Needs Assessment of Long Term Care, North Dakota: 2002

Initial Report and Policy Recommendations

Issued November2002

North Dakota State Data Center at North Dakota State University, Fargo, ND

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Forward

This report is part of the 2002 North Dakota Needs Assessment of Long Term Care. The Long Term Care project was funded by a grant through the North Dakota Department of Human Services. The purpose of the project was to assess the current and future long term care needs of residents in North Dakota. This particular report is a summary of the activities contributed by North Dakota State University and the University of North Dakota.

Acknowledgments

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This project was a joint effort based on the sharing of various databases, expertise, and staff time/resources. In particular, we would like to recognize three individuals who graciously devoted their time, energies, and resources to advance this project. The first is Shelly Peterson, President of the North Dakota Long Term Care Association, who provided her assistance and financial support to ensure the completion of the Long Term Care surveys. Her efforts demonstrate that, through partnerships, the state can accomplish much despite tight budgets. Another example of the value and success of partnerships is the support and leadership provided by James Hirsch, Director of the North Dakota Department of Commerce, and Nelse Grundvig of North Dakota Job Services. These two individuals were key in allowing us to utilize a labor market survey conducted as a joint effort by the North Dakota Department of Commerce and various county economic development entities. We were able to dovetail our survey efforts with theirs in order to complete the statewide labor survey while leveraging tight budgets. We express our deep gratitude to these two individuals and to the various counties who jointly sponsored the labor survey. We appreciate their willingness to allow us to use the data, exhibiting their trust in us not to abuse that privilege. We are convinced that partnerships like these are the future of North Dakota.

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Executive Summary

Project Summary

A collaborative effort was initiated between researchers at North Dakota State University and the University of North Dakota to conduct a needs assessment of long term care in North Dakota. This project was requested by the North Dakota Department of Human Services, acting through its Medical Services Division. The objective of the needs assessment was fourfold. First, it was designed to document the current and future distribution of elderly residents (i.e., those 65 years of age and over) in the state. This component of the project provided a backdrop for determining current and future demand for long term care.

The second objective was to profile the physical capabilities of seniors in the state and highlight their functional limitations. By doing this, one can objectively estimate the amount of assistance seniors will need for daily functioning and in turn determine the demand that will be placed on the state to provide formal, informal, and institutionalized caregiving. This was accomplished through a generalizable survey of residents 50 years of age and older using standardized survey instruments that assess their daily functioning. The two main instruments used in the survey were the Activities of Daily Living (ADL) and Instrumental Activities of Daily Living (IADL) along with other indicators of chronic diseases and direct expressions of need.

The third objective was to explore what current institutional services are available for elderly in North Dakota and to determine if there are critical shortages or specific areas of need. This was accomplished in several steps. First, the location of major facilities and caregiving services were delineated by county. This provided a quick assessment of the distribution of facilities within North Dakota. Since much of the state is sparsely populated, it was important to determine where people actually obtain their services. Thus, a generalizable survey of residents was conducted to document their commuting patterns and the distance they typically traveled to obtain services. In addition, the demand on long term care facilities was explored via two surveys. The first focused on administrators and dealt with various issues including recruitment and retention of staff. The second survey was given to long term care staff and gathered information regarding their level of satisfaction in working in long term care facilities, issues related to work environment, and factors associated with their decision to stay in the long term care industry.

The last objective was to profile the current and future labor force. The purpose of this effort was to explore what challenges the state might face with regard to staffing facilities. This was accomplished by examining census information and through a generalizable survey of residents. Data from the 2000 Census provided detailed information regarding the current labor force while the survey data offered insight into residents' desire for additional work and their willingness to commute or change jobs. This information is useful in determining how tight the labor market might be in various areas of the state and the challenges employers may face in finding qualified employees.

I. Current and Future Elderly Population

A. Distribution of Elderly

- ❏ The state's population is aging rapidly. In 2000, there were 94,478 residents at least 65 years of age comprising 14.7% of the state's total population. That number is expected to increase by an additional 16,000 persons by the year 2010 expanding the state's proportion to 17%. By the year 2020, the elderly population 65 years of age and over will have grown by 55,000 and will constitute 23% of the state's population, an increase of more than 8% since the 2000 Census.

- ❏ Approximately two-thirds of the state's elderly (i.e., 65 years of age and over) live in the 14 urban counties of the state. These 14 counties account for 75% of the state's total population.

- ❏ Nearly two-thirds of the state's 39 rural counties have 20% or more of their population base 65 years of age and over. By 2020, that proportion will jump to more than 30%. In contrast, only one of the 14 urban counties has an elderly concentration that high.

- ❏ North Dakota had the highest proportion in the nation of residents 85 years of age and over in 2000 at 2.3%. This proportion is projected to increase to 3.7% by the year 2020, nearly doubling the state's residents who are at least 85 years of age (from 14,726 to 24,258).

- ❑ The leading edge of the baby boom (born between 1946 and 1962) is now entering the pre-retirement stage of life. In 2000, there were 53,433 residents between the ages of 55 and 64. This age group will grow to 85,683 by 2020, an increase from 8.3% of the state's population to 13.2%.

B. Where Elderly Live and Their Disability Status

- ❑ In 2000, nearly one in three seniors (i.e., 65 years of age and over) lived alone. This proportion did not differ significantly between urban and rural counties.

- ❑ More than one in three non-institutionalized seniors (i.e., 65 years of age and over) had a disability.

II. Elderly Needs Profile

- ❑ North Dakota's general population over age 55 report being healthier and having fewer chronic diseases than national averages. The major exception are those on the reservations.

- ❑ The number of seniors in North Dakota with functional limitations, a measure of the level of assistance required for basic activities of living (e.g., bathing, dressing, eating, walking, and using the toilet), is higher than the national norm and indicates a greater demand for caregiving.

- ❑ The highest rates of functional limitations among seniors are in the state's reservation areas while those living in the rural frontier counties have the lowest rates.

- ❑ Nearly 6% of residents age 50 and over are either giving or receiving family care that involves help with activities of daily living (ADLs) such as bathing, dressing, eating, walking, and using the toilet. If one expands caregiving to include help with instrumental activities of daily living (IADLs) such as cooking and transportation then the rate exceeds 10%.

- ❑ The number of services residents report as available declines as one moves from urban to rural areas of the state. In general, availability of services is a major issue that needs to be addressed.

III. Availability and Demand for Elderly Services

- ❑ The number of senior housing facilities in North Dakota varies greatly by county. More than half of the 53 counties lack an assisted living facility, a basic care facility, and a senior residential facility.

- ❑ The number of senior service facilities is very limited and absent in a significant number of counties in North Dakota. Sixteen of the state's 53 counties lack a hospital or clinic, four counties lack a senior center, and 35 of the counties lack a home health agency.

IV. Survey of Long Term Care (LTC) Administrators

A survey of long term care administrators was made possible through a collaboration with the North Dakota Long Term Care Association, the Department of Human Services and the UND Center for Rural Health. The North Dakota Long Term Care Association sponsored the survey, collecting responses from the administrators in their network of members. The Center for Rural Health and the Department of Human Services provided technical support for design and analysis.

- ❑ LTC administrators did not appear alarmed over difficulties with recruitment or retention of staff at this time. In order of increasing education requirements, staff include Certified Nurse Assistants (CNAs), Licensed Practitioner Nurses (LPNs), and Registered Nurses (RNs).

- ❑ Administrators were slightly more confident in their ability to retain workers than in their ability to recruit new replacement workers.

- ❑ The most successful tool for retaining workers appears to be flexible scheduling.

- ❑ Barriers to recruitment included perceptions of job related stress (both physical and psychological), competition for workers and local employment opportunities for spouses. It also appears that the perception of job related stress is worse than the reality and greater recognition of this may assist in future recruitment.

- ❑ Rural and urban differences do exist, particularly in the vacancy rates for RNs and LPNs. Openings for RNs are highest in urban facilities, while openings for LPNs are highest in rural facilities. CNA openings were quite similar in rural and urban facilities.

- ❑ Barriers are significantly greater for rural facilities. Barriers such as work conditions include undesirable hours, shift work, training requirements, pay and benefits, psychological stress, physical demands and overwork. Rural administrators also reported higher community barriers including size, isolation and a lack of employment opportunities for spouses.

V. Survey of Long Term Care (LTC) Staff

A companion survey of long term care was also made possible through collaboration with the North Dakota Long Term Care Association, the Department of Human Services and the UND Center for Rural Health. The North Dakota Long Term Care Association again sponsored the survey, collecting responses from the staff in facilities belonging to their network of members. This represents nearly all facilities in the state. The Center for Rural Health and the Department of Human Services again provided technical support for design and analysis.

- ❑ Overall, long term care staff in North Dakota are quite stable. The average length of current employment is 8 years. CNAs report the shortest average length of employment at 6.7 years. LPNs report the longest at 9.9 years.

- ❑ LTC workers' decisions to work in long term care are motivated by intrinsic rewards as well as financial concerns.

- ❑ More than two-thirds of LTC staff projected staying long term (5 years or more), while 3.7% reported plans to leave within one year. CNAs reported the highest rate for projected early departure.

- ❑ Push factors (negative pressures) did not appear to be strong factors among those planning early departures.

- ❑ Retention is encouraged by the same factors that lead to the decision to work in LTC – economic considerations as well as intrinsic rewards from providing care.

- ❑ Job satisfaction among North Dakota LTC workers is generally high.

- ❑ Wages for North Dakota LTC workers are slightly lower than the national averages, with the exception of wages for CNAs which are at the national average. The others as a proportion of the national average are - RNs 94.1%, LPNs 94.7%.

- ❑ Benefits are less frequently provided to lower wage employees.

- ❑ Satisfaction with hours is different for RNs, LPNs and other workers. RNs and LPNs report excessive hours while others report a need for more work time.

A. Urban/Rural/Frontier Comparisons

- ❑ Frontier (frontier areas refer to rural counties with fewer than six persons per square mile) and other rural employees had been employed longer on average than urban employees, but did not differ on plans for remaining in their jobs in the future.

- ❑ Economic factors are more likely to drive the decision to work in LTC in rural communities. This is strongest in frontier communities.

- ❑ Frontier community staff reported a higher sense of obligation to remain in their jobs. This may indicate that social pressures are more likely to be felt in smaller communities.

- ❑ Frontier communities, despite what appears to be a more challenging environment, report higher level of job satisfaction on all indicators.

B. Implications For Future Recruitment and Retention Efforts in Long Term Care

- ❑ The mean age of recent hires (those with one year or less in their current LTC job) is 36.5 years. This compares with a mean age of 46.2 years for those employed for more than one year. The LTC industry tends to employ mature workers.

- ❑ The CNA group has the lowest mean age for recent recruits with an average age of 32.3 years.

- ❑ The highest mean age for recent recruits is in the most sparely populated rural frontier counties where the mean age of recent recruits is 38.5.

- ❑ When one combines these observations with the demographic projections, as the size of the geriatric population grows, there will be fewer working age adults to provide care – both in terms of family caregiving and formal long term care services. Recruitment will increase in importance.

C. What Predicts Retention of Long Term Care Staff?

Based on a regression model that produced moderate predictive ability, the following factors emerge as predictors of retention.

- ❑ Benefits are the strongest predictor of retention, with higher benefits promoting greater retention.

- ❑ Age of employees ranked second as a predictor. As the population ages, a shortfall will occur in the pool of potential replacement workers and methods of retaining older workers may become more important. In this context, flexible scheduling, job sharing and other creative responses may be needed.

- ❑ Intrinsic rewards were related to retention. People stay in part because they feel good about the work they do. This can be incorporated into public recognition events in order to capitalize on such positive feelings.

- ❑ Married employees are less likely to leave employment than single, widowed or divorced employees.

- ❑ Feelings about hours may be interpreted as the influence of receiving too many hours for some and not receiving enough hours for others. Creative responses such as the use of flextime, job sharing, cross training and other possible adaptations may be needed to address concerns about hours.

- ❑ The larger the number of direct-care tasks, the less likely one can anticipate long term retention of that employee. This may be regarded as an indicator of "burden" and while the tasks are a constant, the manner in which staff work as teams may help reduce this perception.

- ❑ Greater household income related in a positive way to retention, perhaps because of the influence of professional staff. They had expectations of longer employment as discussed in the comparisons of different staff types. According to the degree to which economic concerns emerged in the earlier analysis, one can also anticipate that increases in economic rewards would enhance retention.

- ❑ The length of time in one's current job is a factor in retention, with longer histories indicating greater commitment.

- ❑ Attitude toward work as a measure of perceived characteristics of quitters also has a relationship to retention. That employees see those who leave as having negative qualities, including lack of interest in LTC and personality conflicts with peers, does not serve to lead employees but does serve as a negative reference point. This perception of quitters leads to better retention.

- ❑ The only job satisfaction item present in the resulting regression model was satisfaction with supervision. Positive attitudes about supervision simply lead to better retention.

VI. Labor Force Issues

A. Current Workforce

- ❑ North Dakota's workforce is concentrated largely in the state's urban counties. More than 77% of employed residents (244,134 in 2000) live in the state's 14 urban counties. In 2000, the rural workforce, representing 39 of the state's 53 counties dropped below 73,000 workers. In 31 of these counties, fewer than 2,500 residents were employed.

- ❑ In 2000, 12,956 seniors (i.e., age 65 years and over), or 96% of the North Dakota senior labor force, were employed with the highest concentrations in the west.

- ❑ There is near full employment across most of North Dakota's counties. Annual unemployment is less than 4% in nearly half of the state's 53 counties and it exceeded 5% in only 15 counties in 2000.

- ❑ The total number of unemployed in 2000 was fewer than 15,000 residents ages 16 to 64. Of those 65 years of age and over in the labor force (i.e., actively working or seeking employment), only 576 were not employed.

B. Labor Availability

- ❑ Out-migration has severely reduced the availability of labor in North Dakota. The number of persons in the entry labor force (i.e., ages 20 to 34) represents less than 20% of the state's population and is projected to decline by 10% over the next two decades.

- ❑ The availability of labor in the rural counties of the state is more severe. Currently, less than 13% of the residents in the state's 39 rural counties are between the ages of 20 and 34 (i.e., entry labor force); in 8 rural counties the proportion is less than 10% . The number is expected to decline by 11% over the next two decades.

- ❑ The vast majority of workers in the state currently have full-time jobs. Nearly 84% of employed residents 18 to 65 years of age worked at least 31 hours per week in 2002.

- ❑ Senior workers (i.e., 66 years of age and older) had very mixed work hours. Statewide, slightly more than 41% worked at most 20 hours per week. Roughly 23% worked between 21 and 30 hours per week while more than 36% worked at least 31 hours per week.

1. Residents' Desire for Additional Work

- ❑ The general perception of workers in North Dakota is that they would prefer to work fewer hours per week rather than more. Statewide, more than one-third (37.1%) of employees are working more than 40 hours per week.

- ❑ The number of hours seniors preferred to work, in general, matched their actual work hours. The exception was that those working more than 40 hours per week preferred to work fewer hours.

- ❑ On average, fewer than one in five workers 18 to 65 years of age are interested in taking on an additional job. Less than 5% of seniors, with the exception of those in Region 3, are interested in adding an additional job.

- ❑ In general, approximately 69% of the workforce 18 to 65 years of age preferred to work full-time (i.e., at least 30 hours per week) and 19% of the seniors wanted full-time work. However, the preference for full-time worked varied markedly by region.

2. Residents' Desire for Changing Work and Factors That Will Influence Their Choice

- ❑ Statewide, more than 42% of workers 18 to 65 years of age reported interest in changing jobs and slightly more than 10% of employed seniors stated such an interest.

- ❑ There is little difference between the urban and rural workforce with regard to those who are "very likely" to apply for a new job. Roughly 17% of urban workers said they were "very likely" to apply for a new job for which they were trained compared to 22% in rural areas.

- ❑ The major factor that will influence workers 18 to 65 years of age to change their current job, regardless of region, is a pay increase. Workers were three times as likely to mention pay increase as the reason they would change jobs relative to any other reason.

- ❑ The main factor that will influence senior (i.e., over 65 years of age) workers to switch jobs varies by region and includes pay increase, better working conditions, and better benefits.

- ❑ The vast majority of residents who are not currently working for a wage or salary are not interested in seeking paid work, now or in the near future. The proportion who are interested in seeking paid work is less than 18% for those 18 to 65 years of age and less than 5% of seniors, regardless of region.

C. Labor ForceCommuting

- ❑ Long distance commuting by workers in North Dakota is relatively scarce in all regions. At most, 5% of residents commute more than 50 miles (one-way) to their job.

- ❑ A significant proportion of workers, especially those 18 to 65 years of age, are willing to commute longer distances for the right incentives. Approximately 9% of workers statewide are willing to commute more than 50 miles (one-way) to their job, though the proportions vary by region.

- ❑ Only 2% of seniors statewide are willing to commute more than 50 miles (one-way) to their job, though the proportions vary by region.

D. Mobility

- ❑ Mobility among North Dakota residents is relatively the same between urban and rural residents. Roughly one in four households have had a member of their household move within the past five years.

- ❑ The destination of movers from urban and rural counties differs greatly. Nearly half of the movers in rural counties over the past five years have remained in the county compared to only one-third in urban counties. Similarly, only 14% of the rural movers who left the county left North Dakota compared to one-third from the urban counties.

- ❑ There is very little difference among residents living in urban and rural counties with regard to their future intention to move. Slightly more than 12% of rural residents indicated they have considered moving within the next year compared to roughly 15% in urban counties.

- ❑ The destination of future movers is very similar to the pattern of past movers. Slightly more than half of the rural county residents who are considering moving in the next year say they will stay within the county (55%) while the remaining potential movers are split between leaving the state (23%) or moving to another county in the state (22%). In contrast, potential movers in urban counties are roughly split between moving to another state (39%), moving to another county within the state (31%), or remaining in their existing county (30%).

Recommendations

Findings from the 2002 North Dakota Needs Assessment of Long-Term Care indicate there are four key areas for targeted legislation. First, priority needs to be given to legislative efforts in the form of program initiatives and tax incentives for home and community-based services. Elderly who are in greatest need for services reside in the state's rural areas and small communities. These areas lack facilities, resources, and professional staff. The communities need to be empowered to take a more active role in caregiving. Program initiatives and tax incentives that create or enhance the care of elderly in the home or through community-based efforts will reduce the demand for institutional care and, in turn, the financial burden on the state.

Second, the state has a very tight labor market with very limited labor available to serve the health and caregiving needs of communities. This is especially true in the rural areas of the state. In addition, statewide wages are low compared to regional averages. Therefore, legislative action needs to be taken to elevate economic development and employee training. Specific attention should be given to youth retention programs, public-private partnerships that advance apprenticeship training, and innovative skills training for those switching careers especially in rural areas. In addition, priority should be given to support and advancement of tele-medicine and distance-service delivery systems.

Third, research indicates that significant cost savings in elderly care can be gained through enhanced support of family caregiving. In 1998, the amount of Long Term Care (LTC) provided by informal caregivers in the U.S. was estimated to have a market value of $196 billion. In contrast, cost for home health was estimated at $32 billion and the cost for nursing home care was approximately $83 billion. The savings to the state for having an effective informal care system are obvious and compelling. Therefore, the legislature should sponsor a statewide informal caregivers system. Currently, an active informal caregiving program is being facilitated through the Aging Services Division of the Department of Human Services. Legislative support of this effort along with a challenge to create an integrated system will greatly advance informal caregiving in North Dakota.

Finally, elderly care costs can be reduced through increased health promotion and wellness. Therefore, the state should direct its energies and resources into enhancing such programs through education and prevention efforts.

The following chart offers an overview of specific recommendations for policy initiatives by these four target areas. This chart is followed by a more detailed discussion of these initiatives.

I. Chart of Policy Recommendations

Target Areas for Legislation	Policy Initiative	Objectives of Policy Initiatives	Targeted North Dakota Agencies for Administration of Policy Initiatives
A. Home and Community-Based Services	Design housing credits for elderly, remodeling stipends for businesses, reverse mortgages for elderly and/or caregivers, tax incentives for businesses that provide services/products to the elderly	• Alleviate the financial burden for elderly and promote businesses that support the needs of elderly in North Dakota	• Office of Intergovernmental Assistance • Tax Department • Various Housing Authorities
	Create comprehensive programs that coordinate volunteers with the professional workforce	• Provide a more desirable and comprehensive service module for a better quality of life for elderly at lower costs	• Administration on Aging • Statewide integrated task force • Department of Human Services
	Provide equipment stipends for in-home use by elderly or caregivers	• Facilitating independence for a longer period of time to reduce institutional costs	• Administration on Aging • Department of Human Services
	Promote alternative housing for rural elderly such as assisted living and foster families	• Promote conversion of long term care facilities from Skilled Nursing Facility (SNF) to assisted living and encourage new options • Develop a point-of-entry to information and support for service development	• Department of Human Services
	Develop targeted programs for service delivery to Native American elders living on reservations	• Improve elderly care service delivery and coordination	• Create a defined task force with state and tribal members • Department of Human Services • Department of Health Bureau of Indian Affairs
B. Economic Development and Employee training	Tele-medicine exploration and funding	• Lessen costs to train informal caregivers and improve care and resources for elderly	• Department of Human Services • Department of Health • Administration on Aging
	Distance education programs including funding for caregivers to enroll participants in and equipment to implement programs	• Reduce training costs for caregivers and increase skill levels and/or available specialty sources	• Department of Health • Department of Human Services
	Create new employee pools by implementing youth apprenticeship programs and educating respite and volunteer workers	• Retention of caregivers to expand the current pool • Develop new worker pools for the future within high schools	• Administration on Aging • Department of Education

Target Areas for Legislation	Policy Initiative	Objectives of Policy Initiatives	Targeted North Dakota Agencies for Administration of Policy Initiatives
C. Family Caregiving Support	Health insurance and caregiver grants	• Improve recruitment and retention of staff across the continuum • Retain caregivers to enhance the pool to aid in the elimination of current and future shortages	• Administration on Aging • Department of Human Services • Statewide Grants
	Provide pay increases for each year of service plus sign-on bonus	• Retention incentives to enhance the caregiver pool to eliminate current shortages	• Administration on Aging • Department of Human Services
D. Health Promotion and Wellness	Create educational programs that assist elderly or caregivers in understanding health issues, insurance, and caregiving	• Increase awareness for elderly and caregivers • Decrease end-of-life costs for families and hospitals	• Department of Human Services
	Improve support systems such as community Senior Companion Programs	• Improve senior involvement with community as well as socialization • Enhance well-being of elderly	• Administration on Aging • Home and community-based services developed via statewide proposals
	Insurance coverage improvements to increase the knowledge of types of insurance available and what is covered under policies	• Reduce cost to families, caregivers, and the state • Have all elderly covered by long term insurance	• Administration of Aging • Department of Public Health • Insurance Commissioner
	Develop a statewide network of health promotion and wellness opportunities	• Reduce the age-specific extent of functional limitations by improving the health of the public	• Department of Health

II. Research Support of Policy Initiatives

A. Home and Community-Based Services

1. Credits, Stipends, and Incentives

Legislators should explore housing credits, building or remodeling stipends, and reverse mortgages as ways to reduce the premature movement of elderly from their existing residence to formal institutional facilities. A survey by the American Association for Retired Persons (AARP) in 1992 indicated that 84% of Americans 55 and older prefer to stay in their own home. However, only 6% live in housing that is designed for older adults. Incentives such as housing tax credits, low interest loans, or remodeling stipends offer seniors the option of extending the amount of time they can live within their own home. This type of incentive program may counteract the elderly's need to relocate to other parts of the state or leave the state in order to find housing that meets their needs. Similarly, tax credits or subsidies should be explored as ways to increase the availability of needed elderly services or facilities, especially in rural areas. For example, subsidies or tax credits could be used to encourage rental property owners in rural areas with limited elderly care facilities to convert properties into assisted living facilities allowing elderly to stay in their communities.

2. Volunteer Services

The legislature should promote community-based programs that tap professional and volunteer services of local residents to assist elderly caregiving. A model program using this approach is the Elderberry Institute's "Living at Home/Block Nurse Program" which is widely used in Minnesota and Oregon. Its philosophy is to utilize resources within the community that are not fully used to assist in elderly care. For example, the program facilitates the use of professional and volunteer services of local residents to provide nursing, companionship, and chore services to senior residents allowing them to remain outside a formal institution. The program identifies capabilities of individuals and their families and coordinates resources in the community to provide care and support for particular needs of seniors. This collaborative approach is based on the recognition that community residents realize the need for interdependence and are willing to act in ways that benefit others. Volunteer services include counseling, training for family caregivers, and in-home support programs such as elderly daycare.

Program Advantages:

- Care is more fulfilling because it builds on the "spirit of community" to meet families' needs.
- Maximizes self-reliance and minimizes the use of costly professional services.
- Focuses on early intervention and treatment; prevention and recovery; and coordination and integration of services.
- Fees may be charitable contributions.

Program Implications:

- Model successfully implemented in 30 communities in Minnesota, Texas, and Colorado.
- Estimated cost of program is 24% less than the minimum cost of a nursing home *before* nursing services.
- Increases and enhances family and community involvement in the care of elderly.
- 85% of Block Nurse Clients would be forced to enter nursing homes without home care.
- Strong data indicate that Medicare/Medicaid dollars are being saved as a result of these programs.
- In 1997, 15 programs reported a total of 379 people kept out of nursing homes for estimated savings of $4,700,040. During this time, 35,307 volunteer hours were contributed.

3. Equipment Stipends

The legislature should fund equipment stipends which allow elderly or caregivers to purchase equipment that facilitates independence. These stipends promote caregiving by easing its financial burden. Greater use of informal caregivers reduces long-term care cost to both the family and the state. In addition, subsidies such as equipment stipends will assist middle-income families who are the hardest hit financially. These families cannot afford nursing home care or home health care but cannot qualify for Medicaid or other public health programs because their incomes are too high.

B. Economic Development and Training

1. Technology

The state should invest resources and program staff in tele-medicine, especially for rural areas. The most innovative use of tele-medicine includes self-monitoring systems or physician-assisted distance surgery for elderly in remote locations. Additionally, telecommunications can effectively assist in distance education to improve skills of workers and informal caregivers. In Arizona, the tele-medicine program is providing store-and-forward technologies in 20 communities. This program provides state agencies a vehicle to provide various programs in disease prevention, public education, correction, and home health nursing to communities. The bridges built between state agencies and legislative bodies foster a high level of awareness within the state and allow them to meet the healthcare goals of their state. More information can be found at: www.telemedicine.arizona.edu/program.

Other recent improvements in tele-medicine include:

- video cameras in homes of the elderly
- improved self-monitoring systems
- assisted living communications

2. Distance Education

North Dakota should focus resources on advancing distance education as a way to assist rural communities in providing support services to elderly caregivers. The Caregiver College is one example of a successful program. This program was formed by a multidisciplinary group of rehabilitation professionals to provide free community health education to informal caregivers of elderly. Classes can be conducted anywhere there are appropriate videoconferencing facilities. North Dakota is a leader in telecommunications and its videoconferencing capabilities are rapidly spreading, making this a viable policy option. Results from over 700 people receiving "certificates of completion" from Caregiver College found no significant difference in knowledge gained between students using videoconferencing technology and other methods (http://tie2.telemed.org).

3. Creating New Employee Pools

The legislature should support an initiative that explores alternative sources of workers. For example, states have experimented with attracting high school students into the field of caregiving through programs established by the School to Work Opportunities Act of 1994.

- Educating communities on Alzheimer's disease, respite and volunteer care availability, state aid availability, heating assistance, etc.
- To encourage the development of new worker pools, several Colorado public high schools created a Nurse Assistant (NA) training curriculum through its School-to-Career Pathway Program.
- Wisconsin received funds to create a Youth Apprenticeship Program for NAs in nursing homes and assisted living facilities.
- As part of its Nursing Home Quality Initiative in fiscal year (FY) 2001, the Massachusetts' legislature appropriated $1.1 million for training, including adult basic education and job supports, and another $1 million for a scholarship program for NAs to get certification training. The state's FY 2002 budget proposal increases the NA scholarship appropriation to $2 million and allows cross training of workers in other settings such as home care and residential care.
- In 2000, California appropriated $25 million for its Caregiver Training Initiative, designed to improve recruitment and retention of entry-level staff across the continuum. As of February 2001, regional partnerships of providers, public agencies, labor organizations and public education organizations had received 12 grants.

C. Family Caregiver Support

The legislature should fund a comprehensive caregivers initiative. Examples from other states include:

- New York's Health Care Reform Act of 2000 authorizes the establishment of a state-funded health insurance initiative specifically targeted to uninsured home care workers. The New York Association of Homes and Services for the Aging, the state association for non-profit Long Term Care (LTC) providers, has recommended that all workers in home care, nursing homes and residential care settings across the state be covered.
- In 2000, California appropriated $25 million for its Caregiver Training Initiative, designed to improve recruitment and retention of entry-level staff across the continuum.
- North Carolina is providing financial incentives to encourage LTC aides to complete their training and improve retention as part of a 10-site pilot project. In addition, North Carolina intends to develop a statewide mentoring program for NAs and home care workers including on-site Internet training in nursing homes through their community college system. These programs are aimed at increasing recruitment and retention.

D. Health Promotion and Wellness

The legislature should advance wellness and health promotion through educational program initiatives and health insurance incentives. Examples of some initiatives include:

- Providing funding for community-based well-being programs that include daily monitoring of elderly through phone calls and/or visits from community volunteers. This improves senior involvement with the community as well as socialization. A model program is "Walk in My Shoes" (http://www.urbanext.uiuc.edu) aimed at orienting new staff at nursing homes, senior care groups, and agency personnel to the needs and limitations of older adults.
- Creating a state sponsored wellness program through the County Public Health offices that subsidizes wellness and preventative measures such as screenings and wellness checks.
- Creating incentives for long term care insurance. New York, Minnesota, and Washington have health insurance initiatives that assist small employers, including LTC providers across the continuum, in gaining access to coverage for themselves and their employees.

Section I. Current and Future Elderly Population: Table of Contents

Distribution of Elderly

- In 2000, there were 94,478 residents in North Dakota 65 years of age and over. These elderly comprised 14.7 percent of the total population. However, the elderly comprise more than 20 percent of the population base in 27 of the 53 counties in the state.

- It is expected that by the year 2010, the number of elderly residents in North Dakota will increase by nearly 16,000 persons or 17 percent. This will mean that in less than 10 years 17 percent of the residents in the state will be 65 years of age and over.

- By the year 2020, the number of North Dakota residents 65 years of age and older will have grown by more than 55,000 persons, or 58 percent, and they will represent nearly 23 percent of the state's population.

- The distribution of elderly (i.e., 65 years of age and older) varies greatly throughout the state with the highest concentration in the central counties. In less than ten years, nearly half of the state's counties will have more than one in four residents who are elderly.

- Only 2.3 percent of the state's population, or 14,726 residents, were 85 years of age and over in 2000. Nonetheless, North Dakota currently ranks highest nationally in the proportion of residents 85 years of age and older.

- It is expected by the year 2020 that the number of North Dakota seniors 85 years and older will nearly double.

Figure 1. Persons Ages 65 and Older as a Percent of Total Population in North Dakota by County: 2000, 2010, and 2020

Source: U.S. Census Bureau, 2000 Census; North Dakota State Data Center.

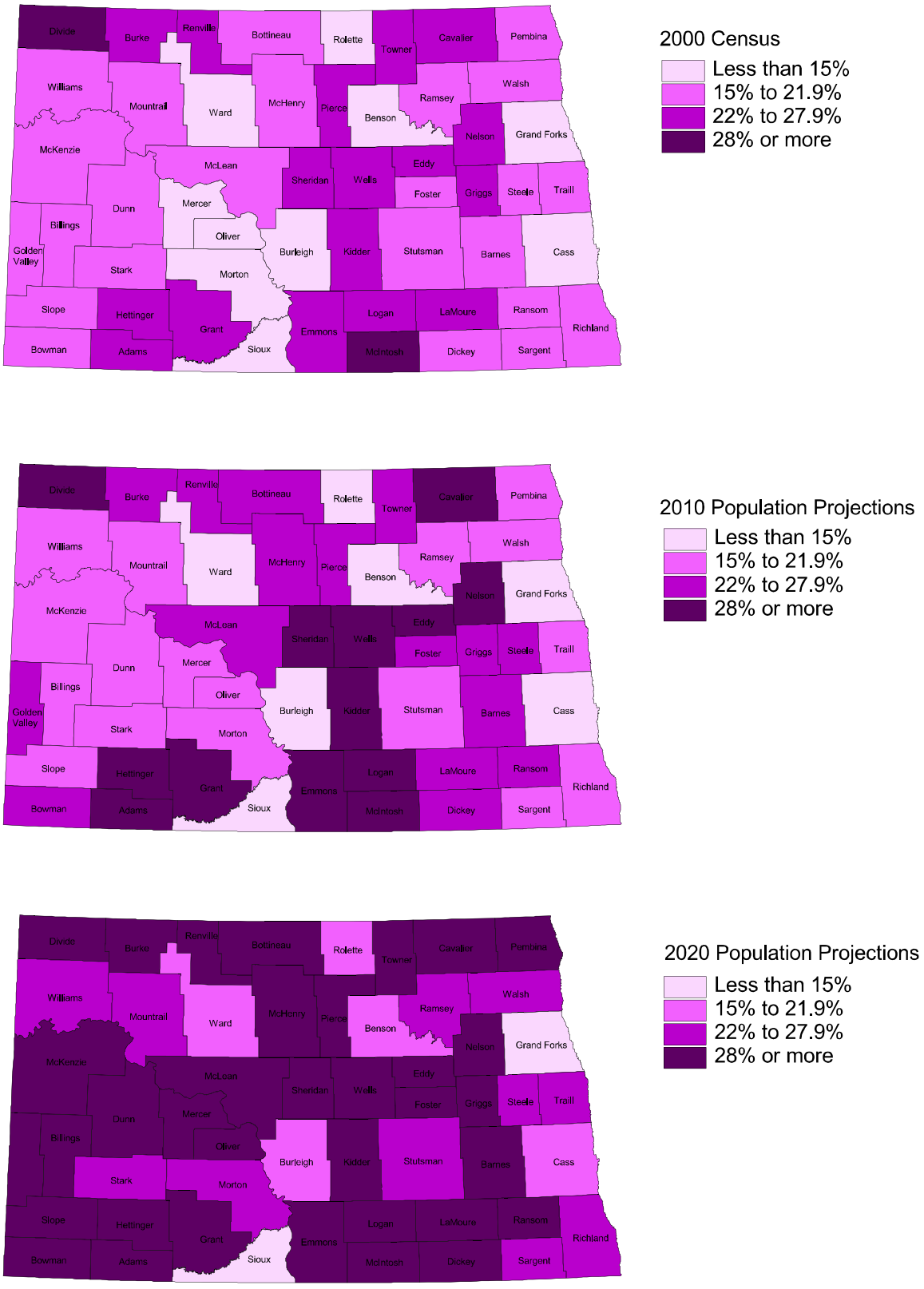


Figure 2. Persons Ages 85 and Older as a Percent of Total Population in North Dakota by County: 2000, 2010, and 2020

Source: U.S. Census Bureau, 2000 Census; North Dakota State Data Center.

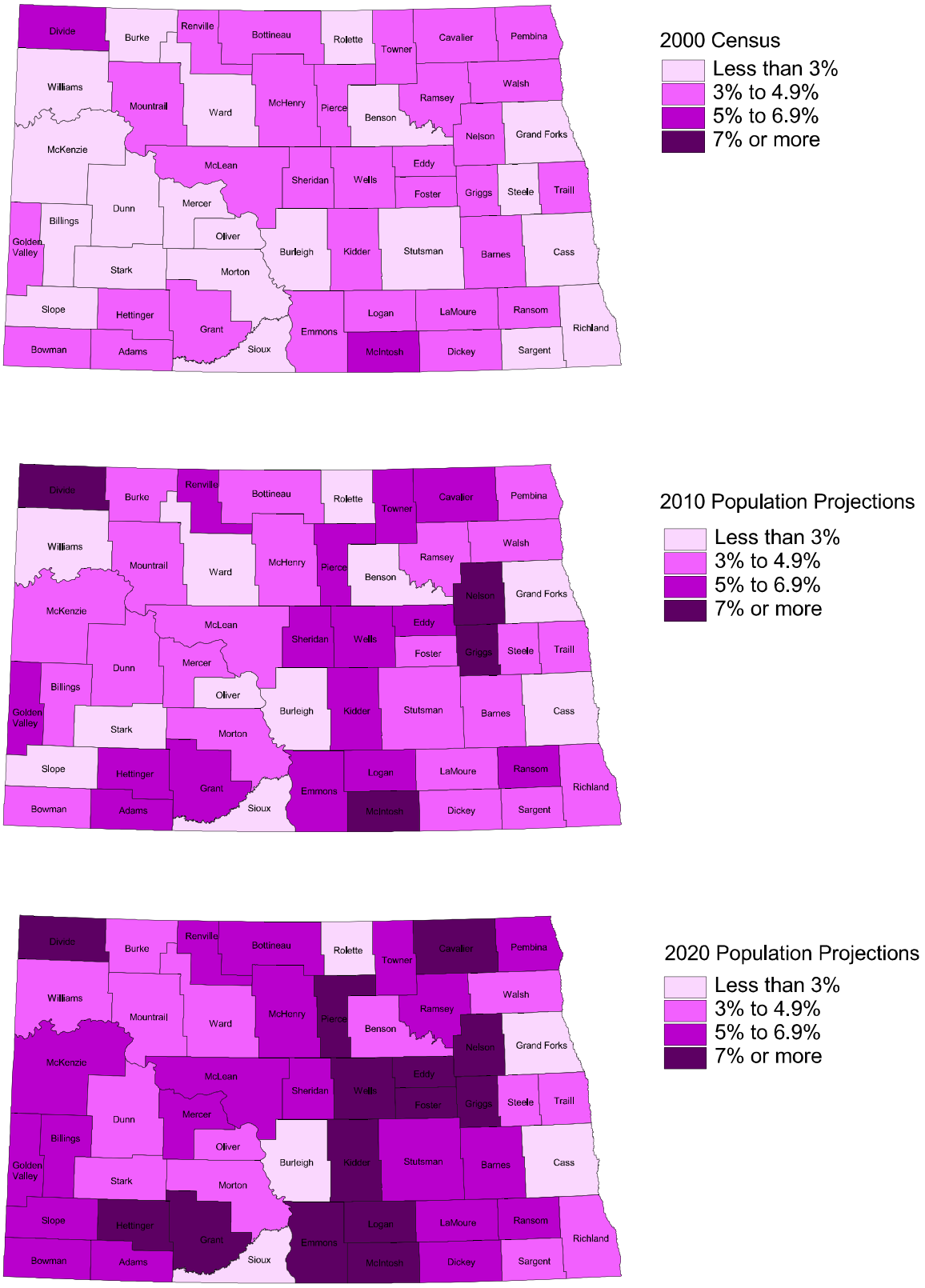


Table 1. Population Ages 65 and Older in North Dakota by County: 2000 Census

County	Total Population	Persons 65 and Older							
				Ages 65-74		Ages 75-84		Ages 85+	
		Total	Percent of Total Population	Number	Percent of Total Population	Number	Percent of Total Population	Number	Percent of Total Population
Adams	2,593	624	24.1	279	10.8	232	8.9	113	4.4
Barnes	11,775	2,332	19.8	1,005	8.5	912	7.7	415	3.5
Benson	6,964	941	13.5	486	7.0	306	4.4	149	2.1
Billings	888	142	16.0	73	8.2	54	6.1	15	1.7
Bottineau	7,149	1,522	21.3	696	9.7	552	7.7	274	3.8
Bowman	3,242	707	21.8	337	10.4	244	7.5	126	3.9
Burke	2,242	562	25.1	300	13.4	197	8.8	65	2.9
Burleigh	69,416	8,640	12.4	4,514	6.5	2,928	4.2	1,198	1.7
Cass	123,138	11,901	9.7	6,054	4.9	4,118	3.3	1,729	1.4
Cavalier	4,831	1,107	22.9	544	11.3	382	7.9	181	3.7
Dickey	5,757	1,229	21.3	536	9.3	453	7.9	240	4.2
Divide	2,283	674	29.5	279	12.2	265	11.6	130	5.7
Dunn	3,600	625	17.4	304	8.4	232	6.4	89	2.5
Eddy	2,757	682	24.7	312	11.3	250	9.1	120	4.4
Emmons	4,331	1,107	25.6	551	12.7	382	8.8	174	4.0
Foster	3,759	803	21.4	408	10.9	280	7.4	115	3.1
Golden Valley	1,924	410	21.3	174	9.0	159	8.3	77	4.0
Grand Forks	66,109	6,368	9.6	3,120	4.7	2,315	3.5	933	1.4
Grant	2,841	703	24.7	329	11.6	239	8.4	135	4.8
Griggs	2,754	708	25.7	301	10.9	276	10.0	131	4.8
Hettinger	2,715	683	25.2	333	12.3	252	9.3	98	3.6
Kidder	2,753	662	24.0	333	12.1	234	8.5	95	3.5
LaMoure	4,701	1,100	23.4	541	11.5	392	8.3	167	3.6
Logan	2,308	623	27.0	313	13.6	219	9.5	91	3.9
McHenry	5,987	1,305	21.8	645	10.8	429	7.2	231	3.9
McIntosh	3,390	1,160	34.2	504	14.9	431	12.7	225	6.6
McKenzie	5,737	900	15.7	422	7.4	350	6.1	128	2.2
McLean	9,311	1,900	20.4	873	9.4	735	7.9	292	3.1
Mercer	8,644	1,233	14.3	597	6.9	455	5.3	181	2.1
Morton	25,303	3,693	14.6	1,917	7.6	1,258	5.0	518	2.0
Mountrail	6,631	1,174	17.7	529	8.0	432	6.5	213	3.2
Nelson	3,715	1,019	27.4	448	12.1	395	10.6	176	4.7
Oliver	2,065	293	14.2	161	7.8	104	5.0	28	1.4
Pembina	8,585	1,674	19.5	789	9.2	617	7.2	268	3.1
Pierce	4,675	1,127	24.1	498	10.7	414	8.9	215	4.6
Ramsey	12,066	2,266	18.8	1,016	8.4	826	6.8	424	3.5
Ransom	5,890	1,250	21.2	576	9.8	446	7.6	228	3.9
Renville	2,610	575	22.0	273	10.5	192	7.4	110	4.2
Richland	17,998	2,746	15.3	1,267	7.0	991	5.5	488	2.7
Rolette	13,674	1,325	9.7	708	5.2	451	3.3	166	1.2
Sargent	4,366	740	16.9	355	8.1	302	6.9	83	1.9
Sheridan	1,710	455	26.6	235	13.7	169	9.9	51	3.0
Sioux	4,044	226	5.6	148	3.7	72	1.8	6	0.1
Slope	767	137	17.9	87	11.3	40	5.2	10	1.3
Stark	22,636	3,510	15.5	1,700	7.5	1,289	5.7	521	2.3
Steele	2,258	442	19.6	243	10.8	158	7.0	41	1.8
Stutsman	21,908	3,862	17.6	1,879	8.6	1,389	6.3	594	2.7
Towner	2,876	670	23.3	281	9.8	256	8.9	133	4.6
Traill	8,477	1,623	19.1	714	8.4	625	7.4	284	3.4
Walsh	12,389	2,390	19.3	1,108	8.9	906	7.3	376	3.0
Ward	58,795	7,341	12.5	3,617	6.2	2,580	4.4	1,144	1.9
Wells	5,102	1,326	26.0	621	12.2	457	9.0	248	4.9
Williams	19,761	3,261	16.5	1,568	7.9	1,209	6.1	484	2.4
Total	642,200	94,478	14.7	45,901	7.1	33,851	5.3	14,726	2.3

Source: U.S. Census Bureau, Summary File 1

Table 2. Projections of Population Ages 65 and Older in North Dakota by County: 2010

County	Total Population	Persons 65 and Older							
				Ages 65-74		Ages 75-84		Ages 85+	
		Total	Percent of Total Population	Number	Percent of Total Population	Number	Percent of Total Population	Number	Percent of Total Population
Adams	2,208	634	28.7	283	12.8	232	10.5	119	5.4
Barnes	11,564	2,673	23.1	1,189	10.3	977	8.4	507	4.4
Benson	7,329	1,078	14.7	495	6.8	396	5.4	187	2.6
Billings	775	153	19.7	70	9.0	50	6.5	33	4.3
Bottineau	6,661	1,718	25.8	757	11.4	644	9.7	317	4.8
Bowman	3,181	761	23.9	277	8.7	336	10.6	148	4.7
Burke	1,908	478	25.1	207	10.8	197	10.3	74	3.9
Burleigh	72,531	9,831	13.6	4,828	6.7	3,672	5.1	1,331	1.8
Cass	137,724	17,464	12.7	8,580	6.2	6,085	4.4	2,799	2.0
Cavalier	4,070	1,148	28.2	504	12.4	433	10.6	211	5.2
Dickey	5,426	1,300	24.0	568	10.5	506	9.3	226	4.2
Divide	1,796	662	36.9	247	13.8	259	14.4	156	8.7
Dunn	3,283	707	21.5	344	10.5	251	7.6	112	3.4
Eddy	2,633	762	28.9	284	10.8	318	12.1	160	6.1
Emmons	4,105	1,275	31.1	491	12.0	544	13.3	240	5.8
Foster	3,557	887	24.9	331	9.3	403	11.3	153	4.3
Golden Valley	1,800	433	24.1	186	10.3	152	8.4	95	5.3
Grand Forks	67,551	7,266	10.8	3,220	4.8	2,772	4.1	1,274	1.9
Grant	2,318	707	30.5	286	12.3	273	11.8	148	6.4
Griggs	2,418	672	27.8	210	8.7	290	12.0	172	7.1
Hettinger	2,228	708	31.8	295	13.2	285	12.8	128	5.7
Kidder	2,385	683	28.6	269	11.3	289	12.1	125	5.2
LaMoure	4,310	1,145	26.6	473	11.0	473	11.0	199	4.6
Logan	2,115	672	31.8	262	12.4	275	13.0	135	6.4
McHenry	5,760	1,446	25.1	650	11.3	559	9.7	237	4.1
McIntosh	3,041	1,217	40.0	414	13.6	532	17.5	271	8.9
McKenzie	5,197	1,118	21.5	513	9.9	418	8.0	187	3.6
McLean	8,820	2,291	26.0	1,034	11.7	822	9.3	435	4.9
Mercer	7,751	1,566	20.2	674	8.7	605	7.8	287	3.7
Morton	27,481	4,725	17.2	2,143	7.8	1,757	6.4	825	3.0
Mountrail	6,518	1,301	20.0	625	9.6	457	7.0	219	3.4
Nelson	3,592	1,166	32.5	435	12.1	474	13.2	257	7.2
Oliver	1,939	342	17.6	169	8.7	127	6.5	46	2.4
Pembina	8,125	1,779	21.9	736	9.1	702	8.6	341	4.2
Pierce	4,579	1,220	26.6	439	9.6	505	11.0	276	6.0
Ramsey	11,447	2,442	21.3	991	8.7	981	8.6	470	4.1
Ransom	5,844	1,454	24.9	548	9.4	613	10.5	293	5.0
Renville	2,352	578	24.6	241	10.2	216	9.2	121	5.1
Richland	17,570	3,028	17.2	1,232	7.0	1,135	6.5	661	3.8
Rolette	13,965	1,911	13.7	1,023	7.3	670	4.8	218	1.6
Sargent	4,230	896	21.2	477	11.3	289	6.8	130	3.1
Sheridan	1,477	455	30.8	196	13.3	179	12.1	80	5.4
Sioux	4,223	310	7.3	203	4.8	89	2.1	18	0.4
Slope	675	143	21.2	64	9.5	62	9.2	17	2.5
Stark	22,270	3,979	17.9	1,784	8.0	1,597	7.2	598	2.7
Steele	2,134	487	22.8	222	10.4	197	9.2	68	3.2
Stutsman	21,278	4,620	21.7	1,935	9.1	1,929	9.1	756	3.6
Towner	2,521	618	24.5	245	9.7	205	8.1	168	6.7
Traill	8,141	1,665	20.5	689	8.5	669	8.2	307	3.8
Walsh	11,239	2,327	20.7	1,045	9.3	888	7.9	394	3.5
Ward	56,728	8,449	14.9	3,877	6.8	3,277	5.8	1,295	2.3
Wells	4,593	1,376	30.0	522	11.4	569	12.4	285	6.2
Williams	17,959	3,503	19.5	1,593	8.9	1,392	7.8	518	2.9
Total	645,325	110,229	17.1	49,375	7.7	42,027	6.5	18,827	2.9

Source: U.S. Census Bureau; North Dakota State Data Center, unpublished data

Table 3. Projections of Population Ages 65 and Older in North Dakota by County: 2020

County	Total Population	Persons 65 and Older							
				Ages 65-74		Ages 75-84		Ages 85+	
		Total	Percent of Total Population	Number	Percent of Total Population	Number	Percent of Total Population	Number	Percent of Total Population
Adams	1,963	729	37.1	344	17.5	253	12.9	132	6.7
Barnes	11,675	3,702	31.7	1,846	15.8	1,270	10.9	586	5.0
Benson	7,835	1,336	17.1	641	8.2	446	5.7	249	3.2
Billings	679	206	30.3	118	17.4	54	8.0	34	5.0
Bottineau	6,202	2,324	37.5	1,170	18.9	773	12.5	381	6.1
Bowman	3,038	874	28.8	362	11.9	305	10.0	207	6.8
Burke	1,686	522	31.0	293	17.4	149	8.8	80	4.7
Burleigh	74,727	14,046	18.8	7,995	10.7	4,315	5.8	1,736	2.3
Cass	151,651	29,878	19.7	17,309	11.4	8,630	5.7	3,939	2.6
Cavalier	3,614	1,291	35.7	590	16.3	444	12.3	257	7.1
Dickey	5,283	1,546	29.3	670	12.7	592	11.2	284	5.4
Divide	1,420	667	47.0	250	17.6	250	17.6	167	11.8
Dunn	2,927	946	32.3	504	17.2	309	10.6	133	4.5
Eddy	2,470	949	38.4	423	17.1	318	12.9	208	8.4
Emmons	3,710	1,414	38.1	545	14.7	532	14.3	337	9.1
Foster	3,216	1,007	31.3	413	12.8	360	11.2	234	7.3
Golden Valley	1,658	526	31.7	248	15.0	178	10.7	100	6.0
Grand Forks	68,238	9,582	14.0	4,879	7.1	3,131	4.6	1,572	2.3
Grant	1,890	745	39.4	314	16.6	258	13.7	173	9.2
Griggs	2,099	708	33.7	308	14.7	218	10.4	182	8.7
Hettinger	1,877	784	41.8	350	18.6	278	14.8	156	8.3
Kidder	1,995	718	36.0	299	15.0	256	12.8	163	8.2
LaMoure	3,898	1,317	33.8	613	15.7	454	11.6	250	6.4
Logan	1,919	659	34.3	230	12.0	253	13.2	176	9.2
McHenry	5,701	1,731	30.4	779	13.7	615	10.8	337	5.9
McIntosh	2,769	1,211	43.7	379	13.7	484	17.5	348	12.6
McKenzie	4,924	1,495	30.4	683	13.9	552	11.2	260	5.3
McLean	8,423	3,210	38.1	1,604	19.0	1,067	12.7	539	6.4
Mercer	7,267	2,154	29.6	997	13.7	747	10.3	410	5.6
Morton	29,521	7,364	24.9	3,951	13.4	2,168	7.3	1,245	4.2
Mountrail	6,503	1,754	27.0	910	14.0	590	9.1	254	3.9
Nelson	3,542	1,359	38.4	562	15.9	501	14.1	296	8.4
Oliver	1,799	508	28.2	303	16.8	147	8.2	58	3.2
Pembina	7,810	2,327	29.8	1,218	15.6	721	9.2	388	5.0
Pierce	4,360	1,350	31.0	535	12.3	489	11.2	326	7.5
Ramsey	10,958	3,048	27.8	1,445	13.2	1,042	9.5	561	5.1
Ransom	5,840	1,877	32.1	837	14.3	638	10.9	402	6.9
Renville	2,266	649	28.6	300	13.2	207	9.1	142	6.3
Richland	17,218	4,020	23.3	2,006	11.7	1,212	7.0	802	4.7
Rolette	14,029	2,955	21.1	1,553	11.1	1,057	7.5	345	2.5
Sargent	4,272	1,106	25.9	546	12.8	430	10.1	130	3.0
Sheridan	1,364	452	33.1	201	14.7	163	12.0	88	6.5
Sioux	4,208	448	10.6	284	6.7	138	3.3	26	0.6
Slope	605	189	31.2	107	17.7	48	7.9	34	5.6
Stark	22,360	5,395	24.1	2,772	12.4	1,848	8.3	775	3.5
Steele	2,074	538	25.9	252	12.2	200	9.6	86	4.1
Stutsman	20,737	5,771	27.8	2,573	12.4	2,164	10.4	1,034	5.0
Towner	2,382	686	28.8	335	14.1	196	8.2	155	6.5
Traill	7,771	2,045	26.3	988	12.7	707	9.1	350	4.5
Walsh	10,336	2,776	26.9	1,449	14.0	916	8.9	411	4.0
Ward	55,809	10,795	19.3	5,205	9.3	3,855	6.9	1,735	3.1
Wells	4,094	1,491	36.4	601	14.7	523	12.8	367	9.0
Williams	16,679	4,386	26.3	2,219	13.3	1,549	9.3	618	3.7
Total	651,291	149,566	23.0	76,308	11.7	49,000	7.5	24,258	3.7

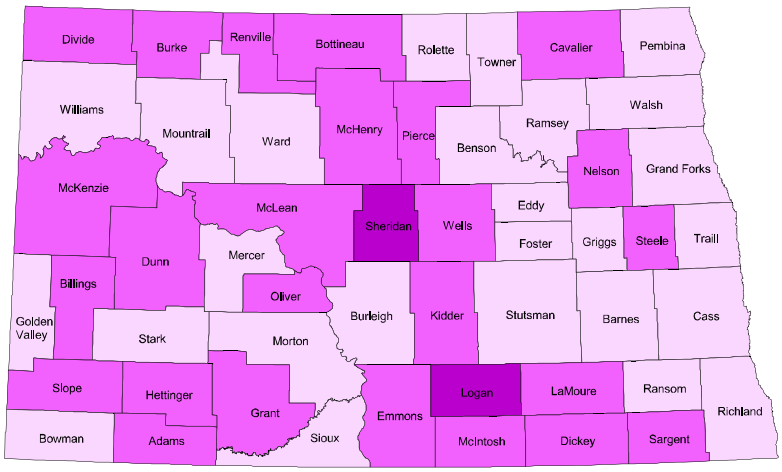
Source: U.S. Census Bureau; North Dakota State Data Center, unpublished data

Pre-Retirees

- ❑ The leading edge of the babyboom population (i.e., those born between 1946 and 1962) is currently entering the pre-retirement years. This means the state needs to prepare itself for a significant elderly growth boom.
- ❑ In 2000, 53,433 North Dakota residents were in the pre-retirement age category (i.e., ages 55-64).
- ❑ The number of pre-retirees in the state is expected to grow by nearly 23,000 people in less than ten years and by 32,250 people within 20 years.
- ❑ The number of pre-retirees in Burleigh County is expected to nearly double by 2020 and in Cass County it is expected to nearly triple.

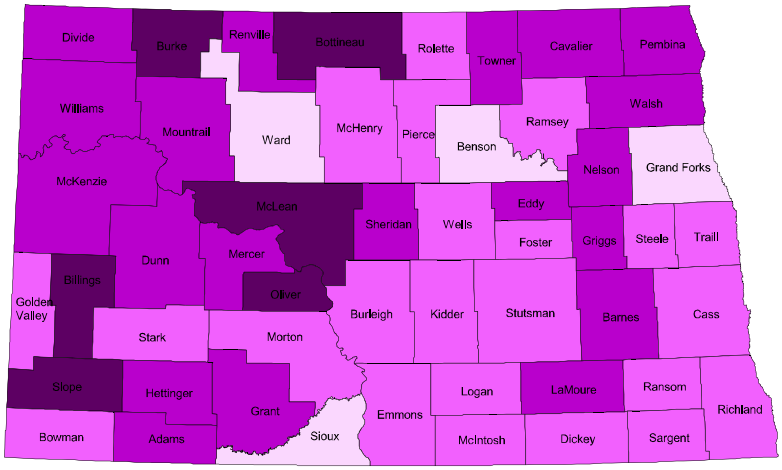
Figure 3. Persons Ages 55 to 64 as a Percent of Total Population in North Dakota by County: 2000, 2010, and 2020

Source: U.S. Census Bureau, 2000 Census; North Dakota State Data Center.



