of the disease. Late-stage diagnoses occur in the North Dakota population and thus offer an opportunity for improved screening and the potential to increase survival rates. The *highest percentage of late-stage cancer diagnoses* occurs with lung cancer (80%), followed by colorectal (58%), cervical (45%), female breast (30%), prostate (14%), and urinary bladder (11%). Women are more likely than men to be diagnosed at late-stage for colorectal and urinary bladder cancer, and men are slightly more likely than women to be diagnosed at late-stage for lung cancers in North Dakota.

In terms of *cancer screening,* a number of tests are well established in their effectiveness to detect cancer early and participation in these screening tests serve as important measures of health care. Blood stool, colon, prostate and mammogram screening are, generally speaking, widely available in North Dakota. Participation in these screening tests in North Dakota has been either stable (blood stool test, PSA and PAP) or has increased (colonoscopy/sigmoidoscopy and mammography). While North Dakota figures are comparable to national figures, there remains ample opportunity to improve screening participation. It should be noted there is no consensus opinion regarding the recommendation for routine PSA testing (Albertsen, 2006; American Cancer Society, 2008) and higher PSA levels may not necessarily indicate the presence of prostate cancer.

Cancer Testing Prevalence, North Dakota and United States, 2006

	ND	U.S.	ND Ranking/51
Ever had a colonoscopy/ sigmoidoscopy (adults aged 50+)	56.5%	57.1%	31st highest
Fecal occult blood test within past two years (adults aged 50+)	22.2%	24.2%	36th highest
Pap test within the past three years (women aged 18+)	84.5%	84.0%	24th highest
Mammogram within past two years (women aged 40+)	77.2%	76.5%	24th highest
PSA test within past two years (men aged 40+)	52.2%	53.5%	32nd highest

Source:
National Center for Chronic Disease Prevention and Health Promotion (2008).
North Dakota does have several notable programs that aim to prevent and control cancer. For example, the North Dakota Division of Cancer Prevention and Control administers Women's Way, a program that provides breast and cervical cancer screenings to eligible women in North Dakota; from 1997 through October 2008, this program has provided screenings to 9,579 women.

Implications. Increased efforts/resources are needed to strengthen and expand the state's programs for promoting healthy lifestyles and increasing utilization of cancer screening tests among residents, particularly American Indians. Additionally, there are gaps in critically important data that if closed could lead to better understanding and targeting efforts to some of the leading causes of death in North Dakota.

Gaps in information related to cardiovascular disease and cancer include:

- Cancer incidence *trends* for American Indians in North Dakota to better track and target resources;
- Cancer incidence rates at regional and local levels to help target screening and other services;
- Impact of travel distance on obtaining cancer care with implications for networking cancer treatment services in a more geographically dispersed manner; and
- Cardiovascular disease prevalence and trends by race and region, along with more information about rurality to inform how best to deploy services targeting this set of serious health problems.

Given the significant disease burden and health services associated with the diseases described in this section, statewide hospital discharge data is very important to inform planning and improve care. As one of a few states without statewide hospital discharge data, state officials, policymakers and researchers are unable to gain information about how North Dakotans with cancer or cardiovascular disease use inpatient and outpatient hospital resources.

Common Health Problems in North Dakota

There are a number of health care problems affecting North Dakotans that carry significant health and financial burdens. While some health problems are spread across the state's population others disproportionately affect sub-groups (e.g., elderly, Native Americans, rural citizens).

Diabetes.[3] In the United States, 7.8% of the population has diabetes, which is associated with shorter life spans and a risk factor for heart disease, limb amputations, blindness, stroke, and renal failure (North Dakota Department of Health, 2008). Among North Dakota adults, 6.3% indicate they *have been told they have diabetes* compared to 8% of U.S. adults (National Center for Chronic Disease Prevention and Health Promotion, 2008). Diabetes is found in comparable numbers of men and women in the state and older North Dakotans have a much higher diabetes prevalence than their younger counterparts (ages 35–44: 2.5%; ages 65 and older: 14.7%). Diabetes is far more common among American Indians (13.9%) than among whites (6.1%; North Dakota, 2004–2006). Other characteristics of people with higher prevalence of

having been told they have diabetes include persons with obesity (13.9%); high blood pressure (18.3%); high cholesterol (14.3%); a disability (12.2%); fair or poor general health (21.9%); and no leisure time physical activity (10.2%; NDDH, 2008). As with many other serious diseases, rural ND counties tend to have a higher prevalence rate than urban counties (NDDH, 2007).

North Dakota - Percent of Adults with Diagnosed Diabetes, 1994-2005

Source: Centers for Disease Control and Prevention. Available online at: http://www.cdc.gov/diabetes/statistics/prev/state/source.htm. Retrieved [12/30/2008].
* Crude percentage is the raw percentage/unadjusted estimate.
† Age-Adjusted percentage minimizes the effects of different age distributions.

The *prevalence of diabetes in ND children* is estimated via health claims data from Blue Cross Blue Shield of North Dakota. In 2007, it was estimated that just over 4 children per 1,000 (aged 18 and under) have diabetes, a rate almost identical to 2006. However, this rate is markedly elevated from previous years when rates ranged from 2.8 in 2003 to 3.1 in 2005. (NDDH, 2008). In addition to a trend line that has been generally rising for ND children, increases can also be found in the percentage of ND adults who report *ever being told they had diabetes*. Between 1994 and 2007, there was a 75% increase in the adult population, from 3.6% to 6.3% (NDDH, 2008). The estimated cost (direct and indirect) of diabetes for North Dakotans in 2006 was $209 million (American Diabetes Association, 2008).

Given the significant financial and human toll of diabetes and the fact that this disease can be, in many cases, prevented and managed through behavior (e.g., maintaining healthful weight), deploying strategies, measuring their impact, and tracking prevalence trends over time are important, particularly among the state's American Indians and children.

Asthma.[4] Asthma, or inflamed airways in the lungs, is a chronic disease that affects about 20 million Americans. In North Dakota, 7.7% of *adults have asthma* compared to 8.4% of U.S. adults (NCCDPHP, 2008). Women in North Dakota are more likely to have asthma (9.1%) compared to men (6.2%). Increased age is associated with higher prevalence of asthma. This illness is particularly problematic for the state's American Indian population which has a significantly higher prevalence of asthma (2005: 16.2%; 2006: 20.8%), than Caucasians (2005: 11%; 2006: 9.6%; NDDH). North Dakota counties with the highest asthma prevalence tend to be rural (NDDH, 2007). Generally, the prevalence of asthma in North Dakota is increasing, ranging from 6.8% in 2001 to 7.7% in 2007 (NCCDPHP, 2008). Special attention should be given to American Indian populations in the state related to the prevention and treatment of this disease.

Arthritis. Arthritis is the leading cause of disability in the United States, affecting nearly 70 million Americans (one in three adults). While this disease also afflicts children, it is most common in older persons and in women. As the elderly population in the United States increases, the number of individuals with arthritis will increase dramatically (CDC, 2007). In North Dakota, *arthritis prevalence* is increasing. In 2001, 21% had arthritis compared to 26% in 2005 and 26.9% in 2007 (NCCDPHP, 2008). The 2007 figure is slightly lower than the national prevalence of 27.5% (NCCDPHP, 2008). Arthritis is much more common in women in the state (31.1%) than in men (22.6%). Given the recent trend line of this disease in North Dakota and the projection of increased elderly in the state, information on preventing and treating arthritis can be a valuable contribution to the health status of many citizens while also potentially influencing health care costs associated with this disease. The estimated cost (direct and indirect) of arthritis for North Dakotans in 2003 was $285 million (Yelin, et al, 2007).

Disability. North Dakota had the lowest *prevalence of disability* among all states (NCCDPH, 2008). Disability is defined by the CDC as a limitation in any activities due to physical, mental or emotional problems. Since 2001, the prevalence of ND adults with a disability has remained relatively stable, ranging from 15%–18% (about one in six persons). Women in North Dakota are more likely than men to report having a disability (17.9% versus 15.5%). By race, American Indians (19%) are more likely than Caucasians (16.7%) and persons of other races (13.8%) to have a disability (Muus, 2008; Behavioral Risk Factor Surveillance System, 2001-06). Currently unknown about individuals with disabilities in North Dakota are their major impairments, associated health problems and obstacles to receiving needed health care. Additionally, there is little information about circumstances of school-age children with disabilities.

Implications. Addressing the state's most significant health issues includes investing in prevention-related activity, from education (e.g., proper diet and exercise) to wellness activities, to incentivizing healthful decisions. The sensitivity of chronic illness to healthful behaviors and the interest on the part of the public and opinion leaders in addressing health promotion and disease prevention strategies (See Part IV,

Key Stakeholder Perspectives) speaks to the importance of offering services and benefits that target fitness, encourage more work and community-based wellness programs and incentives, as well as encouraging businesses and insurers to engage in efforts that target wellness. To evaluate effectiveness and encourage efficiency, tracking the impact of specific strategies to address the state's health problems is also important. Currently, the North Dakota Department of Health tracks about 20 categories associated with health status (e.g., decreasing the preventable cancer death rate) and health system factors (e.g., increasing the number of hospitals with trauma center designations). While this health indicator project corresponds with the Healthy North Dakota goal of changing and improving the health of North Dakotans, it was not designed specifically to evaluate the state's Healthy North Dakota initiative. The NDDoH is, however, developing a database designed to contribute to a better understanding of health status and system issues (Personal Communication, S. Pickard, February, 2009).[5] Over time, additional efforts could target and track measurable outcomes associated with Healthy North Dakota as well as other initiatives across the state in order to better assess performance improvement and project impact. While this is a significant undertaking it is useful because it can drive efficiency and improved health status.

Additionally, 46 states currently collect statewide hospital discharge data. North Dakota is not one of them. As one of only four states in the country that doesn't collect this information, state officials, health care payers and providers, researchers and others are challenged to understand how persons with chronic and other diseases are using inpatient and outpatient hospital resources to receive needed health care. Initiating this data collection effort can have multiple benefits for the state. Specifically, it can help address the ever-increasing consumer demand for hospital care information; promote transparency in health care delivery; inform health care planning efforts; facilitate a more equitable distribution of health resources by geographic region; gauge the health burden of various diseases and injuries; allow for measuring and monitoring hospital and emergency department utilization; calculate the cost of hospital care for specific individuals, populations and payers; assess quality of care and access to care for different patient groups (NAHDO, 2007); and support creation of and collaboration among prevention programs and policies (Injury Surveillance Workgroup, 2003).

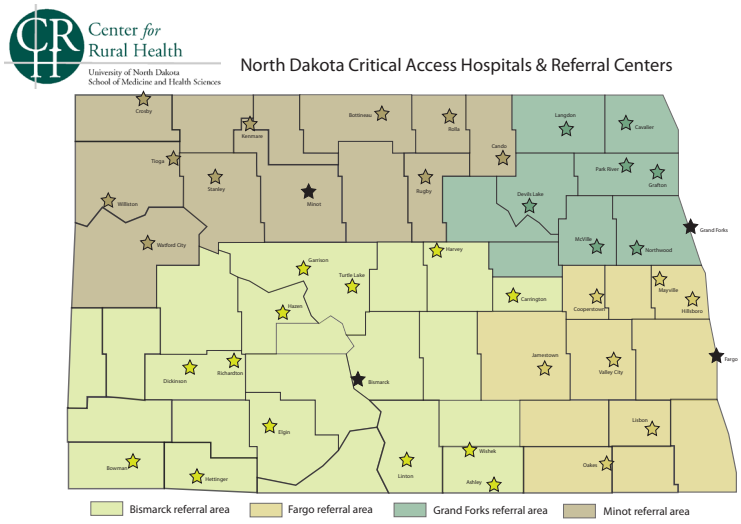
Part III. Health Care in North Dakota

Characteristics of the health care system influence the health of North Dakotans. These characteristics include the types of health provider organizations, the quality of care delivered, access to health services and the costs of both providing and obtaining these services. This overview of selected features of health care delivery describes important dimensions of North Dakota health care including selected strengths and limitations and examples of opportunities for improving this essential infrastructure.

Health Care Organization and Infrastructure

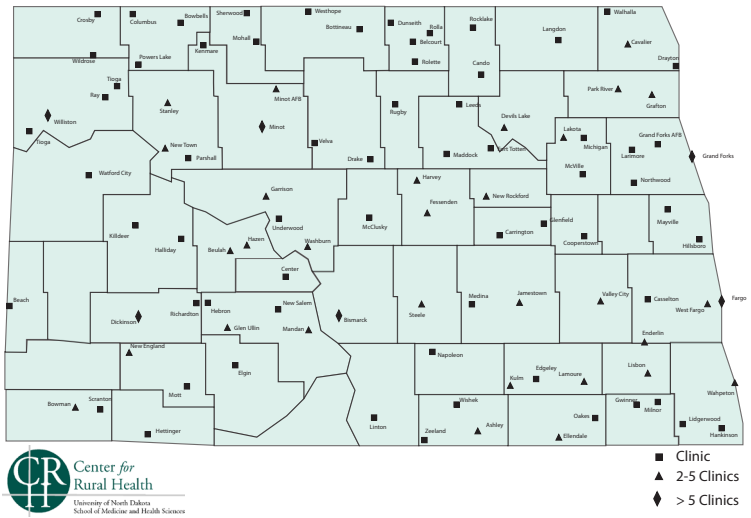
Hospitals. North Dakota has six tertiary-care hospitals located in the four largest cities (Bismarck, Fargo, Grand Forks, and Minot). The six hospitals serve the state as major providers of general and specialized services. In addition to the six urban hospitals, there are 39 hospitals in rural areas including two Indian Health Service hospitals located at Fort Yates and Belcourt. Each of the six hospitals has network relationships with a number of rural hospitals, clinics, and other provider groups. Critical Access Hospitals (CAHs),[1] the predominant category of hospitals in the state, are required by federal law to network with general acute-care hospitals for transfer agreements and other issues. In addition, a number of CAHs have created networks with each other or with urban hospitals to address quality improvement, health information technology (HIT), shared service agreements, program development, and community and/or staff education. Most hospitals in North Dakota operate in an integrated delivery system with medical clinics.

North Dakota hospitals are aging. Many of them were built during the Hill-Burton era (a federal initiative following World War II) and are over 50 years old. These aging structures are also becoming outdated in the midst of a changing health care system. Hospitals are faced with a choice of whether to replace entire structures, renovate, or expand existing facilities. A study of 10 rural hospitals across the nation found that renovations cost between $1 and $17 million and will likely result in increased physician referrals, market share, physician recruitment and retention, community satisfaction as well as improved operating margins (Rural Hospital Renovation & Expansion Study Group, 2008).



Ambulatory Care. There are approximately 305 ambulatory care centers (see North Dakota Clinics map) including those that provide primary and specialty care. Approximately 65 of these are federally designated as Rural Health Clinics[2]. There are also four Community Health Centers (CHC) operating in North Dakota. One is in Fargo, and the other three are in rural areas.[3] The state's rural based CHCs are somewhat unique in comparison to most states in that they operate through network arrangements in which each of the three manage clinics in two to four communities. To meet federal goals for patient volume, North Dakota rural CHCs provide access points in multiple communities to meet those volume thresholds. Local decisions such as these reflect the direct implication of population decline in rural areas on access to care and the arrangements necessary to meet those obligations.

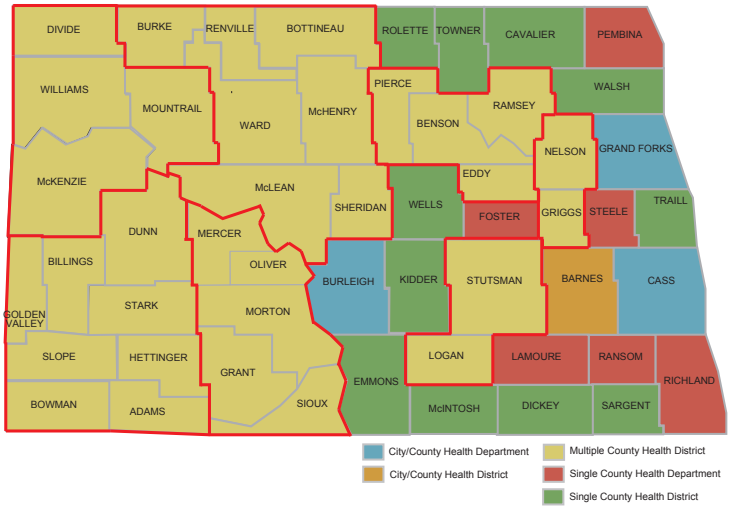
North Dakota Clinics



Public Health. Public health is an important and fundamental set of health services which has made significant contributions to improving the health status of most Americans, rural and urban. At the same time, it remains unheralded and misunderstood. A rural ND public health director once remarked, *"If I'm doing my job well you don't even*

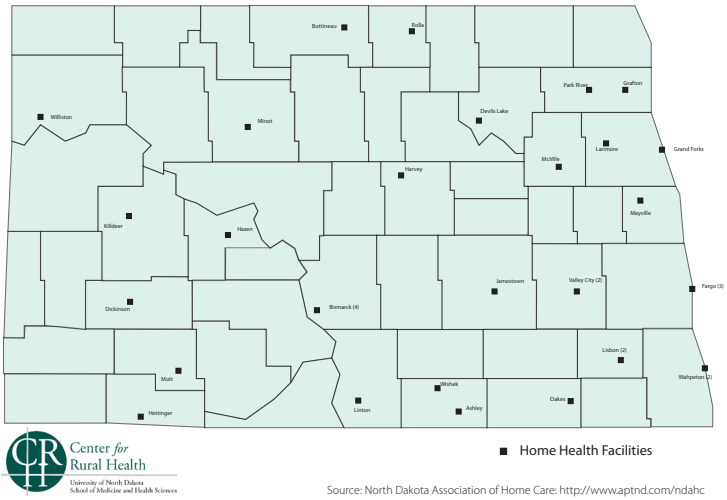
know I'm here." While acute care, long term care, primary care, and emergency care attract much of the spotlight garnering more public awareness and attention, public health throughout the 20th Century and now into the 21st Century has significantly changed the lives of millions of Americans. Some of the accomplishments associated with public health include, but are not limited to the following: development and widespread access to vaccinations, control of infectious disease (e.g., through emphasis on clean water and improved sanitation), fluoridation of drinking water, provision of safer and healthier foods, access to family planning, increased motor vehicle safety, and tobacco control. Disease prevention and health promotion are highly associated with public health.

While each public health unit can organizationally determine its own mission and primary focus, there are some common services provided. All ND units provide the following: immunizations (for all ages), blood pressure screening (adults and school-age children), scoliosis screening (school-age children), vision screening (school-age children), high risk infant follow-up, and vitamin B-12 injections. In addition, most but not all units provide the following services: maternal and child health (e.g., home visits, Sudden Infant Death Syndrome follow-up visits, and child health services); health promotion (e.g., diabetes, foot care, and community wellness programs); communicable disease (e.g., tuberculosis and skin and scalp conditions); school health (e.g., hearing screenings and AIDS education); environmental health (e.g., public water system inspection, environmental sanitation services, and water pollution control); occupational health nurse activities; mental health; skilled nursing activities; and maternal and child health initiative grants. Public health in North Dakota is provided through 28 single and multi-county local public health units.[4] All 53 counties are covered through this arrangement. Availability of public health services, particularly through rural-based units, is increasingly challenged. Access to public health services can be hampered by large geographic areas covered by single public health districts, particularly in the western part of the state. North Dakota's low income and aging populations rely disproportionately on public health services and yet, are most likely to have challenges obtaining services because of transportation and special needs. Simply put, limited public health staff and infrastructure can equate to limited public health services .[3]



Home Health. Thirty-five home health care entities were licensed and operating in North Dakota in 2008 (ND Association for Home Care). Nationally, home health services are experiencing significant financial pressures primarily due to reimbursement changes. This is having a profound effect on rural home care in the state, particularly on the number of programs and services available. Rural home health care is experiencing structural—including financial and workforce—pressures at a time when the rural elderly population is increasing. Unquestionably, most individuals would prefer to receive their care in their homes. However, home health services, a less expensive source of care than inpatient options, are no longer available in certain geographic areas of the state and some agencies cover large regions.

North Dakota Home Health Care Facilities



Source: North Dakota Association of Home Care: http://www.aptnd.com/ndahc

For example, MeritCare Home Care, Fargo, serves 25 counties across North Dakota and Minnesota, many of which are very rural. While telehealth strategies can extend the reach for many home health services (monitoring patient conditions using electronic audio-visual technology) they are used on a limited basis and have limited reimbursement options from public and private payers. Only three agencies in the state are currently providing home tele-monitoring and these services are not reimbursed by the state's Medicaid program. In contrast, Minnesota does reimburse tele-monitored visits. Home health is a critically important part of the health care continuum; yet, because of reimbursement levels and nurse staff shortages, continuing this service is a serious challenge in some areas across North Dakota.

Home Health Care: Two parts to the same story

Home tele-monitoring provides accessible, high quality services

Approximately 10% of the MeritCare Home Care patients are on monitors at a given time. Data indicate that rehospitalization rates for tele-monitored patients run much lower than for patients with similar conditions receiving traditional home health visits. (Personal communication, J. Burdick, February, 2009).

Impact of Reimbursement on Access to Home Care

Trinity Health announced in 2008 that it will only take new clients within 45 miles of Minot (prior to this, distance covered was 90 miles). Reimbursement rates combined with workforce challenges and costs (e.g., gasoline) to deliver services over great distances create particular difficulties. Tele-home care can extend some services. However, technology requires a financial investment and the need coincides with an already fragile financial picture for many health care providers. Thus, the potential offered by technology may be stymied by finances that preclude programs from investing in systems that could stabilize access to care.

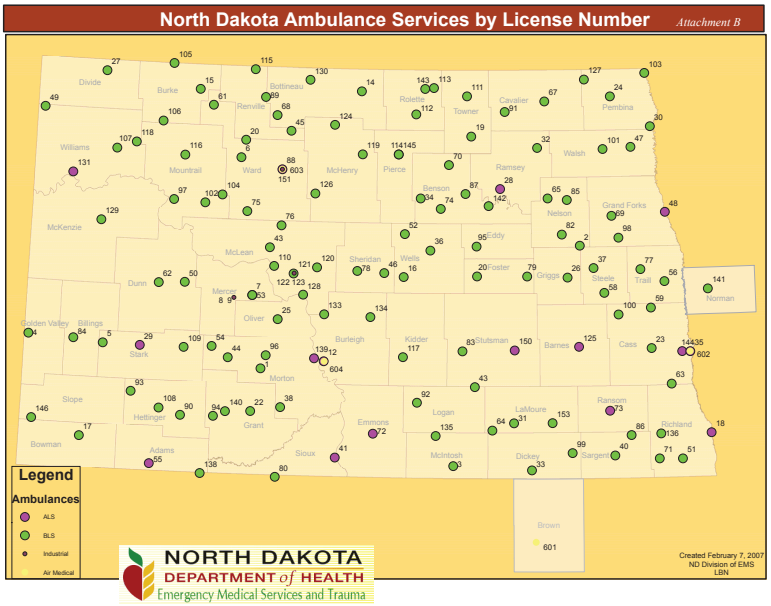
Long-Term Care. There are three primary types of long-term care facilities in North Dakota: assisted living, basic care, and nursing. There are 62 *assisted-living facilities*, 39 of which are rural, 58 *basic-care facilities* in North Dakota (37 rural) and 83 *nursing facilities* (66 rural).[5] The number of LTC beds in the state has been an issue for both the industry and policy-makers. Allocation and distribution of each of these types of facilities involves important considerations given populations shifts and consumer preferences.[5]

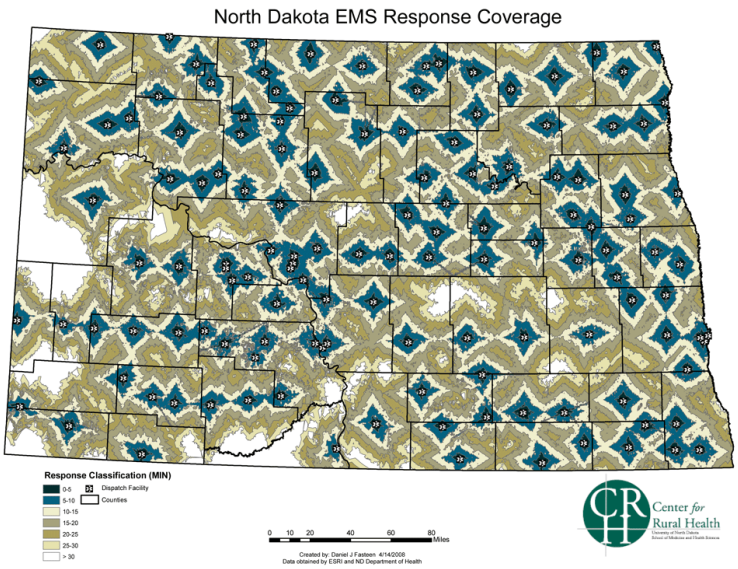
Emergency Medical Services. All of the state's 53 counties are served by at least one ambulance service.[6] However, some ambulance response times in rural areas have increased because of closure of local services (e.g., Minnewaukan now covered by Devils Lake). There are pockets of North Dakota with *ambulance response times* of over 30 minutes (see North Dakota EMS Response Coverage map). The implications for patient outcomes related to these changes are unknown. No research is underway to determine impact on *EMS patient morbidity* or mortality or to test strategies to deploy at least some services using telehealth technology. Evaluating the impact of redistribution of this frontline service should be a priority as EMS should be reasonably available in terms of time to obtain care.

There are over 4,300 EMS personnel in the state (first responders, EMT-Basic, EMT- Intermediary, and EMT-Paramedic). This part of North Dakota's health care system relies very heavily on volunteers (approximately 3,900), particularly in rural areas. The ND Division of Emergency Medical Services and Trauma (DEMST) estimates that 90 to 95% of EMS personnel in ND are volunteers (compared to national rates of 57%–90%). In spite of overall growth in the number of EMTs, statewide there are growing pockets of EMS workforce shortages particularly in more remote areas of the state. Over the last four years, there have been four ambulance service closings—Binford, Fordville, Willow City, and Minnewauken (Personal communication, EMS Association, 2008). Low volume for service calls and a continuing decline in the number of available volunteers are factors associated with these closures. In contrast, while ND ambulances responded to 57,661 calls in 2007, over 11,000 of these (almost 20%) were in Fargo.

Following the creation of training grants (2005), the 2007 legislature created the "Access Critical" program whereby certain ambulance units that have been determined to be fundamental to providing essential emergency services – access critical – are eligible for grants up to $45,000 to be used to address staffing needs. This should allow more ambulance units to have some level of paid staff. It is common in both rural and urban settings to have paramedics also providing health services within local hospital emergency departments. Another policy intervention in the 2007 legislative session was the appropriation of $150,000 to assist some ambulance units to downgrade to a quick response unit. Efforts such as these reflect the difficulty in maintaining fully operational ambulance units; however, they do continue to support a critical first response system.

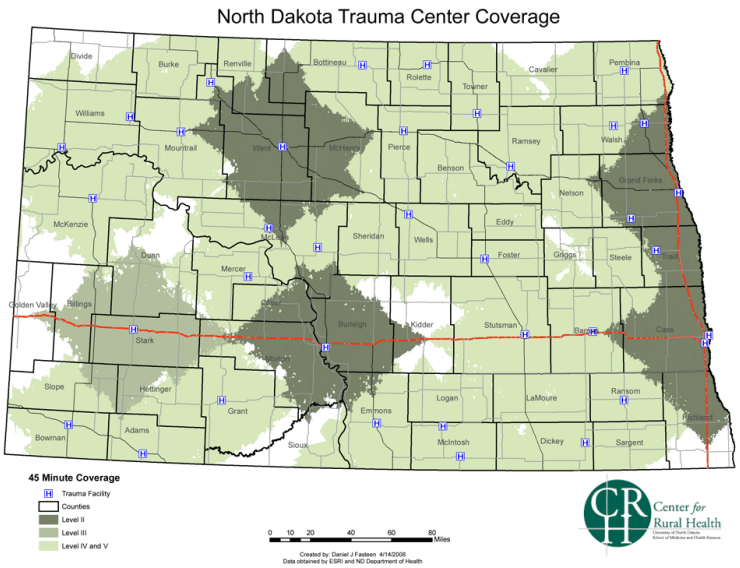
There are 141 *licensed ambulance services* of which 119 are Basic Life Support (BLS) and 22 are Advanced Life Support (ALS). All urban ambulances in the state are ALS; however, only about eight rural ambulances provide ALS (ND Emergency Medical Services, 2008).





Trauma System. Thirty-seven of North Dakota's 45 hospitals are *designated trauma centers* (see North Dakota Trauma Center Coverage Map). Since 2007, the ND Flex Program has made funds available to assist critical access hospitals to obtain a trauma designation. Four hospitals have applied for and received support, each anticipated to receive a trauma designation in 2009.

There are significant challenges facing North Dakota's trauma system, including fielding ongoing system-wide performance improvement efforts, developing a formal critical care transportation network (with combined ground and air medical resources), increasing the ability to generate statewide reports from the trauma registry, and improving access to data that could help to better understand and respond to basic injury problems.[7]



Oral Health. Access to oral health care is problematic for millions of Americans due to a variety of factors, including financial barriers, transportation difficulties, long travel distances to care, and problems with navigating government assistance programs (American Dental Association, 2009).

Much of North Dakota is identified as a *dental health shortage area* (see the workforce section for more information). Persons without adequate access to preventive and acute dental care may ultimately seek more expensive and potentially less effective care in hospital emergency departments. In fact, a study of North Dakota emergency department (ED) utilization found that 1.1% of *all ED visits* pertained to oral health problems (Muus, Knudson & Poltavski, 2003). About two-thirds of these patients had no health insurance or had Medicaid coverage. The volume of patients seen with oral health problems can be significant for individual hospitals. For example, in Grand Forks, the Altru Health System had 877 ED visits for oral health problems from 2000 to 2002. Most of these would be deemed non-emergent (Northern Valley Oral Health Coalition, 2007). While it would help to further determine the extent of inappropriate use of services, there is no information about the extent to which individuals seek care for dental related problems from medical as opposed to dental clinics.

There is limited information about the status of dental health in North Dakota's population. However, commonly used measures are *absence of all permanent teeth in individuals over age 65* and *loss of one or more permanent teeth among adults aged 18 and older.* Compared to the national average, a larger percentage of over age 65 North Dakotans have no permanent teeth (ND 23% versus national 19%) (NCCDPHP, 2008). In North Dakota, 44.4% of adults aged 18 and older had one or more teeth extracted in 2006. This figure is slightly higher than the national average of 43.9% (NCCDPHP, 2008).

In North Dakota, dentists typically practice in private solo practices or small group practices (personal communication, ND Dental Association, January 21, 2009; North Dakota State Board of Dental Examiners, 2008). The oral health workforce includes 332 licensed dentists practicing in approximately 250 clinic sites in the state, 489 registered dental hygienists, and 385 registered dental assistants. Unlike most other health professionals, dentistry tends to be organized around a private business model. Approximately 68% of ND dentists practice in urban locations (i.e., defined by the ND Dental Board as Bismarck, Devils Lake, Dickinson, Fargo, Grand Forks, Jamestown, Mandan, Minot, and Valley City) with 32% serving rural North Dakota. About one-third of all counties in North Dakota are categorized by the federal government as dental shortage areas (UND Center for Rural Health, 2008). In addition to dental workforce shortages, access to dental services is hampered by payment adequacy through programs such as Medicaid. Less than one-fourth of the state's dentists accept all Medicaid patients and one-third limit the number of Medicaid patients. Rural dentists are more likely than their urban counterparts to accept all Medicaid patients (Amundson et al., 2005). The four community health centers (CHCs) in North Dakota help to ameliorate some of the

financial access concerns for their communities by serving as critical physical and financial access points for oral health.[8]

Mental Health. North Dakotans tend to experience slightly higher rates of *mental health problems* than the national average. Mental illness can trigger an array of challenges, ranging from decreased work productivity to strained family relationships. Mental illness, while not uncommon, is often highly stigmatized, and consequently, individuals are frequently reticent to seek care, particularly when there is a perception that others will learn of their illness.

There are a number of important measures that illustrate the status of mental health in the ND population. While 11.3% of Americans *18 years of age and older experienced serious psychological distress*[1] *over the past year,* North Dakota is slightly higher at 11.6%. By comparison, Minnesota and South Dakota have a smaller percentage of their population reporting serious distress (11.3% and 10.7%, respectively) while Montana's rate is higher (12.5%). In terms of specific diagnoses, 7.5% of Americans 18 and older r*eport at least one major depressive episode* (2005–2006), while in North Dakota, the percentage of this population is slightly higher at 7.9%. By specific age cohorts, for people aged 12–17, the national rate of depression is 8.4%, with North Dakota's rate at 8.5%; for people aged 18–25, the national rate is 9.4%, while the North Dakota rate is 10.8%; and for people aged 26 and older, the national rate is 6.9%, while the North Dakota rate is 7.3%. For all three age cohorts, North Dakota had a higher *percentage of citizens suffering a major depressive episode* than found in Minnesota and South Dakota (U.S. DHHS, 2006).

