Center *for* Rural Health

University of North Dakota
School of Medicine & Health Sciences

2008

NORTH DAKOTA

Flex Program & Critical Access Hospital

STATE RURAL HEALTH PLAN

COMPLETED BY:
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Flex Steering Committee

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- Tim Meyer, Director, Division of Emergency Medical Services and Trauma
- Gary Garland, Director, Office of Community Assistance (past member)
- Fred Larson, Office of Community Assistance (past member)

North Dakota Healthcare Association
- Karen Haskins, Vice President (past member)
- Tim Blasl, Vice President

North Dakota Healthcare Review, Inc.
- Barb Groutt, CEO

University of North Dakota Center for Rural Health
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Kathy Hoeft, Administrator, Ashley Medical Center, Ashley, ND
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Stakeholders

Community Action Association, Fargo, ND
Community Healthcare Association of the Dakotas, Bismarck, ND
Economic Development Association, Bismarck, ND
EMS Association, Bismarck, ND
Farmers Union, Jamestown, ND
Healthcare Association, Bismarck, ND
Long Term Care Association, Bismarck, ND
Medical Association, Bismarck, ND
Mental Health America of ND, Fargo, ND
Nursing Association, Bismarck, ND
Pharmacists Association, Bismarck, ND
Public Health Association, Minot, ND
Rural Development Council, Bismarck, ND

Rural Residents

Linton, ND Community Forum
Cooperstown, ND Community Forum

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I. Executive Summary

In 1998, when the Flex Program originated, states were required to have a state rural health plan in order to be eligible for federal funding. The original plan included identifying problems in rural ND that impeded access to health care services, key operational and financial concerns of ND's rural hospitals, requirements and procedures for designation as a critical access hospital, and arrangements for rural health networks in the state with the promotion of regionalization. Over the years, this document has been revisited but not updated. In 2007, the federal Office of Rural Health Policy set forth guidelines in the Flex Program guidance indicating the need for updated plans.

The purpose of the rural health plan is to assess and identify pressing current conditions of rural health services and systems, with a focus on critical access hospitals. Priority areas of focus are needed due to the magnitude of issues currently prevalent in rural health combined with the limited resources available to address those needs. Flex Program resources must be aligned to the needs of critical access hospitals and the rural healthcare arena. Strategic approaches are recommended, having taken into consideration a multitude of factors: demographics (current and projected); available resources including funding, networks, and partnerships; accomplishments and successes; evaluative information of the Flex Program; and critical access hospital capacity such as financial situations, staffing, leadership and community engagement.

The ND Flex Program's State Rural Health Plan has been informed from a number of sources: 1) 2008 CAH and Flex Program Survey; 2) key informant interviews with 12 statewide associations and organizations (e.g., hospital, medical, nursing, long-term care, pharmacy, public health, rural development, economic development, community action, and others); 3) key informant interviews with representatives of large referral hospitals that have formal relationships with CAHs; 4) two community forums in rural communities; 5) a statewide Flex Program Planning Meeting of the Flex Advisory Committee and Flex Steering Committee and follow up calls, and 6) secondary data. Additionally, the Office of Rural Health Policy, Healthy People 2010, and ND Healthy People planning documents were reviewed to align objectives where appropriate.

Summary information from the above referenced sources was provided to the Flex Program's steering and advisory committees for review. Ultimately all sources of information were combined and informed the identification of themes. Problems were identified as well as suggestions for action. Through these efforts, topics or themes of importance are identified as being critical to the future of rural health in ND. The topics identified are: workforce, access, finance, health information technology, community and economic development, quality, emergency medical and trauma services, networking, and system reform. Each of the aforementioned

topics is discussed in depth featuring background information, statistical data relevant to ND, specific issues within each category, and suggested solutions from a broad perspective. Each topic concludes with the identification of specific initiatives for the Flex Program; some a continuation of current efforts and others new. All are planned to be part of the ND Flex Program through 2010.

Significant focus on the Flex Program and critical access hospitals is noted throughout this plan due to the funding source (federal Office of Rural Health Policy), and the required goals of the program. The primary focus areas of the Flex Program are thoroughly described within this plan to provide the reader with the necessary insight to understand how suggested solutions or activities were made to align with identified problems or themes as appropriate within the Flex Program's scope of work. The primary reason for this plan is to strategically approach the identification of rural health care needs through critical access hospitals as they are most often the hub of healthcare delivery in rural areas. The strategic alignment of Flex Program resources to identified issues (both current and projected) is an ongoing effort. This plan is viewed as the beginning of a fluid process that will inform the work of the Flex Program immediately and in the long term with future efforts espousing a process that evolves along with the healthcare delivery system.

There are many stakeholders available who are and could work together for the improvement of rural health. This plan will be shared with those stakeholders with the hope that the information will elicit further discussions leading to shared approaches that strengthen health care delivery in ND.

II. Introduction

The Medicare Rural Hospital Flexibility (Flex) Program was established by the federal government through the Balanced Budget Act of 1997 for the purpose of supporting **rural communities in preserving access to primary and emergency health care services**[1]**.** The Flex Program helps sustain the rural healthcare infrastructure by strengthening critical access hospitals (CAHs) and helping them operate as the hub of a collaborative delivery system in those communities where they exist.

CAH designation[2] is a core component of the Flex Program. The intent of designating hospitals as "critical access" is to:

- preserve access to primary care and emergency services,
- provide health care services that meet community needs, and
- help assure the financial viability of the hospital through improved reimbursement and different operating requirements.

A CAH is a small, rural, acute care facility that provides outpatient, emergency, and limited inpatient services. The primary benefit of designation as a CAH is exemption from the prospective payment system, and receiving cost-based reimbursement for services based on 101 percent of the CAH's reasonable costs. Additional benefits include: the ability to claim capital improvement and equipment costs in the Medicare cost report, eligibility for CAH specific grants and network participation, and flexibility with staffing and hospital programs (state-specific). Eligibility depends on geographic, population and facility characteristics.

[1] U.S. Department of Health and Human Services & Health Resources and Services Administration. (n.d.) *Rural health flexibility grant program*. Retrieved October 27, 2008, from http://ruralhealth.hrsa.gov/funding/flex.htm

[2] U.S. Department of Health and Human Services. (2008). *Fact Sheet Critical Access Hospital*. Retrieved October 27, 2008, from http://www.cms.hhs.gov/MLNProducts/downloads/CritAccessHospfctsht.pdf

ND is one of forty-five state Flex Programs that was developed following federal legislation in 1998. At that time states were required to have a state rural health plan in order to be eligible for federal funding. In 2008 continued federal funding requires a new and updated State Rural Health Plan that focuses on the needs of CAHs.

The purpose of the rural health plan is to assess and identify pressing current conditions of rural health services and systems, with a focus on CAHs. Priority areas of focus are needed due to the magnitude of issues currently prevalent in rural health combined with the limited resources available to address those needs. Flex Program resources must be aligned to the needs of CAHs and the rural healthcare arena. Strategic approaches are recommended, having taken into consideration a multitude of factors: demographics (current and projected); available resources including funding, networks, and partnerships; accomplishments and successes; evaluative information of the Flex Program; and CAH capacity such as financial situations, staffing, leadership and community engagement.

The ND Flex Program's State Rural Health Plan has been informed from a number of sources:

- CAH Administrators (2008 CAH and Flex Program Survey);
- statewide organizations (key informant interviews);
- 12 different associations/organizations (e.g. health care, long term care, medical, pharmacist, and public health associations; quality improvement organization, community action, economic development, rural development council);
- large referral hospitals (3 key informant interviews with regional outreach representatives);
- rural health consumers (community forums in Linton and Cooperstown, ND);
- Flex Steering and Advisory Committee members (planning meetings with 8 CAH administrators and representatives from the Center for Rural Health, ND Healthcare Association, ND Healthcare Review, Inc. and the ND Department of Health); and
- secondary data as referenced.

Additionally, the Office of Rural Health Policy, Healthy People 2010, and ND Healthy People planning documents were reviewed to align objectives where appropriate.

Ultimately all sources of information were combined, shared with the Flex Steering and Advisory Committees, and used to inform the identification of themes, issues and suggestions for action. Critical issues to the future of rural health in ND include: access, community and economic development, emergency medical and trauma services, finance, health information technology, networking, quality, system reform, and workforce. Each of the aforementioned topics is discussed in depth

featuring background information, statistical data relevant to ND, specific issues within each category, and suggested solutions from a broad perspective. Each topic concludes with the identification of specific initiatives for the Flex Program; some a continuation of current efforts and others new. All will be part of the ND Flex Program through 2010 with further detail included in yearly work plans including evaluative measures.

Significant focus on the Flex Program and CAHs is noted throughout this plan due to the required goals of the program and its funding source (federal Office of Rural Health Policy). The primary focus areas of the Flex Program are thoroughly described within this plan to provide the reader with the necessary insight to understand how suggested solutions or activities were made to align with identified problems or themes as appropriate within the Flex Program's scope of work. The primary reason for this plan is to strategically approach the identification of rural health care needs of CAHs as they are most often the hub of healthcare delivery in rural areas. The strategic alignment of Flex Program resources to identified issues (both current and projected) is an ongoing effort. This plan is viewed as the beginning of a fluid process that will inform the work of the Flex Program immediately and in the long term with future efforts espousing a process that evolves along with the healthcare delivery system.

III. North Dakota Medicare Rural Hospital Flexibility Program

The ND Flex Program is administered by the UND's Center for Rural Health, School of Medicine and Health Sciences. Program partners include the ND Healthcare Review (the state's quality improvement organization), the ND Healthcare (hospital) Association, and the ND Department of Health (Division of Emergency Medical Services).

The ND Flex Program was developed in 1998 and has received between $450,000 and $630,000 each year. The beginning years of the Flex Program focused on assisting small rural hospitals convert to CAH status. Since 2004 the focus has shifted to providing technical assistance around planning, finance, performance improvement and emergency medical services. The program has always provided funding directly to CAHs for the purposes of program development, network development, financial viability, community engagement, and emergency medical services.

Overall, the **ND Flex program has provided over $3.5 million in direct funding** by way of grants to ND's rural communities. There have been 123 CAH grants, 47 EMS Network grants (impacting 72 additional partners in 30 counties), 40 CAH Network Enhancement grants (impacting 56 additional partners in 26 counties) and 4 Making a Difference grants. Approximately 110 communities have benefited from the four types of Flex Program grants representing almost one-third of all communities in the state.

In addition to administering direct funding to the state's CAHs, the ND Flex Program provides direct technical assistance to small rural hospital, all of which is designed to help plan for the provision of health care in the future. To date the Flex Program has provided or facilitated the following: 19 community needs assessments, 44

community forums/hospital meetings, 10 internal personnel audits, 20 board meetings, 9 grant writing workshops, 6 performance improvement plans, 12 strategic planning sessions, 33 CAH profiles, and developed the statewide ND CAH Quality Network.

A. Procedures for Designation

Hospitals interested in certification as a CAH request an application from the ND Department of Health, Division of Health Facilities and notify the ND Healthcare Review, Inc. of this intention. The Department works with the applicant to complete the application. Since 1998, the ND Flex Program has provided funding of up to $10,000 per facility to offset costs associated with financial feasibility studies. The information from these studies is important to the decision making around conversion.

B. North Dakota Flex Program Objectives

The federal Office of Rural Health Policy outlines specific Flex Program objectives[3], some of which are required of each state, such as the development of a state rural health plan. Each of the forty-five Flex Program states is charged with assessing the needs of its CAHs and aligning Flex Program resources accordingly.

The ND Flex Program addresses each of the objectives of the national Flex Program, both required and optional. A brief description of the guidance for each follows in order to provide insight to the scope of the program and its ability (and sometimes inability) to align with current and projected needs of CAHs:

1. **Develop/Update State Rural Health Plan (Required in 1998 and 2008)**
   Plans are to include input from program partners, CAHs and the Flex Monitoring Team (Rural Health Research Centers at the Universities of Minnesota, North Carolina, and Southern Maine, under contract with the federal Office of Rural Health Policy cooperatively conduct performance monitoring of the Flex Program). The plan is to serve as a working document that ensures appropriate and strategic allocation of Flex Program funding for the benefit of CAHs.

2. **Performance Improvement/Quality Improvement (Required)**
   Flex Program activities must be designed to increase the number of CAHs reporting to CMS Hospital Compare. Efforts must demonstrate that all CAHs in each state are participating in multi-CAH benchmarking projects. Activities that encourage CAHs to collaborate with one another are strongly supported. Structured programs that sustain performance improvement and quality improvement efforts over time are strongly encouraged and patient safety is a high priority.

[3] U.S. Department of Health and Human Services & Health Resources and Services Administration. (n.d.) *Rural health flexibility grant program*. Retrieved October 27, 2008, from http://ruralhealth.hrsa.gov/funding/flex.htm

3. **Evaluation (Required)**
   Flex Programs must track all measures identified in their workplans including any activities involving sub-contractual arrangements which must track 1) numbers of CAHs/eligibles receiving funding or services, 2) amount of funding going to CAHs/eligibles, and 3) the same information for any other entities receiving funding or benefits from Flex Program funding. The impact of all programs supported with Flex Program grant funding must be measured. Data must be shared with the Flex Monitoring Team.

4. **Integration of Emergency Medical Services (EMS) (Required)**
   Trauma and EMS systems assessments, employing HRSA's Benchmarks, Indicators, and Scoring (BIS) approach to assist with facilitated trauma system development are appropriate Flex Program initiatives. Trauma center designation will be supported for CAHs and other activities aimed to improve EMS medical direction, recruitment/retention, reimbursement, and restructuring.

5. **Networking (Optional)**
   The Flex Program provides for ongoing support of existing networks involving CAHs, other hospitals, and other providers of health services in CAH communities. Networking should focus on the development of patient referral and transfer agreements, health information technology, credentialing, quality assurance, development and use of communication systems including telemetry systems and systems for electronic sharing of patient data.

6. **Conversion of Hospitals to CAH Status (Optional)**
   Flex programs may assist small rural hospitals seeking conversion to CAH status so long as they meet the federal criteria for CMS designation.

C. Bridging National Objectives

The ND Flex Program, while designed to meet the unique needs and challenges found in the state's rural health environment and meant to facilitate the role of CAHs, does draw inspiration and guidance from national objectives. In their Quality Series, the Institute of Medicine (IOM) documented fundamental problems with the U.S. health system. In *Crossing the Quality Chasm,* threshold change is called for including: restructuring the delivery system, reallocating resources, applying evidence-based medicine, improving care quality, enhancing the use of technology, and preparing the health care workforce.[4] The health care workforce is cited as an essential element in needed quality transformation. The IOM states that "The people who deliver care are the health system's most important resource."[5] The

[4] Institute of Medicine. (2001). *Crossing the Quality Chasm A New Health System for the 21st Century*. Washington, D.C.: National Academy Press.
[5] Ibid. (pp. 207).

IOM asserts that to meet the six national aims (safety, effectiveness, patient-centeredness, timeliness, efficiency, and equity) more will be required of health providers.[6] From a rural perspective, rural hospitals, including CAHs, must be prepared to take on these new challenges and national objectives. The Flex Program serves as a vehicle to assist rural communities and CAHs.

The Healthy People Consortium– representing over 350 national organizations and over 250 state-focused agencies identified two primary national goals: 1) increase quality and years of healthy life, and 2) eliminate health disparities. Similar to the focus of the IOM quality reports "Healthy People 2010 is firmly dedicated to the principal that – regardless of age, gender, race, ethnicity, income, education, geographic location, disability and sexual orientation – every person in every community across the Nation deserves equal access to comprehensive, culturally competent, community-based health care systems that are committed to serving the needs of the individual and promoting community health." [7] Rural localities are specifically identified as experiencing health disparities and a subsequent report, *Rural Healthy People 2010*, spoke to the importance of addressing issues such as access to health care including primary care, health insurance, health services, health workforce, and emergency medical services.[8] These are all common health access issues and are found in the ND rural health environment. They touch the core of rural health and are reviewed to inform the ND Flex Program.

The IOM, Healthy People 2010 and Rural Healthy People 2010 clearly call for change and advance a pathway for transformation to achieve access, quality, and equity for the American public. In ND, the Flex Program is a pivotal vehicle for CAHs, rural communities, and statewide stakeholders, working together, to engage a comprehensive health strategy to meet serious unmet health care needs.

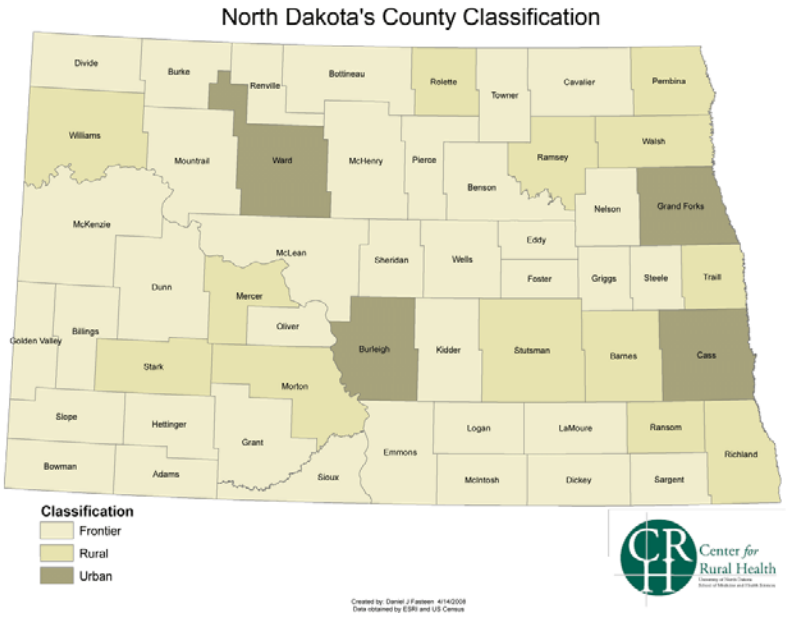
[6] Ibid. (pp. 6).
[7] U.S. Department of Health and Human Services. (2000). In Conference Edition, *Healthy people 2010* (pp. 16). Washington, D.C.: U.S. Government Printing Office.
[8] Gamm, L. D., Hutchison, L. L., Dabney, B. J., & Dorsey, A. M. (Eds.). (2003). *Rural healthy people 2010: A companion document to healthy people 2010.* College Station, Texas: The Texas A&M University System Health Science Center, School of Public Health, Southwest Rural Health Research Center.

IV. North Dakota Conditions

Conditions shaping the rural health delivery system affect potential solutions to rural health issues and resource allocation. The following describes such conditions including: demographics; economic structure; population health indicators; and quality of care. Understanding these conditions as they exist today, as well as projected changes is needed to inform recommended priority actions related to the alignment of Flex Program resources.

From a demographic perspective, ND can be characterized as a state with a small population that is geographically rural and frontier. This presents a unique set of circumstances – even challenges – that confront the economic expansion of the state, the viability of rural health systems, and even the sustainability of rural communities.

The state's population (2000 Census) was 642,200, 48th of 50 states. Its population density was ranked 47th with about nine people per square mile, ahead of Montana (six people per square mile); Wyoming (five per square mile); and Alaska (one per square mile). An accepted definition of frontier is six or less people per square mile. A significant majority of ND's counties (36 of 53) are frontier. Only four counties are part of metropolitan areas (Burleigh, Cass, Grand Forks, and Morton) and the remaining 13 counties would be classified as either rural or micropolitan. Micropolitan areas are areas that may be a county or a group of counties with a population center of 10,000 to 49,999. There are eight micropolitan counties in the state. The remaining five counties would be rural.



Unique challenges confront the state as it had the smallest population gain in the 1990's and it was the only state to lose population from 2000-2005. In comparison to all other states, ND has the highest percentage of its population in the 85 and older cohort. In addition, this is also the fastest growing age cohort in the state. During the decade of the 90's, ND witnessed a significant decline in the number of youth, 19 and younger. Due in part to a significantly expanding energy economy in

the western part of the state, it did experience a population bump in the later part of the 2000's. The challenge for the state is whether population dynamics will impede a growing economy. ND's gross state product increased by three percent from 2006-2007 led by energy and agricultural growth. The health field is also contributing to economic growth with health accounting for an increasing share of the state's Gross Domestic Product. Workforce statistics indicated that eight of the top ten private employers in the state are health care organizations. Younger and middle aged individuals and families are leaving rural areas, with a significant impact 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. Health care professionals, such as primary care physicians, nurses, and allied health providers are in short supply in rural ND with **83 percent of the state's counties reflecting primary care shortages and 94 percent of counties experiencing mental health shortages**. For healthcare providers and health organizations attempting to meet the needs of an aging population with concomitant co-morbidities, this is a recipe for destabilization of an already vulnerable rural health delivery system. An inadequate number of students in the health care workforce pipeline will present enormous challenges for the health care infrastructure, the economic viability of many rural communities, and ultimately the health status of the population.[9]

With small population growth overall, declining population in most non-energy rural and frontier counties, an aging population (state median age exceeds U.S. median age) with increasing chronic health conditions, and a decline in the youth population – the demographic challenge is a major factor in a complex economic equation. As noted in The State of the ND Workforce (2007) report[10], "To the extent that ND's economy is growing in spite of generally downward population trends, it could be said that the state's key industries are doing more work with fewer people".