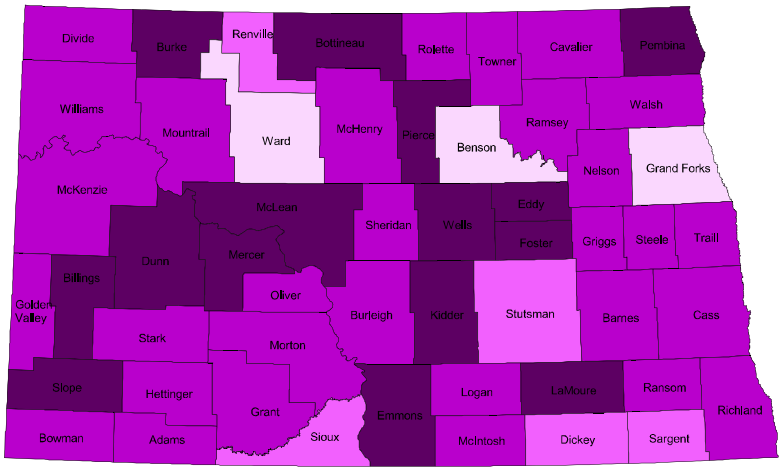
2000 Census

- Less than 10%
- 10% to 12.9%
- 13% to 15.9%
- 16% or more



2010 Population Projections

- Less than 10%
- 10% to 12.9%
- 13% to 15.9%
- 16% or more



2020 Population Projections

- Less than 10%
- 10% to 12.9%
- 13% to 15.9%
- 16% or more

Table 4. Population Ages 55 to 64 in North Dakota by County: 2000, 2010, and 2020

County	2000 Census			Projections					
				2010			2020		
		Ages 55-64			Ages 55-64			Ages 55-64	
	Total Population	Number	Percent of Total Population	Total population	Number	Percent of Total Population	Total Population	Number	Percent of Total Population
Adams	2,593	292	11.3	2,208	325	14.7	1,963	271	13.8
Barnes	11,775	1,152	9.8	11,564	1,629	14.1	11,675	1,627	13.9
Benson	6,964	575	8.3	7,329	677	9.2	7,835	751	9.6
Billings	888	92	10.4	775	134	17.3	679	143	21.1
Bottineau	7,149	765	10.7	6,661	1,078	16.2	6,202	1,088	17.5
Bowman	3,242	318	9.8	3,181	382	12.0	3,038	457	15.0
Burke	2,242	261	11.6	1,908	344	18.0	1,686	294	17.4
Burleigh	69,416	5,714	8.2	72,531	8,630	11.9	74,727	10,831	14.5
Cass	123,138	8,214	6.7	137,724	16,591	12.0	151,651	20,114	13.3
Cavalier	4,831	585	12.1	4,070	625	15.4	3,614	542	15.0
Dickey	5,757	579	10.1	5,426	624	11.5	5,283	630	11.9
Divide	2,283	271	11.9	1,796	249	13.9	1,420	226	15.9
Dunn	3,600	381	10.6	3,283	508	15.5	2,927	493	16.8
Eddy	2,757	265	9.6	2,633	365	13.9	2,470	454	18.4
Emmons	4,331	493	11.4	4,105	502	12.2	3,710	631	17.0
Foster	3,759	346	9.2	3,557	395	11.1	3,216	568	17.7
Golden Valley	1,924	187	9.7	1,800	228	12.7	1,658	264	15.9
Grand Forks	66,109	4,235	6.4	67,551	5,853	8.7	68,238	6,031	8.8
Grant	2,841	344	12.1	2,318	345	14.9	1,890	261	13.8
Griggs	2,754	262	9.5	2,418	350	14.5	2,099	310	14.8
Hettinger	2,715	323	11.9	2,228	346	15.5	1,877	287	15.3
Kidder	2,753	299	10.9	2,385	307	12.9	1,995	343	17.2
LaMoure	4,701	504	10.7	4,310	605	14.0	3,898	738	18.9
Logan	2,308	308	13.3	2,115	245	11.6	1,919	252	13.1
McHenry	5,987	645	10.8	5,760	707	12.3	5,701	763	13.4
McIntosh	3,390	400	11.8	3,041	335	11.0	2,769	376	13.6
McKenzie	5,737	574	10.0	5,197	692	13.3	4,924	662	13.4
McLean	9,311	1,069	11.5	8,820	1,507	17.1	8,423	1,441	17.1
Mercer	8,644	764	8.8	7,751	1,025	13.2	7,267	1,180	16.2
Morton	25,303	2,093	8.3	27,481	3,515	12.8	29,521	4,704	15.9
Mountrail	6,631	646	9.7	6,518	859	13.2	6,503	881	13.5
Nelson	3,715	433	11.7	3,592	515	14.3	3,542	516	14.6
Oliver	2,065	214	10.4	1,939	354	18.3	1,799	283	15.7
Pembina	8,585	809	9.4	8,125	1,218	15.0	7,810	1,288	16.5
Pierce	4,675	477	10.2	4,579	533	11.6	4,360	723	16.6
Ramsey	12,066	1,099	9.1	11,447	1,458	12.7	10,958	1,664	15.2
Ransom	5,890	540	9.2	5,844	754	12.9	5,840	817	14.0
Renville	2,610	274	10.5	2,352	312	13.3	2,266	285	12.6
Richland	17,998	1,373	7.6	17,570	2,039	11.6	17,218	2,473	14.4
Rolette	13,674	1,040	7.6	13,965	1,437	10.3	14,029	2,017	14.4
Sargent	4,366	480	11.0	4,230	503	11.9	4,272	484	11.3
Sheridan	1,710	231	13.5	1,477	216	14.6	1,364	192	14.1
Sioux	4,044	259	6.4	4,223	328	7.8	4,208	430	10.2
Slope	767	77	10.0	675	111	16.4	605	113	18.7
Stark	22,636	1,886	8.3	22,270	2,667	12.0	22,360	2,943	13.2
Steele	2,258	255	11.3	2,134	265	12.4	2,074	290	14.0
Stutsman	21,908	1,997	9.1	21,278	2,411	11.3	20,737	2,582	12.5
Towner	2,876	286	9.9	2,521	357	14.2	2,382	373	15.7
Traill	8,477	749	8.8	8,141	981	12.1	7,771	1,185	15.2
Walsh	12,389	1,212	9.8	11,239	1,529	13.6	10,336	1,527	14.8
Ward	58,795	4,375	7.4	56,728	5,343	9.4	55,809	4,814	8.6
Wells	5,102	569	11.2	4,593	593	12.9	4,094	750	18.3
Williams	19,761	1,842	9.3	17,959	2,344	13.1	16,679	2,321	13.9
Total	642,200	53,433	8.3	645,325	76,245	11.8	651,291	85,683	13.2

Source: U.S. Census Bureau; North Dakota State Data Center, unpublished data

Living Arrangements of Elderly

- ❑ Data from the 2000 Census indicate that one-third of non-family households in North Dakota were elderly (i.e., having a householder age 65 and older).
- ❑ Nearly half of elderly householders in the state live alone.
- ❑ Slightly more than 8 percent of the elderly in North Dakota live in group quarters. Distribution of the state's elderly population in group quarters varies greatly by county.

Disability Status of Elderly

- ❑ More than one in three civilian non-institutionalized elderly in North Dakota have a disability.
- ❑ The highest proportions of elderly disabilities in the state are in the counties with Native American reservations. For example, in Rolette and Sioux counties, more than half of the civilian non-institutionalized elderly are disabled.

Elderly Migration

- ❑ During the past decade, North Dakota had a net domestic out-migration of residents under the age of 65 but a net domestic in-migration of elderly (i.e., residents 65 years of age and older).
- ❑ Net domestic in-migration of elderly generally occurred in the North Dakota counties with larger urban centers.

Figure 4. Living Arrangements of Persons 65 Years and Older by County in North Dakota: 2000
Source: U.S. Census Bureau, 2000 Census.

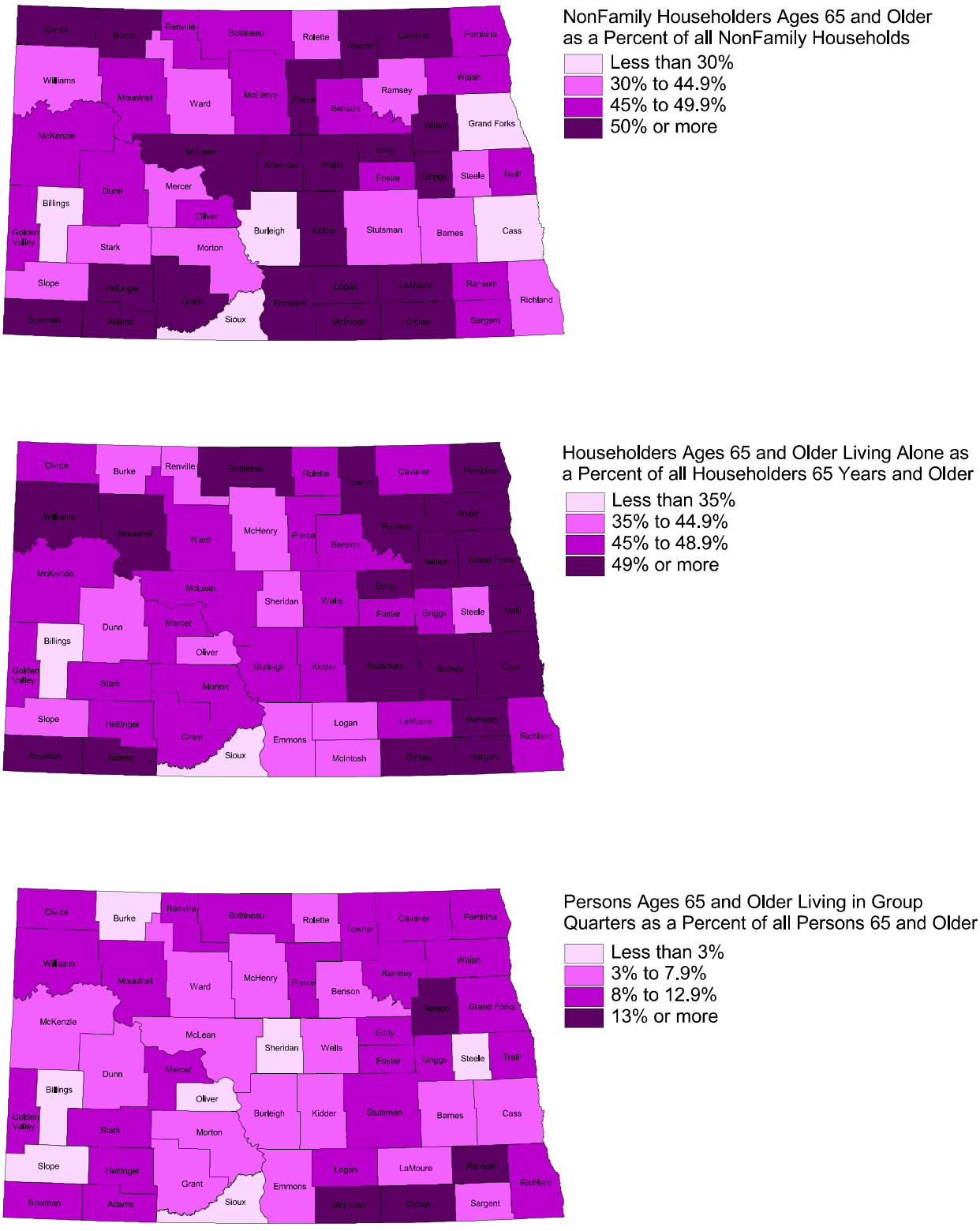


Table 5. Living Arrangements of Persons 65 Years and Older by County in North Dakota: 2000

	Non-Family Households			Householders 65 and Older			Persons 65 and Older		
		Householder 65 and Older			Non-Family Householders Living Alone			Living in Group Quarters	
County	Total	Number	Percent	Total	Number	Percent	Total	Number	Percent
Adams	396	206	52.0	401	201	50.1	624	69	11.1
Barnes	1,766	789	44.7	1,545	778	50.4	2,332	168	7.2
Benson	627	296	47.2	631	290	46.0	941	44	4.7
Billings	110	29	26.4	95	28	29.5	142	0	0.0
Bottineau	1,008	491	48.7	982	485	49.4	1,522	126	8.3
Bowman	467	238	51.0	456	234	51.3	707	81	11.5
Burke	332	182	54.8	396	178	44.9	562	0	0.0
Burleigh	9,472	2,693	28.4	5,586	2,627	47.0	8,640	642	7.4
Cass	21,490	4,026	18.7	7,872	3,917	49.8	11,901	803	6.7
Cavalier	656	349	53.2	715	342	47.8	1,107	114	10.3
Dickey	783	409	52.2	758	401	52.9	1,229	171	13.9
Divide	356	204	57.3	414	200	48.3	674	87	12.9
Dunn	391	176	45.0	409	169	41.3	625	49	7.8
Eddy	420	241	57.4	438	238	54.3	682	71	10.4
Emmons	545	297	54.5	699	293	41.9	1,107	81	7.3
Foster	508	252	49.6	520	247	47.5	803	76	9.5
Golden Valley	254	121	47.6	253	120	47.4	410	38	9.3
Grand Forks	9,812	2,157	22.0	4,181	2,089	50.0	6,368	508	8.0
Grant	394	216	54.8	453	214	47.2	703	53	7.5
Griggs	397	222	55.9	454	219	48.2	708	57	8.1
Hettinger	373	212	56.8	439	210	47.8	683	58	8.5
Kidder	370	212	57.3	443	205	46.3	662	40	6.0
LaMoure	634	326	51.4	713	323	45.3	1,100	68	6.2
Logan	303	160	52.8	375	154	41.1	623	62	10.0
McHenry	825	406	49.2	869	389	44.8	1,305	58	4.4
McIntosh	492	300	61.0	675	292	43.3	1,160	170	14.7
McKenzie	602	286	47.5	609	282	46.3	900	56	6.2
McLean	1,104	568	51.4	1,203	546	45.4	1,900	147	7.7
Mercer	901	380	42.2	794	370	46.6	1,233	108	8.8
Morton	2,958	1,099	37.2	2,365	1,082	45.8	3,693	278	7.5
Mountrail	807	380	47.1	746	374	50.1	1,174	141	12.0
Nelson	623	361	57.9	659	356	54.0	1,019	134	13.2
Oliver	187	88	47.1	206	85	41.3	293	0	0.0
Pembina	1,170	559	47.8	1,109	554	50.0	1,674	136	8.1
Pierce	687	345	50.2	695	336	48.3	1,127	122	10.8
Ramsey	1,770	739	41.8	1,440	724	50.3	2,266	253	11.2
Ransom	790	373	47.2	729	364	49.9	1,250	222	17.8
Renville	336	161	47.9	359	160	44.6	575	57	9.9
Richland	2,458	819	33.3	1,695	801	47.3	2,746	322	11.7
Rolette	1,189	452	38.0	913	435	47.6	1,325	79	6.0
Sargent	543	256	47.1	503	252	50.1	740	23	3.1
Sheridan	216	127	58.8	294	122	41.5	455	13	2.9
Sioux	223	52	23.3	152	48	31.6	226	5	2.2
Slope	90	35	38.9	94	33	35.1	137	0	0.0
Stark	3,058	1,088	35.6	2,242	1,067	47.6	3,510	298	8.5
Steele	288	123	42.7	299	121	40.5	442	0	0.0
Stutsman	3,306	1,341	40.6	2,533	1,308	51.6	3,862	336	8.7
Towner	432	228	52.8	429	228	53.1	670	66	9.9
Traill	1,109	513	46.3	1,012	503	49.7	1,623	192	11.8
Walsh	1,708	773	45.3	1,552	763	49.2	2,390	200	8.4
Ward	7,671	2,330	30.4	4,747	2,262	47.7	7,341	555	7.6
Wells	761	419	55.1	861	411	47.7	1,326	103	7.8
Williams	2,834	1,082	38.2	2,149	1,057	49.2	3,261	292	9.0
Total	91,002	30,187	33.2	61,161	29,487	48.2	94,478	7,832	8.3

Source: U.S. Census Bureau, Summary File 1

Table 6. Population Ages 65 and Older With a Disability by County in North Dakota: 2000

County	Total Persons 65 and Older			
		Civilian Noninstitutionalized Persons 65 and Older		
			With a Disability	
	Total	Total	Number	Percent
Adams	624	548	196	35.8
Barnes	2,332	2,134	699	32.8
Benson	941	920	356	38.7
Billings	142	141	35	24.8
Bottineau	1,522	1,398	516	36.9
Bowman	707	632	213	33.7
Burke	562	556	170	30.6
Burleigh	8,640	7,996	3,221	40.3
Cass	11,901	11,176	4,125	36.9
Cavalier	1,107	1,057	340	32.2
Dickey	1,229	1,071	401	37.4
Divide	674	587	194	33.0
Dunn	625	570	243	42.6
Eddy	682	609	207	34.0
Emmons	1,107	1,037	448	43.2
Foster	803	715	277	38.7
Golden Valley	410	362	142	39.2
Grand Forks	6,368	5,875	2,114	36.0
Grant	703	642	238	37.1
Griggs	708	649	232	35.7
Hettinger	683	634	248	39.1
Kidder	662	630	267	42.4
LaMoure	1,100	1,032	398	38.6
Logan	623	600	282	47.0
McHenry	1,305	1,252	529	42.3
McIntosh	1,160	1,008	420	41.7
McKenzie	900	848	365	43.0
McLean	1,900	1,738	684	39.4
Mercer	1,233	1,141	498	43.6
Morton	3,693	3,436	1,498	43.6
Mountrail	1,174	1,019	454	44.6
Nelson	1,019	893	339	38.0
Oliver	293	302	106	35.1
Pembina	1,674	1,529	509	33.3
Pierce	1,127	1,013	375	37.0
Ramsey	2,266	2,049	763	37.2
Ransom	1,250	1,026	452	44.1
Renville	575	514	171	33.3
Richland	2,746	2,470	885	35.8
Rolette	1,325	1,274	638	50.1
Sargent	740	718	262	36.5
Sheridan	455	459	185	40.3
Sioux	226	236	134	56.8
Slope	137	137	38	27.7
Stark	3,510	3,224	1,296	40.2
Steele	442	443	148	33.4
Stutsman	3,862	3,504	1,330	38.0
Towner	670	611	227	37.2
Traill	1,623	1,487	502	33.8
Walsh	2,390	2,226	838	37.6
Ward	7,341	6,880	2,715	39.5
Wells	1,326	1,232	454	36.9
Williams	3,261	3,121	1,224	39.2
Total	94,478	87,361	33,601	38.5

Source: U.S. Census Bureau, Census 2000 Summary File 1

Table 7. Net Domestic Migration by Age by County in North Dakota: 1990-1999 Estimates

County	Net Domestic Migration (Persons): 1990-1999	
	Less than Age 65	Age 65 and Older
Adams	-388	9
Barnes	-432	7
Benson	-613	-262
Billings	-56	-50
Bottineau	-446	29
Bowman	-255	3
Burke	-447	-216
Burleigh	1,745	1,038
Cass	3,564	700
Cavalier	-906	-129
Dickey	-392	86
Divide	-309	-46
Dunn	-469	-90
Eddy	24	-19
Emmons	-390	-72
Foster	-201	107
Golden Valley	-293	-68
Grand Forks	-14,069	28
Grant	-452	-153
Griggs	-289	-53
Hettinger	-473	-14
Kidder	-415	-33
LaMoure	-418	-94
Logan	-302	-183
McHenry	-289	-99
McIntosh	-256	49
McKenzie	-1,027	-39
McLean	-613	22
Mercer	-936	30
Morton	139	34
Mountrail	-521	-23
Nelson	-292	-22
Oliver	-203	-43
Pembina	-685	-54
Pierce	-258	-55
Ramsey	-939	102
Ransom	-67	116
Renville	-225	-41
Richland	-732	-156
Rolette	-213	37
Sargent	-205	-99
Sheridan	-187	-247
Sioux	-211	-43
Slope	-10	-66
Stark	-1,638	265
Steele	-129	-65
Stutsman	-1,289	-177
Towner	-464	-71
Traill	23	23
Walsh	-1,109	0
Ward	-6,732	435
Wells	-358	-5
Williams	-1,972	235
Total	-38,073	564

Source: U.S. Census Bureau, Population Estimates Branch, November 1999

THE NORTH DAKOTA SURVEY OF ELDERS

Center *for* Rural Health

University of North Dakota
School of Medicine and Health Sciences

Center for Rural Health
UND School of Medicine and Health Sciences

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Forward

This report is part of the 2002 North Dakota Needs Assessment for Long-Term Care. The Long-Term Care project was funded by the North Dakota Department of Human Services. This particular report addresses the characteristics of the retired and pre-retirement age population in terms of health status, functional limitations, health risk factors, plans for the future, access to long-term care services and use of services among those with functional limitations and preparations for the future.

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THE NORTH DAKOTA SURVEY OF ELDERS

INTRODUCTION

A statewide survey of North Dakotans over age 50 was conducted in order to assess the characteristics of the population approaching or in retirement. The goal of this survey was to examine several important aspects of the population that are relevant for planning future long-term care programs. Health status, life style factors such as health risk behaviors, needs for environmental adaptation, functional limitations, location with respect to potential or current family caregivers, preparations for late life care and the availability, acceptability and use of long-term care services were included in the survey instrument. The content of the survey instrument was developed using an established core instrument developed at the UND Center for Rural Health and with input for additional items from the staff of the North Dakota Department of Human Services. The core instrument was designed to permit comparisons with national benchmarks taken from a variety of national surveys reflecting the status of the elderly. These comparisons will be employed in the analysis and provide a basis for interpreting many of the results. A copy of the instrument is in Appendix A.

The survey instrument represents an expansion of a survey tool used nationally by the National Resource Center on Native American Aging and although numerous additional items were included in the state survey, it does allow for comparisons with the North Dakota tribes and systematic comparisons will be made when the data permit. These comparisons are particularly important in that recent advances in life expectancy, combined with the baby boom effect have the nations Native American populations poised for rapid growth of their elders where historically there have been very few. The social and medical delivery systems for these

populations are now beginning to experience pressure to respond to the needs of the elderly and few services are adequately developed.

The survey data were collected under contract with the University of North Dakota Social Science Research Institute in February and March, 2002, using a computer assisted telephone interview (CATI) technology. The elder survey used a list-assisted sample of the state's counties, stratified by urban, rural and frontier locations. The sample drawn was the result of a shared sampling strategy with companion surveys for this long-term care project being conducted at North Dakota State University. This strategy ensured that the same household would not be overburdened by surveys contained in this project. The target population contained respondents who were 50 years of age and over. A screening question at the beginning of the survey established the true eligibility of each respondent and those who were not within the age parameters were excluded. Telephone interviews were completed with 1,501 respondents, representing a response rate of 63 percent of the eligible households. This provides a sample with a margin of error of +/-2.5 percent with a confidence interval of 95 percent. All interviews were conducted at SSRI facilities by trained interviewers with supervision and random monitoring for technique and adherence to established procedures. Interviews were conducted afternoons and evenings on weekdays and weekends. Efforts to complete interviews with selected respondents were involved using appointment times and calls using varying days of the week and time of day. The number of callbacks to complete an interview with an eligible respondent ranged from 1 to 12.

FINDINGS

The findings from the survey data that follow are presented in a series of sections corresponding to the major content areas of the survey instrument. Following a brief description of the statewide result, an examination of comparisons using the urban, rural and frontier classification is presented followed by comparisons with the results of the independent data on the Native American population. The urban classification contained Burleigh, Cass, Grand Forks, Morton and Ward counties. Frontier counties contained those counties with fewer than 6 people per square mile, with rural counties constituting the remainder. Comparison sheets containing detailed comparisons are contained in appendices B and C respectively.

Health Status

General health status was assessed with a single question asking respondents to rate their health on a five point scale from excellent to poor. The results for the state present an image of relatively good health. The statewide result produced 48.7% reporting their health as excellent or very good and 20.1% reporting fair or poor. This compares favorably with data from the National Health and Nutrition Examination Survey in which the nation's population age 55 and older had only 31% of the national respondents in the excellent or very good categories and 34% in the fair and poor categories.

Nationally, the rural elderly are uniformly presented as having poorer health than the elders in urban areas. In North Dakota, however, self reported health status does not indicate such a rural deficiency. Rather, the proportion indicating their health status as either excellent or very good in rural and frontier counties is equal to or higher than that found in the urban counties. Similarly, the proportion indicating their health status as fair or poor is lower in the rural and frontier counties.

The question as to how North Dakota's Native American elders compare yields a picture of greater difficulty. In North Dakota, the Native American elders reported substantially poorer health status than that reported in national data or in the statewide survey. All comparisons examining the North Dakota tribal data limit the age to 55 and over in order to match the existing data from the tribes.

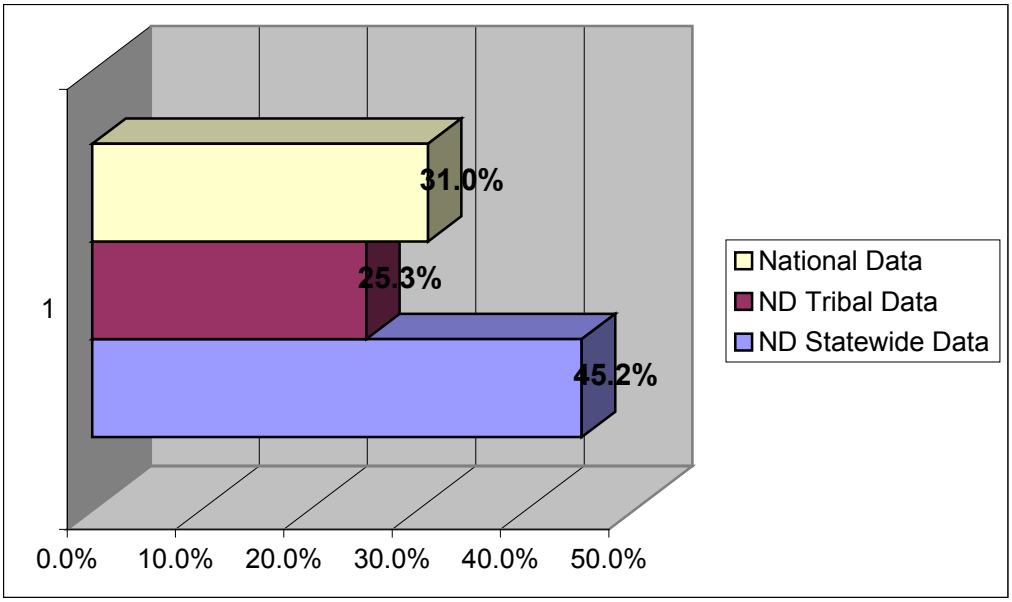


Figure 1. Comparisons of Proportions Reporting Good or Excellent Health, Age 55 and Over

Chronic Diseases

Respondents were asked whether a doctor had ever told them they had any of a list of 24 chronic diseases or disorders. Detailed comparisons of these are in the appendices. A comparison of the mean number of chronic diseases yielded no significant differences from an overall mean of 1.88 chronic diseases in this population. To look at the most commonly listed diseases, the diseases in the top 1/3 of the distribution were selected. The results in Table 1 do not indicate any substantial differences among urban, rural, and frontier counties. Those chronic diseases most likely to result in activity limitation, however, may be slightly less prevalent in the rural and frontier counties. One concern emerging from this analysis is a question as to whether

a selective migration occurs from the more sparsely populated rural counties resulting in a misleading impression that these are healthier places for living. One should keep in mind that the data reflect prevalence rates, not incidence rates. Chronic diseases may well be a driving force for some selective migration to larger population centers where health care and a wider range of services are available.

Table 1. Urban/Rural/Frontier Comparisons of Most Common Chronic Diseases.

Disease	Urban	Rural	Frontier
Arthritis	37.1%	34.4%	33.4%
Cataracts	19.2%	16.3%	18.3%
High Blood Pressure	36.1%	36.9%	40.6%
Heart Disease	14.0%	11.1%	13.7%
Diabetes	9.8%	9.5%	13.7%
Circulatory: Legs/Arms	11.8%	11.1%	7.7%
Osteoporosis	9.6%	10.1%	8.5%

Comparisons of chronic disease prevalence rates with the Native American data are limited to a smaller range of items. Table 2 contains the comparisons and while not all differences place the tribal elders in the most afflicted category, the majority of the comparisons do and some of the comparisons are dramatic. Arthritis, a major source of activity limitation, is dramatically higher among the tribes' elders and the prevalence of diabetes is nearly four times as great among the tribal elders, again leading to long-term consequences that are activity limiting. Cancer and cataract rates were both reported lower in the tribal data. Questions remain as to whether this finding may be due to under-diagnosis or other factors. Previous national

research has concluded that Native Americans have lower survival rates for cancer and this would affect the prevalence rates.

Table 2. Comparisons of Chronic Diseases for Persons Age 55 and Over: Statewide, ND Tribes and Nation.

Disease	ND Statewide Data (55 and over)	ND Tribal Data (55 and over)	National Data (55 and over)
Arthritis	34.7%	46.3%	40.0%
Congestive Heart Failure	6.7%	6.3%	8.0%
Stroke	4.1%	5.1%	8.0%
Asthma	6.7%	7.7%	7.0%
Cataracts	17.9%	17.3%	28.0%
Cancer	10.2%	6.0%	8.1%
High Blood Pressure	37.8%	42.5%	43.0%
Diabetes	10.6%	48.2%	14.0%

Overall, it can be safely concluded that the prevalence rates for chronic diseases containing implications for future activity limitations are relatively high among the states tribal populations.

Need for Home Modification

In the statewide survey, respondents were asked whether they needed to have their homes modified in order to retain their independence, using a series of suggested modifications. The overall need for home modifications is substantial. Overall, 34.8% indicated a need for one or more home improvements in order for their homes to adequately help them retain their independence. The most frequent expressed needs were for air conditioning, weatherization, safety strips in bathtubs or showers and hand rails. Comparisons by county classification

revealed less overall demand in Frontier counties, but the picture is mixed. The greatest difference appeared with air conditioning and this may be interpreted differently as to whether it is needed to help people retain independence.

Table 3. Urban, Rural and Frontier Need for Home Modification.

Modification	Urban	Rural	Frontier
Grab bars	8.4%	11.3%	9.4%
Non-skid strips for bathtub or shower	14.9%	15.1%	11.1%
Ramps	2.0%	3.0%	4.3%
Hand rails	11.6%	15.1%	10.8%
Weatherization	16.1%	15.1%	15.4%
Air conditioning	24.9%	23.6%	16.4%
Modifications for wheel chairs	3.6%	4.5%	3.4%
None of the above	63.5%	62.6%	70.0%

Functional Limitations

The extent to which functional limitations exist in a population determines the degree to which the population will need assistance. The dominant measures of functional limitation involve the use of measures of limitation in Activities of Daily Living (ADLs) and Instrumental Activities of Daily Living (IADLs). ADLs represent the extent to which people have assistance needs for the most basic activities of living. These include bathing, dressing, eating, getting in or out of bed, walking and using the toilet. These activities are fundamental and when people express difficulties with them, they are considered to be in need of assistance. This assistance may be obtained from informal family caregivers, formally offered home and community based

service programs or in more institutionalized care settings, such as nursing homes. As the number of activity limitations increases, the nature and amount of care required is likely to change with people in skilled nursing homes receiving the greatest amount of care and possessing the greatest number of ADL limitations. IADLs reflect activities required for independent living, but that are less severe than ADLs. Examples include cooking, shopping, managing money, using a phone, doing light or heavy housework and getting outside the home.

People normally experience needs with IADLs in advance of ADL limitations and the ADL limitations tend to evolve in a pattern with bathing one's self commonly being the first and most frequent ADL for which assistance is needed. Eating and toileting are the least frequently identified ADLs among the non- institutional elderly.

In North Dakota 14.1 percent of the respondents from the statewide survey reported at least one ADL limitation. This proportion increases with age and as the population becomes older, the issue of ADL limitations becomes more significant. Another commonly used marker with ADL measures is the presence of 3 or more ADL limitations. This degree of limitation constitutes eligibility for nursing home care and is used quite consistently in measures of functional limitation. Comparing national data (Manton et. al., 1997) from 1994 with the North Dakota statewide and tribal data requires a limited comparison to those age 65 and over because of the age range used in national surveys. This comparison presented in Figure 2 suggests a different picture than the self report of general health status, with North Dakotans age 65 and over having a slightly higher proportion with 3 or more ADL limitations than the nation and the tribal population reporting a rate of limitations that is higher than the statewide proportion.

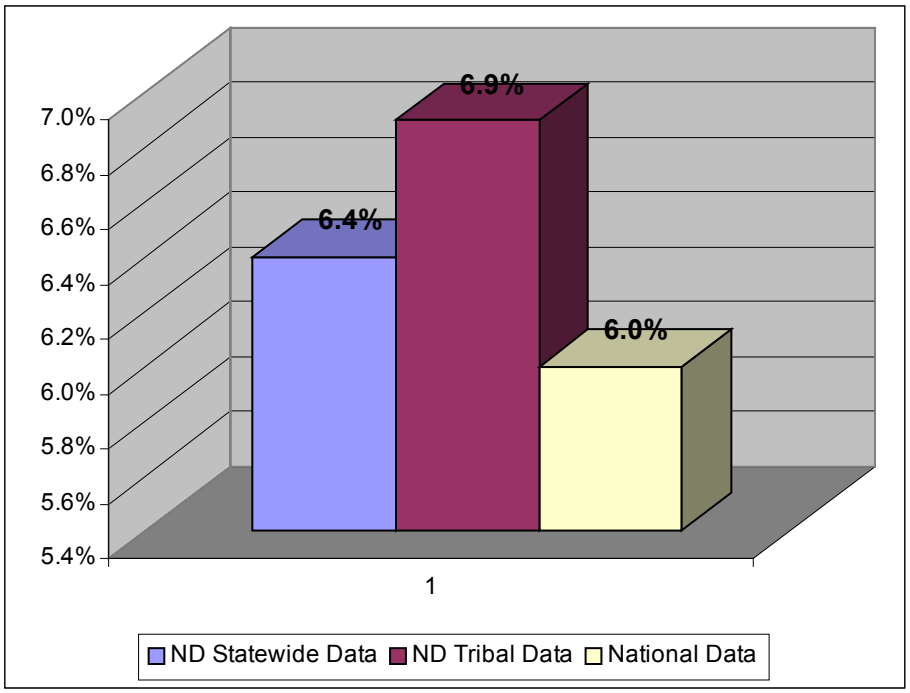


Figure 2. Limitation of 3 or more ADL's Among Persons 65 Years of Age and Over: Statewide ND Tribes and Nation.

Examining the pattern of limitation in 3 or more ADLs in the statewide survey using urban, rural and frontier classifications produces a substantial difference between the frontier counties and the other two categories. Urban and rural counties reported 6% and 6.4% with 3 or more ADL limitations, but the frontier counties reported only 3.5% at this level of limitation. This suggests that the relative health of the population in these smaller counties reflects a selective loss of impaired older people. People experiencing significant functional limitations are more likely to relocate to accommodate their need for care. Unfortunately, this for rural depopulation and remains one of the issues to be addressed for the state's most rural counties.

Again, IADL limitations relate to activities required for independent living, but not as basic as the personal care issues involved with ADL limitations. These may employed as indicators of need for a range of home and community based programs that empower people to

remain in their own homes. Meal delivery, homemaker services, chore services and transportation are examples of such programs. It is important to note that limitations in IADLs normally precede the development of ADL limitations and that persons who report 3 or more ADL limitations are also likely to have extensive IADL limitations.

Among those who report only IADL limitations, the prevalence is greatest among the North Dakota tribes with 13.7% of those 55 and over having one or more IADL limitation. The statewide survey produced an overall prevalence of 9.6% with the frontier having the lowest rate at 7.7% and rural possessing the highest at 12.1%. Urban respondents were in the middle with a prevalence rate of 10%. Once again, the need for service may be suspected of influencing people's decision to relocate, leaving behind a relatively vital population in frontier areas.

Functional limitations can be classified into categories that correspond to levels of care. A model that rests heavily on ADL limitations but that allows for multiple IADL limitations categorizes people into four groups. The groups are composed of those with little or no limitations, slight (one ADL limitation or at least two IADL limitations), moderate (2 ADL limitations) and severe (3 or more ADL limitations). These four groupings correspond to those who need no services, limited home and community based services, assisted living and nursing home care respectively. These are not rigid allocations, but assist in defining the volume of need at each level.

Table 4. Functional Limitation Age 55 and Over: Urban, Rural and Frontier and Tribes.

Level of Functional Limitation	Urban	Rural	Frontier	ND Tribal Data
Little or none	81.1%	79.3%	84.5%	71.1%
Slight	8.9%	9.7%	8.4%	16.1%
Moderate	4.2%	4.1%	3.0%	5.3%
Severe	5.8%	6.9%	4.1%	7.5%

The rates of functional limitation are lowest for the frontier counties, reflecting a relatively healthy resident population. They are also highest for the Native American elders, where at each level of limitation, the rates were the highest discovered in the state. The growing population of elders residing on the states reservations present service needs that are likely to continue to grow.

Visual and Hearing Limitations

In the survey instrument questions were asked to discern whether people experienced blindness or had difficulties with their vision despite the use of corrective lenses. North Dakota respondents did have a slightly greater proportion than the nation indicating blindness in either one or both eyes, yet when responding to the question about trouble seeing even after corrective lenses were used, the proportion having difficulty was less (see Table 5). North Dakota's Native American elders were more likely than their national or state counterparts to have either blindness or trouble seeing after receiving corrective lenses.

Table 5. Visual and Hearing Problems: Statewide, ND Tribes and Nation.

	National	ND Statewide	ND Tribes
Blindness in one or both eyes	3.0%	4.4%	7.5%
Trouble seeing even with corrective lens	19.0%	11.2%	23.4%
Deafness in one or both ears	4.1%	11.8%	13.1%
Wears hearing aid	7.0%	6.6%	10.1%
Trouble hearing even with aid	23.0%	55.1%	10.2%

Hearing difficulties rendered a similar pattern in that the rate of deafness was higher in North Dakota than in the nation and was highest among the Native American elders. Hearing aid use did not follow this pattern as the use of such aids was slightly lower in the state than for the nation, but was higher for Native Americans. It is also of note that the use of hearing aids declined from urban to rural to frontier areas, suggesting that those in rural and frontier locations may experience the least access to speech and hearing clinics (see Appendix B for detailed comparisons). Finally, among those with hearing aids, it appears that substantially more North Dakotans with hearing aids have failed to achieve satisfaction after receiving the aids. Nearly twice as many North Dakotans continued to have trouble hearing after receiving hearing aids as did the nation. Satisfaction with hearing appeared highest among the Native Americans with hearing aids.

Health Risks

Health risk behaviors relate not only to present levels of chronic disease or disability, but also set the stage for future experiences. In this survey we examined a standard set of health

risks for which comparisons are available. Specifically, smoking, drinking, eating regular meals, exercise, weight levels and social involvement were examined in the survey.

Smoking. Smoking and exposure to second hand smoke is clearly linked with increased risks for a variety of chronic and acute disease. North Dakota's older citizens appeared to smoke at rates that were below the nation's norms for comparable age people. This is substantially the case for the general population and is also the case, albeit to a lesser degree, for the Native American elders. The prevalence of smoking also varies little across urban, rural and frontier locations. The low rate of smoking signals a positive foundation for one of the most significant health risk factors. The public health benefits of avoiding tobacco smoke is of course substantial and may be expected to pay dividends in the future by postponing and preventing diseases related to tobacco use.

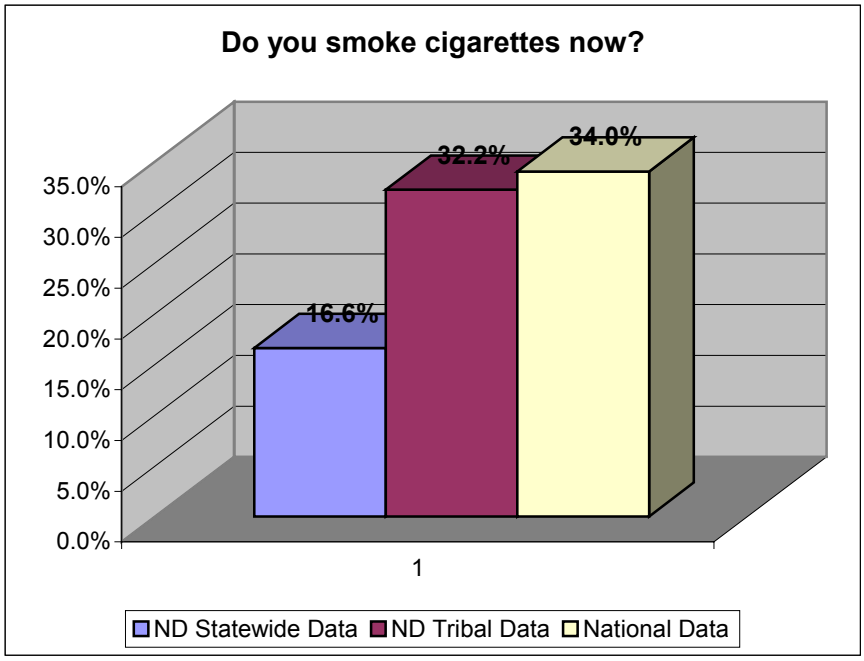


Figure 3 – Smoking Rates Age 55 and Over: Statewide, ND Tribes and Nation

Smokers also expose themselves to relative risks depending on the amount of smoking with heavy smoking clearly the most destructive to health. The data on smoking volumes are

found in Table 6. The greatest observed difference is that the North Dakota tribes, who reported higher numbers of smokers, and reported the lowest volume of cigarette consumption. This observation may be explained by ceremonial use of tobacco. One third of the state's Native American elders who reported themselves as smokers also reported that they smoke no cigarettes each day. Thus, the self report of smoking contained ceremonial use of tobacco and in fact, the Native American elders were not heavy consumers of cigarettes.

Table 6. Number of Cigarettes Per Day for Persons Age 55 and Over: Statewide, ND Tribes and Nation.

Number of Cigarettes/day	ND Statewide Data	ND Tribal Data	National Data
Less than 5	14.7%	53.4%	14.0%
6 to 10	20.2%	24.7%	25%
11 to 20	45%	17.4%	42%
21 to 30	10.9%	2.7%	10.0%
31 & over	9.2%	1.8%	10.0%

Comparisons by urban, rural and frontier counties indicated that rural and frontier respondents smoked quantities of cigarettes that were slightly higher than the urban respondents. The average for urban was 16.4 cigarettes per day, while the rural respondents smoked 18.2 on average and the frontier smokers smoked 17.9.

Smoking behavior is a complex issue, but an existing consensus suggests that it produces risks for increased illness and mortality levels. In the statewide data, when one examines smokers and the volume of smoking, there are significant relationships between smoking and age, gender and education. Increases in age or education produced reduced amounts of smoking.

Future cohorts of retirees will be better educated and a bi-product of this appears to be a reduced likelihood of smoking. Gender differences also exist. Women smoked less than men, with 13% of the women respondents smoking compared to 23.2% of the men. It may also be noteworthy that the gender difference is smaller among the younger cohorts. As women have increased their smoking over time, it has been among the younger cohorts and this will produce more smokers among women who retire in the future along with some increase in risks for chronic diseases. This may offset some of the improvements expected in people with higher educational levels. Age differences may be produced by reduced smoking among older people or reflect different smoking behaviors among generations. This is not discernable with these data, but the prospect of significant changes among future generations smoking does not appear great. Given the public health awareness of smoking issues, it is likely that over time the volume of smokers and smoking among smokers will decrease. Fortunately, this does not present any negative growth in future health outcomes as a result of this risk factor. This is not to say that the need for continued and improved efforts to curtail smoking aren't needed, but rather that we see no particular pattern that suggests a surge or decline in smoking for future generations as they become old.

Finally, smoking among the Native American elders appeared to be exaggerated by the presence of people who smoke for ceremonial purposes, but do not smoke cigarettes. There are some features that merit special considerations for this population. When education is examined in relation to smoking among the tribe's data, there is no relationship. Normally, when the educational level of a population increases, smoking decreases. Our data suggest that using education as a general vehicle for smoking reduction may not produce results for Native Americans, in part because some of the smoking is ceremonial. Smoking reduction efforts for

this group should be fostered from within in order to accommodate subtle cultural differences in the view of smoking and tobacco.

Alcohol

Two questions were employed to examine the extent of alcohol consumption in both the statewide survey and North Dakota's tribal populations. The first question dealt with the length of time since one's last alcoholic beverage. This item identified non-drinkers, drinkers with a long period of abstinence and those with a history of recent consumption.

Table 7. Time Since Last Alcoholic Drink for Persons Age 55 and Over: Statewide, ND Tribes and Nation.

Time since last drink	ND Statewide Data	ND Tribal Data	National Data
Never had a drink in one's life	13.8%	11.4%	0.3%
More than 3 years	22.9%	56.8%	29.7%
30 days to 3 years	22.8%	14.3%	20.4%
Within 30 days	40.4%	17.5%	49.5%

North Dakotans appeared more likely to report lifelong abstention than the nation. This is true for both the statewide survey respondents and the tribal respondents as shown in Table 6. In these two samples of people age 55 and over, there were substantially more reporting that they had never had a drink than was found for the nation. Persons who were not lifelong abstainers, but had not had a drink in more than three years reflects a second level of abstinence. This category includes those who have stopped drinking. The North Dakota Native American elders had an unusually large proportion in that category, reflecting a strong measure of conscious alcohol avoidance. We interpret this as evidence of positive behavior regarding this risk factor.

Consistent with high proportion of respondents who had either never consumed alcohol or had not consumed alcohol recently is the observation that among North Dakota's Native American elders, there is a low rate of consumption for recent time periods.

Comparisons among urban, rural and frontier counties did not exhibit dramatic differences (see Table 8). Members of the rural and frontier populations are only slightly more likely than urban people to be life-long or recent abstainers and are only slightly less likely to have recently consumed alcohol.

Table 8. Time Since Last Alcoholic Drink for Persons Age 50 and Over: Urban, Rural and Frontier.

Time since last drink	Urban	Rural	Frontier
Never had a drink in one's life	14.7%	13.2%	13.6%
More than 3 years	20.9%	22.8%	24.8%
30 days to 3 years	20.7%	23.4%	24.2%
Within 30 days	43.6%	40.7%	37.1%

The second alcohol item dealt with binge drinking among those who do consume alcohol, defined as having five or more drinks on the same occasion. Using this operational definition of binge drinking, North Dakotans did not fare as well as the nation (see Table 9). Only 7.5% of the nation's consuming population ages 55 and over who drink indicated that they had one or more days of binge drinking in the past 30 days. This compares with 21.6% of the statewide respondents and 60.3% of the tribal population 55 and over. This leads to a conclusion that among those for whom alcohol consumption is present, North Dakota and especially North Dakota tribal elders have a high rate of heavy drinking.

Table 9. Binge Drinking in Past 30 Days for Persons Age 55 and Over: Statewide, ND Tribes and Nation.

Number of days with 5 or more drinks	ND Statewide Data	ND Tribal Data	National Data
None	78.4%	39.7%	92.5%
1 or 2 days	12.5%	36.8%	3.7%
3 to 5 days	5.9%	7.4%	2.0%
6 or more days	3.2%	16.2%	1.9%

The findings regarding differences in binge drinking between urban, rural and frontier counties are presented in Table 10. While the patterns are not dramatic, rural populations appeared to be more at risk for heavy drinking and the data indicated that the rural category has the greatest proportion of people engaging in some level of binge drinking. Frontier respondents exhibited less binge drinking than other rural respondents, but more than the urban.

Table 10. Binge Drinking in Past 30 Days for Age 50 and Over: Urban, Rural and Frontier

Number of days with 5 or more drinks	Urban	Rural	Frontier
None	82.6%	71.3%	79.1%
1 or 2 days	10.6%	16.4%	11.8%
3 to 5 days	4.3%	9.4%	5.0%
6 or more days	2.6%	2.9%	4.1%

Age differences were examined to determine whether any suggestion of increases or decreases in binge drinking is likely in future cohorts of elders. While cross sectional data can only offer limited suggestions regarding this issue, there is some comfort to be derived from

examining the influence of age. The North Dakota Native American elders were examined using a dichotomy, those under age 65 and those 65 and over. This comparison exhibited a significant difference in the proportion with no occasions of binge drinking in the past 30 days. The proportions for the two age groups were 31.3% and 47.1% respectively. Alternative interpretations of this finding are difficult to resolve without longitudinal data. One might expect future cohorts of elders to carry with them patterns of heavier drinking since the age comparisons demonstrated heavier drinking among the under 65 cohort. Alternatively, the amount of alcohol abuse may decrease with age as result of selective survival or people simply growing out of the behavior with age. The evidence of large numbers who report a pattern of recent abstention is encouraging and provides a basis for promoting a social norm supporting abstinence.

Similarly, the statewide data for the general population found a slight general trend toward less binge drinking with increasing age. A majority of the respondents did not report binge drinking at all ages and this majority generally increased with each age category. One exception is the 55-59 age category where the number engaged in binge drinking increases and frequent heavy alcohol use is greater. Since this is contrary to the general trend, one must be alert to the possibility of increased alcohol related issues for this age cohort. It may reflect greater acceptance of drinking among those who reached adulthood in the early 1960s. A second observation of note is an observation of increased high frequency binge drinking reported by the older age groups. Persons who binge on more than 20% of the days would appear to have a severe alcohol use problem. Each age cohort produced a higher proportion of this frequent binge drinking until the 70 and over cohort. One interpretation for this phenomenon is that a progressive increase in alcohol abuse may be a reaction to late life stressors and signify a pattern

of age related dependency. In any event, there is evidence of a need to promote a healthier approach to alcohol among some mature adults.

Table 11. Statewide Binge Drinking by Age Group.

Number of days with 5 or more drinks	50 to 54	55 to 59	60 to 64	65 to 69	70 and over
None	73.3%	68.8%	84.2%	82.9%	89.8%
1 or 2 days	16.7%	20.8%	7.9%	5.3%	6.6%
3 to 5 days	7.2%	7.2%	3.4%	6.6%	2.2%
6 or more days	2.8%	3.2%	4.5%	5.3%	1.5%

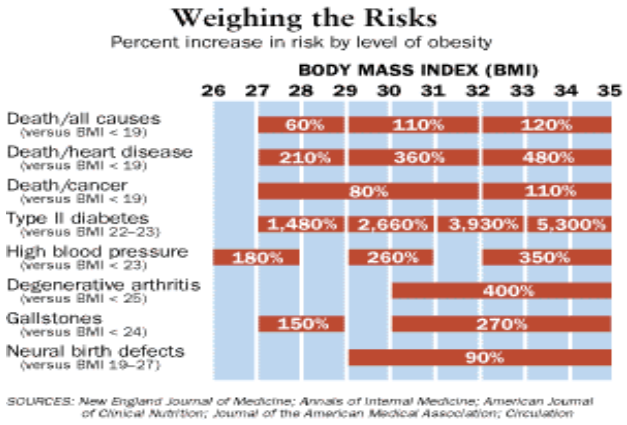
P<.05, G -.26

Nutrition. Nutritional adequacy was addressed using a single item as representative of whether one ate regular meals. This item on breakfast was taken from the National Health and Nutrition Survey to serve as a proxy item for this area. Eating a regular breakfast in this context is considered a positive health behavior and indicative of positive dietary behavior in general. Nationally, 77% reported eating breakfast every day. In North Dakota the statewide proportion was 77.9%, and differences between North Dakota and the national benchmark were small. The North Dakota tribes reported fewer eating breakfast daily (68.7%). The nation, state and tribes appeared quite similar in the proportions eating breakfast rarely or never.

Similar comparisons between urban, rural and frontier counties did not yield statistically significant differences. There was, however, a pattern of change over age. The youngest cohort had the least regular pattern of eating breakfast and regularity in eating breakfast increased with age growing from 61.4% to 91%. This may reflect success in educating the public and a shift in the perception of importance attached to diet over the life cycle. The overall result of this

interpretation is that one would not predict future changes in nutritional adequacy assuming that this indicator accurately reflects nutritional adequacy.

Overweight/Obesity. Body Mass Index (BMI) scores were calculated for the respondents on the statewide survey and the survey of the North Dakota tribes. Computing one's BMI is accomplished using the following formula: BMI =Weight in kilograms ÷ [Height in meters]^2. A table indicating coordinates for height and weight is provided in the appendices for use as a reference point. Issues of weight are considered important both as direct predictors of disability and indirectly, as predictors of chronic diseases that eventually lead to disability. According to the Centers for Disease Control (CDC), a healthy BMI for adults is between 18.5 and 24.9. The definition of BMI categories employs the effect body weight has on disease and death. They further state "A high BMI is predictive of death from cardiovascular disease. Diabetes, cancer, high blood pressure and osteoarthritis are also common consequences of overweight and obesity in adults. Obesity itself is a strong risk factor for premature death". While many object to the relatively stringent definition of overweight as including those with a BMI of 25 or greater, empirical evidence establishes this as the point at which health risks begin to accelerate. People are considered obese when their BMI is 30 or above. The inserted graphic inserted documents the degree to which this factor produces an influence on a variety of health risks.



If one accepts the goal of avoiding overweight or obesity and uses the national norms as a basis for comparison, the statewide data produce an undesirable result. A classification recommended by CDC uses the following. Persons with a BMI of under 18.5 are considered underweight. Those between 18.5 and 24.9 are considered normal. Between 25 and 29.9 people are considered overweight and 30 and above constitutes obesity. Nationally, 35% of the people over 55 years of age are classified as overweight and an additional 18% are considered obese. North Dakota's respondents over 55 years of age produced 40.7% overweight with an additional 24.5% obese. Less than one percent of the states respondents were underweight. These suggest substantially greater risks due to weight in North Dakota's mature adults. The statewide survey respondents produced no significant difference between age groups in terms of the levels of BMI. Consequently, we should not expect this to become of greater concern in the future, but should remain alert to the presence of a significant contributor to late life limitations in activity.

Data reflecting the North Dakota tribal elders also demonstrated relatively high proportions in the overweight and obese categories. The proportion in the obese category for this population was very high (39%) compared to the 24.5% for the state and 18% for the nation. A significant difference did exist by age groups for the Native American population with people under age 65 reporting an average BMI of 29 compared with 27.5 for those 65 years of age and

over. This suggests a great need for nutritional programs, exercise and weight control for the adult population living on North Dakota reservations. It also suggests that issues related to overweight are likely to increase as a heavier cohort reaches retirement age.

Comparisons by urban, rural and frontier suggested that adults in rural North Dakota are slightly more likely to be overweight or obese than their urban counterparts. Those with BMI scores in the obese or overweight ranges were highest in frontier counties, with rural counties also being higher than urban. Frontier counties have 72.4% of their respondents in the overweight and obese range. Other rural counties have 68.5% overweight or obese and the urban counties have 62.7%. Again, no consistent pattern by age was found for this issue. These findings reinforce the need for nutritional counseling, weight control and exercise throughout the state.

Exercise. The benefits of exercise in all likelihood need no elaboration in this document. Exercise assists us in maintaining our strength, range of motion, cardiovascular fitness, glucose tolerance, and extends into mental health as a stress management tool. Suffice it to say that exercise is a pivotal aspect of wellness, yet one that is irregularly attended by many in our society. In the surveys reported here, a set of items including common modes for obtaining exercise were presented to the respondents with an opportunity for them to check each that the respondents engaged in one or more times a week. Each of these can be examined individually or in terms of some classification. We also combined the exercise list into a count that reflected the number of exercise activities engaged in by the respondents.

The comparisons between national norms, the statewide survey and North Dakota tribal data for specific exercises are in Table 12. Exercise rates are higher for the North Dakota's general population for most of the listed activities. They are lower only for swimming and other

dancing (including square dancing, swing etc). The item reflecting hard physical work was unique to the statewide survey. These findings bode well for the state.

Table 12. Exercise Rates for Persons Age 55 and Over: Statewide, ND Tribes and Nation.

Exercise	ND Statewide Data	ND Tribal Data	National
Walk a mile or more at a time w/out stopping	40.8%	24.8%	37.2%
Jog or run	4.3%	1.4%	3.9%
Ride a bicycle or exercise bicycle	17.6%	6.1%	11.7%
Swim	3.1%	0.0%	4.1%
Aerobics or aerobic dancing	7.1%	1.0%	2.8%
Other dancing	5.5%	3.9%	8.1%
Calisthenics	18.9%	13.6%	14.8%
Garden or yard work	49.7%	30.9%	46.0%
Lift weights	8.1%	6.1%	4.0%
Hard physical work for one hour or more	22.7%	NA	NA

The comparison with the North Dakota tribal data produced the opposite picture, with the tribes' elders exercising less than the national norms on all indicators except lifting weights. One account for this difference has to do with access to facilities. Many of the exercise activities are dependent on access to designated space and/or facilities and these forms of exercise are clearly less often used by the Native American population. Particularly striking is the total absence of water based exercise which is, of course, dependent on access to swimming pools or lakes. The absence of this item reflects an access problem, yet the Arthritis Foundation recommends water based exercise for older people, particularly those with arthritis in order to reduce the load on

large joints. Similarly access to indoor opportunities for walking programs, especially during the harsh winters is needed to promote walking as an exercise form and this too needs appropriate space.

A count of the exercise activities (excluding the item reflecting hard work) indicates the overall level of exercise and provides a basis for comparison with national norms. The results comparing the state and North Dakota Tribes with the nation are in Table 13. The nation has become more sedentary than populations of our state, with the state's general population much less likely to have no activities and also much more likely to have several exercise activities. The reservation populations are also engaged in more exercise activities than the nation, but substantially less than other areas of the state. This may be due in art to differences in access. It was noted earlier that those exercise activities that are facility dependent or that require organized programs are less accessible to some people is some locations. The lower amount of exercise may also be partially a consequence of higher levels of physical limitation with Native Americans experiencing chronic diseases and activity limitations at earlier ages than the balance of the population. While we can be gratified that all North Dakota populations were more active than national norms, we continue to have room for improvement, especially in meeting the needs of reservations.

Table 13. umber of Exercises for Persons Age 55 and Over: Statewide, ND Tribes and Nation.

Number of Exercises	Statewide Data	ND Tribal Data	National
None	24.7%	48.8	58.9%
1	32.0%	26.6%	37.0%
2	23.0%	15.4%	3.7%
3 or more	20.1%	9.1%	.3%

Comparisons of urban, rural and frontier counties did not produce significant differences in the number of exercise activities. It is important to observe, however, that between ¼ and ½ of our population over age 55 did not engage in any regular activities. Although the comparisons are gratifying, the overall rate of non-participation is still very high and impedes the public health.

Finally, patterns of exercise reflect reduced activity as a function of weight. The number of exercise activities diminishes as weight classes increase, with the obese reporting the least amount of exercise. This presents a paradox in that the greatest need for exercise in order to manage or lose weight and to counter the adverse effects of weight is among the overweight and obese and yet, their obesity inhibits exercise. The task of designing and encouraging appropriate exercise programs for people fitting this profile is great.

Social Involvement. Social involvement is included in this study as an essential element of well being. People who are socially integrated are likely to have a more positive outlook on life and their involvement provides an incentive to remain active. Logically, such involvement leads to better health and greater independence. The measures of social involvement used in this

study were indicators of attendance at church or religious services and a combination of membership and participation in clubs and organizations.

Attendance at church or religious services is relatively high in North Dakota as 52.2% of the respondents in the statewide survey reported attending church once a week. This compares with 36% nationally and indicates a high measure of social involvement through religious institutions for our state. The definition includes sweats and ceremonies when applied to the Native American elders and they also reported relatively high levels of participation. The rate of weekly participation for the North Dakota tribe's elders was the highest among all comparisons as 59.6% reported engaging in weekly attendance.

Church attendance also appears to increase among people in more sparsely populated areas. Attendance at church was reported by 50.6% of the urban respondents, 51.8% of the rural respondents, and 54.9% of the frontier respondents. While this reinforces a stereotype of rural morality, it is significant for our purposes because of the level of social involvement. North Dakotan's are substantially involved with religious organizations.

Membership and participation in clubs and organizations also signifies active involvement on the part of people. Two questions establish the extent to which people have memberships and are actively involved in clubs and organizations. First, we examined whether our populations were active in joining clubs and organizations. Nationally, 35% join organizations. In North Dakota the rate of memberships was greater with 59.9% of the statewide respondents 55 years of age and over reporting that they belong to one or more clubs or organizations. The Native American elders reported a rate for joining of 40.9% - also higher than the national average, but lower than the statewide data.