The most serious mental illness is attempted suicide. Nationally, there are over 30,000 suicides each year, with two-thirds of suicidal deaths occurring on the first attempt (People Prevent Suicide, n.d.). In North Dakota, suicide was the 9th leading cause of death from 1999 to 2005, averaging about 80 *suicidal deaths per year* (Suicide Prevention Resource Center, n.d.). The Agency for Healthcare Research and Quality (AHRQ) ranked North Dakota 19*th* in 2007 with a rate of 11.2 *suicidal deaths (per 10,000 population)* compared to a national rate of 10.4 (AHRQ, n.d.). In North Dakota, males account for 84% of suicides and individuals aged 20–29 have the highest suicide rate by age cohort (18% of ND suicides). Youth, aged 15–19, account for 14% of suicides, and people aged 70 and older account for 13% of suicides. In 2005, there were almost 300 hospitalizations for suicide attempts in North Dakota, with males accounting for about 70% and with people aged 20–29 generates the highest hospitalization rate (Suicide Prevention Resource Center, n.d.). Use of firearms to commit suicide was the leading method in North Dakota, followed by suffocation and poisoning.

The mental health system in North Dakota relies heavily upon the ND Department of Human Services' Division of Mental Health and Substance Abuse (DMHSA), which has public responsibility for mental health services. DMHSA functions as the "State Mental Health Authority," overseeing services delivered through eight regional human service centers and the North Dakota State Hospital in Jamestown. The human service centers provide crisis stabilization and resolution, inpatient services, psychiatric and medical management, social services, residential services and supports, vocational and educational services, and supportive employment. The state hospital provides physical, medical, psychological, and other services and is accredited and Medicare certified (North Dakota Department of Human Services, 2008).

Throughout the state there are 31 *facilities or programs providing mental health services,* including the eight regional human service centers. This includes both public and private organizations such as Prairie St. John's in Fargo and the Stadter Center in Grand Forks. Most provide multiple forms of care services. Eight provide both inpatient and outpatient services; seven supply residential services; six offer residential and outpatient services; four have outpatient services; four provide general mental health services; and two supply inpatient, outpatient, and recreational services (U.S. DHHS, n.d.).

North Dakota is also served by other mental health support systems.[9] The Mental Health Association of North Dakota (MHAND) is a statewide consumer organization providing information, referral, and advocacy. MHAND also operates the 2-1-1 system, which is a telephone system connecting people to information, referral, and crisis management services (Mental Health America North Dakota, n.d.) Operating through call centers in Bismarck and Fargo, there were approximately 16,000 calls registered in 2007. The 2-1-1 annual budget in North Dakota is about $190,000, which is paid for from a variety of sources including donations, grants, fundraisers, memberships, and state program contracts.

North Dakota has other innovative grassroots efforts underway to address mental health access issues, including: (1) the Rural Mental Health Consortium operated through four rural hospitals in central North Dakota, (2) an effort to train first responders on mental health issues at a Native American reservation, (3) a telemental health initiative involving a rural-based community health center and a regional human service center, and (4) a psychiatry telemental health pilot program involving the UND School of Medicine and Health Sciences Department of Clinical Neuroscience in Fargo. The latter project, which focused on eating disorders, found that the treatment outcomes were "roughly equivalent" between tele–mental health and the standard face-to-face treatment. The cost of tele-mental health treatment, however, was roughly one third that of the comparable in-person service.

Pharmacy. North Dakota has 236 pharmacies. Under state law, pharmacies must have at least 51% ownership by

a pharmacist. With the exception of some large chains that were grandfathered in when the law was enacted 45 years ago, other large chains cannot operate pharmacies in the state. Debated in the 2009 legislature, this law is controversial. Of the 236 pharmacies, 49% are in rural communities and 51% are urban (defined as communities of 5,000 or more) (ND Pharmacy Association, 2009). Rural pharmacies, like other rural health providers, have felt the pressures of reimbursement and workforce shortages. Over the past 20 years, 26 rural pharmacies closed in North Dakota and a number of others were at risk of closing (McCarthy, Nuzum, Mika, Wrenn, & Wakefield, 2008). Each year more pharmacists retire and, in some cases, are not replaced by new pharmacist-owners. This can contribute to access-to-care issues, particularly in rural areas as one pharmacy may serve an expanding geographic area. In response to increasing challenges with maintaining access to pharmacy services, a telepharmacy pilot project initiated in 2001, now a national model, has effectively maintained services at retail businesses, nursing homes and even hospitals across the state.

North Dakota's telepharmacy system allows a licensed pharmacist at a central pharmacy site to supervise a registered pharmacy technician at a telepharmacy remote site through the use of video conferencing technology. These linked telepharmacy sites are as close to each other as 10 or 15 miles or as far away as 200 to 300 miles. The pilot program required new pharmacy rules to establish a formal administrative structure governing telepharmacies and the supervisory role of the pharmacist. As of September 2008, there are 72 participating pharmacies, with 24 serving as central site pharmacies connected to 48 remote telepharmacy sites. Of the 72 pharmacies, 51 are retail sites and 21 are hospital based. Important to note is that the quality of care is higher (lower error rate) than the national average using this approach.

Thirty-four ND counties have a telepharmacy presence, and approximately 40,000 rural North Dakotans benefit from the availability of telepharmacies, with an economic impact estimated at about $12 million. This includes adding 40–50 new jobs to the rural economy in response to demand for pharmacy technicians. While often difficult to achieve consensus around the deployment of new services when scope-of-practice issues are involved, the telepharmacy initiative has had, instead, strong leadership from the relevant regulatory, provider, and academic stakeholders, including the NDSU College of Pharmacy, the ND Pharmacy Association, and the ND Board of Pharmacy. Without the willingness to consider redeployment of pharmacy services, there would be communities today in North Dakota that would not have access to this critical part of the health care infrastructure. This innovation serves as a model for other services and providers to consider. Deploying personnel and technology differently is essential to maintaining some health care services currently being threatened.

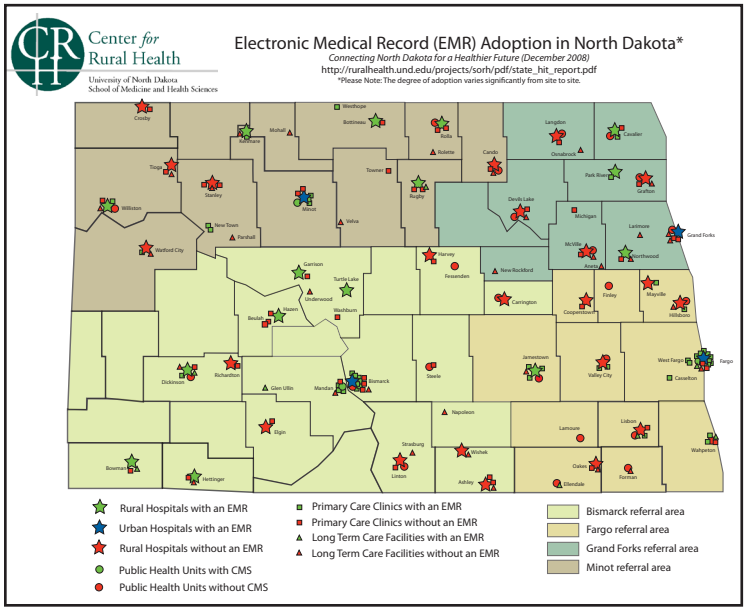
The ND telepharmacy initiative is a model that has application for other health care services sensitive to erosion associated with decreased reimbursement, inadequate workforce supply or population decline.

Health Information Technology. Health information technology (HIT) "allows comprehensive management of medical information and its secure exchange between health care consumers and providers" (U.S. Department of Health and Human Services, [USDHHS], 2009). HIT has emerged as a critical dimension of health care reform at both state and national levels because of its perceived value as a tool to improve health care quality, prevent medical errors, reduce health care costs, increase administrative efficiencies, decrease paperwork, and expand access to affordable care (US DHHS, n.d.). HIT is also viewed as an appealing feature of practice environments in the recruitment of new clinicians.

Health information technology (HIT) adoption across the nation has been particularly slow in rural and underserved areas (National Advisory Committee on Rural Health and Human Services, 2006). The state of North Dakota is no exception. In 2007, the North Dakota legislature created an unfunded HIT Steering Committee to steward and facilitate the adoption of HIT in the state. Since no recent information existed on the status of HIT uptake across North Dakota's health care facilities, the Center for Rural Health conducted an assessment. Findings indicate that there is significant HIT adoption across large provider organizations, with all six of the state's urban hospitals having some form of electronic medical records (EMR). However, only 14 of 37 rural hospitals have *implemented some level of EMR,* indicating an urban–rural digital divide. The pace for rural adoption has slowed due in no small part to the significant cost considerations associated with EMR implementation. Since 2005, only three rural hospitals had adopted electronic medical records, and this was due to financial resources made available through the federal Critical Access Hospital-HIT grant (Dickson, Nissen, & Rodriguez, 2008).

Almost 80% of responding long-term care facilities indicated they do not have an EMR. Development of HIT within the public health community is also slow. Electronic systems are used by public health to report to state and national agencies; however, they are not integrated, and 80% indicate they do not have an electronic client management system. A survey of clinics conducted by the ND Health Care Quality Review, Inc. found similar results. Of the six largest health care systems, five are using EMRs in their clinics. Only two independent rural clinics (i.e., clinics not formally associated with an urban clinic or system) had EMRs (Kjos, 2008). The link between HIT and quality is clearly recognized by ND providers who indicate

that quality of health care and improved patient safety are two of the three top reasons for pursuing HIT applications. However, financial constraints (both up-front purchasing costs and reimbursement) present a major barrier to adopting HIT, according to survey respondents. For example, the approximate cost of EMRs for small hospitals can run as high as $850,000 to $1.2 million. For a clinic setting, EMR costs may range between $15,000 and $25,000 per physician.



Another HIT dimension, telemedicine, is viewed as an underutilized resource in the state, in spite of the promise of this technology to bolster outreach services (e.g., teledermatology, telepsychiatry, teleradiology, tele-ICU) to underserved geographic areas. Progress in one area, teleradiology is due at least in part to Blue Cross Blue Shield of North Dakota's (BCBSND) Rural Health HIT grants and Rural Hospital Flexibility (Flex) grants. Nearly two-thirds (20 of 32) of BCBSND funded rural projects (2004–2009) have supported the purchase of computerized radiography (CR) units or picture archiving communication systems (PACS) or both. This can provide frontline clinicians with expedited interpretation of tests and extend services into areas that are unable to sustain full-time specialists or other services. During 2007–2008, the Flex Program assisted 10 Critical Access Hospitals with technology grants.

HIT also has implications for recruiting and retaining health care providers. In the previously mentioned Center for Rural Health survey, North Dakota students in medicine, radiology technology, and clinical laboratory science indicated that certain technologies (EMR, computed radiography, picture archiving computer systems, or laboratory information systems) are extremely or very important to their decision as to where to practice. These findings mirror results from a larger study, which found that new physicians coming out of technology-rich learning environments feel less capable of providing efficient and safe patient care when placed in an environment with less HIT (Johnson, Chark, Chen, Broussard, & Rosenbloom, 2008).

Within North Dakota, several health care facilities and networks have received a total of over $9 million in federal grant funds to incrementally plan and build HIT. The only funding source for technology projects within North Dakota is the BCBSND Rural Health IT grants. To date, $1,470,200 has been invested in technology projects by BCBSND for a total of $10,756,224 in federal and non-federal funds from 1999 to present. No state funds have been appropriated to support urban or rural health care facilities to implement HIT systems. While grants are an effective tool to move HIT adoption forward, it is critically important to identify and implement related reimbursement models.

The implications of the HIT survey illustrate challenges in ND health care. First, there appears to be a gulf developing between rural and urban providers with regard to actual implementation of HIT and resources available to facilitate HIT adoption. Second, adoption appears to be occurring at different rates and time frames based on provider classification, with faster adoption in the hospital setting than in clinics, long-term care, and public health. A third concern relates to workforce development. As more students are exposed to HIT, they, in turn, have expectations that their work environments will have this technology. The ability of non-hospital-based settings and rural health facilities to be competitive in recruiting and retaining this workforce will be compromised. Finally, rural hospitals are also challenged with limited IT support staff, and over half of rural hospitals indicated a need and interest in technical assistance for planning activities such as assessing computer skills of staff, conducting work flow analysis, and developing a strategic plan for HIT.

Implications. Health workforce, an aging physical plant, reimbursement levels, demographic changes, and the prospect of increasing numbers of uninsured associated with deteriorating economic conditions are systemic issues facing hospitals. Additionally, public health, home health and EMS are, in many cases, challenged to continue their current activities across their current service areas. Decreasing access to these services can have direct implications for patient outcomes associated with delayed care or inability to access care. Regionalization of more health care infrastructure, network building, and use of telemedicine and telepharmacies can help to strengthen and extend the reach of health care services to hard-to-reach populations. Health information technology requires special consideration for utilization in a number of ways to improve efficiency and cost-effectiveness in the health system.

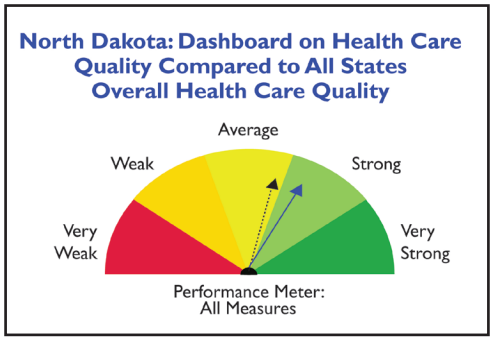
Access to dental health services for patients on Medicaid and those unable to pay for services is essential. The availability of oral health education and preventive services delivered using

new approaches merits consideration. The transformation of a number of rural pharmacies to "telepharmacies" utilizing pharmacists and pharmacy technicians as well as technology is a successful example. Reconfiguring technology and different levels of health care providers can ensure access to high quality services ranging from home health to mental health. For example, in the case of problems associated with oral health, services are delivered in costly, less appropriate care settings such as hospital emergency rooms, with implications for both the quality of care (e.g., services that address acute symptoms that are associated with underlying dental health problems) as well as unreimbursed cost to the facility.

Quality of Health Care

"Policymakers considering the future for U.S. health care may take a cue from well-functioning rural health care systems such as those described in North Dakota, where providers regularly collaborate to improve services for patients and achieve outcomes that are often superior to the current high-cost systems elsewhere (McCarthy et al., Commonwealth Fund, 2008)."[1]

Changes are underway across the nation to drive improvement in health care quality through (1) revamping payment policy for health care services, (2) public reporting of health care provider performance, and (3) redesigning the organization and delivery of health care services. Increasingly, both public and private payers (e.g., Medicare, large business coalitions, and insurance companies) are linking payment to publicly reported performance on sets of quality care measures. While still under development as a strategy, high performing health care facilities are increasingly rewarded with bonus payments while low performers receive no bonuses or, in some cases, financial penalties. At the federal level, all hospitals that participate in Medicare's Prospective Payment System (PPS), including large ND hospitals, are required to report on a set of measures in order to qualify for payment increases for care provided to Medicare patients. Critical Access Hospitals (CAHs) participate in a different payment formula. CAHs are not currently required to report their quality of care performance in order to obtain payment for services rendered to Medicare patients. However, CAHs may do so voluntarily, and 70% of ND CAHs report to the federal government on at least one quality measure.



The Medicare program continues to add new measures against which home health agencies, nursing homes, and hospitals are measured (information for consumers is available at http://www.cms.hhs.gov/center/quality.asp). Many state governments are requiring additional information on care quality (e.g., rates of medical errors in hospitals), and some states and state organizations (e.g., Pennsylvania, Minnesota hospital association) are publicly posting this information. Reporting quality information provides an opportunity for facilities and states to identify high performers and learn from them in order to improve their own care quality.

Two perspectives merit consideration in terms of quality of care in North Dakota. First, how does North Dakota perform as a state compared to other states and to the nation as a whole? Second, are there differences in performance across ND facilities? There are measures of care quality where other states' performances exceed North Dakota's and, consequently, where opportunities to improve care quality exist. For example, information shows the number of North Dakotans that would benefit if the state's performance improved to the level of the best-performing state on certain quality measures (McCarthy, Nuzum, Mika, Wrenn, & Wakefield, 2008). However, North Dakota, in general, tends to rank high in care quality and low in costs paid by both public and private payers alike. High quality and low cost health care tends to be associated with the availability of primary care services (Starfield, Shi, and Macinko, 2005). Compared to other states, North Dakota has a higher proportion of primary care providers.

In response to the second question, while North Dakota compares favorably to other states, there is variability in the quality of care provided across North Dakota, most often related to urban versus rural care (urban in this case defined as counties where large acute care hospitals are located—Ward, Cass, Burleigh, Grand Forks counties). Variation in care quality provides opportunity to improve care that consumers receive. Improvement, however, requires a commitment of resources, including technical assistance and information.

There are a number of public and private sector sources that issue performance data for use by consumers, health care providers, payers, policymakers, and others. For example, the federal Agency for Health Care Research and Quality (AHRQ) is required by law to produce an annual report on care quality (AHRQ, 2007). The report details how North Dakota does on a set of health care quality measures. As the dashboard indicator shows, compared to all states for 2007, quality performance for North Dakota, summarized across about 100 measures, is in the strong range. Within this set of measures, North Dakota does quite well on *hospital care* and is in the average range on *chronic care* and *ambulatory care*. North Dakota is in the strong range on the set of *heart disease* measures but moved from strong to average on measures of *diabetes care*.

Some of the data used by AHRQ are also used by another federal agency, the Centers for Medicare and Medicaid Services (CMS). Unlike AHRQ, which displays state level data, CMS displays facility-specific data on its website for individual hospitals, home health agencies, and nursing homes. Prospective Payment System (PPS) hospitals are required to submit measurement data (e.g., aspirin *at arrival for heart attack patients*) to CMS on four clinical topics as well as a set of safety information (e.g., *patient falls*). North Dakota's CAHs can voluntarily submit data to CMS, and because it is voluntary for this set of hospitals, they can (and some do) request that the submitted data not be made available for public review. Consequently, when North Dakota statewide performance is reported, it generally reflects urban hospitals; it doesn't always reflect performance of some of the state's critical access hospitals.

The clinical topics on which CMS requires reporting by PPS hospitals include *acute myocardial infarction (heart attack), pneumonia, heart failure, and surgical care.* In addition to this reporting, PPS hospitals are also required to report patient survey information on *patient experience and satisfaction* in order to receive full Medicare payment updates. The number of measures associated with each of these topics varies and ND hospitals tend to perform well on them. Among these topics, the surgical care topic is the only condition where North Dakota does not perform well above the national average. CMS continually adds new measures to its website. For example, in the near future, PPS hospitals will be expected to report data on *hospital acquired pressure ulcers (bed sores).*

CMS Hospital Compare: ND Medicare Discharges from 04/01/07–03/31/2008

Topic	ND Performance	(Rank)	Urban Performance	(N)	Rural Performance	(N)	National Average
AMI	97.9%	5th	98.3%	5,088	90.7%	269	95.9%
Pneumonia	92.6%	11th	94.2%	5,508	98.4%	2,851	91.0%
Heart Failure	90.4%	10th	94.3%	2,745	75.3%	717	88.4%
Surgical Care	89.2%	28th	89.4%	15,808	86.9%	1,907	89.0%
*Overall	92.5%	12th					91.1%

* Overall percentage is based on average of the 4 topics. Only ND rural hospitals reporting to CMS Hospital Compare are included. The N is not a count of individual patient cases; rather, it is an aggregated count of the set of measures for the particular topic. For example, one AMI case could have up to 8 quality measures associated with it. For some measures, a significant percentage of the topic measures *(N)* is missing. Nevertheless, the rural–urban differences remain. (North Dakota Health Care Review, Inc. [NDHCRI], 2009)

On CMS's Hospital Compare website, variability across North Dakota's facilities can be found. For example, in some cases a small ND rural hospital does better than the state average and the national average, and in other cases, a large ND hospital performs better.

Recently, CMS released a new version of quality data rating each nursing home (Nursing Home Compare). North Dakota has the third highest performance average in the country. The quality of nursing homes is rated by the federal government (CMS) on a scale of 1 to 5 stars. Publically available information on the CMS website indicates that North Dakota's nursing homes have an average rating of 3.4 stars which is the third highest average in the nation. The national average is 2.9 stars. By geographic setting, the state's 19 urban nursing homes have an average rating of 3.2 stars while 64 rural nursing homes have an average rating of 3.5 stars. For home care services, North Dakota rates well, too. An important measure for home care is the re-hospitalization rate that reflects management of the transition from acute care settings to home health settings. ND performance on this measure (9/01/2006-8/31/2007) is very good at 20.9% compared to a national average of 31.6%. Rural home health does somewhat better than urban home health in ND (rural 18.3% vs. urban 22.0%). (The ND data in this section have been calculated for this report by the North Dakota Health Care Review, Inc. [NDHCRI]).

At state and national levels, key organizations are involved in quality improvement or reporting efforts or both. The NDHCRI serves as the federally designated Quality Improvement Organization working to meet federal requirements. The funding level of the current CMS Quality Improvement Organization (QIO) contract with NDHCRI has significantly reduced the level of technical assistance that NDHCRI can give to ND's health care providers. This impact is particularly acute relative to ND's CAHs. Reduced funding limits QIO efforts to data collection and reporting activities for rural hospitals. At this time, because of funding constraints, only two of the state's 35 CAHs are eligible to participate with the NDHCRI on quality improvement initiatives.

The ND Department of Health (ND DoH) has direct responsibility for assuring the quality and safety of health care for consumers through licensing and certification activity.[2] At the national level, some private sector entities track and report performance on quality. For example, the Commonwealth Fund produced a state scorecard in 2007 (scheduled to update this report in 2009) summarizing *health system performance* across measures of quality, among other topics. In this performance summary, North Dakota ranks 13th (top quartile). Another private sector source is the Dartmouth Atlas, the most recent edition of which notes that North Dakota is one of the most high quality and efficient states on a number of measures, including, for example, *treating chronically ill Medicare beneficiaries in the last two years of life,* with costs more than 25% below the national average. A number of local, regional and statewide activities are underway in North Dakota to improve care quality.

Implications. From the vast number of measures that currently exist to monitor quality, a subset could be selected that is most relevant for North Dakota. Important to this effort would be a multi-stakeholder approach (public and private sector entities). An organized effort could also be established that annually reviews how well North Dakota does across facilities as well as compared to other states on a set of quality performance measures to help identify areas in which providers could collaborate to improve. Some collaborative efforts are currently underway in the state, but they are fragmented. Additionally, public information can be disseminated to encourage individuals to familiarize themselves with quality information about their local health care facilities.

Despite challenges, based on available data, the state's health care systems perform better than many others in providing consumers with relatively high-quality and efficient health care services. Nevertheless, within the state, there are clear opportunities for quality improvement. Enhancing networking and communication, and sustaining and strengthening primary care are pivotal to quality health care in the state.

Access to Health Care

Problems with access to health care are generally associated with lack of health insurance coverage, lack of available providers, and geographic distance to obtain care. Delays in accessing care are driven by various factors, including transportation, cost, and insurance barriers. For example, affordability of prescription drugs is problematic for segments of the population. Unmet health care needs and delays in seeking care are associated with increased emergency room use, longer hospital stays, poorer health outcomes, and shorter life spans (IOM, 2003; IOM, 2009).

Health Insurance. In 2007, 45.7 million Americans (15.3%) were without health insurance, a decrease from 2006 when 47 million Americans (15.8%) were uninsured (DeNavas-Walt et al., 2008). The decrease in the number of uninsured was largely due to more individuals enrolling in public programs such as Medicaid. There are about 75,000 North Dakotans receiving Medicaid (2005) with children accounting for half (51%) of all recipients (37,900). This is followed by adults (22%, 16,600); disabled (14%, 10,200); and elderly (13%, 9,500). While elderly account for the lowest number of enrollees, they account for the second highest level of Medicaid expenditures ($204 million) following the disabled ($229 million). Children account for only $74 million (Kaiser Family Foundation, 2009).

Historically, North Dakota has been concerned with citizen access to affordable health care (Baird, 2006a). For example, in 1995 the state legislature expanded the Medicaid program, which included extending coverage for dependents up to age 22, or age 26 for full-time students. In 2003, the North Dakota Department of Health was awarded a federally funded State Planning Grant (SPG) to conduct a study of the uninsured and to provide technical assistance to state policymakers to help identify options for expanding health insurance coverage. The study identified an *uninsured prevalence* of 8.2% (Knudson et al., 2005; Baird, 2006), which translates to approximately 51,920 people, or about the population of Bismarck. The SPG-funded study found important differences in insurance coverage by location, age, race, and size of employer (discussed below). This information can be useful for more efficiently targeting policy and program strategies to particular groups. In terms of geographic location, 44% of the uninsured reside in very rural areas, 36% reside in the four urban communities, and about 20% live in large rural towns. In terms of specific age groups, young adults (ages 18–24) have the highest percentage of uninsured (15.9%; Baird, 2006a), and 8.1% of children under the age of 18 do not have coverage. Many of these children may be eligible for public programs (Knudson et al., 2005), and efforts have been made in North Dakota to streamline related application processes. Over the two years since the survey was completed, enrollment numbers have been increasing in Medicaid and Healthy Steps, North Dakota's State Children's Insurance Program (SCHIP). On February 4, 2009, President Obama signed into law new SCHIP provisions, which will provide health insurance coverage to another 1,300 ND children, taking the total covered by SCHIP to about 5,000 in the state. (The Associated Press, 2009, February 5).

Children of the working poor who do not qualify for Medicaid or SCHIP can participate in the Caring Program for Children, a program of the North Dakota Caring Foundation to help these children receive health, dental, and mental health care (a limited primary health care insurance plan). The Caring for Children program is sponsored by different entities, including Dakota Medical Foundation and Blue Cross Blue Shield of North Dakota, and it is partnering with the United Way agencies. Since its inception in 1989, the program has provided free benefits to more than 4,500 children.

In terms of *insurance rates by race,* North Dakota's American Indian population has a very high rate of uninsurance (32%), almost five times the percentage of Caucasians (6.9%; Knudson, et al., 2005; Baird, 2006b). Contrary to commonly held opinion, the Indian Health Service (IHS) is not a health insurance program, and while health services are available through IHS, they are driven by a budget that is not sufficient to meet health care needs. In North Dakota, there are American Indians who meet eligibility criteria for public programs (e.g., Medicaid) but who are not enrolled. As with other segments of the uninsured population, outreach enrollment efforts are particularly important.

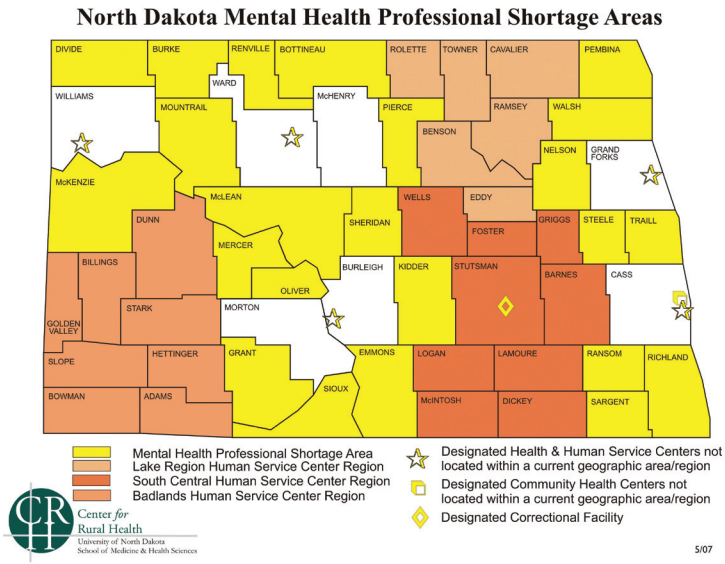
Regarding employment status, 72% of uninsured adults in the state are employed and a majority work in businesses with fewer than 11 employees. Overall, 64% of employers in the state *offer health insurance coverage to their employees* (Muus et al., 2005). The larger the employer, the more likely they are to offer insurance, with 94% of businesses with 50 or more employees offering insurance compared to 55% of businesses with fewer than 11 employees. The most common reasons cited by employers as to why they do not offer insurance are that premiums are too high or that employees are covered elsewhere. The *percentage of premiums contributed by employees* increased by 10.5% from 2003 to 2005, and the *percentage of working adults spending 20% or more of their income on out-of-pocket medical expenses* increased by 52.6% from 2001 to 2004 (State Health Access Data Assistance Center, 2007). However, North Dakota's average cost for insurance is among the lowest in the United States (Muus et al., 2005; Baird, 2006a).

Employer Sponsored Plan Cost Comparison for ND and Nation 2006

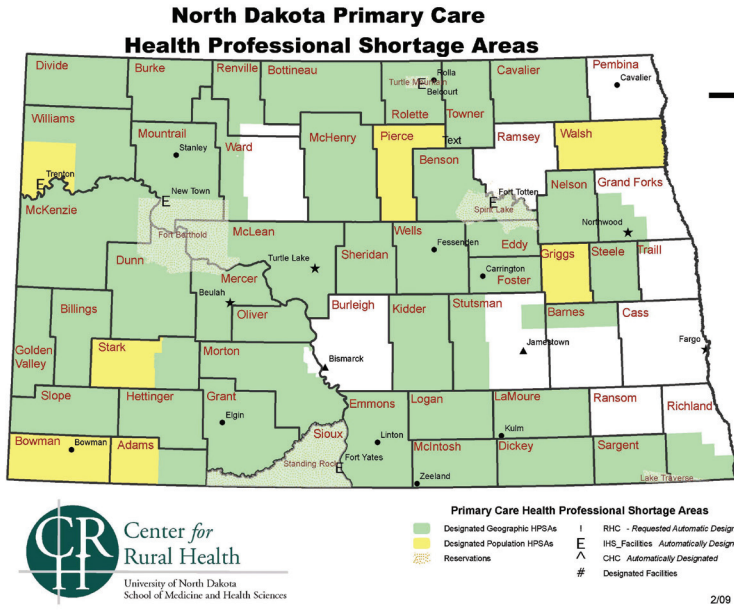
Plan	North Dakota	National
Single Plan	$3,787	$4,118
Employee Contribution	18%	19%
Employer Contribution	82%	81%
Family Plan	$10,060	$11,381
Employee Contribution	30%	25%
Employer Contribution	70%	75%
Source: Kaiser Family Foundation, n.d.		

For four consecutive years, North Dakota's *workers' compensation insurance premiums* are ranked the lowest in the country (North Dakota Workforce Safety and Insurance, 2008). North Dakota's premium rate of $1.08 per hundred dollars of payroll compares to the national median of $2.26., n.d.). *Health insurance costs, for employer sponsored plans,* are lower in North Dakota for both individual and family plans when compared to the national rates.

Health Professions Workforce. Access to an adequate supply of health care providers is a concern in both North Dakota and nationally. By 2012, seven of the top ten fastest growing occupations across the nation are projected to be in health care (U.S. Department of Labor, 2006). Data indicate that shortages are most acute in the physician (100,000) and nursing (800,000) workforce (National Center for Health Workforce Analysis, 2003). Particularly important in North Dakota is the availability of primary care, mental health, and oral health providers.