In the development of a state rural health plan, the implications of demographic conditions are stark: population impacts patient volumes which influence the viability of rural health systems; population impacts the size and availability of a health workforce which influence the viability of rural health systems; and population impacts the general growth or survivability of rural communities and rural economies which influence the viability of rural health systems. Demographic and economic variables are fundamental as they impact individual health status and the ability of a local health system to respond to health challenges. Stabilizing rural health care systems in turn strengthens other community sectors that rely on health and medical services. In order for the economy to continue to grow, it needs

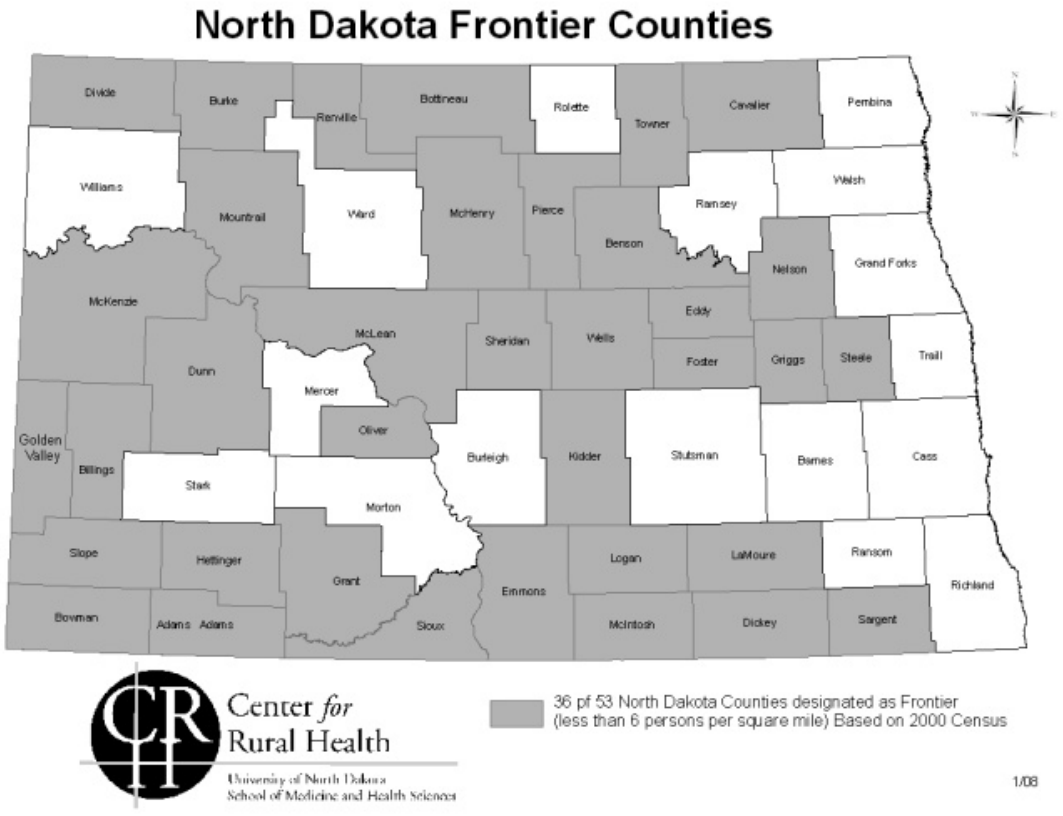
[9] Amundson, M., Moulton, P., Wakefield, M., Beattie, S., & Gibbens, B. (2006). *Policy brief: ND healthcare workforce-planning together to meet future healthcare needs.* Retrieved October 27, 2008, from ruralhealth.und.edu/projects/nursing/pdf/HealthCareWorkforcePolicyBrief2.pdf

[10] *The state of the North Dakota workforce.* (2007). (pp. 19).

assurance of a stable health care system in place to serve businesses, employees and families in rural communities.

A. General Population Indicators

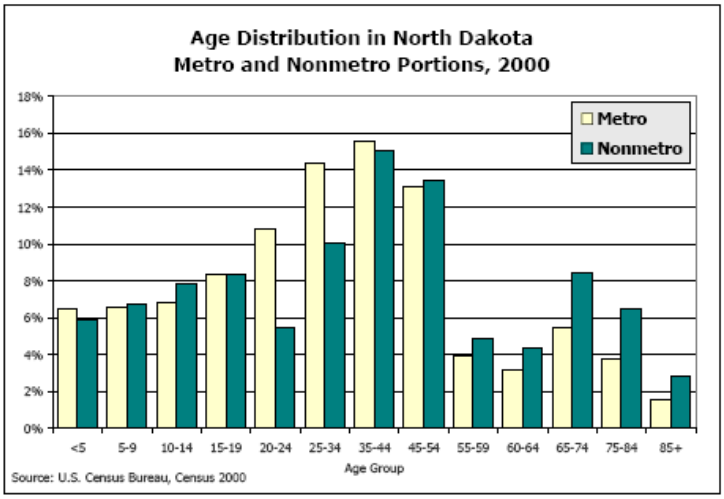
The state, in general, has population characteristics that follow national trends, such as a growing elderly population, and an expanding minority population, the latter primarily occurring on Indian reservations. ND also has an out-migration of youth and young families. Over the past 20 years, most U.S. rural counties gained population while ND's rural counties lost population. During two census periods (1990 and 2000, representing the period from 1980-2000), 47 of 53 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 were two consecutive census periods of population loss. This occurred from 1980 to 2000 and 45 ND counties are so classified.



Of the 373 communities in ND only 17 have a population of 2,500 or greater and the four largest cities range from 35,000 to 93,000. The eight micropolitan counties encompass five communities that meet the definition of having a population ranging from 10,000 to 49,999. At the other end of the continuum, fully 52 percent of the 373 communities have populations of 200
people or less (about 195 communities).

B. Age and Race/Ethnicity Related Indicators

A demographic factor that presents a significant challenge is the state's aging population. **The fastest growing age cohort is people 85 and older.** From 2000-2005, this age cohort increased by over 16 percent. According to the NDSU Data Center, by 2020 46 of the state's 53 counties will have 22 percent or more of the population 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 2000-2005. During this time, all 53 counties experienced a loss in the number of people 19 years of age and younger[11]. Nationally, ND had the fourth lowest percentage of children 17 and younger in 2005 accounting for 21.7 percent.[12] ND's median age (38.8) ranks ninth overall and is higher than the national median age of 36.2. Approximately 85 percent of the counties have a median age higher than the state average. The American Indian population in ND, in contrast, has a median age of 18 which compares to a national median age for American Indians of 28.5[13]. The median age of the ND Hispanic population is 25.[14]



ND's population consists of 92.3 percent Caucasian, 5.3 percent Native American, 1.6 percent Hispanic/Latino, 0.8 percent African American, and 0.7 percent Asian (based on the 2005 U.S. estimate). From 2000-2006, the minority population increased by 13.8 percent (or 6,269 people) while the white population declined by 2.1 percent (12,602 people).

The Hispanic population rose by 36.6 percent (2,851 people), the Asian population increased by 28.8 percent (1,128), African-American's experienced a 26.6 percent increase 1,109), people of multiple races increased by 21.5 percent (1,286), and the American Indian population increased by 8.7 percent (an increase of 2,750). An

[11] Center for Rural Health. (2008). *Quick facts on North Dakota demographics, health status, and rural health*.
[12] Annie E. Casey Foundation. (2007). *2007 North Dakota KIDS COUNT fact book. Retrieved October 27, 2008, from ndkidscount.org/publications/factbook/fullPDFs/NDKCFactBook_2007.pdf*
[13] U.S. Census Bureau. (2006). *North Dakota quick facts.* Retrieved October 27, 2008, from quickfacts.census.gov/qfd/states/38000.html
[14] *U.S. Census Bureau. (2008).*

estimated 5,000-7,000 Hispanic Migrant Farm Workers and their families travel to the ND from their home state to work in agriculture. [15]

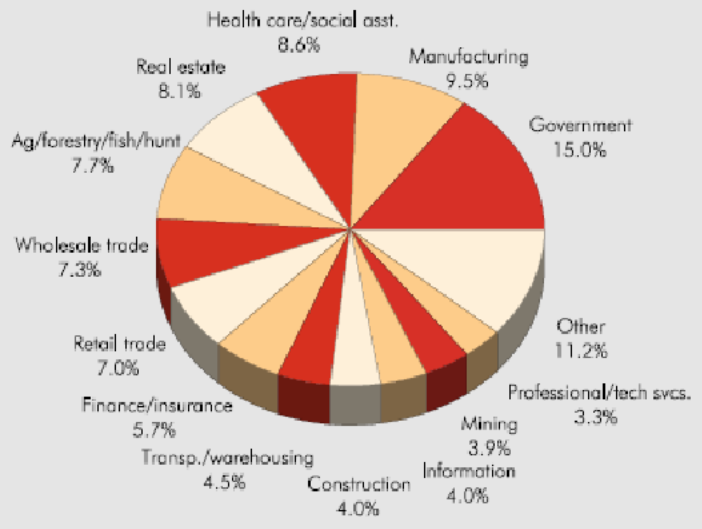
C. Economic Indicators

ND's Gross Domestic Product (GDP) ranked 49th out of 50 states at approximately $28 billion, based on 2007 figures.[16] By way of comparison, the country's largest state economy California, had a GDP in 2007 of $1.8 trillion.[17] The total GDP for the U.S. in 2007 was approximately $14 trillion.[18] In terms of GDP growth, ND fares better. From 1997-2006, ND's GDP grew by 29 percent ranking it 24th overall.[19] 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 percent, followed by manufacturing at 9.5 percent. In only 15 other states, did the government rank this high.[20] **The health sector is a significant and growing part of the ND economy**, accounting for the third largest share of the state's GDP at 8.6 percent.[21] While the significance of agriculture as a function of the state's GDP has markedly changed over the last 30 years, it is still a significant engine

Figure 1. North Dakota Gross Domestic Product by Industry, 2007

Total = $27.7 Billion (current dollars)



Source: U.S. Bureau of Economic Analysis, Regional Economic Accounts, www.bea.gov

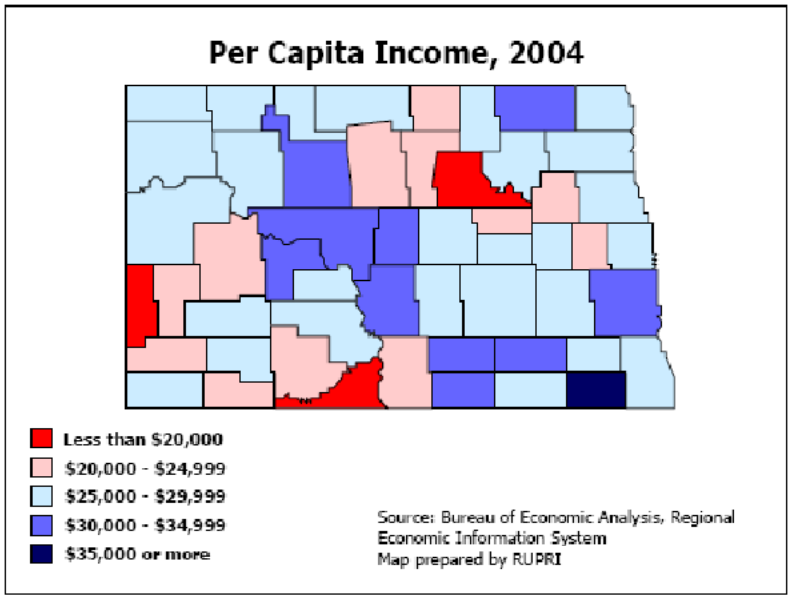
[15] Ortiz, Erdmann, & Banks. (2006).
[16] NDSU State Data Center. (2008). *Economic brief.* (Vol. 17, No. 7). and Wikipedia.org. (2008). *List of U.S. states by GDP*. Retrieved October 27, 2008, from http://en.wikipedia.org/wiki/List_of_U.S._states_by_GDP_per_capita_(nominal)
[17] Wikipedia.org. (2008). *List of U.S. states by GDP*. Retrieved October 27, 2008, from http://en.wikipedia.org/wiki/List_of_U.S._states_by_GDP_per_capita_(nominal)
[18] Wikipedia.org. (2008). *List of countries by GDP*. Retrieved October 27, 2008, from en.wikipedia.org/wiki/List_of_countries_by_GDP_(nominal)
[19] *The state of the North Dakota workforce.* (2007).
[20] Trust for America's Health. (2008). *Trust for America's health.* Retrieved October 27, 2008, from healthyamericans.org/
[21] NDSU State Data Center. (2008). *Economic Brief*.

in rural economies. For example, in 1979, agriculture accounted for 18 percent of GDP and was the largest industry but by 2007 it was the fifth largest industry in the state's economy – 7.7 percent of GDP.[22] At the county level, 70 percent of ND's counties (37) were classified by the USDA Economic Research Service as farming counties.[23]

It addition, in 2000, only in six states did agriculture account for more than five percent of a state's GDP, with ND being one of those states; thus, while the dominance of agriculture within the state's economy has changed, ND remains, nationally, a dominant agricultural state.[24] Health care represented about $2.2 billion in an overall state economy of $26 billion (2006 figures).

The estimated median household income (2004) in ND was $39,233 in comparison to the estimated national median of $44,334.[25] Per capita income varies by geographical location with rural ND per capita income being lower than that found in urban areas.

The estimate in 2006 showed a **rural per capita income of $30,865** in comparison to an urban income of $34,852. The state median was $32,763. Between 2005 and 2006, **rural per capita income** in ND actually **declined by -1.8 percent** while urban ND increased by 0.8 percent.[26]



[22] Rathge, R. (2006). *North Dakota's changing demographics.* and NDSU State Data Center. (2008). *Economic brief.*

[23] Rural Policy Research Institute. (2006). *Demographic and economic profile North Dakota.* Retrieved October 27, 2008, from rupri.org/Forms/NorthDakota.pdf

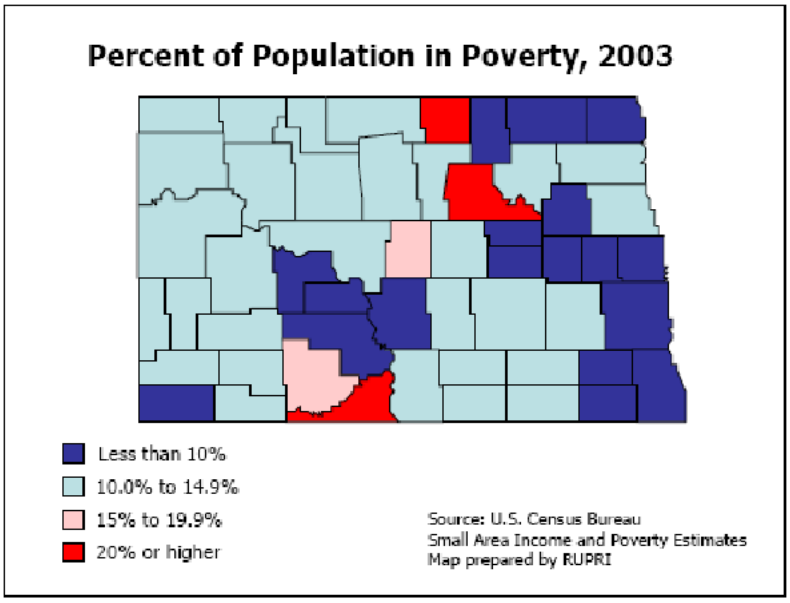
[24] *Leistritz, F. L., Lambert, D. K., Coon, R. C. (2003).* The role of agriculture in the North Dakota economy. Retrieved *on July 29, 2008 from ag.ndsu.nodak.edu/streeter/2003report/Leistritz.htm#Gross*

[25] U.S. Census Bureau. (2006). *North Dakota quick facts.* Retrieved October 27, 2008, from quickfacts.census.gov/qfd/states/38000.html

[26] USDA Economic Research Service. (2008). *State fact sheets: North Dakota*. Retrieved October27, 2008, from ers.usda.gov/StateFacts/ND.HTM

The trend for urban per capita income exceeding rural has been constant since 1975. The gap was greatest in 1980, when rural per capita income was approximately 75 percent of the urban level; since 1990 the rural rate hovered around 90 percent of urban. Based on 2004 data, three frontier counties (Sioux, Benson, and Golden Valley) had per capita income less than $20,000.[27]

Another key economic indicator is **poverty which is a significant rural issue**, both nationally and in ND. Nationally, there are 386 counties that have been determined to be "persistent poverty counties" meaning that at four consecutive census periods – 1970, 1980, 1990, and 2000 – these counties had 20 percent or more of their population in poverty. **Poverty is highly associated with geography as 88 percent of the persistent poverty counties are nonmetropolitan or rural** (340 counties).[28]



In ND, five rural counties are classified as persistent poverty: Benson, Grant, Rolette, Sheridan, and Sioux. About 74,000 North Dakotans live in poverty based on the 2005 estimate. The statewide estimate indicated that 11.6 percent of the state's population was in poverty with rural poverty greater than urban; 12.7 percent in comparison to 10.4 percent, respectively.[29] A 2006 estimate showed that over 18,000 ND children, 18 and younger lived in poverty (approximately 13 percent).[30] The 2000 Census indicated that poverty was a significant problem for children in specific subcategories: about 39 percent of non-white ND children lived in poverty; 42 percent of children on American Indian reservations, and 44 percent of children in single parent homes. Five ND counties had 25 percent or more of their children in

[27] *Rural Policy Research Institute, Demographic and Economic Profile North Dakota, updated June 2006*

[28] Rural Policy Research Institute. (2006). *Demographic and economic profile North Dakota*. Retrieved October 27, 2008, from rupri.org/Forms/NorthDakota.pdf

[29] USDA Economic Research Service. (2008). *State fact sheets: North Dakota*. Retrieved October27, 2008, from ers.usda.gov/StateFacts/ND.HTM

[30] Annie E. Casey Foundation. (2007). *2007 North Dakota KIDS COUNT fact book. Retrieved October 27, 2008, from ndkidscount.org/publications/factbook/fullPDFs/NDKCFactBook_2007.pdf*

poverty and another nine counties had one in five children in poverty (ND Kids Count Fact Book, 2007). Another indicator of childhood poverty is the percentage of children enrolled in the Women, Infant, and Children (WIC) food program. In 2007, according to the ND Department of Health, **57 to 60 percent of children born that year were enrolled in WIC.**[31] Also over 31,000 children 18 and younger (21.4 percent) received food stamps.[32] A final indicator for children and poverty is the number that received free or reduced priced school lunches. In 2006, approximately 32,000 children or 31 percent of all school kids were enrolled.[33]

From 2001 to 2007, the annual average ND unemployment rate ranged from 2.8 percent to 3.6 percent with the 2007 figure at 3.2 percent while the U.S. unemployment rate averaged 4.6 percent to 6.0 percent.[34] Similar to income and poverty, rural ND unemployment was higher than urban with the 2007 rural unemployment rate recorded at 3.6 percent and the urban rate of 2.7 percent.[35] Unemployment on the reservations averages 63 percent.[36] Higher poverty, lower income, and higher unemployment in rural ND may be a corollary of the lower educational attainment levels found in rural areas. The percent of the population having obtained a bachelor's degree or higher age 25 and older is slightly lower in ND than the U.S. average, 22.0 percent compared to 24.4 percent, respectively. The urban percentage is significantly higher with 28.5 percent compared to only 17.2 percent of rural North Dakotans.[37]

Rural ND can be characterized as:

- having lower incomes,
- lower educational attainment levels,
- higher poverty rates,
- higher unemployment,
- mal-distribution between urban and rural areas and reservation and non-reservation areas with regard to available employment opportunities, skilled workers available to fill positions, wages, and access to workforce training.