Among those who report joining clubs or organizations North Dakota respondents from the statewide survey were more likely to limit memberships to one, two or three organizations the nation's total population of joiners appeared to opt for multiple memberships. This was also true for the North Dakota tribal sample where 93.7% were involved in 3 or fewer organizations.

Table 14. Number of Memberships Among Joiners for Persons Age 55 and Over: Statewide, ND Tribes and Nation.

Number of clubs	ND Statewide Data	ND Tribal Data	National
1	29.5%	69.8%	21.0%
2	30.3%	15.7%	9.0%
3	18.8%	8.2%	27.0%
4	9.8%	1.9%	17.0%
5 or more	11.6%	4.4%	26%

When the item reflecting memberships was combined with a question reflecting frequency of attendance, it becomes evident that although the North Dakota samples were all inclined to join fewer organizations, they are more likely to be active in those they do join. Nationally, 90.9% of those who join clubs and organizations reported no participation. Comparable numbers for the statewide and tribal data were 49.3% and 69.9% respectively. Differences by urban, rural and frontier residence were not statistically significant.

The value of this information is that we have an active population when it comes to being involved in church and organizational activities. This active base serves those who participate by promoting socially active lifestyles which in turn keep people both active and independent. It also provides a social base from which to promote activity. Building increased social

involvement would clearly be easier from a foundation in which a substantial number of the community is already involved.

Overall, the question as to whether North Dakota's older population contains either healthy or unhealthy practices or characteristics that would impact future long-term care needs is mixed. The importance of smoking, alcohol abuse, overweight, diet, exercise and social integration are certainly not uniform, yet no statistical algorithm is available to weight the relative importance of each. Health promotion and wellness activities are important in response to each and all of these risk factors. Smoking did appear in this cross sectional data to taper with age, but many of the health consequences are established by smoking at earlier ages. So also is the case with alcohol. Even a small percentage of the population with alcohol dependency produces a large volume of human suffering. While we expect fewer people to drink in the older cohorts, we also find a significant increase in intense binge drinking among the drinkers of these older cohorts. This would appear to command attention, both intervention and prevention targeted at mature citizens. The risk factor that yields the largest difference between our state and the nation is with the amount of overweight and obesity. North Dakota has a very high proportion of its population with weight beyond recommended levels. This leads to increased prospects for chronic diseases such as diabetes, heart disease and osteoarthritis. Part of any statewide wellness effort would clearly benefit by strong attention to diet, weight and exercise. While each of these may be addressed independently, they operate in unison to produce adverse health outcomes.

Household Characteristics

Household size is an important characteristic of one's household. Living alone in later life creates a unique context when it comes to adapting to functional limitations and the need for

assistance. Comparing the household sizes for the North Dakota statewide population with the tribal respondents reveals significant differences. In North Dakota, the general population over age 55 had an average household size of 1.82 persons. The tribe's population over age 55 reported households with 2.79 persons on average, substantially larger households than the general population. Further evidence of this is presented in Table 15. The proportion of households that are single person households is substantially less in the reservation communities, while the proportion with 3 or more persons is over four times as great for the North Dakota tribes.

The significance of household size can be appreciated when informal caregiving is considered. Those living alone are handicapped by not having another member of their household to rely on for informal care, while those living in larger or extended households have an advantage with access to a help.

Table 15. Household Size Characteristics for Statewide and ND Tribes.

	ND Statewide Data	ND Tribal Data
Mean household size	1.82 persons	2.79 persons
Proportion with 1 person	33.6%	21.9%
Proportion with 2 persons	57.9%	32.4%
Proportion with 3 or more persons	8.5%	45.7%

The influence of age on household size is significant and in order to account for the influence of age, age specific comparisons of the state's general population with the tribe's data were developed. As evidenced in Table 15, the differences in household size declined with age. The difference for those 55 to 64 years of age was 1.13 persons on average. This is a huge

difference and while the difference dropped to an average difference of .76 persons per household for those 75 and over, this is still a very large difference. Clearly, the Native American elders were more likely to live in households with extended family present. This can be a source of strength when incorporating informal caregivers into the state's system of long-term care.

Table 16. Household Size for Persons 50 and Over by Age.

	50-54	55-59	60-64	65-69	70-74	75 & up
Mean Household Size	2.35	2.08	1.93	1.82	1.81	1.50
Proportion with 1 person	13.4%	19.3%	18.9%	30.9%	31.6%	59.9%
Proportion with 2 persons	54.8%	63.3%	75.1%	62.4%	58.2%	37.0%
Proportion with 3 or more persons	27.8%	17.4%	7.0%	6.9%	10.2%	3.4%

North Dakotans in both the statewide survey and the survey of tribal elders tended to be geographically stable, with the majority of respondents age 55 and over having lived at their present address for over 20 years. The length of current residence also increased among the rural and frontier populations. Indeed, the longest residential tenure is found in the frontier counties where 61.4% of the respondents lived at their present address for over 20 years. The shortest residential tenure was found in the urban counties.

Respondents were also asked how likely it was that they would move in the next 10 years. The results are in Table 17. Residents of North Dakota's sparsely populated frontier counties were the least likely to express an intent to move. The urban population was the most likely to move. It appears that rural people were the most committed to aging in place and that if they eventually were required to move, it would likely be against their wishes. Further evidence of this desire to remain in their communities was found in the observation that an inverse

relationship existed between age and the likelihood of moving. Consistent with demographers' observations that migration decreases with age following peak migration occurring in young adulthood, the anticipation of moving declined with age and the least likely to anticipate moving were those in the oldest age cohorts. When one examines the population structure of frontier counties, the evidence is clear showing that the younger cohorts have been leaving and that over time this has prepared a foundation for limiting access to informal caregiving. The available caregivers are simply no longer locally available to the extent they once were. An expectation exists that older residents will follow their children and also leave the sparsely populated rural counties. This however, does not appear supported and even among the frontier counties, the oldest cohorts are the most committed to aging in place and resistant to moving. Additionally, among those who indicated that they either might or would move, the dominant location designated for those over age 65 was within the present community and the proportion indicating that they would be likely to move within their present community increased with age. Finally, levels of functional limitation were cross-tabulated with the likelihood of moving and no significant relationship was observed. Evidently, even those beginning to experience functional limitations do not see moving as a solution to their problems and are committed to staying.

Table 17. Likelihood of Moving in Next 10 Years for Persons Age 50 and Over: Urban, Rural and Frontier.

	Urban	Rural	Frontier
Unlikely	62.2%	70.3%	74.1%
May move within present community	14.5%	11.2%	6.7%
May move to another community	10.3%	9.4%	12.5%
Will definitely move with present community	7.2%	4.4%	1.9%
Will definitely move to another community	5.8%	4.7%	4.8%

Family Dimensions

Living alone may contribute to one's need for formal assistance when functional limitations arise. The surveys conducted in North Dakota asked people about the composition of their households using similar questions. We compared the statewide sample to the sample taken from North Dakota tribes using categories for living with family members, living with non-family members, living with both family and non-family and living alone (see Table 18). Significant differences were observed between the general population and the tribal data for those living alone ore living with family. Those living with family included living with spouse, parent, brother, sister and/or children. Elders in the general population were more likely to live alone and correspondingly less likely to live with family members. This difference was substantial and would affect the efficiency of relying on programs such as a family caregiving program.

Table 18. Household Composition for Persons Age 50 and Over: ND Statewide and ND Tribes.

	ND Statewide Data	ND Tribal Data
Live with family	63.5%	72.4%
Live with non-family	2.8%	2.8%
Live with both family and non family	2.0%	1.1%
Live alone	31.7%	23.7%

Family composition was queried in greater detail for the North Dakota statewide survey. Respondents were asked how many living relatives they had in each of the following categories: sons, daughters, brothers, sisters, and parents. Children and siblings constitute a pool of

prospective family caregivers. Parents in a sample of people age 50 and above would more likely constitute the group in need of care.

It is interesting to note that the average number of living siblings for those over age 50 was greater than the average number of children (3.14 compared to 2.92). While the difference was not great, it does reflect the smaller family sizes resulting from the long-term fertility decline. These smaller numbers of children, in turn, have the caregiving task for a parent generation that is experiencing significantly increased life expectancies.

The question as to how urban, rural and frontier counties compare with respect to the mean numbers of children and siblings is presented in Table 18. The average number of children was smaller in each category, but that the average did increase as one moves from urban to frontier. The differences were not great.

The average number of siblings also increased as population size and density decreased, but the differences were small and of little consequence. Overall, the influence of population size and density on the availability of living children and siblings was small and not likely to have an impact on informal caregiving. Since spouses and children are the most likely caregivers for the frail old, the availability of living children is a legitimate concern. Our data suggest that in terms of living persons, there are only slightly more informal caregivers available for residents of rural and frontier areas.

Table 19. Average Number of Living Children and Siblings: Urban, Rural and Frontier.

	Average # of living children	Average # of living siblings
Urban	2.81	3.38
Rural	3.09	3.52
Frontier	3.22	3.58

If we shift our attention to the local presence of potential caregivers, the question of how many of these relatives live nearby becomes important. The average total number of living relatives was 6.95 persons. Using a traveling distance of one hours travel time, the average number of available family was reduced to 2.35. Less than half of the relatives lived sufficiently close to participate substantially in family caregiving relationships. Further, the number of available family does not vary significantly by location.

Restricting the analysis to those over 75 years of age, the availability of family declined predictably. The average number of available family for this age group is 2.01 and this average is least for the most isolated frontier residents where the average is 1.78. This may be interpreted as evidence of North Dakota's loss of younger people through out migration and as evidence that the portion of the population with least access to formal services also has the least access to informal caregivers from within the family.

Housing Adequacy

In order to determine the adequacy of housing when faced with a contingency of becoming disabled, a question regarding how adequate one's home would be should a member of the household become disabled. The majority of North Dakota homes for the 50 and over population would not be adequate for a disabled person without at least some modification. Only 35% indicated their homes would be adequate as is and 20.6% rated their homes as inadequate. The remaining 44.4% indicated that their homes would be adequate with modifications. This pattern did not vary across when comparing urban, rural and frontier counties and suggests that efforts to enhance home and community based services or to increase and support family caregiving will require significant attention to housing as well.

Informal Caregiving

"The major long-term care provider is the family and, to a lesser extent, other unpaid "informal" caregivers" (Stone, 2000). This observation of the importance of informal care is both critical and complex. Recent attention to family care providers by the Administration on Aging (AoA) has elevated the visibility of informal care. It has also promoted attention to the need for support services for these care providers. In the statewide survey, two questions were addressed regarding informal care. The first question dealt with whether the respondent was either receiving assistance from or providing assistance to family members with activities of daily living (ADLs). ADLs reflect personal care and include items such as bathing, dressing, eating, walking, getting in and out of bed and using the toilet. The second items were broader and asked whether anyone in their household was serving as either an informal caregiver or a senior caregiver. Definitions of each were read to the respondents with informal care reflecting providing assistance to someone over age 60 and including a broad range of assistance, extending to Instrumental Activities of Daily Living (IADLs) with activities such as transportation, cooking, cleaning and such. Senior caregiving referred to a person over age 60 living with and providing care to a grandchild or young person under the age of 18 as the primary caregiver.

Overall, 5.9% of the respondents indicated that they were providing or receiving care from family members. The distribution for urban, rural and frontier is presented in Table 19. The rate of family caregiving was slightly higher in the frontier counties where 6.9% reported that they were in family caregiving relationships. The frontier counties were both more likely to provide and receive assistance from family caregivers. This probably reflects the scarcity of services as well as a strong value on familism.

Table 20. Proportion Providing or Receiving Help from Family with ADLs for Persons Age 50 and Over: Urban, Rural and Frontier.

Providing or receiving help for ADLs	Urban	Rural	Frontier
None	94.6%	94.7%	93.2%
Providing help	3.4%	3.0%	4.0%
Receiving help	2.0%	2.0%	2.2%
Both providing and receiving help	0%	.3%	.7%

Family caregiving was assessed in relation to the ADL needs and these caregivers are the most likely to be targeted for supportive services. Those providing family care can be described with the following thumbnail sketch. They are largely without serious functional limitations themselves, but 10.6% of them reported two or more ADL limitations. This suggests that, among family caregivers, there is a number who are themselves quite limited. With spouses the most common caregivers, one would expect that some of the caregivers themselves are in need of care. The family caregivers were also likely to be women (75.4%), under age 65 (71.4%), and relatively affluent with 52% of the incomes above $25,000.

The recipients of family care were also predominantly female (75%) and presented an age distribution that was older than the recipients, but that was also spread over the entire age range (50 and over). They were also less affluent as the majority (52.4%) reported incomes of less than $15,000.

If we shift our attention from family caregiving with ADL needs to the broader category of informal caregiving and needs expanded to include IADLs, the proportion of the respondents engaged in informal caregiving increases to 10.3% and did not vary significantly by location.

Similarly, senior caregivers occurred at a rate of 3.2% among the respondents and again, this did not vary by location.

Access to and Use of Formal Services

Formal services were examined both in terms of local availability and use. The first issue of local availability relies on the respondent to recognize the various services as being part of the array of services provided locally. In rural areas, some services may reach only part of the population, while in others the population may not have uniform awareness. For example, the availability of services to those who reside in the open country is often limited. Programs that take services to people, such as transportation, meals on wheels, personal care and such become difficult to offer to all residents of a county when they are so geographically dispersed. All services were reportedly less available to those living on farms and ranches and a minority of the respondents living in the open country reported finding most services available. Only home health and physical were reported locally available to over 50% of the respondents living in the open country.

The availability of services is reflected in Table 21 and clearly demonstrates a reduction in availability as people live in more remote rural places. The drop is particularly dramatic when one looks to the sparsely populated frontier counties. In these counties many services were not available to the majority of their residents. Indeed, developing access to programs that are becoming part of our national standard may represent one of the greatest challenges facing our rural state. Many of the programs require direct personal caregiving and need to be configured to become more widely available. Housekeeping, chore services, meals programs, respite care, personal care, and many aspects of home health services would appear to require hands-on service and local providers. Others may be accommodated with a more centralized model and

may capitalize on electronic presence or regional distribution of services. Programs such as the PACE (Programs for All-inclusive Care for the Elderly) program contain a requirement of availability for an inclusive list of services, but have indicated a willingness to permit creative methods that include electronic participation for some services under CMS waivers. This will clearly be important when building service models for the most sparsely populated rural places.

Table 21. Proportions Indicating Availability for Services for Persons Age 50 and Over: Urban, Rural, and Frontier.

Type of Service	Urban	Rural	Frontier
Housekeeping	73.1%	64.8%	64.3%
Chore Services	73.9%	62.3%	59.1%
Transportation	81.1%	57.3%	51.2%
Meals on Wheels	78.7%	62.5%	57.6%
Congregate Meals	65.9%	56.6%	53.5%
Dietary Counseling	72.1%	55.6%	49.5%
Respite Care	65.9%	52.6%	39.3%
Personal Care	67.9%	53.6%	47.0%
Home Health	78.2%	70.1%	62.2%
Physical Therapy	79.6%	70.4%	59.7%
Occupational Therapy	71.9%	56.3%	45.3%
Medical Equipment	72.7%	56.3%	49.8%
Home Modifications	69.5%	50.9%	44.0%

While availability for a comprehensive array of services is a critical issue for long-term care, the use of services also represents an important consideration. Simply creating organizations that make services available to people does not spontaneously generate use. In order to assess the rate of use for each service, the respondents who exhibited some level of functional limitation were selected for analysis. This means that only people with some measure of activity limitation and who would need some help are included in this analysis. On a service by service basis, each service was examined to determine what proportion of those with functional limitations and who had also indicated that services were available actually used the services. Table 22 contains the

results. The range reported for use was from 2.5% to 36.1% suggesting that use among those with general levels of need is not high.

Table 22. Rates of use for Services for the Functionally Limited When Services are Available.

Type of Service	Some level of Functional Limitation	Functional Limitations Moderate/Severe
Housekeeping	27.8%	27.6%
Chore Services	27.1%	27.8%
Transportation	36.1%	36.9%
Meals on Wheels	15.7%	12.0%
Congregate Meals	30.8%	31.9%
Dietary Counseling	10.9%	9.0%
Respite Care	2.5%	1.8%
Personal Care	9.6%	14.9%
Home Health	13.8%	21.0%
Physical Therapy	14.5%	18.4%
Occupational Therapy	6.3%	7.4%
Medical Equipment	20.8%	31.4%
Home Modifications	26.9%	34.4%

When the level of functional limitation was further restricted to include only those who exhibited moderate or severe limitations, the proportions using each service did not increase dramatically and actually decreased for four of the services. One would expect home delivered meals to experience a higher rate of use among the more severely limited and for congregate meal use to decline. Meals on wheels was not used more by the more severely disabled. Respite care also dropped slightly for the moderately and severely limited from the already low rate for all functionally limited.

Questions remain regarding factors that promote or discourage the use of formal services. For example, family caregiving is often presented as an alternative to formal care whereby the family provides informal care and may receive some training and/or support services. Family caregiving is most likely considered a tool for providing care to frail elders through no or low cost providers as a sort of substitution for formal, paid caregivers. However, according to the statewide

survey, use of formal services actually increased among those who were receiving informal care or family assistance with ADLs. The average number of services was lower among the functionally limited who were not receiving family or informal care. This pattern was sustained when the level of functional limitation employed a more restrictive definition, using only moderate or severe limitations. The mean number of services used either remained constant or increased when informal or family caregivers were utilized. It is likely that these caregivers promote increased contact with aging services and encourage use.

Locally Available Health and Residential Care

A question asking whether an array of health and residential care facilities or services were present establishes an image of the relative completeness of the health care delivery system. The data were organized on a county basis, so those counties classified as urban also contain rural components, but in close proximity to urban services. This may account for some of the small percentage not claiming services like hospitals. They were not local to the rural respondents from urban counties. Table 23 contains the results of a comparison on that item for urban, rural and frontier counties. Clearly, all services are less often locally available in the smaller rural and frontier counties. Each is part of an essential array of services required to meet the full range of health care needs for the elderly.

Table 23. Availability of Health and Residential Care for Persons Age 50 and Over: Urban, Rural, and Frontier.

	Urban	Rural	Frontier
Hospital	96.3%	83.0%	67.0%
Basic Care Home	86.3%	67.5%	64.7%
Nursing Home	93.3%	83.5%	78.4%
Assisted Living	88.8%	71.6%	64.5%
Clinic	95.1%	85.9%	85.1%
Pharmacy	95.9%	86.6%	85.1%
Dentist	91.1%	79.7%	70.3%

Contingencies and Acceptance of Care

Each respondent was asked to indicate the types of care they would be willing to accept in the event they became unable to meet their own needs at some point in their lives. Table 24 contains the results, comparing urban, rural and frontier residents. The rates of acceptance under this contingency were generally high and the slight variation did not consistently place one or the other type of residence as the most or least accepting.

Table 24. Willingness to Use Service if Unable to Meet Own Needs for Persons Age 50 and Over: Urban, Rural, and Frontier.

	Urban	Rural	Frontier
Family Caregivers	75.7%	74.7%	74.2%
Assisted Living	83.4%	86.0%	84.0%
Basic Care Facility	78.3%	83.9%	80.3%
Nursing Home	74.7%	77.7%	77.3%
Housekeeping	80.2%	87.4%	85.6%
Chore Services	81.0%	84.0%	82.8%
Transportation	83.9%	84.0%	82.8%
Meals on Wheels	77.7%	83.9%	81.7%
Congregate Meals	72.7%	76.7%	78.2%
Respite Care	72.7%	78.6%	79.0%
Personal Care	78.3%	82.4%	81.0%
Home Health	67.3%	76.1%	82.0%

Following a question about the influence of age on the acceptance of services or the types of services acceptable to the younger, better educated and more affluent cohorts who will be tomorrows' frail old, there was a statistically significant pattern with the younger cohorts exhibiting greater acceptance for formal care services. While our data do not permit us to address the expected content of such services, it did appear that future cohorts will bring to their frail years a greater attitude of acceptance for formal, funded long-term care services. This acceptance declined modestly with age and one unique cohort cerates an exception. The cohort 70 to 74 years

of age, consistently produced a high level of acceptance that would not have been predicted by a linear trend. This cohort would have experienced childhood during the depression and witnessed the unique events of the depression and recovery. Perhaps this influenced their perception, creating a greater acceptance of government's responsibilities for human services. In any event, the next cohort to enter the age of increased risk for chronic disease and functional limitation is likely to have a relatively high level of acceptance for formal service and this could translate into higher levels of participation.

Preparation for Future

The respondents were asked about three forms of preparation for any possible future long-term care needs for themselves. Had they purchased nursing home insurance, arranged durable power of attorney or prepared a living will? Table 25 contains their responses. Acquiring nursing home insurance was quite popular with nearly 1/4 of the respondents having done so. This did not vary significantly by location. Durable power of attorney was also very popular, with slightly more urban residents having executed a durable power of attorney, but more than 1/3 in each type of location having done so. The living will was also uniformly popular with approximately 40% of the people over age 50 having prepared a living will.

Table 25. Preparation for Future Long-Term Care by Persons Age 50 and Over: Urban, Rural, and Frontier.

	Urban	Rural	Frontier
Purchased Nursing Home Insurance	26.3%	22.4%	27.7%
Durable Power of Attorney	45.3%	38.3%	35%
Prepared a Living Will	40.0%	40.6	42.5%
Other	6.9%	7.9%	1.2%

Health Insurance

Health coverage varied somewhat by location with reliance on Medicaid appeared higher in the rural and frontier counties. The question used to assess coverage asked which sources of payment served to pay one's medical bills. The respondents could report more than one source of payment. The payers for care tended to change with the age of the respondent. While one expects this, the observation extends beyond Medicare. Medicaid as a source of payment also increased with age, especially after age 65. The proportion of the respondents using Medicaid hovered at about 2% until age 65, after which rapid growth in dependence on Medicaid occurred. While this data is based on self report and is not detailed, it does suggest that as our population ages, there is likely to be an increased burden for Medicaid.

Table 26. Health Insurance Coverage: Urban, Rural and Frontier.

	Urban	Rural	Frontier
Medicare	46.9%	42.7%	53.3%
Private Health Insurance	83.5%	81.6%	82.2%
Champus or Champ VA	5.8%	6.2%	5.7%
Medicaid	5.2%	7.5%	8.7%
Other	5.9%	8.6%	8.9%

SUMMARY

Health Status

- North Dakota's general population over age 55 report higher levels of health status than the nation.
- North Dakota's reservation populations report health status that is much lower than the nation and lower than the state's general population
- Chronic disease rates are lower than national norms for North Dakota's general population, but higher among the reservation's elders.

Functional Limitations

Functional limitations are the basis for entry into long-term care programs and/or facilities. Based on activities of daily living (ADL) and instrumental activities of daily living (IADL), the following patterns emerge. Note also that prevalence rates for functional limitation when applied to demographic data permit us to forecast future levels of need.

- North Dakota has functional limitation rates that are higher than national norms.
- Functional limitations are highest among the state's reservation elders.
- Functional limitation levels vary among urban, rural, rural frontier and tribal populations. As the table below indicates, functional limitation is highest among the Native American elders, high among rural residents and lowest among rural frontier. The rural frontier appearance of health may be due to out-migration of elderly with needs for acute and long-term care.

Table 27. Level of Functional Limitation for Persons Age 50 and Over: Urban, Rural, Rural Frontier, and ND Tribal.

Level of Functional Limitation	Urban	Rural	Rural Frontier	ND Tribal Data
Little or none	81.1%	79.3%	84.5%	71.1%
Slight	8.9%	9.7%	8.4%	16.1%
Moderate	4.2%	4.1%	3.0%	5.3%
Severe	5.8%	6.9%	4.1%	7.5%

Key: Slight = need beginning levels of assistance, Moderate = screened as appropriate for assisted living (2 ADLs), and Severe = eligible for nursing home care (3 or more ADLs).

Health Risks

Health risks reflect conditions and behaviors related to the development of chronic disease and that set the stage for future long-term care needs. Note – these are modifiable markers of health behavior and call for attention through health promotion and wellness activities.

Smoking.

- North Dakotan's over age 55 smoke less than the national norm
- Smoking decreases with age, most likely as a function of cessation.
- Native elders in North Dakota's tribal data reported a high percentage who smoke, but relatively low volumes of smoking. One third of the smokers among the Native American elders reported no cigarette smoking, suggesting ceremonial use of tobacco as their use.

- Smoking relates to inversely with age, and education, and women tend to smoke less than men. Future cohorts will have higher levels of formal education and this should assist in smoking reduction efforts.

Alcohol.

- North Dakota Native Elders have the highest rate of abstaining from Alcohol consumption. Those indicating they either never had a drink, or more than three years with no alcohol consumption was very high (68.1%), indicating success in self mastery.
- Binge drinking – heavy drinking among those who do consume alcohol – was also highest among Native American elders. They were the least likely to be active drinkers, but when active, they were the heaviest drinkers.
- North Dakotans over age 50 were more extensively involved in binge drinking than the nation.
- Rural North Dakotans over age 50 have higher rates of binge drinking than urban comparisons.
- Severe frequencies of binge drinking (6 or more days out of 30) were highest in the sparsely populated rural counties.
- Age relates to binge drinking with fewer people engaging in binge drinking in older cohorts, but – the proportion with severe frequencies increases from age 50 to 70!

Overweight/Obesity. The Body Mass Index (BMI) is used as a basis for defining problems of weight. This is highly predictive of future chronic diseases that lead to disability, especially diabetes, arthritis, high blood pressure and heart disease.

- North Dakotans age 55 and over have substantially higher proportions in the overweight or obese categories than the nation – Nationally 52% are overweight or obese. North Dakota – 65.2% and North Dakota Native elders – 74%.
- Age does not appear to be a factor in overweight issues except among the Tribal elders. Among tribal elders, the relatively young (55-64) have a higher rates of overweight and obesity.

Exercise.

- North Dakotans appear to exercise more than the nation, but the bar is set low!
- North Dakota's tribal elders also exercise more than the nation, but less than the general population.
- Although differences were not significant between urban and rural counties for exercise, all had substantial proportions reporting no exercise.
- Exercise does appear to be a function of weight, with the obese the least likely to exercise. This countervails weight control!

Social Involvement. Active social involvement is important for maintaining independence and a positive outlook. North Dakota appears a socially healthy place, which provides us a good foundation for building wellness.

- Weekly participation in religious services was high for all of North Dakota – 52.2% for the general population, 59.6% for the Native American elders compared with 36% nationally.
- North Dakotans had high rates of joining for clubs and associations and had high rates of participation once becoming members. This is true for all subgroups.

Household Composition

Size.

- The mean household size for people over 55 is 1.82 persons statewide. About one-third of households are single person.
- Household size decreases with age, so as the population becomes increasingly old, the household size will diminish. The proportion of households with a single person at ages 75 and over is 59.9%.
- Native American elders tend to live in larger households with an average of 2.79 persons per household.

Moving Plans

- The majority (69%) of North Dakotans age 50 and over say a move in the next ten years is unlikely.
- Those living in rural frontier counties are the most committed to staying in their present homes and or communities.
- The presence of functional limitations did not relate to plans to move – even those with emerging disabilities plan to stay.

Family Factors

- People over 50 in North Dakota have more living siblings than children (3.14 to 2.92).
- The total family alive - spouses, parents, children and siblings – for those over 50 has an average of 6.95 persons, but less than half of them are within one hour travel time (2.35 persons within one hour).
- Available family (within one hour) decreases with age and is least in rural frontier locations.

Access and Use of Care

Informal Caregiving.

- 5.9% of those age 50 and over are either giving or receiving family care that involves help with activities of daily living (ADLs); including eating, bathing, dressing, walking, getting in and out of bed, and toileting.
- Family caregiving involving ADLs is highest in rural locations.
- When the definition for informal care expands to include help with instrumental activities of daily living (IADLs include activities like cooking, transportation etc.) and non-family caregivers the percent increases to 10.3% and does not vary by location.
- Caregivers are largely female (75%), under age 65 (71.4%) and the majority (52%) have incomes above $25,000.

Formal Services.

- The number of services people report as available declines as one moves from urban to rural and rural frontier. Availability is a major issue.
- Use of services that are locally available by those who reported having functional limitations is limited.
- Family care serves to increase the use of existing services! Informal caregivers become bridges to accessing formal care.

Acceptance of Services.

- If North Dakotans become unable to meet their own needs, they appear very receptive to the full range of formal services, including nursing home care.
- How to recognize legitimate need may be the larger issue for a people who exhibit strong tendencies for self reliance.

Preparations for Future

- Nursing home insurance has been purchases by 25.9% of those over age 50.
- Durable power of attorney has been arranged by 39.3%.
- Living wills exist for 41.2%.

BIBLIOGRAPHY

Center for Disease Control, National Center for Chronic Disease Prevention and Health Promotion, Body Mass Index, 2002 URL: http:www.cdc.gov/nccdphp/dnpa/bmi/bmi-adult.htm

Coburn, Andrew F., "Rural Long-term-Care: What Do We Need to Know to Improve Policy and Programs?", The Journal of Rural Health, 18, No. 5 (2002). 256- 269.

Coleman , Barbara, Wendy Fox-Grage and Donna Folkemer, State Long-Term Care: Recent developments and Policy Directions, National (2002) Council of State Governments, URL: http://aspe.hhs.gov/daltcp/reports/stateltc.htm.

Feinberg, Lynn F., Systems Development for Family Caregiver Support Services, URL:http://www.aoa.gove/carenetwork/Fin-Feinberg.html.

Greenwood, Robert, The PACE Model, Issue Brief Vol. 2, No 10, (2001) Center for Medicare Education.

Kane, Robert L. and Rosalie A. Kane, "What Older People Want From Long-Term Care, and How They Can Get It", Health Affairs, 20, No 6 (2001) 114 – 127.

Liu, Korbin, Kenneth Manton and Cynthia Aragon, Changes in Home Care Use by Older People with Disabilities: 1982-1994, AAPR Public Policy Institute, 2000.

Leon, Joel, Jonas Marainen and John Marcotte, Pennsylvania's Frontline Workers in Long-term Care: The Provider Organization Perspective, Jenkintown, PA, Polisher Research Institute, 2001.

Manton, Kenneth G., Larry Corder, and Eric Stallard, "Chronic Disability Trends in the United States Populations: 1982-1994." Proceedings of the National Academy of Science, (1997), Vol 94, 2593-2598.

Montgomery, Rhonda J. V. and Karl D. Koslosski, Change, Continuity and Diversity Among Caregivers, URL: http://www.aoa.gov/carenetwork/Fin-Montgomery.html

Sayyoun, N. R., Lentzner H. and Robinson K. N., "The Changing Profile of Nursing Home Residents: 1985-1997", Aging Trends, No 4, Hyattsville, Maryland, National Center for Health Statistics, 2001.

Spector, William D., John A. Fleishman, Liliana E. Pezzin, and Brenda Spillman, The Characteristics of Long-Term Care Users, Agency for Healthcare Research and Quality, Pub. No 08-0049. 2001.

Spillman, Brenda C. and Liliana E. Pezzin, "Potential and Active Family Caregivers: Changing Networks and the "Sandwich Generation", The Milbank Memorial Fund Quarterly, 78, No 3 (2000).

Stone, Robyn I., Long-Term Care for the Elderly with Disabilities: Current Policy, Emerging Trends, and Implications for the Twenty-First Century, (2000) Milbank Memorial Fund, URL:http://www.milbank.org/0008stone/index.html.

Super, Nora, Who Will Be There to Care? The Growing Gap Between Caregiver Supply and Demand, George Washington University, National Health Policy Forum, January 2002.

Sullivan, Stephanie, Wellness Programs, (2002), URL: http://www.e-hresources.com/Nov2.htm.

Tassone Kovner Christine, Mathy Mezey and Charlene Harrington, "Who Cares for Older Adults", Health Affairs, 21. No 5 (2002), 78-89.

The Characteristics of Long-Term Care Users. AHRQ Research Report. AHRQ Publication No. 00-0049, January, 2001. Agency for Healthcare Research and Quality, Rockville, MD. http://www.ahrq.gov/research/ltcusers/index.htm

Wagner, Donna L., Comparative Analysis of Caregiver Data for Caregivers to the Elderly 1987 and 1997, Bethesda, Maryland, National Alliance for Caregiving 1997.

Weiner, Joshua M. and David G. Stevenson, Long-Term Care for the Elderly: Profiles of Thirteen States, (1998), Urban Institute URL:http://newfederalism.urban.org/html/occa12.html.

Weiner, Joshua M. and David G. Stevenson, "State Policy on Long-Term Care for the Elderly", Health Affairs, 71, No 3 (1998), 81-100.

West Virginia Healthy People 2000, Educational and Community-Based Programs, URL: http://www.wvdhhr.org/bph/hp2000/educ.htm.

Wunderlich, Gooloo S. and Peter O. Kohler, Eds., Improving the Quality of Long-term Care, Washington, D.C. National Academy Press, 2001.

National sources for items and comparison:

1988-94 National Health and Nutrition Examination Survey III (NHANES III), U.S. Department of Health and Human Services, Data Dissemination Branch, National Center for Health Statistics, Centers for Disease Control and Prevention, 6525 Belcrest Road, Room 1064, Hyattsville, Maryland 20782-2003

1994 National Home and Hospice Care Survey (NHHCS), U.S. Department of Health and Human Services, Data Dissemination Branch, National Center for Health Statistics, Centers for Disease Control and Prevention, 6525 Belcrest Road, Room 1064, Hyattsville, Maryland 20782-2003

1982, 84, 89, 94 National Long-Term Care Survey (NLTCS), Duke University Center for Demographic Studies, 2117 Campus Drive, Durham, NC 27708-0408

1991-1996 National Household Survey on Drug Abuse, Substance Abuse and Mental Health Data Archive. ICPSR/ISR, P.O. Box 1248, Ann Arbor, MI 48106-1248.

1994 National Health Interview Survey (N.H.I.S.), U.S. Department of Health and Human Services, Data Dissemination Branch, National Center for Health Statistics, Centers for Disease Control and Prevention, 6525 Belcrest Road, Room 1064, Hyattsville, Maryland 20782-2003

The Prevalence of Cancer: Estimated Number of Persons Diagnosed with Cancer (1997), National Cancer Institute, http://www.nci.nih.gov/public/factbk97/prevalen.htm

ND Statewide Data (N=1180) Comparison to State Tribal Data (N=492) and National Data

Question	Response(s)	ND Statewide Data (55 and over)	ND Tribal Data (55 and over)	National Data (55 and over)
1. Would you say your health in general is excellent, very good, good, fair, or poor?	Excellent	15.2%	4.2%	11.0%
	Very Good	30.0%	11.1%	20.0%
	Good	33.1%	37.9%	34.0%
	Fair	16.0%	37.9%	25.0%
	Poor	5.7%	9.0%	9.0%
2. Has a doctor ever told you that you had any of the following diseases?	Arthritis?	38.5%	46.3%	40.0%
	Congestive Heart Failure?	8.0%	6.3%	8.0%
	Stroke?	5.1%	5.1%	8.0%
	Asthma?	7.1%	7.7%	7.0%
	Cataracts?	22.5%	17.3%	28.0%
	High Blood Pressure	40.7%	42.5%	43.0%
	Diabetes?	12.5%	48.2%	14.0%
4. Because of a health or physical problem, that lasted longer than 3 months, did you have difficulty…**(Please mark all for which you need assistance)**	Bathing or showering?	7.8%	11.2%	9.4%*
	Dressing?	5.5%	6.3%	4.3%*
	Eating?	2.7%	4.1%	2.1%*
	Getting in or out of bed?	6.5%	9.3%	5.9%*
	Walking?	11.2%	21.1%	8.8%*
	Using the toilet, including getting to the toilet?	4.2%	4.1%	5.0%*
We have inserted this column to give a count of the number of **activities of daily living (adl's)**, and their percentages.	0 ADL's	84.4%	74.4%	87.2%*
	1 or more ADL's	15.6%	25.6%	12.8%*
	2 or more ADL's	9.1%	12.7%	6.0%*
5. Because of a health or physical problem that lasted longer than 3 months, did you have any difficulty… **(Please mark all for which you need assistance)**	Preparing your own meals?	5.8%	12.6%	9.3%*
	Shopping for personal items (such as toilet items or medicines)?	4.3%	12.2%	NA
	Managing your money (such as keeping track of expenses or paying bills)?	2.2%	6.1%	7.5%*
	Using the telephone?	1.4%	5.7%	6.5%*
	Doing heavy housework (like scrubbing floors or washing windows)?	16.1%	28.5%	NA
	Doing light housework (like doing dishes, straightening up, or light cleaning?	5.4%	12.0%	12.2%*
	Getting around outside?	7.8%	9.6%	16.0%*
We have inserted this column to give a count of the number of instrumental activities of daily living, (IADL's) **and their percentages.**	0 IADL's	80.9%	67.7%	71.2%*
	1 or more IADL's	19.1%	32.3%	28.2%*
6. Do you have total blindness in one or both eyes?	Yes, one eye	4.7%	5.6%	2.7%
	Yes, both eyes	.7%	1.9%	0.3%
	No	94.6%	92.5%	97.0%
7. Do you have trouble seeing with one or both eyes (even when wearing glasses or contact lenses)?	Yes	12.2%	23.4%	19.0%
	No	87.8%	76.6%	81.0%
8. Do you now have total deafness in one or both ears?	Yes, one ear	7.7%	11.3%	4.0%
	Yes, both ears	5.8%	1.9%	Less than 1%
	No	86.5%	86.8%	96.0%
9. Do you wear a hearing aid?	Yes	8.0%	10.1%	7.0%
	No	92.0%	89.9%	93.0%

ND Statewide Data (N=1180) Comparison to State Tribal Data (N=492) and National Data

Question	Response(s)	ND Statewide Data (55 and over)	ND Tribal Data (55 and over)	National Data (55 and over)
10. Do you have trouble hearing (even when wearing your hearing aid)?	Yes	56.2%	10.2%	23.0%
	No	43.8%	89.8%	77.0%
11. Do you smoke cigarettes now? (If no, then skip to item 13)	Yes	14.7%	32.2%	34.0%
	No	85.3%	67.8%	66.0%
12. How many cigarettes do you smoke per day?	1-5 cigarettes/day	15.2%	24.4%	14.0%
	6-10 cigarettes/day	22.2%	40.0%	25.0%
	11-20 cigarettes/day	45.1%	28.1%	42.0%
	21-30 cigarettes/day	6.5	4.4%	10.0%
	31 or more per day	10.5	3.0%	10.0%
13. The next few questions are about drinks of alcoholic beverages. By a "drink," we mean a can or bottle of beer, a glass of wine or a wine cooler, a shot of liquor, or a mixed drink with liquor in it. How long has it been since you last drank an alcoholic beverage?	Within the past 30 days.	36.3%	17.5%	38.2%
	More than 30 days ago but within the past 12 months.	17.1%	8.1%	11.3%
	More than 12 months ago But within the past 3years.	5.7%	6.2%	4.5%
	More than 3 years ago.	25.1%	56.8%	23.0%
	I have never had an alcoholic drink in my life. **(Skip to Question #15)**	15.7%	11.4%	23.1%
14. During the past 30 days, on how many days did you have five or more drinks on the same occasion?	None	81.3%	86.5%	92.5%
	1 or 2 days	10.8%	8.3%	3.7%
	3 to 5 days	4.7%	1.6%	1.9%
	6 or more	3.3%	3.6%	1.9%
15. Which of the following do you do one or more times a week? **(Check all that apply)**	a. Walk a mile or more at a time without stopping?	39.2%	24.8%	37.2%
	b. Jog or run?	3.9%	1.4%	3.9%
	c. Ride a bicycle or an exercise bicycle?	17.7%	6.1%	11.7%
	d. Swim	3.1%	5.7%	4.1%
	e. Aerobics or aerobic dancing?	7.5%	1.0%	2.8%
	f. Other dancing? (Swing, square dancing, waltz, etc.)	5.2%	3.9%	8.1%
	g. Calisthenics or exercise	19.6%	13.6%	14.8%
	h. Garden or yard work	48.3%	30.9%	46.0%
	i. Lift weights	7.0%	6.1%	4.0%
16. How often do you eat breakfast? **(Check the response that best fits you)**	Everyday	83.1%	68.7%	77.0%
	Some days	7.7%	20.6%	12.0%
	Rarely	5.3%	6.1%	6.0%
	Never	3.1%	2.7%	3.0%
	Weekends Only	.8%	1.9%	2.0%
We have inserted this column to give the **present Body Mass Index (BMI)** of your tribal elders. The formula is currently being used by NHANES to show the relationship between height and weight.	Low/Normal Weight	32.2%	25.0%	47.0%
	Overweight	40.7%	36.0%	35.0%
	Obese	27.1%	39.0%	18.0%
19. How often do you attend church or religious services? **(Please indicate the number of times per week)**	Never or less than once a week	31.9%	33.7%	NA
	Once a week	55.4%	59.6%	NA
	More than once a week	12.7%	6.7%	NA

ND Statewide Data (N=1180) Comparison to State Tribal Data (N=492) and National Data

Question	Response(s)	ND Statewide Data (55 and over)	ND Tribal Data (55 and over)	National Data (55 and over)
20. How many clubs, organizations, such as church groups, community boards, or school groups, do you belong?	None	40.5%	59.6%	65.0%
	The number of memberships among those who joined clubs			
	1	18.2%	28.8%	21.0%
	2	17.6%	6.5%	9.0%
	3	11.4%	3.4%	27.0%
	4	5.9%	0.8%	17.0%
	5 or more	6.3%	1.0%	26.0%
21. All together, how often do you attend meetings of the clubs or organizations that you belong to? (Please indicate the number of times a week, use 0 for none)	None	50.3%	69.9%	NA
	1	32.2%	21.5%	NA
	2 or more	17.5%	8.8%	NA
22. How many years have you lived at your present address?	21 Years & Over	55.6%	54.4%	42.9%
	11-20 years	16.4%	15.7%	21.8%
	5-10 years	14.4%	15.5%	15.5%
	3-4 years	7.6%	6.4%	7.0%
	1-2 years	5.0%	3.6%	7.2%
	Less than 1 year	1.0%	4.5%	5.6%
25. What type of housing do you presently have? **(if you live in a nursing home, basic care of assisted living facility skip to question 31)**	Private residence (house or apt)	96.3%	96.9%	90.1%
	Sleeping room	.4%	0.0%	.6%
	Retirement home	1.4%	.8%	1.1%
	Health facility	.7%	0.0%	2.1%
	Other specify	1.3%	2.3%	5.3%
26. How many live in your household?	Average household size	1.8 persons	2.85 persons	2.11 persons
37. Sex	Male	33.6%	37.2%	52.4%
	Female	66.4%	62.8%	47.6%
38. Age	55-64	41.7%	34.9%	34.1%
	65-74	32.2%	45.2%	33.6%
	75-84	20.8%	16.7%	25.0%
	85 and over	5.3%	3.2%	7.3%
39. Current Marital Status	Now married	60.0%	39.8%	63.9%
	Widowed	27.0%	35.6%	23.3%
	Divorced	7.7%	15.5%	7.5%
	Separated	.5%	1.9%	1.3%
	Never married	4.9%	7.1%	4.0%
40. What is your personal annual income?	Under $5,000	6.2%	38.2%	15.2%
	$5,000-$6.999	2.4%	26.7%	12.8%
	$7,000-$14,999	16.8%	21.8%	35.6%
	$15,000-19,999	8.2%	6.1%	11.6%
	$20,000-$24,999	14.9%	2.1%	26.7%
	$25,000-$49,999	32.2%	5.2%	8.6%
	$50,000 & over	19.2%	0.0%	3.4%
41. What is the highest grade or year of regular school you have completed?	Never attended	.5%	.2%	1.1%
	Elementary1 2 3 4 5 6 7 8	12.0%	20.0%	12.1%
	High 9 10 11 12	46.0%	60.3%	48.5%
	College 1 2 3 4 5 6 or more	41.6%	17.3%	38.3%

ND Statewide Data (N=1180) Comparison to State Tribal Data (N=492) and National Data

NATIONAL DATA SOURCES

1988-94 National Health and Nutrition Examination Survey III (NHANES III), U.S. Department of Health and Human Services, Data Dissemination Branch, National Center for Health Statistics, Centers for Disease Control and Prevention, 6525 Belcrest Road, Room 1064, Hyattsville, Maryland 20782-2003

1994 National Home and Hospice Care Survey (NHHCS), U.S. Department of Health and Human Services, Data Dissemination Branch, National Center for Health Statistics, Centers for Disease Control and Prevention, 6525 Belcrest Road, Room 1064, Hyattsville, Maryland 20782-2003

1994 Current Trends Prevalence of Disabilities and Associated Health Conditions – United States 1991-1992. ***Morbidity and Mortality Weekly Report, October 14, 1994., Vol 43, No. 40; 730-731, 737-739.***

1991-1996 National Household Survey on Drug Abuse, Substance Abuse and Mental Health Data Archive. ICPSR/ISR, P.O. Box 1248, Ann Arbor, MI 48106-1248.

1994 National Health Interview Suvey(N.H.I.S.), U.S. Department of Health and Human Services, Data Dissemination Branch, National Center for Health Statistics, Centers for Disease Control and Prevention, 6525 Belcrest Road, Room 1064, Hyattsville, Maryland 20782-2003

The Prevalence of Cancer: Estimated Number of Persons Diagnosed with Cancer (1997), National Cancer Institute, http://www.nci.nih.gov/public/factbk97/prevalen.htm

Historical National Population Estimates (1998), U.S. Bureau of the Census, http://www.census.gov/population/estimates/nation/popclockest.txt

Section III. Availability and Demand for Elderly Services: Table of Contents

Section III. Availability and Demand for Elderly Services: Table of Contents (Cont.)

Introduction

Study Objectives

The purpose of this study was to examine the distribution of existing services for seniors in North Dakota and to estimate future need. Its aim was to provide policy makers insight into how well the state is positioned to care for its seniors. This study is an extension of a previous study conducted by Dr. Richard Ludtke from the University of North Dakota, that assessed the current demand for services and estimated current trends in utilization. These utilization rates have been applied to projections of elderly into the future to determine the overall level of need for the state and where demand for services might be the greatest. This analysis is intended to assist policy makers in determining where resource adjustments might be appropriate in order to best serve the changing needs of North Dakota's seniors.

Methodology

There are three main parts to this study. First, the number, type, and distribution of various senior services is profiled. This was accomplished by compiling a list of types of services from various sources. These sources included data bases from the North Dakota Department of Human Services Aging Services Division, North Dakota Senior Info line, the Office of Rural Health, North Dakota Long Term Care Association, Lutheran Social Services, and various online directories.

Second, information regarding where residents received various services was collected from two generalizable surveys of North Dakota households. This was a collaborative approach that dovetailed data collection efforts with a labor availability study. The data was collected in two separate survey efforts. The first was a survey of 1,356 households which were randomly selected in a two-staged stratified process to ensure a generalizable sample for both urban and rural areas. The intent of this survey was to collect data on both labor availability issues and information regarding where residents received their services. This survey was a collaborative effort with a larger labor availability study conducted jointly by the North Dakota Department of Commerce and various county economic development entities. In order to avoid duplication of related research activities, this survey targeted only 27 counties in North Dakota. The survey was conducted by phone and completed in the early fall of 2002. The second survey was conducted simultaneously and targeted those counties missed by the survey conducted for the other research activities. Data were collected from 803 households and gathered information solely on where residents received their services. This survey also used a two-staged stratified random sample to ensure generalizability for both urban and rural areas.

Finally, future demand for elderly services was estimated in three stages. First, prevalence rates of functional limitations by age and location were obtained from Dr. Richard Ludtke of the University of North Dakota. These rates were calculated based on a generalizable survey of elderly in North Dakota using two standardized instruments that measure functional needs of seniors. These instruments included the Activities of Daily Living (ADL) and Instrumental Activities of Daily Living (IADL). Rates were developed for three county types. The first type was "urban" (i.e., those counties having a city of at least 2,500 residents) and represents the 14 urban counties. The second type was "rural" (i.e., those counties which do not have a city of at least 2,500 residents) representing the four rural counties that have at least six people per square mile. The last type was "frontier" representing the remaining 35 counties that are rural and have a population density less than six people per square mile. The prevalence rates were also calculated by two major age groups. The first group represents the younger seniors and encompasses the age group from 50 to 74 years of age. The second age group represents the older seniors and includes those who are at least 75 years of age. The prevalence rates used in the calculations are noted in Table A.

Table A. Prevalence of Functional Limitations by Age Group and County Type

Level of Functional Limitation	County Type		
	Urban	Rural	Frontier
Age 50 to 74			
Low Levels	5.0%	6.5%	6.8%
Moderate Levels	2.6%	2.5%	1.6%
Severe Levels	4.5%	4.3%	3.4%
Age 75 and Over			
Low Levels	15.4%	13.8%	13.7%
Moderate Levels	8.7%	6.2%	6.9%
Severe Levels	10.6%	15.4%	9.3%

Note regarding levels functional disability: Low=needs beginning levels of assistance, Moderate=screened as appropriate for assisted living (2 ADLs), and Severe=eligible for nursing home care (3 or more ADLs)

In the second stage, service utilization rates were calculated. These rates were based on a table from the Agency for Healthcare Research and Quality (AHRQ) concerning levels of disability. The proportions were based on community residents and categorized by type of care (i.e., informal care, combined informal and formal care, and formal care). Institutional care was calculated as a ratio of institutional residents at each level of need to the total number of community residents (Table B).

Table B. Utilization Rates

Level of Functional Limitation	Type of Care		
	Informal	Informal and Formal	Formal
Low Levels	0.659	0.271	0.071
Moderate Levels	0.584	0.333	0.083
Severe Levels	0.440	0.519	0.041

The final step was to apply the prevalence rates of functional limitation to our elderly population projections. This resulted in an estimate of the number of individuals with low, moderate, and severe functional limitations by county. These estimates were then applied to the utilization rates to determine the amount of services needed in each county along with the amount of institutional care that will be needed.

Current Senior Facilities

- The number of senior housing facilities in North Dakota varies greatly by county. More than half of the 53 counties lack an assisted living facility, a basic care facility, and a senior residential facility.

- The number of senior service facilities is very limited in North Dakota. In fact, service facilities are absent in a significant number of counties in the state. Sixteen of the state's 53 counties lack a hospital or clinic, four counties lack a senior center, and 35 of the counties lack a home health agency.

Table 1. Number of Senior Housing Facilities by County: North Dakota, 2002

County	Senior Housing Facilities			
	Assisted Living	Basic Care	Nursing Facility	Senior Residence
Adams	1	0	1	0
Barnes	1	1	1	0
Benson	0	1	0	1
Billings	0	0	0	0
Bottineau	0	0	2	1
Bowman	0	1	1	0
Burke	0	0	0	0
Burleigh	3	5	5	4
Cass	4	4	9	5
Cavalier	0	0	2	0
Dickey	1	2	2	0
Divide	0	1	1	0
Dunn	0	0	1	0
Eddy	1	0	1	0
Emmons	1	0	1	0
Foster	0	2	1	0
Golden Valley	0	0	0	0
Grand Forks	4	3	7	2
Grant	0	1	1	0
Griggs	0	0	0	0
Hettinger	0	1	1	0
Kidder	0	0	1	0
LaMoure	0	1	0	0
Logan	0	1	1	0
McHenry	1	0	1	0
McIntosh	1	0	1	0
McKenzie	1	0	1	0
McLean	0	1	3	0
Mercer	0	1	1	0
Morton	0	1	4	0
Mountrail	0	0	2	0
Nelson	0	0	3	0
Oliver	0	0	0	0
Pembina	0	1	2	0
Pierce	0	1	1	0
Ramsey	2	2	2	1
Ransom	1	0	4	0
Renville	0	0	1	1
Richland	0	1	2	1
Rolette	1	0	2	0
Sargent	0	0	1	0
Sheridan	0	1	0	0
Sioux	0	0	0	0
Slope	0	0	0	0
Stark	1	1	2	0
Steele	0	0	0	0
Stutsman	1	3	2	0
Towner	0	0	1	0
Traill	2	0	3	1
Walsh	0	0	3	0
Ward	5	2	3	1
Wells	0	0	1	0
Williams	2	1	2	0
Total	34	40	87	18

Table 2. Number of Senior Service Facilities by County: North Dakota, 2002

County	Senior Service Facilities				
	Home Health Agency	Hospitals/ Clinics	Senior Centers	Senior Services	Meals/ Nutrition
Adams	1	1	3	1	2
Barnes	4	1	3	4	3
Benson	0	0	5	2	4
Billings	0	0	0	1	2
Bottineau	1	2	7	1	5
Bowman	1	3	4	3	4
Burke	0	0	4	1	4
Burleigh	8	3	2	13	3
Cass	9	6	14	9	21
Cavalier	0	2	4	2	3
Dickey	0	2	2	2	3
Divide	0	1	3	1	4
Dunn	0	0	1	3	4
Eddy	0	0	2	1	2
Emmons	0	0	5	3	3
Foster	0	2	3	4	4
Golden Valley	0	1	1	2	3
Grand Forks	3	5	6	6	7
Grant	0	2	0	2	3
Griggs	0	2	4	3	3
Hettinger	0	0	3	2	4
Kidder	0	0	6	3	3
LaMoure	0	0	7	2	7
Logan	0	0	2	3	3
McHenry	0	2	8	2	8
McIntosh	0	2	4	3	3
McKenzie	0	1	4	2	2
McLean	3	2	7	1	8
Mercer	1	4	4	3	5
Morton	0	2	3	5	7
Mountrail	0	4	3	1	6
Nelson	0	2	5	2	11
Oliver	0	1	1	1	1
Pembina	1	2	5	3	6
Pierce	0	1	1	2	5
Ramsey	1	2	5	5	6
Ransom	1	2	3	1	4
Renville	0	1	1	1	4
Richland	2	2	9	5	8
Rolette	2	3	5	5	5
Sargent	0	0	7	3	6
Sheridan	0	0	1	1	4
Sioux	0	0	1	3	1
Slope	0	0	2	1	2
Stark	1	3	6	6	8
Steele	0	0	3	1	3
Stutsman	0	3	8	4	6
Towner	0	0	4	2	3
Traill	1	3	8	2	4
Walsh	0	3	6	3	11
Ward	2	6	7	6	16
Wells	1	1	7	2	2
Williams	0	4	7	7	3
Total	43	89	226	157	262

Where North Dakotans Get Their Services

- The distance North Dakota residents need to travel to obtain various services varies greatly by region (Figure A). More than one-third of the residents need to travel more than 30 miles for the following services by region (Table C).