Eighty-one percent of North Dakota is designated by the federal government as a *primary care Health Professions Shortage Area (HPSA)*. Shortages of mental health providers are also a concern, with 90% of the state designated as a *Mental Health Professional Shortage Area*. In oral health, 28% of the counties are designated as dental HPSAs (Health Resources and Services Administration, 2009).[1]

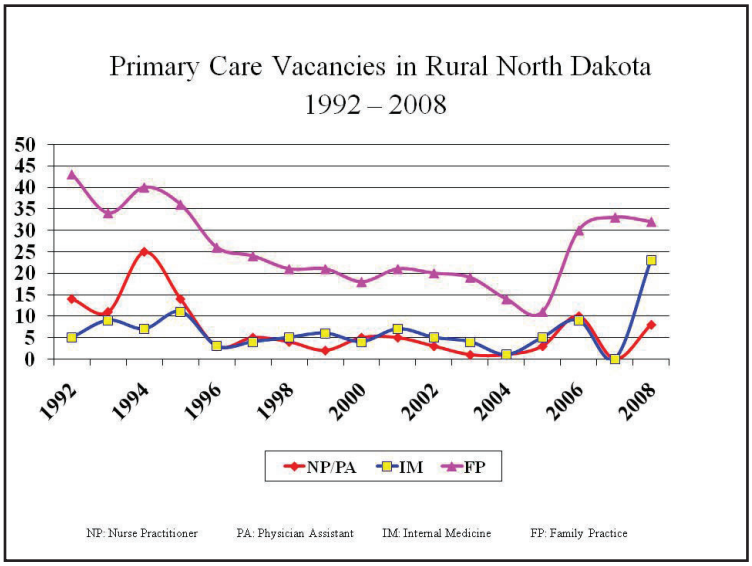


The following table provides health workforce information derived from CRH surveys conducted in 2005 and 2008.[2]

Category	Total Numbers	Male	Female	Average Age State vs. National	Retirement	Race	National Ranking
Physicians	1461 (2004)[3]	79% vs. 74% nationally	21%	49/51	26% by 2015	80% non-Hispanic white	31 for # of active physicians/ 100,000
Nursing	12,289[1]	5%	95%	RNs 44/47[2] LPN 42/44	25% by 2016[2]	96% non-Hispanic white[1]	N/A
Dentists	327	86% vs. 71% nationally	14%	52/49	51% by 2023	97% non-Hispanic vs. 87% nationally	N/A

Source: [1]North Dakota Board of Nursing Annual Report (2007–2008)|
[2]Nursing Needs Testimony (Moulton, 2008)
[3]A Survey of North Dakota Physicians Health Profession Tracking Program (Amundson et al., 2005)

Primary care physicians, especially family medicine physicians, are the most sought after specialty in rural areas. After a decade of declining numbers in students choosing family medicine as a specialty, the 2008 National Residency Program Match showed a slight increase in the number of U.S. medical school seniors choosing family medicine. However, students continue to express a preference for non-primary care specialties as evident in the decrease of seniors choosing internal medicine or pediatrics (Pugno, McGaha, Schmittling, DeVilbiss, & Ostergaard, 2008). In North Dakota, 44 family medicine physicians are needed to meet demand in the state. Total reported health care provider vacancies indicate a need for 271 physicians, nurses, clinical laboratory science, mental health, and X-ray technicians (Amundson, 2008).



Another important dimension of workforce has to do with urban versus rural preference of providers. Nationally, in 2005, only 11% of recent medical school graduates chose rural practice. With about 125 public medical schools in the nation, the University of North Dakota ranked 6th in terms of *graduates selecting rural practice*. Tracking graduates from 1988 to 1997 and then analyzing where they were practicing in 2005, 28% of ND graduates are in rural settings. West Virginia is 1st with 41% selecting rural practice sites.

Regarding other health care disciplines, Job Service of North Dakota expects significant growth (over 10%) in demand for pharmacists, occupational therapists, physical therapists, medical and clinical laboratory technologists and technicians, physician assistants, and registered nurses. In response to workforce needs, federal and state policymakers have developed programs to increase the supply of some categories of health professionals and to provide technical assistance to health facilities and placement sites. For example, the National Health Service Corps uses federal scholarships and loan repayment options as incentives to recruit new providers into health professional shortage areas. North Dakota, like many states, has its own loan repayment programs for primary care physicians, dentists, nurse practitioners, nurse midwives, and physician assistants.[2] Federally funded Primary Care Offices and designated health care delivery sites (e.g., federally qualified health centers and federally certified rural health clinics) are also examples of programs designed to address access-to-care challenges.

In North Dakota, there is very little information available about the supply and demand of a number of important disciplines, including occupational therapists, physical therapists, mental health care providers, and other allied health professionals. As a result, it is difficult to calibrate supply to meet anticipated demand through educational or policy options or both.

Utilization of Health Care Services. The extent to which services within health care facilities are used is influenced by a number of factors including demographics (e.g., population growth or decline, age cohorts), economic conditions (e.g., insurance coverage, income level), availability of services, workforce supply and distribution, as well as consumer preference. North Dakota's hospitals are central to the provision of much of the health care delivered in the state (inclusive of some ambulatory and long-term care, which is often part of the service set of rural hospitals). Tracking hospital service utilization is important for a number of reasons. Hospital utilization can serve as an indicator of health and health needs of the population, it can help to

understand and subsequently address drivers of health care costs, and it can be an indicator of quality; for example, potentially preventable hospital readmissions. Much of the following information on hospital utilization derives from the ND Healthcare Association Annual Healthcare Indicators Report 2007–2008.

North Dakota's *total facility admissions per 1,000 population* were higher than the U.S. rate in each of the years from 2001 to 2005, and in 2005 the total facility admissions in North Dakota were 137/1,000 compared to the U.S. rate at 119/1,000. In fact, North Dakota ranks 9th highest in the nation for admissions per 1,000 population. On the outpatient side, during the same timeframe, there has been a slight uptick in *outpatient visits*, and here, too, North Dakota ranks 9th highest in the nation.

Some services are common across hospitals, including surgical, emergency, and labor and delivery; consequently, their utilization is tracked. In terms of surgery, there has been an increase in the number of both *inpatient* (6.2%) and *outpatient surgeries* (16.4%) between 2001 and 2005, with outpatient surgeries accounting for 61% of all surgeries performed in ND hospitals in 2005. Nationally, outpatient surgeries increased by less than 1%. *Emergency room visits* have been increasing at a rate lower than the national average (1.2% versus 4.3%), with the state ranking 19th in the nation in ER visits. *Births* in North Dakota increased from 8,691 to 9,281 between 2001 and 2005, a 6.8% increase. While the state has 45 acute-care hospitals, only 12 (6 of which are in the 4 largest cities) deliver babies.

The average length of stay in ND hospitals is higher than the U.S. average (ND average was 8.8 days compared to the U.S. average of 5.7 days). Across the nation, longer lengths of stay tend to be more common in rural areas. This is thought to be due at least in part to the lack of locally available, less intense care settings (e.g., rehabilitation facilities). Much of the services provided by North Dakota's Critical Access Hospitals occur in outpatient and/or long-term care. This is reflected in the average daily inpatient census for North Dakota's CAH's of 1.8 compared to 4.4 nationally (FLEX Monitoring Team, 2008).

In addition to hospital utilization, prescription drug use is an important component of health services. According to Blue Cross Blue Shield of North Dakota (2008), the *percentage of the population requiring prescription drugs* has remained relatively constant since 1999. The *claims per member per month (PMPM)* trend, however, indicates that BCBSND members who use the drug benefit are using more drugs and generating more prescription claims. PMPM utilization has increased 20% since 1999. BCBSND reports increasing use of generic drugs, with a dispensing rate of 25% from 2001 to 2008. Brand-name drug use declined by about 16%. While brand-name drugs account for 35% of claims and 77% of drug costs, generic drugs account for 65% of claims and 23% of costs.

Implications. North Dakota has variability in insurance coverage across geography, race, income, and other factors. Particularly with current economic conditions, ongoing assessment of insurance coverage across vulnerable groups is important in addition to ensuring that comprehensive dissemination of information regarding the availability of public programs is conducted.

Given the demographic trajectory of North Dakota as well as anecdotal and quantifiable information about the health care workforce, the state clearly faces emerging challenges to ensure access to an adequate workforce, ranging from primary care shortages to emerging shortages of dentists. A comprehensive approach to produce, recruit, and retain health care providers requires assessing successful strategies targeting all components of the workforce pipeline and replicating them where possible. This effort could involve a range of stakeholders from high school teachers to health care employers to policymakers.

Utilization of health services is directly tied to health care costs. The most recent available data indicate that the state has higher admission rates and longer lengths of stay than the national average. Research that explores the reasons behind this data could inform strategies to further decrease utilization and related health care spending in the state.

Financing Health Services

Concern about rising health care costs in the United States has increased sharply in recent years. High health care costs are providing some states' policymakers with a target for enacting program cuts in order to respond to anemic state budgets associated with the current severe national recession. Sixty percent of states expect that FY09 budgets will be smaller than FY08 budgets (Association of State and Territorial Health Officials, 2008). This may have a profound impact on Medicaid and other programs, ultimately affecting health access for individuals as well as having implications for provider payments.

Nationally, per capita costs are far higher than in other developed nations, while health outcomes are often no better or, at times, worse (Ginsburg, 2008). Important drivers of health spending include technology, which accounts for an estimated one-half to two-thirds of spending growth, health status (particularly obesity), and low productivity gains in the health care sector (Ginsburg, 2008). The percent of the U.S. gross domestic product devoted to health, 16% in 2007, is projected to nearly double between 2007 and 2017, from roughly $2.2 trillion to $4.3 trillion (Ginsburg, 2008).

Individual Health Costs. About 57 million Americans were in families that had problems paying medical bills in 2007—an increase of 14 million people since 2003 (Center for Studying Health System Change). Findings from the 2007 Health Insurance Survey of Farm and Ranch Operators indicate that 8% of North Dakota's respondents were uninsured, compared to about 15% in the general population (DeNavas-Walt and Smith, 2008). One in four respondents reported that health care costs contribute to financial problems. In addition, almost half of the respondents (49%) reported *spending over 10% of their income on health care* (including premiums and out-of-pocket costs), which indicates a potential for inadequacy of health insurance coverage (Schoen, Doty, Collins, & Holmgren, 2005). Overall, North Dakota respondents reported spending approximately $11,250 per year when purchasing health insurance from the non-group market.

Employer health care costs. Information on employer costs are presented in the previous section on insurance.

Medicaid. Medicaid is a federal entitlement program providing health and long-term care coverage to certain categories of low-income Americans. States design their own Medicaid programs within broad federal guidelines and both the states and the federal government fund the program. Medicaid plays a key role in the U.S. health care system, filling large gaps in the health insurance system, financing long-term care coverage, and helping to sustain safety-net providers that serve the uninsured and millions of others. Medicaid covers 59 million low-income Americans, including families, children, people with severe disabilities, and low-income Medicare beneficiaries known as "dual eligibles." While dual eligibles account for only 14% of all Medicaid participants nationally, they account for 21% of North Dakota Medicaid recipients and 60% of Medicaid spending in the state (contrasted with 40% nationally).[1]

About 70% of Medicaid spending is attributable to seniors and people with disabilities. While aggregate Medicaid costs are high, the program's administrative costs are low, at less than 4%. On average, states spend about 17% of their general funds on Medicaid. In 2006, combined federal and state Medicaid spending on services was $304 billion.

Medicaid spending in North Dakota (FY06) was $503.9 million allocated for acute care (38%) and long-term care (62%); this is inverse to the national distribution, which is weighted more heavily to acute-care spending. Medicaid enrollment for the state (FY07) was 75,470 (12% of the state's population). Children make up the highest group of Medicaid enrollees (51%) followed by adults (22%), disabled (14%), and the elderly (13%). State Children's Health Insurance Program (SCHIP) expenditures in North Dakota (FY07) were $14 million (state share was $3.5 million with the remaining covered through the federal share). The governor's 2009 budget would increase SCHIP by increasing enrollment for families from 150% of poverty level (the current level) to 200% of poverty level. Fifty-six percent of North Dakota Medicaid eligible persons were enrolled in managed care plans compared to the national average of 65.4% (Kaiser Family Foundation, n.d.).

Medicare. Medicare is the federal health insurance program primarily for people aged 65 and older regardless of their income. Medicare covers 45 million Americans and is a significant payer of health care in both the United States and in North Dakota, accounting for over half of hospital payments (close to 60% for ND CAHs). Medicare has relatively high cost-sharing requirements, no limit on out-of-pocket spending, and a coverage gap in the prescription drug benefit. Persistent issues faced by Medicare include financing care for the aging population, improving managed care for chronically ill high-cost beneficiaries, and setting fair payments to providers and plans (Kaiser Family Foundation, 2008).

A higher percentage of North Dakota Medicare beneficiaries are poorer than beneficiaries across the U.S. as a whole. Thirty-two percent of North Dakotans fall between 100% and 199% of the federal poverty level (FPL) (compared to U.S. at 30%), and 56% are at 200% or above of the FPL (compared to U.S. at 53%).

From 1995 to 2004, Medicare spending increased at a significant rate, both nationally and in North Dakota. The amount increased by 69% nationally and increased by 58% in North Dakota (from $382 million to $604 million in the state). A higher percentage of Medicare spending in North Dakota was associated with hospital care in 2004 than found nationally (68% and 55%, respectively). However, Medicare spending per enrollee for hospital care was lower in North Dakota ($3,981) than nationally ($4,089).[2]

Third party reimbursement. Blue Cross Blue Shield of North Dakota (BCBSND) is the largest non-governmental payer serving North Dakota. BCBSND uses many of the same methods as Medicare to price medical services.[3] On the whole; BCBSND reimburses providers about 160% of what they would receive from Medicare for providing the same services. As a general rule, 40% of the reimbursement dollar is paid for institutional (e.g. hospital) services, 40% is paid for professional (e.g., physician, therapist, other providers) services, and 20% is paid for prescription drugs (BCBSND, personal communication, January, 2009). While other insurance companies operate in the state, this section focuses entirely on BCBSND because of its market share. Approximately 48% of the state's population is covered by BCBSND, with another 16% covered by Medicare, and 12% covered through Medicaid. Total inpatient admissions covered by BCBSND in 2007 stood at 22,394 (an increase from 21,229 in 2006). There were 280,207 outpatient visits in 2007 (an increase from 271,476 in 2006). In terms of managed care, the state has had less than 1% of the population enrolled in

Health Maintenance Organizations (HMO), one of the lowest enrollment rates in the nation. The national HMO enrollment rate is 18% (ND Healthcare Association, 2008 a).

Financial status of selected dimensions of health care. This section of the Environmental Scan briefly describes financial considerations related to services and programs central to North Dakota health care, including emergency medical services, hospitals, tribal health, and public health.

Emergency Medical Services (EMS). Ambulance services in the state must make at least 400 ambulance calls per year to be financially self-sustaining (ND Department of Health's Division of Emergency Health Services and Trauma, 2008). This volume allows the service to generate enough revenue to support a combination of volunteers and minimally paid staff. The range in volume across state ambulance services is highly variable. For example, the 10 busiest ambulance services responded to 71% of all calls in 2007. Forty-nine ambulance units responded to fewer than 50 calls, with 17 of those units having 10 or fewer calls. Over half of all ambulance units (78) reported doing 100 or fewer calls in 2007. Low volume of calls can influence both the ability of squad members to maintain competency and the financial viability of the ambulance service (ND Department of Health, 2008). This sector of health care has received level funding from the state over the past two years, and this is expected to continue through the next biennium. Recent state policy has provided financial assistance to rural ambulance units to either strengthen their organizational operations, creating in some cases "access critical" ambulance units in areas deemed essential for public safety, or in other cases to disband and reorganize as first responder units.[4]

Tribal Health. The Indian Health Service, the federal agency charged with administering the federal government's trust responsibility to provide health care services to American Indians does not fully meet health care needs. IHS is funded at an estimated 59% of need to provide adequate health care (U. S. Commission on Civil Rights, 2003). A Master Health Plan was developed that outlines health care options for tribal units (Indian Health Service, 2004) and is an important document to consider when constructing a more comprehensive look at health care services available to rural North Dakotans.[5]

North Dakota's four tribal reservations and one service area (Trenton) have annual health budgets ranging from $3.3 million to $20.8 million. Tribal health budgets are a combination of federal and tribal funds. The average annual budget is $11.9 million. Based on tribal membership, tribal budgets break down on a per capita basis to $1,800. This contrasts with per capita health spending across North Dakota of $5,800 (2004) and $5,300 for the U.S. population (Kaiser Family Foundation, n.d.). Tribal health service utilization increased for three of the five tribal areas by an average of 3.1%, from 2002 to 2006. North Dakota's two Indian Health Services (IHS) facilities provide inpatient services (Standing Rock and Turtle Mountain). Both experienced decreases in direct inpatient admissions during this period.

Tribal area populations in the state are projected to grow significantly; consequently, volume at IHS and tribal health sites will increase. This contrasts greatly with other rural areas where population decline has significant implications for health care infrastructure due to decreasing volume and demand for services.

Hospitals. North Dakota hospital admissions decreased by 8% from 2002 to 2005, which influences overall hospital financial behavior.[6] During the period of 2002–2006, North Dakota hospitals experienced lower financial margins than other U.S. hospitals (-.29% vs. 3.0%) averaged over 2002–2006. In each of those five years, the financial margin for North Dakota hospitals was below the national margin and nearby states of Minnesota, Nebraska, Oklahoma, and South Dakota.[13] Interestingly, outpatient revenue now accounts for over 50% of total hospital revenues for ND hospitals. Payroll and employee benefits, as a percentage of total expense, are higher in North Dakota (54% vs. 50%). In 2006, North Dakota's hospital charges per inpatient day of $1,649 were 44.8% lower than the Midwest average ($2,985) and 62.3% lower than the U.S. average ($4,408); the second lowest nationally. In 2006, outpatient charges per visit of $758 were 0.4% higher than the Midwest average ($755) and 13.2% lower than the U.S. average ($873). An important financial concern for the viability of hospitals is non-reimbursed care (i.e., the difference between what is charged for a service and what is actually received as payment). From 2000 to 2004, non-reimbursed care as a percent of gross patient revenue averaged 43% in North Dakota compared to 58% nationally.[7] (Data is from the North Dakota Healthcare Association's Annual Healthcare Indicators Report, 2007–2008).

Critical access hospitals are the most common hospital category in North Dakota (35 of 45 acute care hospitals), and they have unique financial considerations.[8] Rural hospitals convert to CAH status primarily for financial reasons (Holmes, Pink, & Slifkin, 2006). CAHs in the state receive cost-based reimbursement from Medicare and Medicaid, in contrast to larger hospitals in the state that are reimbursed using the prospective payment method. Medicare represents the largest share of total gross revenues (58%) for CAHs, making the adequacy of this program's reimbursement extremely relevant to CAH financial viability. Private insurance (Blue Cross Blue Shield of ND) is the next largest payer, accounting for 21%, with Medicaid paying about 7% (NDHA, 2008). North Dakota's CAHs reflect lower median total margins (-1.65) than the national CAH average (3.58) and the CAH average of surrounding states (e.g., MN, MT, and SD). In three of the four years from 2003 to 2006, ND CAHs

had negative margins. (Flex Monitoring Team, 2008). North Dakota is one of only two states with CAHs (45 states have CAHs) with negative margins for return on equity. North Dakota's CAHs also tend to have fewer days cash on hand, higher salaries to total expenses, and an older average age of physical plant. National financial consultants have provided analysis and technical assistance to ND CAHs and the state Flex program, including a series of recommendations to improve the financial performance of ND CAHs.

Public Health. In the past year, per capita public health funding in North Dakota decreased by 14% ($79 to $68 per person)—dropping the state's funding level ranking from 20th to 28th in the nation. Overall, North Dakota ranks 12th (down from 8th in 2007) on a set of public health measures such as personal behaviors, community and environmental factors, clinical care, and public and health policy which will need to be monitored moving forward (United Health Foundation, 2008). State funding for public health (FY 2006–2007) is $21 million, primarily coming from state and local revenue. Some public health units contend that mill levy restrictions and service mandates requiring the provision of specific services without a commensurate funding stream are problematic. Interviews with some local public health directors support the contention that while no public health units are likely to close in the state, there is the possibility that some will need to downsize or eliminate some public health programs, or both.[9] One example relates to home health care services. Currently, hospital-based home care has experienced significant downsizing, including hospitals dropping the service in response to inadequate reimbursement, staffing shortages, and some regulations. Those still operating have readjusted their service areas, with some populations now unable to access services due to new mileage constraints. As more private home care providers leave the market, demand for services falls to public health providers. However, financial constraints of home care are also felt in public health, and in fact, some units have eliminated or are considering eliminating home health services.[17]

Implications. The combination of a growing elderly population, chronic care needs, unhealthy behavior that serves as a trip wire for many serious illnesses, health care providers with negative margins and insufficient workforce to meet some health care population needs, coupled with an unstable national economy, presents state policymakers with difficult decisions affecting payment levels, sources of revenue, provider arrangements, and even the availability of providers. North Dakota's projections for a growing population of older citizens indicate that Medicare will remain a dominant payer. Consequently, the state's health care providers will be particularly sensitive to the adequacy of the federal program's reimbursement rates.

With very low or negative margins across many North Dakota hospitals and other signs of health system vulnerability, such as contraction of home health services, measures of viability and access are important to monitor. Data that tracks access measures at local and regional levels as well as factors influencing the viability of the local health care sector (e.g., local and regional population characteristics) can facilitate planning for strengthening or redeploying health care services to minimize access-to-care problems. Local communities and health facility leaders can embark on community assessments and planning to ensure an alignment between what community members want in terms of health care and what providers offer. Moreover, solutions to all health care challenges (e.g., reimbursement, workforce) should be considered in the context of redesigned care models that can drive different needs and potential efficiencies (e.g., different mix of workforce, use of HIT).

KEY STAKEHOLDER PERSPECTIVES

To augment the development of the data rich component of the Environmental Scan, interviews were conducted with eight opinion leaders regarding health and health care in North Dakota. These individuals represent a wide range of key stakeholders, from policymakers to health care providers to association leadership. Their views are summarized below.

A. Health issues in North Dakota. Obesity is considered one of the most significant health issues in North Dakota. Factors thought to contribute to this problem include long winters in which the population is indoors for significant periods of time and commonly held attitudes that obesity isn't a problem and that health care will take care of obesity related illnesses. A particular concern was expressed about the alarming "incidence of childhood obesity." Individuals also referenced historical eating patterns and cultural traditions. "You can't go anywhere, or have any social event, without food in North Dakota." One participant pointed toward the isolation of rural areas and a lack of adequate fitness equipment in many rural communities as contributing factors to obesity. Other issues of significant concern include alcohol abuse, the aging population, access to services, health disparities between Native Americans and non-Natives, diabetes, mental health, teen driving safety, and farm and ranch safety.

Strategies to address these issues. Prevention activities, from education to incentivizing healthful decisions, and the need for swift changes are the two more frequently cited actions recommended to address the state's significant health issues.

"I liken our current difficulties with obesity to where tobacco was maybe 25 to 30 years ago, where we thought it was a problem but didn't know what to do with it," said one participant.

"It took time to figure out what comprehensive tobacco control programs were. This re-changing of societal norms and expectations is probably where we need to go in regard to a lot of the prevention activities."

Several participants recommended increasing education on proper diet and exercise beginning with young children, with one participant citing the programs offered through Healthy North Dakota as good models of effective programming.

It doesn't end with childhood education, however. Health professionals ought to "tool up on the issues of obesity," stated one participant, referencing an American Medical Association publication (Kushner, 2003), which is part of a series designed to help physicians and other health professionals identify and reduce health disparities by integrating focused interventions into routine medical care.

"We need to provide and develop access to prevention information tools and emphasize the need to remain healthy as opposed to curing people once they get sick."

The prevention theme carried over into worksite wellness, where several participants made reference to encouraging more work-based wellness programs and incentives. A reference was made to Hedahls Parts Plus, a Bismarck-based company that has decreased employee use of health care services with a wellness program initiated in 1993. Hedahls has also helped other companies establish wellness programs. "We have to get creative," said one participant. "We need to offer services and benefits for fitness," and "take a holistic look at employees and the way companies can promote health to help their bottom line." One participant would encourage businesses to support plans that have comprehensive mental health coverage and would encourage insurers to provide coverage with wellness benefits.

Many participants made reference to the need for short-term and long-term changes. Referencing prevention and education, one participant said, "We need to start driving change in that area. Even though it may require some outlay of cash up-front, we really have to bite the bullet; otherwise, we are just going to be in this continual downward spiral." Another participant remarked, "We need to be more strategic and think long-term. It can take 10 to 20 years to begin to see remarkable change."

Decision-makers and key groups. Virtually every participant referenced the need for collaboration and "big picture" approaches to decision-making around health care. Representatives from public and private entities need to be involved, as well as legislators, employers, insurers, Medicare, Medicaid, educators (from elementary to secondary institutions), the governor, attorney general, health care providers, public health professionals, association leadership, and citizens. Also embedded in the conversations was the approach of *how* to look at decision-making. Participants noted the need for more strategic thinking; some participants made reference to gathering broad input and engaging communities when enacting new policies and programs. "I think it's important that we look at [health issues] more broadly than just individual choices and more in terms of what it means to North Dakota [as a whole]."

Approaches to increase collaboration and communication on health issues. Partnerships that generate ideas and action items, as well as openness to new ideas, are essential to addressing health issues in North

Dakota, according to the majority of interview participants. Working collaboratively and sharing resources and expertise are important, especially in a rural state.

Some participants made reference to the importance of moving collaborative ideas into action items and implementation processes. "We need to do a better job of taking the initiatives we developed and coming up with concrete, practical ways of implementation. I think that's where we still falter, to some extent."

"There are some good examples of [partnerships] right now, but I think we can do things better in some of the collaborations we already have," said one participant.

"It's more than just getting together, it's doing it in a way that there's support for that process and the ability to move it out of the idea range into practical application," said another participant. The Healthy North Dakota initiative was cited as an example of a good partnership, but one that is sometimes weak when it comes to implementation. In terms of decision-making, North Dakotans need to keep an open mind. Instead, participants recommended "what-if" scenario exercises and pilot program testing when instituting new initiatives. Another participant remarked, "We are in a time right now when, because of the dire straits in a variety of situations, not just health care, but the economy and so forth, this may be the best opportunity in a lifetime for making some significant changes. But indeed, people have got to be willing to talk about them and be open to them."

B. Health care issues in North Dakota. Participants identified a variety of significant health system issues in North Dakota that need to be addressed, most frequently citing the cost of care, access to health services, and shortages of health providers in rural areas. Causes of these problems, according to participants, include a number of finance-related factors such as the "out of whack" reimbursement system, "faulty assumptions" of federal regulators who base funding on the idea that providing health care in rural areas costs less than providing care in urban areas, and a monopoly on health insurance that "dictates rather than negotiates terms and reimbursement for hospitals and physicians in rural and urban areas." Other participants made references to an aging workforce and difficulties in attracting providers (and their spouses and families) to rural communities.

Strategies to address health system issues. Participants recommend a variety of public policy solutions to deal with health systems issues, including more education, a ban on television pharmaceutical advertisements, and prevention promotion. One participant recommended "prioritizing the uses for health care funds. An example would be the Oregon plan put together 15 years ago, but it ended up being a model just for Medicaid." Another participant recommended stimulating the sagging United States economy, which is currently having a negative effect on health, "because some citizens are putting off getting services, and they're not filling their prescriptions."

Private sector solutions varied widely. Several comments reflected financial suggestions, such as expanding the pool of members in health care plans to spread the costs over more members and reduce the cost per individual, increasing co-payment amounts to reduce overuse of the health system for trivial health care problems, and refraining from implementing a Medicare-like system that underpays quality performance in rural states. One participant recommended "improving access to lower cost prescription drugs in Canada."

Workforce shortage solutions were another priority issue. Suggestions on how to address workforce shortages included fostering greater collaboration between health care providers so towns and regions with a surplus of providers could share their services with those experiencing a shortage, utilizing retired health care providers in rural areas by redefining the role they can play in providing services and by providing flexible scheduling, and increasing the use of telepharmacies to reduce the problem of distance in accessing pharmacies. Other strategies viewed as important include:

- Promote prevention;
- Provide financial incentives to promote the primary physician as gatekeeper and to promote the medical home concept (a patient-centered, coordinated model of care);
- Improve the ability to transfer health care coverage from one health insurance plan to another without being subject to preexisting condition restrictions; and
- Improve recognition of the important role that the public health system plays in North Dakota.

Decision-makers and key groups. Virtually every participant again made reference to the idea of collaboration and broad-based approaches to decision-making. Representatives from public and private entities need to be involved, as well as legislators, employers, federal and state government, health care facilities and providers, the insurance commissioner, governor, attorney general, health care providers, association leadership, and citizens.

Approaches to increase collaboration and communication on health system issues. When it comes to increasing collaboration and communication on health systems issues, participants had a variety of responses. Some recommended communication tools, such as a quarterly magazine with content that challenges thought

leaders—physicians, administrators, and legislators—to think about health care issues or a website with a question-of-the-week, where the public and the medical community could submit free-form answers and a moderator would create a summary of discussions.

Other comments focused on specific action items to improve awareness and communication flow, such as increasing accessibility to the attorney general's office to register complaints; encouraging partnerships and cooperative agreements between hospitals (professionals and administrators), similar to the joint power agreements that some schools have; leveraging existing networks among organizations to develop solutions; and creating health care forums that are structured to take the ideas generated and move them into products. One participant noted, "The insurance department, Medicare, and Medicaid need to collaborate in order to produce effective change." Existing associations and organizations also can be used more effectively to disseminate information via e-mail lists, educational sessions, and conferences. Increased collaboration and communication would also benefit from more research, according to participants. Participants recommended funding health care issues research in North Dakota, including community assessment efforts and customer satisfaction surveys.

Roles for North Dakota's leading health experts and organizations. Participants recognized their roles as leaders, including serving as education, information and collaboration ambassadors, and also as drivers of change. Several participants mentioned increased lobbying for health care reform through their organizations, while others focused on maintaining good relationships with legislators to improve the state's health system and quality of health.

Implications. Addressing the health issues in the state requires a multifaceted approach. Broad-based collaboration to address priority health and health care issues was strongly advocated, along with a sense of urgency in addressing health issues such as obesity. These key stakeholders all suggested that the health of North Dakotans and health care in the state require profound and pervasive change; ranging from ensuring that day-to-day health needs of citizens are met to having health care that effectively manages acute and chronic diseases. The state must be well positioned to meet major health care challenges and ensure that the health of communities is not compromised by lack of available quality health services.

End Notes

This section provides additional details on selected topics covered in the report.

PART I. Health and Health Care in North Dakota: The Environmental Context

[1] Further definition of rural

- A non-metropolitan, noncore county that contains no communities of 10,000 or more people, according to the Office of Management and Budget. Of the 49 non-metropolitan counties, the 36 frontier and the five "rural" counties would be considered non-metropolitan, non-core counties. The remaining eight counties are micropolitan.

[2] Impact of Health Care on the State's Economy

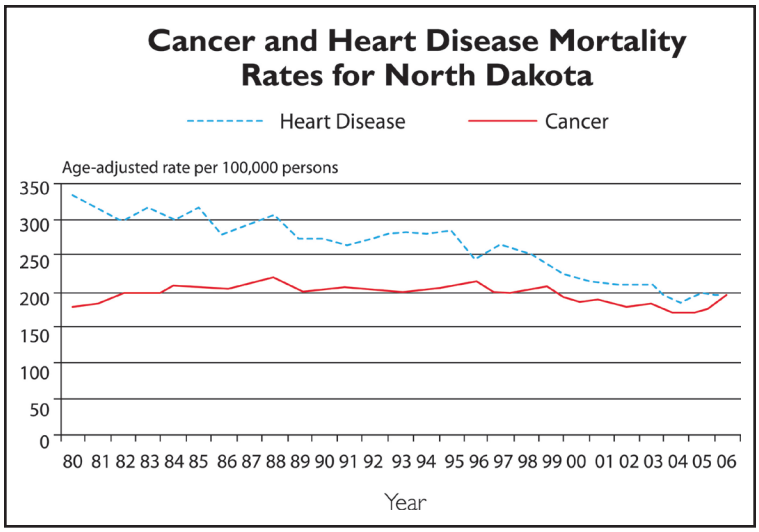
- One of seven employees (14 percent) in ND works in a hospital, clinic, nursing facility or other health-related organization.
- The health care industry contributed $2.38 billion dollars to North Dakota's GDP in 2007 (U.S. Bureau of Economic Analysis, Regional Economics Accounts, www.bea.gov) This stands in comparison to other industries in the state such as the wheat industry projected to be $3.56 billion and the coal industry projected to be $1.8 billion.
- Second quarter results for 2008 (most recent statistics) indicate that the health care sector is the state's largest non-government employer (Job Service of North Dakota).
- For most ND hospitals, clinics and long term care facilities, Medicare and Medicaid account for 60-80% of total revenues combined.
- 81% of health care expenses stay in North Dakota. (North Dakota Healthcare Association, 2008 c).

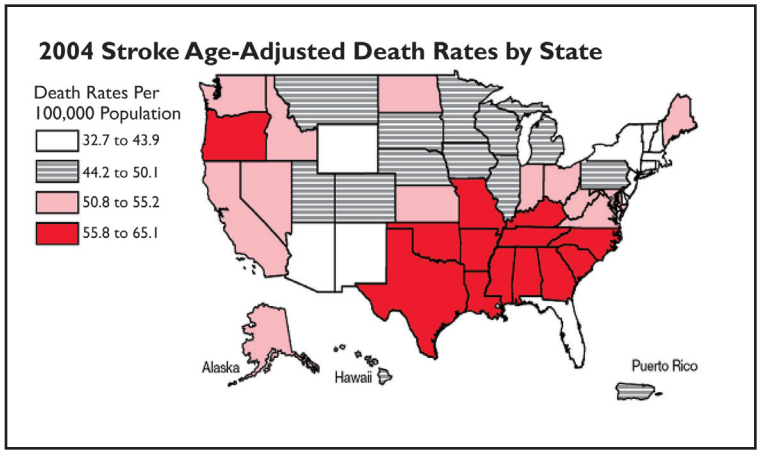
PART II. Health Status of North Dakotans

Leading Causes of Death and Other Chronic Diseases

[1] Heart Disease, Cancer, and Stroke

[2] Cancer





Lung Cancer. There are approximately 390 new cases of lung cancer each year in North Dakota. Lung cancer incidence and mortality rates for North Dakotans for 2004 and 2005 were roughly equal to national rates. Lung cancer mortality rates for North Dakotans have increased from 30 persons per 100,000 in 1980 to 49 persons per 100,000 in 2004. During this same time frame, national rates have remained relatively stable. North Dakota males have consistently higher lung cancer mortality rates than females.