[31] WIC (personal communication, October 2007)
[32] Annie E. Casey Foundation. (2007). *2007 North Dakota KIDS COUNT fact book. Retrieved October 27, 2008, from ndkidscount.org/publications/factbook/fullPDFs/NDKCFactBook_2007.pdf*
[33] Annie E. Casey Foundation. (2007). *2007 North Dakota KIDS COUNT fact book. Retrieved October 27, 2008, from ndkidscount.org/publications/factbook/fullPDFs/NDKCFactBook_2007.pdf*
[34] Rhode Island Department of Labor and Training. (2008). *Local area unemployment statistics.* Retrieved October 27, 2008, from dlt.state.ri.us/LMI/laus/us/annavg.htm
[35] USDA Economic Research Service. (2008). *State fact sheets: North Dakota*. Retrieved October27, 2008, from ers.usda.gov/StateFacts/ND.HTM
[36] North Dakota Indian Affairs Commission. (2005).
[37] Rural Policy Research Institute. (2006). *Demographic and economic profile North Dakota*. Retrieved October 27, 2008, from rupri.org/Forms/NorthDakota.pdf

D. Population Health Profile: Leading Cause of Death Indicators

The leading causes of death in ND and nationally are heart disease, stroke, and cancer. The death rate in ND is higher than the national rate and is increasing. According to the Centers for Disease Control and Prevention, heart disease accounted for over 1,500 deaths in ND, approximately 26 percent of all deaths in the state in 2005. Stroke accounted for 368 deaths or 6 percent of all deaths. The annual cancer deaths in ND were 1,302 or 23 percent of the deaths in 2005. Within the cancer category, lung and bronchus being the most prevalent followed by colorectal and female breast.[38] From 2001-2005, crude death rates showed that COPD (chronic obstructive pulmonary disease) was the fourth leading cause of death with a rate of 46:100,000 with diabetes having a death rate of 31:100,000[39]. Obesity and diabetes both contribute to health disease and stroke. A recent report ranked ND 21th in the U.S. in adult obesity at about 26 percent [40]. From 1985-2007, ND generally experienced increases in adult obesity ranging from 10-14 percent of the adult population being obese from 1985-1994 (with a slight decline in 1988), 15-19 percent from 1995 to 2001 (with a slight increase over 20 percent in 1999), 20-24 percent from 2002-2006, and over 26 percent of the population in 2007[41] **Chronic conditions are common in ND's population and amenable to primary care interventions;[42]thus illustrating the need for a vital health delivery system, rural and urban.**

E. Minority Health Indicators: American Indians

American Indians in ND and the surrounding states comprising the Aberdeen Indian Health Service area continue to experience major health disparities. This region has the shortest average life span of American Indians/Alaska Natives in the U.S. According to Center for Rural Health data, on average, American Indians in ND live to be 64 years old—12 years less than the average life span of 76 years for the American Indian population in California, and 13 years less than the national average of 77 years.

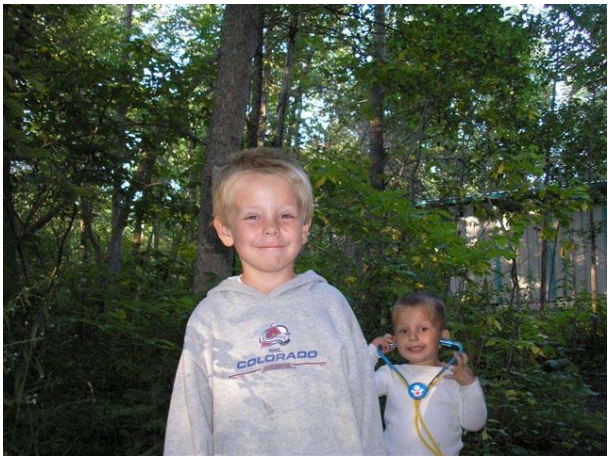
In 2005, the leading causes of death for American Indians in ND were cancer (20 percent of all AI deaths), heart disease (15 percent), accidents (14 percent), suicide (7 percent), diabetes (6 percent), and chronic liver disease (6 percent). Nationally, heart disease is the leading cause of death for all American Indians (19 percent) and

[38] Centers for Disease Control and Prevention. (2005). *Leading causes of death report.* Retrieved October 27, 2008, from webappa.cdc.gov/sasweb/ncipc/leadcaus10.html
[39] Centers for Disease Control and Prevention. (2005). *North Dakota leading causes of death, number of events 2001-2005.* Retrieved October 27, 2008, from webappa.cdc.gov/cgi-bin/broker.exe
[40] Trust for America's Health. (2008). *Trust for America's health.* Retrieved October 27, 2008, from healthyamericans.org/
[41] Centers for Disease Control and Prevention. (2007).
[42] The Dartmouth Institute. (2007). *Dartmouth atlas.*

for all U.S. populations (27 percent). Cancer, nationally, for all American Indians was 18 percent in 2005 and 23 percent for the U.S. population.[43] The heart disease rate for American Indians is considerably higher than the rate for whites (792:100,000 versus 449:100,000) and the stroke death rate is also higher than that of whites (141:100,000 versus 121: 100,000). Diabetes, a preventable cause of death, accounted for six percent of American Indians' deaths in 2005, compared with 3.5 percent of deaths among whites in ND. In addition, chronic liver disease, the sixth leading cause of death for the state's American Indians in 2005, was not among the top ten leading causes of death for all U.S. populations or all North Dakotans.[44] Focusing on prevention, health promotion, and care of chronic disease is a priority need for the American Indian population. **Additionally, given the use of multiple health care systems (e.g., IHS clinics, distant community hospitals) skills and knowledge needed to provide care coordination is a very high priority.**

F. Childhood Health Indicators

Similar to the adult population, childhood and teen obesity and overweight is a developing health concern. While ND compares favorably to the U.S. average, the statistics indicate that **27 percent of ND children and teenagers are obese or overweight** (2003) compared to the U.S. average of 31 percent. A contributing factor is that almost half (49 percent) of ND children and teens do not exercise at a regular rate compared to the U.S. rate at 52 percent (2003). A very significant health issue for ND youth is binge drinking. In 2005, ND ranked first in the nation for youth binge drinking. In the 12-17 age groups, ND exceeded the U.S. rate, 16 percent compared to 11 percent, respectively (2003-2004). During this same time period, 18-25 year old North Dakotans also exceeded the national rate, 57 percent compared to 41 percent, respectively[45].



[43] Centers for Disease Control and Prevention. (2005). *Leading causes of death report.* Retrieved October 27, 2008, from webappa.cdc.gov/sasweb/ncipc/leadcaus10.html

[44] Centers for Disease Control and Prevention. (2005). *North Dakota leading causes of death, number of events 2001-2005.* Retrieved October 27, 2008, from webappa.cdc.gov/cgi-bin/broker.exe

[45] Annie E. Casey Foundation. (2007). *2007 North Dakota KIDS COUNT fact book.* Retrieved October 27, 2008, from ndkidscount.org/publications/factbook/fullPDFs/NDKCFactBook_2007.pdf and North Dakota Department of Health. (2007). *Children with special health care needs*. and Childtrend Data Bank. (2007). *Infant, child, and teen death rates.* and, CCD. (2007). *Women's health facts and stats*.

The percentage (14.5) of deaths due to **suicide in ND children ages 10 through 14 from 1987 through 1996 greatly exceeded the national percentage** (6.1). The percentage (24.9) of deaths due to suicide in ND teenagers 15 through 19 from 1987 through 1996 greatly exceeded the national percentage (12.6). **Suicide makes a much greater impact on child mortality in ND than it does in the United States**[46].

[46] ND Department of Health. (2000). *Suicide by ND Children, Teenagers, and Young Adults.*

V. North Dakota Health Care Delivery System

The state's health care delivery system is made up of parts serving different components of health care, many of which operate in conjunction with one another. This section, while not inclusive, seeks to describe key parts of the system including: CAHs, large referral hospitals, federally certified rural health clinics, federally qualified health centers, public health units, home health care services, long term care facilities, emergency medical services and the state's trauma system.

Significant CAH information follows due to the Flex Program's primary service to supporting rural health care delivery through small rural hospitals. This report will be shared with each of the aforementioned partners and others with the hope that the information will elicit further discussions leading to shared approaches that strengthen health care delivery in ND.

A. Critical Access Hospitals

All of ND's 34 CAHs are non-profit and non-government entities[47]. Eight operate as stand-alone hospitals; three CAHs operate long term care facilities; eleven operate primary care clinics; and twelve operate clinic(s) and long term care facilities. Eight CAHs operate the local ambulance system. Thus **twenty-six CAHs operate in an integrated health system**.

In 2008 the majority of ND's eligible rural hospitals have converted to CAH status (34 or 87 percent) with most (28 of 34) converting between 1999 and 2002. Two rural hospitals are currently considering CAH conversion (located in Williston and Jamestown, ND); a third (located in Dickinson, ND) wishes to convert but is not eligible under current conditions. Both of ND's Indian Health Services facilities are informed annually of the Flex Program and included in all

[47] *2008 ND Flex and CAH Survey*. (2008). Retrieved October 27, 2008, from ruralhealth.und.edu/projects/flex/

program correspondence. (See Appendix A for a list of ND CAHs and the year of their CAH conversion.)

The 2008 CAH and Flex Program Survey[48] asked administrators about the impact that CAH designation has had on their facilities. Varying components were viewed positively, however most were marginal with more reflecting a neutral position. For example, reimbursement was viewed as a positive impact for nineteen ND CAHs; however, the impact on recruitment (physicians, nurses and others) was met with a neutral response by twenty-one CAHs. Additionally, the ability to diversify services was viewed positively by six whereas eighteen CAHs were neutral on the impact that designation had in this area.

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 ranging from $27,000 to $180,000. Another nine believe they will leverage this support in the next five years. Twenty-one CAHs do operate a hospital foundation that provides additional support to their facility[49].

B. Financial Indicators

CAHs receive cost-based reimbursement for inpatient and outpatient care. They "have relaxed staffing rules under Medicare, and they have limits on bed-size and average length of stay (low volume hospitals have been found to face substantially more annual variation in demand for services, making financial planning difficult)."[50] The Flex Monitoring Team's fifth issue of the CAH Financial Indicators Report was produced in 2008 for the purpose of providing CAHs with comparative financial indicators. Indicator values were calculated using the most recent publicly available Medicare Cost Report data. The Flex Monitoring Team also explains that information from these reports should be used to examine trends in the CAH industry over time.[51]

The following tables report median figures for all CAHs in the U.S. compared to figures for ND CAHs. At the time of this report, 2006 was the most current data from the Flex Monitoring Team. **ND's Financial Indicators** Report information

[48] *2008 ND Flex and CAH Survey*. (2008). Retrieved October 27, 2008, from ruralhealth.und.edu/projects/flex/

[49] Flex Monitoring Team. (2006). *Impact of conversion to critical access hospital status on hospital financial performance and condition.* Retrieved October 27, 2008, from flexmonitoring.org/documents/PolicyBrief1.pdf

[50] Flex Monitoring Team. (2008). *Data summary report no. 4: CAH financial indicators report: Summary of indicator medians by state*. Retrieved October 27, 2008, from flexmonitoring.org/documents/DataSummaryReportNo4_Aug08.pdf

[51] Flex Monitoring Team. (2008). *Financing.* Retrieved October 27, 2008, from flexmonitoring.org/financing

(covering 2005, 2006, 2007, and 2008 Medicare data) **indicates a continued trend of figures falling short of national medians.**

TOTAL MARGIN - measures the control of expenses relative to revenues. A positive value indicates total expenses are less than total revenues (a profit).

Year	U.S. CAH Total Margin (National Median)	**ND CAH Total Margin (State Median)**
2003	2.32	**-2.07**
2004	2.05	**-2.33**
2005	2.63	**0.06**
2006	3.58	**-1.65**

DAYS CASH ON HAND – measures the number of days an organization could operate if no cash was collected or received.

Year	U.S. CAH Days Cash on Hand (National Median)	**ND CAH Days Cash on Hand (State Median)**
2003	46.62	**28.03**
2004	48.19	**31.46**
2005	53.42	**44.68**
2006	55.37	**36.02**

MEDICARE INPATIENT PAYER MIX – measures the percentage of total inpatient days that is provided to Medicare patients.

Year	U.S. CAH Medicare Inpatient Payer Mix (National Median)	**ND CAH Medicare Inpatient Payer Mix (State Median)**
2003	80.00	**86.46**
2004	79.56	**91.15**
2005	78.41	**91.65**
2006	76.76	**90.15**

MEDICARE OUTPATIENT PAYER MIX – measures the percentage of total outpatient days that is provided to Medicare patients.

Year	U.S. CAH Medicare Outpatient Payer Mix (National Median)	**ND CAH Medicare Outpatient Payer Mix (State Median)**
2003	37.03	**43.97**
2004	37.41	**44.48**
2005	36.91	**43.82**
2006	35.75	**38.77**

SALARIES TO TOTAL EXPENSES – measures the percentage of total expenses that is labor costs. A value greater than 50% indicates that the majority of expenses is for salaries.

Year	U.S. CAH Salaries to Total Expense (National Median)	**ND CAH** Salaries to Total Expense **(State Median)**
2003	45.97	**51.85**
2004	45.84	**51.58**
2005	44.98	**52.32**
2006	44.40	**50.72**

AVERAGE AGE OF PLANT – measures the average accounting age in years of the fixed assets of an organization. It may different from the average chronological age because of depreciation practices. Higher values indicate greater amounts of older assets.

Year	U.S. CAH - Average Age of Plant (National Median)	**ND CAH -** Average Age of Plant **(State Median)**
2003	11.43	**14.93**
2004	11.27	**15.08**
2005	10.94	**14.43**
2006	10.64	**12.78**

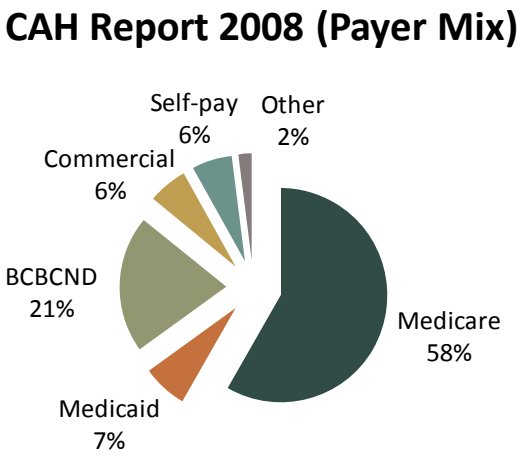
In 2006, Stroudwater Associates conducted an analysis of ND CAH margins, based on information from the Flex Monitoring Team (2006) and additional information (e.g. recent cost reports, financial statements, strategic plan and administrator interviews) from each of 10 participating CAHs in the state. The analysis was shared broadly with all CAHs and information was presented at the hospital association's 2006 annual conference. The analysis asked the question, "Why is the average margin in ND CAHs –2.33% while the average CAH margin in SD is –.41% and MN is +2.55%". Other key indicators such as days cash on hand, patient deductions, Medicare outpatient payer mix and Medicare outpatient costs to charges were examined. The analysis found common characteristics and opportunities including:

- Cost reports are well prepared
- Third party payments generally results in marginal loss or profit on a fully allocated cost basis
- For most CAHs, operating losses are primarily the result of clinics, nursing homes, and other non-hospital business
- Important opportunity related to treatment of Swing Bed, SNF vs. NF
- Mark up ratios at most CAHs are below peers.

According Eric Shell, 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 the CAHs to generate an operating margin. He

further explains that in many states, commercial insurers pay in excess of 125% of costs.[52]

The gross revenues of ND's rural hospitals are derived from three major sources: Medicare, private insurance, and Medicaid. As illustrated below, Medicare represents the largest share of total gross revenues (58.39 percent) as reported by CAHs in 2008.[53] Private insurance (Blue Cross Blue Shield of ND) is the next largest payer accounting for 20.72 percent.



C. Personnel

In 2008, CAHs employed an average of 80 FTE and 11 non-salaried but associated staff. Staffing has remained stable from an average of 78 FTEs in 2005 however the number of providers has decreased over the past three years with approximately two-thirds of CAHs (N=22) in ND actively recruiting primary care physicians. Today, there is an average of two physicians per CAH (down from 2.9 in 2005) and one nurse practitioner (down from 1.54 in 2005). Physician assistants have remained stable with an average of 1.8 practicing.

CAHs have significant variability with visiting specialists. The following table lists the types of specialists accessed and identifies the number of CAHs that utilize each type.

Type of Specialist	Number of CAHs that access each type
Orthopedist	14
Podiatrist	12
Cardiologist	11
General surgeon	10
Ophthalmologist	8
Obstetrician/gynecologist	7
Urologist	6
Ear, nose, throat	4

[52] *Eric Shell, CPA, MBA, Stroudwater Associates. E-mail communication September 2008.*
[53] *ND Healthcare Association; CAH Survey 2008.*

Type of Specialist	Number of CAHs that access each type
Nephrologist	3
Mental health	2
Allergist	1
Internal medicine	1
Family practice	1
Neurologist	1

A small number of CAHs maintain in-house access to specialty physicians. Nine CAHs have on-site internal medicine physicians, four have their own surgeons, one has its own obstetricians/gynecologist and one has its own plastic surgeon.

D. Capacity and Utilization

ND lacks a primary source for hospital utilization data. The state is reliant on data from multiple sources such as the American Hospital Association (AHA), which has limitations due to low response rates from ND's facilities, and the state's quality improvement organization, the ND Healthcare Review, Inc., which is limited to Medicare and Medicaid data.

Information from AHA's Guide[54] reported ND CAH utilization statistics (based on responses from 22 of 34 CAHs) as follows:

- Median annual admissions = 344
- Median outpatient visits = 16,722
- Median daily census = 6.5
- Median births = 0

The AHA further reports that 20 of ND's CAHs offer outpatient surgery, 17 provide cardiac rehabilitation, 12 offer chemotherapy and, 11 provide geriatric services. Only five operate a hospice program, one offers chiropractic services, and one offers psychiatric care. In 2006, thirteen CAHs report having CT scanners and six had MRIs.

The ND Healthcare Review, Inc. [55] reported CAH admissions and discharge data from July 2007 through June 2008:

- Average age of Medicare beneficiary = 80.2 years
- Percentage of rural ND Medicare hospital admissions occurring in CAHs = 17.8%
- Rate of transfer from admitting hospital to another acute care facility = 8.4%
- Median number of annual Medicare admissions= 148

[54] Health Forum. (2005). *AHA Guide.* Memphis, TN: Health Forum Publishing Company.
[55] *ND Healthcare Review, Inc e-mail correspondence with Barb Groutt, CE, 2008.*

- Top 5 DRGs:
  - pneumonia with complications (148)
  - pneumonia without complications (388)
  - gastroenteritis and miscellaneous digestive disorders (213)
  - chronic obstructive pulmonary disease (168)
  - heart failure (166)

In 2007 the ND Flex Program administered a statewide Quality Network survey and asked questions related to volume (93 percent of CAHs responded)[56].

ND CAH Volume Admissions/Procedures per year (2007)			
	Range	**Median**	**Mean**
Swing bed admits	34 – 1,495	94	139
Acute care admits	70 – 1,175	251	300
ER patients	340 – 6,018	1,100	1,326
Births	0 – 80	0	10
Surgical procedures	0 – 1,080	79	190

In 2007, six CAHs reported providing obstetrics and twenty-two reported providing some type of surgery. Six CAHs have separate emergency department nursing staff. ICU beds are present in nineteen CAHs, and of those five have one bed, two have two beds, and one has three beds. ICU beds are described as single staffed beds within the facility, some with ventilator and cardiac monitoring, mainly used for monitoring of cardiac patients.

In 2008, twenty-eight CAHs reported their intent to maintain current operations; a stable figure since 2005. One plans to stop providing one or more services and four plan to add one or more new services.

E. Large Referral Centers

ND's five largest hospitals serve as primary referral centers for CAHs and others. Further discussion related to the referral relationships between the two is included under Networking. The following table provides summary information for each of the referral centers including bed size, trauma level designation, number of CAH affiliates, and special services provided by each.

[56] ND Flex Program,(2007). *Quality Network Survey 2007.*

Facility, Location	Beds	Trauma Level	# CAHs in Network	Special Services
Altru Hospital, Grand Forks, Grand Forks County	277	2	6	Chemical Dependence Treatment Detoxication Isolation Neonatal Level II (not normal newborn) Psychiatric Service Radiation Therapy Recovery Services Respiratory Care Services Respite Care Specialized Rehabilitation Service
MeritCare Health System, Fargo, Cass County	380	2	7	Detoxication ICU: Neonatal Level III (not normal newborn) ICU: Respiratory / Pulmonary Isolation Neonatal Level II (not normal newborn)
Trinity Hospitals, Minot, Ward County	251	2	9	Chemical Dependence Treatment Detoxication ICU: Respiratory / Pulmonary Psychiatric Service Specialized Rehabilitation Service
Medcenter One, Bismarck, Burleigh County	215	2	3	Chemical Dependence Treatment Detoxication ICU: Neonatal Level III (not normal newborn) ICU: Respiratory / Pulmonary Isolation Psychiatric Service Respite Care Specialized Rehabilitation Service
St. Alexius Medical Center, Bismarck, Burleigh County	289	2	8	Chemical Dependence Treatment ICU: Neonatal Level III (not normal newborn) ICU: Respiratory / Pulmonary Isolation Respite Care Specialized Rehabilitation Service

*St. Joseph's Hospital and Health Center, Dickinson, Stark County, Trauma Level 3, has a tertiary relationship with Richardton Health Center[57].