Figure A. North Dakota Service Regions

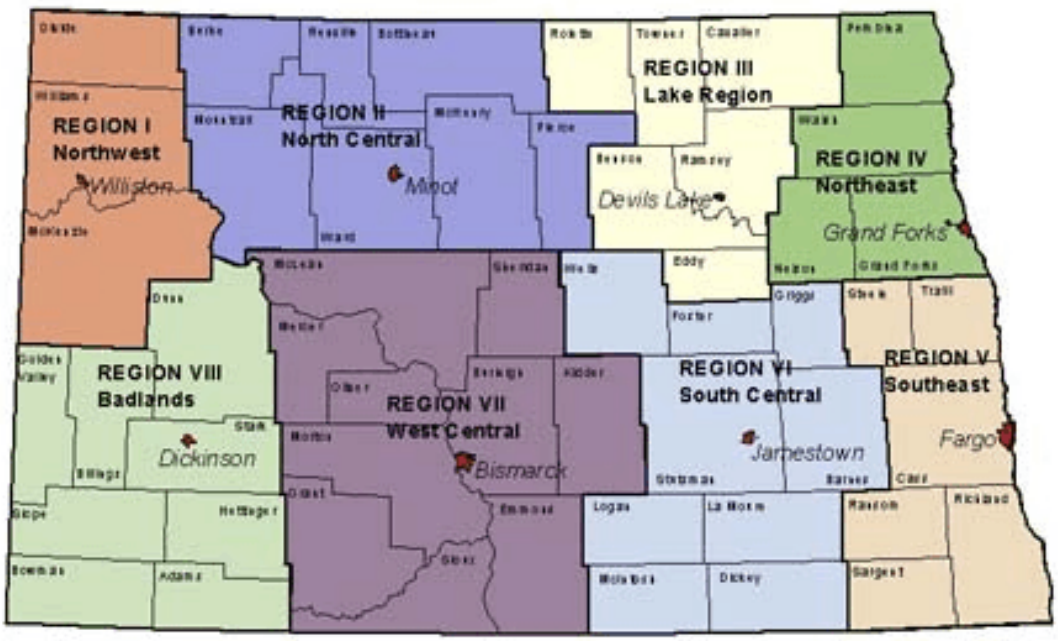


Table C. Services for Which North Dakota Residents Travel More Than 30 Miles by Region: 2002

Service	Region
Eye Care	1,3,8
Dental	8
Support Groups	1,4,8

Figure 1. Distance Traveled to Community Centers by Region: 2002

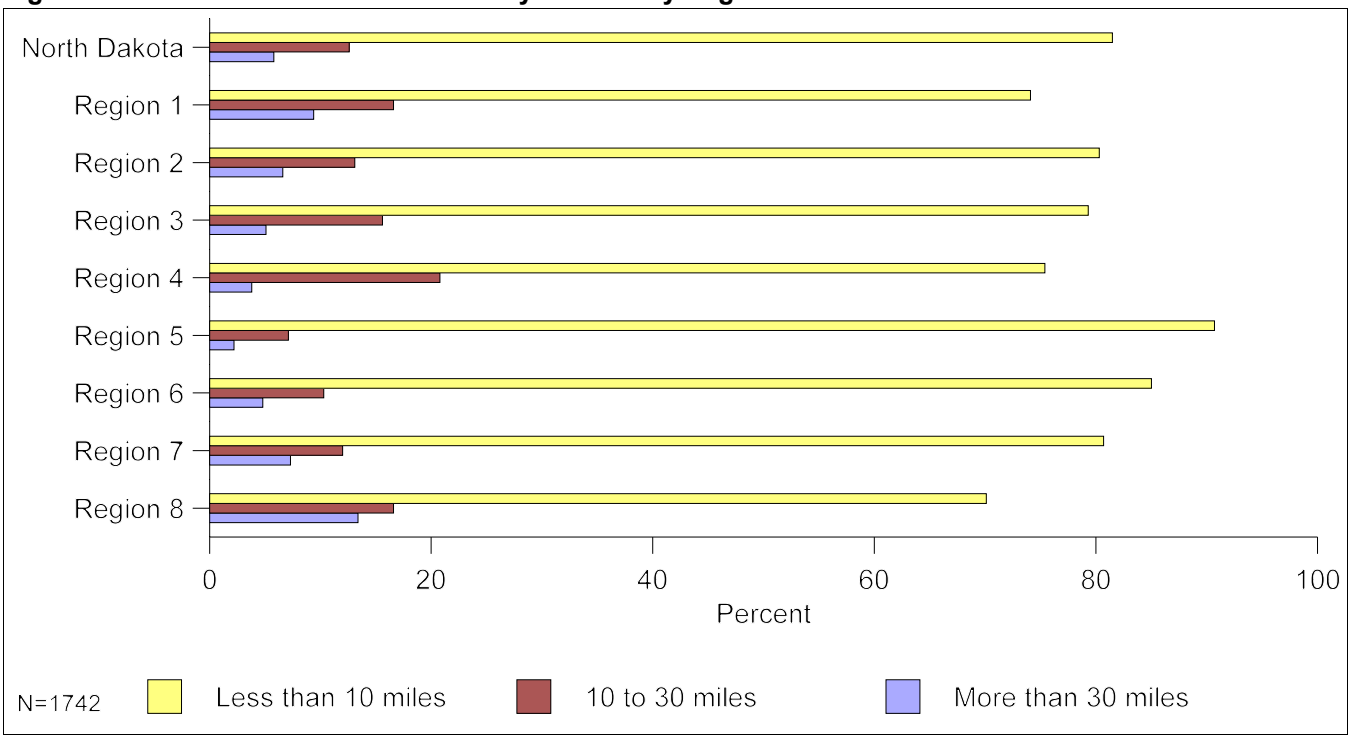


Figure 2. Distance Traveled to Eyecare by Region: 2002

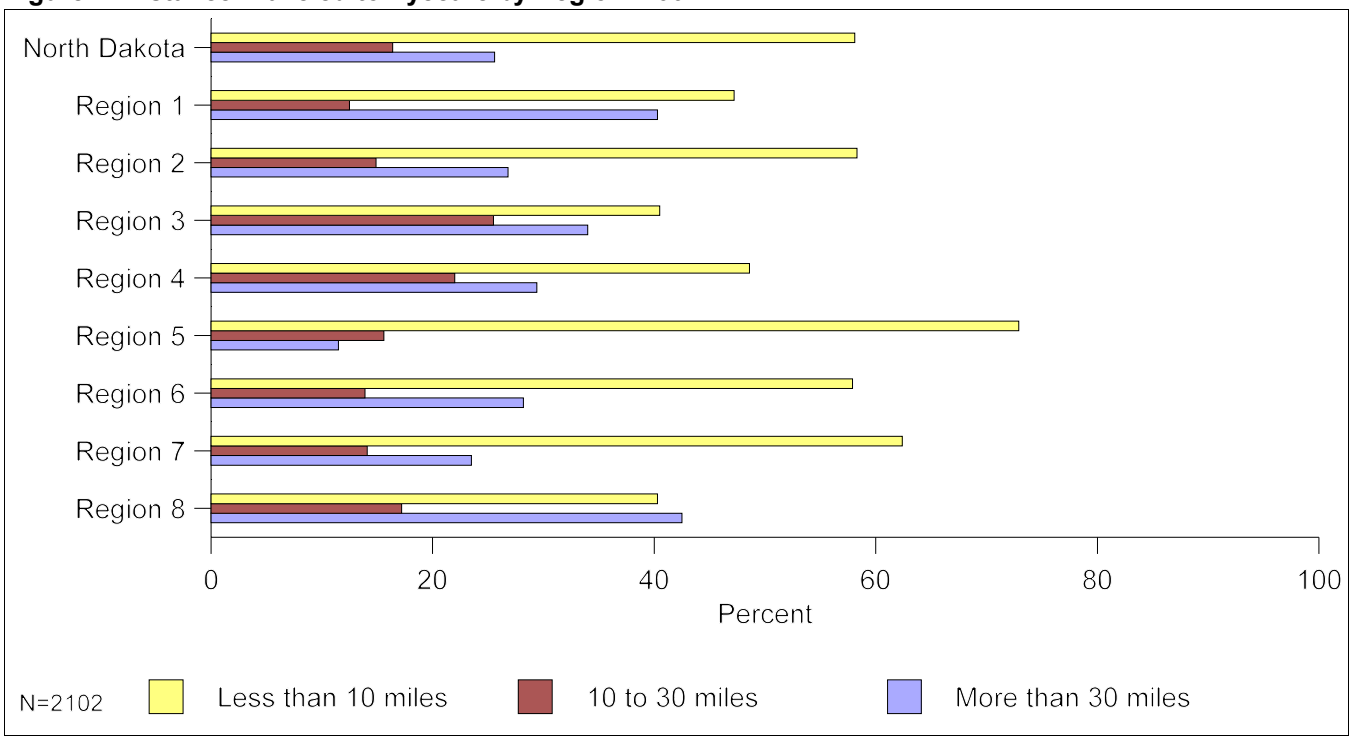


Figure 3. Distance Traveled to Dental Care by Region: 2002

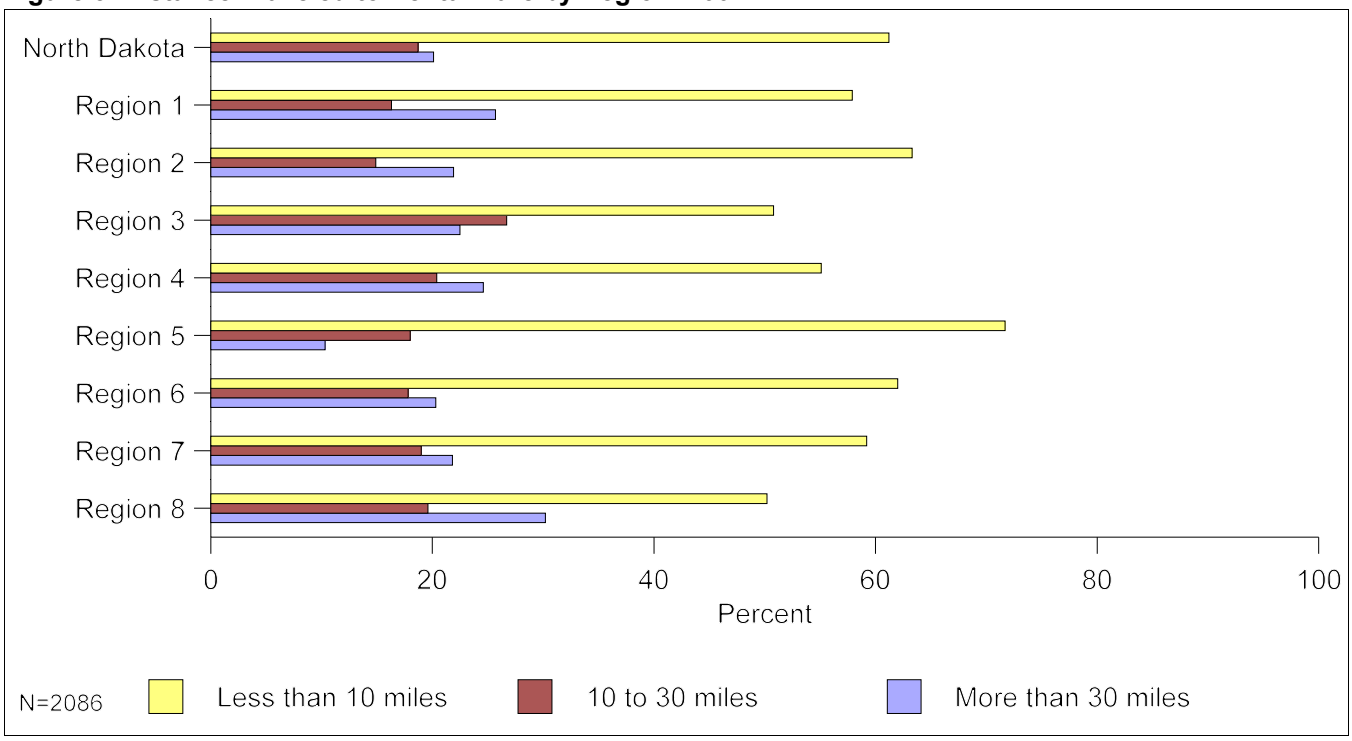


Figure 4. Distance Traveled to Pharmaceutical Needs by Region: 2002

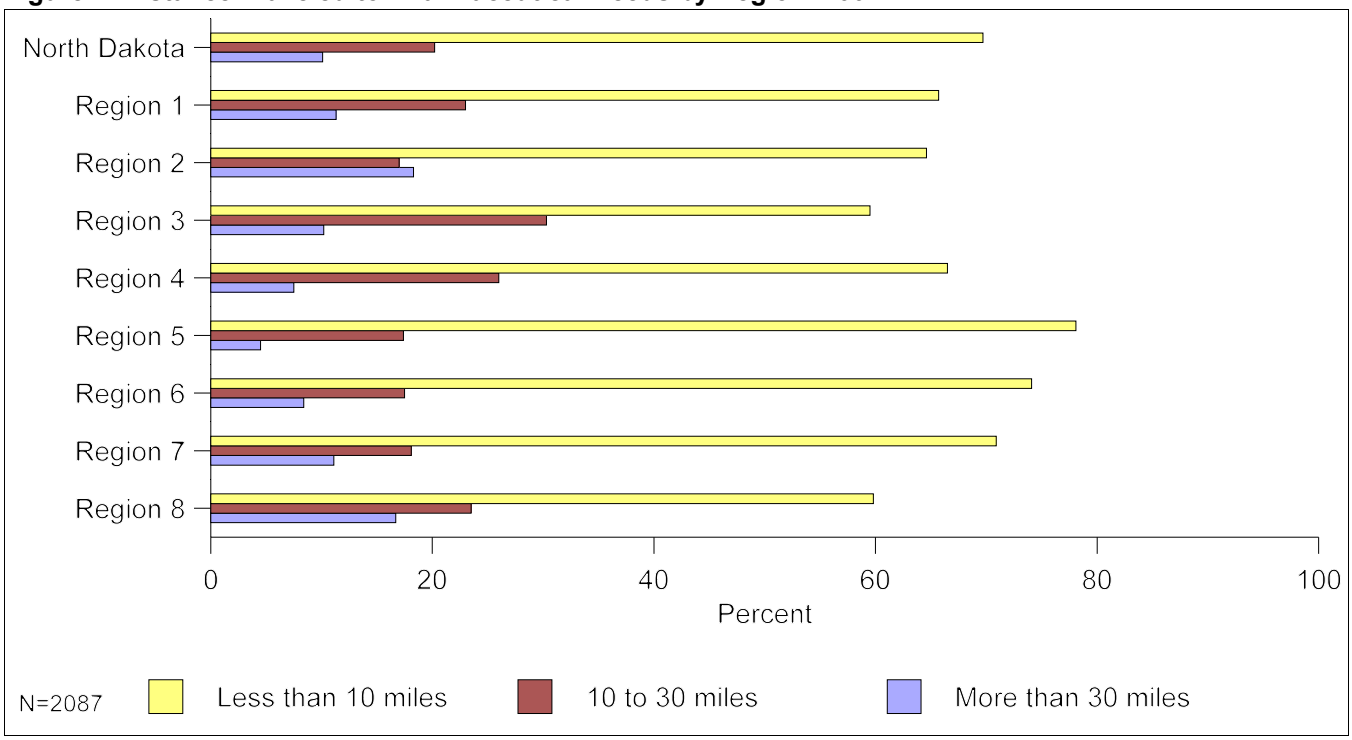


Figure 5. Distance Traveled to Clinical/Hospital Visits by Region: 2002

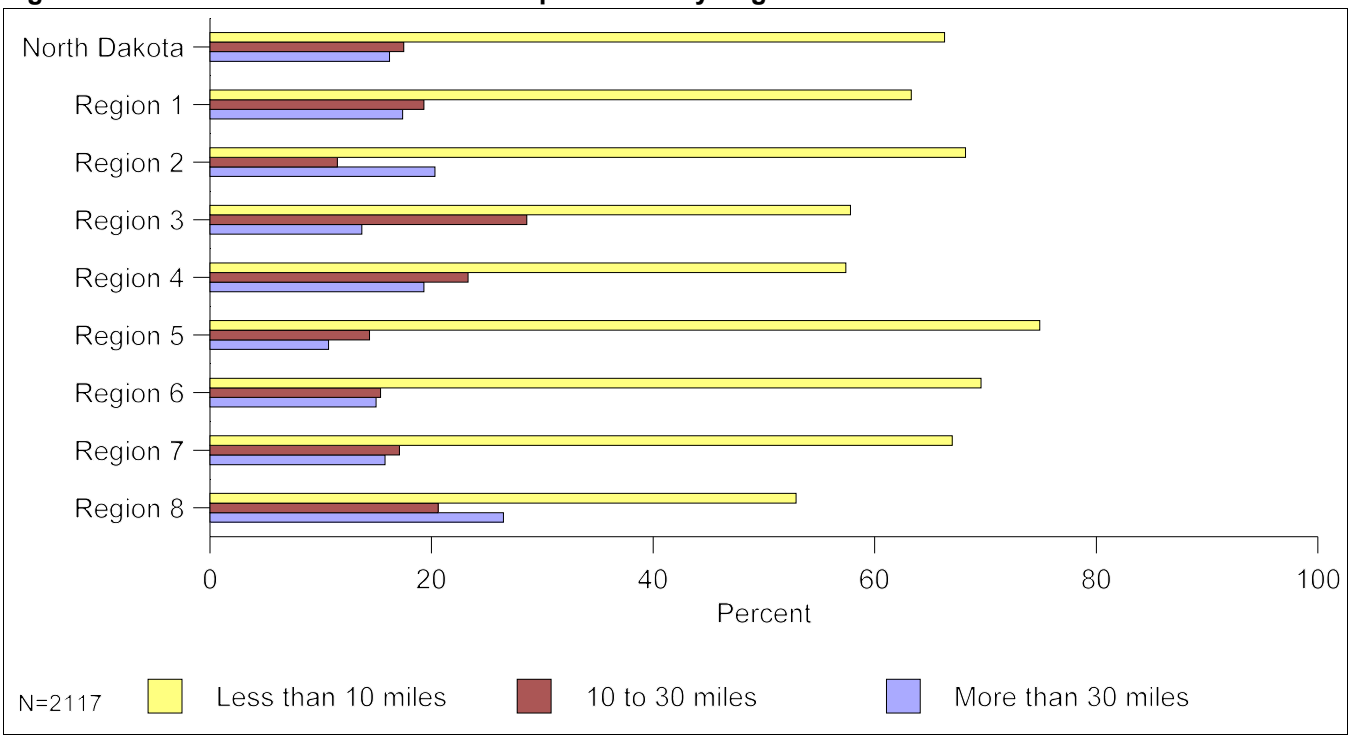


Figure 6. Distance Traveled to Support Groups by Region: 2002

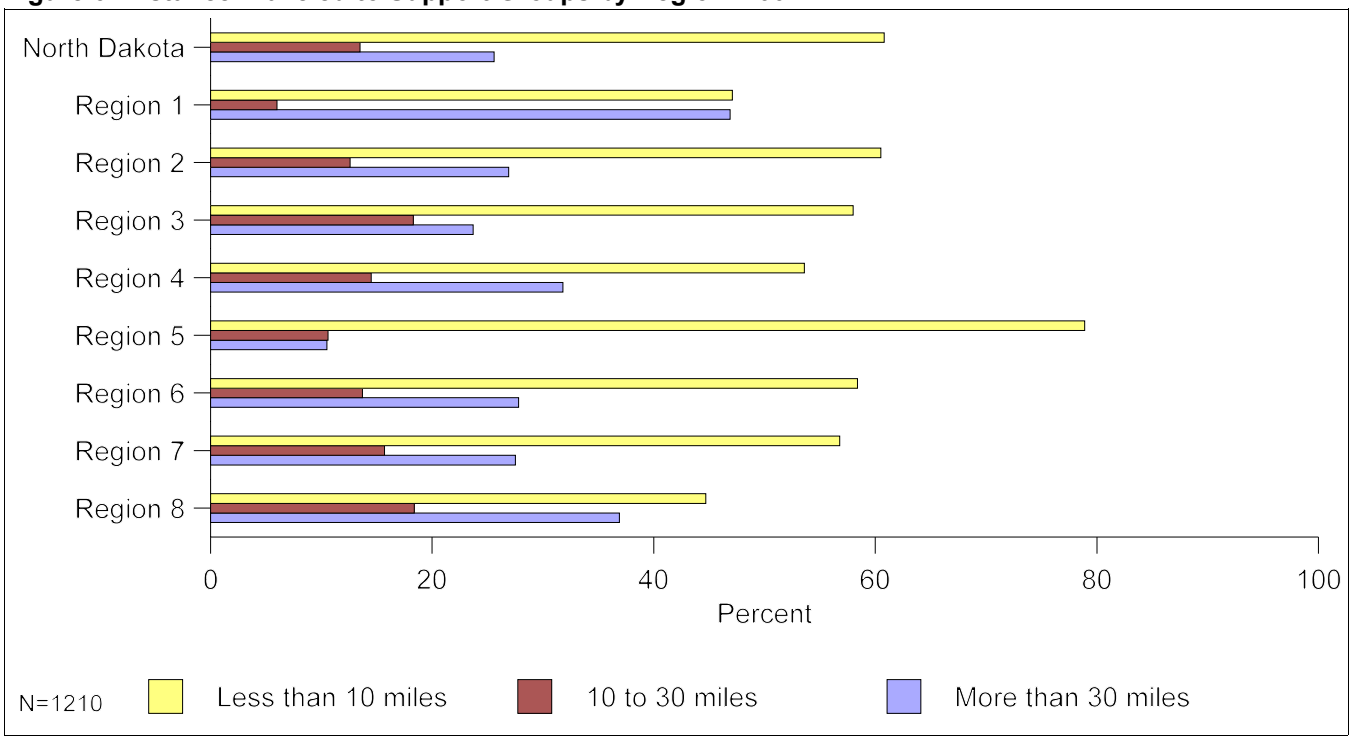


Figure 7. Distance Traveled to Clubs or Service Organizations by Region: 2002

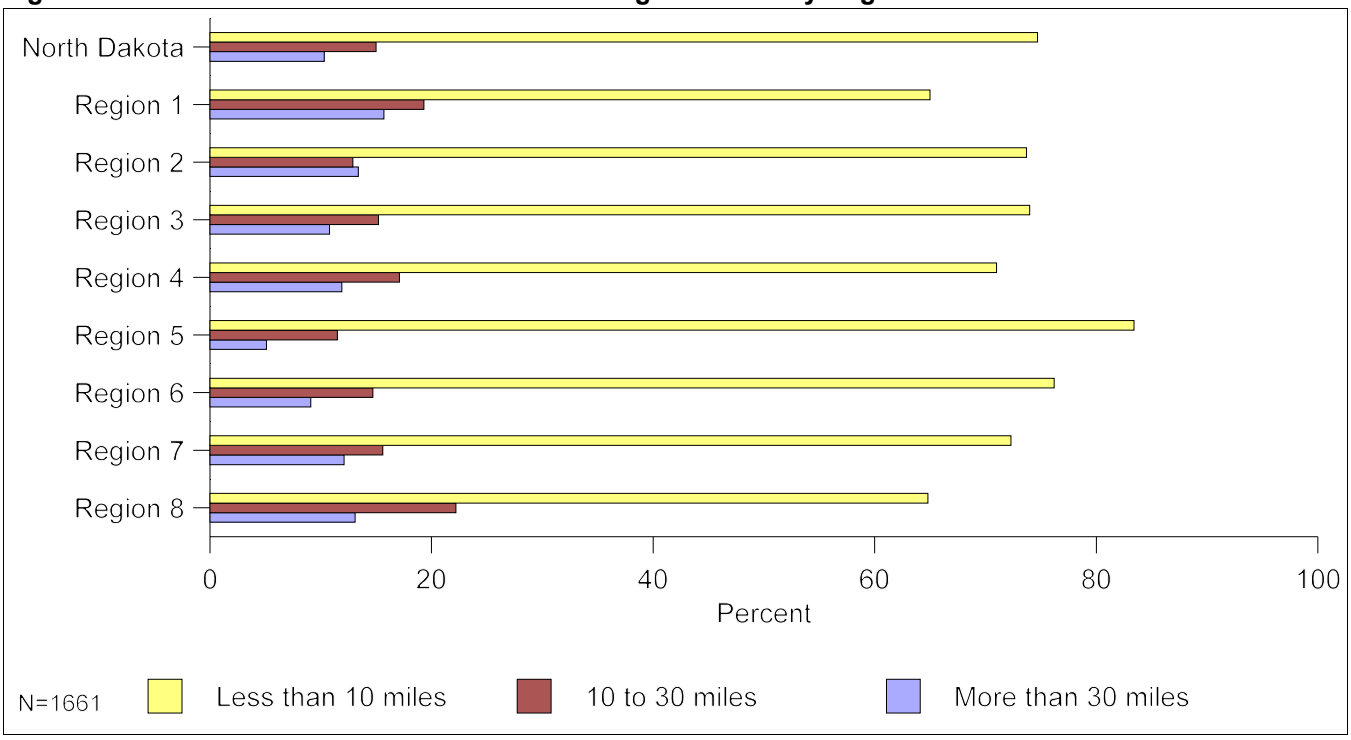


Figure 8. Distance Traveled to Church by Region: 2002

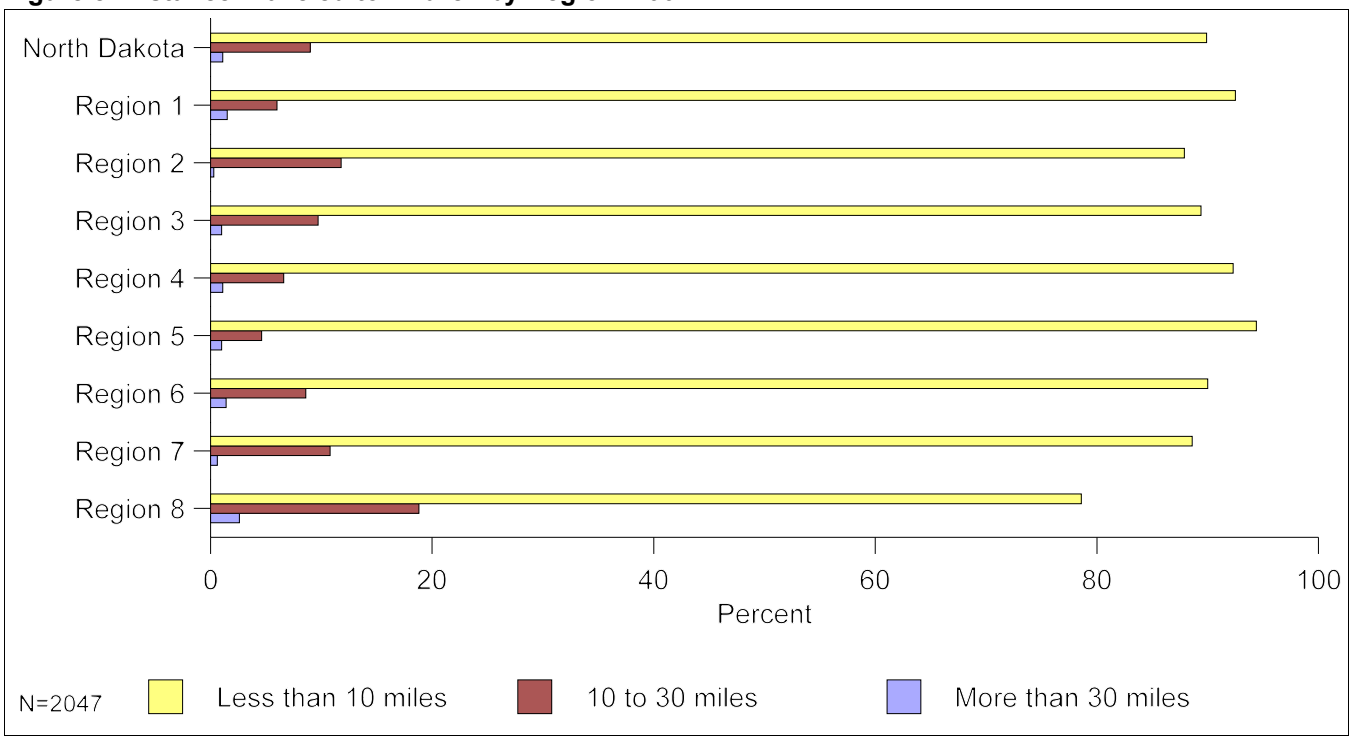


Figure 9. Distance Traveled for Groceries by Region: 2002

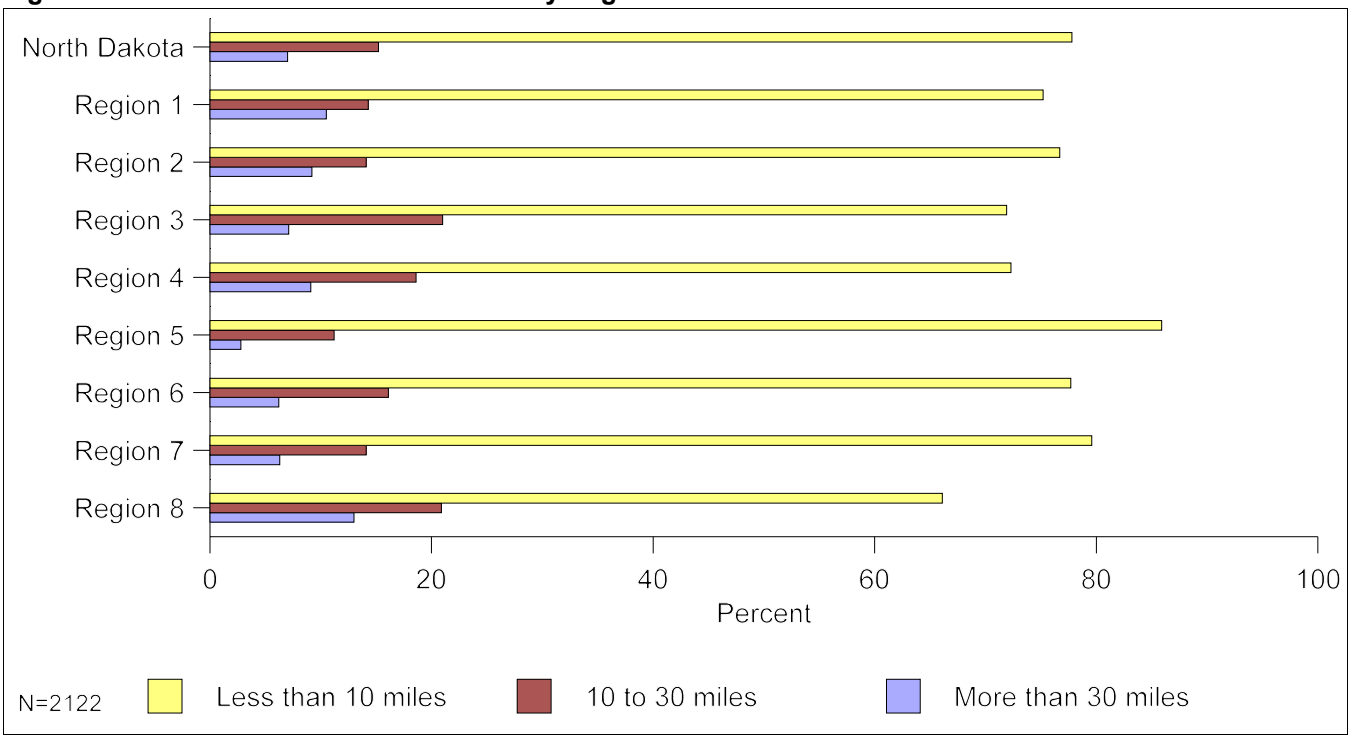
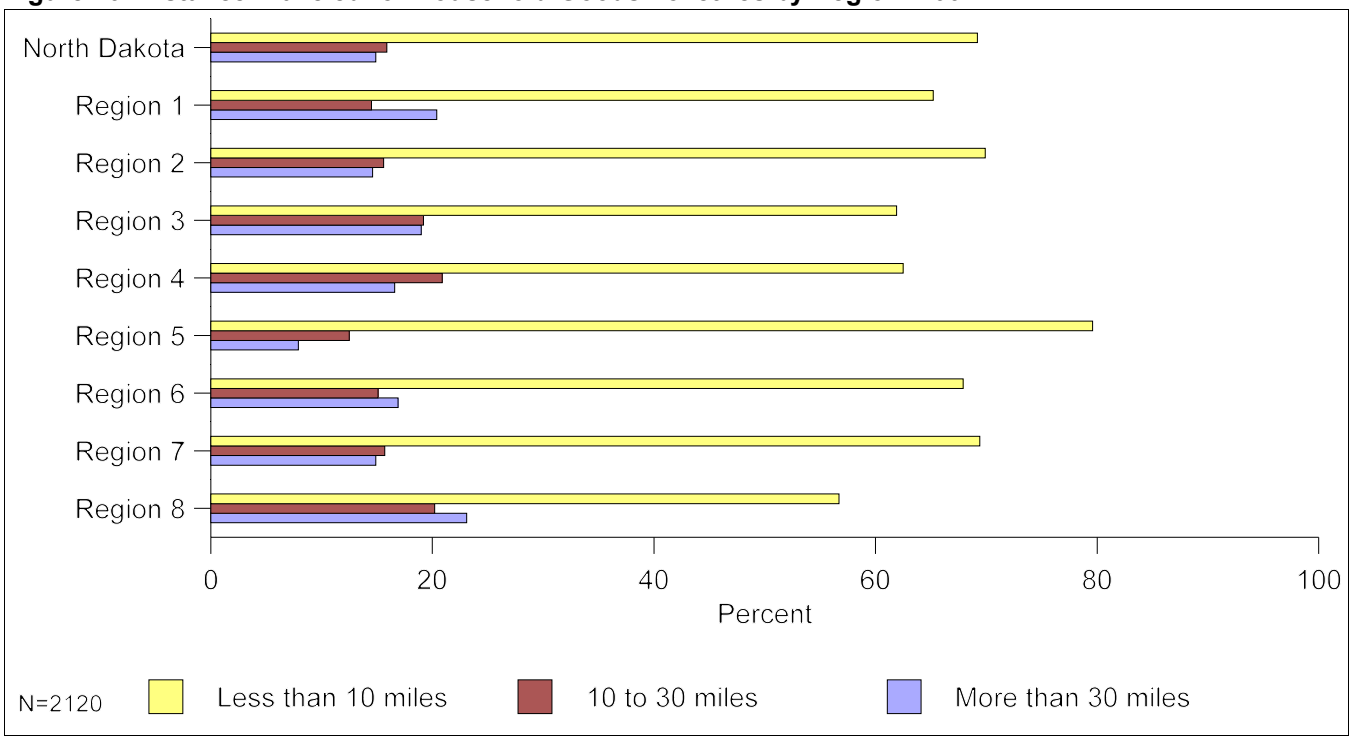


Figure 10. Distance Traveled for Household Goods/Toiletries by Region: 2002



Future Demand for Elderly Services

- An estimated 16,171 North Dakota seniors 75 years of age and older had a functional limitation in the year 2000.
- It is estimated that an additional 16,615 North Dakota residents between the ages of 50 and 74 had a functional limitation in the year 2000.
- Nearly 11,000 residents of North Dakota age 50 and over were estimated to have a severe functional limitation in 2000.
- Elderly population projections indicate that the number of North Dakota residents 50 years of age and older with a functional limitation will increase 27 percent by the year 2010 and reach nearly 42,000. By the year 2020, this number will exceed 48,600 with roughly 16,225 of these individuals having a severe functional limitation.
- It is estimated that 18,694 North Dakota residents age 50 and over were receiving informal care for a functional limitation in the year 2000. This informal care was given outside an established care facility. By the year 2020, an estimated 27,696 residents will be receiving informal care for a functional limitation.
- A small but significant number of North Dakota residents age 50 and over (2,090) in 2000 received formal caregiving (e.g., hospice) outside an established care facility. This number is expected to exceed 3,000 by the year 2020.
- It is estimated that in the year 2000, roughly 14,286 North Dakota residents age 50 and over were in need of institutional care in North Dakota for a functional limitation. This number is expected to jump to 21,296 by the year 2020.

Table 3. Estimates of Persons 50 Years and Older With a Functional Limitation by Level of Limitation, Age, and County: 2000

Area	50 to 74 Years				75 Years and Older				50 Years and Older			
	Level of Functional Limitation				Level of Functional Limitation				Level of Functional Limitation			
	LOW	MOD	SEV	TOT	LOW	MOD	SEV	TOT	LOW	MOD	SEV	TOT
North Dakota	7,630	3,211	5,774	16,615	7,178	3,887	5,106	16,171	14,808	7,098	10,880	32,786
Adams	52	12	26	90	47	24	32	103	99	36	58	193
Barnes	144	75	129	348	204	115	141	460	348	190	270	808
Benson	97	23	48	168	62	31	42	135	159	54	90	303
Billings	16	4	8	28	9	5	6	20	25	9	14	48
Bottineau	135	32	68	235	113	57	77	247	248	89	145	482
Bowman	58	14	29	101	51	26	34	111	109	40	63	212
Burke	52	12	26	90	36	18	24	78	88	30	50	168
Burleigh	733	381	659	1,773	635	359	437	1,431	1,368	740	1,096	3,204
Cass	1,061	552	955	2,568	900	509	620	2,029	1,961	1,061	1,575	4,597
Cavalier	100	24	50	174	77	39	52	168	177	63	102	342
Dickey	97	23	49	169	95	48	64	207	192	71	113	376
Divide	50	12	25	87	54	27	37	118	104	39	62	205
Dunn	63	15	32	110	44	22	30	96	107	37	62	206
Eddy	50	12	25	87	51	26	34	111	101	38	59	198
Emmons	89	21	45	155	76	38	52	166	165	59	97	321
Foster	66	15	33	114	54	27	37	118	120	42	70	232
Golden Valley	32	8	16	56	32	16	22	70	64	24	38	126
Grand Forks	540	281	486	1,307	500	283	344	1,127	1,040	564	830	2,434
Grant	60	14	30	104	51	26	35	112	111	40	65	216
Griggs	52	12	26	90	56	28	38	122	108	40	64	212
Hettinger	58	14	29	101	48	24	33	105	106	38	62	206
Kidder	54	13	27	94	45	23	31	99	99	36	58	193
LaMoure	90	21	45	156	77	39	52	168	167	60	97	324
Logan	51	12	25	88	42	21	29	92	93	33	54	180
McHenry	113	27	57	197	90	46	61	197	203	73	118	394
McIntosh	73	17	36	126	90	45	61	196	163	62	97	322
McKenzie	94	22	47	163	65	33	44	142	159	55	91	305
McLean	179	42	89	310	141	71	96	308	320	113	185	618
Mercer	99	51	89	239	98	55	67	220	197	106	156	459
Morton	280	146	252	678	274	155	188	617	554	301	440	1,295
Mountrail	109	26	55	190	88	45	60	193	197	71	115	383
Nelson	78	18	39	135	78	39	53	170	156	57	92	305
Oliver	38	9	19	66	18	9	12	39	56	18	31	105
Pembina	143	55	95	293	122	55	136	313	265	110	231	606
Pierce	61	32	55	148	97	55	67	219	158	87	122	367
Ramsey	142	74	128	344	193	109	133	435	335	183	261	779
Ransom	94	36	62	192	93	42	104	239	187	78	166	431
Renville	50	12	25	87	41	21	28	90	91	33	53	177
Richland	176	92	159	427	228	129	157	514	404	221	316	941
Rolette	157	61	104	322	85	38	95	218	242	99	199	540
Sargent	76	18	38	132	53	27	36	116	129	45	74	248
Sheridan	40	9	20	69	30	15	20	65	70	24	40	134
Sioux	40	9	20	69	11	5	7	23	51	14	27	92
Slope	15	4	7	26	7	3	5	15	22	7	12	41
Stark	246	128	222	596	279	157	192	628	525	285	414	1,224
Steele	43	10	22	75	27	14	19	60	70	24	41	135
Stutsman	263	137	237	637	305	173	210	688	568	310	447	1,325
Towner	52	12	26	90	53	27	36	116	105	39	62	206
Traill	127	49	84	260	125	56	140	321	252	105	224	581
Walsh	157	82	141	380	197	112	136	445	354	194	277	825
Ward	551	287	496	1,334	573	324	395	1,292	1,124	611	891	2,626
Wells	102	24	51	177	97	49	66	212	199	73	117	389
Williams	232	120	208	560	261	147	179	587	493	267	387	1,147

Note: LOW=Low level of functional limitation, MOD=Moderate level of functional limitation, SEV=Severe level of functional limitation, TOT=Total in age group

Table 4. Estimates of Persons 50 Years and Older With a Functional Limitation by Level of Limitation, Age, and County: 2010

Area	50 to 74 Years				75 Years and Older				50 Years and Older			
	Level of Functional Limitation				Level of Functional Limitation				Level of Functional Limitation			
	LOW	MOD	SEV	TOT	LOW	MOD	SEV	TOT	LOW	MOD	SEV	TOT
North Dakota	9,611	4,150	7,434	21,195	9,011	4,884	6,408	20,303	18,622	9,034	13,842	41,498
Adams	53	12	27	92	48	24	33	105	101	36	60	197
Barnes	190	99	171	460	229	129	157	515	419	228	328	975
Benson	107	25	54	186	80	40	54	174	187	65	108	360
Billings	20	5	10	35	11	6	8	25	31	11	18	60
Bottineau	165	39	83	287	132	66	89	287	297	105	172	574
Bowman	64	15	32	111	66	33	45	144	130	48	77	255
Burke	48	11	24	83	37	19	25	81	85	30	49	164
Burleigh	1,004	522	904	2,430	770	435	530	1,735	1,774	957	1,434	4,165
Cass	1,752	911	1,577	4,240	1,368	773	942	3,083	3,120	1,684	2,519	7,323
Cavalier	100	23	50	173	88	44	60	192	188	67	110	365
Dickey	110	26	55	191	100	51	68	219	210	77	123	410
Divide	43	10	22	75	57	29	39	125	100	39	61	200
Dunn	77	18	39	134	50	25	34	109	127	43	73	243
Eddy	61	14	31	106	65	33	44	142	126	47	75	248
Emmons	89	21	45	155	107	54	73	234	196	75	118	389
Foster	71	17	35	123	76	38	52	166	147	55	87	289
Golden Valley	39	9	20	68	34	17	23	74	73	26	43	142
Grand Forks	649	337	584	1,570	623	352	429	1,404	1,272	689	1,013	2,974
Grant	55	13	27	95	58	29	39	126	113	42	66	221
Griggs	52	12	26	90	63	32	43	138	115	44	69	228
Hettinger	56	13	28	97	57	28	38	123	113	41	66	220
Kidder	54	13	27	94	57	29	39	125	111	42	66	219
LaMoure	101	24	51	176	92	46	62	200	193	70	113	376
Logan	43	10	22	75	56	28	38	122	99	38	60	197
McHenry	123	29	61	213	109	55	74	238	232	84	135	451
McIntosh	65	15	32	112	110	55	75	240	175	70	107	352
McKenzie	111	26	55	192	83	42	56	181	194	68	111	373
McLean	229	54	115	398	172	87	117	376	401	141	232	774
Mercer	127	66	115	308	137	78	95	310	264	144	210	618
Morton	413	215	372	1,000	398	225	274	897	811	440	646	1,897
Mountrail	137	32	69	238	93	47	63	203	230	79	132	441
Nelson	84	20	42	146	100	50	68	218	184	70	110	364
Oliver	48	11	24	83	24	12	16	52	72	23	40	135
Pembina	174	67	115	356	144	65	161	370	318	132	276	726
Pierce	68	35	61	164	120	68	83	271	188	103	144	435
Ramsey	169	88	152	409	223	126	154	503	392	214	306	912
Ransom	113	43	75	231	125	56	140	321	238	99	215	552
Renville	50	12	25	87	46	23	31	100	96	35	56	187
Richland	238	124	214	576	277	156	190	623	515	280	404	1,199
Rolette	223	86	148	457	123	55	137	315	346	141	285	772
Sargent	88	21	44	153	57	29	39	125	145	50	83	278
Sheridan	37	9	18	64	35	18	24	77	72	27	42	141
Sioux	51	12	25	88	15	7	10	32	66	19	35	120
Slope	18	4	9	31	11	5	7	23	29	9	16	54
Stark	310	161	279	750	338	191	233	762	648	352	512	1,512
Steele	44	10	22	76	36	18	25	79	80	28	47	155
Stutsman	301	156	271	728	413	234	285	932	714	390	556	1,660
Towner	56	13	28	97	51	26	35	112	107	39	63	209
Traill	154	59	102	315	135	61	150	346	289	120	252	661
Walsh	172	90	155	417	197	112	136	445	369	202	291	862
Ward	625	325	562	1,512	704	398	485	1,587	1,329	723	1,047	3,099
Wells	105	25	53	183	117	59	79	255	222	84	132	438
Williams	275	143	247	665	294	166	202	662	569	309	449	1,327

Note: LOW=Low level of functional limitation, MOD=Moderate level of functional limitation, SEV=Severe level of functional limitation, TOT=Total in age group

Table 5. Estimates of Persons 50 Years and Older With a Functional Limitation by Level of Limitation, Age, and County: 2020

	50 to 74 Years				75 Years and Older				50 Years and Older			
	Level of Functional Limitation				Level of Functional Limitation				Level of Functional Limitation			
Area	LOW	MOD	SEV	TOT	LOW	MOD	SEV	TOT	LOW	MOD	SEV	TOT
North Dakota	10,858	4,765	8,493	24,116	10,873	5,905	7,732	24,510	21,731	10,670	16,225	48,626
Adams	49	12	24	85	53	27	36	116	102	39	60	201
Barnes	196	102	177	475	286	161	197	644	482	263	374	1,119
Benson	123	29	62	214	95	48	65	208	218	77	127	422
Billings	20	5	10	35	12	6	8	26	32	11	18	61
Bottineau	181	42	90	313	158	80	107	345	339	122	197	658
Bowman	71	17	36	124	70	35	48	153	141	52	84	277
Burke	46	11	23	80	31	16	21	68	77	27	44	148
Burleigh	1,210	629	1,089	2,928	932	526	641	2,099	2,412	1,155	1,730	5,027
Cass	2,327	1,210	2,094	5,631	1,936	1,094	1,332	4,362	4,263	2,304	3,426	9,993
Cavalier	89	21	45	155	96	48	65	209	185	69	110	364
Dickey	104	25	52	181	120	60	81	261	224	85	133	442
Divide	38	9	19	66	57	29	39	125	95	38	58	191
Dunn	80	19	40	139	61	30	41	132	141	49	81	271
Eddy	69	16	35	120	72	36	49	157	141	52	84	277
Emmons	97	23	48	168	119	60	81	260	216	83	129	428
Foster	84	20	42	146	81	41	55	177	165	61	97	323
Golden Valley	42	10	21	73	38	19	26	83	80	29	47	156
Grand Forks	726	378	653	1,757	724	409	499	1,632	1,450	787	1,152	3,389
Grant	46	11	23	80	59	30	40	129	105	41	63	209
Griggs	52	12	26	90	55	28	37	120	107	40	63	210
Hettinger	50	12	25	87	59	30	40	129	109	42	65	216
Kidder	54	13	27	94	57	29	39	125	111	42	66	219
LaMoure	107	25	53	185	96	49	65	210	203	74	118	395
Logan	38	9	19	66	59	30	40	129	97	39	59	195
McHenry	127	30	63	220	130	66	89	285	257	96	152	505
McIntosh	60	14	30	104	114	57	77	248	174	71	107	352
McKenzie	109	26	54	189	111	56	76	243	220	82	130	432
McLean	242	57	121	420	220	111	149	480	462	168	270	900
Mercer	132	69	119	320	178	101	123	402	310	170	242	722
Morton	537	279	483	1,299	526	297	362	1,185	1,063	576	845	2,484
Mountrail	149	35	75	259	116	58	78	252	265	93	153	511
Nelson	87	20	43	150	109	55	74	238	196	75	117	388
Oliver	47	11	24	82	28	14	19	61	75	25	43	143
Pembina	194	75	128	397	153	69	171	393	347	144	299	790
Pierce	80	42	72	194	126	71	86	283	206	113	158	477
Ramsey	188	98	169	455	247	139	170	556	435	237	339	1,011
Ransom	128	49	84	261	144	64	160	368	272	113	244	629
Renville	48	11	24	83	48	24	32	104	96	35	56	187
Richland	267	139	240	646	310	175	213	698	577	314	453	1,344
Rolette	293	113	194	600	193	87	216	496	486	200	410	1,096
Sargent	86	20	43	149	77	39	52	168	163	59	95	317
Sheridan	31	7	16	54	34	17	23	74	65	24	39	128
Sioux	70	16	35	121	22	11	15	48	92	27	50	169
Slope	18	4	9	31	11	6	8	25	29	10	17	56
Stark	339	176	305	820	404	228	278	910	743	404	583	1,730
Steele	44	10	22	76	39	20	27	86	83	30	49	162
Stutsman	315	164	284	763	492	278	339	1,109	807	442	623	1,872
Towner	56	13	28	97	48	24	33	105	104	37	61	202
Traill	171	66	113	350	146	66	163	375	317	132	276	725
Walsh	180	93	162	435	204	115	141	460	384	208	303	895
Ward	581	302	523	1,406	861	486	593	1,940	1,442	788	1,116	3,346
Wells	111	26	55	192	122	61	83	266	233	87	138	458
Williams	269	140	242	651	334	189	230	753	603	329	472	1,404

Note: LOW=Low level of functional limitation, MOD=Moderate level of functional limitation, SEV=Severe level of functional limitation, TOT=Total in age group

Table 6. Estimates of Persons 50 Years and Older Using Care Services by Type of Care, Level of Limitation, and County: 2000

Area	Informal				Combination of Informal and Formal				Formal			
	Level of Functional Limitation				Level of Functional Limitation				Level of Functional Limitation			
	LOW	MOD	SEV	TOT	LOW	MOD	SEV	TOT	LOW	MOD	SEV	TOT
North Dakota	9,758	4,144	4,792	18,694	4,013	2,364	5,644	12,021	1,054	586	450	2,090
Adams	65	21	26	112	27	12	30	69	7	3	2	12
Barnes	229	111	119	459	94	63	140	297	25	16	11	52
Benson	105	32	40	177	43	18	47	108	11	4	4	19
Billings	16	5	6	27	7	3	7	17	2	1	1	4
Bottineau	163	52	64	279	67	30	75	172	18	7	6	31
Bowman	72	23	28	123	30	13	33	76	8	3	3	14
Burke	58	18	22	98	24	10	26	60	6	2	2	10
Burleigh	902	432	482	1,816	371	246	569	1,186	97	61	45	203
Cass	1,292	620	693	2,605	531	353	817	1,701	139	88	65	292
Cavalier	117	37	45	199	48	21	53	122	13	5	4	22
Dickey	127	41	50	218	52	24	59	135	14	6	5	25
Divide	69	23	27	119	28	13	32	73	7	3	3	13
Dunn	71	22	27	120	29	12	32	73	8	3	3	14
Eddy	67	22	26	115	27	13	31	71	7	3	2	12
Emmons	109	34	43	186	45	20	50	115	12	5	4	21
Foster	79	25	31	135	33	14	36	83	9	3	3	15
Golden Valley	42	14	17	73	17	8	20	45	5	2	2	9
Grand Forks	685	329	365	1,379	282	188	431	901	74	47	34	155
Grant	73	23	29	125	30	13	34	77	8	3	3	14
Griggs	71	23	28	122	29	13	33	75	8	3	3	14
Hettinger	70	22	27	119	29	13	32	74	8	3	3	14
Kidder	65	21	26	112	27	12	30	69	7	3	2	12
LaMoure	110	35	43	188	45	20	50	115	12	5	4	21
Logan	61	19	24	104	25	11	28	64	7	3	2	12
McHenry	134	43	52	229	55	24	61	140	14	6	5	25
McIntosh	107	36	43	186	44	21	50	115	12	5	4	21
McKenzie	105	32	40	177	43	18	47	108	11	5	4	20
McLean	211	66	81	358	87	38	96	221	23	9	8	40
Mercer	130	62	69	261	53	35	81	169	14	9	6	29
Morton	365	176	194	735	150	100	228	478	39	25	18	82
Mountrail	130	41	51	222	53	24	60	137	14	6	5	25
Nelson	103	33	40	176	42	19	48	109	11	5	4	20
Oliver	37	11	14	62	15	6	16	37	4	1	1	6
Pembina	175	64	102	341	72	37	120	229	19	9	9	37
Pierce	104	51	54	209	43	29	63	135	11	7	5	23
Ramsey	221	107	115	443	91	61	135	287	24	15	11	50
Ransom	123	46	73	242	51	26	86	163	13	6	7	26
Renville	60	19	23	102	25	11	28	64	6	3	2	11
Richland	266	129	139	534	109	74	164	347	29	18	13	60
Rolette	159	58	88	305	66	33	103	202	17	8	8	33
Sargent	85	26	33	144	35	15	38	88	9	4	3	16
Sheridan	46	14	18	78	19	8	21	48	5	2	2	9
Sioux	34	8	12	54	14	5	14	33	4	1	1	6
Slope	14	4	5	23	6	2	6	14	2	1	0	3
Stark	346	166	182	694	142	95	215	452	37	24	17	78
Steele	46	14	18	78	19	8	21	48	5	2	2	9
Stutsman	374	181	197	752	154	103	232	489	40	26	18	84
Towner	69	23	27	119	28	13	32	73	7	3	3	13
Traill	166	61	99	326	68	35	116	219	18	9	9	36
Walsh	233	113	122	468	96	65	144	305	25	16	11	52
Ward	741	357	392	1,490	305	203	462	970	80	51	37	168
Wells	131	43	51	225	54	24	61	139	14	6	5	25
Williams	325	156	170	651	134	89	201	424	35	22	16	73

Note: LOW=Low level of functional limitation, MOD=Moderate level of functional limitation, SEV=Severe level of functional limitation, TOT=Total by Type of Care

Table 7. Estimates of Persons 50 Years and Older Using Care Services by Type of Care, Level of Limitation, and County: 2010

Area	Informal				Combination of Informal and Formal				Formal			
	Level of Functional Limitation				Level of Functional Limitation				Level of Functional Limitation			
	LOW	MOD	SEV	TOT	LOW	MOD	SEV	TOT	LOW	MOD	SEV	TOT
North Dakota	12,269	5,274	6,090	23,633	5,048	3,010	7,184	15,242	1,322	751	571	2,644
Adams	67	21	26	114	27	12	31	70	7	3	2	12
Barnes	276	133	144	553	114	76	170	360	30	19	13	62
Benson	123	38	48	209	51	22	56	129	13	5	4	22
Billings	20	6	8	34	8	4	9	21	2	1	1	4
Bottineau	196	61	76	333	80	35	89	204	21	9	7	37
Bowman	86	28	34	148	35	16	40	91	9	4	3	16
Burke	56	18	22	96	23	10	25	58	6	2	2	10
Burleigh	1,169	559	631	2,359	481	319	744	1,544	126	79	59	264
Cass	2,056	983	1,108	4,147	846	561	1,307	2,714	222	140	103	465
Cavalier	124	39	48	211	51	22	57	130	13	6	5	24
Dickey	138	45	54	237	57	26	64	147	15	6	5	26
Divide	66	23	27	116	27	13	32	72	7	3	3	13
Dunn	84	25	32	141	34	14	38	86	9	4	3	16
Eddy	83	27	33	143	34	16	39	89	9	4	3	16
Emmons	129	44	52	225	53	25	61	139	14	6	5	25
Foster	97	32	38	167	40	18	45	103	10	5	4	19
Golden Valley	48	15	19	82	20	9	22	51	5	2	2	9
Grand Forks	838	402	446	1,686	345	229	526	1,100	90	57	42	189
Grant	74	25	29	128	31	14	34	79	8	3	3	14
Griggs	76	26	30	132	31	15	36	82	8	4	3	15
Hettinger	74	24	29	127	31	14	34	79	8	3	3	14
Kidder	73	25	29	127	30	14	34	78	8	3	3	14
LaMoure	127	41	50	218	52	23	59	134	14	6	5	25
Logan	65	22	26	113	27	13	31	71	7	3	2	12
McHenry	153	49	59	261	63	28	70	161	16	7	6	29
McIntosh	115	41	47	203	47	23	56	126	12	6	4	22
McKenzie	128	40	49	217	53	23	58	134	14	6	5	25
McLean	264	82	102	448	109	47	120	276	28	12	10	50
Mercer	174	84	92	350	72	48	109	229	19	12	9	40
Morton	534	257	284	1,075	220	147	335	702	58	37	26	121
Mountrail	152	46	58	256	62	26	69	157	16	7	5	28
Nelson	121	41	48	210	50	23	57	130	13	6	5	24
Oliver	47	13	18	78	20	8	21	49	5	2	2	9
Pembina	210	77	121	408	86	44	143	273	23	11	11	45
Pierce	124	60	63	247	51	34	75	160	13	9	6	28
Ramsey	258	125	135	518	106	71	159	336	28	18	13	59
Ransom	157	58	95	310	64	33	112	209	17	8	9	34
Renville	63	20	25	108	26	12	29	67	7	3	2	12
Richland	339	164	178	681	140	93	210	443	37	23	17	77
Rolette	228	82	125	435	94	47	148	289	25	12	12	49
Sargent	96	29	37	162	39	17	43	99	10	4	3	17
Sheridan	47	16	18	81	20	9	22	51	5	2	2	9
Sioux	43	11	15	69	18	6	18	42	5	2	1	8
Slope	19	5	7	31	8	3	8	19	2	1	1	4
Stark	427	206	225	858	176	117	266	559	46	29	21	96
Steele	53	16	21	90	22	9	24	55	6	2	2	10
Stutsman	471	228	245	944	193	130	289	612	51	32	23	106
Towner	71	23	28	122	29	13	33	75	8	3	3	14
Traill	190	70	111	371	78	40	131	249	21	10	10	41
Walsh	243	118	128	489	100	67	151	318	26	17	12	55
Ward	876	422	461	1,759	360	241	543	1,144	94	60	43	197
Wells	146	49	58	253	60	28	69	157	16	7	5	28
Williams	375	180	198	753	154	103	233	490	40	26	18	84

Note: LOW=Low level of functional limitation, MOD=Moderate level of functional limitation, SEV=Severe level of functional limitation, TOT=Total by Type of Care

Table 8. Estimates of Persons 50 Years and Older Using Care Services by Type of Care, Level of Limitation, and County: 2020

Area	Informal				Combination of Informal and Formal				Formal			
	Level of Functional Limitation				Level of Functional Limitation				Level of Functional Limitation			
	LOW	MOD	SEV	TOT	LOW	MOD	SEV	TOT	LOW	MOD	SEV	TOT
North Dakota	14,324	6,231	7,141	27,696	5,890	3,557	8,421	17,868	1,544	881	664	3,089
Adams	67	23	26	116	28	13	31	72	7	3	2	12
Barnes	318	154	165	637	131	88	194	413	34	22	15	71
Benson	144	45	56	245	59	26	66	151	15	6	5	26
Billings	21	6	8	35	9	4	9	22	2	1	1	4
Bottineau	223	71	87	381	92	41	102	235	24	10	8	42
Bowman	93	30	37	160	38	17	44	99	10	4	3	17
Burke	51	16	19	86	21	9	23	53	5	2	2	9
Burleigh	1,412	675	761	2,848	580	385	898	1,863	152	96	71	319
Cass	2,809	1,346	1,507	5,662	1,155	767	1,778	3,700	303	191	140	634
Cavalier	122	40	48	210	50	23	57	130	13	6	5	24
Dickey	148	50	59	257	61	28	69	158	16	7	5	28
Divide	63	22	26	111	26	13	30	69	7	3	2	12
Dunn	93	29	36	158	38	16	42	96	10	4	3	17
Eddy	93	30	37	160	38	17	44	99	10	4	3	17
Emmons	142	48	57	247	59	28	67	154	15	7	5	27
Foster	109	36	43	188	45	20	50	115	12	5	4	21
Golden Valley	53	17	21	91	22	10	24	56	6	2	2	10
Grand Forks	956	460	507	1,923	393	262	598	1,253	103	65	47	215
Grant	69	24	28	121	28	14	33	75	7	3	3	13
Griggs	71	23	28	122	29	13	33	75	8	3	3	14
Hettinger	72	25	29	126	30	14	34	78	8	3	3	14
Kidder	73	25	29	127	30	14	34	78	8	3	3	14
LaMoure	134	43	52	229	55	25	61	141	14	6	5	25
Logan	64	23	26	113	26	13	31	70	7	3	2	12
McHenry	169	56	67	292	70	32	79	181	18	8	6	32
McIntosh	115	41	47	203	47	24	56	127	12	6	4	22
McKenzie	145	48	57	250	60	27	67	154	16	7	5	28
McLean	304	98	119	521	125	56	140	321	33	14	11	58
Mercer	204	99	106	409	84	57	126	267	22	14	10	46
Morton	701	336	372	1,409	288	192	439	919	75	48	35	158
Mountrail	175	54	67	296	72	31	79	182	19	8	6	33
Nelson	129	44	51	224	53	25	61	139	14	6	5	25
Oliver	49	15	19	83	20	8	22	50	5	2	2	9
Pembina	229	84	132	445	94	48	155	297	25	12	12	49
Pierce	136	66	70	272	56	38	82	176	15	9	6	30
Ramsey	287	138	149	574	118	79	176	373	31	20	14	65
Ransom	179	66	107	352	74	38	127	239	19	9	10	38
Renville	63	20	25	108	26	12	29	67	7	3	2	12
Richland	380	183	199	762	156	105	235	496	41	26	19	86
Rolette	320	117	180	617	132	67	213	412	35	17	17	69
Sargent	107	34	42	183	44	20	49	113	12	5	4	21
Sheridan	43	14	17	74	18	8	20	46	5	2	2	9
Sioux	61	16	22	99	25	9	26	60	7	2	2	11
Slope	19	6	7	32	8	3	9	20	2	1	1	4
Stark	490	236	257	983	201	135	303	639	53	34	24	111
Steele	55	18	22	95	22	10	25	57	6	2	2	10
Stutsman	532	258	274	1,064	219	147	323	689	57	37	26	120
Towner	69	22	27	118	28	12	32	72	7	3	3	13
Traill	209	77	121	407	86	44	143	273	23	11	11	45
Walsh	253	121	133	507	104	69	157	330	27	17	12	56
Ward	950	460	491	1,901	391	262	579	1,232	102	65	46	213
Wells	154	51	61	266	63	29	72	164	17	7	6	30
Williams	397	192	208	797	163	110	245	518	43	27	19	89

Note: LOW=Low level of functional limitation, MOD=Moderate level of functional limitation, SEV=Severe level of functional limitation, TOT=Total by Type of Care

Table 9. Estimate of Persons 50 Years and Older Who Need Institutional Care by Level of Limitation and County: 2000, 2010, and 2020

	2000				2010				2020			
	Level of Functional Limitation				Level of Functional Limitation				Level of Functional Limitation			
Area	LOW	MOD	SEV	TOT	LOW	MOD	SEV	TOT	LOW	MOD	SEV	TOT
North Dakota	1288	1718	11280	14,286	1,620	2,185	14,354	18,159	1,886	2,584	16,826	21,296
Adams	9	9	60	78	9	9	62	80	9	9	62	80
Barnes	30	46	280	356	36	55	340	431	42	64	388	494
Benson	14	13	93	120	16	16	112	144	19	19	132	170
Billings	2	2	15	19	3	3	19	25	3	3	19	25
Bottineau	22	22	150	194	26	25	178	229	29	30	204	263
Bowman	9	10	65	84	11	12	80	103	12	13	87	112
Burke	8	7	52	67	7	7	51	65	7	7	46	60
Burleigh	119	179	1137	1,435	154	232	1,487	1,873	186	280	1,794	2,260
Cass	171	257	1633	2,061	271	408	2,612	3,291	371	558	3,553	4,482
Cavalier	15	15	106	136	16	16	114	146	16	17	114	147
Dickey	17	17	117	151	18	19	128	165	19	21	138	178
Divide	9	9	64	82	9	9	63	81	8	9	60	77
Dunn	9	9	64	82	11	10	76	97	12	12	84	108
Eddy	9	9	61	79	11	11	78	100	12	13	87	112
Emmons	14	14	101	129	17	18	122	157	19	20	134	173
Foster	10	10	73	93	13	13	90	116	14	15	101	130
Golden Valley	6	6	39	51	6	6	45	57	7	7	49	63
Grand Forks	90	136	861	1,087	111	167	1,050	1,328	126	190	1,195	1,511
Grant	10	10	67	87	10	10	68	88	9	10	65	84
Griggs	9	10	66	85	10	11	72	93	9	10	65	84
Hettinger	9	9	64	82	10	10	68	88	9	10	67	86
Kidder	9	9	60	78	10	10	68	88	10	10	68	88
LaMoure	15	15	101	131	17	17	117	151	18	18	122	158
Logan	8	8	56	72	9	9	62	80	8	9	61	78
McHenry	18	18	122	158	20	20	140	180	22	23	158	203
McIntosh	14	15	101	130	15	17	111	143	15	17	111	143
McKenzie	14	13	94	121	17	16	115	148	19	20	135	174
McLean	28	27	192	247	35	34	241	310	40	41	280	361
Mercer	17	26	162	205	23	35	218	276	27	41	251	319
Morton	48	73	456	577	71	106	670	847	92	139	876	1,107
Mountrail	17	17	119	153	20	19	137	176	23	23	159	205
Nelson	14	14	95	123	16	17	114	147	17	18	121	156
Oliver	5	4	32	41	6	6	41	53	7	6	45	58
Pembina	23	27	240	290	28	32	286	346	30	35	310	375
Pierce	14	21	127	162	16	25	149	190	18	27	164	209
Ramsey	29	44	271	344	34	52	317	403	38	57	352	447
Ransom	16	19	172	207	21	24	223	268	24	27	253	304
Renville	8	8	55	71	8	8	58	74	8	8	58	74
Richland	35	53	328	416	45	68	419	532	50	76	470	596
Rolette	21	24	206	251	30	34	296	360	42	48	425	515
Sargent	11	11	77	99	13	12	86	111	14	14	99	127
Sheridan	6	6	41	53	6	7	44	57	6	6	40	52
Sioux	4	3	28	35	6	5	36	47	8	7	52	67
Slope	2	2	12	16	3	2	17	22	3	2	18	23
Stark	46	69	429	544	56	85	531	672	65	98	605	768
Steele	6	6	43	55	7	7	49	63	7	7	51	65
Stutsman	49	75	464	588	62	94	577	733	70	107	646	823
Towner	9	9	64	82	9	9	65	83	9	9	63	81
Traill	22	25	232	279	25	29	261	315	28	32	286	346
Walsh	31	47	287	365	32	49	302	383	33	50	314	397
Ward	98	148	924	1,170	116	175	1,086	1,377	125	191	1,157	1,473
Wells	17	18	121	156	19	20	137	176	20	21	143	184
Williams	43	65	401	509	50	75	466	591	52	80	489	621

Note: LOW=Low level of functional limitation, MOD=Moderate level of functional limitation, SEV=Severe level of functional limitation, TOT=Total by Year

RECRUITMENT AND RETENTION

PERCEPTIONS OF LONG TERM CARE ADMINISTRATORS

A report based on collaboration including

Center for Rural Health
UND School of Medicine and Health Sciences

The North Dakota Long Term Care Association

November 2002

Forward

This report is part of the 2002 North Dakota Needs Assessment for Long-Term Care. This part of the Long-Term Care project was supported by the North Dakota Long Term Care Association with professional assistance from the North Dakota Department of Human Services and the Center for Rural Health. This particular report addresses the perceptions of long-term care administrators with respect to their perception of recruitment and retention issues. Analysis and writing were a collaborative effort.