The majority of lung cancer deaths are attributable to tobacco (primarily cigarette) smoking. In the period 1990-2007, North Dakota's rate of cigarette smoking had been very comparable to the nation rate and has remained stable (20-22% of adults said they smoked). By gender, adult males smoked cigarettes at slightly higher rates than females over the years. Among racial groups in North Dakota, Native American adults smoke at a higher rate (48.9%) than Caucasian adults (20.1%) from1997-2006 (ND Department of Health, 2008). High school-aged (i.e., grades 9-12) children smoke cigarettes at slightly higher rates than adults (YRBSS, 2007). The prevalence of smoking among school-aged children was approximately 40 percent in 1995 and declined

to approximately 21% percent in 2007. By gender, girls are slightly more likely to smoke cigarettes than boys (23 versus 19%) in 2007. Also, prevalence of cigarette smoking increased with each grade level.

Prostate Cancer. There are approximately 557 new cases of prostate cancer each year in North Dakota. In 2004, there were approximately 4,470 men in North Dakota living with prostate cancer. Incidence and mortality rates for this disease among North Dakotans are similar to the rates for all Americans.

Breast Cancer. Breast cancer is the most commonly diagnosed cancer (about 514 new cases per year) and the second leading cancer-related cause of death among North Dakota women. In 2004, there were approximately 5,080 women living with breast cancer in North Dakota. North Dakota's breast cancer incidence and mortality rates are similar to the national incidence and mortality rates. Mammography is an important breast cancer screening device for women. Prevalence of recent (i.e., within the past two years) mammography for North Dakota women has steadily increased since 1990; mammography rates among North Dakota women increased with age.

Colorectal Cancer. In North Dakota, there are approximately 422 new cases of colorectal cancer per year. In 2004, about 2,356 North Dakotans were living with colorectal cancer. North Dakota's mortality rates are comparable to national rates. Men generally have higher rates of colorectal cancer than women. Rates for colorectal screening tests have steadily increased in recent years.

Cancer Disparities. Disparities in rates of cancer exist by race/ethnicity, socioeconomic status, geography, gender, and insurance status. Possible explanations for the existence of these disparities include differences in health behavior, access to health care, quality of health care and genetics. While cancer incidence is decreasing among Whites, it is increasing among American Indian populations in certain regions (Indian Health Service, 2000). American Indians have higher rates of some cancer risk factors, including smoking, alcohol use and obesity. Northern Plains Indians, including North Dakota tribes, have higher cancer mortality rates than the U.S. for prostate, lung, colorectal and cervical cancer. Moreover, Northern Plains Indians have higher cancer mortality rates than all other IHS regions for prostate, lung, female breast and cervical cancer. Also of concern, the state's American Indians have lower prevalence of timely mammography, colonoscopy/ sigmoidoscopy, blood stool testing and PSA testing (BRFSS, 2008).

Approximately one-third of annual cancer deaths in the U.S. are related to the following mutable factors: poor nutrition, sedentary lifestyle and excessive body weight (American Cancer Society, 2008). Thus, many cancers can be prevented; in fact, all cancers caused by tobacco smoking and heavy alcohol consumption are entirely preventable. Timely screening can detect a number of cancers at early stages when medical interventions are much more likely to be successful.

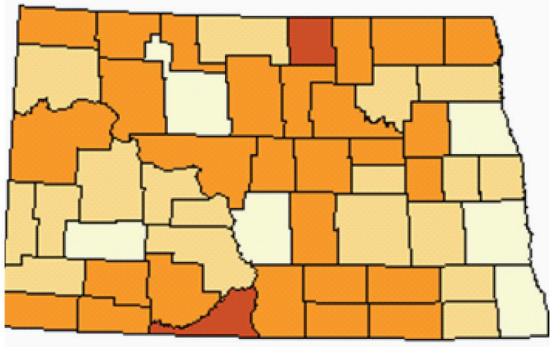
[3] Diabetes

Diabetes mellitus is a disease involving abnormally high blood glucose levels caused by deficiencies in insulin production, insulin action or both (American Diabetes Association, 2009). Type 1 diabetes, accounting for 5-10% of diabetes cases, develops when the body's immune system destroys pancreatic beta cells, the only cells that produce insulin which regulates blood glucose. People with type 1 diabetes must receive insulin via injection or pump. Type 2 diabetes, accounting for 90%-95% of diabetes cases, usually starts as insulin resistance, a disorder in which body cells do not properly use insulin. Over time, the pancreas' capacity for insulin production is diminished. Many people with type 2 diabetes can control their condition through diet, exercise, maintaining a healthy body weight and taking oral medication (National Center for Chronic Disease Prevention and Health Promotion, 2005).

Other measures of diabetes care include:

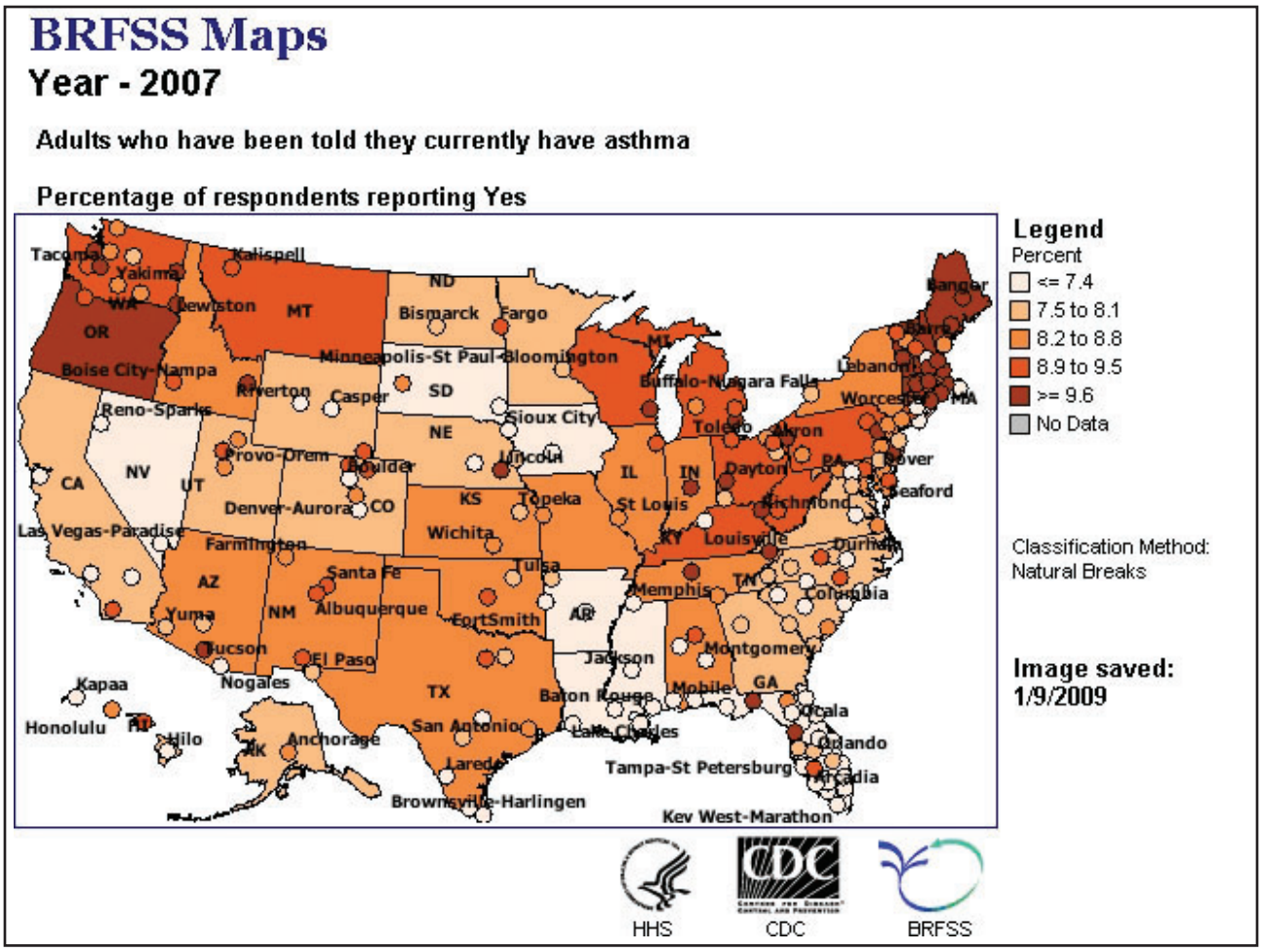
- Preventive care practices
- Eye exam
- Self-monitoring of blood glucose
- Foot exam
- Seeing a health professional for diabetes
- ALC tests
- Diabetes self-management class
- Influenza vaccination
- Pneumococcal vaccination
- Smoking cessation counseling (Kirk et al. 2005)

2005 Percentage of adults ≥ 20 years old with diabetes



Source: CDC. County Level Estimates of Diagnosed Diabetes — Percentage of Adults in North Dakota, 2005. Accessed December 4, 2008: http://apps.nccd.cdc.gov/DDT_STRS2/CountyPrevalenceData.aspx

[4] **Asthma**



[5] **Healthy North Dakota**

The mission of Healthy North Dakota is to "inspire and support North Dakotans to improve physical, mental, and emotional health for all by building innovative statewide partnerships." Healthy North Dakota works with partners to promote and implement health related laws, policies, and programs. The program is comprised of over 400 North Dakotans representing about 150 agencies, organizations, and businesses from across the state. For example, the Office for the Elimination of Health Disparities Work Group, a Healthy North Dakota Committee, has been a major force in working toward the elimination of health disparities in the state. The ND DoH and the disparities work group worked to secure a grant from the U.S. Department of Health and Human Services Office of Minority Health to build the state's infrastructure in addressing health disparities and to create an office of minority health. As of July 1, 2007, the Office for the Elimination of Health Disparities became an official entity hosted by ND DoH. The Office received the DHHS State Partnership Grant to improve Minority Health in 2007. Worksite wellness was identified as a priority at the original Healthy North Dakota Summit in 2002. Also, the need and want for assistance in implementing worksite wellness was identified in benchmark worksite wellness surveys administered in 2001 and reported in 2002. Based on this identified need, Healthy North Dakota established a training program for worksite wellness consultants and has trained people how to deliver comprehensive worksite wellness programs. In addition, the Healthy North Dakota Worksite Wellness Committee has been working to identify funding for worksite wellness programs. The Dakota Medical Foundation (DMF) funded some pilot programs and evaluation of these programs. Just recently, the committee successfully identified funding from Blue Cross Blue Shield of North Dakota and DMF to fund a full-time state worksite wellness coordinator and resource center.

PART III. Health Care in North Dakota

Health Infrastructure

[1] **CAHs.** Thirty-five of ND's 39 eligible rural hospitals have converted to Critical Access Hospital (CAH) status. In 2009, one additional rural hospital is considering conversion (Jamestown). All of ND's CAHs are non-profit and non-government entities (ND FLEX and CAH Survey, 2008). Eight operate as stand-alone hospitals; three CAHs operate long term care facilities; 11 operate primary care clinics; and 12 operate clinics and long term care facilities. Thus, 77% of

CAHs operate local integrated systems comprised of the CAH and other health providers operating in one ownership and management system. Eight CAHs operate the local ambulance system.

The number of CAHs receiving county and/or city tax support has increased by 20 percent over the past three years. Twelve CAHs currently receive annual county/city tax revenue ranging from $27,000 to $180,000, annually. Another nine CAHs indicate that they will likely seek this support in the next five years. Twenty-one CAHs operate a hospital foundation that provides additional support to their facility (Miller, Gibbens, Lennon, & Wakefield, 2006).

[2] **Rural Health Clinics.** Congress created the federal Medicare certified Rural Health Clinic (RHC) program in 1977. RHCs are reimbursed by Medicare and Medicaid on an allowable cost basis. The primary purpose was to address access to primary care services. The RHC program requires that a RHC employ the services of a mid-level provider (physician assistant, nurse practitioner, or certified nurse midwife) at 50% or more time. While a physician must be a part of the RHC, the physician does not have to be on site all the time. This staffing flexibility contributes to the RHC as an effective approach to expanding access to outpatient care in rural and remote areas. The program was slow to develop both nationally and in North Dakota. The first ND RHC was not certified until 1989. By the end of the 1990's there were approximately 85 RHCs in ND. However, by 2008 this number declined to 64.

RHCs face a number of issues which impact their viability, including: insufficient reimbursement rates, workforce supply, access to technology, and patient volume. Patient volume is often directly linked to rural population decline. For example, declining community populations yield lower patient volume, lower reimbursement revenue, and hinder provider recruitment and retention. In turn, a loss of medical providers lowers clinic revenue. If the loss is long term it can influence decisions of individuals and families as to where to live if essential providers are not available to provide care. In a number of rural communities there is a destructive cyclical pattern of deteriorating population characteristics and health system weakness and ultimately reduced or eliminated services. In the context of these challenges, RHCs are an important safety net provider.

[3] **Community Health Centers.** Community Health Centers are a clinic structure within a family of federally supported clinics called Federally Qualified Health Centers (FQHC) which focus on expanding access to care. FQHCs are inclusive of CHCs, migrant health centers, health care for the homeless programs, and public housing primary care programs. FQHCs are required by federal law to provide health care to patients regardless of their ability to pay; they accept insurance, private pay, and offer services on a sliding fee scale. In contrast to RHCs, FQHCs receive an annual federal grant to supplement reimbursement and provide services in Medically Underserved Areas/Medically Underserved Populations which are found in both rural and urban areas.

FQHCs are required to provide access to preventive health services (e.g., medical social services, nutritional assessment and referral, preventive health education, children's eye and ear examinations, well child services); preventive dental services; mental health services; pharmacy services; transportation services; case management services; and after hours care. FQHCs are required to have a majority consumer board of directors and are tax exempt, non-profit or public organizations.

[4] **Public Health.** While acute care, long term care, primary care, and emergency care attract much of the attention around health care, public health while less visible is an essential factor in ensuring a healthy population. The most common form of public health delivery in ND is the single county unit. There are 17 single county based units with 11 organized as single county health districts and six as single county health departments. All 17 are located in central to eastern ND. The next most common arrangement is the multi-county health district which is found throughout western ND (four large systems) along with three multi-county districts in the central and eastern areas of the state. Southwestern District Health Unit with central offices in Dickinson is the largest serving eight counties. First District Health Unit, Minot, serves seven counties. There are also three city-county health departments (Bismarck and Burleigh County, Grand Forks and Grand Forks County, and Fargo and Cass County). There is one city-county health district which is Valley City and Barnes County.

While each public health unit can organizationally determine its own mission and primary focus, there are some common services provided. All ND units provide the following: immunizations (for all ages), blood pressure screening (adults and school-age children), scoliosis screening (school-age children), vision screening (school-age children), and high risk infant follow-up and vitamin B-12 injections. In addition, most but not all units provide the following: maternal and child health (e.g., home visits, Sudden Infant Death Syndrome follow-up visits); health promotion (e.g., diabetes foot care, and community wellness programs); communicable disease (e.g., tuberculosis and skin and scalp conditions); school health (e.g., hearing screenings and AIDS education); environmental health (e.g., public water system inspection, environmental sanitation services, and water pollution control); occupational health nurse activities; mental health and skilled nursing activities.

Home Care. Starting in 2000, home care reimbursement changed from fee-for-service to prospective payment (PPS)

resulting in a decrease of approximately $400 per client episode (North Dakota Association for Home Care, 2008).

[5] **Long Term Care.** Long term care refers to a wide spectrum of health services and personal care and while commonly associated with health care for the elderly, these services are used by anyone requiring long term services (e.g. physically or mentally disabled, needing post-acute care assistance).

Assisted living facilities provide services to people who require some support but wish to live as independently as possible. These apartment settings are licensed by the ND Department of Human Services and Department of Health. Assisted living facilities offer help with activities such as bathing, eating, dressing, laundry, housekeeping, and assistance with medications (North Dakota Department of Health, 2008). Health and medical services are also often available.

Basic care occurs in an institutionalized setting in which each resident has a room (may include a roommate), and a flat fee is paid by the resident to cover room, board, and services. Basic care settings are licensed by the ND Department of Health and services are provided on a 24 hour basis. Services include assistance with activities of daily living and supervision of nutritional needs and medication administration.

Nursing homes provide institutionalized care in the form of skilled nursing care and rehabilitation services and may provide the following services: therapies (e.g., physical occupational, respiratory, or speech); pharmacy; equipment rental; special services (e.g., adult day care, respite care, home health, and others); and other services. All ND nursing facilities are certified to receive Medicare and Medicaid.

[6] **Emergency Medical Services.** ND has witnessed moderate growth in the number of EMS personnel over the last three years while experiencing a decrease in the number of ambulance service units. First responders, who have the least amount of required training, grew by 14%; paramedics increased by 11%; EMT-I, 3%; and EMT-B, 2%. New state supported training grants made available in 2005 contributed to this increase (DEMST).

[7] **Trauma System.** The best care for patients can be achieved with an inclusive program that clearly defines the role of each facility within the system. Large health care facilities in the state have demonstrated an ongoing commitment to high level trauma care by maintaining designation as Level II or Level III trauma centers. Eight of the 45 hospitals are not currently verified for trauma care.

[8] **Oral Health.** The Valley Community Health Center (CHC) in Northwood opened a dental clinic in Grand Forks in the fall of 2007. Clients pay for services through a sliding fee scale based on income. Both ND and MN Medicaid payments are accepted. The clinic operates with two dentists, two dental hygienists, and five dental assistants. During 2007–2008, it served over 1,800 clients with over 4,800 encounters. Seventy-five percent of the clientele have Medicaid, 16% use a sliding fee scale, and the remaining 9% are private pay (Personal communication, Valley CHC, 2009). These clinics serve a financially vulnerable client base that would otherwise have very limited access, often through hospital emergency rooms. The two other rural-based CHCs (Coal Country CHC, Beulah; and Northland CHC in Turtle Lake) have contracts with local dentists who see Medicaid patients. The Family Healthcare Center in Fargo—an urban-based CHC—operates its own dental clinic much like the Valley CHC with its own dental providers. There is also the Red River Valley Dental Access Project in Moorhead, MN, which serves as an urgent care/walk-in dental clinic staffed by volunteer dentists. In Bismarck, the Bridging the Dental Gap clinic, a nonprofit center serves low-income and uninsured individuals. Programs that extend the reach of oral health services include North Dakota's State Children's Health Insurance Program (SCHIP), Healthy Steps; the ND Department of Human Services Children's Special Health Services program; the Caring for Children Program; and the ND Donated Dental Services program operated through the ND Dental Association.

[9] **Mental Health.** Other mental health support systems include the State Protection and Advocacy Agency, federally funded to protect and advocate for the rights of people with mental illnesses and to investigate reports of abuse and neglect. The North Dakota Federation of Families for Children's Mental Health, a parent-run organization focuses on the mental health needs of children, provides information, referrals, and advocacy, and operates throughout the state.

Quality

[1] **Definition of health care quality.** Health care quality is "the degree to which services for individuals and populations increase the likelihood of desired health outcomes and are consistent with current professional knowledge" (IOM, 2001). Quality care is care that is safe, effective, patient-centered, timely, efficient, and equitable. How well does the United States do in delivering high quality care? Both data and expert opinion underscore serious quality problems. "Health care in America is not nearly as good as it should be. Quality is inconsistent and often poor; rates of errors . . . are unacceptably high. . . . There are islands of excellence in the sea of high cost mediocrity. . . ." (Wennberg, Fisher, Goodman, and Skinner, 2008, p. i). One significant factor contributing to problems with care quality is that many clinical decisions made by physicians are based on local medical opinion and local supply of medical resources, rather than research or the preferences of well-informed consumers (Wennberg, et al., 2008). Calls for fundamental health care reform go beyond a focus on decreasing the rate of growth in health care spending and improving access to care. Addressing compromises in care quality and patient safety is increasingly part of the health reform agenda.

Depending on the source, quality and patient safety measures are reported at the facility (e.g., hospital), county, state or national level. Little public information exists about individual physicians; however, there are efforts underway nationally to create and make physician-specific information available (e.g., the extent to which physicians provide services recommended by clinical guidelines). Because of low volumes in caring for certain types of patients, the measures of some types of care are less relevant for facilities such as critical access hospitals (CAHs). In North Dakota for example, patients in small hospitals generally would be transferred to a large hospital and the few cases remaining in the small facilities would not generate sufficient statistical accuracy to be able to draw meaningful conclusions on how the particular facility does with this type of care.

[2] **State entities involved with quality improvement.** Across the nation, quality improvement efforts are a rapidly expanding focus of activity. Initiating change in health care organizations, ranging from identifying and measuring quality to redesigning care processes, to incorporating technology such as electronic medical records (EMRs) requires significant investment of human, financial and other resources. It also requires a change in the culture of health care organizations from one that is punitive toward individuals to one that expects compromises in care quality to be reported without fear of recrimination, and system level learning and change to prevent poor quality care in the future. Large hospitals in North Dakota have departments and staff dedicated to quality assurance and improvement. However, smaller hospitals have far fewer in-house resources on which to rely. Quality improvement expertise is often provided through technical assistance to health care facilities through organizations like the North Dakota Health Care Review, Inc. (NDHCRI) or, increasingly, by building learning networks that, through cooperate efforts, connect small and large facilities with a focus on working collaboratively on quality improvement efforts. The NDHCRI is the federally designated Quality Improvement Organization for the state. Through its contract with the federal government (Centers for Medicare and Medicaid Services), it is responsible for meeting established federal requirements including protection of beneficiaries, quality of care review services, assisting hospitals with submission of quality data to the CMS data warehouse, and providing quality improvement technical assistance to health care providers including hospitals and nursing homes in areas such as patient safety, prevention, EMR adoption and enhancement, and surgical care improvement. NDHCRI also influences quality in the ND Medicaid program by serving as the external quality review organization.

The ND Department of Health (ND DoH) has direct responsibility for assuring the quality and safety of health care for consumers through licensing and certification activity. The Health Resources Section of the ND DoH is responsible for promoting quality care through survey and related activity that generates (1) facility licenses (e.g., hospices, hospitals), and (2) facility certification to attest that required standards are met for payment eligibility from Medicare and Medicaid programs.

[3] **Local, regional, and statewide activities.** The NDHCRI is currently implementing a drug safety initiative focused on reducing both the *use of potentially inappropriate medications and adverse interactions between drugs*. Initiatives like this are particularly important as medications are a serious source of patient injury and adverse events, driving up health care costs and affecting the health of individuals. Another NDHCRI initiative underway provides technical support to a group of physician practices to enhance *the use of electronic medical records to promote the delivery of key preventive services*. While NDHCRI's current scope of work is important, challenges around quality improvement exceed resources available to address them. Additionally, local efforts to improve quality of care are underway. For example, BCBSND and MeritCare in Fargo partnered to test a "medical home" innovation with the potential to share savings from improved care. This team-based approach included nurses, physicians, and dieticians redeployed to better coordinate care. Electronic medical records were pivotal in this project as they allowed for standardizing information collection and tracking a set of clinical measures. Project results included cost savings and markedly improved care quality. This program, referred to as MediQHome, is currently being expanded to other institutions across the state.

Regionalizing and networking health care services in North Dakota supports efficiency and improved patient outcomes (Commonwealth Fund, 2007). Enhanced communication and collaboration across facilities is important to sustain and strengthen care quality. Networking efforts require incentives, tools, and resources that support quality improvement. Illustrating this point, in 2007, a survey focusing on health care quality issues found that 27 CAHs were having problems with the Medicare Conditions of Participation, requirements that must be met in order to be reimbursed for the care of Medicare beneficiaries (Rural Hospital Flexibility [Flex] Grant Program Survey). Twenty-five CAHs indicated that they were having problems maintaining quality of care overall. In order to help address CAH quality of care issues, a new initiative sponsored through Flex was launched with a full-time coordinator in 2008. Thirty-three of thirty-five North Dakota CAHs are participating; a number of quality-related activities have been initiated and accomplished to date. The group's workplan is available at http://ruralhealth.und.edu/projects/cahquality/.

Access

Health Workforce

[1] **Workforce measures.** The federal Office of Shortage Designation calculates provider shortages for the nation. For example, in primary care a shortage exists when the ratio of primary care providers (family medicine, general internal medicine, general pediatrics, and obstetrics/gynecology) to population is 1:3500. Mental health shortages are designated when the ratio of one psychiatrist per 90,000 people is reached. More complex calculations are utilized to measure the dental shortages. For loan repayment purposes, ND defines primary care shortage areas as populations with 15,000 or fewer people.

Given the demographic trajectory of ND as well as information (albeit limited) about our health care workforce, the state faces emerging challenges to ensure access to an adequate workforce. State policymakers and other stakeholders should carefully plan and act in order to ensure that: 1) health needs of the state's communities are met, from helping people stay healthy and avoid illness to effectively managing acute and chronic diseases; 2) the state is well positioned to meet major health care challenges ranging from increasing rates of obesity to avian flu to bioterrorism, and 3) the economic health of communities is not compromised by lack of availability of health services.

While addressing workforce supply requires a multifaceted approach, state government is a key player across the nation. At least 14 other states have recognized the emergent need to ensure an adequate workforce and have held statewide meetings within the past few years. At least 13 states have recently enacted workforce related policies and programs to help ensure that their citizens have access to health care providers.

[2] **Key Programs and Funding.** The purpose of the ND loan repayment programs, enacted in the 1990s, are to increase the number of physicians, nurse practitioners, physician assistants, nurse midwives, and dentists practicing medicine in North Dakota communities with defined health professional medical need. Under the program, loan repayment may be made to a recipient for educational expenses incurred while the recipient was attending an accredited school located in the United States, its possessions, territories, or Canada and approved by the disciplines respective state licensing boards.

Federal Programs

In the 1970s, federal legislation was enacted to provide a loan repayment program in order to recruit health care professions committed to delivering health care in underserved communities across the nation.

Specialty	Loan Amount	Service Requirement
Primary Care Physicians[2] Mental Health Providers	$50,000	2 years with extensions possible for $35,000/year
Nursing (RNs)	Receive up to 60% of qualifying loan balance	2 years with extensions possible and an additional 25% payment on loan balance

[2] Allopathic or osteopathic physician specializing in family medicine, general pediatrics, general internal medicine, general psychiatry, or obstetrics/gynecology, primary care nurse practitioner, primary care physician assistant, certified nurse-midwife, dentist, dental hygienist, mental or behavioral health professional (health service psychologist, clinical social worker, licensed professional counselor, marriage and family therapist, and psychiatric nurse specialist).

National Health Service Corps Scholarships are available for students that commit to practicing primary care in communities of greatest need. The program offers payment of tuition and fees for up to four years of education.

State Programs

Specialty	Loan Amount	Service Requirement
Physicians[1]	$90,000	2 years
Nurse Practitioners Physician Assistants Nurse Midwives	$10,000	2 years
Dentists	$80,000	4 years

[1]Family medicine, internal medicine, pediatrics, obstetrics, general surgery, psychiatry

Financing

[1] **Medicaid.** A higher percentage of North Dakotans are eligible for both Medicare and Medicaid (dual eligibles). In terms of direct dollar impact, $14,114 (2003) of Medicaid spending was spent per dual eligible recipient nationally, which contrasts significantly with the $19,369 spent on recipients in North Dakota (Kaiser Family Foundation, State Health Facts). North Dakota, in comparison to the nation and neighboring states, exhibits a stronger linkage between the elderly and low income assistance (Kaiser Commission on Medicaid and the Uninsured).

[2] **Medicare.** Medicare pays critical access hospitals (CAHs) for most inpatient and outpatient services for Medicare beneficiaries based on 101% of their allowable and reasonable costs. Under the Medicare ambulance benefit, if CAHs own and operate the only ambulance services within 35 miles, they are also paid based on a reasonable cost basis for ambulance services. Physicians who furnish care in a CAH that is located within a geographic-based, primary medical care Health Professional Shortage Area (HPSA) and psychiatrists who furnish care in a CAH located in a geographic-based mental

health HPSA are eligible for a 10% incentive payment for outpatient services. Primary care physicians that furnish outpatient professional services to a Medicare beneficiary in an area that has been identified as a primary care Physician Scarcity Area (PSA) and specialty physicians who furnish outpatient professional services to Medicare beneficiaries in an area that has been identified as a specialty care PSA are eligible for a PSA bonus payment of 5% . CAHs also receive reasonable cost reimbursement to compensate physician assistants, nurse practitioners, and clinical nurse specialists who are on call to furnish emergency services (CMS CAH Fact Sheet, http://www.cms.hhs.gov/MLNProducts/downloads?CritAccessHospfctsht.pdf).

[3] **Third Party Reimbursement.** BCBSND utilizes Medicare's Prospective Payment (PPS) System methodology to establish rates for various types and levels of acute care. Under PPS, hospitals are paid a predetermined rate for each admission. Each patient is classified into a Diagnosis Related Group (DRG) on the basis of clinical information (except for certain patients with exceptionally high costs (called outliers). The hospital is paid a flat rate for the DRG, regardless of the actual services provided. For outliers, hospitals are paid an additional amount above the DRG to compensate for the extraordinary high cost for that particular case. Each patient is classified into a DRG according to information on the claim submitted for the care delivered. The principle diagnosis, other secondary diagnoses (complications and co-morbidities), and surgical procedures are used to determine the particular DRG. Each DRG has an assigned relative weight that reflects the expected amount of resources needed to render the appropriate care for that type of condition. BCBSND utilizes Medicare's weights but not Medicare's base rate. BCBSND's base rate is much higher than Medicare's, resulting in a significantly higher reimbursement from BCBSND than Medicare for the same case.

Similar to the DRG methodology for inpatient care, Medicare has developed Ambulatory Payment Classification (APC) categories for some outpatient services. Recognizing the limited volume of services in rural North Dakota and the need to sustain appropriate care in the appropriate setting, BCBSND reimburses 125% of the outpatient fee schedule to rural hospitals and 115% to mid-tier hospitals, whereas urban hospitals receive 100% of the established fee schedule. This add-on results in an additional $9 million dollars annually to rural and mid-tier providers. BCBSND uses Medicare's APC codes to base its outpatient reimbursement for surgical services. Fees for other services, such as therapies and some radiology, are established based on what is paid in the clinical setting. BCBSND reimburses its physicians and other allied professionals based on a resource-based relative value scale (RBRVS), which is also used by Medicare. In the RBRVS system, payments for services are determined by the resource cost needed to provide them. The RBRVS recognizes the cost of the physician work, the practice expense and the professional liability that goes into the services provided.

[4] **Financial Status of Health Systems – EMS**. Under current law, a one-time appropriation of $140K/year is granted by the ND Department of Transportation to be used to support training, testing, and certification. $106,500/year is granted by the ND Department of Transportation to support data collection on the overall EMS systems. State funds support:

- $605,000 per biennium for state EMS office operations;
- $1.24 million per biennium for EMS training grants;
- $125,000 per biennium for grants to agencies establishing quick response units; and
- $75,000 for a statewide trauma assessment.

[5] **Financial Status of Health Systems – Tribal Health.** Forming a ND Regional Partnership involving the Three Affiliated Tribes, Spirit Lake, Standing Rock, and Turtle Mountain is referenced in the IHS Regional Master Plan Summary and outlines a number of options for future health care delivery that would benefit the entire North Dakota Region. The partnership addresses issues like supporting the deployment of specialty services and mobile mammography for the tribes.

[6] **Financial Status of Health Systems – Hospitals**. Financial measurement operating margins reflect the percent of operating revenue left after all operating expenses are paid. A hospital's operations include functions directly related to patient care as well as others. Positive operating margins are needed to maintain high quality care, provide new programs to meet community needs, keep pace with rapid advances in medical care, and hire and retain highly trained health professionals.

[7] **Hospital Financial Statistics for ND.**

- Inpatient revenue increased $196.8 million between 2001 and 2005.
- Outpatient revenue has experienced steady growth from 2001-2005, increasing $531.7 million. In 2003, outpatient revenue accounted for 50.5 percent of total hospital revenues.
- ND hospitals experience lower margins than all other hospitals in the nation. From 2002 through 2006, ND hospitals averaged a margin of negative 0.29%, whereas U.S. hospitals overall averaged a positive margin of 3% during the same time period.
- ND hospitals have a slightly higher days cash on hand (35 days) when compared to all other US hospitals (30 days).
- In ND, payroll and benefits account for 53.6% of total hospital expenses; higher than the total U.S. where payroll and benefits are 50% of total expenses.