[57] ND Department of Health. (2008). *North Dakota hospitals critical access list.* Retrieved October 27, 2008, from ndhealth.gov/HF/North_Dakota_Hospitals_Critical_Access_list.aspx

All five of the large referral centers provide the following:

- Anesthesia
- Cardiac Rehab
- Coronary Care Unit
- Diagnostic Imaging
- Dialysis
- Education, Patient/Community Health
- Emergency Service
- General Acute
- Gynecology
- Home Health
- Hospice Care (inpatient)
- ICU: Cardiac
- ICU: Medical/Surgical
- Mammography
- Medical Unit
- Nuclear Medicine
- Nursery
- Obstetrical
- Occupational Therapy
- Oncology
- Orthopedics
- Outpatient
- Pediatrics
- Physical Therapy
- Radiation Therapy
- Recovery Services
- Respiratory Care
- Speech Pathology
- Surgery
- Transplants

F. Rural Health Clinics

Congress created the federal Medicare certified Rural Health Clinic (RHC) program in 1977. 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 or non-physician provider (physician assistants, nurse practitioners, or certified nurse midwives) for 60 percent of the time the clinic is open (to expand the attractiveness of the program Congress in the early 1990's lowered this to 50 percent which effectively meant that one mid level could work in two separate sites; thus, a clinic or hospital system could maximize staffing). While a physician must be a part of the RHC, the physician does not have to be on site all the time. This flexibility in staffing contributes to the RHC model as an effective approach to addressing access to outpatient care in rural and remote areas.

RHCs must be located in a non-urbanized (rural) area having a population of less than 50,000. The clinics must be in a Health Professional Shortage Area, Medically Underserved Area, or a Governor designated area. RHCs receive cost based reimbursement for Medicare and Medicaid services. A RHC can be either free-standing (independent clinic) or provider-based (owned and operated by another Medicare certified facility, typically a hospital). While they provide outpatient services like Federally Qualified Health Centers (FQHC), there are significant differences between the two models. Both RHC and FQHC are effective models for addressing rural access.

The federally certified Rural Health Clinic model has been a very successful clinic classification providing access to services to rural citizens in some of the most

remote and frontier areas of the country. While the number of RHCs was insignificant in the 1980's, Congress responded with major programmatic change in the late 1980's to make the conversion and/or certification more attractive. Reimbursement rate changes, increased program promotion through networking with other organizations such as the National Rural Health Association, and the change in time allocation for non-physician providers were primary adjustments. ND, for example, did not have its first RHC until about 1991. Following the federal policy changes, the number of RHCs exploded throughout the country and in ND. **By the end of the 1990's there were approximately 85 RHCs in ND. However, by 2008, this number declined to 64**. Currently there are 3,400 RHCs nationally.

In rural ND, RHCs are an important and essential safety net provider. It is common to find a CAH operating a RHC. However, the process for allocating cost within these two cost-based reimbursement provider categories is more complicated than in the past. **Where it once benefited a CAH to own and operate a RHC, in some cases, today, it can actually create financial difficulties**. As was previously noted under Ownership and Financial Indicators, the Stroudwater study found that a contributor to low and even negative CAH operating margins was the ownership of other business enterprises, with RHCs being one of those elements. This places more pressure on the rural health system to maintain access to essential care as it must balance economic need and financial implications with a community responsibility to provide access to a range of services. RHCs face a number of common issues which impact their viability, including the following: reimbursement rates and levels, competition with other clinic categories, workforce supply and demand, access to technology, and patient volume. Any of these can be linked to rural population decline. For example, declining community and service area population yields lower patient volume, lowers reimbursement revenue, and hinders provider recruitment and retention. In turn, a loss of medical providers lowers clinic revenue. If the loss is long term it can influence the decision 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 even reduced or eliminated services. In spite of these concomitant pressures, the RHC remains an important and essential safety net provider.

G. Federally Qualified Health Centers

Like the RHC, the FQHC focuses on expanding access to care. However, the RHC is more of a geographical classification (exclusively rural) with an emphasis on improving access through increasing the number of medical providers (requiring the use of non-physician providers). FQHCs seek to improve access primarily by addressing financial conditions and factors. All FQHC's are required by the federal government 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 to address financial access concerns.

FQHCs receive an annual federal grant to supplement reimbursement (some FQHCs are called Look-alikes as they comply with federal standards but do not receive a federal grant) and some of the grant assumes the financial cost of providing services on a sliding-fee schedule (clients pay for services based on their income as opposed to the charge or cost of the services).

A FQHC provides services to Medically Underserved Areas/Medically Underserved Populations which are in both rural and urban areas. This contrasts with RHC. Neither the HPSA designation nor a Governor's designation is a factor for FQHC whereas they are for the RHC designation. This adds a heightened level of complexity to the process for a rural community and/or clinic manager trying to determine which category (RHC or FQHC) is the best fit for their circumstances.

There are other significant differences between the two models. FQHC must 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, voluntary family planning services); preventive dental services; mental health services; pharmacy services; transportation services; case management services; and after hours care. In addition, FQHC have access to the 340 B Drug Pricing Program, a drug discount program that can cut the cost of medications from 20 to 40 percent. None of the above mentioned services are required for RHCs; thus, an element of comparison is the relative complexity and comprehensiveness of the two models. Two other key differences are found in the governance of the two. FQHC require a board of directors with a majority of consumers while RHCs do not. An RHC can be independent or owned by another entity. FQHC are tax exempt non-profit or public organizations. Thus, a CAH can own and operate a RHC; however, it cannot own a FQHC. The FQHC, however, could own and operate a CAH. In ND, there is one example of a CAH and FQHC sharing physical plant space, yet each is an independent legal organization. This is an arrangement that works well as each health organization understands its role and recognizes the importance of collaborating to address access and improve health status.

Currently, **there are four FQHC systems operating in ND**. **One is urban**, Fargo, and the other **three are rural**. A relatively unique factor to the rural FQHCs is that all three serve multiple communities. One serves two communities; and two serve three communities. The board of directors for each FQHC has representatives from all communities involved in that system; however, there is one administrator. This arrangement is driven by patient volume issues previously discussed.

Under the FQHC program there are patient encounter thresholds that must be met. Due to the rural population decline it is necessary for FQHCs to network communities to build a large enough service base to meet federal threshold requirements. This, in and of itself, is a clear indicator of how service area population impacts patient volumes which in turn can influence the composition of a rural health delivery system. It illustrates the complexity in developing and maintaining viable rural health systems of care. In addition to population and patient volume considerations, other common issues facing rural FQHCs include health workforce, affordable HIT, and addressing chronic care.

H. 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, tobacco control. Disease prevention and health promotion are highly associated with public health.

Public health in ND is provided through 28 single and multi-county local public health units. All 53 counties are covered through this arrangement. 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 (city of Bismarck and Burleigh County, city of 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), 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 -- particularly rural-based units -- faces a growing number of issues straining already stressed delivery systems. According to the National Association of County and City Health Officials, common issues confronting rural public health professionals are: workforce development, emergency preparedness, effective public health advocacy, public health infrastructure, serving diverse populations, and finding funding for rural public health. In addition, others at the national level have also identified telecommunications, leadership (including the public misperception of public health role), and safety net provider support (i.e., the conflicting demands for population-based services vs. supporting a safety net of personal health services)[58]. ND rural public health faces similar issues including workforce development, access to affordable technology, leadership development, funding, and safety net provider support. According to the ND Public Health Association additional issues include access to public health care hampered by distance and

[58] Reed, H. Ohio Department of Health. (2008). *Rural Public Health.*

weather. ND demographic issues such as the aging population have a profound impact on public health as the rural elderly have concerns regarding medication costs, transportation to health services, and special needs such as physical access to services. Chronic disease care is a growing challenge throughout the state.

I. Home Health Care Services

As of August 2008 there were 26 home health care enterprises licensed and operating in ND. According to the ND Association for Home Care (NDHC) this is a decline of five or six services from five years ago[59]. Nationally, home health services have been experiencing significant financial pressures primarily due to reimbursement changes. This has had a profound impact on rural home care, particularly on the number of programs and services available. Rural home care is experiencing structural -- including financial and workforce -- pressures at a time when the rural elderly population is increasing. As this age cohort increases, requiring more assistance and services, the home health sector is confronting external forces that threatens the viability of the industry.

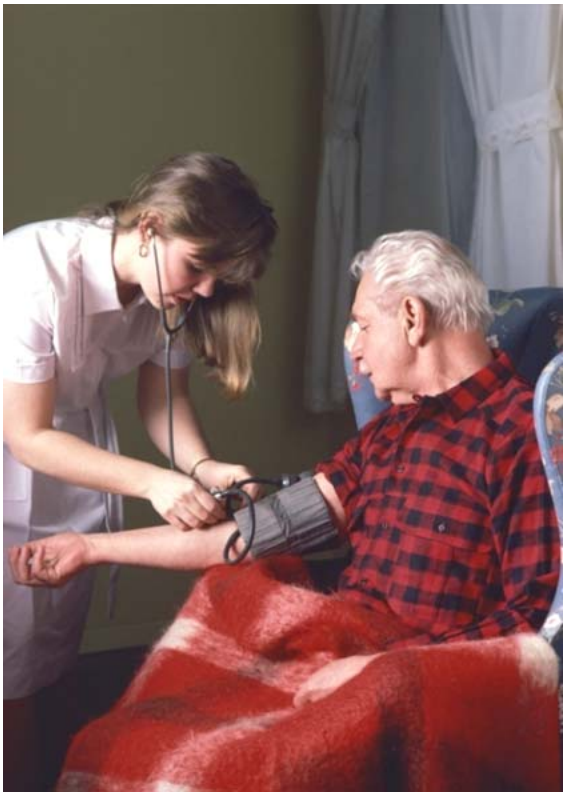
Starting in 2000, home care reimbursement changed from prospective payment (PPS) to fee-for-service. **ND has a lower area wage index influencing the PPS reimbursement. There has been a decrease of approximately $400 per client episode under the new reimbursement due primarily to the low wage index in ND.**[60] Evidence of the impact of reimbursement changes is found in Minot, where Trinity Health (an integrated health system serving as a tertiary provider in north central-western ND) announced that as of August 2008, it would only take new clients within 45 miles of Minot (up to this time the distance was within 90 miles). Reimbursement rates combined with the costs (e.g., gasoline) to deliver services over great distances create a new obstacle for rural based services. Also, the home care industry in ND is experiencing workforce issues similar to hospitals, clinics, and EMS. For example, hospitals and clinics compete with home care providers and, nursing homes for qualified nurses. **Given an aging population, there is growing demand for a home health workforce educated in geriatrics.**

Another complicating factor is that **historically, home care services operated from a hospital setting.** As rural hospitals transitioned from a fee-for-service cost reimbursement system to a prospective payment system in the early 1980's there was a corresponding need for rural hospitals to diversify their service mix. Many rural hospitals added home care, provider-based rural health clinics, swing beds, and expanded other ambulatory and outpatient services. Adding services expanded the service base and generally were financially beneficial. When rural hospitals experienced financial pressures, particularly on the Medicare side for acute care services, Congress created the CAH designation which effectively returned over

[59] North Dakota Association for Home Care (personal communication, August 1, 2008)
[60] North Dakota Association for Home Care (personal communication, August 1, 2008)

1,200 rural hospitals to a cost-based reimbursement system. From a cost perspective, it has become more difficult for CAHs to achieve a positive financial status when they operate certain non-hospital services, such as home care; thus, **more CAHs have disbanded their home care programs**. Some CAHs report providing visiting nurse services through their rural health clinics which allows for the provision of needed services to Medicare beneficiaries allowing the CAH/rural health clinic to receive cost based reimbursement for doing so. The combination of home care's wage index issues coinciding with CAHs financial pressures has hastened the discontinuation of many rural home care programs as they have existed.

Like other health providers, home care operations are exploring network opportunities. Larger, more urban based programs may play a role in creating networks for centralized billing, supply and equipment purchases, coding, and other management functions that are increasingly difficult for rural home care programs struggling to provide services. Tele-home care offers some potential for stabilization; however, technology is a significant financial investment and the need for more technology coincides with a negative financial picture. Thus, the potential offered through technology may be stymied by financial forces that preclude many rural based programs from investing in a system that could stabilize access to care and facilitate management functions.



J. Long Term Care

Long term care references a wide spectrum of health services and personal care that can range from relatively simple home care services to increasing intensities or levels of care ultimately resulting in skilled nursing care. Home health, previously discussed, is one form of long term care along with assisted living, basic care, and nursing facilities. Long term care is commonly associated with health care for the elderly; however, it may be used by anyone requiring more long term services (e.g. physically or mentally disabled, needing post-acute assistance).

Long term care, an important part of the health care system, provide essential services, typically to vulnerable population groups. In rural ND, with an increasing elderly population, the availability of and access to long term care is a significant rural health issue. While there are 39 rural hospitals in ND, **there are 66 rural nursing homes. In addition, there are 39 rural assisted living facilities and 37 rural basic care facilities**. Long term care has a significant role to play in meeting rural health needs and it has a fundamental impact not only on the health of rural citizens, but like other rural health organizations (e.g., hospitals and clinics), it makes major contributions to the rural economy. From an organizational perspective long term care is a rather complicated delivery system with a wide array of definitions, organizational types, and a complex regulatory environment.

There are three primary types of long term care facilities in ND: assisted living, basic care, and nursing. There are 62 assisted living facilities (39 are rural) located in communities outside of the following: Bismarck-Mandan, Grand Forks, Fargo-West Fargo, and Minot. Assisted Living facilities provide services to people who need help with Activities of Daily Living (ADL) but desire to live as independently as possible. Assisted living is an apartment setting that is licensed by the ND Department of Human Services and the ND Department of Health, and also falls under the state landlord tenant laws. The assisted living facility must enter into a lease or rental agreement with the tenant. Services required by the tenant are separate from the rent. State law further defines a "living unit" as a portion of an assisted living facility that contains a sleeping area, an entry door that can be locked, and a private bath and restroom area.[61] Most assisted apartments also include kitchens. For many people assisted living is a "bridge" service as it serves to connect and transition the individual from their own home to supported living through assistance with basic care example. Assisted living facilities offer help with ADLs such as bathing, eating, dressing, laundry, housekeeping, and assistance with medications.[62] Health and medical services are also made available.

There are 58 basic care facilities in ND (37 are rural). Basic care occurs in an institutionalized setting in which each resident has a room, which may include a roommate, and a flat fee is paid by the resident to cover room, board, and services. In assisted living, the setting is more residential with services being selected by the individual.[63] Basic care is licensed by the ND Department of Health. Basic care services are provided on a 24 hour basis within the facility. Services include assistance with activities of daily living and instrumental activities of daily living; provision of leisure, recreational, and therapeutic activities; and supervision of nutritional needs and medication administration.[64]

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[61] ND Department of Human Services (personal communication, September 9, 2008)

[62] Nelson and Wallery, Ltd. (2003). *What is assisted living?* Retrieved October 27, 2008, from assistedlivinginfo.com/alserve.html

[63] Department of Health (personal communication, September 9, 2008)

[64] New Lifestyles. (2004). *North Dakota senior housing and care.* Retrieved October 27, 2008, from newlifestyles.com/resources/state_licensing/ND.aspx

There are 83 nursing facilities (66 are rural). Nursing homes provide institutionalized care in the form of skilled nursing care and rehabilitation services to people with illnesses, injuries, or functional disabilities. While nursing facilities are associated with the elderly they can serve a wide range of age groups requiring nursing and rehabilitative care. Nursing homes may provide the following services: therapies (e.g., physical occupational, respiratory, or speech); pharmacy; specialty (e.g., developmentally disabled, Alzheimer's treatment, pulmonary disease, stroke recover, trauma, and others); equipment rental; special services (e.g., adult day care, respite care, home health, and others); and other services.[65] **All ND nursing facilities are certified to receive Medicare and Medicaid.**

The ND Long Term Care Association (NDLTCA) – representing nursing facilities, basic care, and assisted living identified five primary issues facing long term care in the state: recruitment and retention, funding and reimbursement, education and training, rules and regulations, and membership and marketing. The issues of workforce, funding, and the regulatory and policy environment are common rural health issues facing other major provider groups in rural ND (e.g. hospitals, clinics, EMS). Each provider group has its own unique set of issues, however, an overarching trend is found in the commonality of the major issues. For example, most providers are addressing workforce issues by broadening the pool of potential recruits (e.g., developing efforts to target youth, minorities, immigrants, and older-than-average adults for careers in long term care); increasing the appeal and recognition of the profession; increasing the use of technology to support distance education and training; expanding education reimbursement limits; and other innovative steps.

K. Emergency Medical Services

Each of the state's 53 counties are served by at least one ambulance service and the ND Division of Emergency Medical Services and Trauma (DEMST) has estimated that from **90 to 95 percent of the EMS personnel in ND are volunteers** (compares to national data indicating that 57-90 percent are volunteers). There are over 4,300 EMS personnel in the state (first responders, EMT-Basic, EMT- Intermediary, and EMT-Paramedic); approximately 3,900 volunteers. There are 141 licensed ambulance services with 119 Basic Life Support (BLS) and 22 Advanced Life Support. All urban ambulances in the state are ALS; however, only about eight rural ambulances are ALS. [66]

[65] Nelson and Wallery, Ltd. (2003). *What is a nursing home?* Retrieved October 27, 2008, from nursinghomeinfo.com/nhserve.html

[66] North Dakota Emergency Medical Services, (2008, April 7-10). *National Highway Traffic Safety Administration Site Visit*. and National Rural Health Association. (n.d.) *What's different about rural health care?*

ND has witnessed moderate growth in the number of EMS personnel over the last three years. First responders, who have the least amount of required training, grew by 14 percent; paramedics increased by 11 percent; EMT-I, three percent; and EMT-B, two percent. New state supported training grants made available in 2005 contributed to this increase (DEMST). Paramedic growth was considered a response to the difficulty in maintaining an all volunteer ambulance squad.[67] While there is overall growth, statewide, there are growing pockets of workforce shortages particularly in the more remote and frontier areas of the state. According to the ND EMS Association, over the last four years there have been four ambulance service closings – Binford, Fordville, Willow City, and Minnewauken.[68] Low volume for service calls and a continuing decline in the number of available volunteers are common reasons associated with the disbanding of ambulance units.

State demographics have a profound impact on the emergency system of both rural and urban ND. In calendar year 2007, **the ten busiest ambulance units (out of 141) accounted for 71 percent of all calls**. Forty-nine ambulance units or 35 percent conducted fewer than 50 calls; 17 units had 10 or less calls. DEHS data indicated that 78 ambulance units (55 percent) reported doing 100 or fewer calls in 2007. Responding to few calls has complications in terms of maintaining squad member competency. While continuing education is required, the practical experience gained from responding to calls is lost in many frontier and rural areas.

DEHS has estimated that an ambulance unit needs to have at least 400 calls per year to be financially self-sustaining. During 2007, ND ambulances responded to 57,661 calls. Over 11,000 of those calls (almost 20 percent) were in Fargo. Population trends impact rural ambulances in much the same way they impact rural hospitals – both experience the consequences of declining patient volumes impacting encounters, financial bottom-line, and workforce supply.

Following the creation of training grants, 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. It is assumed that this, too, will move more ambulance units towards some level of paid, professional staff such as paramedics. This has the advantage of addressing workforce, improving quality, and increasing the skill set for rural EMS. It is common in rural settings to have paramedics also providing health services within the local hospital. Another policy intervention, in the 2007 legislative session, was the appropriation of $150,000 to assist some ambulance units to disband and downgrade to a quick response unit. Efforts such as these acknowledge the difficulty in maintaining fully

[67] DEHS. (2006-2007). *Emergency Medical Services Year End Data Report*.
[68] EMS Association (personal communication June, 2008)

operational ambulance units; however, they do continue to support a critical first response system.