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PERCEPTIONS OF LONG TERM CARE ADMINISTRATORS

INTRODUCTION

The 2001/2002 survey of North Dakota long term care administrators was undertaken by the North Dakota Long Term Care Association with the collaborative assistance of the Center for Rural Health at the UND School of Medicine and Health Sciences and the North Dakota Department of Human Services. The purpose of the survey was to assess administrator perceptions of the level of difficulty in recruiting and retaining staff for their facilities and to identify strategies that administrators define as effective for recruiting and retaining staff. Comparisons of these strategies for urban and rural facilities and for facilities containing nursing care, assisted living, basic care and independent apartments were also included in the objectives of the study.

The data were collected by and belong to the North Dakota Long Term Care Association. This working relationship was crafted in response to budget reductions in the statewide long term care study that were required to accommodate the costs of financial analyses. In this project, the Long Term Care Association solicited responses to a survey from all of the long term care administrators in the state. Data were collected during the fall and early winter 2001-2002 using a combination of Internet based surveys and paper copies of the same instrument for those unable to respond using the internet. The survey instrument is attached.

Response rates were high with 95.3% (81 of 85) of the nursing facilities responding and 84.2% (32 of 38) of the basic care facilities belonging to the North Dakota Long Term Care Association. The Department of Human Services reports 46 basic care facilities in the state. Apparently 8 are not members of the North Dakota Long Term Care Association. Responses

were also received from 17 facilities offering assisted living and 28 offering independent apartments. Many of the respondents represented multiple levels of care. The data, once collected by the Long Term Care Association, were entered into computer readable format at UND. The electronic data files, once created, were shared with the research staff at the Department of Human Services and the North Dakota Long Term Care Association. The analysis was conducted as a joint activity of the Department of Human Services and UND.

The number and distribution of Long Term Care Facilities in North Dakota Counties is presented in a map of facilities per county (see Figure 1).

A second map (Figure 2) presents the ratio of population over age 55 to long-term care facilities by county. Each of these maps are presented to display the distribution of long term care facilities in the state.

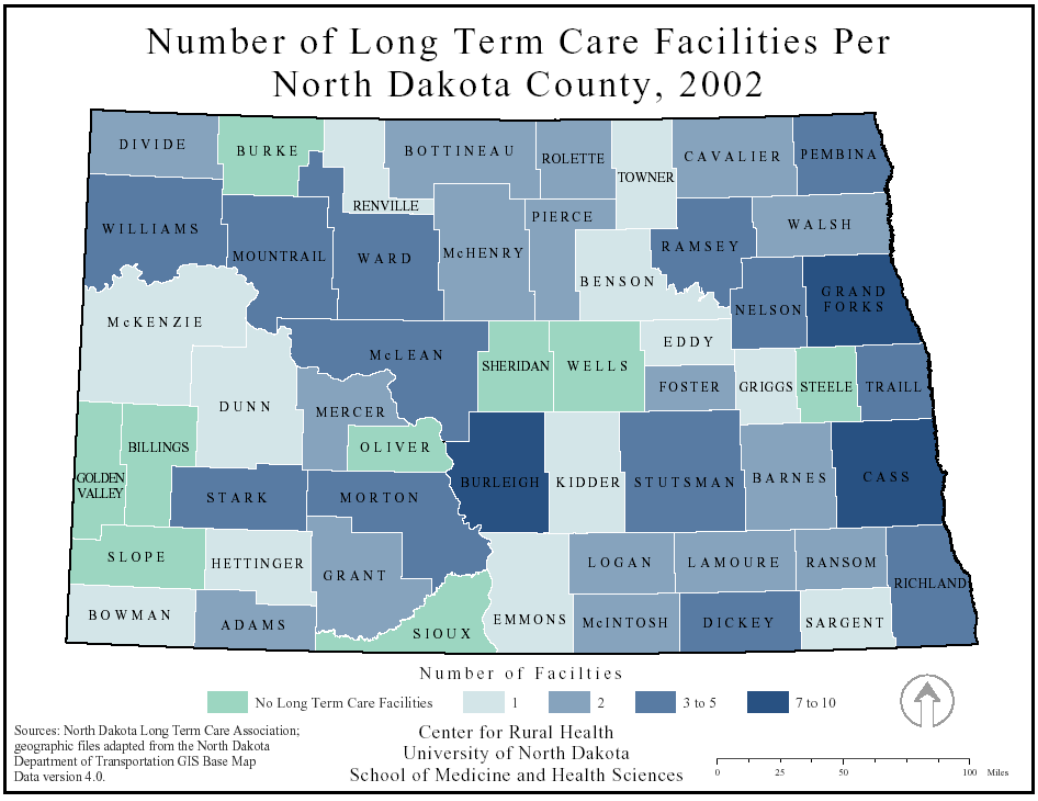

Figure 1. Number of Long Term Care Facilities Per North Dakota County, 2002

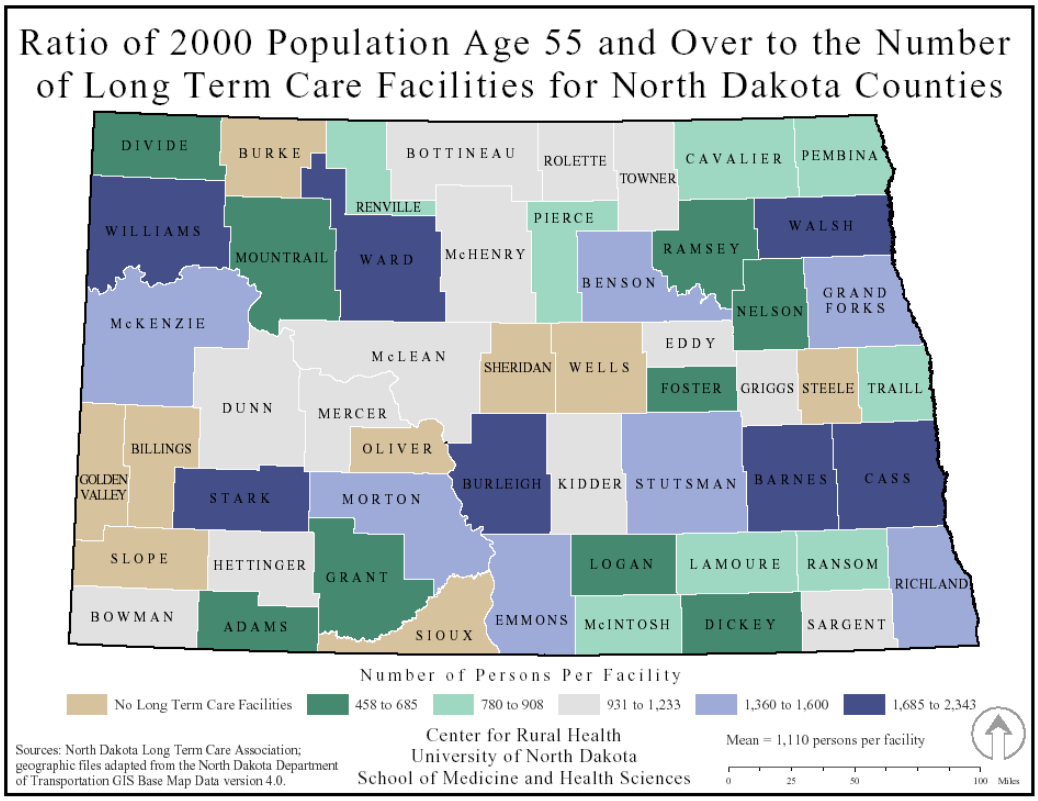

Figure 2. Ration of 2000 Population Age 55 and Over to the Number of Long Term Care Facilities for North Dakota Counties

INITIAL DESCRIPTIVE FINDINGS

In this section descriptive frequencies are presented for key variables in the survey. These descriptive findings establish a foundation for examining other questions about relationships and that address questions as to what seems to work under different conditions with respect to the key issues of recruitment and retention.

Facility Characteristics

The facilities responding to this survey are described in Table 1. Eighty-one of the 85 facilities with nursing homes responded, as did 17 operating assisted living units. Seventy-three percent of all facilities contained nursing beds while 15.3% contained beds defined as assisted living. Facilities were least likely to possess assisted living bends as they represent a relatively new configuration for care. Thirty two of a possible 38 facilities with basic care beds were represented and 29 facilities operating independent living apartments. This represents 92% of the facilities with nursing beds and basic care beds. While we lack precise data on the total number of assisted living facilities and independent apartment facilities, these are also thought to be high in terms of participation.

Table 1. Characteristics of Facilities*.

Characteristics	Number	Percent
Nursing Beds	81	73.0%
Assisted Living Beds	17	15.3%
Basic Care Beds	32	28.8%
Independent Apts.	29	26.1%

* This table is based on multiple responses, consequently the percents total more than 100%. Two respondents failed had missing data.

Average numbers of beds by type are presented in Table 2. Nursing home beds remain the most common and represent the largest facility sizes as well. While this mix is changing, this provides a picture of the distribution at this point in time.

Table 2. Total and Average Number of Beds by Type.

	Nursing Beds	Assisted Living	Basic Care	Independent Apts.
Number	6,446	718	1,132	732
Average size	80	42	35	25

Overall, the occupancy rate reported for all types of facilities was 89.2%. The most common ownership pattern was "private non-profit" with 78.6% of the facilities in that classification.

Ownership patterns found private for-profit facilities accounting for 14.3% of the facilities and public facilities accounted for 7.1%. Most of the facilities were free standing (80.9%) with the remaining being attached to hospitals.

Staff Vacancies

Vacancies were reported for a variety of staff positions. The results in Table 3 are based on the administrators reporting of vacancies as of the date of their responses. The timing of this data collection, late fall and winter, in all likelihood occurred during the season of lowest turnover. Changes in employment should be expected to peak during graduation and the start of school terms. Much higher reports of staff vacancies were found in August of 2000 and this difference may in part be due to the time of year in which data were collected. It is likely that the vacancies reported in this data represent low estimates for vacancy rates. Reports of part time vacancies were counted as .5 positions. It should be noted that this snapshot in time represents a highly variable element of the data. As an example, one administrator reported that the day before he filled out the survey, he considered his facility fully staffed with stable personnel. However, his survey responses reflected three vacancies, all of which surfaced in a 24 hour period. The largest volume of vacancies was for CNAs, followed by RNs and LPNs.

Table 3. Number of Vacancies by Type of Position.

RN	LPN	CAN	Dietitian	Dietary Aid	Housekeeping	Total
55.5	26	136	2	23.25	10	247.75

Recruitment

Administrators were asked to rate the degree of difficulty they experienced in recruiting staff for their facilities on a scale of 1 to 5 with one representing no difficulty and 5 representing great difficultly. The average rating was 3.18 – very near the scales midpoint or neutral value. This suggests that, on average, administrators across the state were not experiencing acute recruiting difficulties at this time. It is important to note, however, that 38% of the administrators did rate recruiting with a score of 4 or 5, suggesting some difficulties in recruiting staff continue to exist. A similar question was asked in a separate survey of staff regarding the difficulty of recruiting for their facilities, yielding results suggesting a slightly more severe view of recruiting difficulties from the staff viewpoint. They scored an average of 3.28 and 42.8% scored this item with either a 4 or 5.

Questions soliciting perceptions of effective recruitment strategies were also asked. Table 4 contains the results represented as the mean score on items rated from 1 to 5 with 1 indicating “not effective” and 5 indicating “very effective”. The percentage using each strategy is also reported. Long term care administrators appear to gravitate to neutral responses, regarding most strategies as neither particularly effective or ineffective. Word of mouth was used universally and was the most highly regarded recruitment method. Nearly all used newspapers, but without great confidence and a majority used continuing education as a recruitment tool, but again without confidence in its effectiveness. It appears that administrators are not optimistic regarding the array of tools at their disposal for recruitment.

Table 4. Perceived Effectiveness and Use of Specific Recruitment Strategies.

Recruitment Strategies	Mean Score	Percent Using
Word of Mouth	3.96	100%
Newspaper	3.19	99.1
Radio	2.39	46
Television	2.67	24.8
Newsletter/Journal	2.35	46.9
Personal Letter	3.00	42.5
Sign on Bonus	3.14	45.1
Relocation Assistance	2.48	21.4
Continuing Education	2.93	61.9
Child Care	2.88	22.1
Paid Licensure	3.14	34.5

Additional strategies were suggested by some of the respondents as tools for recruiting. Bonuses to current staff who recruit new personnel, personal telephone calls, a sign in front of the facility, personal visits, website listings, loan repayment, tuition assistance, better salaries and benefits were all listed as additional suggestions that have potential.

Lastly, a count of the number of strategies employed by each facility was computed. The average number was 5.47 strategies from the 11 potential strategies listed. Clearly many of these carry costs, but some do not. Administrators seeking t bolster their recruitment efforts might consider extending the array of activities employed and increasing financial incentives to the recruit and recruiter.

Retention

Retention strategies are also important for developing and maintaining stable and high quality staff. When asked to rate their facilities problems in retaining staff, again an item asked them to relate their level of difficulty on a 5 point scale with a score of one indicating no difficulty and 5 indicating great difficulty. The average score on this item was a 2.75, just

slightly below the neutral midpoint. This rating suggests that retention is slightly less difficult than recruitment, and that it is not dire.

Again, a series of specific strategies were rated and assessed in terms of whether facilities employed them. These are presented in Table 5. The range of scores on specific strategies was from 2.92 to 3.45. The ratings of the specific retention strategies scored relatively high, apparently leading to the sense of low difficulty in overall retention efforts. The most effective strategy (according to the mean scores) was flexible scheduling, yet it was not the most used. Health, dental insurance and retirement plans were also rated highly in terms of effectiveness and were used widely.

Table 5. Ratings of Specific Retention Strategies and Proportion Using Each.

Retention Strategies	Mean Score	Proportion Using
Career Ladders	3.19	62.8%
Continuing Education	3.11	91.3%
Tuition Reimbursement	3.42	59.3%
Flexible Scheduling	3.95	89.4%
Education Based Wage Differentials	3.39	40.7%
Certification Based Wage Differentials	3.32	51.9%
Child Care Services	3.17	22.1%
Maternity Leave	3.02	92.9%
Health Insurance	3.90	96.5%
Dental Insurance	3.59	74.3%
Retirement Plans	3.48	89.4%
Shift Rotation	2.92	69.0%

A count of the strategies employed was constructed for this variable as well yielding an average of 8.37 strategies employed per facility from this list of 12 potential strategies. This appears to represent a substantial effort on the part of each facility.

Additional suggestions were also made regarding strategies for retention. The list of potential additional strategies included employee appreciation events, good communication,

mentoring programs, shared governance, meals, improved staff relationships, improved pay, loan reimbursements, short term disability coverage and improved corporate culture.

Access to Distance Learning

Facility administrators reported on their access to distance learning opportunities for their staff to receive certification, recertification or continuing education. A slight majority (53.4%) reported that they did not have access to these opportunities. This was somewhat surprising in that the list of distance learning programs reported by respondents was very long and varied, including on-line training and testing, corporate programs in leadership or for career advancement, Med Star, Web conferencing, and general use of proximal college campuses. Many types of technologies were employed in distance learning, including computers, satellite broadcasts, interactive TV, correspondence, teleconferencing, and video tapes. Given the array of options, the opportunity for enabling staff to learn new skills and information should be increasingly attractive. Perhaps incentives for continuing education would enhance access to and use of distance learning.

Barriers to Recruitment

A list of 15 potential barriers to recruitment were presented to the respondents, which they were to rate each on a scale of 1 to 5, with 1 being "not a barrier" and 5 representing "major barrier". The results of these items are summarized in Table 6. The competition for workers and occupational opportunities for spouses were the highest rated barriers, followed closely by the physical and psychological demands of long term care work. Pay and shift work were also rated somewhat higher than other factors and in the context of the total workforce in long term care, the role of benefits was not viewed as a significant hindrance. While this analysis assists in delineating problems for recruiting, it does not identify issues that reside within the capacities of

the facilities. Rather, it suggests that matters of the local economy are important obstacles to overcome as are some of the difficulties inherent in providing care to the residents of long term care facilities. Creative efforts to mitigate these barriers may be derived from the suggestions on retention, such as providing greater recognition and psychological rewards for the service providers.

Table 6. Ratings of Potential Barriers to Recruitment.

Issue	Average Rating
Undesirable amount of work hours	2.68
Shift work	3.21
Training requirements	2.39
Pay	3.33
Benefits	2.81
Working conditions	2.62
Psychological stress of LTC work	3.45
Physical demands of LTC work	3.66
Overwork as result of short staffing	3.17
Health hazards	2.11
Medical liability concerns	2.03
Size of this community	3.04
Competition for workers	3.76
Local employment opportunities for spouses	3.41
Geographic isolation	2.96

Rural/Urban Comparisons

Are there concentrations of issues unique to or more common among urban and rural facilities? In this section we examine differences that exist between the facilities classified as urban and all other facilities. Urban facilities for present purposes include those located in Grand Forks, Fargo, Minot, Bismarck and Mandan. The distribution of facilities responding to this survey is presented in Table 7. Since most of the state is rural, the bulk of facilities are located in rural places. The exception is with assisted living facilities, which are relatively new and continue to experience changing definitions and status. The majority of Assisted Living facilities

are in the urban areas. It should be noted that this is a growth sector for the long term care industry and models for smaller scale Assisted Living facilities in smaller communities are emerging.

Table 7. Distribution of Facilities/Urban and Rural.

Distribution	Rural	Urban	Total
Nursing Beds	64	17	81
Assisted Living Beds	8	9	17
Basic Care Beds	28	4	32
Independent Apts.	23	6	29

The size of facilities also varies by location, with urban facilities generally being much larger. The range in total number of units runs from a low of 11 beds to a high of 378. Rural locations may be more likely to experience limits on the size of their facilities. Economies of scale may be difficult in these smaller facilities for matters such as purchasing, training staff or having depth in their staff, while the relative contribution of these smaller facilities to their local economies is great.

Table 8. Average Number of Beds Licensed by Type: Rural and Urban.

Type of Beds	Rural	Urban	Total
Nursing Beds	69.3	118.1	79.6
Assisted Living	20.2	61.8	42.2
Basic Care	35.6	33.5	35.4
Independent Apts.	20.7	42.7	25.2

Occupancy rates also vary significantly by location with rural occupancy rates generally average well below those of the urban facilities. Occupancy rates are displayed by county in the map found in Figure 3. The lowest average occupancy rate is for Assisted Living in rural locations. This low occupancy does not appear to reflect recent construction. The average age of buildings for North Dakota long term care facilities by county is presented in Figure 4.

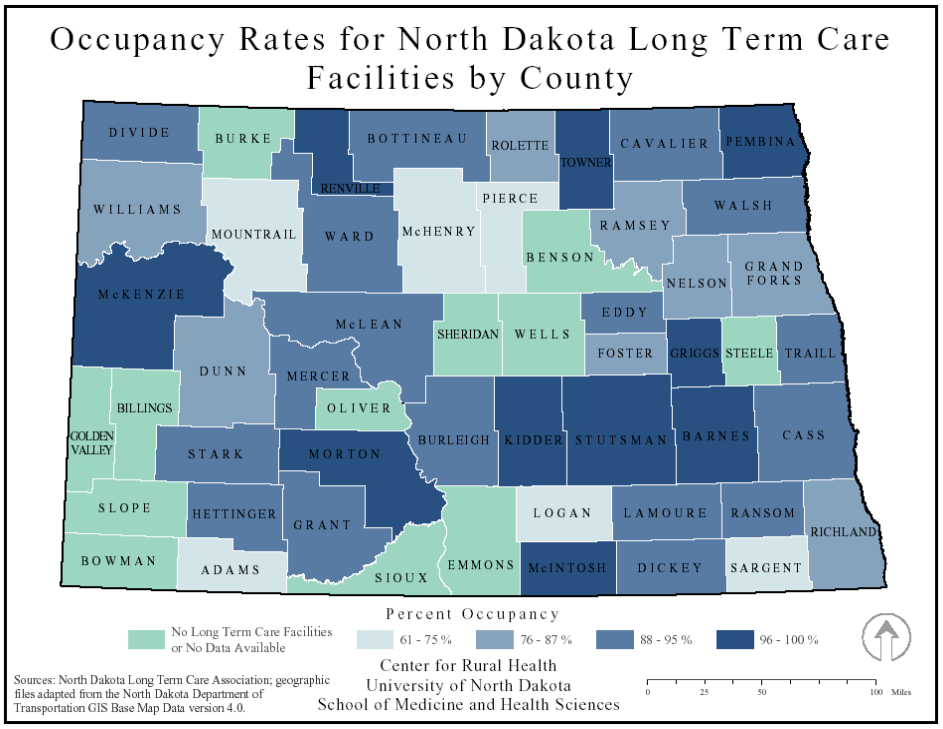

Figure 3. Occupancy Rates for North Dakota Long Term Care Facilities by County

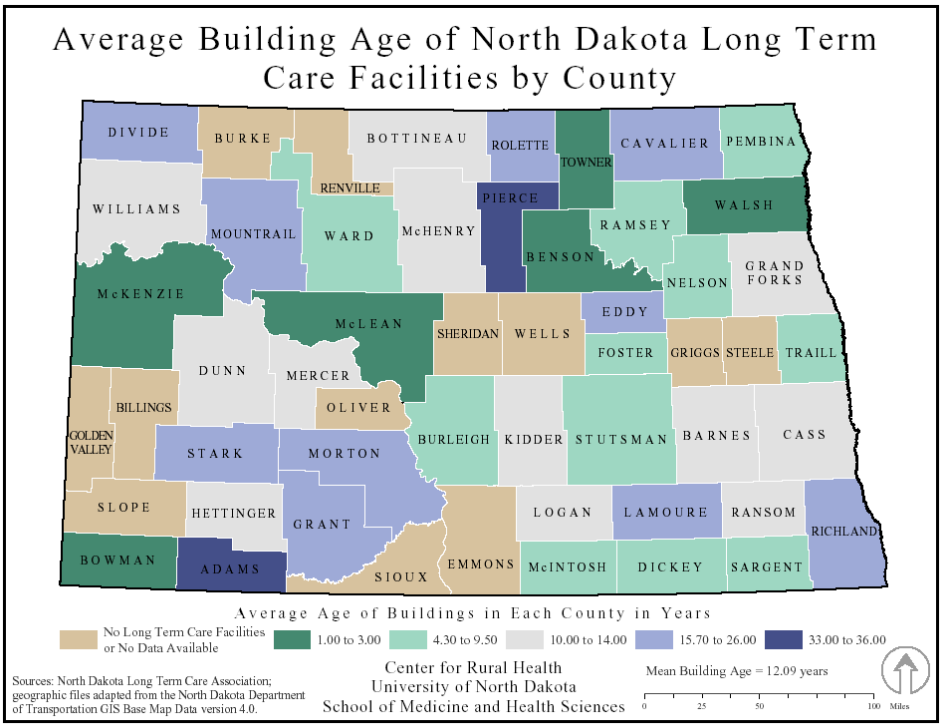

Figure 4. Average Building Age of North Dakota Long Term Care Facilities by County

Facility age as indicated by year of last construction, shows rural facilities were slightly older (on average) than urban facilities (rural = 11.7 yrs, urban = 9.7 yrs). The age difference was greater for assisted living, with rural facilities with assisted living averaging a facility age of 8.8 years and the urban facilities averaging 4.6 years. While one normally expects newer facilities to fill over time, this does not appear to be a factor for rural assisted living occupancy rates.

Table 9. Mean Occupancy Rate by License Types: Rural and Urban.

Type of Bed	Rural	Urban	Total
Nursing Beds	89.2	93.4	90.1
Assisted Living	79.2	95.3	87.2
Basic Care	83.3	98.7	85.4
Independent Apts.	90.5	96.7	91.6

Staff Vacancies

Vacancy rates for staff openings were calculated for the total full time equivalent (FTE) vacancy rate per 100 beds and a similar measure was developed reflecting vacancy rates for RNs, LPNs and CNAs. The overall vacancy rate was 3.37 FTE openings per 100 beds, with rural facilities posting a higher rate (3.62) than the urban facilities (2.55), suggesting greater difficulties with staffing in rural facilities. The differences varied according to the level of training and were not consistently higher for rural facilities. For example, rural places had an average opening rate for RNs of 1.01 FTE openings per 100 beds while urban facilities produced a rate of .38 FTE openings per 100 beds for RNs. This is a substantial difference. Urban facilities, on the other hand, had more openings for LPNs with .80 FTE openings per 100 beds as compared to the rural rate of .37 FTE openings. Differences in the rates for CNA vacancies were very small, suggesting that staffing issues at that level of training are similar for rural and urban facilities.

Recruitment Difficulties

Difficulties in recruitment were reportedly greater in rural facilities. The mean scores to the item asking administrators to rate their facilities difficulty in recruiting staff for direct patient care using a scale of 1 to 5 with 5 representing great difficulty produced a mean of 2.87 for urban facilities and 3.27 for rural. Analysis of the individual recruitment strategies produced no significant differences in terms of the mean ratings of effectiveness. Similarly, there were no differences of significance in the rates of use for strategies employed to recruit staff. The only significant difference observed overall among the recruitment strategies was that more urban facilities used child care services. Evidently the differences observed in rates of vacancies are not a function of recruitment effort.

Retention Difficulties

Retention difficulties were analyzed in a similar fashion to determine whether differences existed in practice and/or perceptions of effectiveness. When responding to the general question of how they rated the retention difficulties of their facilities, the rural administrators had scores that were only slightly higher than the urban administrators (2.82 vs 2.54) suggesting essentially no difference in their perceptions of retention issues. The scores are both below the middle point of 3. Rural and urban facilities were also similar with respect to the types of retention strategies utilized. Only the use of dental insurance was significantly different, with 67.9% of the rural facilities and 92.6% of the urban facilities offering this benefit.

Similarly, analytic comparison of the effectiveness scores for specific strategies yielded few differences between the rural and urban facilities. Only one strategy – flexible scheduling- produced a statistically significant difference with the urban administrators rating the

effectiveness of this practice higher than rural administrators (mean scores of 4.24 and 3.85, respectively).

Distance Learning

Access to distance learning was clearly favored by rural administrators as they were more than twice as likely to acknowledge having access to distance learning technology. Fifty-six percent of the rural administrators reported having access to such distance learning while only 25.9 per cent of the urban administrators reported such access. This statistically significant finding underscores the importance of distance learning for facilities located our rural communities.

Barriers to Recruitment

Analysis of recruitment barriers yielded several differences in perceptions among between rural and urban administrators. In table 10 there are 15 potential barriers listed. Two thirds of these yielded statistically significant differences, with rural facilities facing greater barriers in all cases. It is also of note that all of the items, whether statistically significant or not, placed urban facilities at an advantage. Problems that deal with undesirable work hours could be overcome to some extent by flexible scheduling practices, but these practices may be inhibited in institutions with small staff size. Similarly, shift work may be more essential in smaller facilities. Training requirements, especially those for RNs are seen as placing rural facilities at a disadvantage. These requirements are an issue to be considered by legislative and policy groups, as they are beyond local administrator control. Benefits were significantly different, with rural facilities experience greater barriers due to the benefit side of compensation. As was noted earlier, they were less likely to offer dental insurance. This may be symptomatic of the benefits issue. Work related stressors were also viewed as greater obstacles for rural facilities, with

psychological, physical and overwork stressors all high in rural facilities. Lastly, community characteristics produced greater barriers for rural facilities. The size of community, opportunity for spousal employment and geographic isolation produced significantly greater barriers for rural communities. Not all of these barriers are within the capacities of administrators to address, yet each represents a consideration that merits attention in efforts to create uniformity in access to quality care.

Table 10. Rural /Urban Differences in Barriers to Recruitment

Barriers to Recruitment	Rural	Urban	Significance
Undesirable work hours	2.82	2.22	Yes
Shift Work	3.36	2.74	Yes
Training Requirements	2.56	1.85	Yes
Pay	3.42	3.04	No
Benefits	3.00	2.22	Yes
Working conditions	2.72	2.30	No
Psychological stress of LTC work	3.59	3.00	Yes
Physical demands of LTC work	3.79	3.29	Yes
Overwork as result of short staffing	3.35	2.63	Yes
Health hazards	2.14	2.00	No
Medical liability concerns	2.08	1.85	No
Size of this community	3.49	1.59	Yes
Competition for workers	3.81	3.59	No
Local employment opportunities for spouse	3.89	1.89	Yes
Geographic isolation	3.46	1.17	Yes

Type of Facility

The question of whether the type of facility affected recruitment and retention was addressed by creating a classification of facilities in which they are either single or multiple type. The classification contains three single purpose types and a mixed type residual category. The single types were nursing, assisted living and basic care. No independent apartments were found outside of those in mixed facilities. The distribution of facilities by type is in Table 11. Mixed facilities were clearly larger in size than single purpose facilities.

Table 11. Facility Type, Number of Facilities and Average Size

	Number of Facilities	Average Bed Size
Nursing Home Care	48	69.4
Assisted Living	7	42.1
Basic Care	17	39.4
Mixed	39	81.3

The data analysis yielded non-significant differences between the types with respect to issues of recruitment, retention, or barriers to recruitment. However, it did produce some differences with respect to vacancy rates. Nursing care only facilities had the highest rate of vacancy overall and for each type of employee. Assisted living facilities were found to have the lowest vacancy rates.

Table 12. Staff Vacancy Rates per 100 Beds by Facility Type.

	RNs	LPNs	CNAs	Total*
Nursing Care	1.39	0.91	1.94	5.00
Assisted Living	0.00	0.00	0.59	0.60
Basic Care	0.36	0.17	0.67	1.84
Mixed	0.58	0.14	1.37	2.53

* Total includes non direct care positions.

SUMMARY AND CONCLUSIONS

This survey of long term care administrators sought to capture input from facility administrators with respect to issues of recruitment and retention for caregiving staff. The survey produced an excellent rate of response, but did not produce dramatic results. When searching for guidance regarding matters of recruitment and retention, administrators did not appear alarmed over the difficulties in either recruitment or retention and tended to rate the effectiveness of most strategies at the neutral point of a 5 point scale. Informal recruitment using word of mouth was the most common and was deemed the most effective method of recruitment.

Retention was rated as slightly less difficult that recruitment, yet the 10 of 12 the listed strategies were employed by a majority of the facilities. The average ratings of effectiveness were also higher than the ratings of effectiveness for recruitment strategies. It appears that once recruited, efforts are made to retain staff and are modestly successful. The most effective strategy appears to be flexible scheduling and this is one that does not carry additional costs.

Barriers to recruitment with relatively high ratings as barriers were job related in psychological and physical stress of the work and community based in competition for workers and local employment opportunities for spouses. While these are difficult to address, staff development activities can respond to the stressors of the work place and work place policies can mitigate some of the stress. Indeed, the threat of substantial stress may be greater than the reality. The community based barriers direct our attention to the need for economic development in rural communities to diversify employment options and create better opportunities.

Rural/urban differences do exist. Urban facilities tend to be larger and enjoy higher occupancy rates. Urban facilities are less likely to have openings for RNs and rural facilities are less likely to experience openings for LPNs. It may be that the use of LPNs has been a rural

adaptation to recruitment problems. Rates for CNA openings were quite similar for rural and urban facilities. While differences were not apparent for recruitment and retention strategies, there were apparent differences when examining barriers to recruitment. Rural administrators reported significantly higher barriers for a series of items reflecting the conditions of work, including undesirable hours, shift work, training requirements, pay, benefits, psychological stress, physical demands, and overwork. They also reported higher community barriers including small community size, isolation and few local employment opportunities for spouses. In short, the barriers appear much greater for rural facilities.

Comparisons by facility type did not produce difference with respect to the measures of effectiveness for recruitment and retention or with barriers. There was a difference for staff vacancy rates, with nursing care and mixed facilities having the highest vacancy rates for direct care providers.

Recommendations

The following recommendations are presented as possible actions that may be considered by the Legislature, Department of Human Services and/or facility administrators. They are not in any ranked order and are not exhaustive of the possibilities.

- CNA vacancies represent the largest category and special attention may be required to their wage levels, opportunities for advancement and work conditions
- Staff vacancy rates for LPNs are highest in urban facilities, while the vacancy rates for RNs are highest in rural facilities. This may suggest that an adaptation to workforce availability has been made by rural administrators where staff vacancy rates overall were higher. Programs targeting enhancing staff, especially targeting rural facilities, would seem in order. These could reflect recruitment, retention and the generation of supply.

- Accommodation of individual staff through work place modification such as flexible scheduling may assist in recruitment and retention.
- Stress management represents a need among long term care providers. Both psychological stress and physical demands of the work ranked high as barriers to recruitment. Creative stress reduction through in-service education and training may minimize stress of both varieties and improve the perception of long term care environments.
- Rural communities continue to need economic development of a more diverse variety in order to overcome an economic disadvantage in the overall opportunity structure for employment.

2001 SURVEY OF NORTH DAKOTA LONG-TERM CARE FACILITY ADMINISTRATORS

1. Name of your LTC facility _____

2. Town name _____

3. How long have you been the Administrator of this facility? _____ years

4. When was this facility built? _____ (year)

5. If applicable, when was the last building structure renovation completed? _____ (year)

6. How many beds are licensed in each of the following categories for your facility?

   _____ Nursing Care _____ Assisted Living _____ Basic Care _____ Independent Apts.

7. What is the current percent occupancy in your facility (based on staffed beds)? _____

8. Is this facility?
   - ○ a public facility
   - ○ private non-profit
   - ○ private for-profit

9. Is this facility?
   - ○ attached to a hospital
   - ○ freestanding

10. Please list your LTC facility's current staff vacancies.

11. In general, how would you rank your facility's problems in <u>recruiting</u> staff involving direct patient care?

No Difficulty				Great Difficulty
1	2	3	4	5
○	○	○	○	○

12. In general, how would you rank your facility's problems in retaining staff involving direct patient care?

No Difficulty				Great Difficulty
1	2	3	4	5
○	○	○	○	○

13. How effective would you rate the following **recruitment** strategies in your facility (for personnel involving direct patient care)? Please indicate on a scale of 1 to 5, with 1 being not effective and 5 being very effective, the level of effectiveness you see for each. If you do not use some of the methods, please check 8.

Recruitment Strategy	Not Effective 1	2	3	4	Very Effective 5	N/A Don't Use 8
Word of mouth	○	○	○	○	○	○
Media						
Newspaper	○	○	○	○	○	○
Radio	○	○	○	○	○	○
Television	○	○	○	○	○	○
Newsletter/Journal	○	○	○	○	○	○
Personal Letter	○	○	○	○	○	○
Sign On Bonuses	○	○	○	○	○	○
Relocation Assist	○	○	○	○	○	○
Continuing Educ. Asst.	○	○	○	○	○	○
Child Care Services	○	○	○	○	○	○
Paid Licensure	○	○	○	○	○	○
Other, please list:						
	○	○	○	○	○	○
	○	○	○	○	○	○
	○	○	○	○	○	○

14. How effective would you rate the following **retention** strategies in your facility (for personnel involving direct patient care)? Please indicate on a scale of 1 to 5, with 1 being not effective and 5 being very effective, the level of effectiveness you see for each. If you do not use some of the methods, please check 8. Please add strategies not included in the space provided.

Recruitment Strategy	Not Effective 1	2	3	4	Very Effective 5	N/A, Don't Use 8
Career Ladders	○	○	○	○	○	○
Continuing Education	○	○	○	○	○	○
Tuition Reimbursement	○	○	○	○	○	○
Flexible Scheduling	○	○	○	○	○	○
Education-Based Wage Differentials	○	○	○	○	○	○
Certification-Based Wage Differentials	○	○	○	○	○	○
Child Care Services	○	○	○	○	○	○
Maternity Leave	○	○	○	○	○	○
Health Insurance	○	○	○	○	○	○
Dental Insurance	○	○	○	○	○	○
Retirement Plans	○	○	○	○	○	○
Shift Rotation	○	○	○	○	○	○
Other, please list:						
	○	○	○	○	○	○
	○	○	○	○	○	○
	○	○	○	○	○	○

15. Do you currently have access to distance learning (e.g., computer- or Internet-based modules) programs for direct patient care staff to receive certification, re-certification or continuing education? ○ Yes ○ No

16. What programs are available?

17. How are programs delivered? (i.e., Interactive TV, Satellite, Computer, Telephone, Correspondence)

18. **In your opinion, to what extent do the following issues act as <u>barriers to recruitment</u> of local individuals into the local LTC facility (for direct patient care)?**

Issue	Not a Barrier 1	2	3	4	Major Barrier 5
Undesirable amount of work hours	○	○	○	○	○
Shift work	○	○	○	○	○
Training requirements	○	○	○	○	○
Pay	○	○	○	○	○
Benefits	○	○	○	○	○
Working conditions	○	○	○	○	○
Psychological stress of LTC work	○	○	○	○	○
Physical demands of LTC work	○	○	○	○	○
Over work as result of short staffing	○	○	○	○	○
Health hazards	○	○	○	○	○
Medical liability concerns	○	○	○	○	○
Size of this community	○	○	○	○	○
Competition for workers	○	○	○	○	○
Local employment opportunities for spouses	○	○	○	○	○
Geographic Isolation	○	○	○	○	○
Other, please list:					
	○	○	○	○	○
	○	○	○	○	○
	○	○	○	○	○

19. What, in your opinion, are the most important actions the North Dakota legislature can take to improve your capacity to provide quality long term care in the future? Please list the top two or three actions you would recommend.

Thank your for your participation!

Reset Submit

RECRUITMENT AND RETENTION

PERCEPTIONS OF LONG TERM CARE STAFF

A report based on collaboration including

Center for Rural Health
UND School of Medicine and Health Sciences

The North Dakota Long Term Care Association

November 2002

Forward

This report is part of the 2002 North Dakota Needs Assessment for Long-Term Care. This part of the Long-Term Care project was supported by the North Dakota Long Term Care Association with professional assistance from the North Dakota Department of Human Services and the Center for Rural Health. This particular report addresses the perceptions of long-term care staff with respect to job satisfaction, and recruitment and retention issues. Analysis and writing were a collaborative effort.

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RECRUITMENT AND RETENTION

PERCEPTONS OF LONG TERM CARE STAFF

INTRODUCTION

A survey of long term care staff was undertaken by the North Dakota Long Term Care Association with the collaborative assistance of the Center for Rural Health at the UND School of Medicine and Health Sciences and the North Dakota Department of Human Services. The purpose of this survey was to assess staff perceptions of aspects of their employment that may relate to difficulties for recruitment and retention. These data may help identify strategies that may be effective for recruiting and retaining staff and that may lend to a healthy workplace and improved quality of care.

The data were collected by and belong to the North Dakota Long Term Care Association. The collaborative relationship was crafted in response to budget reductions in the statewide long term care study that were required to accommodate the costs of financial analyses. In this project, the Long Term Care Association solicited responses to a survey from the employees in all of their member facilities across the state. Data were collected using a both Internet based survey responses and paper copies of the same instrument for those unable to respond using the internet. The vast majority received paper copies and submitted their responses on paper. Although all staff were given an opportunity to complete the survey, the primary concern of the report will be on the different levels of nursing care. The survey instrument is attached.

Participation rates for the facilities were excellent with slightly more facilities participating in the staff survey than in the administrator survey. While the response rates for each institution varied somewhat, the overall response rate appears to have been quite high as the

number of completed surveys is very large. Efforts to track local response rates were not uniformly successful, as many facilities did not report the numbers distributed and returned. Given the large number of respondents, however, one can accept the survey as representative. The data, once collected by the Long Term Care Association, were entered into computer readable format at UND. The data files, once created, were shared with the research staff at the Department of Human Services and the North Dakota Long Term Care Association. The analysis was conducted as a joint activity of the Department of Human Services and UND.

RESULTS

The survey was initially intended to examine the direct care personnel, but for ease of administration and to avoid slighting any category of employees, the instrument was broadly administered to all. The resulting distribution of responses is in Table 1. Those with direct care tasks are clearly the largest group, but numerous others responded as well. This should be acknowledged, as summaries for the total sample reflect this broader pool. Part of the analysis will select only the RNs, LPNs, CNAs and Orderlies.

Table 1. Profile of Respondent's Positions.

Position	Number	Percent
RNs, LPNs, CNAs , Orderlies	2661	55.2
Social Work	94	2.0
PT/OT	76	1.6
Activity/Restorative Aids	329	6.8
Dietary staff	679	14.1
Housekeeping/maintenance	497	10.3
Office/administration	281	5.8
Other	200	4.2

The duties associated with each respondent are likely to encompass more than a single position title as many appear to have responsibilities in multiple areas. Table 2 presents a multiple response profile for the duties typically carried out by the respondents. In this table, the percentages are computed as a percent of all responses and as a percent of all cases. The percentage associated with all cases reflects the multiple tasks. The total number of duties reported clearly reflects an atmosphere in which people are required to perform multiple functions and to contribute to the basic care of residents. It is also noteworthy that a majority of the duties are centered around the activities of daily living and that these duties are shared quite extensively among staff. The heavy tasks, bathing, toileting and transferring are included in the duties for a majority of the staff.

Table 2. Duties Typically Carried Out.

	Number	Percent of Responses	Percent of Cases
Medical Records	373	2.7	9.9
Medical Examinations	340	2.4	9.1
Administering Medication	932	6.7	24.8
Administering Medical Treatments	711	5.1	18.9
Dietary Functions	1039	7.4	27.7
Bathing	1438	10.3	38.3
Toileting	2017	14.4	53.7
Dressing	1837	13.1	48.9
Feeding	1980	14.2	52.8
Transferring	2108	15.1	56.2
Physical Therapy	336	2.4	9.0
Occupational Therapy	129	.9	3.4
Activity Functions	741	5.3	19.7
Total	13981	100	372.5

Length of Employment

The respondents characterized their jobs in long term care in terms of how long they had been in their current job and in the industry. Overall, the staff had a mean of 8 years in their current jobs and a mean of 10.9 years in the long term care industry. While this varies by whether the job is ones primary occupation, it is representative of a reasonably stable workforce. Those for whom the job was not a primary occupation had an average length of current job and time in the industry that was much lower, (4.9 years in present job and 6.8 in the industry). Ninety-three percent of the respondents reported that this job was their primary occupation.

Pay and Benefits

Wage rates were computed as an hourly rate, converting reports of monthly salaries to hourly rates for comparability. The average wage over all categories was reported at $10.95 per hour. Those for whom the job represented their primary occupation earned slightly more, $11.08

per hour, while those for whom this was not a primary occupation earned $9.45 per hour on average.

Benefit levels were assessed by asking respondents to check the benefits they received from this job. Their results are presented in Table 3 as a multiple response table. Again, the frequencies for the "cases" column allows respondents numerous responses and totals reflect these multiple responses.

Table 3. Benefits Received from LTC Position.

	Number	Percent of Responses	Percent of Cases
Life Insurance	1986	11.3	46.2
Health/Medical Insurance	2665	15.2	61.9
Dental Insurance	1713	9.8	38.8
Disability Insurance	668	3.8	15.5
Pension Contribution	2173	12.4	50.5
Uniforms	319	1.8	7.4
Vacation	3701	21.1	86.0
Sick Leave	3089	17.6	71.8
Continuing Education	1096	6.3	2.6
Child Care	110	.6	2.6
Total	17520	100	407.2

Vacation and sick leave time are the most common benefits, followed by health insurance and supplemental pension contributions. Benefits may well represent an area that can be examined for its potential in further stabilizing the workforce in long-term care.

Feelings About Hours

Most (87.8%) of the employees reported that they worked about the right number of hours in their long term care jobs. Among those who felt their hourly work schedule could be improved, nearly twice as many (8%) reported not getting enough hours as felt they had too many hours (4%).

What do Workers Give as their Reasons for Deciding to Work in Long Term Care?

When asked to rate a series of possible reasons on a scale of one to five with a score of five representing a major factor and a one being not a factor, earning a living was the top factor followed closely by satisfaction in helping others. The results are in Table 4. Both economic needs and altruistic motives appear well represented. Indeed, these two factors emerged in a factor analysis, with intrinsic aspects of LTC containing community need, satisfaction with helping others, interest in long term care and challenge in providing long term care. Economic Concerns contained earn a living and few job opportunities in the area.

Table 4. Reasons for Decision to Work in Long Term Care.

	Mean Score (Scale of 1-5)
Community Need	2.90
Interest in Long Term Care	3.72
Satisfaction in Helping Others	4.19
Urged by family/friends	2.28
Challenge of Providing LTC	3.17
Earn a Living	4.21
Few job opportunities in area	3.22

Respondents also volunteered reasons not part of the list. These were not large in volume relative to the size of the population, but did contain some interesting statements. A number of respondents indicated that this industry was open to hiring deaf workers and more suggested that the flexibility offered by the industry made working in long term care compatible with other aspects of their lives, such as school or family responsibilities. Many others also gave altruistic replies with language different than in the list.

Expectation for Future in One's Job

A question central to the interests of this survey reflects the respondent's expectation for remaining in their current job. In response to this direct question reflecting the prospects for

retention, a large majority (67.8%) reported an intention to remain in the job for the long term (see Table 5). Statewide all vocations in long term care combined appear to be quite stable with only 3.7% expecting to remain less than a year.

Table 5. Expectation for Remaining in Current Job.

	Number	Percent
Less than a year	173	3.7
1 to 2 years	580	12.6
3 to 4 years	731	15.8
5 years or more	3130	67.8

Push Factors for Those Not Expecting to Remain 5 or More Years

Reasons for remaining less than 5 years were solicited in question 10 of the survey instrument. Fifteen potential reasons were provided in order to assess the role of "push factors" or negative perceptions of one's work environment. The questions were scored on a scale of 1 to 5 with 5 representing a "major factor" and 1 "not a factor". This question was only applicable to the 1,328 respondents who indicated plans for leaving in less than 5 years. The results reflecting entire mix of staff positions is in Table 6. All of the responses were on the low end of the scale, indicating that over all, push factors lack importance when it comes to plans for departing from one's job in the short term. Pay, benefits psychological stress and overwork as a result of short staffing were the highest scored responses, but none of these were above the midpoint. Two themes emerged from a factor analysis of these items. The were Job Strain – reflecting the psychological and physical burden of the work and Job Structure – reflecting formal characteristics of the job such as scheduling, pay, benefits, training requirements, undesirable work hours and working conditions. These dimensions will be used in later analysis. Additional written responses included categories not part of the quantified scale, but of interest. The largest response volunteered in writing was returning to school. Apparently LTC work for some is a

short term job held while advancing one's education. This was especially the case for students pursuing nursing credentials. Others would leave for marriage, having children and some listed "getting too old" as independent of retirement.

Table 6. Reasons for Remaining in Current Job Less than 5 Years.

	Mean Score (scale of 1 to 5)
Undesirable number work hours	1.83
Shift work	1.92
Training requirements	1.59
Pay	2.94
Benefits	2.64
Working conditions	2.27
Psychological stress of LTC work	2.77
Physical stress of LTC work	2.60
Poor management/supervision	2.45
Overwork as result of short staffing	2.69
Health hazards	1.90
Medical liability concerns	1.82
Loss of interest in providing LTC	1.80
Personality conflict with LTC personnel	1.92
Retirement	2.37

Pull Factors Among Those Planning to Stay 5 Years or More

Those who plan to remain 5 years or more were given a similar set of items designed to reflect the pull factors that would serve to entice people into remaining in their current jobs. Eight items found in question 11, with a similar scoring method were used. The results are in Table 7. Interestingly, 3/4ths of these scored above the midpoint and the ratings were substantially higher than the push factors. Positive elements of the job appear more influential than the negative. While the need for a job and income ranked highest, the were nearly equaled by the score on satisfaction with helping others. Three themes were detected using factor analysis for these items. First, intrinsic rewards – community need, interest in LTC, satisfaction with helping others and providing LTC. Second, a "sense of obligation" – containing the

influence of family and friends and the shortage of replacement staff. This dimension reflects a sense that one should remain in his/her job out of a sense of social responsibility. The need for income was the third theme and stood alone. In the narrative replies listed for this question, the majority could be classified as altruistic in content. Love for older people in general and the residents specifically lead the list of volunteered extra answers. Flexible hours and willingness to employ people with some handicaps were also mentioned.

Table 7. Reasons for Expectation of Remaining in Current Job 5 Years or More.

	Mean Score (scale of 1 to 5)
Community need	3.19
Interest in providing LTC	3.99
Satisfaction in helping others	4.33
Influence from family/friends	2.26
Challenge of providing LTC	3.48
Shortage of LTC staff to take my place	2.76
I need the work/income	4.34
Good working conditions	3.94

Perception of Difficulty in Recruitment and Retention

The staff were asked a question rating the extent their LTC facilities had problems in hiring people to perform their jobs. The mean score on this item was 3.28, a very moderate score. The administrator's score on a comparable item in a separate survey of administrators was very close (3.18).

Staff were asked why individuals would not be interested in working in a long term care facility. Twelve items similar to those used for assessing why one would plan on leaving his/her job in less than 5 years were employed. Table 8 contains the results. These responses reflect some of the image issues confronted when recruiting staff for long term care. The demanding character of the work, both physically and psychologically lead the list with the highest scores, followed by overwork and then pay. It is important to acknowledge these as potential barriers

and find ways of mitigating their influence, both in terms of actual work conditions and in terms of image.

Table 8. Reasons Staff Think Individuals Aren't Interested in LTC Employment.

	Mean Score (scale of 1 to 5)
Undesirable work hours	2.66
Shift work	3.23
Training requirements	2.54
Pay	3.63
Benefits	3.13
Working conditions	3.27
Psychological stress of work	3.83
Physical demands of the work	3.91
Poor management/supervision	2.70
Overwork as result of short staffing	3.75
Health hazards	2.39
Medical liability concerns	2.31

In a similar vein, a question was asked of the staff that rated their perception of the difficulty their facility had in keeping employees. The combined staff scored 3.35 for this item, again a very moderate score indicating no great difficulty or ease with respect to retention.

An item asked the staff to reflect on their peers who had quit their jobs in long term care and to give their opinion as to what issues played a role in the decision to quit. These reflect essentially the same image considerations of the previous item. Again, the demanding nature of the work rated most highly followed by pay concerns.

Table 9. Staff Opinions Regarding Reasons Others Have Left Their Jobs in LTC.

Staff Opinions	Mean Score (scale of 1 to 5)
Undesirable number of work hours	2.75
Shift work	2.96
Training requirements	2.17
Pay	3.63
Benefits	3.01
Working conditions	3.32
Psychological stress of LTC work	3.73
Physical demands of the work	3.79
Poor management/supervision	2.87
Overwork as result of short staffing	3.72
Health hazards	2.19
Medical liability concerns	2.14
Loss of interest in providing LTC	2.91
Personality conflict with LTC personnel	3.17
Retirement	2.30

Satisfaction with Job

Satisfaction with job and community are the final two areas of substance in the survey questions. These items presented items for rating on a 5 point scale from a score of 1 representing not satisfied to 5 representing very satisfied. Tables 10 and 11 contain the average responses fore each item. The scores on satisfaction with job ranged from a low of 3.05 for LTC related level of stress to a high of 3.72 for the quality of care provided by LTC workers. Essentially, the scores were all on the positive side of the scale and the variation was slight among the categories. This may be interpreted as a weak positive statement about work. A score of 3 is essentially neutral. Employees may also see themselves as more resilient than others as the satisfaction scores are more favorable than those reflecting what they think others believe about work in the long term care industry. It may also be that the intangible rewards gained from helping people are not reflected in the stereotypes of long-term care jobs.

Table 10. Satisfaction with Aspects of Job.

	Mean Score (scale of 1 to 5)
Total size of your facilities staff	3.37
Number of others doing the same work as you	3.34
Quality of care provided by LTC workers	3.72
Availability of physician support	3.56
Degree of responsibility/autonomy	3.60
Access to LTC continuing education	3.50
Quality of available LTC continuing education	3.46
Time for coworker interaction	3.34
Quantity of LTC equipment/supplies	3.49
Quality of LTC equipment/supplies	3.53
Close relationships with coworkers	3.62
Emotional support from coworkers	3.62
Supervisor's level of competence	3.70
Supervisor's leadership ability	3.62
Supervisor's availability for questions/problems	3.62
LTC-related level of stress	3.05
Amount of time off from LTC duties	3.43
Professional respect from physicians	3.49
Professional respect from nurses	3.49

Community satisfaction is slightly higher than job satisfaction with the range of scores from 3.16 for social/recreational opportunities to 4.00 on the degree of safety. Overall community satisfaction appears to be on the positive side and this bodes well for North Dakota communities. Community satisfaction sets the stage for satisfaction with other aspects of life, including satisfaction with work.

Table 11. Satisfaction with Community.

	Mean Score (scale of 1 to 5)
Size of community	3.85
Social/recreation opportunities	3.16
Overall environment for children	3.74
Quality of schools	3.79
Degree of safety	4.00
Health care system	3.53
Your overall community satisfaction	3.80
Spouses overall community satisfaction (married respondents)	3.70

The satisfaction items were also clustered using factor analysis to represent key dimensions of satisfaction. The dimensions in the satisfaction items included satisfaction with supervision, community, physician support, equipment and supplies, continuing education and depth of staff. These will be examined in subsequent analysis.

Respondent Characteristics

The demographic characteristics of the sample also provide a context for some of the interpretation of these data. The average age of the staff was 43.4 years of age. The median was 44. This is neither youthful nor old. The LTC industry is characterized by a staff of mainly women. Women dominated the staff in this survey with 89.5% of the respondents being women. Their household size averaged 2.7 and contained on average .73 children. The respondents lived an average of 23.6 years in their communities. The educational distribution presented in Table 12 indicates a large percentage with high school education or less, and a significant number of persons with associate degrees.

Table 12. Educational Levels of Respondents.