- The gap between charges for services rendered and actual payments received has widened over the last five years for both ND and the U.S. In ND, non-reimbursed care as a percent of gross patient revenues rose from 39.9% in 2000 to 43.7% in 2004, a 3.8% increase. In the U.S., non-reimbursed care as a percent of gross patient revenue rose from 53.6% in 2000 to 62%, an 8.4% increase.
- In ND and the U.S., the amount of total patient expenses exceeded that of net patient revenue every year from 2001 to 2005. This indicates that hospitals are increasingly unable to rely on reimbursement from providing patient care to pay for the expenses associated with providing that care.
- Earning a positive total margin alone may not be enough to remain viable. Hospitals need to earn sufficient income to improve the caliber of health care that they provide to their local communities. Excess revenues over costs are necessary to hire well-trained staff, replace obsolete buildings and equipment, keep pace with advances in medical technology, and help cover the cost of care for patients who cannot pay.
- Hospitals finance improvements to facilities and equipment by issuing bonds or entering into other debt financing. However, financial institutions and potential bondholders must be convinced that a hospital is capable of repaying its debt, thus making it difficult for hospitals with low or negative income to borrow money.
- It is very important to closely monitor hospital income levels because relatively small changes in revenues or expenses can make a large difference in the financial health of a hospital.
- The "appropriate" level of income needed to keep a hospital financially viable will differ for each individual hospital or health system. The exact amount of income a hospital needs depends on multiple factors, including, but not limited to: the condition of its plant and equipment, amount of debt, assets available for capital improvements, the mix of services provided, dependence on government payers for income, and the current and future needs of the market a hospital services (NDHA Reports Annual Healthcare Indicators Report 2007-2008, http://www.ndha.org/Websites/NDHA/Documents/ProfilesPub07%20updated-10%2029%2008.pdf).

[8] **Critical Access Hospitals (CAHs).**

- The Flex Monitoring Team analyzes a total of 20 indicators on an annual basis for all of the nations 1,294 CAHs. ND's median scores for almost every indicator are less favorable than the nation's median scores (e.g. cash flow margin, return on equity, days cash on hand). ND's CAHs continue to reflect lower median total margins (-1.65) that the national average (3.58) and surrounding states (e.g. South Dakota, Montana, Minnesota).
- In 2006, Stroudwater and Associates (a national accounting firm) conducted an analysis of ND CAH margins, based on information from Holmes, Pink, & Slifkin (2006) and additional information (e.g. recent cost reports, financial statements, strategic plan and administrator interviews) from 10 participating CAHs. The analysis found:
- For most CAHs, operating losses are primarily the result of clinics, nursing homes, and other non-hospital business.
- According to the Stroudwater consultant, the major commercial insurer in ND pays rural hospitals at or below their costs. Because Medicare pays CAHs their costs, there is virtually no opportunity for CAHs to generate an operating margin. Stroudwater noted that in many states, commercial insurers pay in excess of 125% of costs.

[9] **Public health interviews on financial considerations.** Local public health in ND does not have a mechanism to request direct funding from the Department of Health (Mike Melius personal interview, January 5, 2009). The process in place is to request funding of the ND DoH which is included in the Governor's request as an optional budget, item within the ND DoH's internal budget. Once this line item is integrated into the department's internal budget it ranks low in terms of identified priorities; funding has never in the state's history been obtained this way but is seen as a mandated process. This then evolves into an advocacy effort with local public health units approaching individual legislators to support funding increases to cover cost of living expenses. These funding requests do not include funding for special projects such as immunization initiatives. Melius explained that there are several struggling public health units in ND with serious implications including potentially discontinuing certain programs. Local consumers expect certain level of services that may not be available in the near future. No public health units in ND will completely close due to legislative mandates for all to be in existence. Financial struggles come as a result of a number of reasons, including mill levy restrictions and regulations in place that mandate the provision of certain benefits for public health staff. Melius' own district is not able to provide home health, and with local hospitals no longer providing this service either, residents stay in their homes until their conditions worsen, necessitating long term care, or more imminent health problems occur, requiring hospitalizations. Melius points out that "these health care expenses are preventable."

Robin Iszler (personal interview, January 6, 2009), Central Valley District Health Unit, Jamestown, confirms Melius' description of public health and added that the key issue for local and state public health is that funding is based on federal initiatives that targets financial resources toward specific health issues (e.g. tobacco use, emergency preparedness). Funding for the state's public health infrastructure is fragile and varies widely throughout the state. Sustaining public health infrastructure at the local level is heavily reliant on tax payer support which in poorer counties/regions of the state lends to disparities and access issues.

An Environmental Scan of Health and Health Care in North Dakota:

Establishing the Baselines for Positive Health Transformation

Volume II of II

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Appendix A
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Appendix B
Important Measures, Rankings, and Rates

"You can't manage what you don't measure." **Peter Drucker**

In the preparation of this Appendix, Center for Rural Health staff searched for, examined, and selected surveys and measures that are relevant to health and health care in North Dakota. This Appendix provides a comprehensive list of health-related measures, rankings, rates, and comparisons associated with the state of North Dakota. The information includes measures of health status, (e.g., morbidity, mortality statistics, data on health status) as well as measures of health care (e.g., access, quality, health expenditures). While this is now the most comprehensive set of relevant measures, rankings, and rates for North Dakota, it should be noted that it does not reflect all possible factors that are important to health or health care.

This information presented in this Appendix is useful to (1) ascertain how well North Dakota is currently doing on certain important health and health care indicators, and (2) serve as a universe of potential indicators from which a sub-set of measures could be selected to track the progress of health and health care in North Dakota, on an on going basis. If developed, the latter would allow health care providers, consumers, policymakers, funders, and others to ascertain the impact of health and health care performance improvement efforts.

Where information is available, the measures are accompanied by state rank, value, the year the data was collected, and the source of the data. For user convenience (and where appropriate), the listings under each of the categories are alphabetized. All data selected for inclusion in this document are relevant to the Environmental Scan's focus areas and derive from high-quality databases developed and maintained by a number of organizations. The following are examples of some of the sources:

- American Cancer Society
- The Commonwealth Fund
- The Henry J. Kaiser Family Foundation
- National Alliance on Mental Illness
- North Dakota Healthcare Association
- Robert Wood Johnson Foundation
- State Health Access Data Assistance Center, University of Minnesota
- Trust for America's Health
- United Health Foundation
- U.S. Department of Health and Human Services' National Center for Chronic Disease Prevention and Public Health Promotion
- U.S. Department of Health and Human Services' Agency for Healthcare Research and Quality
- U.S. Department of Health and Human Services' Centers for Medicare and Medicaid Services
- North Dakota Department of Health*

*The North Dakota Department of Health (ND DoH), Health Indicator Project on page 17 through 25 is a component of a ND DoH initiative designed to measure important aspects of the health of North Dakotans. There are specific interventions underway to address most of these areas of focus. We are appreciative of the ND DoH's willingness to share this important work with us while it is still under development (e.g., not all goals have been established).

North Dakota's Health Rankings					
Category	Indicator	Rank (1 = best or most # of)	Value (if available)	Year data collected	Source
Environmental context					
	Percentage of population at or above 200% of the federal poverty level (FPL)	24	70.50%	2007	State Health Access Data Assistance Center, University of Minnesota
	Total Hispanic population	8	2.10%	2007	The Henry J. Kaiser Family Foundation
	Total population of Native Americans/Aleutians/ Eskimos	3	7.80%	2007	The Henry J. Kaiser Family Foundation
	Total population	49	612,910	2008	The Henry J. Kaiser Family Foundation
Health of ND's population					
Leading health indicators					
	AIDS				
	AIDS cumulative cases (under age 13)	51	1	2005	Trust for America's Health
	AIDS cumulative cases, aged 13 and older	51	139	2005	Trust for America's Health
	Reported number of AIDS cases, all ages, cumulative	48	0.00%	2006	The Henry J. Kaiser Family Foundation
	Alzheimer's disease				
	Alzheimer's estimated cases	45	16,000	2000	Trust for America's Health
	Arthritis				
	Arthritis	33	27.50%	2008	U.S. Department of Health and Human Services' National Center for Chronic Disease Prevention and Public Health Promotion (NCCDPHP)
	Asthma				
	Asthma rates, percentage of adults	48	10.60%	2006	Trust for America's Health
	Cancer				
	Age-adjusted invasive cancer incidence rate (per 100,000 population)	38	445.2	2004	The Henry J. Kaiser Family Foundation
	Cancer incidence rate for males (per 100,000 population, age-adjusted)	38	518.6	2004	American Cancer Society
	Cancer incidence rate for females (per 100,000 population, age-adjusted)	37	378.8	2004	American Cancer Society
	Bladder (per 100,000 females, age-adjusted)	25	9.2	2006	American Cancer Society
	Bladder (per 100,000 males, age-adjusted)	26	37.1	2004	American Cancer Society
	Breast (per 100,000 females, age-adjusted)	28	123.4	2004	American Cancer Society

North Dakota's Health Rankings					
Category	Indicator	Rank (1 = best or most # of)	Value (if available)	Year data collected	Source
	Cervical cancer incidence rate (per 100,000 women)	46	6.1	2004	American Cancer Society
	Colon and rectum (per 100,000 females, age-adjusted)	31	43.3	2004	American Cancer Society
	Colon and rectum (per 100,000 males, age-adjusted)	15	66.3	2004	American Cancer Society
	Colonoscopy/sigmoidoscopy ever performed (adults aged 50 and older)	31	56.50%	2006	American Cancer Society
	Fecal occult blood test within past two years (adults aged 50 and older)	36	22.20%	2006	American Cancer Society
	Lung and bronchus (per 100,000 females, age-adjusted)	42	43.9	2004	American Cancer Society
	Lung and bronchus (per 100,000 males, age-adjusted)	39	71.3	2004	American Cancer Society
	Mammogram within past two years (women aged 40 and older)	24	77.20%	2006	American Cancer Society
	Non-Hodgkin lymphoma (per 100,000 females, age-adjusted)	34	15.1	2004	American Cancer Society
	Non-Hodgkin lymphoma (per 100,000 males, age-adjusted)	27	22.1	2004	American Cancer Society
	Pap test within past three years (women aged 18 and older)	24	84.50%	2006	American Cancer Society
	Prostate (per 100,000 males, age-adjusted)	9	175.2	2004	American Cancer Society
	PSA test within past two years (men aged 40 and older)	32	52.20%	2004	American Cancer Society
	Diabetes				
	Diabetes	47	6.30%	2008	The Henry J. Kaiser Family Foundation
	Disabilities				
	Percentage who reported a disability (adult population aged 21–64 years)	50	10.10%	2007	The Henry J. Kaiser Family Foundation
	Use of special equipment such as cane, wheelchair, special bed, or telephone	51	4.70%	2008	U.S. Department of Health and Human Services' National Center for Chronic Disease Prevention and Public Health Promotion, Behavioral Risk Factor Surveillance System
	Infectious disease				

North Dakota's Health Rankings					
Category	Indicator	Rank (1 = best or most # of)	Value (if available)	Year data collected	Source
	Infectious disease (per 100,000 population)	1	2.5	2008	United Health Foundation
	Tuberculosis (number of cases)	49	9	2006	Trust for America's Health
	Human West Nile virus (new cases)	3	369	2007	Trust for America's Health
	Mental health				
	Poor mental health (percentage of adults reporting)	44	29.40%	2007	The Henry J. Kaiser Family Foundation
	Serious mental illness (number of adults)	47	26,314	2002	The Henry J. Kaiser Family Foundation
	Mental health spending (per capita)	25	$81.06	2006	National Alliance on Mental Illness
	Total mental health spending (in millions)	48	$51	2006	National Alliance on Mental Illness
	Suicide rank	13		2006	National Alliance on Mental Illness
	Oral health				
	Dentist or dental clinic visit within the past year (percentage of adults)	17	72.20%	2006	The Henry J. Kaiser Family Foundation
	Percentage of adults (aged 18 and above) who had their teeth cleaned	31	67.60%	2004	The Henry J. Kaiser Family Foundation
	Percentage of adults (aged 65 and above) who have had all of their natural teeth extracted	14	22.90%	2006	The Henry J. Kaiser Family Foundation
	Obesity and physical activity				
	Percentage of adults who are overweight or obese	14	62%	2007	The Henry J. Kaiser Family Foundation
	Hypertension rates (percentage of adults)	42	25.10%	2007	Trust for America's Health
	Obesity rates (percentage of children age 10–17)	39	12.10%	2004	Trust for America's Health
	Medical costs of obesity (per capita)	3	$330	2004	Trust for America's Health
	Percentage of adults who participated in moderate or vigorous physical activities	15	52.70%	2007	The Henry J. Kaiser Family Foundation
	Sexually transmitted diseases				
	Chlamydia cases (per 100,000 population)	34	285.9	2006	The Henry J. Kaiser Family Foundation
	Gonorrhea cases (per 100,000 population)	45	24	2006	The Henry J. Kaiser Family Foundation
	Syphilis cases (per 100,000 population)	49	0.5	2006	The Henry J. Kaiser Family Foundation
	Substance abuse				
	Prevalence of smoking (percentage of population)	32	20.90%	2008	United Health Foundation
	Prevalence of smoking (percentage of adult population)	32	19.80%	2006	Trust for America's Health

North Dakota's Health Rankings					
Category	Indicator	Rank (1 = best or most # of)	Value (if available)	Year data collected	Source
	High school students current tobacco use	16	22.10%	2005	Trust for America's Health
Causes of death					
	Leading causes of death				
	Cardiovascular deaths (per 100,000 population)	13	263.7	2008	United Health Foundation
	Coronary heart disease deaths (per 100,000 population, age-adjusted)	30	132.8	2004	American Cancer Society
	Stroke deaths (per 100,000 population, age-adjusted)	16	54.3	2004	American Cancer Society
	Number of deaths due to Alzheimer's disease (per 100,000 population)	2	33.5	2004	The Henry J. Kaiser Family Foundation
	Cancer deaths				
	Number of cancer deaths (per 100,000 population)	43	179.8	2008	United Health Foundation
	Breast (per 100,000 females, age-adjusted)	35	24	2004	American Cancer Society
	Number of deaths due to colorectal cancer (per 100,000 population)	45	15.9	2004	The Henry J. Kaiser Family Foundation
	Colorectal (per 100,000 males, age-adjusted)	37	22.4	2004	American Cancer Society
	Colorectal (per 100,000 females, age-adjusted)	35	16	2004	American Cancer Society
	Lung and bronchus (per 100,000 males, age-adjusted)	41	62.6	2004	American Cancer Society
	Lung and bronchus (per 100,000 females, age-adjusted)	48	32.7	2004	American Cancer Society
	Non-Hodgkin lymphoma (per 100,000 males, age-adjusted)	23	9.9	2004	American Cancer Society
	Non-Hodgkin lymphoma (per 100,000 females, age-adjusted)	38	5.9	2004	American Cancer Society
	Prostate (per 100,000 males, age-adjusted)	17	29.3	2004	American Cancer Society
	Pancreatic (per 100,000 males, age-adjusted)	41	11.4	2004	American Cancer Society
	Pancreatic (per 100,000 females, age-adjusted)	35	9	2004	American Cancer Society
	Death rates				
	Number of deaths (per 100,000 population)	38	726.7	2006	The Henry J. Kaiser Family Foundation
	Rate of child deaths (ages 1–14, per 100,000 children)	33	23	2005	The Henry J. Kaiser Family Foundation

North Dakota's Health Rankings					
Category	Indicator	Rank (1 = best or most # of)	Value (if available)	Year data collected	Source
	Rate of teen deaths (per 100,000 population)	17	80	2005	The Henry J. Kaiser Family Foundation
	Firearms deaths				
	Number of deaths due to injury by firearms (per 100,000 population)	35	9	2005	The Henry J. Kaiser Family Foundation
	Motor vehicle deaths				
	Number of deaths due to motor vehicle accidents (per 100,000 population)	18	19.6	2005	The Henry J. Kaiser Family Foundation
	Occupational fatalities				
	Number of occupational fatalities (per 100,000 workers)	39	7.8	2008	United Health Foundation
	Abortion				
	Number of reported legal abortions by state of occurrence	45	1,231	2005	The Henry J. Kaiser Family Foundation
Health care in ND					
	Quality				
	Overall health system performance	13		2007	The Commonwealth Fund
	Quality	20		2007	The Commonwealth Fund
	Avoidable hospital use and costs	9		2007	The Commonwealth Fund
	Equity	17		2007	The Commonwealth Fund
	Healthy lives	17		2007	The Commonwealth Fund
	Adults aged 50 and older who received recommended screening and preventive care	29	38.80%	2004	The Commonwealth Fund
	Adult diabetics who received recommended preventive care	2	61.30%	2004	The Commonwealth Fund
	Children ages 19–35 months who received all recommended doses of five key vaccines	8	85%	2005	The Commonwealth Fund
	Children with both a medical and dental preventive care visit in the past year	46	49%	2003	The Commonwealth Fund
	Children with emotional, behavioral, or developmental problems who received some mental health care in the past year	14	66.10%	2003	The Commonwealth Fund
	Children with a medical home	37	41.70%	2004	The Commonwealth Fund

North Dakota's Health Rankings					
Category	Indicator	Rank (1 = best or most # of)	Value (if available)	Year data collected	Source
	Surgical patients who received appropriate timing of antibiotics to prevent infections	3	80%	2005	The Commonwealth Fund
	Heart failure patients given written instructions at discharge	27	47%	2005	The Commonwealth Fund
	Medicare patients whose health care provider always listens, explains, shows respect, and spends enough time with them	41	67.40%	2003	The Commonwealth Fund
	Medicare patients giving a best rating for health care received in the past year	42	67.20%	2003	The Commonwealth Fund
	High-risk nursing home residents with pressure sores	50	7.60%	2004	The Commonwealth Fund
	Nursing home residents who were physically restrained	46	2.60%	2004	The Commonwealth Fund
	Access				
	Access	18		2007	The Commonwealth Fund
	Population with health insurance coverage	11	89.50%	2007	State Health Access Data Assistance Center, University of Minnesota
	Employers offering health insurance to employees	39	49.10%	2007	State Health Access Data Assistance Center, University of Minnesota
	Employees enrolling in health insurance offered by employers	30	78.70%	2007	State Health Access Data Assistance Center, University of Minnesota
	Percentage of premiums contributed by employees enrolled in employer-sponsored coverage	43	21.00%	2007	State Health Access Data Assistance Center, University of Minnesota
	Working adults spending 20% or more of income on out-of-pocket medical expenses (including copayments, coinsurance, and deductibles)	6	5.80%	2007	State Health Access Data Assistance Center, University of Minnesota
	Medicaid enrollment as a percentage of population under 200% of the federal poverty level	49	28.40%	2007	State Health Access Data Assistance Center, University of Minnesota
	General finance				
	Per capita health spending	12	$5,808	2004	The Henry J. Kaiser Family Foundation
	Total health care expenditures as a percentage of gross state product	4	17.60%	2004	The Henry J. Kaiser Family Foundation
	Average annual percentage growth in health care expenditures per capita	17	6.30%	1991–2004	The Henry J. Kaiser Family Foundation

North Dakota's Health Rankings					
Category	Indicator	Rank (1 = best or most # of)	Value (if available)	Year data collected	Source
	Total state government health expenditures as percentage of gross state product	19	3.50%	2003	The Henry J. Kaiser Family Foundation
	Medicare and Medicaid				
	Uninsured children	20	10.30%	2006	Trust for America's Health
	Medicare spending per enrollee	43	$5,823	1995–2004	The Henry J. Kaiser Family Foundation
	Medicare spending per enrollee—hospital care	21	$3,981	2004	The Henry J. Kaiser Family Foundation
	Medicare spending per enrollee—physician and clinical services	49	$1,192	2004	The Henry J. Kaiser Family Foundation
	Medicare spending per enrollee—nursing home care	49	$153	2004	The Henry J. Kaiser Family Foundation
	Medicare spending per enrollee—drugs and other medical non-durables	23	$108	2004	The Henry J. Kaiser Family Foundation
	Medicare length of stay	6	6.6 days	2005	North Dakota Healthcare Association
	Medicaid spending per dual eligible	8	$19,369	2003	The Henry J. Kaiser Family Foundation
	Dual eligible spending as a percentage of total Medicaid	2	60%	2003	The Henry J. Kaiser Family Foundation
	Medicare beneficiaries aged 65 and older living below 150% of FPL	22	27%	2006–2007	The Henry J. Kaiser Family Foundation
	Medicare Advantage plan penetration	42	7%	2008	The Henry J. Kaiser Family Foundation
	Hospital				
	Hospital admissions (per 1,000 population)	9	139	2005	North Dakota Healthcare Association
	Inpatient days (per 1,000 population)	3	1,205	2005	North Dakota Healthcare Association
	Outpatient visits (per 1,000 population)	9	2,927	2005	North Dakota Healthcare Association
	Emergency room visits (per 1,000 population)	19	414	2005	North Dakota Healthcare Association
	Hospital inpatient charges (per day)	49	$1,649	2006	North Dakota Healthcare Association
	Hospital outpatient charges (per day)	31	$758	2006	North Dakota Healthcare Association
	Hospital adjusted expenses (per inpatient day)	48	$966	2006	The Henry J. Kaiser Family Foundation
	Total hospital margins	49	-0.29%	2002–2006	North Dakota Healthcare Association
	Hospital unit reimbursement rates (i.e., what payers paid for hospital care)	20	$6,886	2004	The Henry J. Kaiser Family Foundation

North Dakota's Health Rankings					
Category	Indicator	Rank (1 = best or most # of)	Value (if available)	Year data collected	Source
	Avoidable hospital use and costs				
	Hospital admissions for pediatric asthma (per 100,000 children)	NA	NA	2002	The Commonwealth Fund
	Percentage of asthmatics with an emergency room or urgent care visit in the past year	NA	NA	2004	The Commonwealth Fund
	Medicare hospital admissions for ambulatory-care-sensitive conditions (per 100,000 beneficiaries)	21	6,662	2003	The Commonwealth Fund
	Medicare 30-day hospital readmissions as a percentage of admissions	16	16.20%	2003	The Commonwealth Fund
	Long-stay nursing home residents with a hospital admission	9	10.40%	2000	The Commonwealth Fund
	Nursing home residents with hospital readmission within 30 days	28	12.30%	2000	The Commonwealth Fund
	Home health patients with a hospital admission	12	23.70%	2004	The Commonwealth Fund
	Total single premium per enrolled employee at private-sector establishments that offer health insurance	5	$3,342	2004	The Commonwealth Fund
	Total Medicare (Parts A & B) reimbursements per enrollee	2	$4,766	2003	The Commonwealth Fund
	Public health				
	Federal funding (per capita) from U.S. Centers for Disease Control (CDC) FY 2007	7	$32.76	2007	Trust for America's Health
	Federal funding (per capita) from Health Resources and Services Administration (HRSA) FY 2007	19	$18.27	2007	Trust for America's Health
	Federal funding (per capita) from Office of the Assistant Secretary for Preparedness and Response (ASPR) for the Hospital Preparedness Program (HPP) FY 2007	3	$2.04	2007	Trust for America's Health
	State funding for Public Health FY 2006–2007	38	$16.73	2007	Trust for America's Health
Health status					
	Births				
	Number of births	48	8,621	2006	The Henry J. Kaiser Family Foundation
	Teen birth rate (per 1,000 population, ages 15–19)	44	26.5	2006	The Henry J. Kaiser Family Foundation

North Dakota's Health Rankings					
Category	Indicator	Rank (1 = best or most # of)	Value (if available)	Year data collected	Source
	Preterm births (percentage of all births)	32	12.10%	2006	The Henry J. Kaiser Family Foundation
	Number of births of low birth weight	50	576	2006	The Henry J. Kaiser Family Foundation
	Prenatal care				
	Percentage of mothers beginning prenatal care in the first trimester	8	85%	2005	The Henry J. Kaiser Family Foundation
	Infants				
	Infant mortality (per 1,000 live births)	17	6.1	2008	United Health Foundation
	Childhood immunizations				
	Immunization coverage (percentage of children aged 19–35 months)	13	82%	2008	United Health Foundation
	Immunization gap, children aged 19–35 months without all immunizations	41	19.90%	2006	Trust for America's Health
	Child and adolescent health				
	High school students—asthma rates (lifetime)	23	19.10%	2005	Trust for America's Health
	Children in poverty				
	Percentage of persons under age 18	8	12.50%	2008	United Health Foundation
	Adult immunizations				
	Adults aged 65 and over who had a flu shot within the past year	25	72.20%	2007	The Henry J. Kaiser Family Foundation
	Adults aged 65 and over who have ever had a pneumonia vaccine	10	68%	2007	The Henry J. Kaiser Family Foundation
	Influenza vaccinations ever, for persons aged 65 and older	14		2008	U.S. Department of Health and Human Services' National Center for Chronic Disease Prevention and Public Health Promotion, Behavioral Risk Factor Surveillance System
	Influenza vaccinations in the past year for persons aged 65 and older	25		2008	U.S. Department of Health and Human Services' National Center for Chronic Disease Prevention and Public Health Promotion, Behavioral Risk Factor Surveillance System
	Violent crime				
	Violent crime offenses rate (per 100,000 inhabitants)	2	127.9	2006	The Henry J. Kaiser Family Foundation
	Violent crime offenses (per 100,000 population)	4	142	2008	United Health Foundation
	Clinical care				
	Primary care physicians (per 100,000 population)	18	121.4	2008	United Health Foundation

North Dakota's Health Rankings					
Category	Indicator	Rank (1 = best or most # of)	Value (if available)	Year data collected	Source
	Preventable hospitalizations (per 1,000 Medicare enrollees)	25	74.7	2008	United Health Foundation
Managed care and health insurance					
	HMOs				
	Number of HMOs	49	1	2007	The Henry J. Kaiser Family Foundation
	Total HMO enrollment	50	1,914	2007	The Henry J. Kaiser Family Foundation
Provider and service use					
	Hospitals				
	Total hospitals	38	41	2006	The Henry J. Kaiser Family Foundation
	Hospital beds (per 1,000 population)	2	5.6	2006	The Henry J. Kaiser Family Foundation
	Hospital admissions (per 1,000 population)	10	139	2006	The Henry J. Kaiser Family Foundation
	Hospital emergency room visits (per 1,000 population)	26	412	2006	The Henry J. Kaiser Family Foundation
	Hospital inpatient days (per 1,000 population)	3	1,196	2006	The Henry J. Kaiser Family Foundation
	Hospital outpatient visits (per 1,000 population)	14	2,681	2006	The Henry J. Kaiser Family Foundation
	Nursing homes				
	Total number of residents in certified nursing facilities	41	5,774	2007	The Henry J. Kaiser Family Foundation
	Total number of certified nursing facilities	42	80	2007	The Henry J. Kaiser Family Foundation
	Certified nursing facility beds	43	6,272	2007	The Henry J. Kaiser Family Foundation

North Dakota's Health Comparisons				
Indicator	Year	ND Value	U.S. Average	Source
Sources of health insurance				
Employer-sponsored	2007	56%	53%	Robert Wood Johnson Foundation
Individual	2007	10%	5%	Robert Wood Johnson Foundation
Medicaid	2007	9%	13%	Robert Wood Johnson Foundation
Medicare	2007	13%	12%	Robert Wood Johnson Foundation
Other Public	2007	1%	1%	Robert Wood Johnson Foundation
Uninsured	2007	11%	15%	Robert Wood Johnson Foundation
Annual health care indicators				
Hospitals admissions (per 1,000 population)	2005	137	119	North Dakota Healthcare Association
Outpatient visits (per 1,000 population)	2005	2,927	1,976	North Dakota Healthcare Association
Emergency room visits (per 1,000 population)	2005	414	388	North Dakota Healthcare Association
Number of births (per 1,000 population)	2005	14.6	13.5	North Dakota Healthcare Association
Medicare length of stay	2005	6.6 days	6 days	North Dakota Healthcare Association
Hospital-based registered nurse (RN) FTEs (per 10,000 population)	2005	49.7	37	North Dakota Healthcare Association
Non-federal primary care physicians (percentage of total population)	2006	45%	39%	North Dakota Healthcare Association
Medicare enrollment beneficiaries (percentage of total population)	2005	16%	14%	North Dakota Healthcare Association
Medicaid managed care	2006	56%	65.40%	North Dakota Healthcare Association
Employee contribution to health insurance	2005	14.50%	8.30%	North Dakota Healthcare Association
HMO enrollment	2005	0.30%	18%	North Dakota Healthcare Association
Percentage uninsured	2006	12.20%	16.60%	North Dakota Healthcare Association
Unemployment rate	2008	3.20%	4.30%	North Dakota Healthcare Association
Oral health measures				
Adults aged 65+ who have all their natural teeth extracted	2006	22.90%	19.30%	U.S. Department of Health and Human Services' National Center for Chronic Disease Prevention and Public Health Promotion (NCCDPHP)
Adults aged 65+ who have lost six or more teeth due to tooth decay or gum disease	2004	49.30%	45.90%	U.S. Department of Health and Human Services' National Center for Chronic Disease Prevention and Public Health Promotion (NCCDPHP)
Adults aged 18+ who have had any permanent teeth extracted	2006	44.40%	43.90%	U.S. Department of Health and Human Services' National Center for Chronic Disease Prevention and Public Health Promotion (NCCDPHP)

North Dakota's Health Comparisons				
Indicator	Year	ND Value	U.S. Average	Source
Adults aged 18+ who have visited the dentist or dental clinic within the past year for any reason	2006	72.20%	70.30%	U.S. Department of Health and Human Services' National Center for Chronic Disease Prevention and Public Health Promotion (NCCDPHP)
Adults aged 18+ who have had their teeth cleaned in the past year	2004	67.60%	69.00%	U.S. Department of Health and Human Services' National Center for Chronic Disease Prevention and Public Health Promotion (NCCDPHP)
3rd grade students with caries experience (treated or untreated tooth decay)	2006	55.60%	not available	U.S. Department of Health and Human Services' National Center for Chronic Disease Prevention and Public Health Promotion, National Oral Health Surveillance System
3rd grade students with untreated tooth decay	2006	16.90%	not available	U.S. Department of Health and Human Services' National Center for Chronic Disease Prevention and Public Health Promotion, National Oral Health Surveillance System
3rd grade students with dental sealants on at least one permanent molar tooth	2006	52.70%	not available	U.S. Department of Health and Human Services' National Center for Chronic Disease Prevention and Public Health Promotion, National Oral Health Surveillance System
Population on public water supply systems receiving fluoridated water	2006	96.20%	69.20%	U.S. Department of Health and Human Services' National Center for Chronic Disease Prevention and Public Health Promotion, National Oral Health Surveillance System
Percentage of population at or above 200% of the federal poverty level (FPL)	24	70.50%	2007	State Health Access Data Assistance Center, University of Minnesota
Total Hispanic population	8	2.10%	2007	The Henry J. Kaiser Family Foundation

North Dakota Department of Health, Health Indicator Project - September 2008									
Indicator	Definition and Source	2002	2003	2004	2005	2006	2007	Target	US
DECREASE VACCINE PREVENTABLE DISEASE									
1. By _____, decrease the rate of vaccine preventable disease to _____.	DREAMS (Disease Reporting and Epidemiologic Assessment Monitoring System) Combined incidence of tetanus, pertussis, diphtheria, measles, rubella, mumps, invasive Hemophilus influenzae, hepatitis A and Hepatitis B per 100,000 population		4.7	3	121.1	27.9		<5 per 100,000	NA
2. By _____, decrease the pneumonia and influenza death rate to _____.	Number of deaths due to influenza and pneumonia (ICD10: J10-J18) as any mention per 100,000 population, age adjusted by influenza year (Sept-Aug)	79	68	74	60	78	62	60	NA
3. By _____, increase the percentage of children up-to-date on vaccines at age 2 years to _____.	Percentage of Children completing the 4:3:1:3:3 Vaccination Series NIS Data		73.2	76.4	79.9	81		90	
4. By _____, decrease the percentage of adults age 65 and older who reported not being vaccinated for influenza during the past year to _____.	BRFSS	26	27	26	30	28	28		65
ACHIEVE HEALTHY WEIGHT THROUGHOUT LIFESPAN									
1. By _____, increase the percentage of ND children age 10-17 with a Body Mass Index (BMI) in the normal weight range to _____.	National Children's Study BMI > 56th but < 85th percentile	NA	68.3	NA	NA	NA	NA		64.6
2. By _____, increase the percentage of healthy weight among adults to _____.	BRFSS BMI in the range >18.0 to <25.0	35	36	36	34	36	34		NA
3. By _____, decrease the Incidence of low birth weight to _____.	NVSS Infants born less than 2500 grams as a percentage of live births	6.3	6.7	6.6	6.4		6.8		8.1
4. By _____, decrease the percentage of ND youth grades 7-8 at risk of overweight to _____.	YRBS BMI greater than or equal to 85th but less than 95th percentile	NA	17	NA	16	NA			19