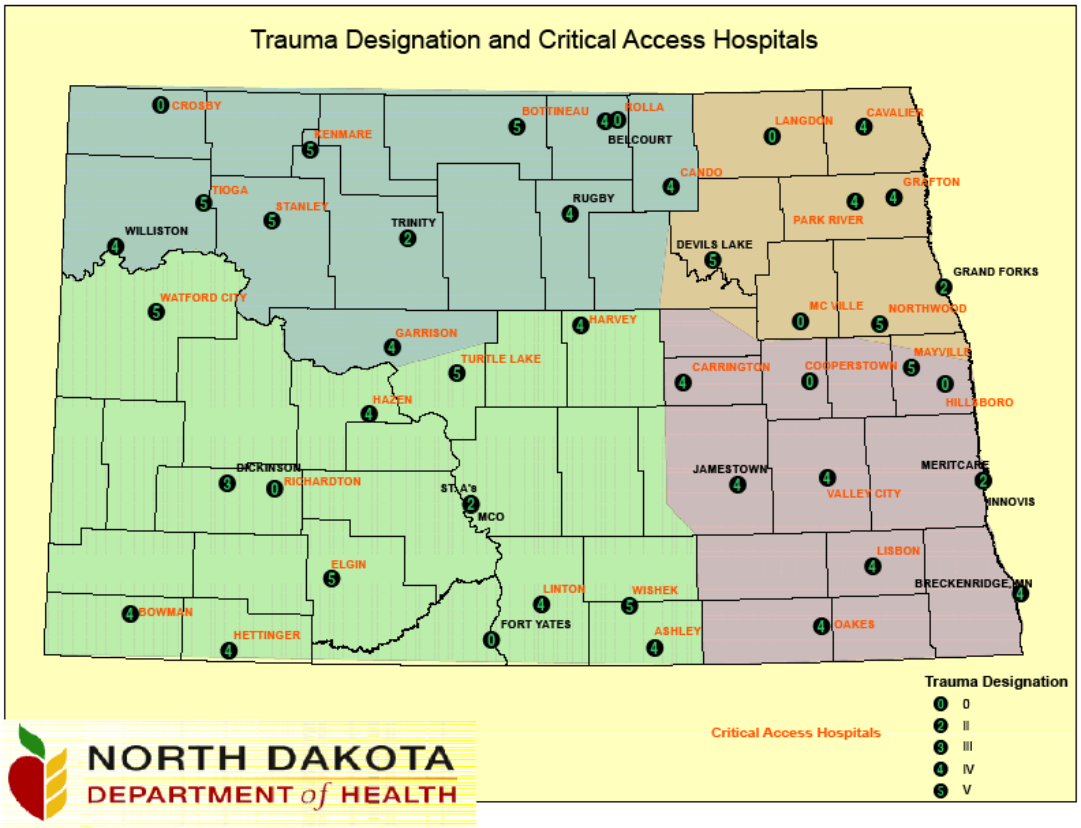
L. Trauma System

An inclusive trauma system, engaging all available acute care resources, is deemed to be the most effective method to provide optimal emergency care in the rural setting. Providing trauma care in rural areas presents unique challenges. The best care for patients can be achieved with an inclusive program that clearly defines the role of each facility within the system. **Thirty-seven of ND's forty-five hospitals are designated trauma centers.**

The current trauma system within ND is a testament to the dedication and resourcefulness of the leadership both within and outside of the ND Department of Health.[69] Larger healthcare facilities in the state have demonstrated an ongoing commitment to the citizens of ND by completing and maintaining the verification process of the American College of Surgeons (ACS) as level II or level III trauma centers. As a result of the "inclusive" trauma system model articulated in the state's first trauma system plan (1993) there has been active recruitment of rural and frontier facilities as well. Only eight of forty-five hospitals are not currently verified for trauma care.

The trauma system has some remaining challenges. Important areas remaining to be addressed include an ongoing system-wide approach to performance improvement, development of a formal critical care transportation network (with combined ground and air medical resources), ability to generate statewide reports from the trauma registry, and limited access to epidemiological data that can be used to better describe and respond to basic injury problems.

[69] American College of Surgeons. (2008). *ND Trauma System Assessment and Recommendations.*



ND is poised to take the trauma system to the next level and has the potential to become a showcase for an inclusive rural trauma system. However, in order to make this transition, the **state needs additional investments** in personnel and infrastructure. In particular, the state trauma program staff needs to increase and investments in the state trauma registry may be necessary.

VI. Issues Affecting Critical Access Hospitals and Rural Health Delivery

The identification of issues affecting CAHs and their delivery of rural health is the focus of this section. It is understood that these issues may not be unique to CAHs, however, the focus of such continues into the following discussions due to the purpose of this plan and the priorities of the Flex Program.

The **voices of many different rural health stakeholders are heard** throughout this section and are informed from the following sources:

1) CAH Administrators (2008 CAH and Flex Program Survey);
2) statewide organizations (key informant interviews);
    a. 12 different associations/organizations (e.g. healthcare, long term care, medical, pharmacists, and public health associations; quality improvement organization, community action, economic development, rural development council)
3) large referral hospitals (3 key informant interviews with regional outreach representatives);
4) rural health consumers (two community forums in Linton and Cooperstown, ND);
5) Flex Steering and Advisory Committee members (planning meetings with 8 CAH administrators and representatives from the Center for Rural Health, ND Healthcare Association, ND Healthcare Review, Inc. and the ND Department of Health); and
6) secondary data as referenced.

Nine themes or issues emerged from the information sources described above, each identified as critical to the future of rural health in ND:

1) access
2) community and economic development
3) emergency medical services and trauma
4) finance
5) health information technology
6) networking
7) quality
8) system reform
9) workforce

Each theme is discussed and includes: a) general overview, b) specific concerns identified by stakeholders (described above), c) suggested solutions from stakeholders, and d) the Flex Program's proposed role in addressing each area as appropriate within the program's scope of work and its current resources. Actions

identified under the latter and titled "ND Flex Program's Role: 2008-2010" are based on a collective approach involving the Flex Program's Steering and Advisory Committee where information from all sources was reviewed and discussed within the parameters of the Flex Program guidance. A detailed work plan for each year (2008, 2009 and 2010) will be developed and include action items related to the program's role in addressing the varying issues/themes. The Flex Program does engage in program evaluation which involves the identification and explanation of goals, measures, impact and outcome from its efforts. Annual reports are completed and shared broadly.

Following are the nine themes, discussed in alphabetical order. Each was identified as a priority and further ranking of importance was not part of the process.

A. Access

Access to care is a profound and systemic issue that challenges national, state, and community leaders. What follows is a discussion of common factors that contribute to access to care issues. Because the subject is complex and inclusive it is helpful to understand access within the context of systemic forces.

Geographic access to healthcare is influenced by distance, weather, terrain, and location. Accessing health care for persons in a car accident 35 miles away from a hospital, in a remote area, on a gravel road, in a snow storm in January is different than a car accident in metropolitan areas. Ensuring access to quality health services remains the goal; however, access is influenced in both circumstances by the unique qualities associated with physical conditions. With 39 rural hospitals available across

70,000 square miles, rural residents must contend with geographic factors affecting access in a manner not found in urban settings.

Demographics and economics impact access in myriad ways. Continuing erosion in the population base reduces the actual volume of patients for services. This can result in reducing or eliminating services; thus, availability of care is reduced. An aging population presents with more chronic conditions, increasing demand for specialty services such as primary, home, respite, and long term care. An older population requires more health care and impacts the health system differently than other age groups. A decline in the actual number of rural residents combined with an increasing elderly population and a reduction in younger, working age population leaves much of rural ND with significant workforce issues. Economically, rural areas tend to have lower incomes and higher rates of poverty and lower levels of health insurance. Demographics factor into the challenges facing rural health in ND.

The availability of health facilities and programs is critical to accessing care. During the late 1980's and into the early 1990's, hundreds of rural hospitals closed across the country (seven closed in ND). **Over the last ten years 30 rural ND clinics, along with rural ambulances, pharmacies, home health agencies have closed**. People are forced to travel (if they can due to age, income, and/or transportation options) many miles to seek care from other providers. Similar to the loss of health professionals, the loss of facilities and programs produces personal and community impacts in the form of health status, loss of economic contributions, and community viability.

Stakeholder Perspective

These issues were echoed by rural stakeholders through the information collection process used to inform this plan. **Consumers** expressed concern with the proximity to health facilities, the rising cost of health care including insurance premiums. Statewide organizations collectively described transportation, rising health care costs and proximity to facilities as issues related to access. **CAH administrators** supported these thoughts and added concerns specific to the availability of mental health services (25 CAHs identified this as an issue), the impact of uninsured (24 CAHs), maintaining access to primary care (22 CAHs), pharmacy coverage (12 CAHs) and the availability of diagnostic services (11 CAHs).

Suggested Solutions

- Recognition from larger facilities of importance of rural health in patient outcomes
- Improve healthcare access by subsidizing each county to have its own public health nurse practitioner
- Look at other models of care; be available for (or create) demonstration projects

- Foster leadership
- Get younger people involved in decision-making that impacts their community including healthcare
- Increase the availability of clinical sites
- Develop a culturally competent curriculum for mid-level providers to improve meeting needs of mental health patients
- Document access problems
- Define reasonable distance to primary care
- One-stop-shop approach for consumer education of health issues
- Support access points in rural (hospitals and clinics) communities
- Develop a service organization charged with offering elderly services in every small town

ND Flex Program's Role: 2008-2010

A1 Collaborate with the ND State Office of Rural Health to inform and educate CAHs on opportunities present in federal rural health grant programs (Rural Health Outreach Grants, Network Development Planning Grants, and Network Development Grants) which can address access issues such as mental health, transportation, primary care, chronic care, EMS, and others.

A2 Explore alternative models of health delivery systems, such as the Frontier Extended Stay Clinic model currently operating as a demonstration in Alaska's remote regions.

A3 Continue to support leadership development and national exposure to success models evident in ND.

A4 Work with the newly funded Area Health Education Center (AHEC) which includes the UND's School of Medicine and Health Sciences and the College of Nursing.

A5 Continue to work with the state primary care association (CHAD – Community Healthcare Association of the Dakotas) to explore CAH and CHC collaboration.

A6 Continue to collaborate with the state's primary care office and their focus on recruitment and J-1 program.

A7 Continue to provide technical assistance to CAHs that strengthens their ability to meet local and area access issues through community needs assessments, specialty needs assessment, strategic planning, community forums, grant development workshops, identification of funding resources, and other assistance along with connections to other resources.

A8 Continue to fund subcontract awards to CAHs to strengthen the delivery

system by addressing local access to care issues.

B. Community and Economic Development

Community sectors (health, education, business/economic development, housing, government, and faith/church) are influenced by the community's social and cultural composition, demographic and economic factors, geographical location and historical context. Consequently it is important to consider community characteristics and recognize common differences between rural and urban communities. Below is a table displaying the relative strengths and weaknesses commonly associated with rural and urban communities.

Identified Strengths and Weaknesses of Rural and Urban Communities[70]

Rural	Urban
Strengths	***Strengths***
1. Strong informal support network	1. More stable economy
2. Fundraising	2. Availability of resources
3. Cohesive	3. Availability of professionals
4. Established interdependence	4. Growing and diverse population
5. Collaboration	5. Change is natural
Weaknesses	***Weaknesses***
1. Skewed population demographics	1. Lack of cohesiveness
2. Fluctuating economy	2. Limited informal support
3. Resistence to change	3. Competition among providers
4. Shortage of providers	4. Competition for fundraising
5. Lack of resources	5. Go it alone "lone wolf"

The above comparison is useful when considering health systems and their unique relationship with their communities, service areas and consumers. For example, a rural hospital is improved when the hospital or community collaborates with entities in a manner that benefits the region; the hospital benefits when a culture exists that is supportive of local fundraising; and there is a support network where individuals, churches, civic groups and others work together to assist individuals, families, or other organizations. Because of the nature of rural communities – culture, small population, and economic connection -- local institutions and citizens recognize that there is an inherent dependency present that facilitates constructive community action.

Health organizations, such as CAHs, that are actively engaged with community members and organizations tend to be more viable – economically, politically, and strategically. By connecting with the community, they position their services to be responsive to identified needs. Community development and engagement (i.e.,

[70] Gibbens, B., Center for Rural Health, UND School of Medicine and Health Sciences. (1988).

intentional and direct effort to listen to and learn from the public) creates new resources, vitality, and synergy for the local rural health system.

An important function of the Flex Program is working with CAHs to reinforce their community bonds, and in that process bolstering their viability and, in turn, improving the economic outlook for the community and region. Healthy People 2010[71] substantiates the viewpoint that health outcomes are improved when health institutions are actively involved with their respective communities seeking input and openly communicating with individuals and community groups. The community-based collaborative approach taps into the dynamic contributions to be gained from all.

The Flex Program contains explicit expectations and financial incentives to encourage CAHs to engage with their communities, develop collaborative delivery systems in their communities with CAHs as the hub of those systems of care, and undertake collaborative efforts to address unmet community health and health system needs.[72] The Flex Monitoring Team conducted a national survey of 381 CAHs in 2007 concerning community benefit. The results indicate that: 1) nearly all CAHs offer financial assistance to patients in the form of both charity care and discounted charges; 2) CAHs are engaged in activities that demonstrate their commitment to community and rural health system needs; and 3) many CAHs have relationships with community organizations.[73] While community benefit has a definite financial aspect, the connection through community engagement, development, and economic impact are important as well.

Stakeholder Perspective

CAH administrators have highlighted needs associated with community awareness, support, and economic development opportunities[74]:

- fourteen CAHs perceive that their community is aware of their financial situation;
- nine CAHs receive county and/or city tax support; an additional six think it's likely that they will receive local tax support in the next 5 years;
- fifteen CAHs operate a hospital foundation; of those that don't, six believe it's likely that they'll create one in the next two years.

[71] U.S. Department of Health and Human Services. (2000). *Healthy people 2010* (Conference Edition, in Two Volumes, Focus Area 7-3). Washington, D.C.
[72] Flex Monitoring Team. (2008). *Policy brief #6*.
[73] Flex Monitoring Team. (2008). *Policy brief #6*.
[74] *2008 ND Flex and CAH Survey*. (2008). Retrieved October 27, 2008, from ruralhealth.und.edu/projects/flex/

Consumer education related to hospital finance and the community's role were also identified as a need. **Consumers identified** a lack of jobs for spouses working in health care and lack of community support as well.

Suggested Solutions

- Increase access to capital for rural communities
- Assist with economic development by educating hospital CEOs on how to disseminate information about impact of CAHs
- Document referral patterns and admissions of CAHs to demonstrate the impact of rural hospitals to their communities and the state
- Foster community support; communities need action plans that include a health focus
- Create an understanding of how different sectors link together to strengthen community
- Educate hospitals on how to encourage people to leave "legacy" to healthcare

ND Flex Program's Role: 2008-2010

B1 Promote visibility of CAH contribution to healthcare (e.g. further use of CAH profiles). Rural healthcare needs help to get message across that health system is the number one economic impact and a connection to all (i.e. if there isn't sufficient/quality housing then small communities don't attract staffing/providers, etc.); some states do an effective job with this while others need to improve (e.g., ND).

B2 Strengthen linkages to economic development; strengthen partnerships with the Department of Commerce and local economic development agencies.

B3 Further educate economic development organizations on health care's contribution to the local economy and how working together might help with physician recruitment/maintaining access to healthcare.

B4 Collaborate with State Office of Rural Health to inform and educate CAHs on opportunities present in federal rural health grant programs requiring community collaboration (Rural Health Outreach Grants, Network Development Planning Grants, and Network Development Grants).

B5 Promote availability of Center for Rural Health to conduct community meetings meant to facilitate a dialogue with community members on rural health issues --- Flex Program will host two to three additional community forums each year to serve as a community engagement mechanism for continuous input into the Rural Health Plan.

B6 Enhance media relations at the local level.
B7 Explore opportunities/models that enhance legacy planning, foundation development and support.
B8 Meet with the Impact Foundation of ND and ND Community Foundation to increase knowledge on potential generational income transfer.
B9 Develop CAH economic development work group to strategically plan for future work in this area.
B10 Continue to administer Community Needs and Healthcare Assessments.
B11 Continue to facilitate community forums, develop and refine CAH Profiles.
B12 Continue to assist CAHs with strategic planning, performance improvement, community engagement, and key informant interviews.
B13 Expand board training initiatives and fund minimum of two each year (western and eastern part of state).
B14 Explore leadership training/potential certificate program(s) with CEUs.
B15 Explore potential to collaborate with the state's Young Professional Association.

C. *Emergency Medical Services and Trauma System*

ND's EMS and Trauma System were described in detail under previous section titled "ND Health Delivery System". There is an increasing concern at both community and policy levels, regarding the ability to maintain a quality EMS system in rural ND. Rural demographic trends along with cultural and family dynamics have combined to place pressure on fragile rural EMS systems.

The National Rural Health Association published an extensive review of rural and frontier EMS including recommendations. The vision for the future of rural/frontier EMS "will assure a rapid response with basic and advanced levels of care as appropriate to each emergency, and will serve as a formal community resource for prevention, evaluation, care, triage, referral and advice. Its foundation will be a dynamic mix of

volunteer and paid professionals at all levels, for and determined by its communities." Furthermore, the importance of EMS integration with other critical health entities will continue to be significant as "it's about partnership".[75]

Stakeholder Perspective

The heavy reliance on volunteer EMS providers was identified by both large and small hospitals, with CAHs further explaining that ambulance crews are "stretched too thin." Funding was identified by statewide organizations as a problem as was access to EMS and the need for leadership and management in the field. Consumers expressed concern with the availability of EMS as did CAHs who further identified the availability of adequate patient transport services.

Suggested Solutions

- Measure EMS outcomes and link with other data sources; rural payments that reflect quality; focus on patient outcomes and improving patient safety
- Address liability and protocol issues
- Look at regionalization
- Openly explore and discuss paid model vs. volunteer model
- Fund EMS
- Support training for EMS staff
- Re-certification efforts may need to be addressed
- Encourage networking around workforce (recruitment and retention), K-12 exposure
- Leadership training for EMS
- Trauma system improvement

ND Flex Program's Role: 2008-2010

C1 Support educational opportunities related to financial viability of local EMS units.

C2 Explore offering technical assistance to EMS units such as strategic planning, grant development, and budget management.

C3 Continue to financially assist CAHs with trauma designation.

C4 Continue to participate in meetings of the State Trauma Committee.

C5 Continue to financially support EMS networks through subcontract awards to CAHs. To date there have been 47 such network awards, impacting 30 counties (57 percent of all counties).

C6 Support newly developed (federal) online training for medical directors.

[75] *Rural and frontier EMS: Agenda for the future*. (2006). Retrieved October 27, 2008 from www.NRHArural.org

C7 Continue to collaborate with the ND Department of Health's Division of EMS and Trauma and the ND EMS Association.

C8 Explore the availability of EMS units' access to medical direction and assist with sharing models currently being used to meet licensing requirements.

D. Finance

The Flex Monitoring Team[76] (i.e., the consortium of rural health research centers responsible for research related to the national Flex program) explains that all hospitals, regardless of size and organizational structure, benefit from comparative data on financial condition and performance. Data from the Flex Monitoring Team indicate: 1) variable performance of CAHs in the early years, 2) steady improvement since 2003, 3) profitability and liquidity improvements and increased ability to assume debt, 4) more than half of CAHs are performing better than benchmarks, and 5) many CAHs are still unprofitable, illiquid, and have little debt capacity[77]. CAH designation and the national Flex program have produced positive results; however, it is apparent that conditions impacting some CAHs remain unsettled.

The Flex Monitoring Team analyzes a total of 20 indicators on an annual basis for all of the nation's 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)[78] and surrounding states (e.g. South Dakota, Montana, Minnesota).

Stroudwater[79]completed a financial study for ten of ND's CAHs using Flex Monitoring Team data and other information provided from each of the ten participating facilities. The results identified common findings:

1) cost reports are well prepared;
2) third party payers generally result in marginal loss or profit on a fully allocated cost basis;
3) for most CAHs, operating losses are primarily the results of clinics, nursing homes, and other non-hospital business, and
4) mark up ratios at most CAHs are below non-North Dakotan peers; opportunities exist related to treatment of swing bed patients.

[76] Flex Monitoring Team. (2008). Retrieved October 27, 2008, from flexmonitoring.org/documents/DataSummaryReportNo4_Aug08.pdf
[77] Pink, G. & Slifkin, R. (2008). *The flex program at 10 years: The financial experience of small rural hospitals*.
[78] Flex Monitoring Team. (2008). Retrieved October 27, 2008, from flexmonitoring.org/documents/DataSummaryReportNo4_Aug08.pdf
[79] Shell, E. Stroudwater Associates. (2006).

Stakeholder Perspective

Lack of adequate third party reimbursement was identified as a problem by both small and large hospitals and statewide organizations. **Twenty-six CAHs** expressed concern with private insurers and 23 expressed with Medicare reimbursement. Medicaid reimbursement was also identified by CAHs as an issue. **Consumers** cited concerns related to reimbursement of prevention services and home health and believe there is a difference between the reimbursement of rural and urban providers. CAHs agreed with the consumer concerns. Lastly, access to capital was expressed as a concern by 15 CAHs.

Suggested Solutions

- Streamline health systems
- Reduce paper work
- Make billing easier to understand (for consumers)
- Increase third party reimbursement
- Federal funding to rural states with fair reimbursement from Medicare and BCBS
- Communities, and state and local government need to invest in health facilities
- Continue to fund financial analysis
- Need flexible policy options on insurance and financing; policy options to address affordability - cost and coverage

ND Flex Program's Role: 2008-2010

D1 Provide CAH finance related information to state and national policy makers and other interest groups to support policy development that addresses specific CAH finance issues.

D2 Share ND Rural Health Plan with stakeholders to inform actions – build collaboration across organizations to address finance.

D3 Engage other state Flex programs, the Flex Monitoring Team, and the Technical Assistance and Services Center (TASC) to inform efforts to produce positive CAH financial outcomes.

D4 Continue to provide subcontract awards to support CAH financial feasibility studies including those that assist with CAH designation decision making and others such as charge master reviews.

D5 Fund additional financial analysis of ND CAHs by neutral third party.

D6 Continue to collaborate with NDHA to provide technical assistance and educational opportunities related to CAH finance.

D7 Continue to provide technical assistance to CAHs including performance

improvement planning.

D8 Continue to fund Peer Mentoring Program which provides funds to CAHs to foster engagement across facilities on current needs, including finance.

D9 Continue to support leadership development and exposure to success models evident in ND.