	Percent
Some grade/high school	14.5
HS diploma	48.3
Associate degree	22.8
Bachelor's degree	13.2
Master's degree	1.2
Doctoral degree	Less than 1

The racial and ethnic composition of the long term care workforce as reflected in this survey is in Table 13. It is clear that North Dakota's workforce is predominantly white and that the largest minority in the long term care workforce is American Indian. Blacks, Asian or Pacific Islander and Hispanic account for 2.1 percent. This is slightly higher than one would expect given the overall characteristics of the state's population.

Table 13. Respondent's Racial/ethnic Background.

	Percent
White, not of Hispanic origin	94.6
Black, not of Hispanic origin	.4
Asian or Pacific Islander	.9
American Indian/Alaskan Native	3.4
Hispanic	.8

Marital status reported by the respondents placed the majority in the married category. Only 18 percent reported that they were never married. The average age of the never married was 28.5, suggesting that college students do not dominate the singles in this workforce.

Table 14. Marital Status.

	Percent
Married	63.1
Never married	18.0
Divorced/separated	13.7
Widowed	5.2

Spouses were largely employed with 84.5 reported to be working full or part time. Retirement characterized 11.2 percent of the spouses with the remaining 4.3 percent unemployed. The income levels for this group were relatively low with a substantial majority falling in household income categories below $30,000. This observation may be important when looking at rewards such potential benefits as an alternative to direct salaries. In households with relatively small incomes, the meaning of a raise in base pay may be interpreted as far more valuable than an equal amount in insurance coverage or some other benefit.

Table 15. Household Income.

Household Income	Percent
$0-9,999	11.9
$10,000-19,999	26.8
$20,000-29,999	20.7
$30,000-39,999	12.6
$40,000-49,000	12.9
$50,000-59,999	5.8
$60,000-69,000	3.2
$70,000-79,000	2.4
$80,000-89,000	1.9
$90,000-99,000	.8
$100,000 and above	1.1

COMPARISON OF RESPONSES BY JOB TYPE

The scores on selected items are compared according to a categorization of job types. The categorization resulted from a combination of the checked responses on one's primary position and the use of open-ended responses in the "other" category. It appears that titles are numerous and varied. In this categorization, we attempted to place people into the category of primary importance and merged some of the categories into more general groupings. Dietary included all persons reporting dietary functions ranging from dietitians to dietary aids. Housekeeping included housekeeping, laundry maintenance and custodial staff and the category "office" included a small number who reported administrative jobs as well as accounting and secretarial functions. The other category served as a residual and included a wide variety of positions such as transportation, clergy, hairdressers, social workers, PT and OT. The residual category included those with responses that were too small to justify separate categories for analysis.

Table 16 contains a large number of comparisons for occupational groupings and the reader is encouraged to examine these in greater detail. The responses appear quite homogeneous across the various job categories, but one can search for patterns related to rates of turnover and job satisfaction and look for potential ways to mitigate any problems discovered. The following provides comment on each indicator as they appear in Table 16.

Length of Employment

Overall, the length of employee's current jobs in LTC appears quite high. CNAs report the lowest average length of current employment with 6.7 years. LPNs reported the highest length of current job with 9.9 years. The responses to this item suggest that a moderately stable workforce in the industry exists. It is also observed that the vast majority of employees consider

this employment their primary job. Activity personnel were the least likely to consider their LTC job as primary, and they reported it as the primary job in 88.7% of the cases.

Pay and Benefits

Pay was measured in terms of an hourly rate. Reports of wages expressed as weekly or monthly were converted to hourly rates in order to allow comparisons. Table 16 presents the average hourly rates of pay by each category. In the case of the residual other category, this included personnel at both extremes of the scale and one should be cautious in interpreting this. The wage rates follow a pattern of rewarding education and skill as one would expect. RNs receive the highest rate of pay among the direct care providers followed by LPNs. Using data prepared by the Bureau of Labor Statistics on wages for nursing in the largest employers, the North Dakota wage rates appear below the national average, but not dramatically so. RNs nationally were reported to earn $19.87 per hour according to the BLS Occupational Handbook 2002-03, and LPNs eared $14.41 per hour. These compare with $18.71 and $13.64 respectively. CNAs also compared favorably with national salary averages. The data reported in the BLS Occupational Handbook reflected national averages taken from the year 2000 for CNAs. This national average for those in nursing and personal care was $8.61, while the North Dakota average from our survey was $9.32, but reflected the year 2002. Adjusting for inflation, the CNA wage rate is essentially equal to the national rate.

Benefits are also commonly looked to as a measure of adequacy in the workplace. In Table 16, the average number of benefits was used as an indicator. Benefits appear with greater frequency among office personnel (including managers and accountants), RNs and LPNs. Those with less training and lower wage rates also receive fewer benefits. Health insurance, as perhaps the most central benefit follows the pattern with office personnel receiving health benefits at a

rate of 67.5%, RNs at 59.6%, LPNs at 58.3% and CNAs at 49%. Dietary and activity personnel received health insurance at rates of 51.5% and 51.4% respectively, also being at the low end of the continuum for receiving health insurance.

Feelings About Hours

Employees were asked to report on their feelings about the number of hours they worked as to whether they were too many, too few or about right. RNs and LPNs were most likely to report too many hours with 11.3% and 8.5% respectively. This may reflect a vacancy problem along with mandates requiring professional nursing staff to be on duty in long-term care facilities. Interestingly, all other categories reported greater percentages with too few hours. Only RNs and LPNs were more likely to report too many hours. Each of these suggests issues that merit attention. Recruitment and retention in the other categories may benefit from a fresh look at potential ways of increasing people's employment. In some cases, it may be feasible to increase the use of multiple tasks with appropriate training. Recruiting nurses, however, encounters supply issues that may require attention at the state level.

Expectation for Future in One's Job

The anticipation of one's future is a central variable in this survey. Employees were asked if how long they planned to remain in their current jobs. The key indicators in Table 16 include plans for early departure (less than one year) and long term commitment reflected in plans to remain for 5 or more years. The highest proportions planning on leaving in less than a year were found in CNAs and office personnel. Looking at plans to remain 5 or more years as an indicator, the staff appear to be quite stable with only CNAs and Dietary staff having less than 2/3 planning such long term retention. It should be noted that these are the two largest categories of employees.

Factors in the Decision to Work in LTC

Two dimensions were found in the questions related to employees' decisions to work in long term care. The first dimension was the intrinsic aspect including the psychological gratification one receives from providing long term care. The second was economic concern reflecting the need for a job. Higher scores indicate greater importance for the factor. Both factors produced response averages suggesting importance across all categories of employment. That is, significance for both intrinsic and financial rewards is present for all employee categories. Intrinsic rewards are slightly more important to the nursing staff (including CNAs) and Activity personnel. Economic concerns are slightly higher among dietary, housekeeping and office workers, but remain a concern for all. Apparently one cannot appeal strictly to either altruism or finance, but need to embody both in appealing to prospective employees.

Push Factors for Those Not Expecting to Stay 5 Years or More

Two dimensions emerged from the questions asked only of those who planned to remain less than 5 years. The first was labeled "job strain" for items reflecting physical and psychological demands of the work along with risks or hazards and frustration in general. Job structure was the second label reflecting conditions of employment – pay, hours, benefits, training and working conditions. The most interesting aspect of these responses is that they were consistently on the low half of the scale (3 is the midpoint). If one were seeking an answer to the question of whether job strain or push factors in general played a major role in causing people to leave long term care employment, the answer appears negative. While it may be clear that office staff have the lowest strain, none of the employee categories reported high levels of strain. Job structure issues were quite similar, with ratings that on average were slightly lower than the

strain factors and also all on the low half of the scale. The industry does not appear to be pushing employees out with poor treatment or impossible working conditions.

Pull Factors Among Those Planning to Stay 5 Years or More

Questions directed at discerning the reasons people might give for plans to remain in their current jobs for the long term produced three categories – intrinsic rewards, a sense of obligation and the need for income. Intrinsic rewards found in LTC were rated quite high and especially high among those in nursing and activity positions, similar to the pattern found in the reasons given for deciding to work in the LTC industry. All employee categories reported mean scores on the positive side for intrinsic rewards and these scores were slightly higher as pull factors for retention than they were for deciding to enter LTC employment. The intrinsic rewards grow stronger with experience and the strength of these intangible rewards should be recognized. Public recognition of the service aspect of employees should be encouraged.

The sense of obligation entails a sense that one must continue – it is expected. This is not such a strong factor and in relative terms produces low scores across all categories. Apparently, people are not driven by guilt in deciding their long-term work commitments.

The need for income is a universal. It produced the highest scores of all attitude items on the entire survey and lends to the suggestion that one must keep constant vigilance on matters of wages and benefits. These do indeed drive peoples decisions.

Perceived Accounts for Those Who Quit LTC Jobs

The employees were asked to account for those who left jobs in long-term care. Those who left were their fellow workers and they may be able to shed light on the question about why people leave. Four dimensions were found in their accounts, Condition of job, strain/risks, attitude toward work and economic concerns. Condition of job included working conditions

such as shift work, overwork as a result of short staffing along with physical and psychological stresses. This factor was the strongest for nearly all categories of employees, suggesting that the difficulties associated with LTC jobs do account for those who leave. Economic concerns – pay and benefits appear as the next most important issue and among those in housekeeping is the most important issue. People did not attribute quitting to the strain dimension, which included medical risks and liability for this factor along with training requirements and shift work. This cluster is somewhat of a residual cluster and was labeled primarily for the presence of risks. In any event, the risks involved in LTC do not appear as a significant part of the account given for people leaving LTC jobs. Similarly, attitudes toward work appear neutral, suggesting the components of this measure, a loss of interest in LTC work or conflicts with coworkers do not drive peoples' decisions to quit.

Satisfaction with Job

Job satisfaction is often considered central to both the quality of one's performance and retention. In this survey, factor analysis yielded six dimensions of job satisfaction – supervision, co-workers, physician support, equipment and supplies, continuing education and depth of staff. Satisfaction with community represents a separate measure that ties in with job satisfaction. If one examines the average scores in Table 16, there is remarkable uniformity and all scores are in the positive range. The lowest scores in the matrix are for continuing education among LPNs and depth of staff among CNAs – and both of these are in the positive part of the scale. Community satisfaction is also high and this establishes a foundation on which to build satisfaction with work and other aspects of life. This presents a positive picture of employee satisfaction and clearly does not produce any indictment of the industry from the standpoint of its employees.

Table 16. Comparison of Responses by Job Type.

	RN	LPN	CNA	Dietary	Hskpg	Office	Activity	Other
Length of job (yrs)	8.0	9.8	6.7	8.4	9.0	7.5	8.0	8.9
Primary job	95.0%	96.2%	90.7%	91.4%	93.6%	94.7%	88.7%	92.8%
Pay per hour	$18.71	$13.64	$9.32	$8.85	$9.32	$11.74	$9.13	$11.75
# of benefits	4.5	4.1	3.2	3.3	3.7	4.6	3.7	4.1
Feelings about hrs								
Too many hrs	11.3%	8.5%	3.2%	2.8%	1.5%	3.9%	.7%	2.6%
Too few hrs	3.2%	5.8%	6.1%	13.2%	10.8%	11.0%	13.4%	6.5%
Expect to stay in current job								
Less than a year	2.6%	3.3%	4.7%	4.0%	2.2%	4.7%	3.0%	2.9%
5 or more years	73.7%	76.7%	60.3%	63.8%	71.9%	74.9%	74.9%	73.7%
Factors in employees decision to work in LTC								
Intrinsic Aspect	3.64	3.64	3.70	3.24	3.31	3.12	3.73	3.52
Economic concern	3.52	3.65	3.76	3.91	3.90	3.80	3.65	3.54
Push Factors for those not expecting to stay 5 or more years								
Job strain	2.45	2.47	2.40	2.44	2.34	2.18	2.23	2.24
Job structure	2.23	2.41	2.49	2.34	2.16	2.05	2.07	2.11
Pull Factors: Reasons one would expect to stay 5 or more years								
Intrinsic Rewards	3.87	3.86	3.96	3.51	3.50	3.47	3.98	3.74
Sense of obligation	2.60	2.45	2.71	2.54	2.48	2.28	2.34	2.35
Need for income	4.18	4.44	4.34	4.50	4.41	4.46	4.04	4.18
Perceived accounts for those who quit LTC jobs								
Condition of job	3.76	3.79	3.79	3.37	3.38	3.55	3.62	3.62
Strain/risks	2.53	2.34	2.43	2.39	2.37	2.43	2.49	2.44
Attitude toward work	3.02	3.16	3.19	2.91	2.74	3.02	3.13	2.99
Economic concern	3.34	3.40	3.33	3.19	3.42	3.31	3.45	3.41
Satisfaction with job								
Supervision	3.68	3.58	3.51	3.55	3.79	3.86	3.91	3.91
Co-workers	3.68	3.58	3.55	3.56	3.66	3.66	3.86	3.75
Physician support	3.60	3.57	3.47	3.48	3.57	3.66	3.58	3.55
Equipment/supplies	3.40	3.36	3.48	3.47	3.64	3.66	3.77	3.60
Continuing Ed.	3.36	3.20	3.51	3.45	3.50	3.65	3.77	3.62
Depth of Staff	3.39	3.26	3.10	3.36	3.44	3.79	3.59	3.54
Community	3.77	3.69	3.63	3.65	3.79	3.70	3.77	3.77

URBAN, RURAL AND FRONTIER COMPARISONS

The comparisons presented in Table 17 reflect comparisons for facilities located in urban, rural and frontier counties. Urban counties were defined as those containing the four largest cities, Grand Forks, Fargo, Minot and Bismarck. Rural Frontier counties are those containing fewer than 6 people per square mile and are officially designated as frontier counties by the UND Center for Rural Health. Thirty-six of North Dakota's 53 counties have the designation of Frontier. The remaining counties are considered rural. The comparison for these categories was undertaken because of the special difficulties perceived as unique for the smaller, sparsely settled frontier counties.

Table 17 contains the average scores or proportions for Urban, Rural, and Frontier respondents and a column indicating the existence of statistical significance as well as patterns of significant differences. It was our principle concern to discern whether Rural and especially Frontier long-term care might face greater difficulties than their Urban counterparts.

Length of Job

Both rural and frontier employees reported longer length of current jobs as compared to urban staff. These were statistically significant, suggesting that long term care jobs rural communities in general are filled with a more stable work force. The jobs were the primary jobs for employees in all communities with no differences detected among urban, rural and frontier communities.

Pay and Benefits

Hourly rates of pay were significantly higher for urban staff with urban staff receiving just over $1.00 per hour more than rural and frontier staff. Benefits differentiated all three

demographic levels with urban staff receiving the highest number of benefits and frontier the lowest. Each is significantly different, with the differences ordered by population size.

Feelings About Hours

Employees' expression of concern over having either too many or too few hours of work did differentiate significantly among urban, rural and frontier comparisons. The greatest difference is in the desire for additional work hours in rural and frontier locations.

Expect to Stay in Current Job

Employees in long-term care in frontier counties are not significantly more likely to express a long term commitment to their jobs. The proportions expecting to stay less than a year do not differ, and differences in those planning to remain 5 years or longer while larger in frontier communities is not of a level that produces statistical significance..

Factors in the Decision to Work in Long-Term Care

The intrinsic rewards expected from providing care to long-term care patients appears to be a positive constant for long-term care workers and no significant differences existed among urban, rural and frontier staff. There was, however, a significant difference in the economic concern that separates all three levels. Urban staff had the lowest scores for this measure, rural were in the middle, higher than urban but lower than frontier. Frontier posted the highest level of economic concern. This measure reflected the respondent's need to earn a living and the lack of alternative job opportunities. It appears that the economic motivators are greatest in the most sparsely populated counties.

Push Factors for Those Not Expecting to Stay 5 Years or More

As was mentioned earlier, the push factors that would serve to discourage employees from planning to remain are not generally strong. They also do not vary significantly among the urban, rural and frontier comparisons.

Push Factors for Those Not Expecting to Stay 5 Years or More

Pull factors represent the positive forces that serve retention. Intrinsic rewards, while high and in need of recognition, do not produce significant differences among the urban, rural and frontier counties. The sense of obligation that reflect a feeling that one must do the job since there is no one else is significantly higher in frontier counties than urban or rural. It should be acknowledged that although this pattern of significant differences exists, the overall scores on sense of obligation are below the midpoint and should be considered relatively low in terms of motivation strength. Lastly, as a motivational factor, the need for income is highest for frontier county LTC employees, but the difference is significant only between urban and frontier counties and all units posted their highest scores for economic motivation.

Perceived Accounts for Those Who Quit LTC Jobs

Out of the four dimensions measured that represent the staff perceptions of reasons their colleagues left employment in LTC, only one produced any significant difference. The strain/risk measure is sensitive to health hazards and liability risks along with overwork, psychological and physical stress. This factor appeared just slightly higher for urban staff when compared with frontier staff and overall, the score levels on this variable tended to be below the midpoint of the scale and hold the lowest rank of the four measures.

Satisfaction with Job

Job satisfaction is an important issue for not only retention, but for the quality of life people experience. Higher scores on these measures suggest a positive work experience and a sense that the work place is a good place to work. All of the scores on the satisfaction scales are in the positive zone, with frontier staff posting the high scores and being at the top of all significant comparisons regarding job satisfaction. The only significant difference for supervision was between rural and frontier counties with frontier counties more satisfied. Similarly, the only significant difference in satisfaction with co-workers was between urban and frontier counties and again frontier counties posted the highest satisfaction. Physician support is in the positive zone for all types, but does have a pattern of significant differences in which the support increases as providers become more rural. Frontier counties reported the highest level of physician support. Frontier counties also reported significantly higher satisfaction with equipment and supplies than urban and rural staff. Similarly, frontier staff rated continuing education higher than urban and rural staff. No significant differences were found for depth of staff. Finally, community satisfaction was measured. While not a component of job satisfaction, community satisfaction sets the stage for satisfaction with life in general. On this variable, the urban staff posted significantly higher scores than the rural and frontier staff. Again, all scores were in the positive zone.

Table 17. Comparison of Responses: Urban, Rural and Frontier.

	Urban	Rural	Frontier	Significant differences*
Length of job (yrs)	7.43	8.12	8.39	UR UF
Primary job	92.5%	92.6%	92.0%	Not significant
Pay per hour	$11.65	$10.49	$10.56	UR UF
# of benefits	3.99	3.65	3.38	UR UF RF
Feelings about hrs				
Too many hrs	3.8%	5.2%	3.4%	Significant P<.05
Too few hrs	7.1%	7.7%	9.3%	
Expect to stay in current job				
Less than a year	3.7%	3.9%	3.7%	Not significant
5 or more years	66.9	66.1	70.4	
Factors in decision to work in LTC				
Intrinsic Aspect	3.56	3.53	3.53	NONE
Economic concern	3.44	3.78	4.02	UR UF RF
Push factors for those not expecting to stay 5 years or more				
Job strain	2.38	2.44	2.31	NONE
Job structure	2.33	2.39	2.34	NONE
Pull factors: Reasons one would expect to stay 5 years or more				
Intrinsic Rewards	3.83	3.73	3.78	NONE
Sense of obligation	2.44	2.51	2.65	UF RF
Need for income	4.30	4.31	4.40	UF
Perceived accounts for those who quit LTC jobs				
Condition of job	3.72	3.64	3.60	NONE
Strain/risks	2.44	2.42	2.38	UF
Attitude toward work	3.03	3.09	3.05	NONE
Economic concern	3.32	3.40	3.31	NONE
Satisfaction with job				
Supervision	3.63	3.58	3.72	RF
Co-workers	3.57	3.61	3.68	UF
Physician support	3.39	3.55	3.63	UF UR RF
Equipment/supplies	3.41	3.50	3.61	UF RF
Continuing Ed.	3.42	3.46	3.55	UF RF
Depth of Staff	3.37	3.34	3.36	NONE
Community	3.78	3.62	3.69	UR UF

* UR = URBAN-RURAL
* UF = URBAN-FRONTIER
* RF = RURAL-FRONTIER

The final task for this analysis is to examine a wide array of variables in order to determine whether they can serve as predictors of retention. In this analysis, the respondent's expectations for remaining in their current job constituted the dependent variable and the remaining variables in the survey including some facility characteristics such as size, vacancy rates and effort levels for recruitment and retention were examined in a 47 variable correlation matrix. Those with bi-variate relationships with the dependent variable were carried forward into a stepwise regression model. The stepwise regression then reduced the number of variables that produced statistically significant relationships with the expectation to remain in one's current job. Ten variables remained after this analysis and accounted for approximately 12.5% of the variance in people's expectation to remain in their jobs. The results are in Table 18. Each variable has been elaborated somewhat to clarify its location in the questions.

Table 18. Stepwise Regression Results for Expecting to Remain in Job.

	Standardized Coefficients	Significance
Number of Benefits	.200	.000
Age of Respondent	.124	.000
Intrinsic Aspects of LTC as Motivator	.084	.000
Marital Status	-.059	.004
Feelings About Hours	.068	.001
# of Direct Care Tasks	-.053	.008
Household Income	.053	.011
Length of Current Job	.057	.008
Attitude Toward Work Seen in Quitters	.055	.005
Supervision	.055	.006

Dependent variable: How long one expects to stay in job.
R Square = .125

If one examines the results of this analysis, the variables can be grouped into categories as either mutable or immutable. The following brief comments on the variables included in the model seek to take mutability into account.

- The number of benefits, for example, yields the strongest relationship and is a mutable variable in that benefits can be changed by actions of either the state or facility administration. This suggests that increasing benefits would have a positive impact on retention and that it leads the list in terms of strength.
- Age of employees is not mutable and while it is second in the prioritized list of variables, moving toward retirement is not something we view as mutable, barring a change in retirement age.
- Intrinsic aspects of long-term care are also subject to modification. Given recognition of the importance of this variable, efforts to recognize this and mesh the positive experience of working with frail elderly people with rewards for humane contributions might be considered.
- Marital status exhibits an inverse relationship, with categories reflecting single lives (including widowhood and divorce) having less likelihood of remaining long term. This may suggest that married employees have greater staying power, but beyond selective recruitment, this is not mutable. Perhaps attention to the special needs of single employees could be elevated.
- Feelings about hours may be interpreted as the influence of not receiving enough hours. This may also be mutable and might call for creative responses such as the use of flextime, job sharing, cross training and other possible adaptations.
- The larger the number of direct-care tasks, the less likely one is to anticipate long-term retention. This may be regarded as an indicator of "burden" and while the tasks are a constant, the manner in which staff work as teams may help reduce this perception.

- Household income related in a positive way, perhaps because of the influence of professional staff. They had expectations of longer employment as discussed in the comparisons of different staff types. The degree to which economic concerns emerged in the earlier analysis, one can also anticipate that increases in economic rewards would enhance retention.
- The length of one's current job is a factor with longer histories indicating commitment. This is not, however, a mutable factor.
- Attitude toward work as perceived characteristics of quitters also relates to retention, but again is not readily mutable. That employees see those who leave as having negative qualities in terms of interest in LTC and personality conflicts with peers does not serve to lead employees, but serves as a negative reference point. This perception of quitters leads to better retention.
- The only job satisfaction item present in the resulting regression model was satisfaction with supervision. Positive attitudes about supervision simply lead to better retention. This is mutable and can be responded to at the institutional level.

SUMMARY

- Overall, long term care staff are quite stable. The average length of current employment is 8 years. CNAs report the shortest average length @ 6.7 years. LPNs report the longest @ 9.9 years.
- LTC workers' decisions to work in LTC are motivated by intrinsic rewards as well as financial concerns.
- Over 2/3 projected staying long term (5 years or more), while 3.7% reported plans to leave within 1 year. CNAs reported the highest rate for projected early departure.
- Push factors (negative pressures) did not appear to be strong factors among those planning early departures.
- Retention is encouraged by the same factors that lead to the decision to work in LTC – intrinsic rewards from providing care and economic concerns.
- Job satisfaction among ND LTC workers is generally high.
- Wages for ND LTC workers are slightly lower than the national averages. Each as a proportion of the national average are - RNs 94.1%, LPNs 94.7%, CNAs 100%.
- Benefits are less frequently provided to lower wage employees.
- Satisfaction with hours is different for RNs, LPNs and other workers. RNs and LPNs report excessive hours while others report a need for more work time.

<u>Urban/Rural/Rural Frontier Comparisons</u>

- Rural and Frontier employees had been employed longer on average than urban employees, but did not differ on plans for remaining in their jobs in the future.
- Economic factors are more likely to drive the decision to work in LTC in rural communities. This is strongest in Frontier communities

- Frontier community staff reported a higher sense of obligation to remain in their jobs – evidently social pressures are more likely to be felt in smaller communities.
- Frontier communities, despite what appears to be a more challenging environment, report higher level of job satisfaction on all indicators.

What Predicts Retention?

Based on a regression model that produced moderate predictive ability, the following factors emerge.

- Benefits are the strongest predictor, with higher benefits promoting retention.
- Age of employees ranked second as a predictor and cannot be mitigated directly. As the population ages, a shortfall will occur in the pool of potential replacement workers and methods of retaining older workers may become more important. In this context, flexible scheduling, job sharing and other creative response may be needed.
- Intrinsic rewards were related to retention. People stay in part because they feel good about the work they do. This can be incorporated into public recognition events in order to capitalize on such positive feelings.
- Married employees are more likely to be stable than single, widowed or divorced employees. In a tight market, this is probably not mutable.
- Feelings about hours may be interpreted as the influence of not receiving enough hours. This may also be mutable and might call for creative responses such as the use of flextime, job sharing, cross training and other possible adaptations.
- The larger the number of direct-care tasks, the less likely one is to anticipate long-term retention. This may be regarded as an indicator of "burden" and while the tasks are a constant, the manner in which staff work as teams may help reduce this perception.

- Household income related in a positive way, perhaps because of the influence of professional staff. They had expectations of longer employment as discussed in the comparisons of different staff types. The degree to which economic concerns emerged in the earlier analysis, one can also anticipate that increases in economic rewards would enhance retention.
- The length of one's current job is a factor with longer histories indicating commitment. This is not, however, a mutable factor.
- Attitude toward work as perceived characteristics of quitters also relates to retention, but again is not readily mutable. That employees see those who leave as having negative qualities in terms of interest in LTC and personality conflicts with peers does not serve to lead employees, but serves as a negative reference point. This perception of quitters leads to better retention.
- The only job satisfaction item present in the resulting regression model was satisfaction with supervision. Positive attitudes about supervision simply lead to better retention. This is mutable and can be responded to at the institutional level.

2001 NORTH DAKOTA LONG-TERM CARE STAFF SURVEY

1. Name of Your LTC Facility: (Facility name) _____

2 .Town where primary LTC facility is located: _____

3. What is your primary position/title in LTC: (Check the one that most accurately reflects your position):

____RN
____LPN
____Certified nurse aide (or assistant)
____Orderly
____Social Worker
____Social work assistant
____Physical therapist
____Physical therapy assistant/aide
____Occupational therapist
____Occupational therapy assistant/aide
____Activity staff
____Restorative aid
____Dietary staff
____Other Please list:_____

4. Which of the following duties do you typically carry out? (Check all that apply)

____Medical records
____ Medical examinations
____ Administering medications
____ Administering medical treatments (IV, Catheter, etc.)
____Dietary functions
____ Bathing
____ Toileting
____ Dressing
____ Feeding
____Transferring
____Physical therapy
____Occupational therapy
____Activity functions
____Other Please list:_____

5. For your job in Long Term Care:

How long have you worked at your current job? _____Years

How long have your worked in the LTC industry? _____Years

Is this job your primary occupation? _____Yes _____No

How much are you paid (please give the amount either per hour or month - before taxes)
_____ per hour or _____ per month

Approximately how many hours per week do you work at this facility? _____Hours

6. What benefits do you receive from this job? (Check all that apply)

_____ Life Insurance Coverage
_____ Health/Medical Insurance
_____ Dental Insurance
_____ Disability insurance
_____ Pension/Retirement contributions
_____ Uniforms
_____ Vacation If yes, approximately how days per year? _____
_____ Sick leave If yes, approximately how days per year? _____
_____ Continuing education
_____ Child care
_____ Other(s) Please list them:_____

7. How do you feel about your LTC-related hourly work schedule? (Check ONE)

_____ Too many hours
_____ Not enough hours
_____ About the right number of hours

8. Please rank the degree to which each of the listed factors played a part in your decision to work in LTC:

	Not a Factor				Major Factor
Community need	1	2	3	4	5
Interest in LTC	1	2	3	4	5
Satisfaction in helping others	1	2	3	4	5
Urged by family/friends	1	2	3	4	5
Challenge of providing LTC	1	2	3	4	5
To earn a living	1	2	3	4	5
Relatively few job opportunities in the area	1	2	3	4	5

Others (please list):_____

9. How long do you expect to stay in your current job (approximate)?
(check ONE) **If your answer is less than 5 years answer item 10, if your answer is 5 or more years, answer item 11**.

_____ less than a year
_____ 1-2 years
_____ 3-4 years
_____ 5 or more years

10. If you answer to question 9 was less than 5 years, which of the following would you include as reasons for expecting to leave your job?

Reason	Not a Factor				Major Factor
Undesirable number of work hours	1	2	3	4	5
Shift work	1	2	3	4	5
Training requirements	1	2	3	4	5
Pay	1	2	3	4	5
Benefits	1	2	3	4	5
Working conditions	1	2	3	4	5
Psychological stress of LTC work	1	2	3	4	5
Physical demands of the work	1	2	3	4	5
Poor management/supervision	1	2	3	4	5
Overwork as result of short staffing	1	2	3	4	5
Health hazards	1	2	3	4	5
Medical liability concerns	1	2	3	4	5
Loss of interest in providing LTC	1	2	3	4	5
Personality conflict with LTC personnel	1	2	3	4	5
Retirement	1	2	3	4	5

Others (Please list): _____

11. If you expect to stay in your job for 5 years or more, please answer this question. Why do you expect to stay?

Reason	Not a Factor				Major Factor
Community need	1	2	3	4	5
Interest in providing LTC	1	2	3	4	5
Satisfaction in helping others	1	2	3	4	5
Influence from family/friends	1	2	3	4	5
Challenge of providing LTC	1	2	3	4	5
Shortage of LTC staff to take my place	1	2	3	4	5
I need the work/income	1	2	3	4	5
Good working conditions	1	2	3	4	5

Other (Please list):_____

12. To what extent does your LTC facility have problems hiring individuals to perform your job?

No Difficulty				Great Difficulty
1	2	3	4	5

13. In your opinion, why are individuals not interested in working in a LTC facility?

Issue	Not a Concern				Major Concern
Undesirable number of work hours	1	2	3	4	5
Shift work	1	2	3	4	5
Training requirements	1	2	3	4	5
Pay	1	2	3	4	5
Benefits	1	2	3	4	5
Working conditions	1	2	3	4	5
Psychological stress of LTC work	1	2	3	4	5
Physical demands of the work	1	2	3	4	5
Poor management/supervision	1	2	3	4	5
Over work as result of short staffing	1	2	3	4	5
Health hazards	1	2	3	4	5
Medical liability concerns	1	2	3	4	5

Others (Please list):_____

14. To what extent does your facility have problems keeping individuals in their job?

No Difficulty				Great Difficulty
1	2	3	4	5

15. Think about the persons that have quit their job in the past 2-3 years. In your opinion, to what extent did the following issues play a role in their decision to quit?

Issue	Not a Factor				Major Factor
Undesirable number of work hours	1	2	3	4	5
Shift work	1	2	3	4	5
Training requirements	1	2	3	4	5
Pay	1	2	3	4	5
Benefits	1	2	3	4	5
Working conditions	1	2	3	4	5
Psychological stress of LTC work	1	2	3	4	5
Physical demands of the work	1	2	3	4	5
Poor management/supervision	1	2	3	4	5
Overwork as result of short staffing	1	2	3	4	5
Health hazards	1	2	3	4	5
Medical liability concerns	1	2	3	4	5
Loss of interest in providing LTC	1	2	3	4	5
Personality conflict with LTC personnel	1	2	3	4	5

Others (Please list): _____

LTC JOB SATISFACTION

16. Please rate your level of satisfaction regarding the following aspects in your LTC-related job/duties.

	Not Satisfied				Very Satisfied
Total size of your facilities staff	1	2	3	4	5
Number of others doing the same work as you	1	2	3	4	5
Quality of care provided by local LTC workers	1	2	3	4	5
Availability of physician support	1	2	3	4	5
Degree of responsibility/autonomy	1	2	3	4	5
Access to LTC continuing education	1	2	3	4	5
Quality of available LTC continuing education	1	2	3	4	5
Time for coworker interaction	1	2	3	4	5
Quantity of LTC equipment/supplies	1	2	3	4	5
Quality of LTC equipment/supplies	1	2	3	4	5
Close relationships with coworkers	1	2	3	4	5
Emotional support from coworkers	1	2	3	4	5
Supervisor's level of competence	1	2	3	4	5
Supervisor's leadership ability	1	2	3	4	5
Supervisor's availability for questions/problems	1	2	3	4	5
LTC-related level of stress	1	2	3	4	5
Amount of time off from LTC duties	1	2	3	4	5
Professional respect from physicians	1	2	3	4	5
Professional respect from nurses	1	2	3	4	5

COMMUNITY SATISFACTION

17. How satisfied are you with the following factors in your present community? Please rate each item from 1 to 5.

	Not Satisfied				Very Satisfied
Size of community	1	2	3	4	5
Social/recreation opportunities	1	2	3	4	5
Overall environment for children	1	2	3	4	5
Quality of schools	1	2	3	4	5
Degree of safety	1	2	3	4	5
Health care system	1	2	3	4	5
Your overall community satisfaction	1	2	3	4	5
If *married*, spouse's overall community satisfaction	1	2	3	4	5

DEMOGRAPHICS

18. List the <u>age</u> and <u>gender</u> of the persons in your *household*:

	Age (circle one)	Age (circle one)	Age (circle one)
Yourself:	_____ M F	_____ M F	_____ M F
	_____ M F	_____ M F	_____ M F
	_____ M F	_____ M F	_____ M F

19. What is <u>your</u> highest level of educational attainment? (check ONE)

_____ Some grade/high school
_____ HS diploma/GED
_____ Associate Degree
_____ Bachelor's Degree
_____ Master's Degree
_____ Doctoral Degree

20. How long have YOU lived in your community? _____ Years

21. What is your current approximate <u>gross</u> (before tax) <u>household income</u>? (check ONE)

_____ $0-9,999
_____ $10,000-19,999
_____ $20,000-29,999
_____ $30,000-39,999
_____ $40,000-49,999
_____ $50,000-59,999
_____ $60,000-69,999
_____ $70,000-79,000
_____ $80,000-89,999
_____ $90,000-99,999
_____ $100,000 +

22. What is <u>your</u> racial/ethnic background? (check ONE)

_____ White, not of Hispanic origin
_____ Black, not of Hispanic origin
_____ Asian or Pacific Islander
_____ American Indian/Alaska Native
_____ Hispanic

23. What is your marital status? (check only ONE)

_____Married
_____ Never married
_____Divorced/Separated
_____Widowed

24. If married, what is your spouse's occupational status: (check ONE)

____ Full-time _____ Part-time _____ Retired _____Unemployed

25. If applicable, how supportive is your spouse/significant other of your role in local LTC care provision?

Very Unsupportive				Very Supportive
1	2	3	4	5

26. What, in your opinion, are the most important actions the North Dakota legislature can take to improve your capacity to provide quality long term care in the future? Please list the top two or three actions you would recommend.

THANK YOU FOR YOUR PARTICIPATION

Section VI. Labor Force Issues: Table of Contents

Section VI. Labor Force Issues: Table of Contents (Cont.)

Section VI. Labor Force Issues: Table of Contents (Cont.)

Introduction

Study Objectives

The purpose of this study was to profile the current labor force and explore how work force availability may affect health care services in North Dakota. Its aim was to provide policy makers insight into labor availability and critical shortage areas that will need to be addressed, specifically as they relate to elderly long-term care services.

Methodology

The study was designed in two parts. First, data from the 2000 Census was compiled to profile the current labor force. Issues of specific interest included labor capacity and unemployment, employment of seniors, and commuting. The purpose of this part was to explore who is working and where.

Second, a series of generalizable household surveys was conducted to examine labor availability issues. The intent of this part of the study was to explore work force potential. Specifically, what is the availability labor pool for various regions of the state? This was accomplished in two phases. First, data from a targeted labor market analysis was acquired from the North Dakota Department of Commerce. Creation of this data set was a joint effort between the North Dakota Department of Commerce and individual county economic development entities. A generalizable labor market survey was conducted in 26 counties throughout North Dakota during the spring of 2002. The survey was a random telephone interview of adults in households used to obtain information regarding current employment and future labor availability. Data were collected from 7,261 individuals. These data were augmented by an additional survey which covered the counties that were missed in the original survey. However, the unit of analysis was the household in this survey and data were collected from every adult member of the household. A total of 1,356 households were randomly selected in a two-staged stratified process to ensure a generalizable sample for both urban and rural areas. Since the intent of the overall study was to profile labor availability at the regional level, fewer households were needed to complete the study. This survey was also conducted by phone and completed in the early fall of 2002.

Analysis

The analysis was conducted in three parts. First, data from the 2000 Census were compiled to allow county-specific tabulations which were translated into graphical illustrations using geographic information systems (GIS). We focused on three areas. Current employment by county was analyzed first along with corresponding unemployment rates. These data were used to assess current work force levels and to determine the degree to which elderly were involved in paid employment. In addition, commuting patterns were explored to judge where residents were employed and the distance they typically travel to work.

Second, we analyzed the survey data to profile the potential labor pool. This was accomplished in three parts. We first gathered information regarding the number of hours residents currently worked and how many they preferred working. These data offer insight into the ability to expand the labor pool by simply increasing work hours of those currently employed. We separately analyzed the traditional labor pool (i.e., those 18 to 65 years of age) and the senior labor pool (i.e., those above age 65). Next, we explored residents' interest in changing jobs and the main factors that would lead them to make that decision. These data can be used to determine what it might take to shift the existing labor pool into target areas that may be needed for elderly services. Again, we separately analyzed the traditional and senior labor pools.

Finally, we explored the potential of expanding the labor pool by tapping unused labor. Several questions on the survey were used to evaluate this option including asking workers if they were interested in working additional jobs, asking those not in the work force if they were interested in paid work, and finally exploring the interest in flexible work hours.

Current Workforce

- ❑ The 14 urban counties in the state account for slightly more than 77 percent of the state's employment. In contrast, there were fewer than 73,000 employed residents in the state's 39 rural counties; 31 counties had fewer than 2,500 residents employed.

- ❑ North Dakota continues to have near full employment across most counties. Nearly half of the counties in the state have an annual unemployment rate less than four percent; unemployment exceeded five percent in only 15 counties in 2000.

- ❑ In 2000, the southern counties of the state had the highest concentration of residents 16 to 64 years of age who were employed. Nonetheless, only three counties in the state had less than 90 percent of the working age civilian labor force (i.e., age 16 to 64) who were not employed.

- ❑ In 2000, there were fewer than 15,000 individuals ages 16 to 64 who were unemployed.

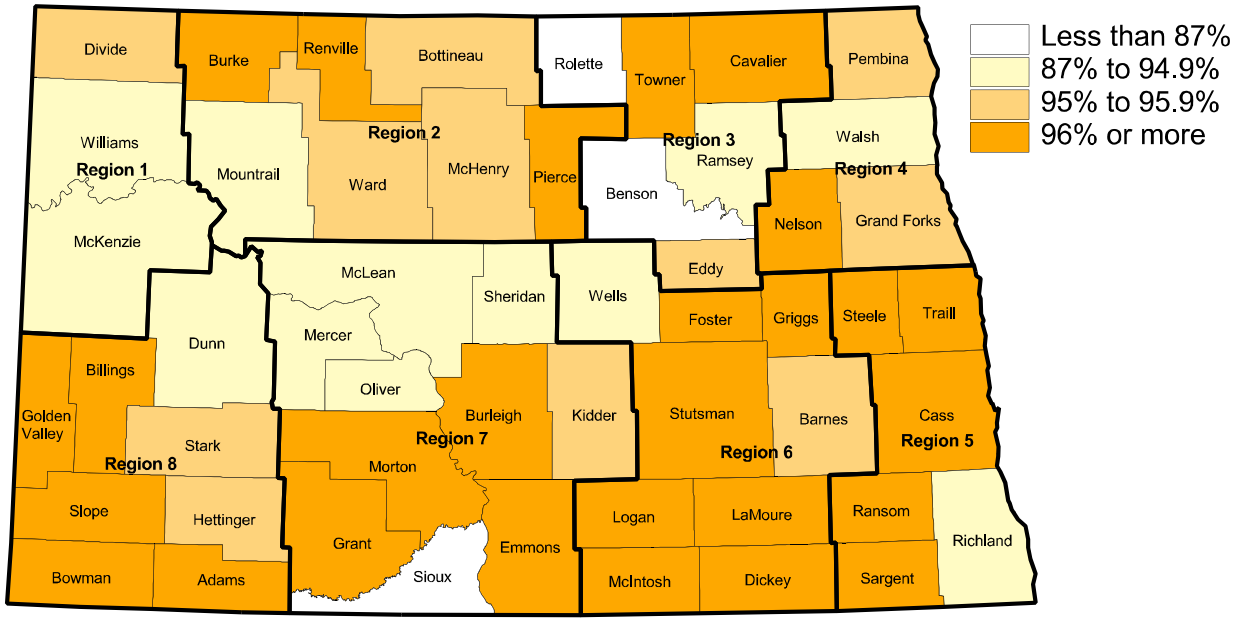
- ❑ In 2000, 12,956 North Dakota seniors (i.e., age 65 years and over) were employed which is 96 percent of the senior labor force (or 13 percent of all seniors). The highest concentrations of senior workers is in the western counties.

- ❑ In 2000, of those 65 years of age and older who were interested in work, only 576 were not employed.

Figure 1. Percent of Persons Who Are Employed in North Dakota by Age by County: 2000

Employed Persons 16 to 64 as a Percent of Persons 16 to 64 in Civilian Labor Force in North Dakota by County: 2000

Source: U.S. Census Bureau, 2000 Census, SF3 Table PCT35.



Employed Persons 65 and Older as a Percent of Persons 65 and Older in Civilian Labor Force in North Dakota by County: 2000

Source: U.S. Census Bureau, 2000 Census, SF3 Table PCT35.

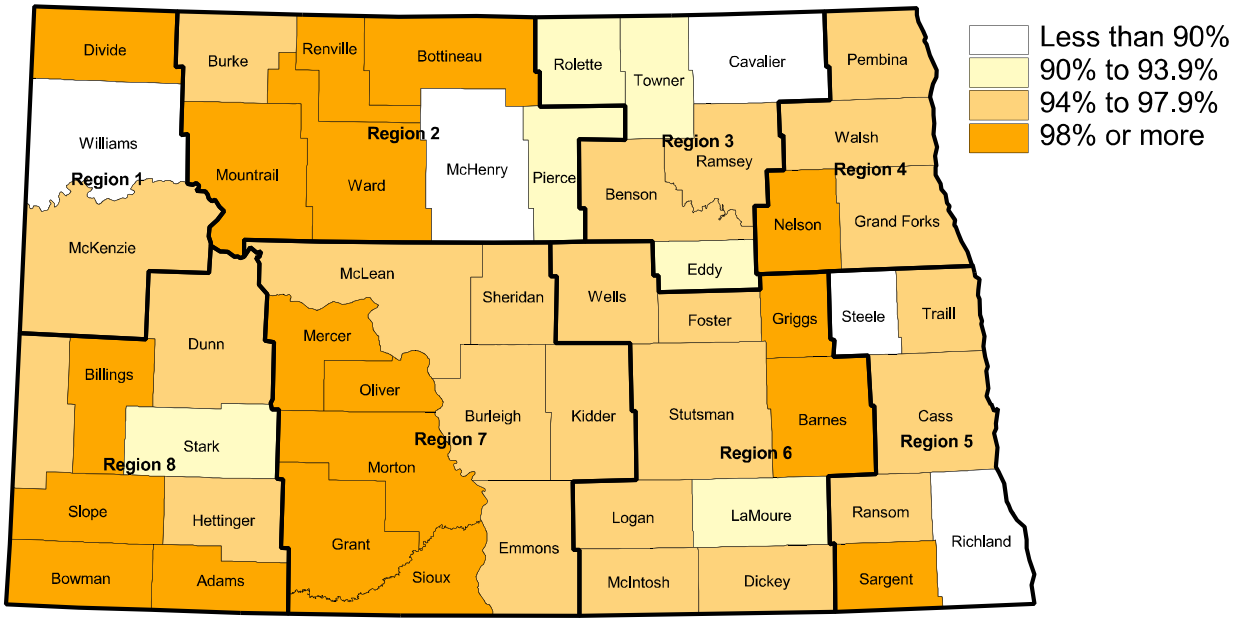


Table 1. Labor Force Status of Persons Ages 16 to 64 in North Dakota by County and Region: 2000

Source: U.S. Census Bureau, 2000 Census, Summary File 3 (SF3) Table PCT35

Area	Persons 16 to 64 Years of Age								
		In Labor Force							Not in Labor Force
				Civilian Labor Force					
			Armed Forces		Employed		Unemployed		
	Total	Total		Total	Number	Percent	Number	Percent	
North Dakota	407,709	325,450	7,093	318,357	303,676	95.4	14,681	4.6	82,259
Adams	1,456	1,146	11	1,135	1,112	98.0	23	2.0	310
Barnes	7,227	5,593	23	5,570	5,292	95.0	278	5.0	1,634
Benson	3,785	2,581	6	2,575	2,228	86.5	347	13.5	1,204
Billings	577	418	0	418	405	96.9	13	3.1	159
Bottineau	4,311	3,167	42	3,125	2,971	95.1	154	4.9	1,144
Bowman	1,862	1,578	2	1,576	1,542	97.8	34	2.2	284
Burke	1,294	939	0	939	917	97.7	22	2.3	355
Burleigh	45,755	37,781	179	37,602	36,257	96.4	1,345	3.6	7,974
Cass	85,539	71,723	169	71,554	68,732	96.1	2,822	3.9	13,816
Cavalier	2,702	2,034	0	2,034	1,988	97.7	46	2.3	668
Dickey	3,352	2,758	0	2,758	2,651	96.1	107	3.9	594
Divide	1,230	936	0	936	891	95.2	45	4.8	294
Dunn	2,111	1,579	0	1,579	1,475	93.4	104	6.6	532
Eddy	1,503	1,175	0	1,175	1,125	95.7	50	4.3	328
Emmons	2,312	1,782	2	1,780	1,722	96.7	58	3.3	530
Foster	2,108	1,742	0	1,742	1,684	96.7	58	3.3	366
Golden Valley	1,087	790	0	790	759	96.1	31	3.9	297
Grand Forks	45,840	36,271	2,253	34,018	32,540	95.7	1,478	4.3	9,569
Grant	1,598	1,185	0	1,185	1,157	97.6	28	2.4	413
Griggs	1,523	1,207	3	1,204	1,164	96.7	40	3.3	316
Hettinger	1,493	1,091	5	1,086	1,032	95.0	54	5.0	402
Kidder	1,572	1,140	2	1,138	1,081	95.0	57	5.0	432
LaMoure	2,660	2,001	2	1,999	1,951	97.6	48	2.4	659
Logan	1,221	936	0	936	909	97.1	27	2.9	285
McHenry	3,469	2,539	20	2,519	2,405	95.5	114	4.5	930
McIntosh	1,651	1,324	0	1,324	1,294	97.7	30	2.3	327
McKenzie	3,310	2,454	0	2,454	2,287	93.2	167	6.8	856
McLean	5,566	4,138	12	4,126	3,891	94.3	235	5.7	1,428
Mercer	5,308	4,220	8	4,212	3,977	94.4	235	5.6	1,088
Morton	15,687	12,840	42	12,798	12,299	96.1	499	3.9	2,847
Mountrail	3,841	2,762	1	2,761	2,589	93.8	172	6.2	1,079
Nelson	2,013	1,560	14	1,546	1,492	96.5	54	3.5	453
Oliver	1,283	993	0	993	941	94.8	52	5.2	290
Pembina	5,140	4,041	23	4,018	3,820	95.1	198	4.9	1,099
Pierce	2,595	2,007	0	2,007	1,931	96.2	76	3.8	588
Ramsey	7,211	5,860	65	5,795	5,381	92.9	414	7.1	1,351
Ransom	3,377	2,787	0	2,787	2,695	96.7	92	3.3	590
Renville	1,530	1,201	33	1,168	1,145	98.0	23	2.0	329
Richland	11,403	8,893	49	8,844	8,336	94.3	508	5.7	2,510
Rolette	7,905	5,097	5	5,092	4,348	85.4	744	14.6	2,808
Sargent	2,602	2,081	4	2,077	2,035	98.0	42	2.0	521
Sheridan	936	637	0	637	587	92.2	50	7.8	299
Sioux	2,347	1,479	4	1,475	1,122	76.1	353	23.9	868
Slope	473	358	0	358	346	96.6	12	3.4	115
Stark	14,164	11,375	34	11,341	10,808	95.3	533	4.7	2,789
Steele	1,290	1,043	5	1,038	1,014	97.7	24	2.3	247
Stutsman	13,763	10,837	16	10,821	10,465	96.7	356	3.3	2,926
Towner	1,614	1,264	3	1,261	1,238	98.2	23	1.8	350
Traill	5,000	3,898	22	3,876	3,750	96.7	126	3.3	1,102
Walsh	7,364	5,877	0	5,877	5,497	93.5	380	6.5	1,487
Ward	37,880	30,432	4,032	26,400	25,160	95.3	1,240	4.7	7,448
Wells	2,777	2,129	0	2,129	2,000	93.9	129	6.1	648
Williams	12,092	9,771	2	9,769	9,238	94.6	531	5.4	2,321
Region 1	16,632	13,161	2	13,159	12,416	94.4	743	5.6	3,471
Region 2	54,920	43,047	4,128	38,919	37,118	95.4	1,801	4.6	11,873
Region 3	24,720	18,011	79	17,932	16,308	90.9	1,624	9.1	6,709
Region 4	60,357	47,749	2,290	45,459	43,349	95.4	2,110	4.6	12,608
Region 5	109,211	90,425	249	90,176	86,562	96.0	3,614	4.0	18,786
Region 6	36,282	28,527	44	28,483	27,410	96.2	1,073	3.8	7,755
Region 7	82,364	66,195	249	65,946	63,034	95.6	2,912	4.4	16,169
Region 8	23,223	18,335	52	18,283	17,479	95.6	804	4.4	4,888

Table 2. Labor Force Status of Persons Ages 65 and Older in North Dakota by County and Region: 2000

Source: U.S. Census Bureau, 2000 Census, Summary File 3 (SF3) Table PCT35

Area	Persons 65 Years and Older								
		In Labor Force							Not in Labor Force
				Civilian Labor Force					
			Armed Forces		Employed		Unemployed		
	Total	Total		Total	Number	Percent	Number	Percent	
North Dakota	94,597	13,532	0	13,532	12,956	95.7	576	4.3	81,065
Adams	627	105	0	105	105	100.0	0	0.0	522
Barnes	2,314	349	0	349	348	99.7	1	0.3	1,965
Benson	961	150	0	150	144	96.0	6	4.0	811
Billings	141	42	0	42	42	100.0	0	0.0	99
Bottineau	1,519	171	0	171	169	98.8	2	1.2	1,348
Bowman	709	121	0	121	119	98.3	2	1.7	588
Burke	556	106	0	106	101	95.3	5	4.7	450
Burleigh	8,701	1,205	0	1,205	1,177	97.7	28	2.3	7,496
Cass	11,866	1,822	0	1,822	1,753	96.2	69	3.8	10,044
Cavalier	1,107	187	0	187	148	79.1	39	20.9	920
Dickey	1,226	212	0	212	206	97.2	6	2.8	1,014
Divide	672	93	0	93	93	100.0	0	0.0	579
Dunn	624	149	0	149	143	96.0	6	4.0	475
Eddy	681	106	0	106	96	90.6	10	9.4	575
Emmons	1,107	154	0	154	148	96.1	6	3.9	953
Foster	799	122	0	122	119	97.5	3	2.5	677
Golden Valley	404	90	0	90	87	96.7	3	3.3	314
Grand Forks	6,389	940	0	940	891	94.8	49	5.2	5,449
Grant	695	101	0	101	99	98.0	2	2.0	594
Griggs	706	116	0	116	114	98.3	2	1.7	590
Hettinger	688	109	0	109	105	96.3	4	3.7	579
Kidder	664	94	0	94	91	96.8	3	3.2	570
LaMoure	1,097	163	0	163	151	92.6	12	7.4	934
Logan	625	57	0	57	55	96.5	2	3.5	568
McHenry	1,299	210	0	210	184	87.6	26	12.4	1,089
McIntosh	1,161	142	0	142	136	95.8	6	4.2	1,019
McKenzie	910	164	0	164	157	95.7	7	4.3	746
McLean	1,892	181	0	181	174	96.1	7	3.9	1,711
Mercer	1,228	143	0	143	143	100.0	0	0.0	1,085
Morton	3,716	549	0	549	547	99.6	2	0.4	3,167
Mountrail	1,164	154	0	154	154	100.0	0	0.0	1,010
Nelson	1,021	147	0	147	145	98.6	2	1.4	874
Oliver	302	50	0	50	50	100.0	0	0.0	252
Pembina	1,670	190	0	190	184	96.8	6	3.2	1,480
Pierce	1,120	167	0	167	154	92.2	13	7.8	953
Ramsey	2,277	284	0	284	275	96.8	9	3.2	1,993
Ransom	1,243	178	0	178	174	97.8	4	2.2	1,065
Renville	571	87	0	87	87	100.0	0	0.0	484
Richland	2,778	468	0	468	405	86.5	63	13.5	2,310
Rolette	1,346	209	0	209	196	93.8	13	6.2	1,137
Sargent	747	101	0	101	101	100.0	0	0.0	646
Sheridan	459	86	0	86	82	95.3	4	4.7	373
Sioux	236	38	0	38	38	100.0	0	0.0	198
Slope	137	53	0	53	53	100.0	0	0.0	84
Stark	3,499	380	0	380	343	90.3	37	9.7	3,119
Steele	443	49	0	49	41	83.7	8	16.3	394
Stutsman	3,858	565	0	565	538	95.2	27	4.8	3,293
Towner	673	111	0	111	103	92.8	8	7.2	562
Traill	1,626	188	0	188	182	96.8	6	3.2	1,438
Walsh	2,414	345	0	345	337	97.7	8	2.3	2,069
Ward	7,344	942	0	942	942	100.0	0	0.0	6,402
Wells	1,329	167	0	167	159	95.2	8	4.8	1,162
Williams	3,256	420	0	420	368	87.6	52	12.4	2,836
Region 1	4,838	677	0	677	618	91.3	59	8.7	4,161
Region 2	13,573	1,837	0	1,837	1,791	97.5	46	2.5	11,736
Region 3	7,045	1,047	0	1,047	962	91.9	85	8.1	5,998
Region 4	11,494	1,622	0	1,622	1,557	96.0	65	4.0	9,872
Region 5	18,703	2,806	0	2,806	2,656	94.7	150	5.3	15,897
Region 6	13,115	1,893	0	1,893	1,826	96.5	67	3.5	11,222
Region 7	19,000	2,601	0	2,601	2,549	98.0	52	2.0	16,399
Region 8	6,829	1,049	0	1,049	997	95.0	52	5.0	5,780

Current Commuting Patterns

- A significant portion of workers, especially in counties with a small workforce, are working at home or walking to work. In 2000, more than 77 percent of the counties whose workforce was smaller than 2,500 had at least one in five workers employed at home or walking to work.

- In 2000, 12 percent of the rural workforce worked at home and an additional 9 percent worked at a location close enough to walk.

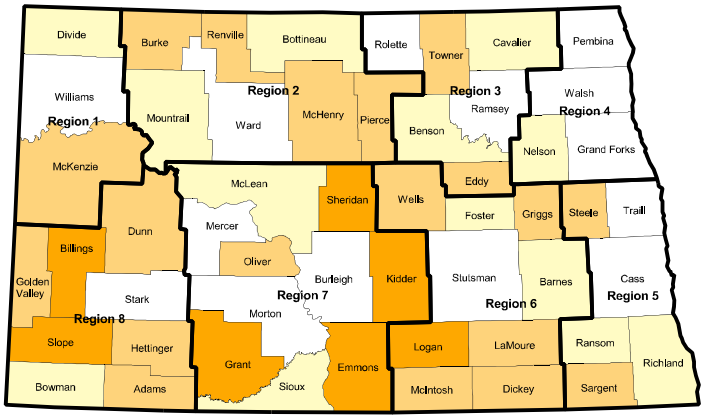
- The average commute time in North Dakota for those working outside the home was 16 minutes. Fewer than 7 percent of all employed residents working outside the home and 11 percent of rural residents spent more than 40 minutes traveling to work.

- Roughly 10 percent of the workforce in North Dakota was employed outside the county of residence in 2000. However, more than 17 percent of the rural workforce crossed county boundaries to work.

Figure 2. Current Commuting Patterns in North Dakota for Workers 16 Years and Older by County and Region: 2000

Percent of Workers 16 Years and Older who Walked to Work or Worked at Home in North Dakota by County: 2000

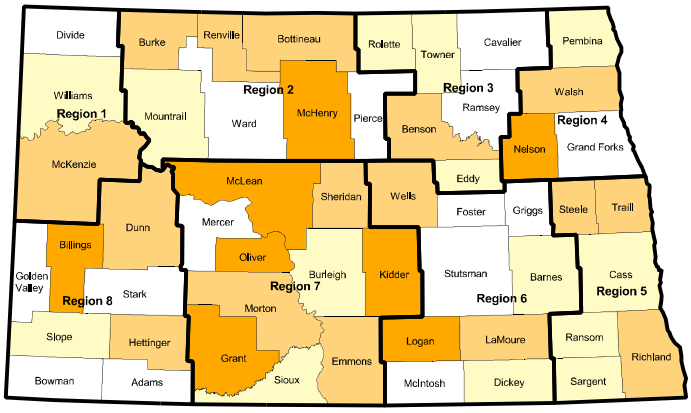
Source: U.S. Census Bureau, 2000 Census, SF3 Table P30.



Less than 13%
13% to 19.9%
20% to 29.9%
30% or more

Mean Travel Time to Work in Minutes in North Dakota by County: 2000

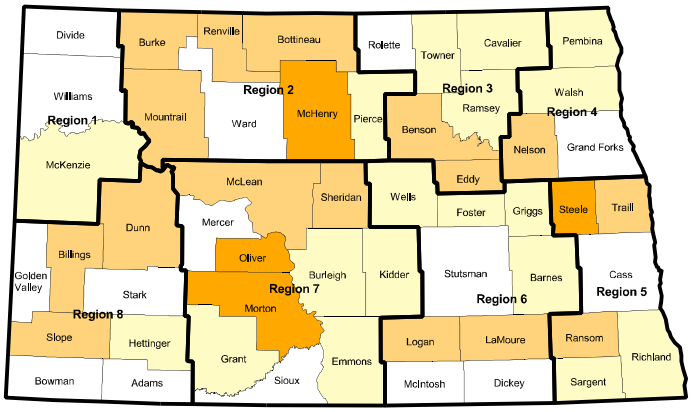
Source: U.S. Census Bureau, 2000 Census, SF3 Table P31.