North Dakota Department of Health, Health Indicator Project - September 2008									
Indicator	Definition and Source	2002	2003	2004	2005	2006	2007	Target	US
5. By _____, decrease the percentage of ND youth grades 9-12 at risk of overweight to _____.	YRBS BMI greater than or equal to 85th but less than 95th percentile	NA	11	NA	13	NA	14		16
PREVENT AND REDUCE CHRONIC DISEASES AND THEIR COMPLICATIONS									
1. By _____, decrease the diabetes-related death rate to _____.	NVSS Number of deaths with any mention of diabetes (ICD10: E10-E14) as a cause of death per 100,000, age adjusted	96	86	80	80	78	91		NA
2. By _____, increase the percentage of adults with diabetes who did not receive at least two HgA1c tests during the year to _____.	BRFSS Percentage of adults 18 and older who report that a health professional had not checked a HgA1c two or more times during the past 12 months (excluding don't know , refused and never heard of HgA1c)	17	37	NA	33	29	28		NA
3. By _____, decrease the coronary heart disease death rate among people age 0 to 64 to _____.	NVSS Number of deaths due to ischemic heart disease (ICD10: 120-125) among people age 0-64 per 100,000 population people age 0-64, age adjusted	30	31	27	27	30	31		32
4. By _____, decrease the cerebrovascular disease death rate to _____.	NVSS Number of deaths due to cerebrovascular disease (ICD10: 160-169) per 100,000 population, age adjusted.	56	58	56	48	48	55		54
5. By _____, decrease the preventable cancer death rate to _____.	NVSS Number of deaths due to cancer of the prostate, lung, breast, cervical, skin, colorectal, oral, pharynx combined (ICD10: C00-C14, C18-C21, C33-C34, C43, C50, C53, C61) per 100,000, age adjusted	95	94	96	94	98	98		104
6. By _____, decrease the asthma death rate to _____.	NVSS Number of deaths due to asthma (ICD10: J45-J46) per 100,000, age adjusted	1.9	2.3	1.2	1	0.7	1.1		1.4
7. By _____, decrease the kidney disease death rate to _____.	NVSS Number of deaths due to kidney disease (ICD10: N00-N07, N17-N19, N25-N27) per 100,000, age adjusted	5.9	4.7	5.3	7.1	5.5	7.2		14.4
PREVENT AND REDUCE INTENTIONAL AND UNINTENTIONAL INJURY									
1. By 2010, decrease the suicide death rate among persons 10-24 to 12.	NVSS Number of suicides (ICD10: X60-X84, Y87.0) among persons age 19 and younger per 100,000 children 19 and younger	6.6	13.9	12.5	19.8			12	

North Dakota Department of Health, Health Indicator Project - September 2008									
Indicator	Definition and Source	2002	2003	2004	2005	2006	2007	Target	US
2. By 2015, decrease the number of people 18 years and older reporting rape or sexual assault within the past 5 years.	BRFSS	NA	NA	NA	NA	NA	NA		NA
3. By 2015, decrease the number of people 13 – 17 years reporting rape or sexual assault within the past 5 years.	BRFSS	NA	NA	NA	NA	NA	NA		NA
*Value unstable due to small number of events									
4. By 2015, decrease the number of people 18 years and older who reporting having been physically assaulted by current or former intimate partner within the last five years.	BRFSS	NA	NA	NA	NA	NA	NA		NA
5. By 2010, decrease the death rate among children age 1-19 caused by unintentional injuries to15.	NVSS Number of deaths among children age 1-19 due to unintentional injury (ICD10:V01-X59,Y85-Y86) per 100,000 children age 1-17	16	16	21	15	21	21	15	14 -2003
6. By 2010, decrease the death rate due to motor vehicle crashes among children 0-19 to 6.5.	NVSS Number of deaths due to motor vehicle crash (ICD10: V02-V04,V09.0,V12-V14,V19.0-V19.2,V19.4-V19.6,V20-V79, V80.3-V80.5,V81.0-V81.1,V82.0-V82.1,V83-V86,V87.0-V87.8, V88.0-V88.8,V89.0,V89.2) per 100,000 population age 0-14.	12	14.2	10.4	15.3			6.5	
*Value unstable due to small number of events									
7. By _____, decrease the death rate due to motor vehicle crashes to _____.	NVSS Number of deaths due to motor vehicle crash (ICD10: V02-V04,V09.0,V12-V14,V19.0-V19.2,V19.4-V19.6,V20-V79, V80.3-V80.5,V81.0-V81.1,V82.0-V82.1,V83-V86,V87.0-V87.8, V88.0-V88.8,V89.0,V89.2) per 100,000 population, age adjusted.	17	17	18	18	21	23		15 -2003

North Dakota Department of Health, Health Indicator Project - September 2008									
Indicator	Definition and Source	2002	2003	2004	2005	2006	2007	Target	US
PREVENT AND REDUCE TOBACCO USE AND SUPPORT OTHER SUBSTANCE ABUSE PREVENTION									
1. By _____, decrease the percentage of ND adults who are current smokers to _____.	BRFSS Percentage of people age 18 and older who report having smoked at least 100 cigarettes in their life and report currently smoking every day or some days.	22	21	20	20	20	21		21 -2005
2. By _____, decrease the percentage of North Dakota youth in grades 9-12 who are current smokers to _____.	YRBS Percentage of students grades 9-12 who smoked cigarettes on one or more of the past 30 days.	NA	30	NA	22	NA	21		23 -2005
3. By _____, increase the percentage of North Dakota smokers who have made a quit attempt within the past year to _____.	BRFSS Percentage of smokers age 18 and older who reported that during the past 12 months they quit smoking for one day or longer because they were trying to quit	53	52	49	49	49	53		52 -2003
4. By _____, decrease the alcoholic liver disease and cirrhosis death rate to _____.	NVSS Number of deaths due to cirrhosis and other chronic liver disease (ICD10: K70, K73-74) per 100,000, age adjusted.	9.6	13	8.8	11.9	7.6	9.9		9.3 -2003
5. By _____, decrease the percentage of youth who reported current marijuana use to _____.	YRBS Percentage of youth grades 9-12 who reported using marijuana one or more times during the past 30 days.	NA	21	NA	16	NA	14.8		20 -2005
6. By _____, decrease the percentage of youth who reported current binge drinking to _____.	YRBS Percentage of youth grades 9-12 who reported drinking five or more drinks in a row one or more times during the past 30 days.	NA	40	NA	34	NA	46		26 -2005
7. By _____, decrease the percentage of adults who reported current binge drinking to _____.	BRFSS Percentage of persons age 18 and older who reported drinking five or more drinks on one or more occasions during the past 30 days	22	21	20	19	21	23		14 -2005
ENSURE SAFE FOOD AND LODGING SERVICES									
1. By January 1, 2010, reduce the number of foodborne outbreaks in licensed and inspected facilities by 10%.	Number of foodborne outbreaks in all food facilities		4	3	2	6	5		

North Dakota Department of Health, Health Indicator Project - September 2008									
Indicator	Definition and Source	2002	2003	2004	2005	2006	2007	Target	US
2. By January 1, 2010, reduce the number of retail and food service facilities with critical violations by 10%	Percentage of retail and food service facilities with critical violations		1098	1122	1231	893	964		
3. By January 1, 2010, increase the percentage of state an local food inspectors who are standardized on the FDA Food Code to 100%.	Percentage of Environmental Health Practitioners who conduct food inspections and are standardized.		3.8	11.5	15.4	26.9	30.8		
PROMOTE AND MAINTAIN STATEWIDE EMERGENCY MEDICAL SERVICES									
1. By January 1, 2010, limit the loss of licensed EMTs in non-urban areas to less than 10% compared to _____.	Number of licensed EMTs in all counties except Burleigh, Cass, Grand Forks, Morton and Ward		1158	1141	1143	1141		1300	
2. By January 1, 2010, increase the percentage of ambulance service runs meeting the urban fractile response time standard to 90%.	Time from call receipt to EMT response < 9 minutes			83%	79%	83%		90%	
3. By January 1, 2010, increase the percentage of ambulance service runs meeting rural fractile response time standard to 90%.	Time from call receipt to EMT response < 16 minutes			87%	83%	85%		90%	
4. By January 1, 2010, increase the percentage of ambulance service runs meeting frontier fractile response time standards to 90%.	Time from call receipt to EMT response < 31 minutes			98%	96%	96%		90%	
5. By January 1, 2010, increase the percentage of eligible hospitals with trauma center designation to 100%.				71%	80%	83%		100%	

North Dakota Department of Health, Health Indicator Project - September 2008									
Indicator	Definition and Source	2002	2003	2004	2005	2006	2007	Target	US
ENHANCE QUALITY OF HEATLH CARE SERVICES									
1. By January 1, 2010 decrease the incidence of low risk pressure ulcers in SNF to 2.5%.	As defined by 8th Scope of work contract between NDHCR and CMS		NA	2.53	2.81			2.39	2.55 -2005
2. By January 1, 2010 maintain the incidence of use of physical restraints in SNF at or below 2.13%.	As defined by 8th Scope of work contract between NDHCR and CMS		NA	2.57	2.51			2.13	6.83 -2005
3. By January 1, 2010, decrease the percentage of SNF patients with moderate to severe pain to 4.01%	As defined by 8th Scope of work contract between NDHCR and CMS		NA	6.4	6.17			4.01	6.19 -2005
IMPROVE ACCESS AND UTILIZATION OF HEALTH SERVICES									
1. By January 1, 2010 increase the primary care physician to population ratio in non-urban areas to _____.	Number per 100,000 population in all counties except Burleigh, Cass, Grand Forks, Morton and Ward								
2. By January 1, 2010, increase the nurse to population ratio in non-urban areas to _____.	Number per 100,000 population in all counties except Burleigh, Cass, Grand Forks, Morton and Ward								
3. By January 1, 2010, increase the dentist to population ratio in non-urban areas to _____.	Number per 100,000 population in all counties except Burleigh, Cass, Grand Forks, Morton and Ward								
4. By January 1, 2010 increase the mental health providers to population ratio in non-urban areas to _____.	Number per 100,000 population in all counties except Burleigh, Cass, Grand Forks, Morton and Ward								
5. By _____, decrease the percentage of population with no primary care provider in non-urban areas to _____.	BRFSS Percentage of adults who reported that they did not have one or more persons they think of as their personal doctor or health care provider in all counties except Burleigh, Cass, Grand Forks, Morton and Ward	21	22	22	22	21	24		NA

North Dakota Department of Health, Health Indicator Project - September 2008									
Indicator	Definition and Source	2002	2003	2004	2005	2006	2007	Target	US
6. By _____, decrease the percentage of adults who reported missing care due to cost during the past year to _____.	BRFSS Percentage of adults who reported that during the past 12 months they needed to see a doctor but could not due to cost.	NA	6.8	6.8	7	7.6	6.9		NA
7. By _____, decrease the percentage of all persons who are uninsured to _____.	CPS Percentage of people age 18 and older you report no form or health care coverage	10	9.7	10.1	11	12.2			15.8 (2006)
8. By _____, decrease the percentage of adult women who report not having had a pap smear in the past three years to _____.	BRFSS Percentage of women age 18 and older who report that they have not had a pap smear in the past three years among those with an intact cervix	13	NA	14	NA	16	NA		14 -2002
9. By _____, decrease the percentage of women age 40 and older who report never having had a mammogram to _____.	BRFSS Percentage of women age 40 and older who report that they have never had a mammogram	10	NA	10	NA	8	NA		NA
10. By _____, decrease the percentage of adults who report not having a cholesterol test in the last five years to _____.	BRFSS Percentage of people age 18 and older who reported that they have not had a cholesterol test in the past 5 years	31	30	NA	28	NA	27		27
11. By _____, increase the percentage of pregnant women who receive 1st trimester prenatal care to _____.	NVSS Percentage of women giving birth reported on the birth certificate to have begun receiving prenatal care during the first trimester		87	86	86				84 -2003
12. By _____, decrease the infant death rate to _____.	NVSS Death among children age 0-12 months per 1,000 live births	6.3	7.3	5.5	5.8	5.9			7 -2002
13. By _____, decrease the adolescent pregnancy rate to _____.	NVSS Number of pregnancies (live birth plus fetal death plus induced termination) among women age 15-17 per population of women age 15-17	32	31	31	32	29			54 -2000
14. By _____, decrease the percentage of third graders with unrestored caries to _____.	BSS Third grade children found to have unrestored caries per 100 children examined	NA	NA	NA	17	NA	NA		

North Dakota Department of Health, Health Indicator Project - September 2008									
Indicator	Definition and Source	2002	2003	2004	2005	2006	2007	Target	US
15. By _____, increase the ratio of school nurses to students to _____.	School Health Services Survey		3.3174	NA	2.491				NA
16. By _____, increase the percentage of women or who have adequate or adequate plus prenatal care to _____.	NVSS Percentage of women receiving less than adequate prenatal care as measured by the Kotelchuck index		88	88	88				
17. By 2011, increase the percentage of CSHCN who receive coordinated, ongoing comprehensive care within a medical home to 60.0.	NS-CSHCN Five component composite Personal doctor or nurse Usual source of care Access to needed referrals Family-centered care Care coordination		54.7	NA	NA	NA	51.2	60	47.1 (2005)
18. By 2011, increase the percentage of CSHCN whose services are organized in ways that families can use them easily to 95.0	NS-CSHCN The child's family experienced no difficulties when trying to use any of the health related services that the child needed during the past 12 months (e.g.) early intervention programs, schools, child care facilities, vocational education and rehabilitation programs, and other community programs.		83.4	NA	NA	NA	92.3	95	89.1 (2005)
19. By 2011, increase the percentage of CSHCN whose families have adequate private and/or public insurance to pay for the services they need to 70.0.	NS-CSHCN Three component composite Insured at time of survey Insured entire year Adequacy of insurance benefits		62	NA	NA	NA	68.2	70	62 -2005
20. By ___, increase the percentage of children 0-17 covered by health insurance to _____.	Census (CPS)		92.5	90.9	91.1	89.7			88.3 (2006)
REDUCE HEALTH DISPARITIES									
1. By _____, decrease the prevalence of obesity among American Indians to _____.	BRFSS Percentage of American Indians age 18 and older with BMI greater than or equal to 30		1999-2003 33	2000-2004 35	2001-2005 36	2002-2006 39			40 (2001-2002)

North Dakota Department of Health, Health Indicator Project - September 2008									
Indicator	Definition and Source	2002	2003	2004	2005	2006	2007	Target	US
2. By _____, decrease suicide among American Indians to _____.	NVSS Number of suicides (ICD10: X60-X84,Y87.0) among American Indians per per 100,000 American Indians, age adjusted		40	21	55	52	33		10 -2003
3. By _____, decrease the percentage of Native Americans age 18 and older who report current smoking to _____.	BRFSS Percentage of American Indians age 18 and older who report having smoked at least 100 cigarettes in their life and report currently smoking every day or some days.	1998-2002 48	1999-2003 50	2000-2004 50	2001-2005 52	2002-2006 53	2003-2007		43 (2001-2002)
4. By _____, decrease the percentage of adults with a household income less than $15,000 who reported not having a dental visit in the past year to _____.	BRFSS Percentage of adults age 18 and older with a household income less than $15,000 who report no dental visit in the past year		NA	45	NA	50	NA		
5. By _____, decrease the percentage of adults without a personal physician among persons with household incomes <$15,000 to _____.	BRFSS Percentage of adults age 18 and older with a household income less than $15,000 who report that they do not have at least one person they consider to be their personal health care provider.	29	18	29	28	26	29		NA

Abbreviations

BRFSS – Behavioral Risk Factor Surveillance System
BMI – Body Mass Index
BSS – Baseline School Survey (?)
CMS – Center for Medicare and Medicaid Services
CPS – Current Population Survey (Census)
CSHCN – Children with Special Health Care Needs
DOC – Department Operation Center (NDDoH)
DREAMS – Disease Reporting and Epidemiologic Assessment Monitoring System
EMT – Emergency Medical Technician
HgA1c – Hemoglobin A1c
HRSA – Health Resources and Services Administration
ICD10 – International Classification of Disease, 10th revision
NDHCR – North Dakota Health Care Review
NS-CSHCN – National Survey of Children with Special Health Care Needs
NVSS – National Vital Statistics System
SNF – Skilled Nursing Facility
YRBS – Youth Risk Behavior Survey

APPENDIX C

Selected Key Health Initiatives and Organizations in North Dakota

The following matrix is intended to serve as a practical resource for multiple stakeholders across North Dakota. This matrix provides information about many of the health and health care related activities underway in North Dakota (federal, state, and nongovernmental). Individuals can use this document to (1) identify potential experts, models, and organizations; (2) establish partnerships around selected topics; and (3) avoid duplication of effort.

For the sake of brevity and utility, all entries in this table are listed only once—under the most relevant topic—despite the fact that some of the initiatives and organizations can be subsumed under more than one category. For reader convenience, the listings under each of the categories are alphabetized. Where information is available, the listing provides a concise description of an initiative/organization, funding source, the scope of the initiative (statewide or community), and contact information.

I. Health of North Dakota's Population A. Leading Health Indicators				
Title	Initiative/Organization Description	Contact Person	Funding Source	Scope of Activity
Alcohol and Substance Abuse (see also Injury and Violence)				
Community Prevention Coordinators	A network of 12 prevention coordinators across the state help communities address issues related to tobacco, alcohol and other drugs. The coordinators serve as liaisons for the North Dakota Department of Human Services – Division of Mental Health and Substance Abuse Services, providing updated and pertinent prevention information.	State Prevention Administrator Pamela Sagness Department of Human Services Division of Mental Health & Substance Abuse (701) 328-8824	Fed; Community Mental Health Services Block Grant, PATH Grant, MHSIP Grant, SAPT Grant, Governor's Portion of the Safe & Drug Free Schools & Communities Act	Statewide, 8 regional human services locations and 4 tribal locations
North Dakota Department of Human Services Regional Human Services Centers	The North Dakota Department of Human Services provides services that help vulnerable North Dakotans of all ages to maintain or enhance their quality of life; supports the provision of services and care as close to home as possible to maximize each person's independence and; employs 2,000 people located throughout the state with about 85% working in the 8 regional human service centers, the State Hospital, and the Developmental Center.	Department of Human Services Division of Mental Health and Substance Abuse	Fed; Community Mental Health Services Block Grant, PATH Grant, MHSIP Grant, SAPT Grant, Governor's Portion of the Safe & Drug Free Schools & Communities Act	Statewide at 8 regional human service centers, State Hospital in Jamestown, and Devel–opmental Center in Grafton
North Dakota Prevention Resource Center	This resource library provides free materials regarding substance abuse topics with the mission of increasing awareness and prevention.	North Dakota Prevention Resource Center (701) 328-8919 or (701) 328-8943	Fed: State:	Statewide
Safe and Drug Free Schools and Communities (SDFSC)	Programs for substance abuse prevention with 20% allocated to the ND Department of Human Services (DHS) for community prevention and 80% to the Department of Public Instruction (DPI) for programs in 188 ND school districts.	DHS- Division of Mental Health & Substance Abuse Services, DPI-Valerie Fisher (701) 328-4138	Federal: SDFSC Act	Statewide

I. Health of North Dakota's Population A. Leading Health Indicators				
Title	Initiative/Organization Description	Contact Person	Funding Source	Scope of Activity
Substance Abuse Prevention and Treatment (SAPT) Grant	Administered by the ND Department of Human Services, this federal grant supports substance abuse prevention and treatment programs at the state and local levels; it is a block grant.	Ms. JoAnne Hoesel, Director Division of Mental Health and Substance Abuse Services North Dakota Department of Human Services 1237 W. Divide Avenue, Suite 1C Bismarck, ND 58501-1208 (701) 328-8924 sohoej@state.nd.us www.state.nd.us/humanservices/services/mentalhealth	Fed: SAPT Grant	Statewide
Children's Health				
Abstinence Education Program	Promotes the health of youth through abstinence education.	Sandra L. Fetzer ND Department of Health Division of Family Health 600 E Boulevard Ave Dept 301 Bismarck ND 58505-0200 (701) 328-2493 or (800) 472-2286 sfetzer@nd.gov	Fed: Maternal & Child Health Bureau Grant	
Coordinated School Health (CSH) program	Provides consultation and technical assistance for schools and school nurses for use in organizing and managing school health and wellness activities.	Colleen Ebach ND Department of Health Division of Family Health 600 E Boulevard Ave Dept 301 Bismarck ND 58505-0200 (701) 328-2493 or (800) 472-2286 cebach@nd.gov	Fed: CDC	Statewide

I. Health of North Dakota's Population A. Leading Health Indicators				
Title	Initiative/Organization Description	Contact Person	Funding Source	Scope of Activity
Early Childhood Comprehensive Systems (ECCS) Program	Supports collaboration and partnerships that support families and communities in their development of children who are healthy and ready to learn at school entry.	Cheryle Masset-Martz ND Department of Health Division of Family Health 600 E Boulevard Ave Dept 301 Bismarck ND 58505-0200 (701) 328-2493 or (800) 472-2286 cmasset@nd.gov	Fed: HRSA	Statewide
Family Planning Program	Provides reproductive health care services to include a broad range of methods, infertility services and services for adolescents, with priority for services to individuals from low-income families.	Char Reiswig ND Department of Health Division of Family Health 600 E Boulevard Ave Dept 301 Bismarck ND 58505-0200 (701) 328-2493 or (800) 472-2286 creiswig@nd.gov	Fed: HRSA	Statewide
ND Dept. of Health				
Newborn Screening Program	Identifies infants at risk and in need for more definitive testing to diagnose and treat affected newborns.	Barb Schweitzer ND Department of Health Division of Family Health 600 E Boulevard Ave Dept 301 Bismarck ND 58505-0200 (701) 328-2493 or (800) 472-2286 bschweit@nd.gov	Fed: Title V MCH Grant	Statewide
ND KIDS COUNT	This collaboration of partners shares responsibility for data collection, education, and public awareness activities. In addition, NDKC works with organizations and agencies to provide relevant data for decision makers to more effectively address children's needs through sound policy recommendations.	Dr. Polly Fassinger, Program Director, North Dakota KIDS COUNT NDSU Dept. 8000 P.O. Box 6050 Fargo, ND 58108-6050 (701) 231-5931 fassinge@cord.edu www.ndkidscount.org	Anne E. Casey Foundation	Statewide

I. Health of North Dakota's Population A. Leading Health Indicators				
Title	Initiative/Organization Description	Contact Person	Funding Source	Scope of Activity
Optimal Pregnancy Outcome Program (OPOP)	Provides nursing, social and nutritional services to pregnant women.	Sandra L. Fetzer ND Department of Health Division of Family Health 600 E Boulevard Ave Dept 301 Bismarck ND 58505-0200 (701) 328-2493 or (800) 472-2286 sfetzer@nd.gov	State: Title V Maternal and Child Health Care grant	Statewide
ND Dept. of Health				
Title V Maternal & Child Health	Provides consultation, technical assistance and comprehensive services to improve the health, safety and well-being of mothers and children.	Kim Senn ND Department of Health Division of Family Health 600 E Boulevard Ave Dept 301 Bismarck ND 58505-0200 (701) 328-2493 or (800) 472-2286 ksenn@nd.gov	Fed: Title V Maternal and Child Health Care grant	Statewide
Women's Health Services	Coordinates with other state and local agencies to promote health care services, education and support for women of all ages in North Dakota.	Char Reiswig ND Department of Health Division of Family Health 600 E Boulevard Ave Dept 301 Bismarck ND 58505-0200 (701) 328-2493 or (800) 472-2286 creiswig@nd.gov	Fed: – Title 10 Grant	Statewide
Immunization				
Department of Health Immunization Program	Supplies vaccines for children, maintains immunization database within the state, and educates the public and providers about vaccinations.	Molly Sander, MPH, Immunization Program Manager ND Department of Health 600 E Boulevard Ave Dept 301 Bismarck ND 58505-0200 (701) 328-4556 msander@nd.gov	Fed: CDC	Statewide

I. Health of North Dakota's Population A. Leading Health Indicators				
Title	Initiative/Organization Description	Contact Person	Funding Source	Scope of Activity
Injury and Violence				
AgriSafe	Supports a growing network of trained agricultural health and safety professionals that assure access to preventive service for farm and ranch families and the agricultural community.	Denise Andress, RN West River Health Services Hettinger, ND 58639 (701) 567-6177 denisea@wrhs.com	West River Health Services	Statewide
Click it or Ticket May Mobilization	The 2008 campaign emphasized nighttime seatbelt use.	www.NHTSA.dot.gov	Fed: NHTSA	Statewide, 22 law enforcement agencies (city, county, and state law enforcement)
Empowerment Evaluation	Builds community capacity to evaluate and develop initiatives to prevent intimate partner violence.	Diana Read,Coordinator Injury Violence Prevention Program ND Department of Health (701) 328-4537 dread@nd.gov	Fed: CDC	All 19 ND domestic violence agencies, the ND Council on Abused Women's Services
Healthy North Dakota Injury Prevention Coalition	The overall goal of the ND DoH Injury Violence program is to reduce both unintentional and intentional injuries to North Dakotans, with special emphasis on children and women.	Diana Read,Coordinator Injury Violence Prevention Program ND Department of Health (701) 328-4537 dread@nd.gov	Fed: Title V Maternal and Child Health Care grant	Statewide
Mothers Against Drunk Drivers (MADD)	Aims to stop drunk driving, support the victims, and prevent underage drinking.	www.mad.org 800-GET-MADD (800-438-6233)	Individual donations	Statewide
National Highway Traffic Safety Administration	Aims to save lives, prevent injuries and reduce economic costs due to road traffic crashes, through education, research, safety standards and enforcement activity.	www.nhtsa.dot.gov (888) 327-4236	Fed	Statewide

I. Health of North Dakota's Population A. Leading Health Indicators				
Title	Initiative/Organization Description	Contact Person	Funding Source	Scope of Activity
ND Council on Abused Women Services and Coalition Against Sexual Assault in North Dakota (NDCAWS/ CASAND)	NDCAWS/CASAND provides leadership and support in the identification, intervention, and prevention of domestic and sexual violence.	ND Council on Abused Women's Services/Coalition Against Sexual Assault 418 East Rosser Avenue, #320 Bismarck, ND 58501-4046 (701) 255-6240 or (888) 255-6240 http://www.ndcaws.org/	Fed: CDC	Statewide
ND Department of Health Division of Injury Prevention and Control	Dedicated to reducing the frequency and severity of unintentional injuries to North Dakotans	Mary Dasovick, Director ND Department of Health Division of Injury Prevention and Control 600 E Boulevard Ave Dept 301 Bismarck ND 58505-0200 (701) 328-4536 mdasovick@nd.gov	Fed State	Statewide
ND Department of Transportation, Traffic Safety Office	Administers programs designed to reduce the number of people injured and killed in motor vehicle crashes on North Dakota roadways each year.	www.dot.nd.gov (701) 328-2600	Fed: NHTSA	Statewide
ND Motor Carriers Association (NDMCA)	Promotes and represents the motor carrier industry in North Dakota.	(701) 223-2700 info@ndmca.org	Membership supported	Statewide
ND Safety Council	This non-government, not for profit, membership-supported organization is dedicated to helping make North Dakota a safer and healthier place to live.	(701) 223-6372 ndsc@ndsc.org	Membership supported	Statewide
Parents LEAD (Listen, Educate, and Discuss Alcohol)	This program provides parents/adults with resources and information to candidly discuss with youth the dangers and consequences of underage drinking and alcohol poisoning.	www.parentslead.org (701) 328-2899	Fed: Traffic Safety Office	Statewide

I. Health of North Dakota's Population A. Leading Health Indicators				
Title	Initiative/Organization Description	Contact Person	Funding Source	Scope of Activity
Simulated Impaired Driving Experience (SIDNEs)	This battery-powered vehicle simulates the effects of impairment from alcohol or other drugs on a motorist's ability to drive.	Rebecca Gerhardt, Region VII Drug and Alcohol Prevention (701) 223-4517 or (888) 603-8376	AAA	Region III and Region VII
Safe Kids North Dakota	This organization promotes collaboration to prevent unintentional childhood injuries.	North Dakota Safety Council 1640 Burnt Boat Dr. Bismarck, ND 58503 (701) 223-6372 ndsc@ndsc.org http://www.ndsc.org/default.aspx	State	Statewide
Traffic Safety Resource Prosecutor (TSRP)	Provides training, technical assistance, and resources to court personnel and law enforcement to assure appropriate prosecution and adjudication of DUI cases.	Aaron Birst North Dakota TSRP 1661 Capitol Way P.O. Box 877 Bismarck, ND 58502-0877 (701) 328-7342 aaron.birst@ndaco.org	Fed: TSO S410- Alcohol Incentive	Statewide
Up2Me	This campaign addresses seat belt use and impaired driving.	www.goodhealthtv.com/uptome/	Fed: TSO	Statewide with reps from each of the four North Dakota reservations
Mental Health				
Children's Mental Health Initiative	Facilitates the development of community resource tools, community education, and collaborative efforts related to children's mental health services.	Shawna Croaker (701) 232-2452 rvcmhc@sendcaa.org	Fed: Dakota Medical Foundation	Statewide, 8 regional human services locations and 4 tribal locations
Mental Health First Aid	Trains community-based volunteers to serve as mental health first responders (recognize signs, make use of basic skills, and assist with accessing mental health resources).	Randy Bear Ribs, Program Director, Standing Rock Sioux Tribe, PO Box D, Ft. Yates, ND 58538 (701) 854-7206	Fed: Office of Rural Health Policy, Rural Health Outreach Grant Program	Standing Rock Reservation

I. Health of North Dakota's Population A. Leading Health Indicators				
Title	Initiative/Organization Description	Contact Person	Funding Source	Scope of Activity
Rural Mental Health Consortium	Provides on-site mental health services through Master's-level clinical nurse specialists (prescriptive authority, counseling, third party eligible for reimbursement). Serves two frontier and two rural counties.	Kimber Wraalstad, CEO, Presentation Medical Center PO Box 759, Rolla, ND 58367 (701) 477-3161 kwraalstad@pmc-rolla.com	Area hospital contributions and reimbursements	Harvey, Kenmare, Bottineau, and Rolla
Mental Health America North Dakota (MHAND)	Statewide mental health advocacy agency provides education, referrals, support groups, and other services including the 211 phone assistance and referral system for community services.	Susan Hegeland, Director, MHAND, PO Box 4106 Bismarck ND 58502-4106 (701) 255-3692	Memberships, donations, United Way, grants	Statewide
ND Psychological Association	Serves as a resource for locating trained psychological professionals.	North Dakota Psychological Association PO Box 7370 Bismarck, ND 58507 (701) 223-4905 http://www.psychologyinfo.com/directory/ND/association.html	Membership supported	Statewide
Division of Mental Health and Substance Abuse Services (ND Department of Human Services)	Functions as State Mental Health Authority working closely with other public agencies (e.g., ND Department of Health) and a wide range of private and non-profit human service agencies; operates eight regional human service centers; and administers federal Community Mental Health Services Block Grant State Plans.	JoAnne Hoesel, Division of Mental Health and Substance Abuse Services 1237 W. Divide Avenues Suite 1C, Bismarck, ND 58501 (701) 328-8924 jhoesel@nd.gov	Fed: Community Mental Health Services Block Grant	Statewide
Sudden Infant Death Syndrome (SIDS) Program	Provides support, education and follow-up to those affected by sudden infant death.	Kjersti Hintz, Program Director North Dakota SIDS Management ND Department of Health (701) 328-2784 kchintz@nd.gov	State: ND Dept of Health	Statewide