D10 Continue to develop relevant partnerships.

D11 Explore alternative models of health delivery systems, such as the Frontier

D12 Extended Stay Clinic model currently operating in Alaska's remote regions.

E. Health Information Technology (HIT)

HIT refers to the use of computers to store, protect, retrieve, and transfer information electronically within health care settings. HIT can help to reduce medication errors; increase sharing of health information between providers, laboratories, pharmacies, and patients; ensure safer patient transitions between health care settings; and reduce duplicative and unnecessary testing. Using HIT to drive improvements in healthcare will require the support of many diverse stakeholders in the healthcare system including practicing clinicians, hospitals, payers and HIT suppliers.[80]

The Agency for Healthcare Research and Quality identifies key elements of health IT[81]:

- Electronic health records for patients, in place of paper records.
- Secure electronic networks to deliver up-to-date records whenever and wherever the patient or clinician may need them.
- Electronic transmittal of medical test results to speed and streamline processing of those results by health care providers.
- Confidential access for consumers to their own personal health information online, as well as reliable web-based health information for consumers.
- Electronic - and more efficient - communication between patients and health care providers, and among different providers.
- Electronic prescribing of medications, treatments, and tests, to help avoid medical errors.
- Decision support systems to provide clinicians with up-to-the-minute information on best practices and treatment options.
- Electronic devices like handheld computers to make information available at the point of care.

[80] Rural Assistance Center. (n.d.). *HIT Information Guide*. Retrieved October 27, 2008, from raconline.org/info_guides/healthtech/.

[81] AHRQ National Resource Center for HIT. Agency for Healthcare Research and Quality. (2005).

ND Activity

ND's State Office of Rural Health assisted with the development of a Health Information Technology (HIT) Steering Committee to facilitate the adoption and use of health information technology and exchange to improve healthcare quality, patient safety, and overall efficiency of healthcare and public health services in ND. In 2006 the first Health Information Technology Summit, was held in Bismarck in partnership with the following: Senator Kent Conrad, ND Healthcare Review, Blue Cross Blue Shield of ND, ND Healthcare Association, ND Medical Association, Gruby Technologies, and the Center for Rural Health, UND School of Medicine Health Sciences. As a result of the Summit the ND HIT Steering Committee was created with the Summit partners including the ND Departments of Health and Human Services, AARP, and others for a total of 22 members[82].

A meeting (August 2006) of ND Stakeholders was convened in order to inform efforts relative to HIT application in ND. Consultants provided a national overview on HIT activity, as well as HIT and regional health information organization development in other states. Next steps were advanced for the steering committee, participating organizations, agencies, and healthcare facilities.

The HIT Steering Committee developed vision, mission, and goal statements, expectations of committee members, and fact sheets and sent information to Governor Hoeven and state legislators. In the 2007 legislative session an Information Technology Department's appropriation bill was adopted. This created in statute a new section to ND Century Code 23-01. No funding was appropriated to support the committee. The Steering Committee and related Stakeholder Workgroups (funding and resources, legislative and policy, communication and education, health information exchange and, privacy and security) continue to meet to achieve the vision of implementing a statewide health information technology and exchange infrastructure. CAHs are represented on the statewide committee and the Flex Program participates in varying subcommittees through its partners.

ND CAHs and HIT

In 2008, the Center for Rural Health, with input from the HIT Steering Committee members, developed and administered statewide surveys to each of the state's

[82] *ND HIT webpage: ruralhealth.und.edu/projects/sorh/hit/php*

hospitals, clinics, local public health units, long term care facilities and health program students (physician assistants, medical students, clinical lab, radiology technicians) to assess the HIT environment. This survey data is being used to inform a statewide report. Thirty-four CAHs responded to the survey (100 percent) and reported the following:

- twenty-six have an individual designated within the hospital to oversee the information technology for their facility;
- thirteen share services of the CIO/IT Manager and computer technician with one or more health facilities;
- sixteen did not anticipate an increase in the number of IT staff at their facility over the next five years, primarily because they do not have the necessary resources;
- one-third of CAHs said they currently use an electronic medical record (EMR) system (information is entered into the EMR system mainly through dictation, followed by typing/point and click systems);
- CAHs did not report using voice recognition software; and
- the most significant reasons that CAHs and non-CAHs were implementing an EMR were the availability of grant funding, improving the quality of healthcare, and patient safety.[83]

The top three barriers that have slowed or prevented implementation of an EMR in CAHs are as follows: 1) lack of financial resources and the initial cost of IT investment, 2) current reimbursement system, and 3) lack of financial resources to cover the ongoing costs of hardware/software.

Nearly half of CAHs already have computed-radiography in place, and all but one of the remaining plan to have it within four years. Computed-radiography replaces film images with digital images. Due to the need to transport film over great distances, the returning results can take days. Digital images can reduce this time to hours. Computed-radiography is a prime example of how HIT can create both efficiencies in care and facilitate quality improvement. ND Flex Program grants have supported a number of CAHs to secure financial resources to make this change.

Most CAHs currently budget two percent or less of operating revenue for HIT. When asked about strategic plan timelines for HIT, only one CAH said their HIT timeline was within the current year, ten CAHs expected their HIT timeline to be up to years, and seven CAHs expected it to be five or more years. Five CAHs said their plan for HIT is in development, and seven noted they do not have a strategic plan for HIT, but are interested in technical assistance.

[83] ND Center for Rural Health, State Office of Rural Health. (2008).

Stakeholder Perspective

HIT was not identified as an issue by consumers or large referral centers. However, **statewide organizations and CAHs similar perspectives** and expressed concern with the need for HIT and access to technology, funding for HIT, and compatibility of disparate systems in the long term. Thirteen CAHs also cited concerns related to accessing telemedicine.

Suggested Solutions

- Fund telemedicine
- Need information technology support
- Look for different funding for technology
- Need for emphasis on patients
- In-home video to connect patients and providers
- Use telemedicine more (ICU)
- Carve out a work group to focus on health provider issues and HIT

ND Flex Program's Role: 2008-2010

E1 Promote the sharing of HIT information by encouraging CAH-based HIT projects and networks to submit presentation abstracts for the annual Dakota Conference on Rural and Public Health.

E2 Continue to support HIT through subcontract awards to CAHs with priority on regional network approaches.

E3 Continue to work collaboratively with the state's HIT Steering Committee .

E4 Share information from Flex CAH HIT project broadly and emphasize links to quality.

E5 Continue to explore other funding sources to implement IT strategies for CAHs.

F. Networking

Networks can create efficiencies, maximize resources, strengthen relationships, enhance services, and lessen conflict. Recognizing this, rural health has experimented with and often implemented networks (horizontal and vertical networks). Additionally, the federal government focus supported the development and operation of rural health networks which have helped rural communities create hundreds of operating health networks.

The ND Flex Program provides funding to CAHs to develop and enhance network activity. There have been forty different network grants awarded to ND CAHs since 2000 and have involved CAHs working with EMS, local schools, area economic development, primary care, and other local/area health systems. ND's collaborative

system was recently recognized in the 2008 Commonwealth Fund Report, "Health care providers, payers, and policymakers in rural ND have learned that only through cooperative, interdependent relationships and a willingness to innovate in both the organization and regulation of services can they achieve the reach, care coordination, and economies of scale that are necessary for delivery of quality and efficient care in rural settings."[84]

The Flex Monitoring Team reports that over three-quarters of CAHs nationally have relationships with others CAHs and non-CAHs, EMS, schools, and public health agencies. Additionally, most CAHs are supporting these organizations, especially schools and EMS.[85]

Relative to ND, the 2008 CAH and Flex Program Survey reflected a series of subject areas that hospital networks could address. Areas with the highest-indicated level of need were:

- Recruitment
- Staff Development and Training
- CAH Finance
- Retention
- Local Fundraising/wealth transfer
- K-12 Exposure to health careers

The required network relationship between CAHs and a larger health system[86] is served by the five largest prospective payment system (PPS) hospitals in ND, namely: St. Alexius Health System (Bismarck), MedCenter One (Bismarck), Trinity Health System (Minot), MeritCare (Fargo), and Altru Health System (Grand Forks). Each of ND's CAHs has a network agreement with at least one large referral center (hospital); some work with more due to patient preference and the opportunity to participate in network activities such as quality improvement.

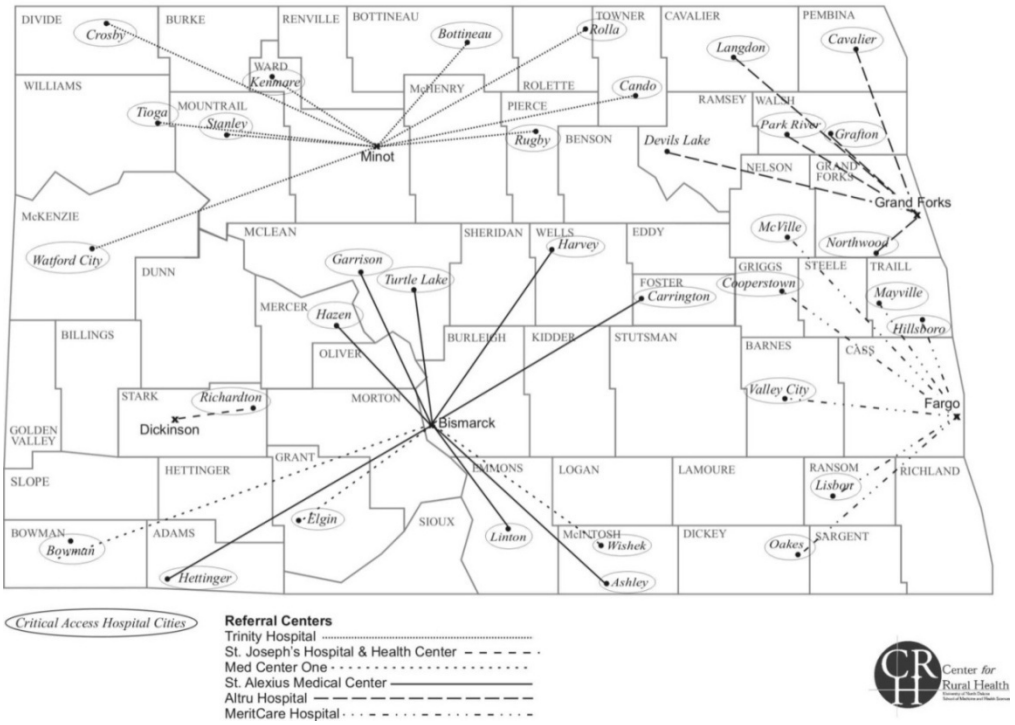
These agreements, at a minimum, must cover referral arrangements, credentialing, and quality assurance. However, in ND these networks have expanded beyond this scope. The 2008 CAH and Flex Program Survey demonstrated that **twenty-five CAHs report their network relationship with the large referral center has had a positive impact since CAH conversion**. These networks collaborate on a broad array of activities including the following: fiscal services, education (e.g., paramedic

[84] McCarthy, D., Nuzum, R., & Mika, S., et al. (2008). *The North Dakota Experience: Achieving High-Performance Health Care Through Rural Innovation and Cooperation, The Commonwealth Fund*.
[85] Flex Monitoring Team. (2008). *Policy brief #6*.
[86] *State operations manual: Appendix W – Survey protocol, regulations, and interpretive guidelines for critical access hospitals (CAHs) and swing-beds in CAHs*. (2008). Retrieved October 27, 2008, from cms.hhs.gov/manuals/downloads/som107ap_w_cah.pdf

training, hazardous material protocols, quality assurance, and other), infectious control, risk management, specialty medical clinics, provider recruitment/retention, peer review panels, grant development, telemedicine, and women's health.

The following map identifies the location of ND's CAHs and their network associations with large referral centers.

North Dakota Critical Access Hospitals & Referral Centers



Overall, ND CAHs describe their relationship with large referral centers as positive. Responses from the 2008 CAH and Flex Program Survey indicate that network relationships with tertiary referral centers has improved substantially over the past three years. CAHs viewed this relationship as:

- **strong – 22 CAHs** (*an increase of 12 percent* from 2005);
- **flexible – 22 CAHs** (*an increase of 13 percent* from 2005);
- **comprehensive – 17 CAHs** (*an increase of four percent* from 2005);
- **fostering a sense of trust between providers – 21 CAHs** (*an increase of 28 percent* from 2005)

The majority of CAHs (26) **are optimistic that this network will grow** and positively impact their hospitals (an increase of 17 percent from 2005). Quality improvement and staff education are identified as the two most common areas of focus for the CAH/tertiary networks.

The following tables reflect the perception that CAHs have of their large referral center relationships by region (there are four referral regions in the state). Three of the four regions identify positive perceptions from most hospitals, however one region (Southwest) indicates room for improvement. It is important to note that the Southwest region has two tertiary referral facilities (MedCenter One and St. Alexius) and data were combined.

ND CAHs (N=6) in Northwest report tertiary relationship as …

	Strongly Agree/Agree	Neutral	Strongly Disagree/ Disagree
Strong	6 (CAHs)	0	0
Comprehensive	4	2	0
Fosters trust	6	0	0
Flexible	6	0	0
Will grow	6	0	0

ND CAHs (N=5) in Northeast report tertiary relationship as …

	Strongly Agree/Agree	Neutral	Strongly Disagree/ Disagree
Strong	3 (CAHs)	1	1
Comprehensive	3	1	1
Fosters trust	2	2	1
Flexible	1	1	3
Will grow	3	2	0

ND CAHs (N=6) in Southwest report tertiary relationship as …

	Strongly Agree/Agree	Neutral	Strongly Disagree/ Disagree
Strong	2 (CAHs)	1	3
Comprehensive	0	3	3
Fosters trust	1	2	3
Flexible	2	1	3
Will grow	3	1	2

ND CAHs (N=7) in Southeast report tertiary relationship as …

	Strongly Agree/Agree	Neutral	Strongly Disagree/ Disagree
Strong	5 (CAHs)	1	1
Comprehensive	5	1	1
Fosters trust	6	1	0
Flexible	5	1	1
Will grow	6	1	0

Stakeholder Perspective

Overall, **networking was not identified as a problem**, but **an area needing support through enhancement and sustainability**. ND hospital administrators can be heard saying "it's just what we do in ND – it's part of who we are – our culture" when describing network activities. As other issues, such as workforce, health information technology and quality arise, networking is viewed as an approach in meeting those needs. Consumers did identify the need for networking in general.

Suggested Solutions

- Share "best practices" with tertiary providers in ND and encourage their involvement with CAHs
- Foster/support network of providers; no more territory guarding; identify areas to collaborate on that benefit the most
- Foster seamless service provision with long term care, small rural hospitals, tertiary hospitals and clinics; coordinated services are essential (hospital, wellness, schools, employers)
- Explore lean philosophy application to CAH environment. (IHI describes this as driving out waste so that all work adds value and serves the customer's needs. Identifying value-added and non-value-added steps in every process is the beginning of the journey toward lean operations.[87])
- The Flex Program must be selective and careful in how dollars are distributed; the Flex Program should encourage/mandate connectedness with others
- Staff development and training
- Create communities of peer mentors and collaborators across facilities
- Need to collaborate at state and community levels

[87] Institute for Healthcare Improvement. (2005). *Going lean in health care*. IHI Innovation Series white paper. Retrieved October 27, 2008, from IHI.org

- Offer tools and opportunities for facilities to work together
- Board training involving multiple health facilities to foster shared learning and support across communities
- Support increasing and enhancing network activities among CAHs

ND Flex Program's Role: 2008-2010

F1 Promote the sharing of best practices involving CAH networks and CAH-tertiary networks by encouraging the submission of presentation abstracts to the annual Dakota Conference on Rural and Public Health.

F2 Continue to support network list servs (all CAHs participate) which promotes the sharing of information between CAHs.

F3 Promote the development of Federally Qualified Health Centers and the relationship of FQHCs to CAHs.

F4 Work collaboratively with others across all areas of need including the newly formed ND Rural Health Association.

F5 Continue to fund network activities with the Flex Program subcontract awards (preference to workforce, health information technology, finance, and EMS).

F6 Continue to provide technical assistance and support to both the statewide ND CAH Quality Network and regionally based CAH networks.

F7 Continue to coordinate orientation for new CAH administrators and their staff; encourage networking and understanding of the Flex Program role (including partner efforts) which can address both the need to create communities of peer mentors and collaborators along with elements of staff development.

F8 Continue to encourage and engage with tertiary providers on activities benefiting CAHs; facilitate the sharing of "best practices" related to network activities involving tertiary centers.

G. Quality

CAHs exist to ensure access to quality health and medical services to a population in a defined area. They are instrumental in contributing to the community and economic composition of the area. The Institute of Medicine (IOM) in its seminal works, *Crossing the Quality Chasm: A New Health System for the 21st Century* and *Quality Through Collaboration: The Future of Rural Health* discusses the need for a fundamental reform of the American health system. The IOM argues that in order to improve the quality of care and to improve the health status of America substantial change must come *to* the health system and corresponding change must emanate

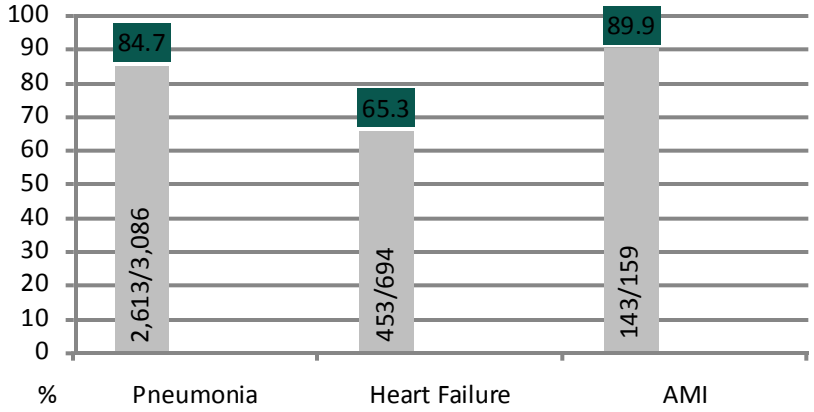
from the system. It is argued that a gap exists between the actual quality of care received and the expectation for quality.

Quality is defined as "*the degree to which services for individuals and populations increase the likelihood of desired health outcomes and are consistent with current professional knowledge."* Further, six aims for quality healthcare are care that is: safe, effective, patient-centered, timely, efficient, and equitable. [88]

According to the Flex Monitoring Team, CAHs are addressing quality improvement through a spectrum of activities focusing on patient safety, quality improvement, and performance improvement. Common patient safety efforts from CAHs include medication safety, fall prevention, and infection control activities. Nationally, two-thirds of the surveyed CAHs participated in quality reporting or benchmarking initiatives other than Hospital Compare (i.e., the CMS sponsored volunteer effort for hospital data and performance covering certain medical conditions and surgical procedures). The Flex Monitoring Team found that over half of the CAHs submitted data on pneumonia, heart failure, and acute myocardial infarction measures to quality initiatives other than the Center for Medicaid and Medicare's Hospital Compare.

North Dakota CAH Quality Measure Rates

07/01/07 – 06/30/08



Pneumonia rate is comprised of 7 quality measures.
Heart failure rate is comprised of 4 quality measures.
AMI rate is comprised of 7 quality measures.

Analysis provided by North Dakota Health Care Review, Inc., Minot, North Dakota
November 2008

[88] Institute of Medicine. (2001). *Crossing the Quality Chasm A New Health System for the 21st Century*. Washington, D.C.: National Academy Press.

Overall health care quality in ND is strong. On 12 measures addressing areas within types of care, settings of care, and care by clinical areas, ND notched six measures as strong and one as very strong. Remaining measures were average.[89] ND is in the top 10 states with lowest numbers of unnecessary hospitalizations, has the lowest average number of ICU days and low Medicare readmission rates and fewer number of residents without health insurance.[90] ND also has a lower mortality rate for causes amendable to health care and for infant mortality than the national average. Research indicates that health and the cost of care is better in areas where there are more primary care services[91] and ND has a greater number of primary care providers to population than the national average. For hospital services, ND exceeds the national average on several measures of quality including the percentage of heart failure patients given discharge instructions and percentage of pneumonia patients given their initial antibiotic within four hours of arrival (Hospital Compare). The following data reflects the percentage of North Dakota patients who received all of the care they were eligible to receive in each area (i.e. pneumonia, heart failure, AMI).

Over the past two years significant effort has been expended to assist CAHs with quality improvement efforts. An extensive survey was completed in 2006 by the Flex Program and CAHs have been working together to develop a statewide quality network to meet their needs. A 2007 survey[92] administered by the ND Flex Program revealed that twenty-seven CAHs were having a problem with the Medicare Conditions of Participation, and twenty-five were having a problem maintaining quality of care overall. A statewide CAH network coordinator was hired in May 2008 and a number of activities have been initiated and accomplished to date.