Less than 15 minutes
15 to 16.9 minutes
17 to 19.9 minutes
20 minutes or more

Percent of Workers 16 Years and Older who Work Outside their County of Residence in North Dakota by County: 2000

Source: U.S. Census Bureau, 2000 Census, SF3 Table P26.



Less than 9%
9% to 17.9%
18% to 29.9%
30% or more

Table 3. Means of Transportation to Work for Workers in North Dakota by County and Region: 2000

Source: U.S. Census Bureau, 2000 Census, Summary File 3 (SF3) Table P30

Area	Workers 16 Years and Older							
		Did Not Work at Home						
		Car, Truck or Van		Public Transport-ation	Walked	Other Means	Worked at Home	Percent Who Walked or Worked at Home
	Total	Drove	Carpooled					
North Dakota	319,481	248,277	32,005	1,303	16,094	2,694	19,108	11.0
Adams	1,209	835	118	0	89	0	167	21.2
Barnes	5,597	4,035	664	2	419	93	384	14.3
Benson	2,350	1,485	418	27	151	39	230	16.2
Billings	443	224	33	0	57	0	129	42.0
Bottineau	3,130	2,271	339	8	232	34	246	15.3
Bowman	1,632	1,180	120	0	131	16	185	19.4
Burke	998	667	60	4	113	15	139	25.3
Burleigh	37217	31,032	3,356	166	964	223	1,476	6.6
Cass	69,743	58,202	5,584	256	2663	673	2,365	7.2
Cavalier	2091	1,557	166	9	181	20	158	16.2
Dickey	2832	1,798	297	0	385	39	313	24.6
Divide	962	648	101	5	113	19	76	19.6
Dunn	1606	1,046	97	4	107	16	336	27.6
Eddy	1193	819	120	0	93	4	157	21.0
Emmons	1,854	1,066	159	6	197	10	416	33.1
Foster	1749	1,255	172	0	149	14	159	17.6
Golden Valley	835	561	83	0	84	5	102	22.3
Grand Forks	35038	28,120	3,515	326	1582	362	1,133	7.7
Grant	1,239	637	122	3	143	14	320	37.4
Griggs	1271	850	124	1	104	21	171	21.6
Hettinger	1115	725	83	4	107	3	193	26.9
Kidder	1,156	675	86	0	128	9	258	33.4
LaMoure	2079	1,308	194	2	229	14	332	27.0
Logan	952	548	95	2	131	4	172	31.8
McHenry	2579	1,700	306	2	201	14	356	21.6
McIntosh	1411	871	146	2	157	7	228	27.3
McKenzie	2424	1,633	257	23	160	10	341	20.7
McLean	4012	2,720	564	5	313	30	380	17.3
Mercer	4067	2,935	597	4	254	8	269	12.9
Morton	12792	10,068	1,331	56	422	96	819	9.7
Mountrail	2695	1,859	379	11	149	16	281	16.0
Nelson	1620	1,144	172	0	183	4	117	18.5
Oliver	987	612	149	4	59	0	163	22.5
Pembina	3961	2,926	562	4	251	31	187	11.1
Pierce	2040	1,331	170	0	181	11	347	25.9
Ramsey	5657	4,330	673	51	313	53	237	9.7
Ransom	2851	2,085	343	0	173	22	228	14.1
Renville	1249	839	115	5	106	2	182	23.1
Richland	8646	6,429	943	4	572	72	626	13.9
Rolette	4482	3,200	829	13	203	23	214	9.3
Sargent	2110	1,343	273	0	235	23	236	22.3
Sheridan	660	380	33	6	73	4	164	35.9
Sioux	1144	749	191	12	114	14	64	15.6
Slope	396	198	26	0	40	3	129	42.7
Stark	11064	8,668	1,116	16	516	107	641	10.5
Steele	1056	750	68	0	95	8	135	21.8
Stutsman	10884	8,427	1,124	62	576	60	635	11.1
Towner	1333	864	151	2	131	17	168	22.4
Traill	3906	2,979	402	5	283	50	187	12.0
Walsh	5740	4,352	696	6	341	93	252	10.3
Ward	29818	24,349	3,146	157	825	133	1,208	6.8
Wells	2125	1,459	166	16	209	17	258	22.0
Williams	9481	7,533	971	12	407	119	439	8.9
Region 1	12,867	9,814	1,329	40	680	148	856	11.9
Region 2	42,509	33,016	4,515	187	1,807	225	2,759	10.7
Region 3	17,106	12,255	2,357	102	1,072	156	1,164	13.1
Region 4	46,359	36,542	4,945	336	2,357	490	1,689	8.7
Region 5	88,312	71,788	7,613	265	4,021	848	3,777	8.8
Region 6	28,900	20,551	2,982	87	2,359	269	2,652	17.3
Region 7	65,128	50,874	6,588	262	2,667	408	4,329	10.7
Region 8	18,300	13,437	1,676	24	1,131	150	1,882	16.5

Table 4. Travel Time to Work for Workers 16 Years and Older Who Did Not Work at Home in North Dakota by County and Region: 2000

Source: U.S. Census Bureau, 2000 Census, Summary File 3 (SF3) Table P31

Area	Workers 16 Years and Older Who Did Not Work at Home						
	Total	Travel Time to Work					Mean Travel Time (Minutes)
		Less Than 10 Minutes	10 to 19 Minutes	20 to 29 Minutes	30 to 39 Minutes	40 or More Minutes	
North Dakota	300,373	103,046	125,056	33,673	18,097	20,501	15.8
Adams	1,042	586	261	96	32	67	12.6
Barnes	5,213	2,451	1,414	441	359	548	15.7
Benson	2,120	657	636	355	283	189	18.4
Billings	314	104	65	59	40	46	22.3
Bottineau	2,884	1,232	702	367	270	313	17.9
Bowman	1,447	768	382	136	73	88	12.9
Burke	859	377	191	96	100	95	18.5
Burleigh	35,741	9,365	19,919	3,572	1,227	1,658	15.1
Cass	67,378	15,837	36,510	8,892	2,791	3,348	15.7
Cavalier	1,933	1,101	412	177	123	120	12.7
Dickey	2,519	1,293	641	206	178	201	15.0
Divide	886	495	189	91	60	51	13.4
Dunn	1,270	438	324	170	148	190	19.2
Eddy	1,036	489	202	136	91	118	16.6
Emmons	1,438	692	307	141	140	158	17.6
Foster	1,590	875	396	136	109	74	12.3
Golden Valley	733	367	180	87	43	56	14.1
Grand Forks	33,905	11,439	15,793	2,890	2,153	1,630	14.5
Grant	919	370	234	123	60	132	20.7
Griggs	1,100	551	242	163	68	76	14.4
Hettinger	922	497	145	93	85	102	17.5
Kidder	898	379	200	82	54	183	22.7
LaMoure	1,747	790	425	181	139	212	17.2
Logan	780	377	179	52	65	107	20.4
McHenry	2,223	624	444	362	391	402	24.6
McIntosh	1,183	665	260	94	90	74	13.7
McKenzie	2,083	871	483	192	279	258	19.8
McLean	3,632	1,353	807	386	372	714	22.1
Mercer	3,798	1,421	1,409	552	200	216	14.8
Morton	11,973	2,769	5,027	2,126	875	1,176	19.1
Mountrail	2,414	987	682	253	261	231	16.5
Nelson	1,503	553	374	156	153	267	21.8
Oliver	824	217	234	110	82	181	23.1
Pembina	3,774	1,688	854	473	330	429	16.6
Pierce	1,693	889	402	182	89	131	14.8
Ramsey	5,420	2,493	1,852	544	274	257	13.9
Ransom	2,623	1,222	641	356	217	187	15.1
Renville	1,067	418	220	181	121	127	19.1
Richland	8,020	3,407	2,049	763	888	913	18.8
Rolette	4,268	1,462	1,678	639	272	217	15.8
Sargent	1,874	686	574	304	173	137	16.7
Sheridan	496	227	112	49	55	53	19.1
Sioux	1,080	388	333	141	144	74	16.5
Slope	267	101	47	46	45	28	16.7
Stark	10,423	4,562	3,860	923	466	612	14.1
Steele	921	347	289	97	71	117	19.4
Stutsman	10,249	4,255	4,066	817	535	576	13.9
Towner	1,165	577	230	122	111	125	15.8
Traill	3,719	1,564	799	515	364	477	17.5
Walsh	5,488	2,329	1,540	622	417	580	17.5
Ward	28,610	10,285	12,395	3,145	1,503	1,282	14.5
Wells	1,867	948	419	183	133	184	17.0
Williams	9,042	4,208	3,027	598	495	714	15.1
Region 1	12,011	5,574	3,699	881	834	1,023	16.1
Region 2	39,750	14,812	15,036	4,586	2,735	2,581	18.0
Region 3	15,942	6,779	5,010	1,973	1,154	1,026	15.5
Region 4	44,670	16,009	18,561	4,141	3,053	2,906	17.6
Region 5	84,535	23,063	40,862	10,927	4,504	5,179	17.2
Region 6	26,248	12,205	8,042	2,273	1,676	2,052	15.5
Region 7	60,799	17,181	28,582	7,282	3,209	4,545	19.1
Region 8	16,418	7,423	5,264	1,610	932	1,189	16.2

Table 5. Place of Work for Workers 16 Years and Older in North Dakota by County and Region: 2000

Source: U.S. Census Bureau, 2000 Census, Summary File 3 (SF3) Table P26

Area	Workers 16 Years and Older					
		Worked in State of Residence				
				Worked Outside County of Residence		
	Total	Total	Worked in County of Residence	Number	Percent of Total Workers	Worked Outside State of Residence
North Dakota	319,481	306,947	276,512	30,435	9.5	12,534
Adams	1,209	1,105	1,045	60	5.0	104
Barnes	5,597	5,527	4,722	805	14.4	70
Benson	2,350	2,344	1,808	536	22.8	6
Billings	443	430	300	130	29.3	13
Bottineau	3,130	3,104	2,486	618	19.7	26
Bowman	1,632	1,595	1,484	111	6.8	37
Burke	998	983	780	203	20.3	15
Burleigh	37,217	36,905	33,301	3,604	9.7	312
Cass	69,743	63,396	62,235	1,161	1.7	6,347
Cavalier	2,091	2,075	1,853	222	10.6	16
Dickey	2,832	2,701	2,474	227	8.0	131
Divide	962	941	856	85	8.8	21
Dunn	1,606	1,593	1,175	418	26.0	13
Eddy	1,193	1,190	866	324	27.2	3
Emmons	1,854	1,815	1,644	171	9.2	39
Foster	1,749	1,737	1,507	230	13.2	12
Golden Valley	835	776	741	35	4.2	59
Grand Forks	35,038	32,758	31,856	902	2.6	2,280
Grant	1,239	1,196	1,031	165	13.3	43
Griggs	1,271	1,268	1,109	159	12.5	3
Hettinger	1,115	1,100	947	153	13.7	15
Kidder	1,156	1,141	957	184	15.9	15
LaMoure	2,079	2,052	1,641	411	19.8	27
Logan	952	945	773	172	18.1	7
McHenry	2,579	2,548	1,545	1,003	38.9	31
McIntosh	1,411	1,385	1,284	101	7.2	26
McKenzie	2,424	2,266	1,974	292	12.0	158
McLean	4,012	3,950	3,014	936	23.3	62
Mercer	4,067	3,957	3,722	235	5.8	110
Morton	12,792	12,679	6,105	6,574	51.4	113
Mountrail	2,695	2,689	2,110	579	21.5	6
Nelson	1,620	1,595	1,228	367	22.7	25
Oliver	987	982	596	386	39.1	5
Pembina	3,961	3,854	3,335	519	13.1	107
Pierce	2,040	2,040	1,807	233	11.4	0
Ramsey	5,657	5,614	5,077	537	9.5	43
Ransom	2,851	2,814	2,177	637	22.3	37
Renville	1,249	1,249	877	372	29.8	0
Richland	8,646	7,613	6,535	1,078	12.5	1,033
Rolette	4,482	4,456	4,256	200	4.5	26
Sargent	2,110	2,044	1,735	309	14.6	66
Sheridan	660	658	519	139	21.1	2
Sioux	1,144	1,080	1,028	52	4.5	64
Slope	396	379	291	88	22.2	17
Stark	11,064	10,959	10,415	544	4.9	105
Steele	1,056	1,033	714	319	30.2	23
Stutsman	10,884	10,802	10,372	430	4.0	82
Towner	1,333	1,323	1,106	217	16.3	10
Traill	3,906	3,745	2,802	943	24.1	161
Walsh	5,740	5,630	4,902	728	12.7	110
Ward	29,818	29,540	28,546	994	3.3	278
Wells	2,125	2,112	1,822	290	13.6	13
Williams	9,481	9,274	9,027	247	2.6	207
Region 1	12,867	12,481	11,857	624	4.8	386
Region 2	42,509	42,153	38,151	4,002	9.4	356
Region 3	17,106	17,002	14,966	2,036	11.9	104
Region 4	46,359	43,837	41,321	2,516	5.4	2,522
Region 5	88,312	80,645	76,198	4,447	5.0	7,667
Region 6	28,900	28,529	25,704	2,825	9.8	371
Region 7	65,128	64,363	51,917	12,446	19.1	765
Region 8	18,300	17,937	16,398	1,539	8.4	363

Labor Availability

- ❑ Nearly 84 percent of employed North Dakota residents 18 to 65 years of age worked at least 31 hours per week in 2002. Region 3 had the greatest proportion of full-time workers (nearly 89 percent) while Region 5 had the fewest (81 percent).

- ❑ Senior workers (i.e., 66 years of age and older) had very mixed work hours. Statewide, slightly more than 41 percent worked at most 20 hours per week. Nearly 23 percent worked between 21 and 30 hours per week while more than 36 percent worked at least 31 hours per week.

- ❑ Region 1 had the smallest proportion (12.8 percent) of seniors who worked full-time (i.e., at least 31 hours per week) while Region 4 had the greatest proportion (73.8 percent).

- ❑ In the aggregate, workers generally indicated a preference for fewer hours per week rather than more. While approximately 37 percent of respondents worked more than 40 hours per week, only half (18 percent) indicated they would work more than 40 hours per week if they had a choice. In contrast, the percent of workers who preferred to work 30 hours per week or less (15 percent) was twice the actual percentage of those working 30 hours per week or less (7 percent).

- ❑ The number of hours seniors preferred to work, in general, matched their actual work hours. The exception was that those working more than 40 hours per week preferred to work fewer hours.

- ❑ In general, roughly 69 percent of the workforce 18 to 65 years of age preferred to work full-time (i.e., at least 30 hours per week) and 19 percent of the seniors wanted full-time work. However, the preference for full-time work varied markedly by region. More than 75 percent of those 18 to 65 years of age wanted full-time work in Regions 1, 4, 6, and 8. In contrast, fewer than half wanted full-time work in Regions 2, 3, and 5. Similarly, more than half of the seniors wanted full-time work in Region 8 while less than 10 percent wanted full-time work in Regions 1, 2, and 6.

- ❑ A significant proportion of current workers in North Dakota is interested in changing jobs. Statewide, over 42 percent of workers 18 to 65 years of age reported interest in changing jobs and slightly more than 10 percent of employed seniors stated such an interest.

- ❑ Desire to change jobs varied both by region and by age. Workers 18 to 65 years of age in Region 7 showed the greatest interest while workers 18 to 65 years of age in Region 2 showed the least interest. In contrast, the exact opposite held true for senior workers with those in Region 7 showing the least interest in changing jobs (along with Region 1) and those in Region 2 showing the greatest interest in changing jobs.

- ❑ There is little difference between urban and rural counties with regard to those who are “very likely” to apply for a new job. It is “very likely” that roughly 17 percent of urban workers would apply for a new job for which they are trained compared to 22 percent in rural areas.

- ❑ The major factor that will influence workers 18 to 65 years of age to change their current job, regardless of region, is a pay increase. Respondents were three times as likely to mention pay increase as the reason they would change jobs relative to any other reason.

- ❑ The main factor that will influence senior (i.e., 65 years of age or over) workers to switch jobs varies by region and includes pay increase, better working conditions, and better benefits.

- ❑ On average, fewer than one in five workers 18 to 65 years of age are interested in taking on an additional job. Less than five percent of seniors, with the exception of those in Region 3, are interested in adding an additional job.

- ❑ There is great interest in flexible work shifts among workers 18 to 65 years of age, regardless of region. At least one-third of workers indicated they were “very interested” in flexible work shifts.

- ❑ Of those workers 18 to 65 years of age who were interested in flexible shift work, nearly the majority in all regions wanted to work between 31 and 40 hours per week.

Labor Availability (Cont.)

- ❑ Interest in flexible shifts among elderly workers is very mixed by region. Over 43 percent of elderly workers in Region 7 were “very interested” in flexible shifts while the same proportion indicated they were “not at all interested.” In contrast, only two percent of working seniors in Region 2 were “very interested” and nearly half indicated they were “not at all interested.”

- ❑ Of the senior workers who were interested in flexible shift work, most preferred to work fewer than 30 hours per week, with the exception of those in Regions 4 and 5.

- ❑ The vast majority of residents who are not currently working for a wage or salary are not interested in seeking paid work, now or in the near future. The proportion who are interested in seeking paid work is less than 18 percent for those 18 to 65 years of age and less than five percent of seniors, regardless of region.

Figure 3. Average Weekly Work Hours for Respondents 18 to 65 Years Old by Region: 2002

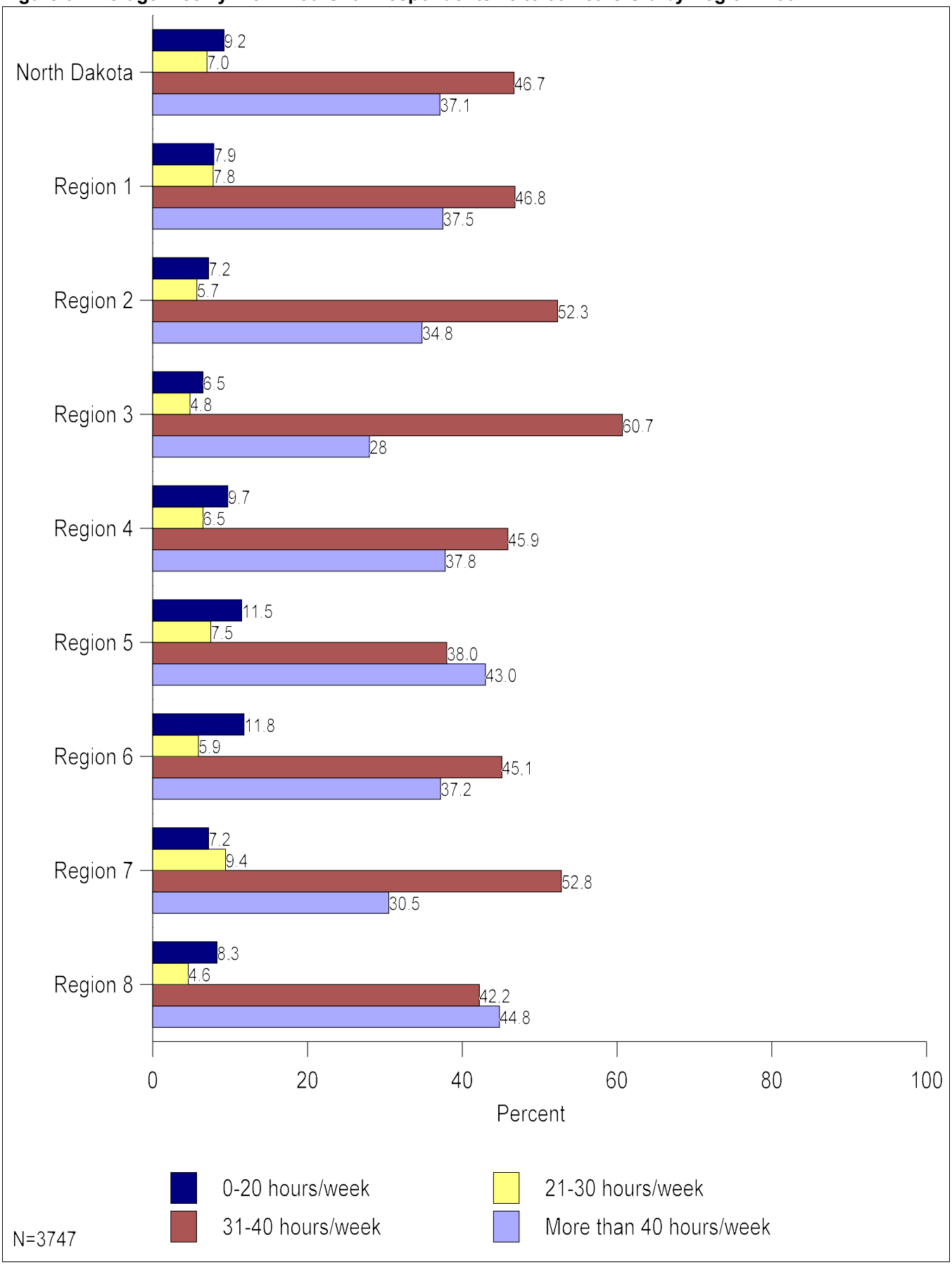


Figure 4. Average Weekly Work Hours for Respondents 66 Years and Older by Region: 2002

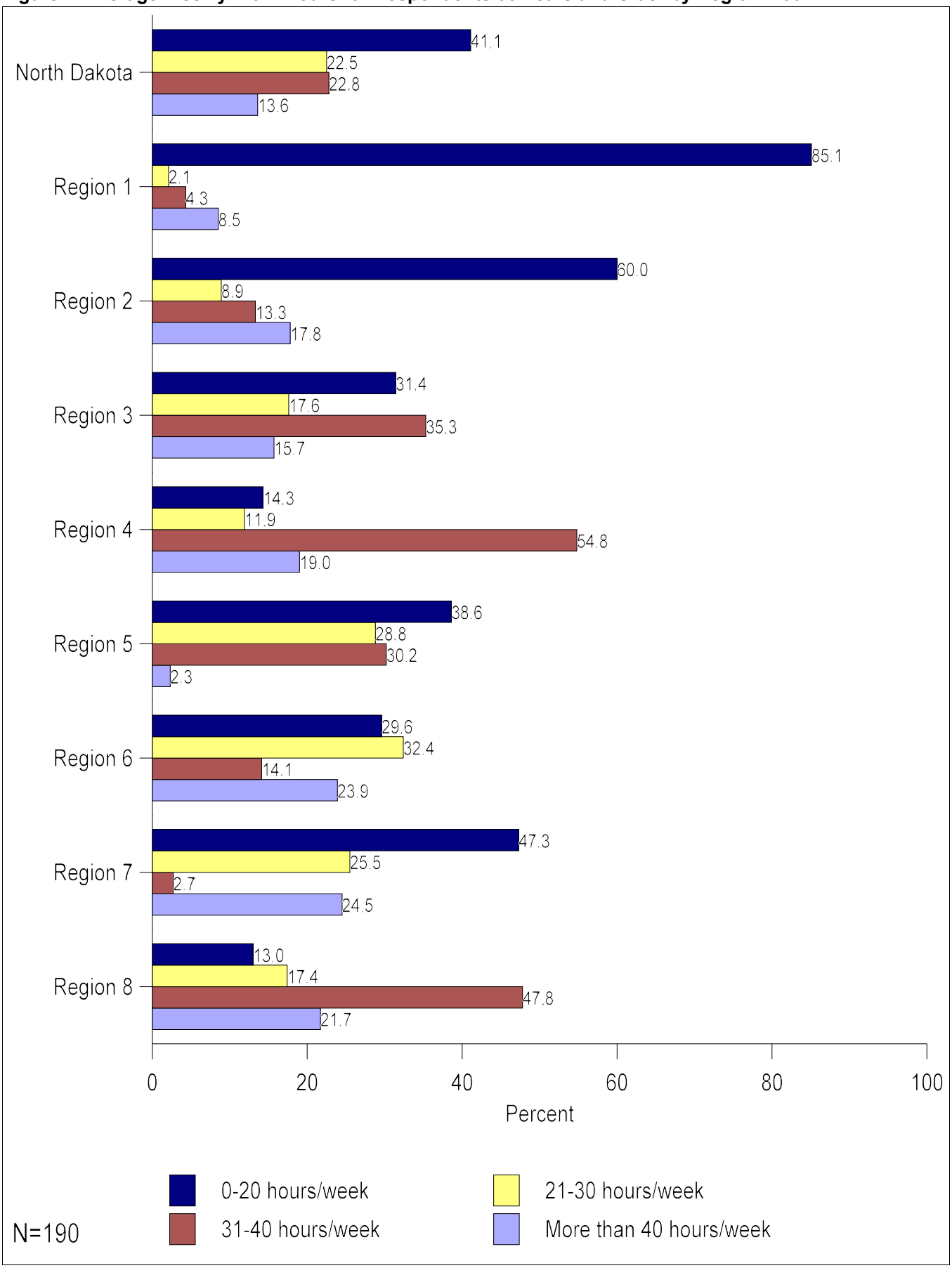


Figure 5. Total Hours Per Week Respondent Would Choose to Work for Those 18 to 65 Years Old by Region: 2002

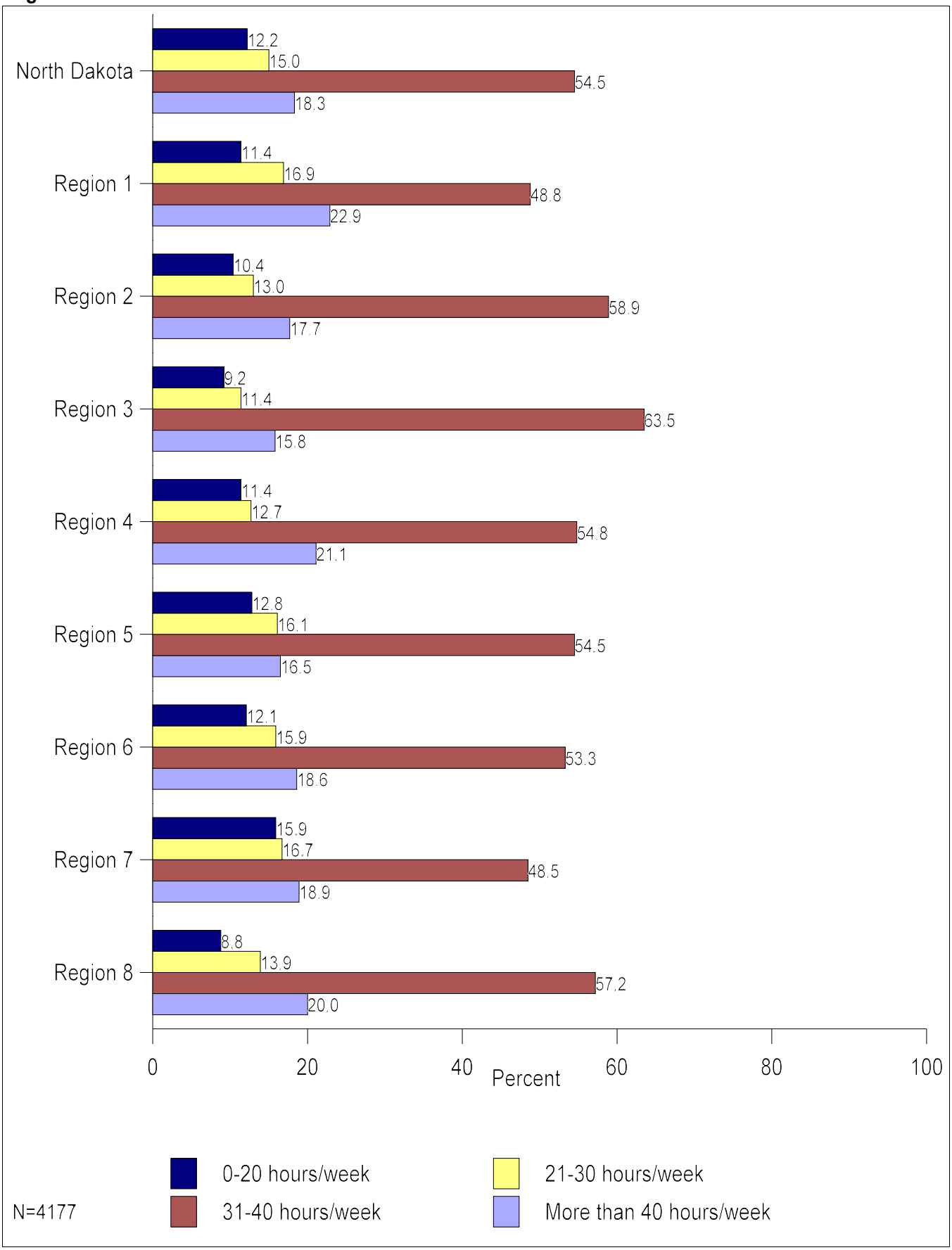


Figure 6. Total Hours Per Week Respondent Would Choose to Work for Those 66 and Older by Region: 2002

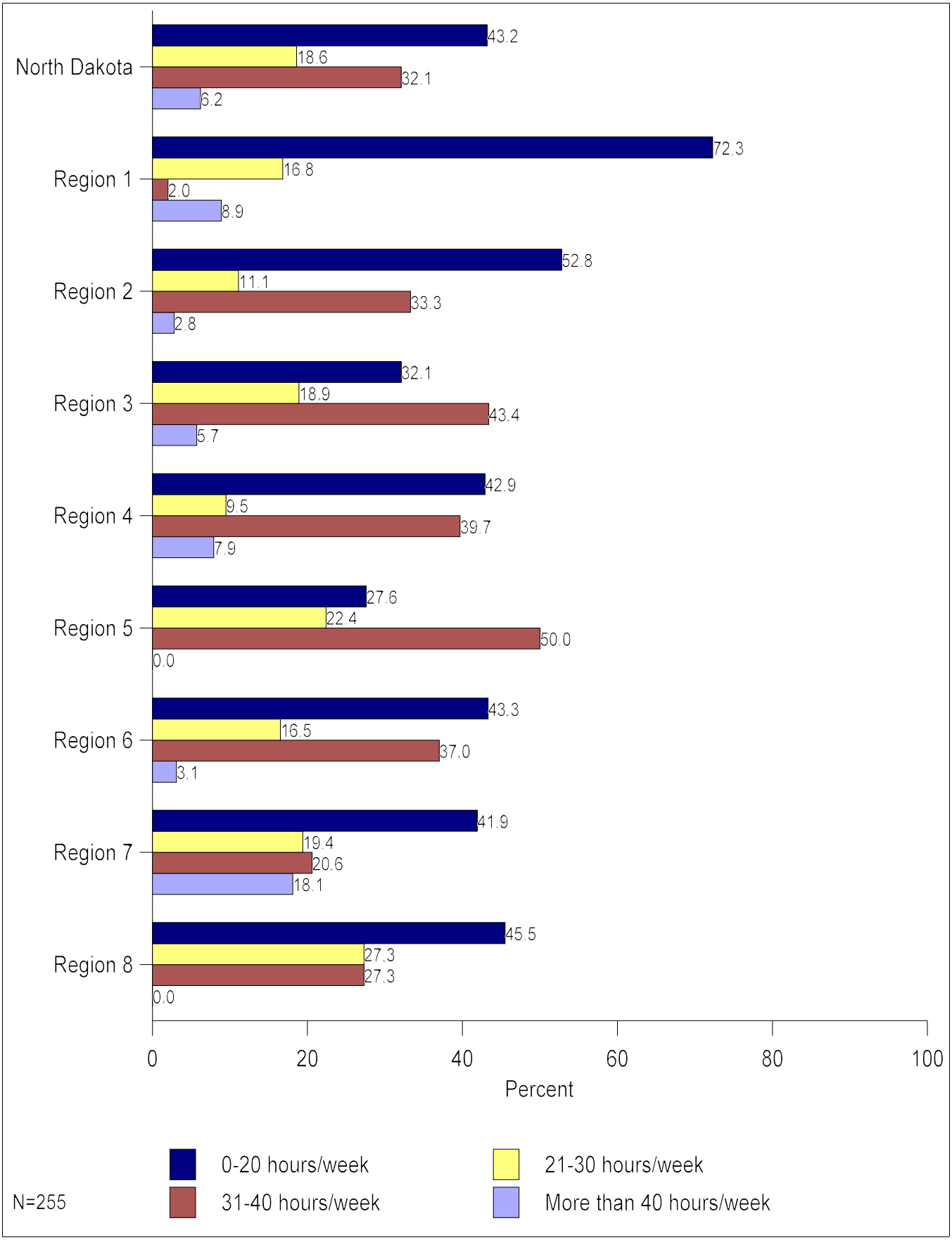


Figure 7. Respondents Who Prefer Full-Time Work (30 + Hours/Week) by Age Group by Region: 2002

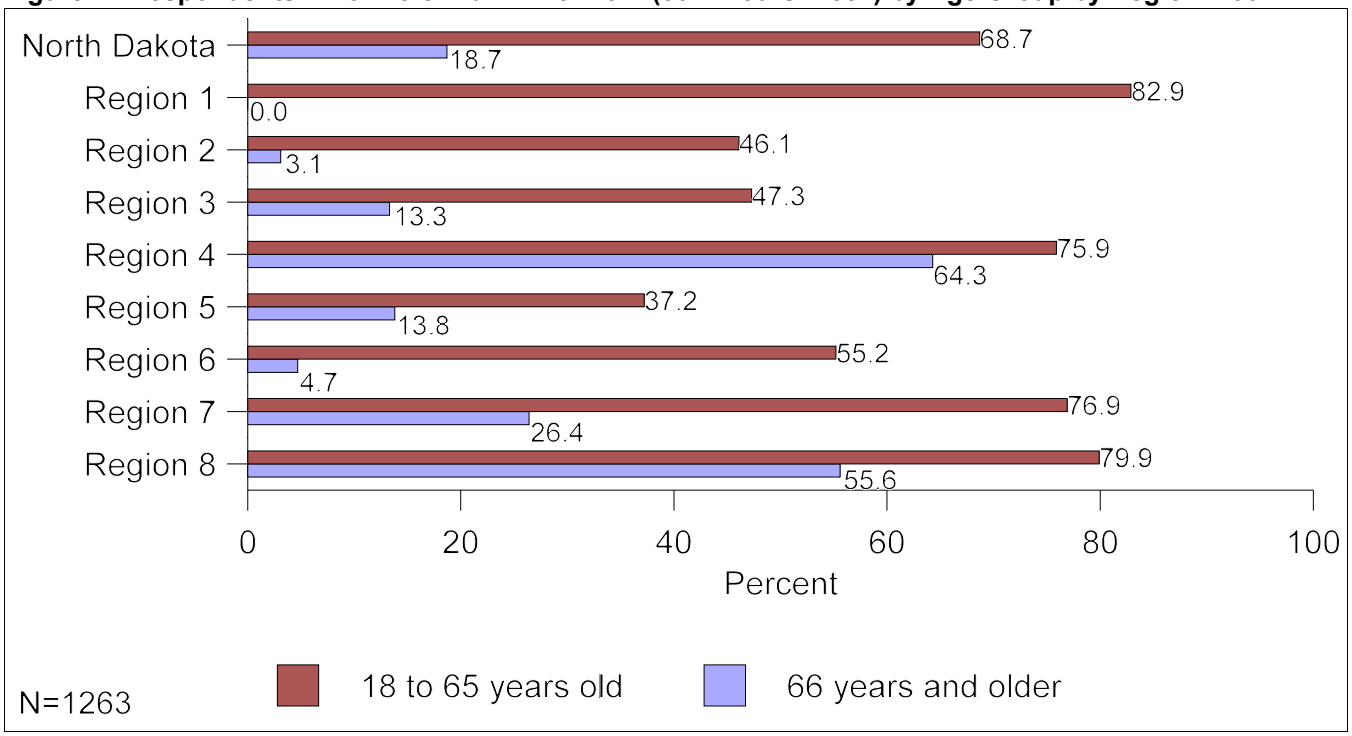


Figure 8. Of Those Who Are Currently Employed, Respondents Who Would be Interested in Changing Jobs by Age Group by Region: 2002

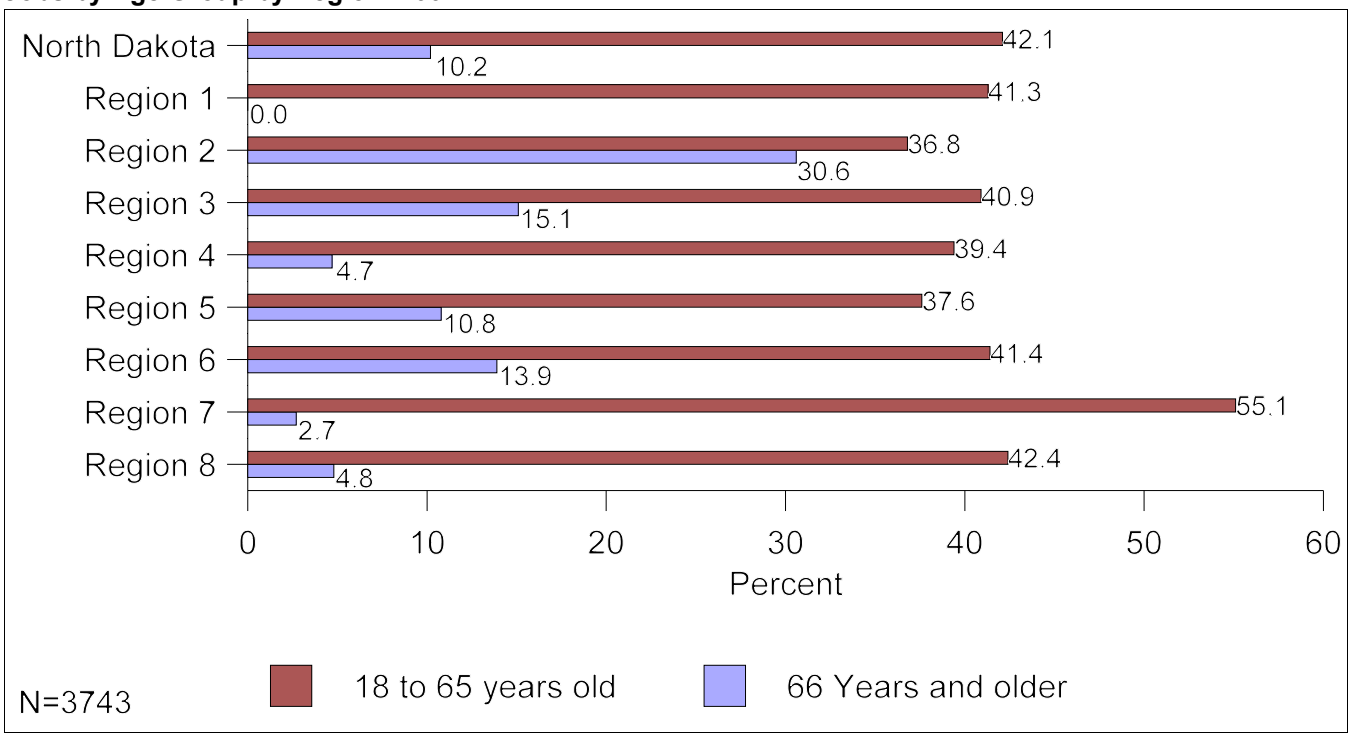


Figure 9. Whether Respondent is Likely to Apply for a New Job With a Business Seeking Their Types of Skills by Rural/Urban Status: 2002

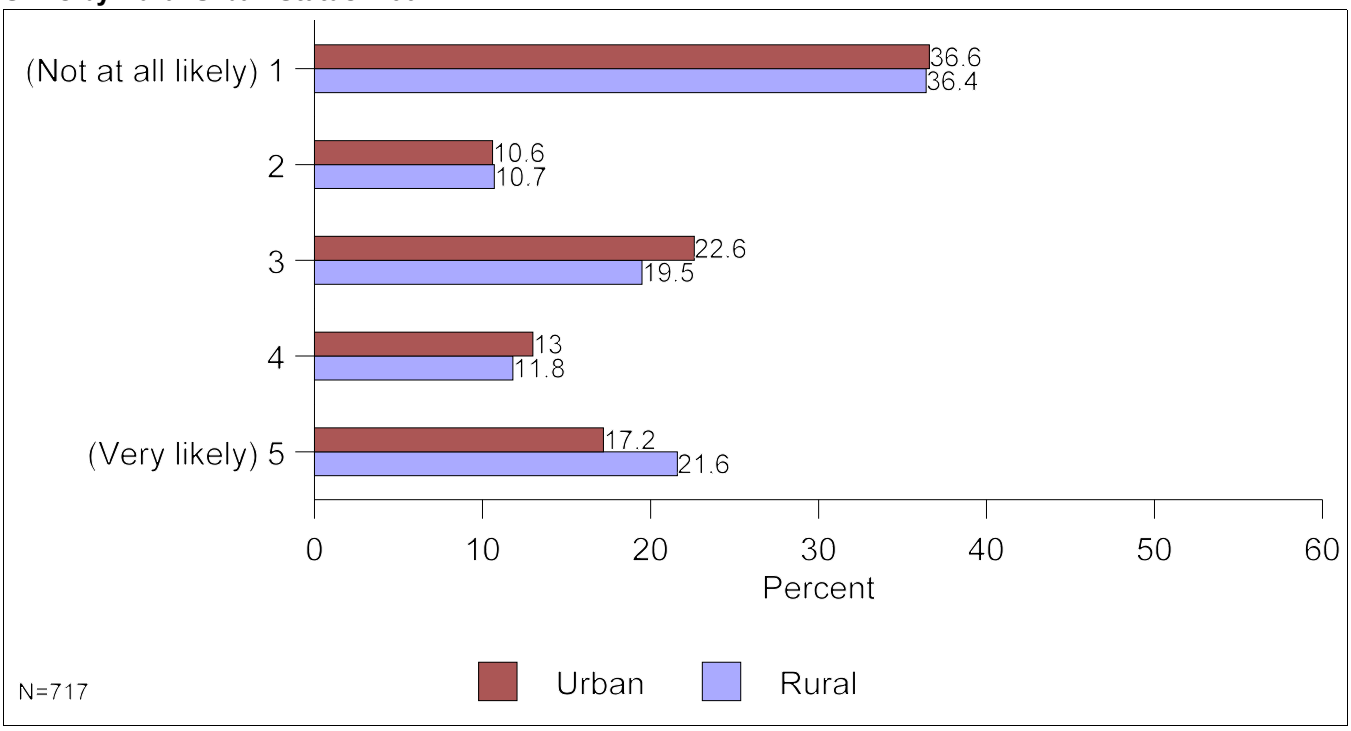


Figure 10. The Main Factor That Would Influence Respondent's Decision to Change Jobs for Those 18 to 65 Years Old by Region: 2002

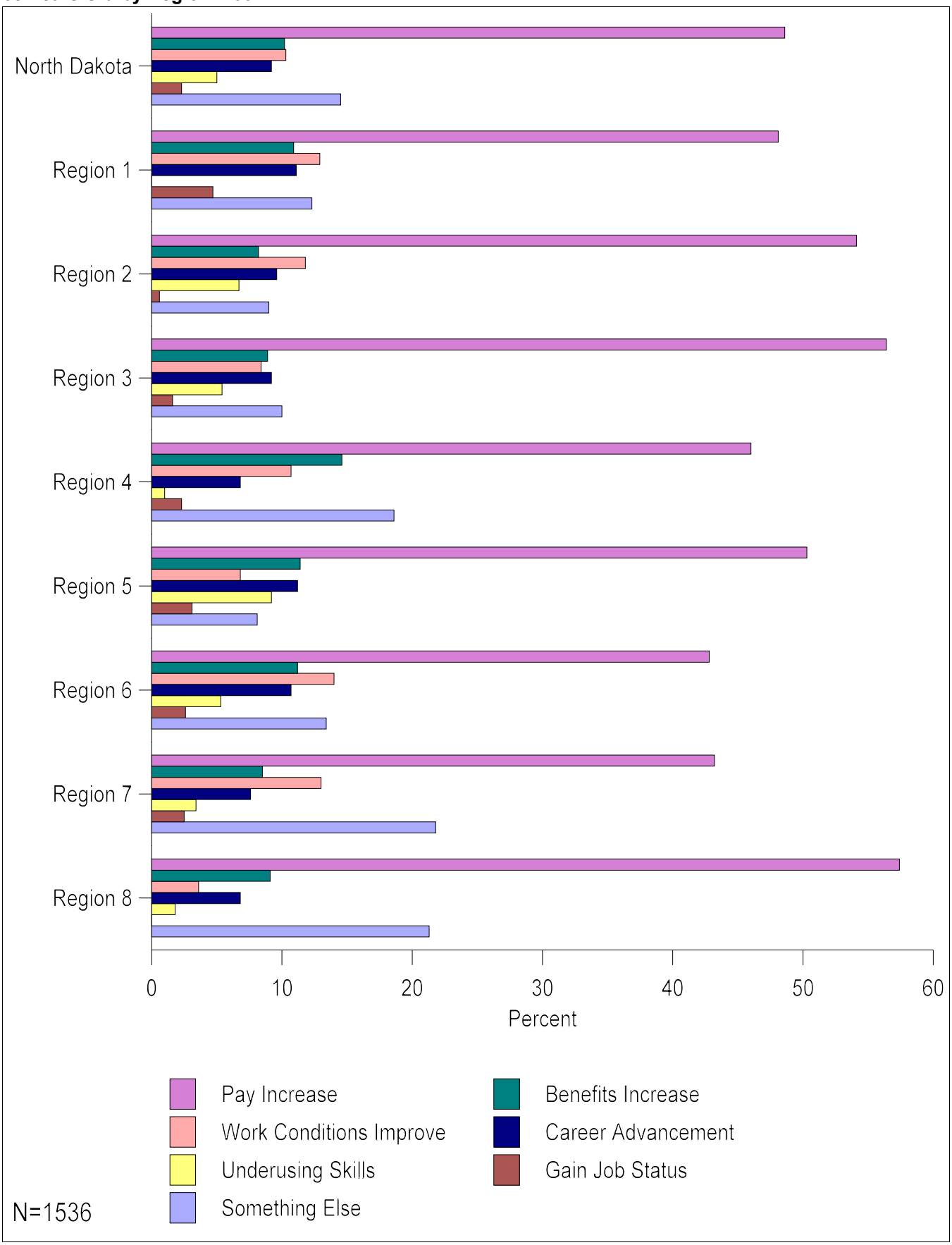


Figure 11. The Main Factor That Would Influence Respondent's Decision to Change Jobs For Those 66 and Older by Region: 2002

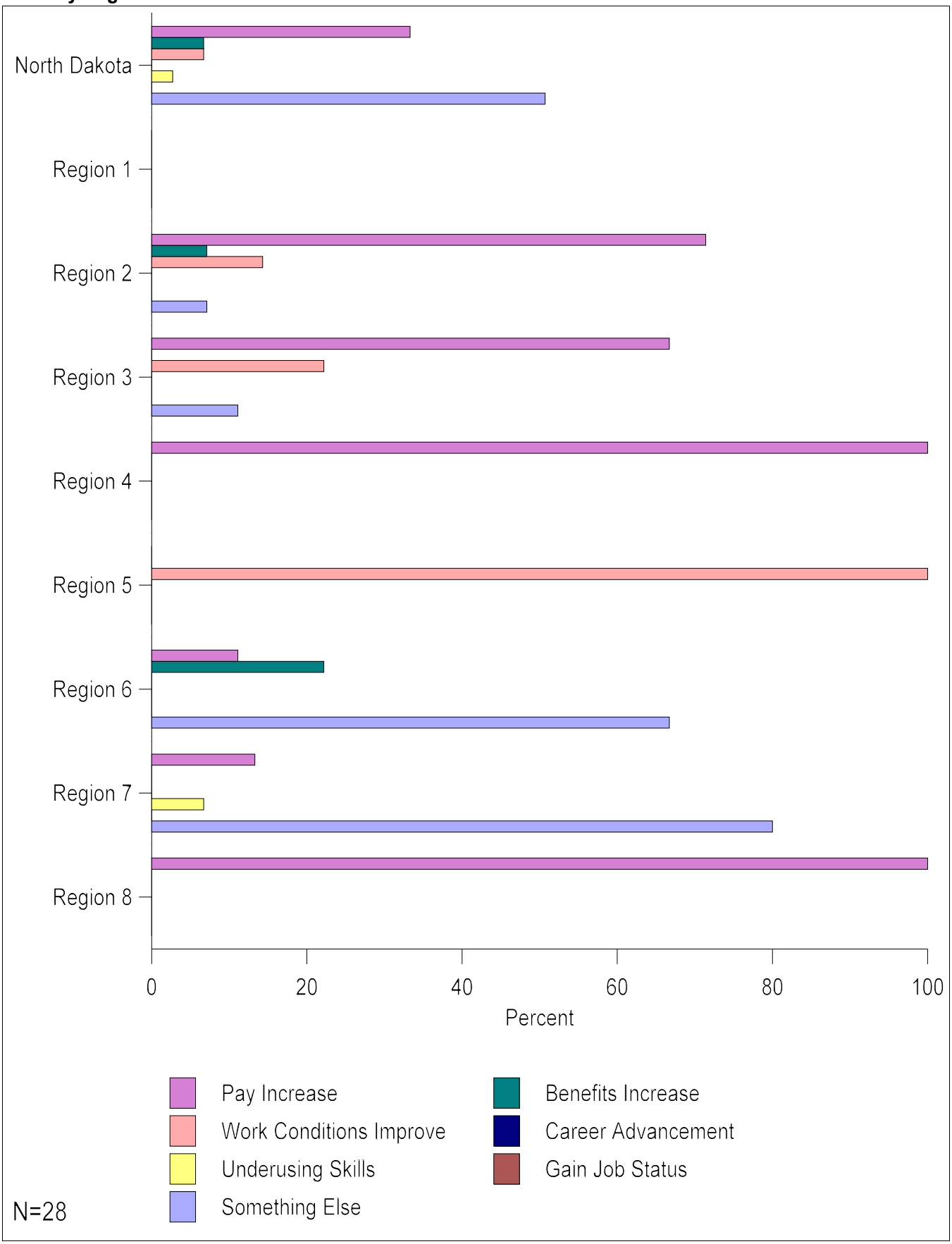


Table 6. The Main Factor That Would Influence Respondent's Decision to Change Jobs for Those Ages 18 to 65 Years Old by Region: 2002

Main Factor to Change Jobs	North Dakota	Region							
		1	2	3	4	5	6	7	8
Pay increase	48.6	48.1	54.1	56.4	46.0	50.3	42.8	43.2	57.4
Benefits increase	10.2	10.9	8.2	8.9	14.6	11.4	11.2	8.5	9.1
Work condition	10.3	12.9	11.8	8.4	10.7	6.8	14.0	13.0	3.6
More career opportunities	9.2	11.1	9.6	9.2	6.8	11.2	10.7	7.6	6.8
Skills are under-utilized	5.0	0.0	6.7	5.4	1.0	9.2	5.3	3.4	1.8
Gain job status	2.3	4.7	0.6	1.6	2.3	3.1	2.6	2.5	0.0
Other	14.5	12.3	9.0	10.0	18.6	8.1	13.4	21.8	21.3
Total	100.1	100.0	100.0	99.9	100.0	100.0	100.0	100.0	100.0

Table 7. The Main Factor That Would Influence Respondent's Decision to Change Jobs for Those 66 Years and Older by Region: 2002

Main Factor to Change Jobs	North Dakota	Region							
		1	2	3	4	5	6	7	8
Pay increase	33.3	0.0	71.4	66.7	100.0	0.0	11.1	13.3	100.0
Benefits increase	6.7	0.0	7.1	0.0	0.0	0.0	22.2	0.0	0.0
Work condition	6.7	0.0	14.3	22.2	0.0	100.0	0.0	0.0	0.0
More career opportunities	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Skills are under-utilized	2.7	0.0	0.0	0.0	0.0	0.0	0.0	6.7	0.0
Gain job status	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other	50.7	0.0	7.1	11.1	0.0	0.0	66.7	80.0	0.0
Total	100.1	0.0	99.9	100.0	100.0	100.0	100.0	100.0	100.0

Figure 12. Whether Respondent is Interested in Working an Additional Job for Those 18 to 65 Years Old by Region: 2002

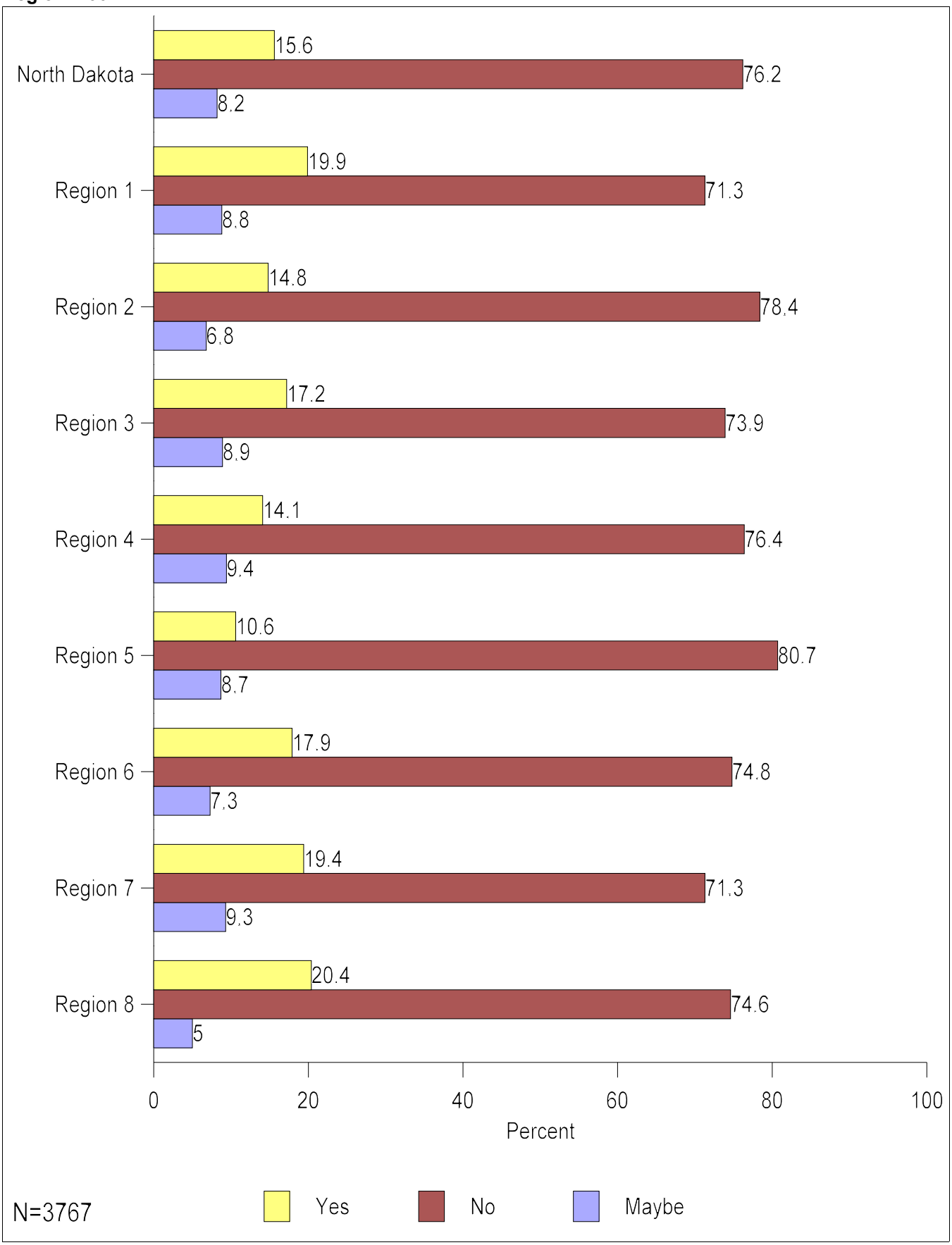


Figure 13. Whether Respondent is Interested in Working an Additional Job for Those 66 Years and Older by Region: 2002

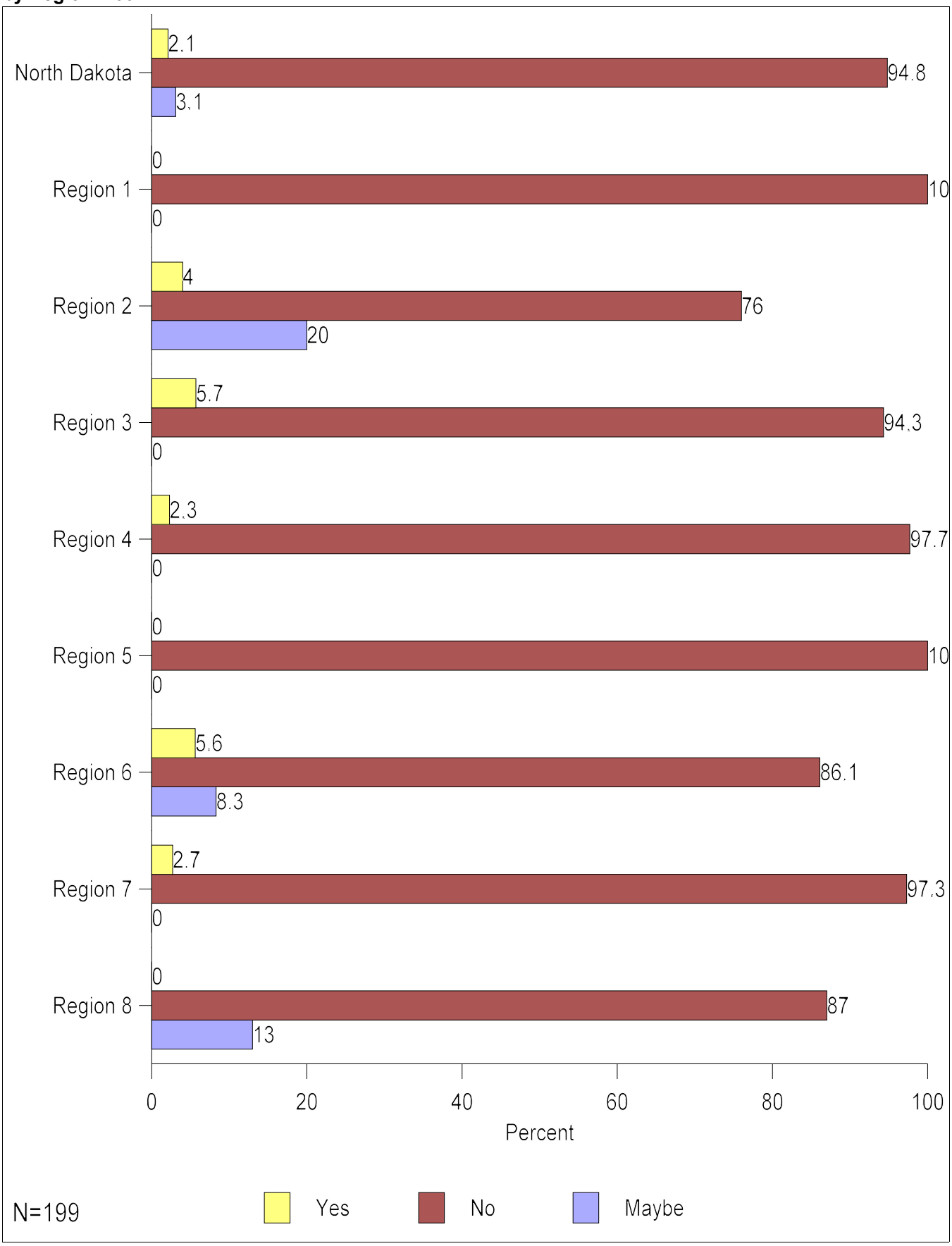


Figure 14. Whether Respondent is Interested in Flexible Work Shifts for Those 18 to 65 Years Old by Region: 2002