I. Health of North Dakota's Population A. Leading Health Indicators				
Title	Initiative/Organization Description	Contact Person	Funding Source	Scope of Activity
North Dakota Federation of Families for Children's Mental Health	Statewide family-run networks providing support and information to families of children and adolescents with serious emotional, behavioral, or mental disorders.	Carlotta McCleary, Executive Director ND Federation of Families for Children's Mental Health, PO Box 3061, Bismarck, ND 58502 (701) 222-1223 carlottamccleary@bis.midco.net	Fed: Federal Center for Mental Health Services	Statewide
State Protection and Advocacy Agency	Protects and advocates for the rights of people with mental illnesses and investigates reports of abuse and neglect in facilities that care for or treat individual with mental illnesses	Protection and Advocacy Project 400 E. Boulevard, Suite 616, Bismarck ND 58501 (800) 472-2670 panda@state.nd.us	Fed: Federal Center for Mental Health Services, HRSA, State	Statewide
Nutrition and Healthy Weight				
Community Wellness	Developed wellness center and programming	Darrold Bertsch Southwest Health Care, Bowman, ND (701) 523-3214	Fed: HRSA, Community supported	Community
Eat Smart, Play Hard	Provides links to materials that promote family mealtime and physical activity among children, teens, parents/caregivers and educators; An initiative of the Food and Nutrition Service, USDA.	Administered by the NDSU Extension Service and Bison Athletics www.ag.ndsu.edu/eatsmart/parents_caregivers.htm	ND Wheat commission, ND Bean Growers, ND School Nutrition Assoc., Midwest Dairy Assoc, ND Beef Commission, ND Dietetic Assoc, ND Dept of Public Instr.	Community
Fargo Metro In Motion/ Walk This Way	Provides a community resource guide for healthier living in Cass and Clay counties along with a Web site, resources for nutrition and physical activity, and a calendar of wellness events.	Kim Lipetzky, MNS, LRD, Fargo Cass Public Health; 401 3rd Ave N; Fargo, ND 58102 www.metroinmotion.org/index.html klipetzky@cityoffargo.com	State: Fargo Cass Public Health	Community
Healthy Communities	Community engagement develops priorities and strategies for healthy communities.	Nancy Sjekfe Lisbon Area Health Lisbon, ND (701) 683-5241	Catholic Health Initiative	Community (small region)

I. Health of North Dakota's Population A. Leading Health Indicators				
Title	Initiative/Organization Description	Contact Person	Funding Source	Scope of Activity
Healthy Communities	Community engagement develops priorities and strategies for healthy communities.	Nancy Sjefke Oakes Community Hospital Oakes, ND (701) 742-3291	Catholic Health Initiative	Community (small region)
Jamestown Healthy Lifestyle Coalition	Works together to enhance community environments and promote healthy lifestyles.	Eunice Sahr, NDSU Extension Service, Stutsman County; 116 1/2 1st ST SE; Jamestown, ND 58401 www.jamestown.localtoolbox.com/jamestown/read/publisher_06/2004-08-11.02 eunice.sahr@ndsu.edu	Membership supported, donations	Community
Minot Area Team Wellness	Promotes healthy lifestyles, including eating a healthy diet and getting plenty of physical activity.	Diane Thorne, First District Health Unit; 801 11th Ave SW, Minot, ND 58701 www.fdhu.org/cgi-bin/programs.pl?display&pid=124&program_ty=NUTR dthorne@nd.gov	State: First District Health Unit, ND	Community
Moving More, Eating Smarter	Encourages North Dakotans to move more on most days of the week and to make smart choices from every food group.		Fed: CDC Preventive Health and PHHS Block Grant	Statewide
ND Coordinated School Health Program	Improves the health and well being of K-12 students in North Dakota, thereby improving academic performance; provides schools/communities with the services they need to keep students healthy and address the eight areas of coordinated school health: health education; physical education; health services; nutrition services; counseling and psychological services; healthy school environment; healthy promotion for staff; and family/community involvement.	Valerie J. Fischer, Director, Coordinated School Health, ND Department of Public Instruction vfischer@nd.gov Kim N. Senn, Director, Division of Family Health, ND Department of Health ksenn@nd.gov www.dpi.state.nd.us/health/CSH/index.shtm	Fed: CDC	Statewide

I. Health of North Dakota's Population A. Leading Health Indicators				
Title	Initiative/Organization Description	Contact Person	Funding Source	Scope of Activity
North Dakota Department of Health, Division of Nutrition and Physical Activity	Oversees the Maternal and Child Health Nutrition program, Healthy Weight Program, and special supplemental nutrition program for Women, Infants and Children (WIC).	Colleen Pearce ND Department of Health Division of Family Health 600 E Boulevard Ave Dept 301 Bismarck ND 58505-0200 (701) 328-2496 or (800) 472-2286 Cpearce@nd.gov	Fed: WIC; MCH Block Grant; USDA; State	Statewide
On the Move to Better Health	This nationally recognized five-week curriculum for fifth-graders was developed by the NDSU Extension Service and Fargo Cass Public Health. Promotes a variety of healthy lifestyle behaviors among children and their families through hands-on classroom lessons and take-home parent/caregiver education newsletters.	Julie Garden-Robinson julie.gardenrobinson@ndsu.edu www.ag. ndsu.edu/ext-emp/ evaluation/ reports/fcs/rptmove.pdf	State: ND Dept of Health ND Nutrition Council, PT Organizations, Fargo Cass Public Health & Child Health Program, Nickelodeon, Public Schools, Extension Agencies	Statewide
NDPERS Fruit & Veggie Challenge	A collaborative worksite wellness education effort of the North Dakota Public Employees Retirement System program, ND Department of Health. Goals are to increase the number of servings of fruits and vegetables that adults consume and to improve the worksite environment to promote healthier eating.	Karen K. Ehrens, LRD, Consultant to Healthy North Dakota, Ehrens Consulting, 233 West Ave C, Bismarck, ND 58501 (701) 223-2616 karen@ehrensconsulting.com www.ag.ndsu.edu/pers/	NDPERS	Statewide
Walk ND	A walking program that challenges people to walk 200 miles in eight weeks (accomplished by taking 10,000 steps a day, five days a week for eight weeks).	NDSU Extension Service (701) 231-7964 info@walknd.com http://www.walknd.com http://www.ag.ndsu.edu/ext-emp/ evaluation / reports/fcs/rptwalknd.pdf	State: ND Extension Service; Registration fees	Statewide

I. Health of North Dakota's Population A. Leading Health Indicators				
Title	Initiative/Organization Description	Contact Person	Funding Source	Scope of Activity
Wellness Interventions Lasting a Lifetime (WILL)	Community based wellness and physical fitness program designed to encourage wellness and healthy lifestyles through education on disease management and prevention, self management, health screenings, and investment in new equipment for city run health club; collaboration of county Job Development Authority with the hospital, public health, and city government.	Shannon Duer, Coordinator Cavalier County Job Development Authority, 901 3rd St., Suite 5 Langdon, ND 58249 (701) 256-3475 shannon@utma.com	Fed: Office of Rural Health Policy, Rural Health Outreach Grant Program; Local funds	Langdon and other communities in Cavalier County
Wellness Network	Federal planning grant to assess formation of a sustainable network of wellness professionals, engage the community in identifying and solving health problems, and develop a comprehensive wellness plan to assist the community in making healthy choices.	Brenna Swanson First Health Care Center 115 Vivian St. W., Park River, ND 58270 (701) 284-4565 bswanson@utma.com	Fed: Office of Rural Health Policy; Rural Health Network Development Planning Grant	Park River, Hoople, Crystal, Dahlen, Lankin, Edinburg, Adams, Fairdale, and Edmore
Oral Health				
Oral Health Program	Provides prevention programs, education, access, screening and consultation to address the oral health needs of North Dakotans.	Cheryle Masset-Martz ND Department of Health Division of Family Health 600 E Boulevard Ave Dept 301 Bismarck ND 58505-0200 (701) 328-2493 or (800) 472-2286 cmasset@nd.gov	Fed: CDC, HRSA State: Dental Loan repayment programs/ Grants	Statewide
Tobacco Use				
Community Health Grant Program	This program provides grants to all local public health units for community and school programs to prevent and reduce tobacco use and provide tobacco cessation services	Dr. Terry Dwelle, Chair State Health Officer North Dakota Department of Health 600 E. Boulevard Ave., Dept. 301 Bismarck, N.D. 58505-0200	State: BCBSND	Statewide
NDPERS Tobacco Cessation	Designed to help state employees and their families to stop using tobacco	NDPERS: (800) 223-1704	Fed: CDC State: Tobacco generated revenue	Statewide

I. Health of North Dakota's Population A. Leading Health Indicators				
Title	Initiative/Organization Description	Contact Person	Funding Source	Scope of Activity
North Dakota Tobacco Quitline	Free, telephone-based service available to help North Dakota smokers and spit-tobacco users quit using tobacco.	Karalee Harper Division of Tobacco Prevention and Control 600 East Boulevard Avenue, Dept. 301 Bismarck, N.D. 58505-0200 (701) 328-3138 or (800) 280-5512 Fax: (701) 328-2036	Fed: CDC State: Tobacco generated revenue	Statewide
The Tobacco Prevention and Control Program	This program focuses on preventing youth smoking and promoting quitting, as well as protecting nonsmokers from second hand smoke and eliminating tobacco related disparities. The state program provides training, technical assistance and consultation to local programs.	Project administrator Karalee Harper (701) 328-3138 or (800) 280-5512 Fax: (701) 328-2036 http://www.ndhealth.gov/tobacco/	Master Settlement Agreement, U.S. Centers for Disease Control and Prevention, American Legacy Foundation	Statewide

I. Health of North Dakota's Population B. Leading Causes of Death in North Dakota				
Title	Initiative/Organization Description	Contact Person	Funding Source	Scope of Activity
Cancer				
American Cancer Society – ND Office	This nationwide community-based voluntary health organization is dedicated to eliminating cancer as a major health problem by preventing cancer, saving lives and diminishing suffering from cancer through research, education, advocacy and service.	Cathy Domres, Executive Director American Cancer Society (800) ACS-2345	Private	Statewide
Cancer Community Grant Program	Supports local activities that address gaps identified in North Dakota's cancer prevention and control efforts; up to $4,000 per awardee.	Joyce Sayler, Program Director. www.ndcancercoalition.org/grant/ndcc-community-grants/request-for-grant-proposals/	In-kind contributions from collation members, businesses and organizations	Statewide
Cancer Control Plan	Document developed by the Comprehensive Cancer Control Program and the ND Cancer Coalition; outlines a five-year timeframe for implementing evidence-based goals and strategies to decrease the emotional, physical and financial burden of cancer in ND; advocates for legislators, health care professionals, researchers and others to work together to reduce cancer incidence and mortality.	ND Department of Health 600 East Boulevard, Dept. 301 Bismarck, ND 58505-0200 (701) 328-2333 or (800) 280-5512	Fed: Support from Coalition organizations and sponsorships	Statewide
Cancer Registry	Collects, manages and analyzes data on cancer incidence in North Dakota.	Marlys Knell, Program Director www.ndhealth.gov/cancerregistry/	State: ND Dept of Health	Statewide
National Cancer Institute	Provides the latest and most accurate cancer information to patients, their families, the public, and health professionals.	Maebe Brown (608) 255-2800, ext. 7811	Fed: NIH Donations	National
Cardiovascular Disease				
Automated External Defibrillators(AEDs)-Regional	By September 2009, 482 AEDs will be placed and over 1,300 persons trained.	Deb Watne Dakota Medical Foundation 4152 30th Ave So Fargo, ND 58104 (701) 271-0263	Dakota Medical Foundation	Regional
Coalition for a Healthy Greater Grand Forks	Promotes health and wellness in the Greater Grand Forks community; Acts as the network of resources and information that advocates for health and wellness in Greater Grand Forks.	Debbie Thompson YMCA Family Center President/CEO (701) 775-2586 dthompson@gfymca.org www.healthyggf.org	Membership dues, donations	Community

I. Health of North Dakota's Population B. Leading Causes of Death in North Dakota				
Title	Initiative/Organization Description	Contact Person	Funding Source	Scope of Activity
American Heart Association --- North Dakota office	Builds healthier lives, free of cardiovascular diseases and stroke; provides employee-based wellness program options to build healthier lives, free of cardiovascular diseases and stroke to worksites including the AHA Start! Walking program, the Go Red Worksite Wellness Kit, and nutrition, high blood pressure, heart disease and stroke education kits.	June Herman 1005 12 Ave SE Jamestown, ND 58401 (800) 437-9710 june.herman@heart.org www.heart.org/presenter.jhtml?identifier=1200231&division=MWA010	Individual donations, corporate sponsorhips, bequests, memorials, fund raisers	Statewide
Barnes County Diabetes Prevention Program	Prevents diabetes among persons with pre-diabetes via losing weight and attaining a healthy blood sugar by eating more fruits and vegetables, eating less fat and exercising more; uses national Diabetes Prevention Program materials; partners include MeritCare Clinic, Mercy Hospital and the City County Health District, all in Valley City.	Sharon Buhr, MPA, LRD (701) 845-6456	State: Flex Grant, Dakota Med Grant, Young Peoples Healthy Heart Program	Valley City and all of Barnes County
Eat Smart, Play Hard	Provides dozens of links to materials that promote family mealtime and physical activity among children, teens, parents/caregivers and educators; An initiative of the Food and Nutrition Service, USDA.	Administered by the NDSU Extension Service and Bison Athletics www.ag.ndsu.edu/eatsmart/parents_caregivers.htm	Fed: USDA Food & Nutrition Services	Community
Fargo Metro In Motion/ Walk This Way	Provides a community resource guide for healthier living in Cass and Clay counties, Web site, resources for nutrition and physical activity, and a calendar of wellness events.	Kim Lipetzky, MNS, LRD Fargo Cass Public Health 401 3rd Ave N; Fargo, ND 58102 klipetzky@cityoffargo.com www.metroinmotion.org/index.html	Fargo Cass Public Health	Fargo
Go Red	Aims to prevent heart disease among women. Administered by the American Heart Association – North Dakota office.	Joan Enderle, Project Director www.gorednd.com	Dakota Medical Foundation	Statewide

I. Health of North Dakota's Population B. Leading Causes of Death in North Dakota				
Title	Initiative/Organization Description	Contact Person	Funding Source	Scope of Activity
Jamestown Healthy Lifestyle Coalition	Working together to enhance community environments and promote healthy lifestyles.	Eunice Sahr, NDSU Extension Service Stutsman County; 116 1/2 1st St SE Jamestown, ND 58401 eunice.sahr@ndsu.edu www.jamestown.localtoolbox.com/jamestown/read/publisher_06/2004-08-11.02	Membership dues, donations	Jamestown
Minot Area Team Wellness	Promotes a healthy lifestyle which includes eating a healthy diet and getting plenty of physical activity.	Diane Thorne, First District Health Unit 801 11th Ave SW, Minot, ND 58701 dthorne@nd.gov www.fdhu.org/cgibin/programs.pl?display&pid=124&program_ty=NUTR	State: First District Health Unit, ND	Minot
Moving More, Eating Smarter	Encourages North Dakotans to move more on most days of the week and to make smart choices from every food group.	Karen Ehrens, LRD, Project Coordinator (701) 223-2616	Fed: CDC Preventive Health and PHHS Block Grant	Statewide
ND Coordinated School Health Program	Improves the health and well being of K-12 students in North Dakota, thereby improving academic performance; provides schools/communities with the services they need to keep students healthy and address the eight areas of coordinated school health: health education; physical education; health services; nutrition services; counseling and psychological services; healthy school environment; healthy promotion for staff; and family/community involvement	Coordinated School Health, ND Department of Public Instruction vfischer@nd.gov Kim N. Senn, Director Division of Family Health ND Department of Health ksenn@nd.gov http://www.dpi.state.nd.us/health/CSH/index.shtm	Fed: CDC	

I. Health of North Dakota's Population B. Leading Causes of Death in North Dakota				
Title	Initiative/Organization Description	Contact Person	Funding Source	Scope of Activity
ND Heart Disease and Stroke Prevention Program	Works to reduce disease, disability and death related to heart disease, stroke and related risk factors through education, policy, systems and environmental changes.	Susan Mormann, Program Director; ND Department of Health, 600 East Boulevard Ave., Dept. 301, Bismarck, ND 58505-0200 (701) 328-2367 http://www.ndhealth.gov/cvh/default.htm	Fed: CDC	Statewide
North Dakota Healthy Weight Council	Addresses issues that encompass the promotion of healthy weight. Comprises over 60 members, including dietitians, nutritionists, nurses, physical activity educators, physicians and other health professionals who work in health care institutions, schools, state agencies, nonprofit health advocacy groups and private industry.	Katherine Black, Council Chair (701) 328-2496 kblack@nd.gov http://www.healthynd.org/North_Dakota_Healthy_Weight_Council.html	Fed: Title V Maternal & Child Health Block Grant State: ND Dept of Health	Statewide
On the Move to Better Health	A nationally recognized five-week curriculum for fifth-graders that the NDSU Extension Service and Fargo Cass Public Health developed; promotes a variety of healthy lifestyle behaviors among children and their families through hands-on classroom lessons and take-home parent/caregiver education newsletters.	Julie Garden-Robinson julie.gardenrobinson@ndsu.edu http://www.ag. ndsu.edu/ext-emp/evaluation/reports/fcs/rptmove.pdf	State: ND Dept of Health, ND Nutrition Council, PT Organizations, Fargo Cass Public Health & Child Health Program, Nickelodeon, Public Schools, Extension Agencies	Statewide
PERS Fruit & Veggie Challenge	A collaborative worksite wellness education effort of the North Dakota Public Employees Retirement System program, ND Department of Health and NDSU Extension Service; Goals are to increase the number of servings of fruits and vegetables that adults consume and to improve the worksite environment to promote healthier eating.	Karen K. Ehrens, LRD, Consultant to Healthy North Dakota, Ehrens Consulting 233 West Ave C Bismarck, ND 58501 (701) 223-2616 karen@ehrensconsulting.com http://www.ag.ndsu.edu/pers/	NDPERS	Statewide

I. Health of North Dakota's Population B. Leading Causes of Death in North Dakota				
Title	Initiative/Organization Description	Contact Person	Funding Source	Scope of Activity
Walk ND	A walking program that challenges people to walk 200 miles in 8 weeks (accomplished by taking 10,000 steps a day, five days a week for eight weeks.	NDSU Extension Service (701) 231-7964 info@walknd.com www.walknd.com http://www.ag.ndsu.edu/ext-emp/evaluation / reports/fcs/rptwalknd.pdf	State: ND Extension Service Registration fees	Statewide
Young People's Healthy Heart Program	Dedicated to helping people of all ages establish healthy eating and physical activity habits so they may lead long, healthy and happy lives.	Sharon E. Buhr, MPH, LRD, Director Mercy Hospital, 570 Chautauqua Blvd. Valley City, ND 58072 (701) 845-6456 info@healthheartprogram.com www.healthyheartprogram.com/about.html	Donations and fundraisers	Statewide
Diabetes				
American College of Physicians' Diabetes Care Guide	Distributed to interested North Dakotans via the Dakota Diabetes Coalition and the ND Division of Chronic Disease; contains best evidence and practices for diabetes treatment; facilitates team collaboration among physicians, staff and patients; Includes a compact-disc with multiple-choice test questions, offering up to 15 continuing education credits for health care providers.	http://diabetes.acponline.org/clinician/index.html	Donations	Statewide
American Diabetes Association – North Dakota office	Affiliated with the national ADA, the ND office serves as a contact point for individuals and families for diabetes issues; operates Camp Sioux.	1323 23rd Street South, Suite C Fargo, ND, 58103 (701) 234-0123 (888) DIABETES	Donations and fundraisers	Statewide

I. Health of North Dakota's Population B. Leading Causes of Death in North Dakota				
Title	Initiative/Organization Description	Contact Person	Funding Source	Scope of Activity
Bariatric Surgery	Abdominal procedure designed to ultimately reduce caloric intake for patients; along with a variety of support programs, it is specifically designed to assist morbidly obese patients to lose weight. Other support programs include behavioral modification, diabetes education, nutrition education and psychological counseling.	Services available at several larger North Dakota health systems.	Hospitals	Statewide
Camp Sioux	A week-long camp for children ages 8 to 14 years with diabetes; teaches children about diabetes, the best ways to manage it and introduces them to other children with the disease.	Administered by the American Diabetes Association	American Diabetes Association, fees	Statewide
Dakota Diabetes Coalition	A statewide, 87-member group; serves North Dakotans through efforts to prevent diabetes and to improve care for those who have diabetes; works in partnership with Healthy North Dakota and the ND Department of Health Diabetes Prevention and Control Program.	Gail Hand, Director http://www.ndhealth.gov/diabetescoalition/	Fed: CDC	Statewide
Diabetes Column by Dr. Eric Johnson	Bi-weekly electronic column addressing the latest information on diabetes treatment, management, prevention and control; answers questions raised by Dakota Diabetes Coalition members.	Dr. Eric Johnson University of North Dakota School of Medicine & Health Sciences http://www.ndhealth.gov/diabetescoalition/DrJohnson/DrJohnson.htm	Membership supported	Statewide
Diabetes Prevention	Screen, educate and train community members and specific users groups.	CEO Mercy Hospital, Valley City, ND (701) 845-6400	Fed: HRSA	Community
Dining with Diabetes North Dakota Style! series	Administered by NDSU Extension Service in Grand Forks & other communities. People who took the classes were diagnosed with either diabetes or had pre-diabetes; Besides nutrition education, people saw healthy food preparation and then tasted samples; The course was spread over four weeks and held in a local community center where people could see how to make the dishes.	Donna Bernhardt and Danika Warner-Noreen http://www.ag.ndsu.edu/ext-emp/evaluation/reports/fcs/rptdiabetes.pdf	ND State University	Community

I. Health of North Dakota's Population B. Leading Causes of Death in North Dakota				
Title	Initiative/Organization Description	Contact Person	Funding Source	Scope of Activity
Journey for Control Project	Comprehensive educational program designed to enlighten and empower diabetes patients by giving them the information and tools they need to make the lifestyle changes that lead to improved self-management; uses "Conversation Maps," 3-by-5-foot color illustrations used to prompt discussions between educators and groups of diabetes patients.	Merck & Co., Inc. One Merck Drive P.O. Box 100 Whitehouse Station, NJ 08889-0100 (908) 423-1000 http://www.journeyforcontrol.com/	Merck & Co., Inc., American Diabetes Association	National
Living Well with Chronic Conditions Program	A free, six-week course open to anyone in the area with a chronic condition, including diabetes; offered in various North Dakota communities.	Coordinated by MeritCare (Fargo), which also provides training for the course (701) 234-5570 http://www.meritcare.com/healtheducation/vhj/issues/winter1999/short_chronic.aspx	State: ND Health Department, Senior citizen centers	Statewide
Lower Extremity Amputation Prevention (LEAP)	Project personnel trained to detect food trouble and refer appropriately so patients receive good care and can avoid serious problems; project personnel have provided training to other ND individuals.	Altru nurse Stacie Metelmann, Cavalier, North Dakota, certified LEAP trainer	Fed: HRSA	Community
MediQhome	A clinical quality improvement initiative by Blue Cross Blue Shield of ND; started in Jan. 2009; Designed to promote patient-centered medical home approach to the delivery of primary care to all ND residents; Requires a personal physician to manage a team of individuals who provide comprehensive primary care to patients; Provides actionable data at the point of care, tracks adherence to treatment plans and eliminates manual chart review.	Petrice Balkan, Director Blue Cross Blue Shield of North Dakota https://www.thorconnect.org/nd/physician/	BCBSND	Statewide

I. Health of North Dakota's Population B. Leading Causes of Death in North Dakota				
Title	Initiative/Organization Description	Contact Person	Funding Source	Scope of Activity
North Dakota Diabetes Care Provider Report Program	Administered by Blue Cross Blue Shield of ND and the ND Department of Health's Diabetes Prevention and Control Program; Monitors the type and extent of health provided to diabetes patients in ND; Publicly acknowledges ND health care providers for excellence in managing the care of adult or pediatric diabetes patients; 2007 awardees included 207 providers and 7 clinics.	Dr. David Hanekom Blue Cross Blue Shield of ND (701) 282-1350 Sherri Paxon ND Department of Health (701) 328-2698 https://www.bcbsnd.com/newsroom/archive/2008/06_23_08.html	Fed: CDC State: ND Dept of Health	Statewide
North Dakota Diabetes Prevention and Control Program	Lead statewide planning and efforts in diabetes prevention and control; Sponsor and support the Dakota Diabetes Coalition and its activities to reduce the adverse and personal and public impact of diabetes; Utilize surveillance systems to track diabetes health behaviors, care practices and health outcomes; Collaborate with health care providers to develop and implement diabetes care quality improvements, assist in establishing care tracking systems to monitor health practices and outcomes.	Sherri Paxon, Program Director ND Department of Health 600 E Boulevard Ave Dept 301 Bismarck ND 58505-0200 (701) 328-2367 or (800) 280-5512 http://www.diabetesnd.org/	Fed: CDC State: ND Dept of Health	Statewide

I. Health of North Dakota's Population C. Other Common Health Problems				
Title	Initiative/Organization Description	Contact Person	Funding Source	Scope of Activity
North Dakota Division of Chronic Disease	The ND Division of Chronic Disease works to i mprove the health and quality of life for North Dakotans who have chronic diseases by promoting healthy behaviors, supporting health-care improvement measures, developing community policies and practices, and increasing disease risk awareness.	Sherri Paxon, Director 600 E Boulevard Ave Dept 301, Bismarck ND 58505-0200 (701) 328-2367 or (800) 280-5512 http://www.ndhealth.gov/chronicdisease/	Fed: CDC	Statewide
Bismarck Early Childhood Education Program		806 North Washington St. Bismarck, ND 58501 (701) 221-3490	State: ND Dept of Human Services, Divsion of Developmental Disabilities	Community
North Dakota Center for Persons with Disabilities (NDCPD), Minot State University, Minot, ND	NDCPD provides leadership and innovation that advances the state-of-the-art and empowers people with disabilities to challenge expectations, achieve personal goals and be included in all aspects of community life. Located at Minot State University it is a University Center of Excellence	Brent Askvig, PhD, Director NDCPD Minot State University 500 University Avenue West Minot, ND 58707 (701) 858-3052 or (800) 233-1737 http://www.ndcpd.org/home.shtml	Fed: US Dept of Labor	Statewide
Dakota Center For Independent Living	Advocates for community based services and training opportunities that assist people with disabilities to live more independently; outreach services are provided in 18 southwest and south central ND counties, and on the Standing Rock and the southern part of the Fort Berthold reservations.	3111 East Broadway Avenue Bismarck, ND 58501 (701) 222-3636 (800) 489-5013 dcil@dakotacil.org Dickinson Branch 40 1st Avenue West Park Square Mall Dickinson, ND 58601 (701) 483-4363 wendydcil@ndsupernet.com http://www.dakotacil.org/	Fed: Dept of Education State: Dept of Public Instruction	Statewide
DD Program Administrator, Badlands Human Service Center	Serves developmentally disabled population, early development and infant developmental services.	200 Pulver Hall Dickinson, ND 58601 (701) 227-7500 (888) 227-7525	Federal: Medicaid State: General Fund	Regional

I. Health of North Dakota's Population C. Other Common Health Problems				
Title	Initiative/Organization Description	Contact Person	Funding Source	Scope of Activity
Developmental Disabilities Regional Offices, Northwest Human Service Center	Provide support and training to individuals and families to maximize community and family inclusion, independence, and self-sufficiency; to prevent institutionalization; and to enable institutionalized individuals to return to the community.	316 Second Avenue West PO Box 1266 Williston, ND 58801 (701) 774-4600 (800) 231-7724 http://www.nd.gov/dhs/services/disabilities/dd.html	State: ND Department of Human Services	Regional
FamNet	Statewide network of support agencies for families with disabilities	Cathy Haarstad ND Center for Persons with Disabilities Minot State University 500 University Avenue West Minot, ND 58707 (701) 858-3052 or (800) 233-1737 Cathy.haarstad@minotstateu.edu http://www.ndcpd.org/home.shtml	Fed: HRSA Office of Rural Health Policy	Statewide
Family Voices of ND	Works with families, health care providers, public and private agencies, and advocacy or support groups to promote family-centered care and medical homes for children with special health care needs; promotes discussion and linkages among families, providers, managed care programs, and government to better serve the health care and related needs of children and families in ND.	Donene Feist PO Box 163 Edgeley, ND 58433 (701) 493-2634 (888) 522-9654 www.fvnd.org	Fed: US DHHS, HRS, MCHB; ND Dept. of Health (Title V, Children's Special Services)	Statewide
Freedom Resource Center For Independent Living	Purpose is to eliminate barriers and provide assistance to individuals with disabilities so they can live and work more independently in their homes and communities.	2701 9th Avenue SW Fargo, ND 58103 (701) 478-0459 (800) 450-0459 Jamestown branch: (701) 252-4693 freedom@freedomrc.org	Fed State: ND & MN Donations	Community

I. Health of North Dakota's Population C. Other Common Health Problems				
Title	Initiative/Organization Description	Contact Person	Funding Source	Scope of Activity
Independence, Inc. Center For Independent Living	Purpose is to eliminate barriers and provide assistance to individuals with disabilities so they can live and work more independently in their homes and communities.	300 3rd Avenue SW, Suite F Minot, ND 58701 (701) 839-4724 (800) 377-5114 agency@independencecil.org	Fed State	Community
Infant Development Program, Northwest Human Service Center	Home based early intervention program for families of children between the ages of birth & 36 months who are experiencing delays in development, had birth trauma or accidents placing them at risk for developmental delays or haveing a diagnosis placing them at risk for development delays.	316 2nd Avenue West PO Box 1266 Williston, ND 58801 (701) 774-4600	Fed State: ND Dept of Human Services	Regional
Infant Development Program, Northeast Human Service Center	Home based early intervention program for families of children between the ages of birth & 36 months who are experiencing delays in development, had birth trauma or accidents placing them at risk for developmental delays or haveing a diagnosis placing them at risk for development delays.	151 South 4th Street, Ste 401 Grand Forks, ND 58201-4735 (701) 795-3000	Fed State: ND Dept of Human Services	Regional
Infant Development Program, Southeast Human Service Center	Home based early intervention program for families of children between the ages of birth & 36 months who are experiencing delays in development, had birth trauma or accidents placing them at risk for developmental delays or haveing a diagnosis placing them at risk for development delays.	2624 9th Avenue SW Fargo, ND 58103-2350 (701) 298-4500	Fed State: ND Dept of Human Services	Regional
Infant Development Program, South Central Human Service Center	Home based early intervention program for families of children between the ages of birth & 36 months who are experiencing delays in development, had birth trauma or accidents placing them at risk for developmental delays or haveing a diagnosis placing them at risk for development delays.	Box 2055 Jamestown, ND 58401 (701) 253-6300	Fed State: ND Dept of Human Services	Regional
K.I.D.S.	Home based early intervention program for families of children between the ages of birth & 36 months who are experiencing delays in development, had birth trauma or accidents placing them at risk for developmental delays or haveing a diagnosis placing them at risk for development delays.	235 Sims, Ste 16 Dickinson, ND 58601 (701) 483-4394	Fed	Southwest North Dakota

I. Health of North Dakota's Population C. Other Common Health Problems				
Title	Initiative/Organization Description	Contact Person	Funding Source	Scope of Activity
Lake Region Human Service Center	This center provides provides quality, efficient, and effective human services, which improve the lives of people in the following specialties: psychiatry, psychology, addiction counseling, social work, counseling, case management, nursing, and vocational rehabilitation.	Regional Director: Kate Kenna Box 650 200 Highway 2 SW Devils Lake, ND 58301 (701) 665-2200	Fed State: ND Dept of Human services	Regional
Lake Region Kids	Home based early intervention program for families of children between the ages of birth & 36 months who are experiencing delays in development, had birth trauma or accidents placing them at risk for developmental delays or haveing a diagnosis placing them at risk for development delays.	218 SW 4th St. Devils Lake, ND 58301 (701) 662-6324	Fed	Community
Mental Health America of North Dakota	Serves as the state mental health association; advocacy, referral, and education services	Susan Helgeland, Executive Director PO Box 4106 Bismarck ND, 58502-4106 (701) 255-3692 http://www.mhand.org/	Grants, donations, contributions & membership fees, fund-raising events	Statewide
Minot Infant Development, Minot State University	Serves infants and children, birth to three years of age, who have or are suspected to have a developmental delay in the areas of learning, speech and language, audiology, fine and gross motor skills, nutrition, or social development.	500 University Avenue W Minot, ND 58707 (701) 858-3054	Fed State: ND Dept of Human services	Community
ND Disability Health Advisory Council	The North Dakota Disability Health Project will promote the health and wellness of ND citizens with disabilities, and prevent or lessen the effects of secondary conditions associated with disabilities.	Kari Arrayan, Project Director, ND Disability Health (800) 233-1737 http://www.ndcpd.org/health/	Fed: CDC	Statewide
ND Early Hearing Detection and Intervention program (EHDI)/ ND HEAR NOW	Provides hearing screenings to all newborns in ND before hospital discharge and refer those identified with hearing loss to appropriate early intervention services.	ND Center for Persons with Disabilities, Minot State University, Minot, ND Brent Askvig, PhD, Director (800) 233-1737 http://www.ndcpd.org/ehdi/	Fed State	Statewide