Stakeholder Perspective

CAHs continue to identify compliance with Medicare Conditions of Participation as a concern. **Consumers** expressed concern with the availability of "good doctors" at rural facilities and wondered if the workforce shortages would impact the quality of

[89] Agency for Healthcare Research and Quality. (2007). *National health quality reports state snapshots.*
[90] Institute of Medicine. (2004).
[91] Starfield et al. (2005).
[92] Center for Rural Health, Flex Program. (2007). ND Quality Network Survey.

care provided to patients. Large referral centers referenced a need for increased transparency within the quality arena. **CAHs and large hospitals** both agreed that working through the statewide quality network was a positive step to addressing concerns.

Suggested Solutions

- Need adequate funding to address quality of care (e.g. respond to regulations, evidence based practices, and new initiatives)
- The newly formed ND CAH Quality Network will play strong role
- Engage physician to drive the quality agenda further

ND Flex Program's Role: 2008-2010

G1 Continue partnership with the ND Healthcare Review, Inc. (the state's quality improvement organization) to support the CAH Network, maintaining reporting and use of Hospital Compare data, Institute for Healthcare Improvement related initiatives.

G2 Continue to offer to work collaboratively with NDHA quality related initiatives.

G3 Financially support the ND CAH Quality Network and continue to provide a stable infrastructure. Activities include development of an events tracking and reporting tool (Healthcare Safety Zone Portal), education, list serv, information dissemination, TeamSTEPPS training and support, communication plan, evolving partnerships with other stakeholders such as the ND Long Term Care Association, and providing direct technical assistance to CAHs.

G4 Explore connections with NDMA to engage physicians in quality improvement efforts.

G5 Encourage increased involvement of board members and improve understanding of the board's role with quality improvement.

H. System Reform

The idea of system reform has been suggested across all of the themes described in this report. The Flex Program can facilitate elements of system change by applying and leveraging resources, building coalitions, and encouraging a more comprehensive awareness and ownership of issues. There appears to be a consensus that significant change is warranted. However, there does not appear to be consensus on how to proceed or where to begin. Exploring health care delivery models different from current structures was identified as an opportunity during the information collection process for the rural health plan. The idea of a post-CAH model with an emphasis on primary care, prevention/wellness, and emergency care along with some lower level of acute care was discussed. The ND Flex Program along with other state Flex program and national advocates have expressed interest in the

Alaska pilot project: Frontier Extended Stay Clinic (FESC), a CMS sponsored demonstration effort operated only in Alaska. In the Medicare Prescription Drug Improvement and Modernization Act of 2003, a FESC is described as[93]: 1) located in a community where the closest short-term acute care hospital or CAH is at least 75 miles away from the community or is inaccessible by public road; and 2) designed to address the needs of (a) seriously or critically ill or injured patients who, due to adverse weather conditions or other reasons, cannot be transferred quickly to acute care referral centers; or (b) patients who need monitoring and observation for a limited period of time.

Those involved with the Alaskan model are working to demonstrate the operational viability and financial sustainability of the model under a cooperative agreement with the federal Office of Rural Health Policy. Such a model would provide some answers to suggested alternative models of care that require different levels of care and different provider arrangements. While distance criteria in the current demonstration would likely be changed by Congress in any national application of the FESC concept, the basic concept of FESC as a post-CAH model is intriguing. At this time, the FESC demonstration does not outline a reimbursement methodology; part of the demonstration will explore this critical element. It is possible that this discussion on yet another alternative model will need to address the implications of financial access. A methodology that explores the use of sliding fee scales for end users could be part of the discussion. Just as community health centers require the local system to provide some level of access to mental health, oral health, and other critical needs it is possible that a new alternative hospital model will provide similar considerations. One of the issues identified through stakeholder interviews is a system that is more patient centered rather than organization centered. It is possible that as more discussion focuses on concepts like medical home, which shape the health system around the patient, patient centeredness will be elevated. This, in-and-of-itself, would be a significant step in system reform.

Stakeholder Perspective

There is a shared voice for health care change as expressed by consumers, statewide organizations, large and small hospitals. Specifically, the need for more consensus and less competition, additional support for rural health facilities and providers, and defining essential access to care while taking into consideration distance, finance, equity and patient needs. The ability for communities to initiate change and accept change may involve a cultural shift which was also expressed as a concern.

Suggested Solutions

- Continue to explore State Rural Health Association

[93] Alaska Center for Rural Health. (2003). *Alaska FESC Consortium.* Retrieved October 27, 2008, from alaskafesc.org/index.php

- Document access problems
- Every small town should have a service organization charged with offering aging services
- One stop shop approach for consumers on health issues
- Need flexible policy options on insurance and financing
- Insurance options that mix private and public subsidies
- Blue Ribbon panel to address affordability
- More comprehensive reform
- Need to support access points in rural – hospitals and clinics
- More transparency and accountability in the system
- Need as a state to look at what health care should be, what we can realistically do, what we can realistically provide, and if we can't then some basic level of care
- Look at setting up different levels of care, different provider arrangements, look at developing urgent care centers not staffed by physicians but staffed by mid-levels and linked to emergency medical services
- Progressive leadership
- Need younger community people involved in decision making
- More education to public and consumers to raise awareness of rural health issues and increase understanding
- Need to purposely bring generations together
- Change attitudes to be less parochial and more global

ND Flex Program's Role: 2008-2010

H1 Consult with the ND Rural Health Association and other stakeholder groups to share results from study and plan. Discuss with others what role the Flex Program can play and possible roles for other stakeholders.

H2 The Flex Program will continue to seek input from others, particularly rural citizens, through a series of community meetings and dialogues. In this process, the program will promote increased awareness of systemic issues and the need for citizen input and engagement.

H3 Promote leadership opportunities for rural health managers, board members, and providers.

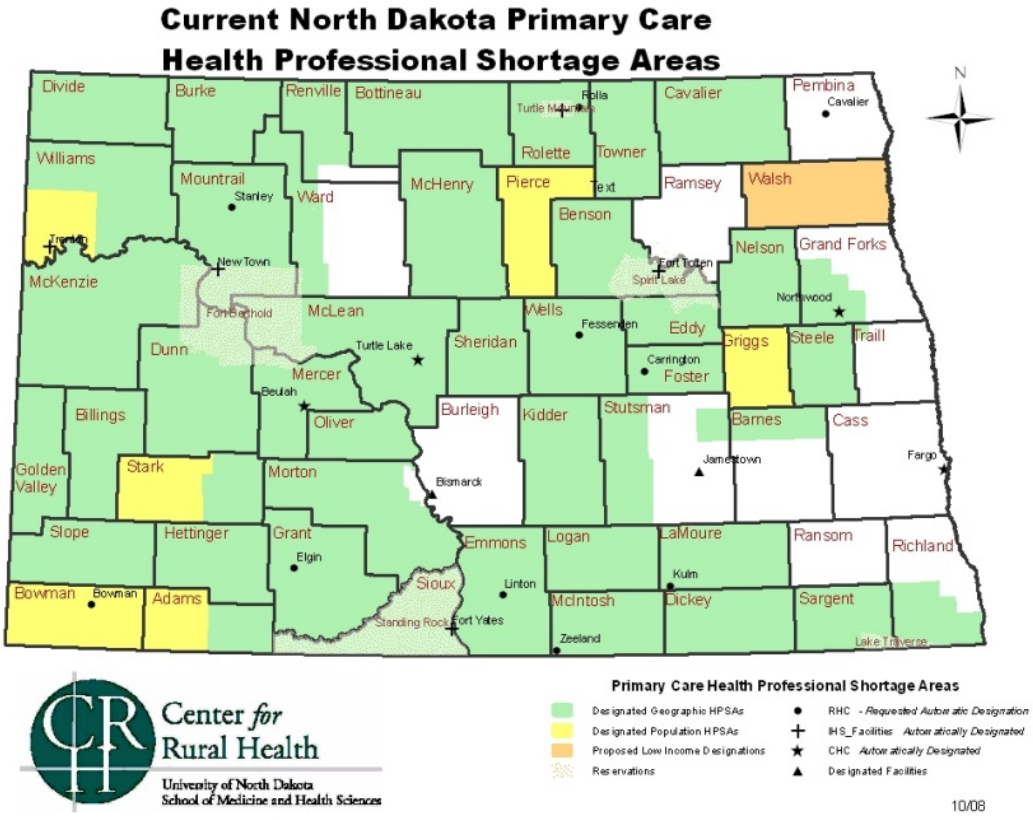
H4 The Flex Program will continue to provide data and information to state and national policy makers on rural health and rural hospital issues to inform their decision making in policy based health reform.

H5 Continue to monitor the implementation of new models such as FESC or others as they develop.

H6 Promote a continuing dialogue on the pivotal factors influencing and driving rural health system reform, serving as one of the vehicles fostering change.

I. Workforce

Between now and 2012, seven of the top 10 fastest growing occupations across the nation are projected to be in health care. Just 12 years from now, in 2020, demand is expected to outstrip supply for a number of health care occupations including physicians with a shortage of 100,000 physicians and 800,000 nurses.94 By the year 2020 more than one million new registered nurses will be needed in the U.S. health care system to meet the demand for nursing care. Shortages of health care providers negatively impact health care quality and access to health care services. While the availability of primary care has been associated with improved health outcomes95 over the past decade, there has been a dramatic decline in the number of primary care residencies filled by U.S. medical school graduates.96 Primary care



94 National Center for Health Workforce Analysis. (2003).
95 Starfield. (2005).
96 American Academy of Family Physicians. (2003).

shortages can also increase health care costs.97 The demand for health care services is increasing due, in part, to an aging population, advances in medical technology, and pharmaceuticals. While workforce shortages are a challenge for the entire health care system, they are likely to be most severe in rural areas of the U.S. and the Institute of Medicine recently noted that "efforts should be made to boost the supply of health professionals in rural areas".98 An additional challenge for health workforce education rests with developing competencies that can address both the health care needs of an aging rural population along with managing new technologies to lessen distance and remoteness found in isolated regions.

Health Professionals' Status

With 94 percent of the state designated as a Primary Care Health Professional Shortage and/or Medically Underserved Area/Populations by the federal Office of Shortage Designations, ND faces current and emerging challenges related to both the supply and demand for health care professionals. Job Service of ND expects significant growth in demand for pharmacists, occupational therapists, physical therapists, medical and clinical laboratory technologists and technicians, physician assistants, registered nurses and others by 2014.[99] While there has been a sustained interest in family medicine at UND, the state's only medical school, over time the graduates of the UND family medicine residency programs have followed national trends, showing a decreasing proclivity to settle in rural areas.[100] Access to health care providers, particularly primary care, is extremely important given the projected graying of ND's population that will be particularly pronounced in rural and frontier areas of the state.[101]

[97] Starfield. (2005).
[98] Institute of Medicine. (2005).
[99] Job Service of North Dakota. (2004).
[100] UNDSMHS Health Care Workforce Initiative. (2007).
[101] ND State Data Center. (2002).

Physician Indicators

The Center for Rural Health has tracked the state's physician vacancies since 1991. Data reveal that by 2020, 42 percent of physicians will reach retirement age.[102] In rural areas, family medicine comprises 51 percent of all practicing physicians, followed by internal medicine (28 percent). Pediatricians encompass only three percent of all practicing physicians in rural ND. Most of the 71 pediatricians are in urban counties. Overall, **access to primary care is a serious problem due, in part, to travel distances and supply and demand factors associated with the health care workforce**. For example, there are significant distances between health care services in rural areas and tertiary care providers in the four largest cities. This challenges access to care for an array of health care conditions and also requires team approaches to care, networks and partnerships. Infrastructure such as health information technology is also needed in order to coordinate, communicate and ensure safe high quality care in a timely manner. There continues to be a mal-distribution of health care providers as the majority of practitioners choose to locate their practice in urban areas. For example, two-thirds of family physicians practice in ND's four largest cities. This puts additional pressure on the need for nurse practitioners and physicians assistants who currently staff a number of small rural clinics in remote areas across the state. Further indications of provider shortages are noted in the quarterly demand assessments conducted by the Center for Rural Health. Fifty-five facilities reported 185 vacancies in December 2007 including physicians, mental health providers, nurses, physician assistants, nurse practitioners, physical therapy, and technologists.

Nursing Indicators

The number of registered nurses per capita in North Dakota has increased since 2000 and is **currently above the national average**. However, maldistribution of nurses remains a problem with seventeen rural counties having less than the national average of RNs. A major problem in the state is the aging of the nursing workforce with 25 percent of LPNs and RNs planning to retire by 2020.[103] The vacancy rate for RNs has dropped from 11 percent in 2005 to three percent in 2007 potentially indicating LPNs obtaining additional education to become RNs and a reduction in interest in a career as an LPN. However, the distribution remains uneven between counties and turnover for RNs (19 percent) and LPNs (31 percent) is high[104]. Overall, **turnover rates have averaged close to 20 percent over the last five years**, indicating that nearly 1 in 5 nurses changed their job each year, potentially creating a more unstable work environment.[105]

[102] Amundson et al. (2005).
[103] Marino & Moulton. 2007.
[104] Moulton 2008.
[105] Moulton 2008.

High School Student Perspectives on Careers in Health Sector

A January 2006 study conducted by the Center for Rural Health[106] found that 38 percent of high school students (grades 9-12) indicated an interest in health care. However, nearly half (46 percent) of students indicated an interest in more than one profession (for example health care or sciences). Of those interested in health care, most were interested in becoming a nurse or a physician and more than half indicated an interest in more than one health care occupation, **substantiating the need for more awareness activities at the K-12 level** in order to assist future health care workers to better define their future career goals.

Workforce initiatives to address today's healthcare model may not be relevant in the future.[107] Contemporary rural healthcare models drive workforce needs. Models and programs need to be designed with both short term and long term sustainable solutions.

Summary of Workforce Challenges for ND
• With an average population density of 9.3 people per square mile, approximately two-thirds of counties are designated **frontier** with six or less people per square mile.
• Significant population changes that include population loss in rural areas (particularly younger citizens), negligible growth statewide, aging population, increases in minority and refugee populations, and income inequalities. Population loss contributes to the **loss of patient volume** required for viable health systems.
• Health professional **workforce mal-distribution** and shortages that create inequities in the accessibility of health services.
• **Limited supply** of graduating physicians from in-state residency programs.
• Approximately 83 percent of counties are federally designated as entire or partial health professional shortage areas.
• 15 counties access primary care services through satellite clinics and two counties are without physicians or medical facilities.
• Due primarily to low reimbursement and organizational affiliation changes, 13 federally certified Rural Health Clinics (RHC) have disbanded, leaving 64 RHCs.
• 75 percent of CAHs rate the physician workforce supply as a moderate or severe problem.
• 88 percent of CAHs rate nursing workforce and 79 percent rated the ancillary workforce supply (lab, x-ray, physical therapy, etc.) as moderate or severe.

[106] *Hanson, Moulton, Rudell & Plumm, 2006*

[107] *Flex Steering and Advisory Committee Planning Day*. (2008). Grand Forks, ND.

Stakeholder Perspective

Statewide association interviews strongly suggested a need for increased collaboration, noting that the traditional medical model needs to be refined. It was suggested that collaboration within the medical community could examine different provider roles in addition to regulatory requirements that constrain current practice models. A network of providers may be used for interdisciplinary training, disease management, and other service provision.

Workforce shortages as well as an aging workforce were identified by all stakeholders as significant issues. Large hospitals shared that the younger workforce as well as some physicians, aren't willing to go on the road to provide care in rural areas. Focus on recruitment and retention along with education and training were expressed as needs along with system reform as perhaps the answer to some of issues related to physician availability. Changes related to regulations, reimbursement and the use of health information technology could alleviate some issues facing the rural health delivery system.

Suggested Solutions

- Look at statewide workforce system; tertiary providers can assist with workforce development and recruitment of providers into ND
- Ready supply of nurse practitioners needed; expand ND programs to meet this need
- Flexibility of workforce model to maintain care
- Work on coverage issues for practitioners - RNs, pharmacists, physicians
- Return to work programs/look at non-traditional sources for students: immigrants, women not in the workforce
- Career awareness of school-agers
- Focus on retention/develop a recognition program for exemplary staff
- Offer succession/leadership and cross-training to 2-3 key managers at each hospital
- Incentives (money, housing, other)
- Increase nurse faculty; many applicants to nursing programs are turned away because not enough faculty
- Develop an ambassador program to interest children in long term care (and other areas)
- Refine traditional medical model to be more inclusive and collaborative, e.g. teams of providers, interdisciplinary training
- Look at developing provider networks, shared between communities

ND Flex Program's Role: 2008-2010

I1 Continue to provide technical assistance to CAHs including 1) performance improvement planning (workforce components related to recruitment and retention strategies); 2) internal personnel audits (standardized staff surveys that assist with identifying strengths and weaknesses and used for planning related to staff retention).

I2 Continue to fund Peer Mentoring Program which provides funds to CAHs to foster engagement across facilities on needs, including workforce.

I3 Continue to fund subcontract awards to CAHs with priority given to workforce issues and for requests that involve networking activity (e.g. health occupation awareness initiatives involving local school systems and recruitment efforts).

I4 Continue to support leadership development and national exposure to successful models in other states as well as ND solutions.

I5 Work with the newly funded Area Health Education Center (AHEC) which includes the UND's School of Medicine and Health Sciences and the College of Nursing.

I6 Share the Rural Health Plan with stakeholders and encourage their review of needs and action based on their capacity.

I7 Continue to explore other relevant partnerships such as with the Department of Commerce that is engaged in a media campaign regarding workforce needs in the state.

I8 Explore alternative models of health delivery systems, such as the Frontier Extended Stay Clinic model currently operating as a demonstration in Alaska's remote regions.

I9 Partner with the State Office of Rural Health, the AHEC, the ND Department of Health, the Department of Career and Technical Education, and state associations to develop Health Occupations for Today and Tomorrow, a successful South Dakota based program designed to create health career awareness for children and youth.

VII. Summary

Ensuring access to essential quality health care services is fundamental to the viability of rural communities. Having access to health services is parallel to having access to education, economic opportunity, spiritual enrichment, and other societal conditions. Each represents an important element that makes a community a community. These sectors are primary community building-blocks. **A viable, accessible health system to improve health status and provide care where and when North Dakotans need is vital.**

The Flex Program is a federally funded grant operating in 45 states; over its eleven year history it has established a solid foundation for supporting the rural health care delivery system. With a focus on CAHs as the hub of the healthcare delivery system it serves as a conduit for addressing key rural health care needs. This plan provides an understanding of the needs facing rural health in North Dakota. A number of Flex Program activities have been outlined for action over the next two years. However, no one single program, person or organization will solve the magnitude of issues facing the rural health delivery system. In order to support the vision and purpose of this plan the stakeholders must collaborate to implement the recommendations found in this document. Part of the Flex Program's plan is to raise awareness of rural stakeholders of this plan and to engage active supporters who will work together to make a difference for the future of health care in North Dakota.

Fortunately in rural health, the idea of network development, collaborative partnerships, and simply working together is a long standing belief. Collaboration between organizations and/or communities of different composition can produce important new and additional resources. Organizations within a community or between communities working together is an essential ingredient to constructing a regional approach to common issues.

The confluence of issues facing rural health care is significant with cost, access and quality being overarching themes. Maintaining adequate staffing and competent providers impact access to and quality of care. Recruiting health professionals, providers and others; retaining current staffing by offering competitive wages and benefits; and, investing in health information technology all come at a high cost. The financial constraints currently facing the majority of North Dakota's small rural hospitals severely limit their investment in the future of the health care delivery system as it exists today.

The availability of CAH designation has provided rural residents with "critical access" to needed health care and in 1998 was an opportunity for rural hospitals to make a transition to a new model of care. Eleven years later CAH designation continues to have a positive impact in maintaining access to critical care in rural communities.

However, current conditions in some areas of ND lend a voice for the need for yet another model of care.