I. Health of North Dakota's Population C. Other Common Health Problems				
Title	Initiative/Organization Description	Contact Person	Funding Source	Scope of Activity
ND Rehabilitation Consulting & Services	Assists business owners and employers in finding solutions to their disability-related issues.	1237 W. Divide Ave. Suite 1B Bismarck, ND 58501 (701) 328-8950 (800) 755-2745 sowesc@nd.gov http://www.nd.gov/dhs/business/rehabconsult/index.html	Fed State: ND Dept of Human Services	Statewide
ND State Hospital	Provides specialized psychiatric and substance abuse services for individuals whose needs exceed the resources and capacity of other community services; Services are provided on an in-patient or residential level in three service units: adult psychiatric; chemical dependency; and child and adolescent.	2605 Circle Drive Jamestown, ND 58401-6905 (701) 253-3650 http://www.nd.gov/dhs/locations/statehospital/	Fed State: ND Dept of Human Services	Statewide
North Central Human Service Center	This center provides provides quality, efficient, and effective human services, which improve the lives of people in the following specialties: psychiatry, psychology, addiction counseling, social work, counseling, case management, nursing, and vocational rehabilitation.	400 22nd Avenue NW Minot, ND 58703-1089 (701) 857-8500 (888) 470-6968	Fed State: ND Dept of Human Services	Regional
North Dakota Client Assistance Program	Assists clients and client applicants of ND Vocational Rehabilitation services, Tribal Vocational Rehabilitation or Independent Living services.	1237 West Divide Ave Suite 3 Bismarck, ND 58501-1208 (701) 328-8947 (800) 207-6122 cap@state.nd.us http://www.nd.gov/cap/	Fed State: ND Dept of Human Services	Statewide
North Dakota Developmental Center	Supports people with disabilities to be viable members of their communities when their needs exceed community resources.	701 West 6th Street Grafton, ND 58237-1379 (701) 352-4200 (800) 252-4911 http://www.nd.gov/dhs/locations/developmental/	Fed State: ND Dept of Human Services	Statewide

I. Health of North Dakota's Population C. Other Common Health Problems				
Title	Initiative/Organization Description	Contact Person	Funding Source	Scope of Activity
North Dakota Disability Health Project	The North Dakota Disability Health Project will promote the health and wellness of ND citizens with disabilities, and prevent or lessen the effects of secondary conditions associated with disabilities.	Brent Askvig, PhD, Principal Investigator; Kari Arrayan, Project Director, ND Disability Health (800) 233-1737 http://www.ndcpd.org/health/	Fed: CDC	Statewide
Northeast Human Service Center	This center provides provides quality, efficient, and effective human services, which improve the lives of people in the following specialties: psychiatry, psychology, addiction counseling, social work, counseling, case management, nursing, and vocational rehabilitation.	151 South 4th Street Suite 401 Grand Forks, ND 58201-4735 (701) 795-3000	Fed State: ND Dept of Human Services	Regional
Office for the Elimination of Health Disparities	Works to address inequalities in health status, utilization or access due to structural, financial, personal or cultural barriers.	Phyllis Howard, Director ND Dept. of Health 600 East Boulevard Ave-Dept 301 (701) 328-2439 phahoward@nd.gov	Fed State: ND Dept of Health	Statewide
Options Resource Center For Independent Living	Purpose is to eliminate barriers and provide assistance to individuals with disabilities so they can live and work more independently in their homes and communities.	318 3rd Street NW East Grand Forks, MN 56721 (218) 773-6100 (800) 726-3692 options@myoptions.info	Fed: RSA	Community
South Central Human Service Center	To provide quality, efficient, and effective human services, which improve the lives of people in the following specialties: psychiatry, psychology, addiction counseling, social work, counseling, case management, nursing, and vocational rehabilitation. Some services may be provided through contracts.	520 Third Street NW Jamestown, ND 58401 (701) 253-6300 (800) 639-6292	Fed State: ND Dept of Human Services	Regional
Southeast Human Service Center	To provide quality, efficient, and effective human services, which improve the lives of people in the following specialties: psychiatry, psychology, addiction counseling, social work, counseling, case management, nursing, and vocational rehabilitation. Some services may be provided through contracts.	2624 9th Avenue SW Fargo, ND 58103-2350 (701) 298-4500 (888) 342-4900	Fed State: ND Dept of Human Services	Regional

I. Health of North Dakota's Population C. Other Common Health Problems				
Title	Initiative/Organization Description	Contact Person	Funding Source	Scope of Activity
Traumatic Brain Injury Partnership	Program to increase awareness and improve services for Individuals with TBI	Rebecca Quinn, Project Coordinator Center for Rural Health (701) 777-5200	Fed: HRSA Dakota Medical Foundation, Anne Carlsen Center, Head Injury Association of ND	Statewide
West Central Human Service sCenter	To provide quality, efficient, and effective human services, which improve the lives of people in the following specialties: psychiatry, psychology, addiction counseling, social work, counseling, case management, nursing, and vocational rehabilitation. Some services may be provided through contracts.	600 South Second Street, Ste 5 Bismarck, North Dakota 58504 (701) 328-8888	Fed South Central Human Service CenterState	Regional

II. Health Care in North Dakota A. Type/Level of Health Infrastructure				
Title	Initiative/Organization Description	Contact Person	Funding Source	Scope of Activity
Acute Care				
Rural Hospital Flexibility (Flex) Program	Federally funded program that works with states to improve rural health delivery services primarily through the designation and technical support to Critical Acccess Hospitals. In addition, Flex programs address quality of care, EMS, and health organizational networking.	Marlene Miller, Program Dirctor and State Steering Committee Chair Center for Rural Health, School of Medicine and Health Sciences University of North Dakota (701) 777-4499 marlenemiller@medicine.nodak.edu	Fed: HRSA, Federal Office of Rural Health Policy	Statewide
Altru CAH Regional Network	Efforts to improve access to care within the region	Darleen Bartz Health Resources Section, Section Chief (701) 328-2352 dbartz@nd.gov	Fed	Regional

II. Health Care in North Dakota A. Type/Level of Health Infrastructure				
Title	Initiative/Organization Description	Contact Person	Funding Source	Scope of Activity
North Dakota Healthcare Association	The North Dakota Healthcare Association (NDHA) is a voluntary trade organization of North Dakota's licensed hospitals committed to advancing public policy and fostering excellence in medical and health services. Founded in 1934, NDHA has been representing hospitals and health-related member organizations for over 70 years.	Arnold "Chip" Thomas, President athomas@ndha.org Tim Blasl, Vice-President tblasl@ndha.org NDHA PO Box 7340 1622 E. Interstate Ave. Bismarck, ND 58507 (701) 224-9732 http://www.ndha.org/	Membership supported	Statewide
North Region Health Alliance	Network support for 20 health facility members that are primarily rural and hospitals. Developed from the merger of two hospital cooperatives and networks (Valley Rural Hospital Cooperative was formed in 1985 and is the oldest such network in ND).	Jon Linnell, Exec Director Warren, MN (218) 745-3242	Fed, State, Insurance ventures, Dues	Red River Valley of North Dakota and Minnesota
Catholic Health Initiatives	Member support to hospitals and other services	Chris Jones Fargo (701) 237-8164	Hospitals, long term care facilities, and community health programs	Catholic hospitals throughout North Dakota
Northland Healthcare Alliance	Network support for 25 health facility members	Tim Cox, CEO Bismarck (701) 250-0709	Membership supported	Primarily central and western North Dakota
EMS/Trauma				
Access Critical Program	Critical ambulance units are eligible for grants of up to $45,000 to address staffing needs.	Tim Meyer, Emergency Medical Services and Trauma Director Department of Health, Division of Emergency Medical Services Bismarck, ND (701) 328-2388 tmmeyer@nd.gov	State	Statewide

II. Health Care in North Dakota A. Type/Level of Health Infrastructure				
Title	Initiative/Organization Description	Contact Person	Funding Source	Scope of Activity
North Dakota Department of Health	The Division of Emergency Medical Services and Trauma (DEMST) serves as North Dakota's lead emergency medical services (EMS) agency. The DEMST is responsible for: 1)The licensure of ambulance services; 2) Voluntary certification of quick response units and rescue squads; and, 3)Training, testing, certification and licensure of EMS personnel. The DEMST also administers the state trauma system and the EMS for Children Program.	Tim Meyer, Emergency Medical Services and Trauma Director Department of Health, Division of Emergency Medical Services Bismarck, ND (701) 328-2388 tmmeyer@nd.gov	Fed: HHS, Dept of Agriculture, EPA and others, state licenses, permits	Statewide
Trauma designation initiative	Obtain trauma designation for a Critical Access Hospital through the Flex Program	Kimber Wraalstad Presentation Medical Center Rolla, ND (701) 477-3161	Fed: HRSA, State, Hospital contribution	Community
Trauma designation initiative	Obtain trauma designation for a Critical Acccess Hospital through the Flex Program	Patricia Dirk Hillsboro Medical (701) 636-4501	Fed: HRSA, State, Hospital contribution	Community
Trauma designation initiative	Work toward trauma designation for a Critical Access Hospital through the Flex Program	Jim Opdahl Richardton Memorial (701) 974-3304	Fed: HRSA, State, Hospital contribution	Community
EMS Association	Member association providing advocacy, training, education, and other services to professionals and volunteers involved in emergency services.	Mark Weber, President Golden Heart Services Rugby, ND (701) 776-5261 mwemtp@gmail.com http://www.ndemsa.org/index.shtml	State	Statewide

II. Health Care in North Dakota A. Type/Level of Health Infrastructure				
Title	Initiative/Organization Description	Contact Person	Funding Source	Scope of Activity
Home Health				
North Dakota Association for Home Care	Provides advocacy and education on home health issues and services; listing of agencies in ND	Trina Knibbs, President 1301 15th Ave. West Williston, ND 58801 (701) 774-7430 TrinaKnibbs@CatholicHealth.net http://www.aptnd.com/ndahc/	Membership supported	Statewide
Long Term Care				
ND Long Term Care Association	NDLTCA is a professional and advocacy organization representing assisted living, basic care, and nursing facilities throughout North Dakota. It is an affiliate of the American Health Care Association and the National Center For Assisted Living, representing not-for-profit and proprietary facilities in the state. Member facilities care for nearly 9,700 frail elderly and disabled persons who can no longer live independently.	Shelly Peterson, CEO ND Long Term Care Associaiton 1900 N. 11th Street Bismarck, ND 58501 (701) 222-0660 www.ndltca.org/index.html		Statewide
North Dakota Department of Health	The mission of the North Dakota Department of Health is to protect and enhance the health and safety of all North Dakotans and the environment in which we live. To accomplish this the ND Department is committed to improving the health status of the people of North Dakota, improving access to and delivery of quality health care, preserving and improving the quality of the environment, promoting a state of emergency readiness and response, and achieving strategic outcomes within available resources.	Bruce Pritschet, Long Term Care and CLIA Program Director (701) 328-2352 bpritsch@nd.gov	Fed: HHS, Dept of Agriculture, EPA state licenses, permits	Statewide
Primary Care				
Community Healthcare Association of the Dakotas	Member organization representing Federally Qualified Health Centers such as Community Health Centers in ND and SD.	Karen Larson Deputy Director, ND Office (701) 221-9824 karen@communityhealthcare.net	Fed: Bureau of primary health care, membership supported	Statewide

II. Health Care in North Dakota A. Type/Level of Health Infrastructure				
Title	Initiative/Organization Description	Contact Person	Funding Source	Scope of Activity
North Dakota Medical Association	Member organization providing advocacy, education, and patient resources	Bruce Levi, Executive Director North Dakota Medical Association PO Box 1198 Bismarck, ND 58502-1198 1622 East Interstate Avenue Bismarck, ND 58501 (701) 223-9475 blevi@ndmed.com www.ndmed.org	Membership supported	Statewide
Public Health				
North Dakota Department of Health	The mission of the North Dakota Department of Health is to protect and enhance the health and safety of all North Dakotans and the environment in which they live. It has seven major sections addressing: 1) Administrative Support 2)Medical Services 3) Community Health 4)Health Resources 5) Environmental Health 6) Emergency Preparedness and Response, and 7) Special Populations.	Terry Dwelle ND State Health Officer North Dakota Department of Health 600 E. Boulevard Ave Bismarck, ND 58505 (701) 328-2372 tdwelle@nd.gov	Fed: HHS, Dept of Agriculture, EPA state licenses, permits	Statewide
North Dakota Public Health Association	Member organization representing public health professionals. The mission of the North Dakota Public Health Association is to improve, promote, and protect health for the residents of North Dakota through leadership in policy, partnerships, and best practices.	Lois Mackey Executive Director Box 572 Minot, ND 58702 ndpha@srt.com	Fed: HHS, Dept of Agriculture, EPA state licenses, permits	Statewide

Title	Initiative/Organization Description	Contact Person	Funding Source	Scope of Activity
Chronic Care				
MediQHome	Develops and promotes a patient centered medical home approach to the delivery of primary care, collecting clinical data through electronic systems	Petrice Balkan Blue Cross Blue Shield North Dakota, 4510 13th Ave. S. Fargo, ND 58121 (800) 342-4718 petrice.balkan@noridian.com	BCBSND	Statewide
Health Information				
ND Healthcare Review, Inc	Through their 8th scope of work, assisted physician practices to implement DOC-IT	Barb Groutt, CEO Minot, ND (701) 857-4231	Fed: CMS	Community based
CAH HIT Network Pilot Project	Implement EMR in three CAHs/ancillaries and exchange diabetes info with the tertiary facility.	Center for Rural Health Grand Forks (701) 777-4499	Fed: HRSA, Hospitals	Region: Northwood, Park River, Cavalier, Grand Forks (Altru) and Center for Rural Health
Health Information Technology (HIT)	EMS software and hardware	Brian Lovdahl Tioga Medical (701) 664-3305	Fed: HRSA, Hospitals	Community
HIT	Lab system hardware and interface	Karen Aafedt Community Memorial Hospital Turtle Lake (701) 448-2331	Fed: HRSA, Hospitals	Community
HIT	Computed radiography system and PACS set up	Kathy Hoeft Ashley Medical Ashley (701) 288-3433	Fed: HRSA, Hospitals	Community
HIT	Financial software package to begin EMR implementation	Cathy Swenson Nelson County Health McVille (701) 322-4328	Fed: HRSA, Hospitals	Community

II. Health Care in North Dakota B. Quality				
Title	Initiative/Organization Description	Contact Person	Funding Source	Scope of Activity
HIT	Software and training for EMR implementation	Mitch Leupp Mountrail Medical Stanley (701) 628-2424	Fed: HRSA, Hospitals	Community
HIT	Transcription system for EMR	Kimber Wraalstad Presentation Medical Rolla (701) 477-3161	Fed: HRSA, Hospitals	Region: Bottineau and Rolla
HIT	Build data center for region	Jon Linnell North Region Health Alliance (218) 745-3242	Fed: HRSA, Hospitals	Cavalier, Langdon, Park River, Grafton, Northwood (8 MN CAHs)
HIT Network (Called NWAIT)	Shared server for regional HIT efforts	Rocky Zastoupil St. Aloisius Medical Center Harvey (701) 324-4651	Fed: HRSA, Local Hospitals, HRSA Network Grant	Harvey, Rolla, Bottineau, Tioga, Crosby, Kenmare, Stanley, Watford City, Minot
HIT Network	Clinical scanning installation (hardware & software)	Kimber Wraalstad Presentation Medical Rolla (701) 477-3161	Fed: HRSA, Hospitals	Region: Bottineau and Rolla
Software interface	Software connection	Dean Mattern Garrison Hospital (701) 463-2275	Fed: HRSA, Hospitals	Garrison, Bismarck (St. Alexius)
NDSU	Telepharmacy Project	Ann Rathky NDSU Fargo, ND	Fed: OAT grant	Statewide and by community

II. Health Care in North Dakota B. Quality				
Title	Initiative/Organization Description	Contact Person	Funding Source	Scope of Activity
North Region Health Alliance	Varying HIT projects	Jon Linnell, Exec Dir Warren, MN (218) 745-3242	Membership supported	Region - Cavalier, Langdon, Grafton, Park River, Grand Forks, Northwood, McVille, Warren, Crookston, Thief River Falls, others in MN
Rural Information and Data Sharing (RIDS) Project	Federally supported network based pilot program to develop a cafeteria of IT services and to create a centralized health data and clinical transaction system - common patient registry, standardized claim forms, and data sets.	Becky Hanson Southwest Healthcare Services 802 2nd St. NW Bowman, ND 58623 (701) 523-3214 bhansen@swhealthcare.net	Fed: Office of Rural Health Policy, Network Development Grant	Bowman, Bottineau, Dickinson, Garrison, Rolla, Wishek, Ashley, Linton, Williston, Bismarck, and Mobridge, SD.
Hospital				
Altru CAH Quality	Work with statewide CAH group to improve quality throughout the region	Heather Strandell Altru Health System Grand Forks (701) 780-5000	Hospitals	Regional: Altru, Northwood, McVille, Park River, Grafton, Cavalier, Langdon and 8 CAHs in MN.
Breast cancer education	Training and equipment needed	Dean Mattern Garrison Memorial Hospital (701) 463-2275	Fed: HRSA, Hospital	Community
Clinical documentation	Purchase clinical documentation software	Darrold Bertsch Southwest Healthcare Bowman (701) 523-3214	Fed: HRSA, Community	Community

II. Health Care in North Dakota B. Quality				
Title	Initiative/Organization Description	Contact Person	Funding Source	Scope of Activity
Conditions of Participation	Health department survey process	Darleen Bartz North Dakota Department of Health, Bismarck 701) 328-2352	State: ND DoH	Statewide (survey, education, networking)
Diabetes prevention	Staff time, campaign, materials	Sharon Buhr Mercy Hospital Valley City (701) 845-6400	Fed: HRSA, Hospital	Community
EMS Support	Equipment to ensure quality care	Michelle Hoffman Cavalier County Memorial Hospital Langdon (701) 256-6100	Fed: HRSA, Hospital	Community
EMS Support	Training of paramedics to ensure quality care	Kerry McCoy First Care Health Park River, ND (701) 284-7500	Fed: HRSA, Hospital	Community
ER equipment	Purchase ER equipment to improvement quality	Greg Stomp Cooperstown Medical Center (701) 797-2221	Fed: HRSA, Hospital	Cooperstown Community
MeritCare quality network	ER training for OB, planning, transfer protocols	Doris Vigen Union Hospital Mayville (701) 786-3800	Fed: HRSA	Meritcare area: SE part of ND and western
ND CAH Quality Network	Statewide network to improve CAH quality	Jody Ward, Network Coordinator Minot (701) 858-6729	Fed: HRSA, Hospital Partners	Statewide

II. Health Care in North Dakota B. Quality				
Title	Initiative/Organization Description	Contact Person	Funding Source	Scope of Activity
ND Healthcare Association	The North Dakota Healthcare Association (NDHA) is a voluntary trade organization of North Dakota's licensed hospitals committed to advancing public policy and fostering excellence in medical and health services. Founded in 1934, NDHA has been representing hospitals and health-related member organizations for over 70 years.	Arnold "Chip" Thomas, President athomas@ndha.org Tim Blasl, Vice-President tblasl@ndha.org NDHA PO Box 7340 1622 E. Interstate Ave. Bismarck, ND 58507 (701) 224-9732 http://www.ndha.org/	Membership supported	Statewide
ND Healthcare Review, Inc.	NDHCRI is a non-profit company that provides quality improvement expertise and services through contracts with federal and state governments, research and granting entities, foundation and corporate grants, and other payors. Through a contract with the Centers for Medicare & Medicaid Services, NDHCRI serves as North Dakota's Medicare Quality Improvement Organization (QIO).	Barb Groutt, CEO North Dakota Health Care Review, Inc. 800 31st Avenue SW, Minot, ND 58701 (701) 857-4231 http://www.ndhcri.org/AboutUs/aboutus.html	Fed: CMS	Statewide
NDDoH, Health Services	Quality assurance; survey and certification	Darleen Bartz, Section Chief Bismarck	State: ND DoH	Statewide
Nonprofit Organizational Effectiveness	Provides training and support to nonprofits to assist in their effectiveness	www.impactgiveback.org	Dakota Medical Foundation	Statewide
Patient Safety	Purchase adjustable beds to reduce falls	Karen Aafedt Community Memorial Hospital Turtle Lake (701) 448-2331	Fed: HRSA, Hospital	Turtle Lake Community Hospital
Patient Safety	Call light system	Rachel Ray Unity Medical Grafton, ND (701) 352-1620	Fed: HRSA, Hospital	Grafton Community

II. Health Care in North Dakota B. Quality				
Title	Initiative/Organization Description	Contact Person	Funding Source	Scope of Activity
Patient Safety Medication Error Project	Reduce medication errors	Alana Knudson Center for Rural Health (701) 777-3848	Fed: AHRQ, U. Of NE	NA
QI program	Purchase bladder scanner and training	Peggy Larson Lisbon Area Health Services (701) 683-6419	Fed: HRSA, Hospital	Lisbon
Quality Improvement (Small Hospital Improvement Program (SHIP)	Varying initiatives by 35 rural hospitals to improve quality of care and patient safety	Marlene Miller Center for Rural Health (701) 777-4499 marlenemiller@medicine.nodak.edu	Fed: HRSA, Hospital	tatewide involving 35 rural hopsitals
Patient Safety Pharmacy Collaboratives	Community collaboratives to improve medical errors	Ann Skoglund, CHAD, Ft. Pierre, SD (605) 223-2262	Fed: HRSA	Statewide

II. Health Care in North Dakota C. Access				
Title	Initiative/Organization Description	Contact Person	Funding Source	Scope of Activity
Geographic Access				
Altru CAH Regional Network	Efforts to improve access to care within the region	Brad Wehe, Regional Director Altru Health Grand Forks (701) 780-4114	Hospital	Grand Forks and regional communities
Trinity Regional Network	Efforts to improve access to care within the region	Lowell Herfindahl Minot (701) 857-5112	Hospital	Regional
St. Alexius Regional Services	Efforts to improve access to care within the region	Kurt Waldbillig Rural Outreach Bismarck (701) 530-7655	Hospital	Regional
MeritCare Regional Services	Efforts to improve access to care within the region	Paulette Amundson, Regional Director Fargo (701) 234-6234	Hospital	Regional

Title	Initiative/Organization Description	Contact Person	Funding Source	Scope of Activity
Financial Access				
Coal Country Community Health Center	Federally supported medical clinics that provide health care to patients regardless of their ability to pay; accept insurance, private pay, and offer services on a sliding fee scale to address financial access concerns. Required to provide access to mental and oral health services. Serves MUAs.	Dawn Berg Beulah: (702) 873-7788 Center: (701) 794-8798 Halliday: (701) 938-4464 www.communityhealthcare.net	Fed: HRSA	
Fargo Community Health Center		(702) 239-7111	Fed: HRSA	
Migrant Health Center		Grafton: (701) 352-4555 Moorhead: (218) 236-6502 www.migranthealthservice.org	Fed	
Northland Community Health Center		Robin Silbernagel Turtle Lake: (701) 448-9225 Rolette: (701) 246-3391 McClusky: (701) 363-2296 www.northlandchc.com	Fed: HRSA	
Valley Community Health Centers		Sharon Ericson Northwood (701) 587-6000	Fed: HRSA	
ND Rural Health Association		Pete Antonson, President (701) 587-6060	Fed: NRHA	
Prescription Assistance	Assistance to all age groups in obtaining free or reduced cost prescriptions	Dakota Medical Foundation	Dakota Medical Foundation	Statewide
Diabetes Prevention				
Anesthesia Network	Improved service line for cares requiring anesthesia	Diane Weispfennig Oakes Community Hospital (701) 742-3291	Fed: FLEX	Community

Title	Initiative/Organization Description	Contact Person	Funding Source	Scope of Activity
Diabetes prevention	Implement diabetes exercise program	Doris Vigen Union Hospital Mayville (701) 786-3800	Fed: FLEX	Community
Hypertension Project	Expand prevention program related to hypertension	Louise Dryburgh First Care Health Park River (701) 284-4605	Fed: FLEX	Community
Respiratory Therapy	Increase use of service; equipment purchases	Greg Stomp Cooperstown Medical Services (701) 797-2221	Fed: FLEX	Community
Rural Health Clinic (RHC) status	Study the feasibility of converting clinic to RHC	Lawrence Blue Cavalier Co. Memorial Hospital Langdon (701) 256-6100	Fed: FLEX	Community
Surgical network	Access to elective surgery	Darrold Bertsch Southwest Healthcare Bowman, ND (701) 523-3214	Fed: FLEX	Community
Workforce Access				
Area Health Education Center (AHEC)	A statewide network of community-based organizations linked to academic health centers to address health workforce needs.	Mary Amundson Center for Rural Health (701) 777-4018	Fed: HRSA State: UND Dakota Medical Foundation	Statewide
Clinical Sites/Academic Faculties Collaborative	Coordination of nursing clinical training for the Fargo/Moorhead area.	Evelyn Quigley, MeritCare Karen Robinson,VA Hospital	Facility supported	Regional
Colleges & Universities Nursing Education Association (CUNEA)	Group representing all nursing education programs.	Jacqueline Magnall Jamestown College	Membership supported	Statewide
EMS Support	EMT training	Pam Ressler Cooperstown Medical Services (701) 797-2221	Fed: HRSA, Community	Community

II. Health Care in North Dakota C. Access				
Title	Initiative/Organization Description	Contact Person	Funding Source	Scope of Activity
EMS support	Staff development, reduction of staff inquiry	Darrold Bertsch Southwest Healthcare Bowman (701) 523-3214	Fed: HRSA, Community	Community
EMS workforce training	Education, travel, materials	Kimber Wraalstad Presentation Medical Rolla (701) 477-3161	Fed: HRSA, Hospital	Community
Health and Career Fair	Increase awareness of health and careers	Nancy Skjefte Oakes Hospital (701) 742-3291	Fed: HRSA, Community	Community: hospital, city, public health, school (Oakes)
Health career awareness	Health fair for high school students, scholarship program	Pete Antonson Northwood Deaconess (701) 587-6060	Fed: HRSA, Hospital	Community: hospital and school
Health career awareness	Health fair to explore students to health careers and develop network	Kathy Hoeft Ashley Medical (701) 288-3433	Fed: HRSA, Hospital, Community	Community: hospital, school
Health career awareness	EMT training in high school	Darrold Bertsch SW Healthcare Bowman (701) 523-3214	Fed: HRSA, Hospital	Community: hospital, school
Health career awareness	Marketplace for Kids	Jodi Atkinson St. Andrew's Health Bottineau (701) 228-9306	Fed: HRSA, Hospital, Community	Community: college, hospital, public schools
Health career awareness	CPR training with high school students	Lawrence Blue Cavalier Co. Memorial Hospital Langdon (701) 256-6100	Fed: HRSA, Hospital, Community	Community: hospital, school

Title	Initiative/Organization Description	Contact Person	Funding Source	Scope of Activity
HIT Workforce Recruitment	Recruited HIT staff to CAH to support new EMR system	James Marshall Sakakawea Medical Hazen (701) 748-2225	Fed: HRSA, Community	Community
Inspector Wellness	Health careers awareness (head start and 5th grade)	Ruth Jelinek First Care Health Park River (701) 284-7555	Fed: HRSA, Hospital, Community	Community: hospital and school
North Dakota Nurses Association	Advocacy organization for nurses.	ND Nurses Association 531 Airport Road, Suite D Bismarck, ND 58501 (701) 223-1385	Membership supported	Statewide
North Dakota Nursing Education Consortium	Development of a statewide simulation plan for nursing education programs.	Helen Melland UND College of Nursing (701) 777-4174	State	State
Nursing Education Capacity Retreat	Bring together all stakeholders and the 13 current programs/activities in order to access overlap, gaps and to develop a strategic plan.	Patricia Moulton Center for Rural Health (701) 858-6770	State	Statewide
Nurse Faculty Recruitment and Retention	Development of a strategic plan for nurse faculty recruitment and retention for Red River Valley region of North Dakota.	Patricia Moulton Center for Rural Health (701) 858-6770	Dakota Medical Foundation	Regional
North Dakota Nursing Needs Study	Collect information about supply and demand of nursing.	Patricia Moulton Center for Rural Health (701) 858-6770	State: North Dakota Board of Nursing	Statewide
North Dakota Nurse Leadership Council	Council representing all nursing organizations.	Jane Roggensack MeritCare		Statewide
Partnership in Nursing, Nursing Education Lattice		Cheryl Stuffeneker UND College of Nursing (701) 777-4545	Fed: RWJ, Dakota Medical Foundation	Regional/Statewide

II. Health Care in North Dakota C. Access				
Title	Initiative/Organization Description	Contact Person	Funding Source	Scope of Activity
Workforce recruitment	Recruitment of CNAs/nurses in Michigan	Darrold Bertsch SW Healthcare Bowman (701) 523-3214	Fed: HRSA, Community	Community: Bowman, Watford City (hospitals and economic development)
Primary Care Office	Conduct state-wide recruitment/retention activities for the National Health Service Corps and shortage designation analysis	Mary Amundson Center for Rural Health (701) 777-4018	Fed	Statewide
Federal Loan Repayment Program	Assist communities and health providers access funds to repay student debt.	Mary Amundson Center for Rural Health (701) 777-4018 http://nhsc.bhpr.hrsa.gov/	Fed	Statewide
State Loan Repayment Program	State and community loan repayment for primary care physicians, general surgeons and psychiatrists	Mary Amundson Center for Rural Health (701) 777-4018	Fed	Statewide
State Loan Repayment Program	State and community loan repayment for nurse practitioners, physician assistants, certified nurse midwives	Gary Garland North Dakota Department of Health http://www.ndhealth.gov/OCA	Fed	Statewide
Nursing Loan Repayment Program	Assist communities and health providers access funds to repay student debt.	Mary Amundson Center for Rural Health (701) 777-4018 http://bhpr.hrsa.gov/nursing/loanrepay.htm	Fed	Statewide
Dental Loan Repayment Program	Assist communities and health providers access funds to repay student debt.	Gary Garland North Dakota Department of Health http://www.ndhealth.gov/OCA	Fed	Statewide
Health career awareness	Medical Explorer Program	Dr. Arnold Dickinson	State: ND AHEC, UND, Dakota Medical Foundation	Community
Health career awareness	Co-op Program	Dr. Julie Blehm MeritCare, Fargo	State: ND AHEC, UND, Dakota Medical Foundation	Community

II. Health Care in North Dakota D. Financing				
Title	Initiative/Organization Description	Contact Person	Funding Source	Scope of Activity
CAH Financial Study	Analysis of CAH total margins	NDHA or CRH Marlene Miller	Fed: HRSA, NDHA	10 CAHs data were reviewed; results shared broadly with all CAHs (report and presentation at NDHA annual meeting
Financial Status of Health Care Systems				
CAH Financial Study	Analysis of CAH total margins	NDHA or CRH Marlene Miller (701) 777-4499	Fed: HRSA, NDHA	10 CAHs data were reviewed; results shared broadly with all CAHs (report and presentation at NDHA annual meeting
Chargemaster review	Consultant analysis of chargemaster	Trina Schilling, Wishek Hospital (701) 452-2326	Fed: HRSA, Hospital	Community
Exploration of Hospital District	Community education of health care and impact	Greg Stomp Cooperstown Medical (701) 797-2221	Fed: HRSA, Hospital	Community
Facility Master Plan	Consultant analysis of facility, community, economic growth	Darrold Bertsch SW Healthcare Bowman (701) 523-3214	Fed: HRSA, Hospital	Community
Financial analysis	Critical access hospital (CAH) projects/studies to understand and improve financial	Marlene Miller UND Center for Rural Health Program Director (701) 777-4499	Fed: HRSA, Hospital	Individual communities: Ashley Bottineau Bowman Cooperstown Garrison Harvey Northwood Rolla Watford City Williston Wishek
Financial viability	Develop foundation program	Beth Huseth St. Aloisius Medical Center Harvey (701) 324-4651	Fed: HRSA, Hospital	Community

II. Health Care in North Dakota D. Financing				
Title	Initiative/Organization Description	Contact Person	Funding Source	Scope of Activity
ND Health Council	Financial study with Dartmouth to explore alternative reimbursement models	Dave Molmen, CEO Altru Health System Grand Forks (701) 780-6000	Hospital	Four large tertiary facilities (Meritcare, Altru, Trinity and one from Bismarck – not sure which one)
Payment review	Consultant analysis of chart-to-payment	Kimber Wraalstad, Presentation Medical Center Rolla (701) 477-3161	Fed: HRSA, Hospitals	Community
Regional board training	2 day training for CAH and LTC board members	Darrold Bertsch SW Healthcare Bowman (701) 523-3214	Fed: HRSA, Hospitals	Region: Bowman, Hettinger, Fall (MT), Elgin, Watford City, Richardton, Hazen, Stanley, Tioga, Crosby
Medicaid Reimbursement to Providers				
CMS	US federal agency which administers Medicare, Medicaid, and the State Children's Health Insurance Program. Provides information for health professionals	Lyla Nichols, Regional Rep Denver, CO (303) 844-7121	State	
Third Party Reimbursement				
Financial analysis	Consultant analysis of economic impact of 3rd party reimbursement	Dan Kelly McKenzie Co. Healthcare Systems	Fed: HRSA, Hospital	Community

APPENDIX D
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