VIII. Appendices

Appendix A – Critical Access Hospital Certification Chart

Facility		
City	Name	Certified
Zip Code	Address	CAH
Ashley	Ashley Medical Center	X'01
58413	612 Center Ave. N.	
Belcourt	Quentin Burdick Memorial Healthcare Facility	
58316	PO Box 160	
Bottineau	St. Andrews Health Center	X'00
58318	316 Ohmer St.	
Bowman	SW Healthcare Services	X'01
58623	P.O. Box C	
Cando	Towner County Memorial Hospital	X07
58324	P.O. Box 688	
Carrington	Carrington Health Center	X'01
58421	P.O. Box 461	
Cavalier	Pembina County Memorial Hospital	X'01
58220	P.O. Box 380	
Cooperstown	Cooperstown Medical Center	X'00
58425	1200 Roberts Ave NE	
Crosby	St. Lukes Hospital	X'02
58730	P.O. Box 10	
Devils Lake	Mercy Hospital	X'08
58301	1031 7th Street NE	
Elgin	Jacobsen Memorial Hospital	X'01
58533	P.O. Box 367	
Ft. Yates	Ft. Yates Indian Health Services	
58538	PO Box J	
Garrison	Garrison Memorial Hospital	X'99
58540	P.O. Box 39	
Grafton	Unity Medical Center	X'01
58237	164 13th St. W	
Harvey	St. Aloisius Medical Center	X'02
58341	325 East Brewster	
Hazen	Sakakawea Medical Center	X'01
58545	510 8th Ave. NE	
Hettinger	West River Regional Medical Center	X'05
58639	1000 Highway 12	
Hillsboro	Hillsboro Medical Center	X'04
58045	P.O. Box 609	
Kenmare	Kenmare Community Hospital	X'00
58746	P.O. Box 697	

Langdon	Cavalier County Memorial Hospital	X'01
58249	909 2nd St.	
Linton	Linton Hospital	X'04
58552	P.O. Box 850	
Lisbon	Lisbon Area Health Services	X'01
58054	P.O. Box 353	
Mayville	Union Hospital	X'00
58257	42 6th Ave. SE	
McVille	Nelson County Health System	X'00
58254	P.O. Box 367	
Northwood	Northwood Deaconess Health Center	X'01
58267	P.O. Box 190	
Oakes	Oakes Community Hospital	X'01
58474	314 S. 8th St.	
Park River	First Care Health Center	X'02
58270	115 Vivian St.	
Richardton	Richardton Health Center	X'01
58652	P.O. Box H	
Rolla	Presentation Medical Center	X'01
58367	P.O. Box 759	
Rugby	Heart of America Medical Center	X'07
58368	800 S. Main Ave.	
Stanley	Mountrail County Medical Center	X'99
58784	P.O. Box 399	
Tioga	Tioga Medical Center	X'99
58852	P.O. Box 159	
Turtle Lake	Community Memorial Hospital	X'00
58575	P.O. Box 280	
Valley City	Mercy Hospital	X'02
58072	570 Chatauqua Blvd.	
Watford City	McKenzie County Health Care Systems	X'99
58854	P.O. Box 548	
Wishek	Wishek Community Hospital	X'01
58495	P.O. Box 647	

Appendix B – Current Flex Steering Committee Members (9/2008)

The Flex Steering Committee is comprised of representatives from each of the program's partners in addition to the ND Healthcare Review, Inc. (ND's Quality Improvement Organization (QIO). Current members of the Steering Committee are:

1. Marlene Miller, Program Director, Chair
2. Brad Gibbens, Associate Director for Community Development & Policy
3. Chris Lennon, Program Coordinator, Flex Program
   Center for Rural Health
   School of Medicine & Health Sciences Room 4909
   501 North Columbia Road Stop 9037
   Grand Forks, ND 58202-9037
   Phone: 701.777.3848
   E-mails:marlenemiller@medicine.nodak.edu, bgibbens@medicine.nodak.edu, clennon@medicine.nodak.edu
   Web site: ruralhealth.und.edu
4. Tim Blasl, Vice President
   ND Healthcare (Hospital) Association
   PO Box 7340
   Bismarck, ND 58507-7340
   Phone: 701.224.9732
   Fax: 701.224.9529
   E-mail: tblasl@ndha.org
   Web site: ndha.org
5. Tim Meyer, Director, Division of EMS
   ND Department of Health
   Phone: 701.328.2352
   E-mails: tmmeyer@nd.gov
   Web site: health.state.nd.us
6. Barb Groutt, CEO
   ND Healthcare Review, Inc.
   800 31st Ave. SW
   Minot, ND 58701
   Phone: 701.852.4231
   Fax: 701.838.6009
   E-mail: BGROUTT@ndqio.sdps.org
   Web site: ndhcri.org

Appendix C – Current Flex Advisory Committee Members (9/2008)

Flex Advisory Committee Members

The ND Flex Program's Advisory Committee is comprised of individuals from eight of ND's CAHs. The purpose of this committee is to assist the Center for Rural Health (UND School of Medicine and Health Sciences) and the ND Flex Steering Committee with program planning, implementation, evaluation and policy consultation for the Flex Program.

Each member is charged with representing their colleagues and partners for a designated area of the state. A complete list of members, including terms and represented areas is below.

Representing Regions I and II: Crosby, Tioga, Watford City, Williston, Kenmare, Stanley, Bottineau, Rugby

Mitch Leupp, Administrator
Mountrail County Medical Center
PO Box 399 502 3rd Street SE
Stanley, ND 58784
(701) 628-2424
2008-2009 (1 year term)

Randy Pederson, CEO
Tioga Medical Center
PO Box 159
810 North Welo Street
Tioga, ND 58852-0159
(701) 66-3305
2008-2011 (3 year term)

Representing Regions III and IV: Rolla, Langdon, Cando, Devils Lake, Cavalier, Grafton, Park River, McVille, Northwood

Pete Antonson, Administrator
Northwood Deaconess Health Center
PO Box 190 Northwood, ND 58267
(701) 587-6060
2008-2011 (3 year term)

Kimber Wraalstad, President/CEO
Presentation Medical Center

PO Box 759 213 2nd Avenue NE
Rolla, ND 58367-0759
(701) 477-3161
2008-2010 (2 year term)

Representing Regions V and VI: Mayville, Hillsboro, Lisbon, Harvey, Carrington, Cooperstown, Valley City, Oakes, Ashley, Wishek

Vacant
2008-2011 (3 year term)

Kathy Hoeft, Administrator
Ashley Medical Center
612 Center Avenue North
Ashley, ND 58413
(701) 288-3433
2008-2010 (2 year term)

Representing Regions VII and VIII: Garrison, Turtle Lake, Hazen, Elgin, Linton, Richardton, Bowman, Hettinger

Darrold Bertsch, CEO
SW Healthcare Services
PO Box C Bowman, ND 58623
(701) 523-2314
2008-2010 (2 year term)

Roger Unger, Administrator
Linton Hospital and Medical Center
518 North Broadway Street
Linton, ND 58552
(701) 254-4511
2008-2009 (1 year term)

Appendix D – 2008 CAH and Flex Program Survey

NORTH DAKOTA
CRITICAL ACCESS HOSPITAL AND FLEX PROGRAM
SURVEY - 2008

Hospital Name: _____

Hospital Characteristics

1. What is the ownership status of the hospital?
   _____ Non-government, non-profit
   _____ Investor owned (for profit)
   _____ Government, non-federal
   _____ Government, federal

2. How would you characterize your organization?
   _____ Stand alone acute care
   _____ Acute care with a primary care clinic
   _____ Acute care with long-term facility
   _____ Acute care, primary care clinic, and long-term care

3. Over the next 12 months, which of the following would you expect?
   (Check all that apply)
   _____ Stay the way we are
   _____ Formally join a network
   _____ Close the facility
   _____ Add services (e.g., home health, OB, cardiac rehab, other)
   _____ Stop providing some services (e.g., home health, OB, cardiac rehab)
   _____ Acquire additional facilities (e.g. LTC, clinic, other)
   _____ Explore feasibility of de-certifying as CAH (move back to PPS)
   _____ Be managed by external organization

4. Local citizens are aware of our financial situation.
   _____ Agree _____ Disagree _____ Unsure

5. Does your hospital receive county and/or city tax support?
   _____Yes _____No _____ Unsure

6. If yes, how much money is received on an annual basis? $_____

7. If you do not receive local tax support, how likely is this to occur in the next five years?
   _____ Very likely _____ Likely _____ Not Likely _____ Will not happen _____ Unsure

8. Does your hospital operate a hospital foundation to provide additional support to the facility?
_____ Yes _____ No _____ Unsure

9. If you do not operate a hospital foundation, how likely are you to create one in the next two years?
_____ Very likely _____ Likely _____ Not Likely _____ Will not happen _____ Unsure

10. Which of the following tertiary centers does your facility have agreements with? (Choose all that may apply)
_____ Altru Health System _____ MedCenter One _____ MeritCare
_____ Trinity _____ St. Alexius

11. What is the number of FTEs for the following either employed or associated with your facility (associated means physicians or others may conduct health care in facility but are not employees)?

_____ RN	_____ LPN	_____ Laboratory Services
_____ Radiology	_____ OT	_____ PT
_____ Other Therapy	_____ Pharmacy	_____ Social Work/designee
_____ Administration	_____ Paramedic	_____ Information Technology
_____ Physicians	_____ Physician Assistants	_____ Nurse Practitioners
_____ Certified Nurse Midwives	_____ Certified Nurse Anesthetists	_____ Certified Nurse Aide
_____Visiting specialists	_____ EMT	_____ EMT-intermediates

_____ **TOTAL NUMBER of FTE EMPLOYEES**

_____ **TOTAL NUMBER NON-EMPLOYED but ASSOCIATED**

12. Is your local ambulance service a part of the hospital?
____ yes ____ no

13. If yes to #12, how do you have the ambulance staff?
____ Paid employees ____ Volunteer only
____ Some paid employees and some volunteer

14. If no to #12, do you financially support its operation in any way?
___ Yes, we annual donate $_____
_____ no

15. If you have paid ambulance employees, which other duties are they responsible for in the hospital?

____ Inpatient care (Nursing) ___ x-ray ___ Lab
____ Cardiac rehab ___ ER ___ Building maintenance/janitorial
____ None ____ Other: _____

16. Do you include your local ambulance personnel in quality improvement activities?

____ yes ____ no

17. Do you feel that your local EMS agency is adequately staffed?

____ Yes _____ No

Hospital Issues

18. Rural hospitals face many pressures and issues. Please review each issue below and on a scale of one to five with one being "no problem" and five being "severe problem" assess the degree of significance you feel is associated with that issue for your hospital.

	No Problem	Minor Problem	Problem	Moderate Problem	Severe Problem
a. Physician workforce supply	1	2	3	4	5
b. Nursing workforce supply	1	2	3	4	5
c. Ancillary workforce supply (lab, x-ray, PT, etc)	1	2	3	4	5
d. Maintaining access to primary care services	1	2	3	4	5
e. Hospital reimbursement (Medicare)	1	2	3	4	5
f. Hospital reimbursement (Third Party Payer)	1	2	3	4	5
g. HIPAA compliance	1	2	3	4	5
h. Access to capital	1	2	3	4	5
i. Hospital staff training	1	2	3	4	5
j. Hospital staff morale	1	2	3	4	5
k. Life/Safety Code	1	2	3	4	5
l. Rural community demographics	1	2	3	4	5
m. Rural community economy	1	2	3	4	5
n. Geographic limitations to creating effective and efficient networks	1	2	3	4	5
o. Medicare conditions of participation survey readiness	1	2	3	4	5
p. Maintaining access to mental health services	1	2	3	4	5
q. Impact of uninsured	1	2	3	4	5
r. Impact of under-insured	1	2	3	4	5
s. Maintaining quality of care	1	2	3	4	5
t. Physical plant/building issues	1	2	3	4	5
u. Access to telemedicine	1	2	3	4	5
v. Access to technology	1	2	3	4	5
w. Relationship with designated support hospital	1	2	3	4	5
x. Providing pharmacy coverage	1	2	3	4	5
y. Relationship with other rural hospitals	1	2	3	4	5

z. Relationship with other rural clinics	1	2	3	4	5
aa. Relationship with local clinic	1	2	3	4	5
bb. Relationship with local/area public health	1	2	3	4	5
cc. Relationship with local/area nursing home	1	2	3	4	5
dd. Community support for the hospital	1	2	3	4	5
ee. Providing 24 hour emergency coverage	1	2	3	4	5
ff. Providing diagnostic services	1	2	3	4	5
gg. Maintain average length of stay requirements	1	2	3	4	5
hh. Receiving technical assistance when necessary from agencies such as the ND Flex Program	1	2	3	4	5
ii. Adequate patient transport services (EMS and Trauma)	1	2	3	4	5

19. From the above list (question 12), which issues are you most concerned about? Please explain why.

_____
_____
_____
_____
_____

CAH and Flex Impact

20. Conversion to Critical Access Hospital status can bring forth a number of changes. Some of these changes are associated with being a CAH and some are more closely associated with the Flex Program. Below are a series of impacts, **one for CAH and a second for Flex**. Please select a response that most closely represents your viewpoint.

CAH Conversion Impacts

	Very Negative		Neutral		Very Positive
a. Financial reimbursement	1	2	3	4	5
b. Flexibility in staffing mid-levels in the ER	1	2	3	4	5
c. Flexibility in staffing nurses in the hospital	1	2	3	4	5
d. Relationship with physicians	1	2	3	4	5
e. Relationship with clinics	1	2	3	4	5
f. Physician Peer Review Process	1	2	3	4	5
g. Local fund raising	1	2	3	4	5
h. Access to capital	1	2	3	4	5
i. Recruitment/retention of physicians	1	2	3	4	5
j. Recruitment/retention of nurses	1	2	3	4	5
k. Recruitment/retention of ancillary staff	1	2	3	4	5
l. Public support for the hospital	1	2	3	4	5
m. Inpatient service	1	2	3	4	5
n. Outpatient service	1	2	3	4	5
o. Network relationship with tertiary referral center	1	2	3	4	5
p. Network relationship with other CAHs and rural hos.	1	2	3	4	5

q. Staff morale	1	2	3	4	5
r. Diversifying services	1	2	3	4	5
s. Addressing local/area EMS issues	1	2	3	4	5
t. Telemedicine/telehealth and HIT	1	2	3	4	5
u. Addressing quality of care efforts	1	2	3	4	5
v. Overall hospital stability	1	2	3	4	5

Flex Program Impacts

The following are services provided by the State Flex Steering Committee partners (Center for Rural Health, North Dakota Healthcare Association, North Dakota Department of Health, and the North Dakota Healthcare Review, Inc.). Please indicate for each service your assessment of the impact to your hospital.

	Don't know	N/A	No benefit	Limited	Moderate	Substantial
aa. Assistance with CMS CART Tool	0	1	2	3	4	5
bb. Monthly CAH Calls	0	1	2	3	4	5
cc. Educational opportunities (workshops, trainings)	0	1	2	3	4	5
dd. CAH Pre-Conf. at Dakota Conference	0	1	2	3	4	5
ee. Balanced Scorecard Training	0	1	2	3	4	5
ff. CAH profiles	0	1	2	3	4	5
gg. CAH Quality Network development	0	1	2	3	4	5
hh. Flex grants	0	1	2	3	4	5
ii. Access to other federal or private foundation grants	0	1	2	3	4	5
jj. Communication toolkit	0	1	2	3	4	5
kk. Flex Updates	0	1	2	3	4	5
ll. Flex Website	0	1	2	3	4	5
mm. Presentations (boards, community groups)	0	1	2	3	4	5
nn. Network support	0	1	2	3	4	5
oo. Practice site assessments	0	1	2	3	4	5
pp. CAH designation – rules and regulations	0	1	2	3	4	5
qq. CAH clearinghouse	0	1	2	3	4	5
rr. Technical assistance (e.g. strategic planning, community needs assessments, staff surveys)	0	1	2	3	4	5
ss.Other:	0	1	2	3	4	5
tt. Other:	0	1	2	3	4	5

Networks - Acute and/or Tertiary Networks

21. All — One of the national goals of the Flex program is to develop and strengthen hospital networks. CAHs participate in at least one network with an acute care hospital which is typically a tertiary partner. Please review each statement below and on a scale of one to five with one being "strongly disagree" and five being "strongly agree" assess the experience your facility has had

within its primary network by answering with one of the descriptors.

	Strongly Disagree		Neutral		Strongly Agree
a. The CAH/tertiary network is strong	1	2	3	4	5
b. The CAH/tertiary network is flexible	1	2	3	4	5
c. The CAH/tertiary network is comprehensive in terms of services provided	1	2	3	4	5
d. The CAH/tertiary network fosters a sense of trust between providers	1	2	3	4	5
e. I am optimistic that this network will grow and positively impact my hospital	1	2	3	4	5

22. In thinking about your acute care or tertiary network, what areas does the network address? (Please check all that apply)

_____ HIT _____ Quality Improvement _____Quality Assurance _____ EMS

_____ Staff Education _____ Medical Education _____ Provider Recruitment/Retention

_____ Medical Coverage or Support _____ Other (please identify, below)

_____
_____
_____
_____
_____

23. In thinking about your acute care or tertiary network, what issues or **subjects would you like to see** the network work to address?

_____
_____
_____
_____
_____
_____

24. In thinking about your acute care or tertiary network, what **barriers exist** that limit its effectiveness?

_____
_____
_____
_____
_____

Future Network Activities

25. Below are a series of subject areas that hospital networks could address (network might include tertiary, rural hospitals, other).
Please indicate the degree of need you associate with addressing the subject through NETWORK ACTIVITIES.

	No Need	Some Need	Moderate Need	High Need
Finance Issues				
a. Capital access	1	2	3	4
b. Economic development	1	2	3	4
c. Economic impact	1	2	3	4
d. CAH Finance	1	2	3	4
e. Local fundraising/wealth transfer	1	2	3	4
Performance				
f. Quality improvement	1	2	3	4
g. Performance improvement	1	2	3	4
h. Organizational development	1	2	3	4
i. Market share analysis	1	2	3	4
Workforce				
j. Staff development and training	1	2	3	4
k. Recruitment	1	2	3	4
l. Retention	1	2	3	4
m. K-12 exposure to health careers	1	2	3	4

26. If you think that the ND Flex Program should assist with any of the above-mentioned network ideas, please note the corresponding letter(s) below (e.g. quality improvement = "f").

e.g. "f" _____ _____ _____ _____ _____ _____ _____ _____ _____

27. All Flex Programs must maintain activities within a nationally directed scope of work. The following lists those activities.

a. Please rank the following 5 Flex focus areas in the order of importance that you think the ND Flex Program should focus its attention over the next two years. (Note: use 1, 2, 3, 4, 5 for ranking the following, with 1 being most important).

_____ State Rural Health Plan
_____ Quality Improvement
_____ Strengthening Rural Emergency Medical Services
_____ Conversion of hospitals to CAH status
_____ Network development

b. Please use this space to elaborate on ideas/suggestions you have related to the above identified priority areas:

_____

_____
_____
_____
_____

28. **Additional Comments:**_____
_____
_____
_____

Thank you for your participation!

Appendix E – ND Trauma Designated Hospitals and Expiration Dates

Northeast Region

Level II Trauma Hospitals
Altru Hospital - Grand Forks (1/14/09)

Level IV Hospitals
Pembina County Memorial Hospital – Cavalier (10/03/10)
St. Ansgar's Hospital - Park River (12/14/08)
Unity Hospital – Grafton (12/13/08)

Level V Trauma Hospitals
Mercy Hospital – Devils Lake (9/13/09)
Northwood Deaconess Health Center – Northwood (3/05/11

Southwest Region

Level II Trauma Hospitals
Medcenter One – Bismarck (5/05/10)
St. Alexius Medical Center – Bismarck (5/31/09)

Level IV Trauma Hospitals
Ashley Medical Center – Ashley (9/30/08)
Linton Hospital – Linton (10/19/08)
Sakakawea Medical Center – Hazen (6/4/09)
St. Aloisius Medical Center – Harvey (9/13/09)
SW Health Care Services – Bowman (9/13/09)
West River Regional Medical Center – Hettinger (3/05/11)
Mobridge Regional Hospital – Mobridge SD (3/05/09)
St. Joseph's Hospital – Dickinson (5/12/10)

Level V Trauma Hospitals
Community Memorial Hospital - Turtle Lake (9/13/08)
McKenzie County Health Systems – Watford City (9/30/08)
Wishek Community Hospital – Wishek (6/26/09)

Southeast Region

Level II Trauma Hospitals
Innovis Health – Fargo (4/9/10)
MeritCare Hospital – Fargo (4/28/09)

Level IV Trauma Hospitals
Carrington Health Center – Carrington (6/21/09)
Jamestown Hospital – Jamestown (12/14/08)
Lisbon Area Health Services – Lisbon (12/13/09)
Mercy Hospital – Valley City (11/13/10)
Oakes Community Hospital – Oakes (6/21/09)

Level V Trauma Hospitals
Union Hospital – Mayville (3/07/09)
Hillsboro Medical Center – Hillsboro (6/4/09)

Northwest Region

Level II Trauma Hospitals
Trinity Hospital – Minot (8/29/10)

Level IV Trauma Hospitals
Garrison Memorial Hospital – Garrison (6/13/10)
Heart of America Medical Center – Rugby (7/23/11)
Mercy Medical – Williston (6/4/09)
Quentin Burdick Health Care Facility – Belcourt (3/07/09)
St Andrews Medical Center – Bottineau (6/13/10)
Towner County Medical Center – Cando (4/05/09)

Level V Trauma Hospitals
Kenmare Community Hospital – Kenmare (6/13/10)
Mountrail County Medical Center – Stanley (6/21/09)
Tioga Medical Center – Tioga (10/19/08)

Appendix F – Glossary

AcademyHealth publishes a glossary to be used primarily as a reference guide for health care policy makers. Titled the Glossary of Terms Commonly Used in Health Care, this resource is periodically updated and edited to reflect the changing lexicon of health care terms and concepts. The glossary is divided into three sections: healthcare delivery and financing terms; epidemiological and statistical terms; and accounting and economic terms. It also includes an appendix that lists commonly used acronyms.

The 2004 edition of the Glossary of Terms Commonly Used in Health Care can be found online at: http://academyhealth.org/publications/glossary.pdf.

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