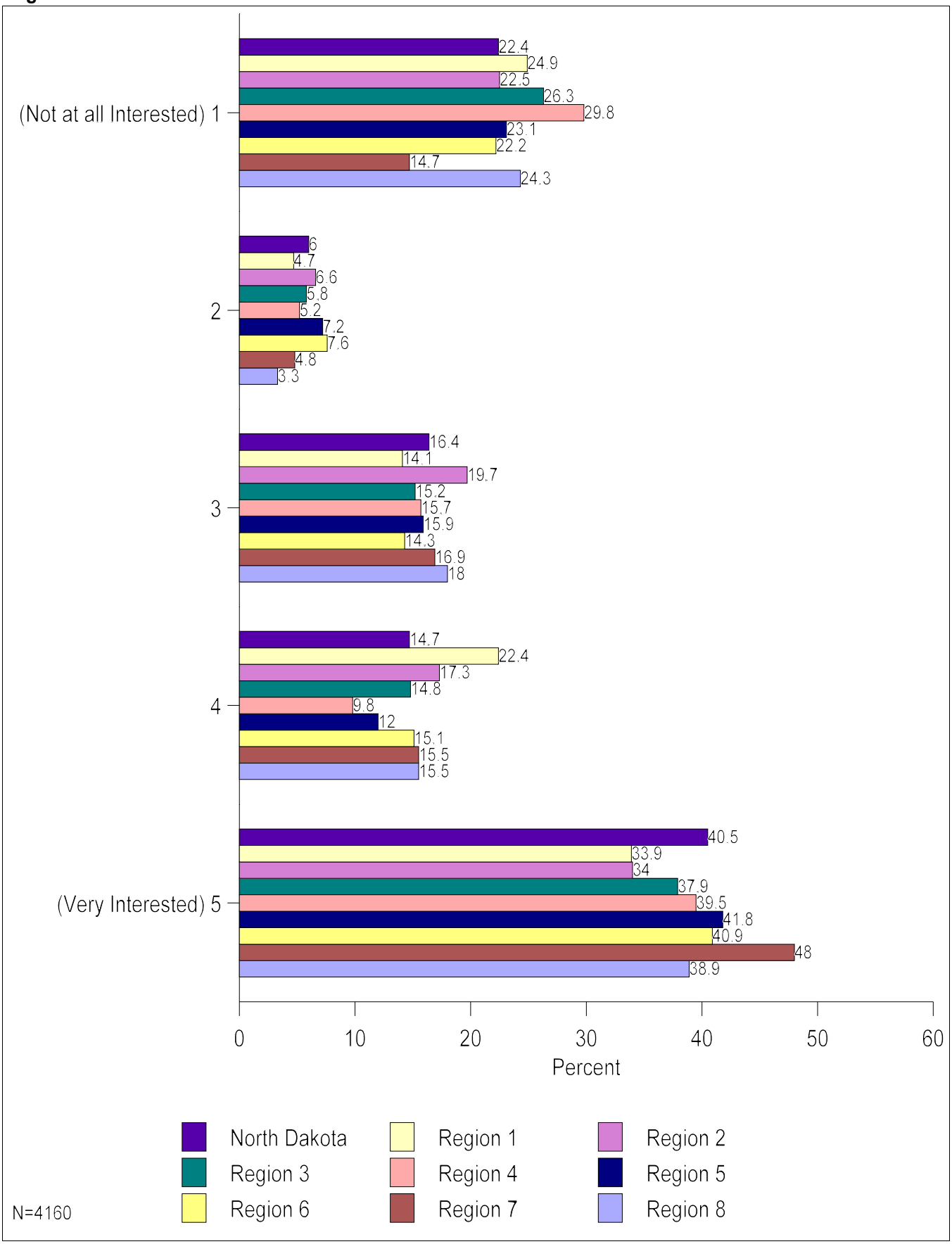


Figure 15. Whether Respondent is Interested in Flexible Work Shifts for Those 66 Years and Older by Region: 2002

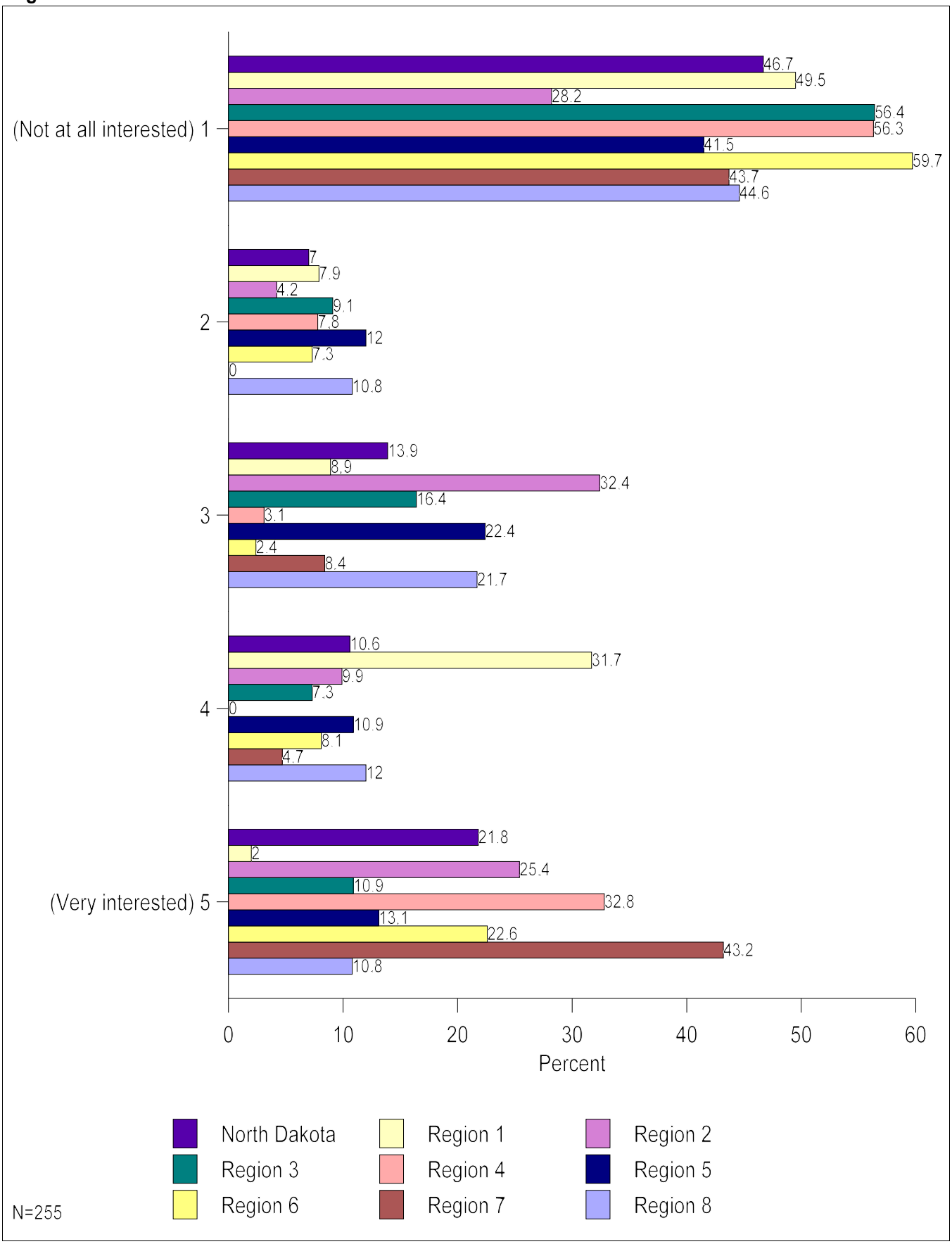


Table 8. Whether Respondent is Interested in Flexible Work Shifts for Those 18 to 65 Years Old by Region: 2002

Interest in Flexible Work Shifts	North Dakota	Region							
		1	2	3	4	5	6	7	8
1 (Not at all interested)	22.4	24.9	22.5	26.3	29.8	23.1	22.2	14.7	24.3
2	6.0	4.7	6.6	5.8	5.2	7.2	7.6	4.8	3.3
3	16.4	14.1	19.7	15.2	15.7	15.9	14.3	16.9	18.0
4	14.7	22.4	17.3	14.8	9.8	12.0	15.1	15.5	15.5
5 (Very interested)	40.5	33.9	34.0	37.9	39.5	41.8	40.9	48.0	38.9
Total	100.0	100.0	100.1	100.0	100.0	100.0	100.1	99.9	100.0

Table 9. Whether Respondent is Interested in Flexible Work Shifts for Those 66 Years and Older by Region: 2002

Interest in Flexible Work Shifts	North Dakota	Region							
		1	2	3	4	5	6	7	8
1 (Not at all interested)	46.7	49.5	28.2	56.4	56.3	41.5	59.7	43.7	44.6
2	7.0	7.9	4.2	9.1	7.8	12.0	7.3	0.0	10.8
3	13.9	8.9	32.4	16.4	3.1	22.4	2.4	8.4	21.7
4	10.6	31.7	9.9	7.3	0.0	10.9	8.1	4.7	12.0
5 (Very interested)	21.8	2.0	25.4	10.9	32.8	13.1	22.6	43.2	10.8
Total	100.0	100.0	100.1	100.1	100.0	99.9	100.1	100.0	99.9

Figure 16. Of Those Interested in Flexible Work Shifts, Total Hours Per Week Respondent Would Work for Those 18 to 65 Years Old by Region: 2002

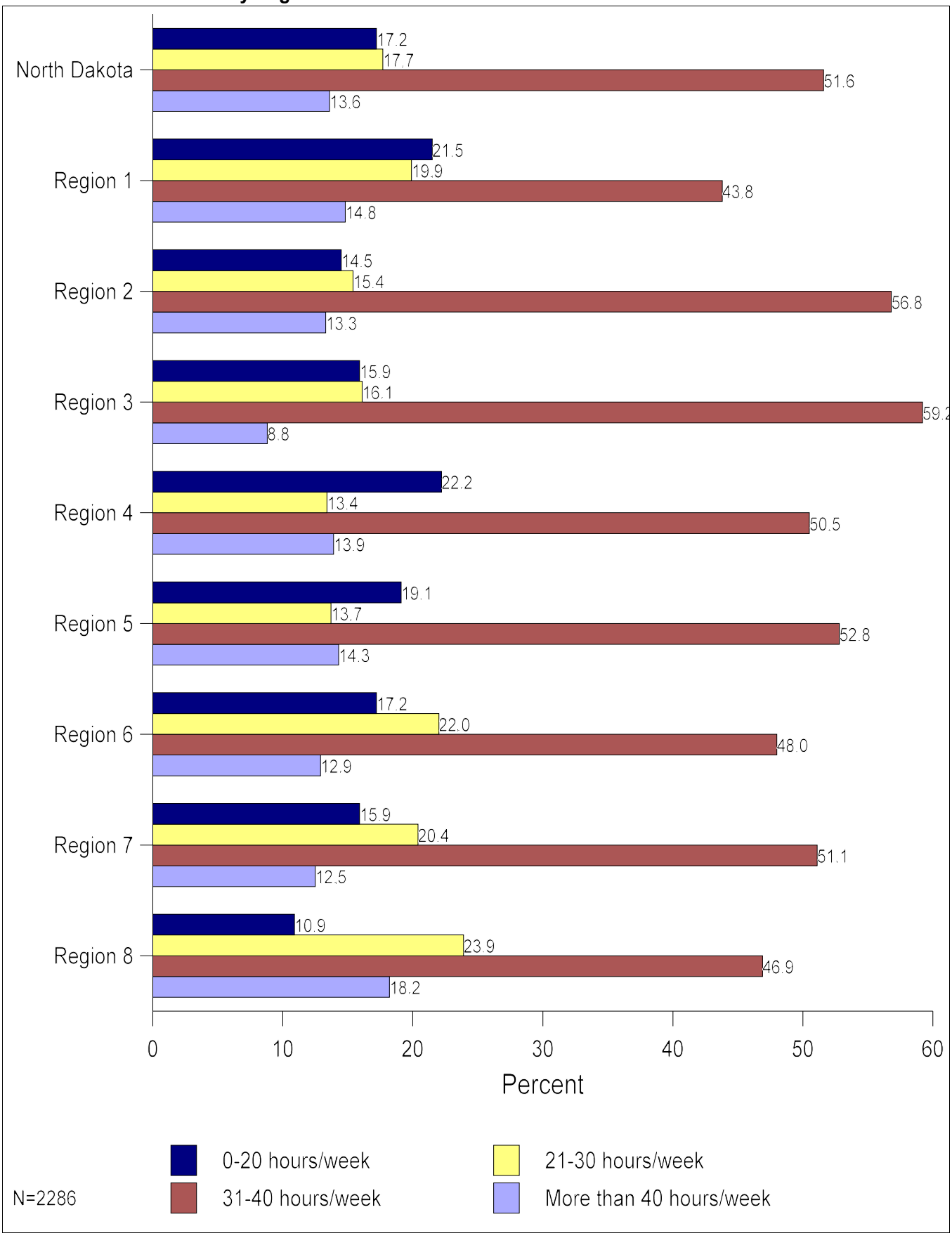


Figure 17. Of Those Interested in Flexible Work Shifts, Total Hours Per Week Respondent Would Work for Those 66 Years and Older by Region: 2002

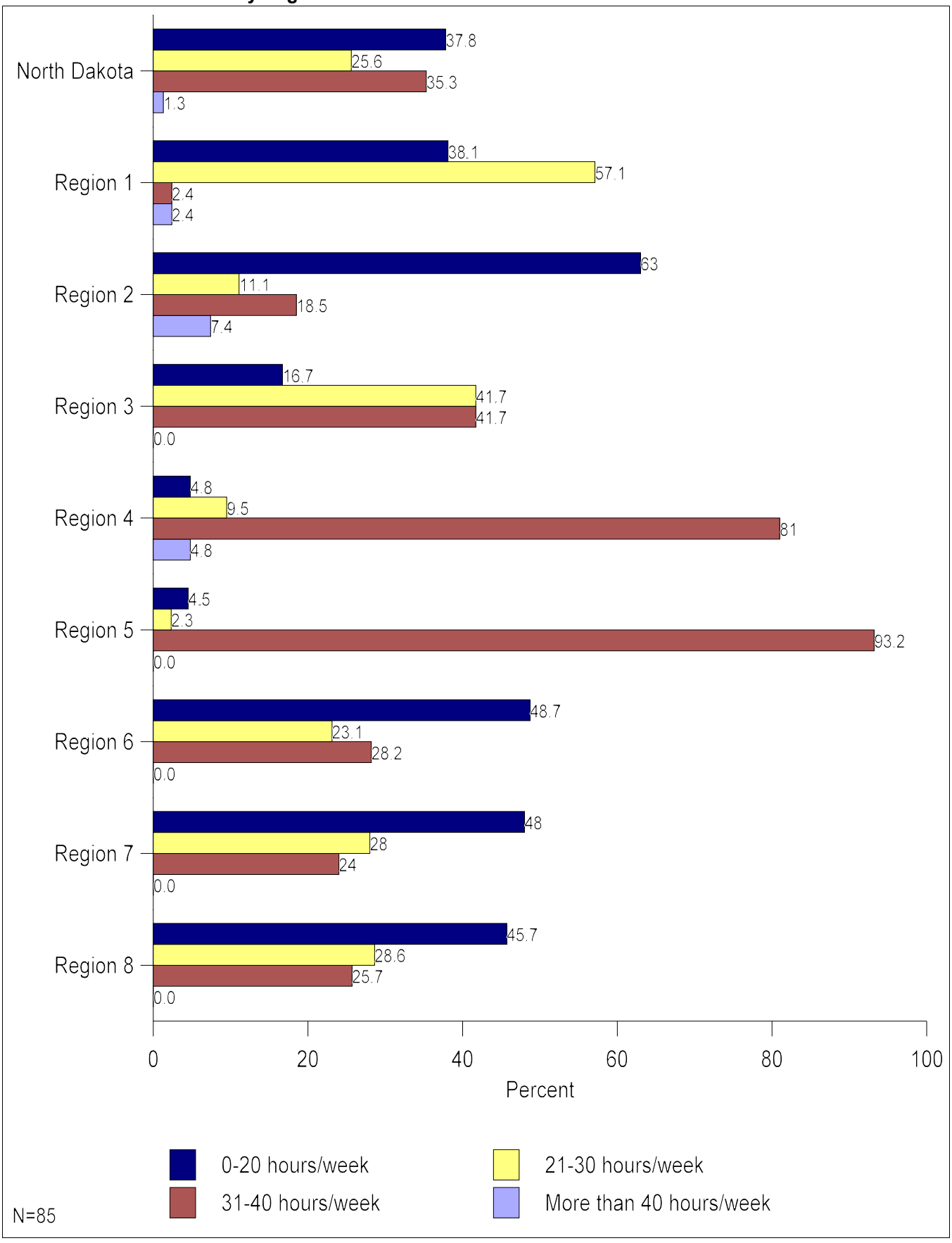


Figure 18. Of Those Who Are Not Currently Working for Wages or Salary, Respondents Who Are Looking for a Paying Job by Age Group by Region: 2002

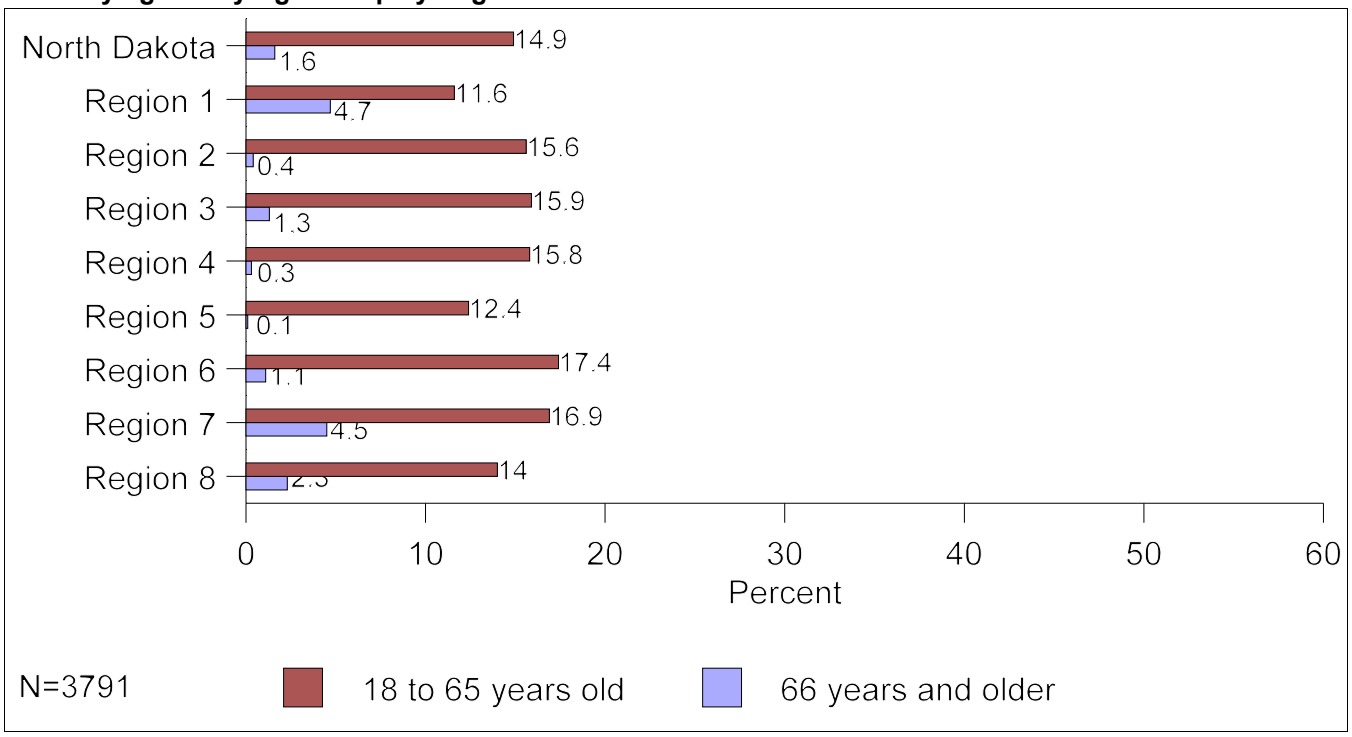


Figure 19. Of Those Who Are Not Currently Working or Looking for Work, Respondents Who Plan on Looking for Work Within a Year by Age Group by Region: 2002

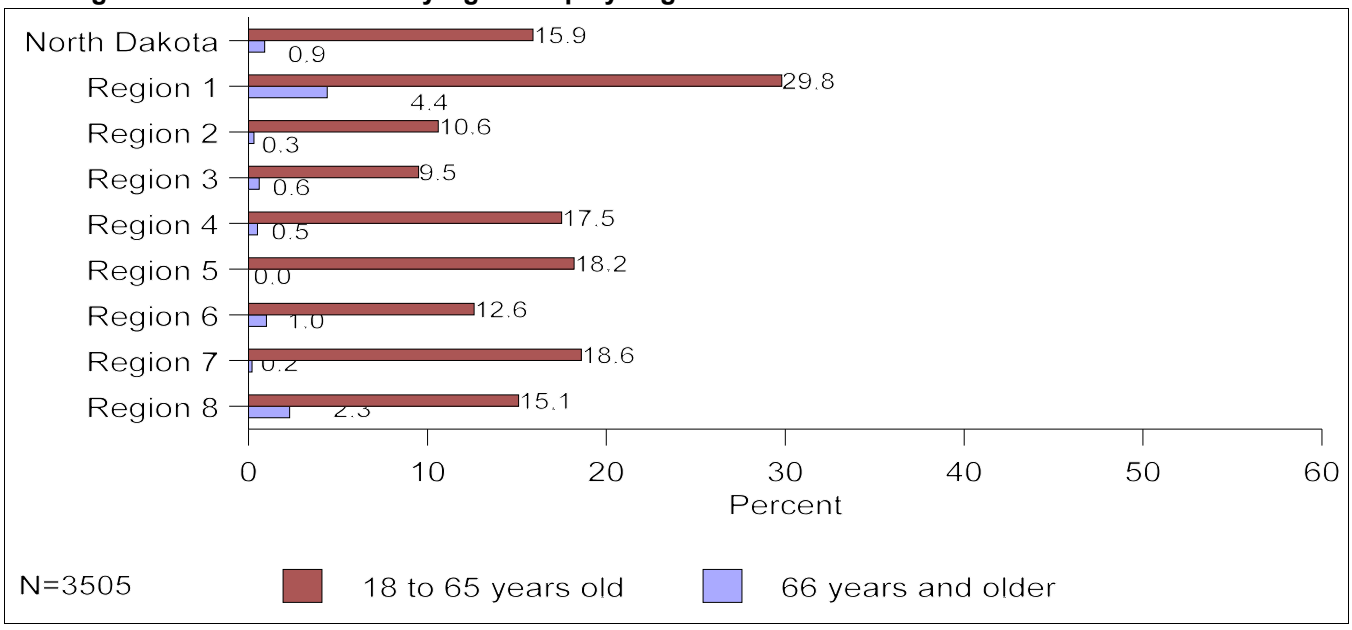
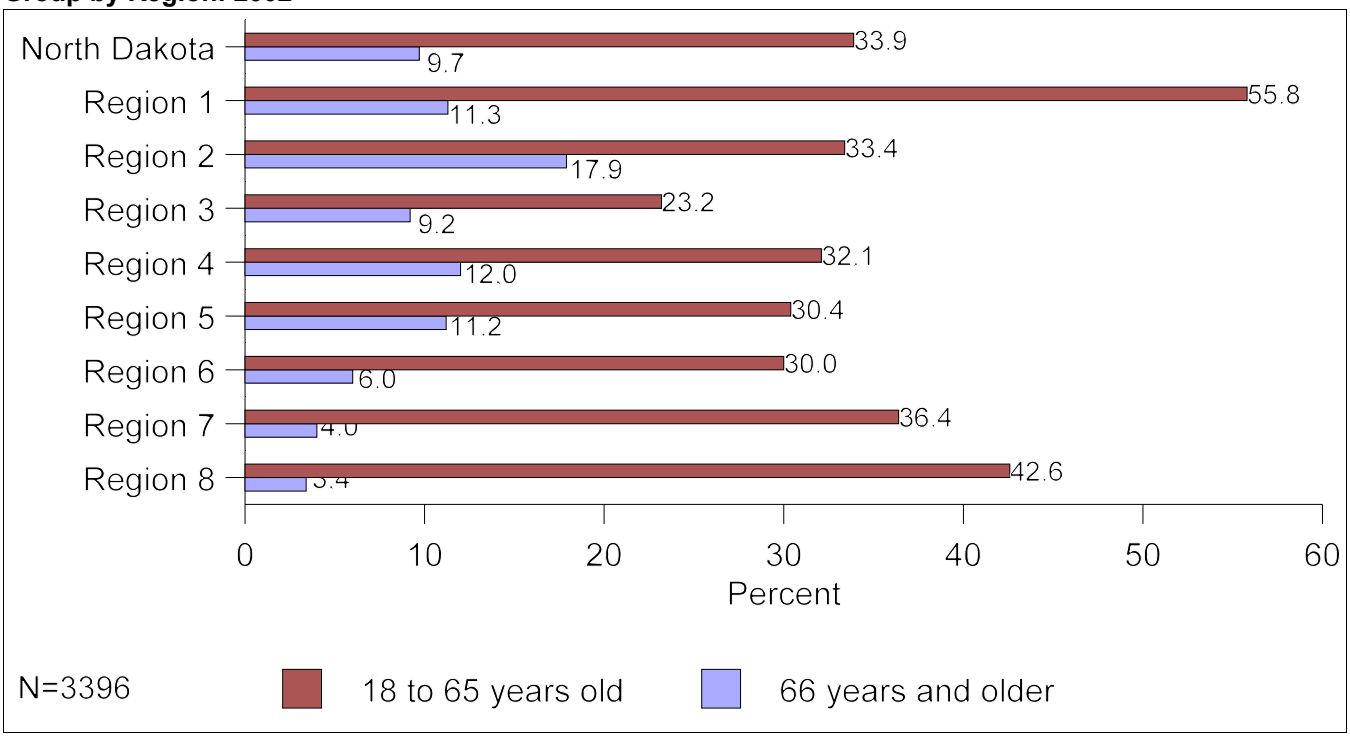


Figure 20. Of Those Who Are Not Currently Working, Looking for Work, or Planning to Look Within a Year, Respondents Who Indicate They Are Not Currently Looking Because There Are Barriers to Looking by Age Group by Region: 2002



Labor Force Commuting

- ❑ Long distance commuting by North Dakota workers is relatively scarce in all regions. At most, five percent of residents commute more than 50 miles (one-way) to their job.

- ❑ A significant proportion of workers, especially those 18 to 65 years of age, are willing to commute longer distances for the right incentives. At least 6 percent of workers in all regions are willing to commute more than 50 miles (one-way) to their job; the proportion is above 10 percent for Regions 1 and 2.

- ❑ Only 2 percent of seniors statewide are willing to commute more than 50 miles (one-way) to their job, though the proportions vary by region.

Figure 21. Miles Spent Traveling One-Way From Home to Job for Those 18 to 65 Years Old by Region: 2002

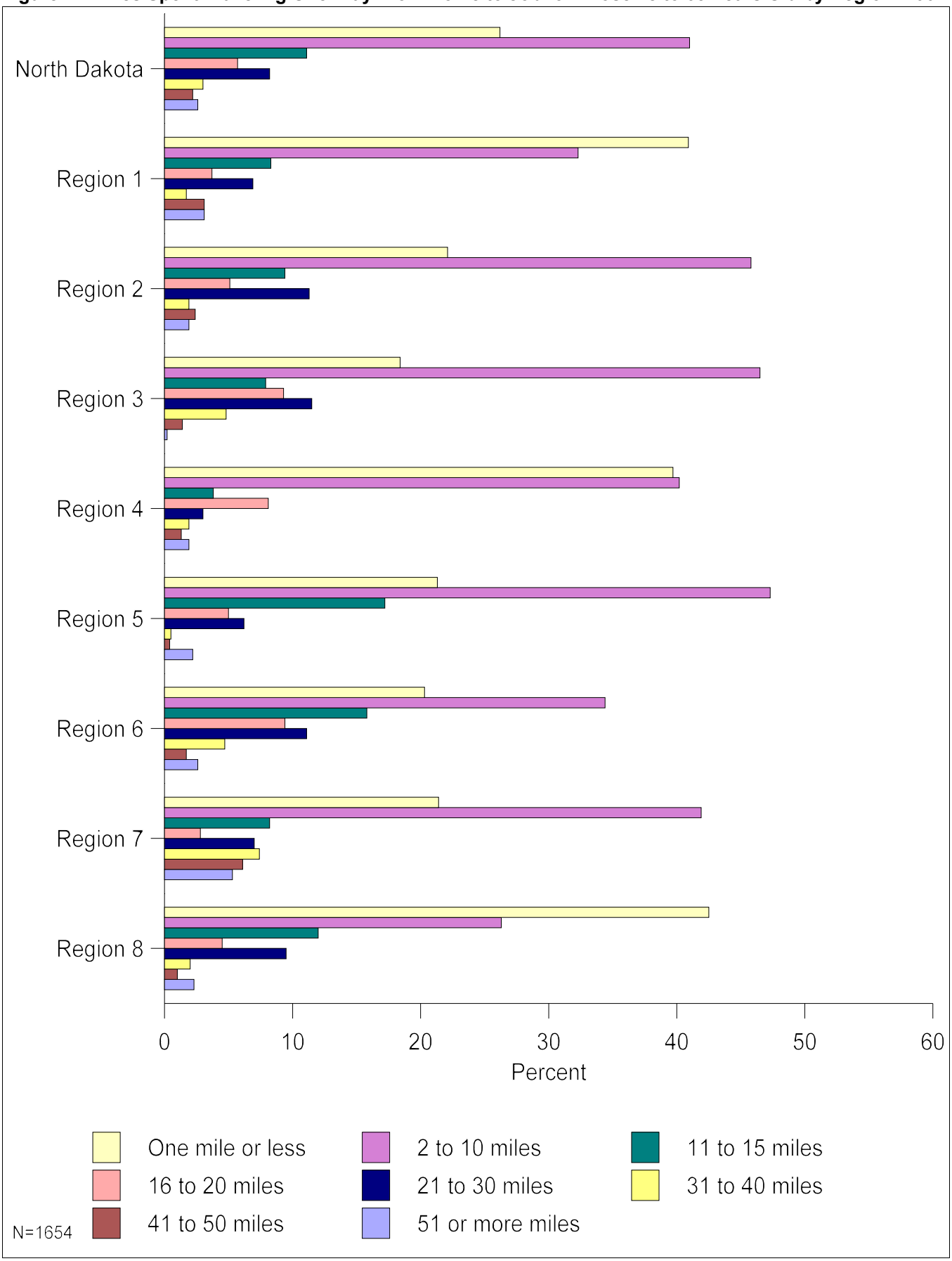


Figure 22. Miles Spent Traveling One-Way From Home to Job for Those 66 and Older by Region: 2002

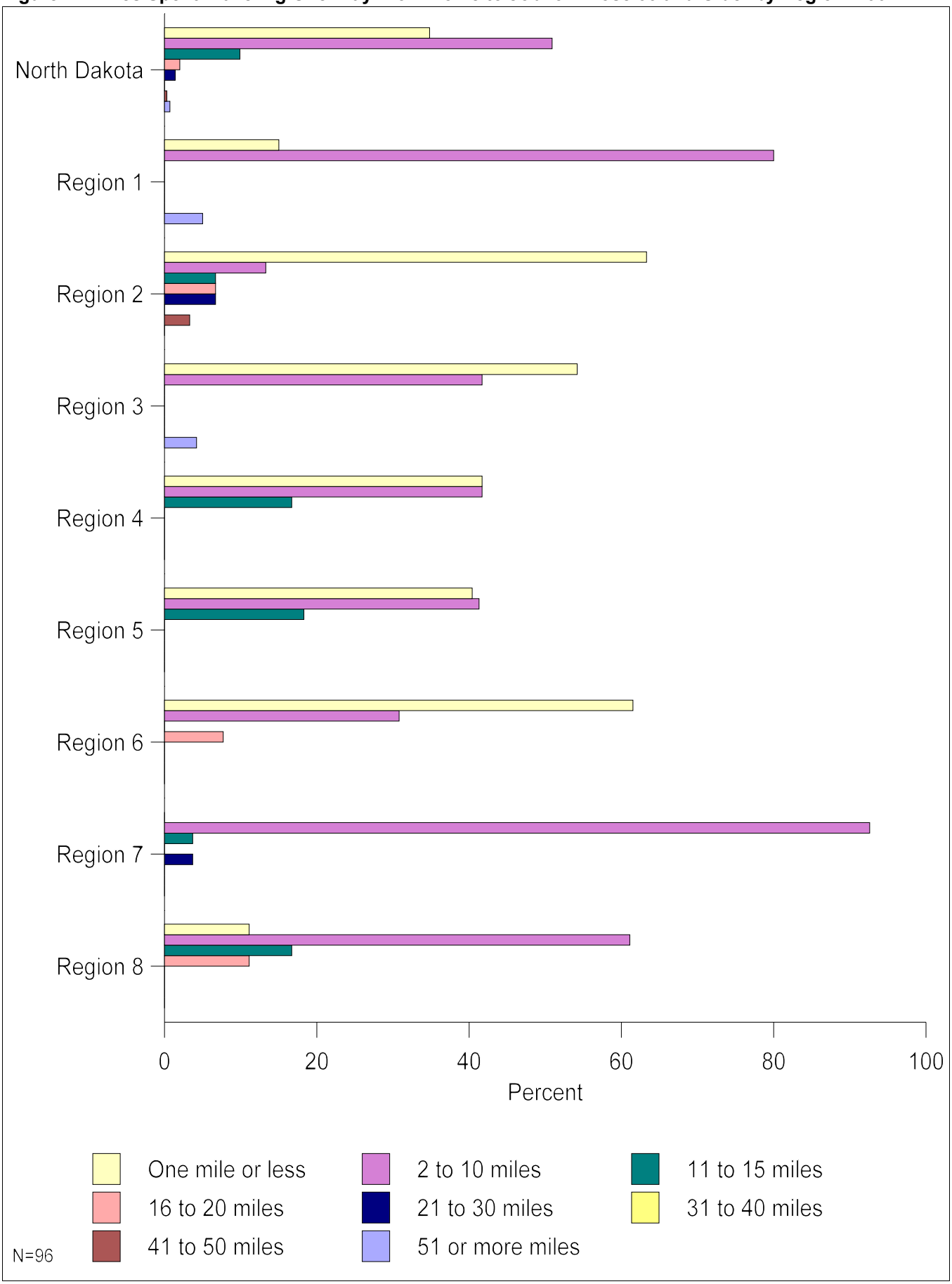


Table 10. Miles Spent Traveling One-Way From Home to Job for Those 18 to 65 Years Old by Region: 2002

Miles Spent Traveling One-Way to Job	North Dakota	Region							
		1	2	3	4	5	6	7	8
One mile or less	26.2	40.9	22.1	18.4	39.7	21.3	20.3	21.4	42.5
2-10 miles	41.0	32.3	45.8	46.5	40.2	47.3	34.4	41.9	26.3
11-15 miles	11.1	8.3	9.4	7.9	3.8	17.2	15.8	8.2	12.0
16-20 miles	5.7	3.7	5.1	9.3	8.1	5.0	9.4	2.8	4.5
21-30 miles	8.2	6.9	11.3	11.5	3.0	6.2	11.1	7.0	9.5
31-40 miles	3.0	1.7	1.9	4.8	1.9	0.5	4.7	7.4	2.0
41-50 miles	2.2	3.1	2.4	1.4	1.3	0.4	1.7	6.1	1.0
51 or more miles	2.6	3.1	1.9	0.2	1.9	2.2	2.6	5.3	2.3
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Table 11. Miles Spent Traveling One-Way From Home to Job for Those 66 Years and Older by Region: 2002

Miles Spent Traveling One-Way to Job	North Dakota	Region							
		1	2	3	4	5	6	7	8
One mile or less	34.8	15.0	63.3	54.2	41.7	40.4	61.5	0.0	11.1
2-10 miles	50.9	80.0	13.3	41.7	41.7	41.3	30.8	92.6	61.1
11-15 miles	9.9	0.0	6.7	0.0	16.7	18.3	0.0	3.7	16.7
16-20 miles	2.0	0.0	6.7	0.0	0.0	0.0	7.7	0.0	11.1
21-30 miles	1.4	0.0	6.7	0.0	0.0	0.0	0.0	3.7	0.0
31-40 miles	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
41-50 miles	0.3	0.0	3.3	0.0	0.0	0.0	0.0	0.0	0.0
51 or more miles	0.7	5.0	0.0	4.2	0.0	0.0	0.0	0.0	0.0
Total	100.0	100.0	100.0	100.1	100.1	100.0	100.0	100.0	100.0

Figure 23. Maximum Number of Miles Respondent is Willing to Commute One-Way From Home to Job for Those 18 to 65 Year Old by Region: 2002

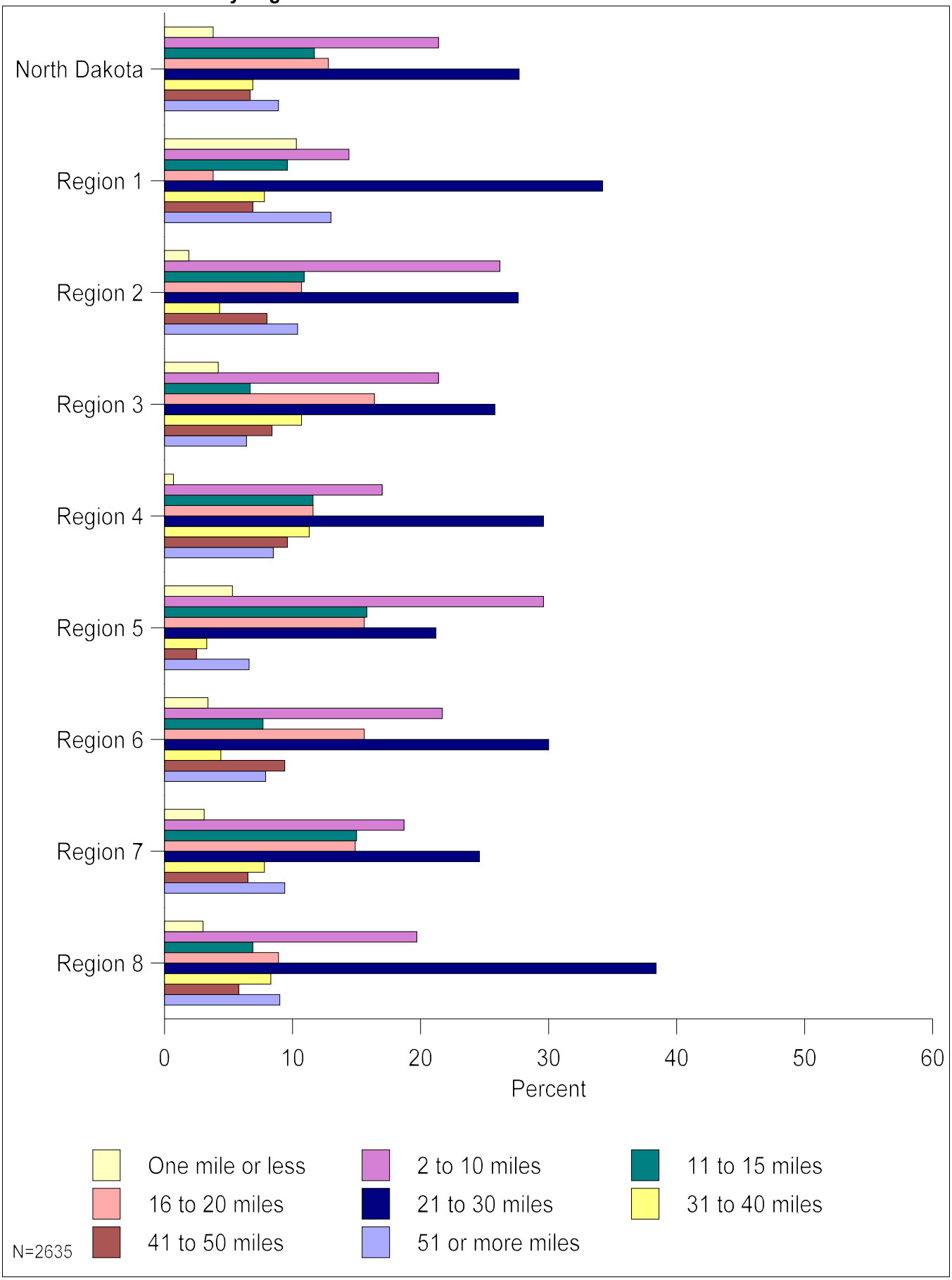


Figure 24. Maximum Number of Miles Respondent is Willing to Commute One-Way From Home to Job for Those 66 Years and Older by Region: 2002

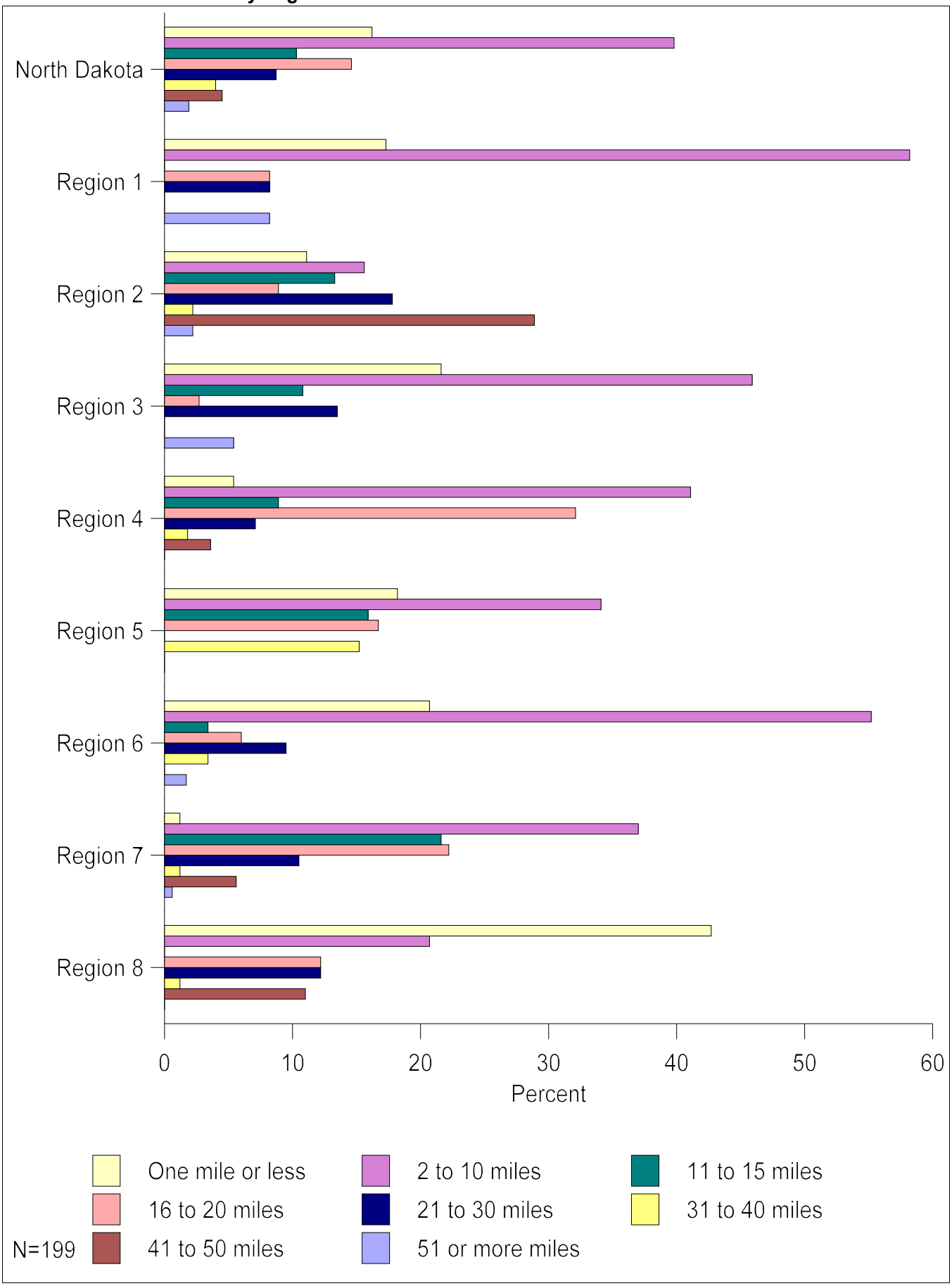


Table 12. Maximum Number of Miles Respondent is Willing to Commute One-Way From Home to Job for Those 18 to 65 Years Old by Region: 2002

Miles Willing to Commute to Work	North Dakota	Region							
		1	2	3	4	5	6	7	8
One mile or less	3.8	10.3	1.9	4.2	0.7	5.3	3.4	3.1	3.0
2-10 miles	21.4	14.4	26.2	21.4	17.0	29.6	21.7	18.7	19.7
11-15 miles	11.7	9.6	10.9	6.7	11.6	15.8	7.7	15.0	6.9
16-20 miles	12.8	3.8	10.7	16.4	11.6	15.6	15.6	14.9	8.9
21-30 miles	27.7	34.2	27.6	25.8	29.6	21.2	30.0	24.6	38.4
31-40 miles	6.9	7.8	4.3	10.7	11.3	3.3	4.4	7.8	8.3
41-50 miles	6.7	6.9	8.0	8.4	9.6	2.5	9.4	6.5	5.8
51 or more miles	8.9	13.0	10.4	6.4	8.5	6.6	7.9	9.4	9.0
Total	99.9	100.0	100.0	100.0	99.9	99.9	100.1	100.0	100.0

Table 13. Maximum Number of Miles Respondent is Willing to Commute One-Way From Home to Job for Those 66 Years and Older by Region: 2002

Miles Willing to Commute to Work	North Dakota	Region							
		1	2	3	4	5	6	7	8
One mile or less	16.2	17.3	11.1	21.6	5.4	18.2	20.7	1.2	42.7
2-10 miles	39.8	58.2	15.6	45.9	41.1	34.1	55.2	37.0	20.7
11-15 miles	10.3	0.0	13.3	10.8	8.9	15.9	3.4	21.6	0.0
16-20 miles	14.6	8.2	8.9	2.7	32.1	16.7	6.0	22.2	12.2
21-30 miles	8.7	8.2	17.8	13.5	7.1	0.0	9.5	10.5	12.2
31-40 miles	4.0	0.0	2.2	0.0	1.8	15.2	3.4	1.2	1.2
41-50 miles	4.5	0.0	28.9	0.0	3.6	0.0	0.0	5.6	11.0
51 or more miles	1.9	8.2	2.2	5.4	0.0	0.0	1.7	0.6	0.0
Total	100.0	100.1	100.0	99.9	100.0	100.1	99.9	99.9	100.0

Figure 25. Minutes Spent Traveling One-Way From Home to Job for Those 18 to 65 Years Old by Region: 2002

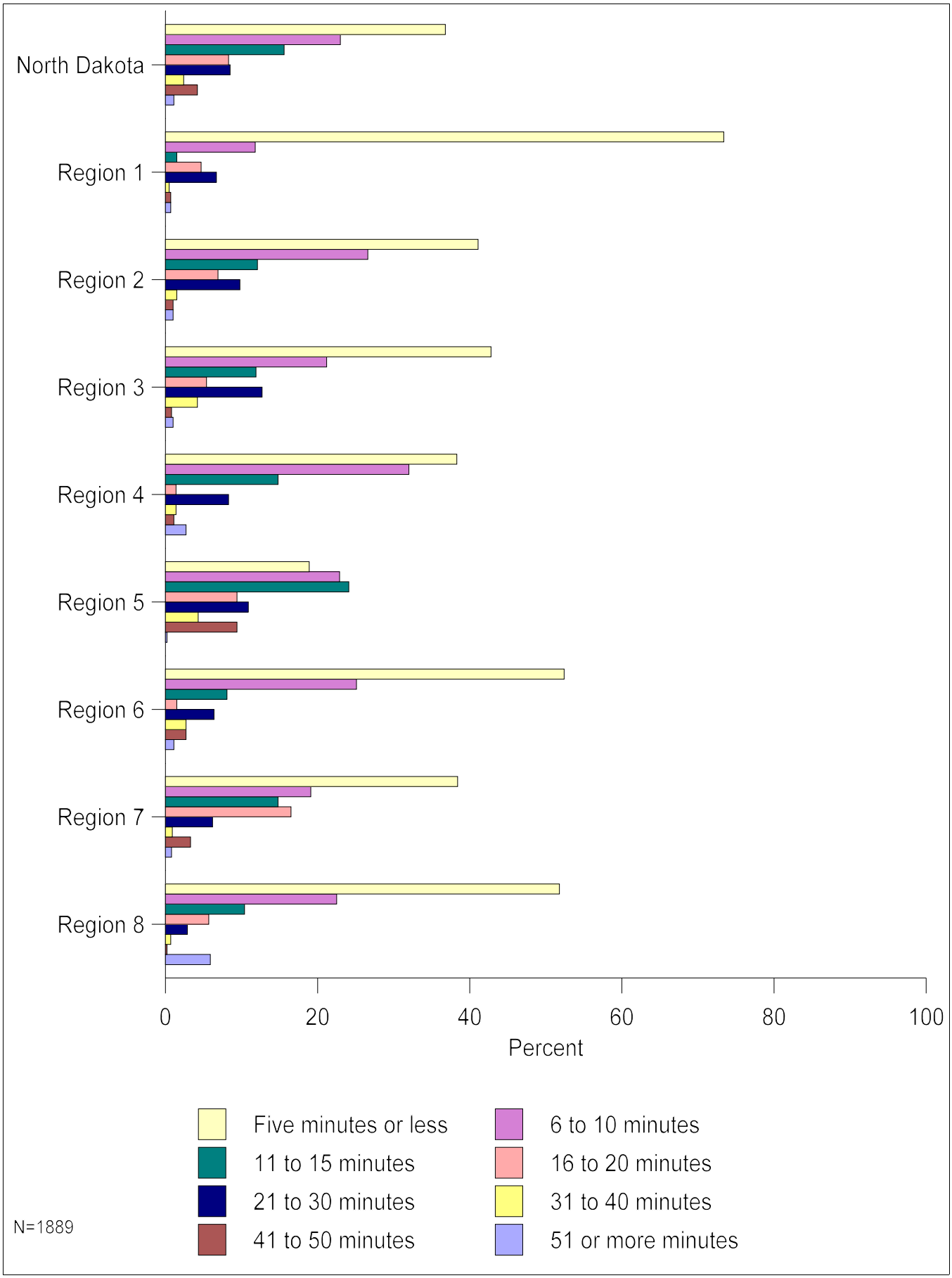


Figure 26. Minutes Spent Traveling One-Way From Home to Job for Those 66 Years and Older by Region: 2002

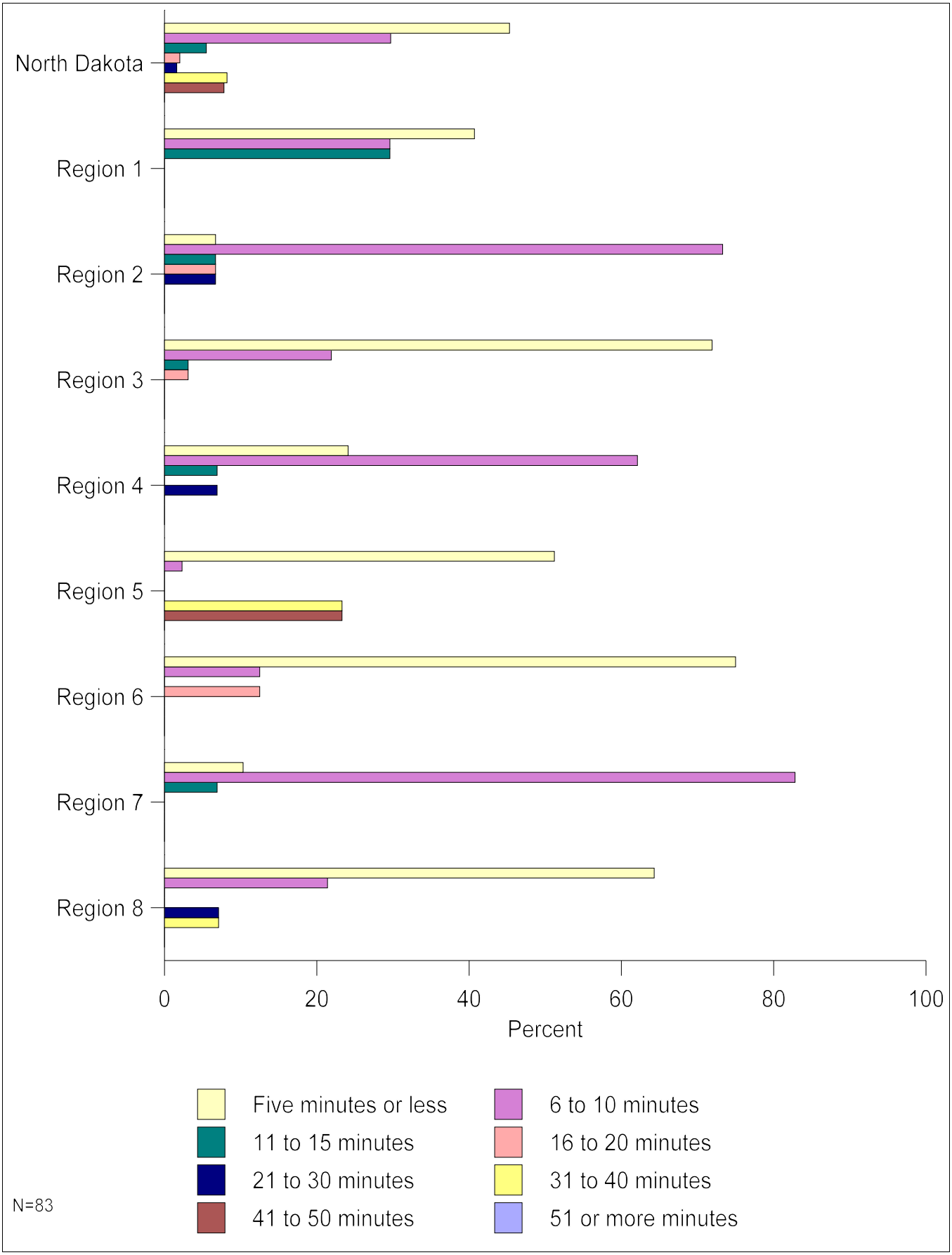


Table 14. Minutes Spent Traveling One-Way From Home to Job for Those 18 to 65 Years Old by Region: 2002

Minutes Spent Traveling One-Way to Job	North Dakota	Region							
		1	2	3	4	5	6	7	8
Five minutes or less	36.8	73.4	41.1	42.8	38.3	18.9	52.4	38.4	51.8
6-10 minutes	23.0	11.8	26.6	21.2	32.0	22.9	25.1	19.1	22.5
11-15 minutes	15.6	1.5	12.1	11.9	14.8	24.1	8.1	14.8	10.4
16-20 minutes	8.3	4.7	6.9	5.4	1.4	9.4	1.5	16.5	5.7
21-30 minutes	8.5	6.7	9.8	12.7	8.3	10.9	6.4	6.2	2.9
31-40 minutes	2.4	0.5	1.5	4.2	1.4	4.3	2.7	0.9	0.7
41-50 minutes	4.2	0.7	1.0	0.8	1.1	9.4	2.7	3.3	0.2
51 or more minutes	1.1	0.7	1.0	1.0	2.7	0.2	1.1	0.8	5.9
Total	99.9	100.0	100.0	100.0	100.0	100.1	100.0	100.0	100.1

Table 15. Minutes Spent Traveling One-Way From Home to Job for Those 66 Years and Older by Region: 2002

Minutes Spent Traveling One-Way to Job	North Dakota	Region							
		1	2	3	4	5	6	7	8
Five minutes or less	45.3	40.7	6.7	71.9	24.1	51.2	75.0	10.3	64.3
6-10 minutes	29.7	29.6	73.3	21.9	62.1	2.3	12.5	82.8	21.4
11-15 minutes	5.5	29.6	6.7	3.1	6.9	0.0	0.0	6.9	0.0
16-20 minutes	2.0	0.0	6.7	3.1	0.0	0.0	12.5	0.0	0.0
21-30 minutes	1.6	0.0	6.7	0.0	6.9	0.0	0.0	0.0	7.1
31-40 minutes	8.2	0.0	0.0	0.0	0.0	23.3	0.0	0.0	7.1
41-50 minutes	7.8	0.0	0.0	0.0	0.0	23.3	0.0	0.0	0.0
51 or more minutes	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total	100.1	99.9	100.1	100.0	100.0	100.1	100.0	100.0	99.9

Figure 27. Maximum Number of Minutes Respondent is Willing to Commute One-Way From Home to Job for Those 18 to 65 Years Old by Region: 2002

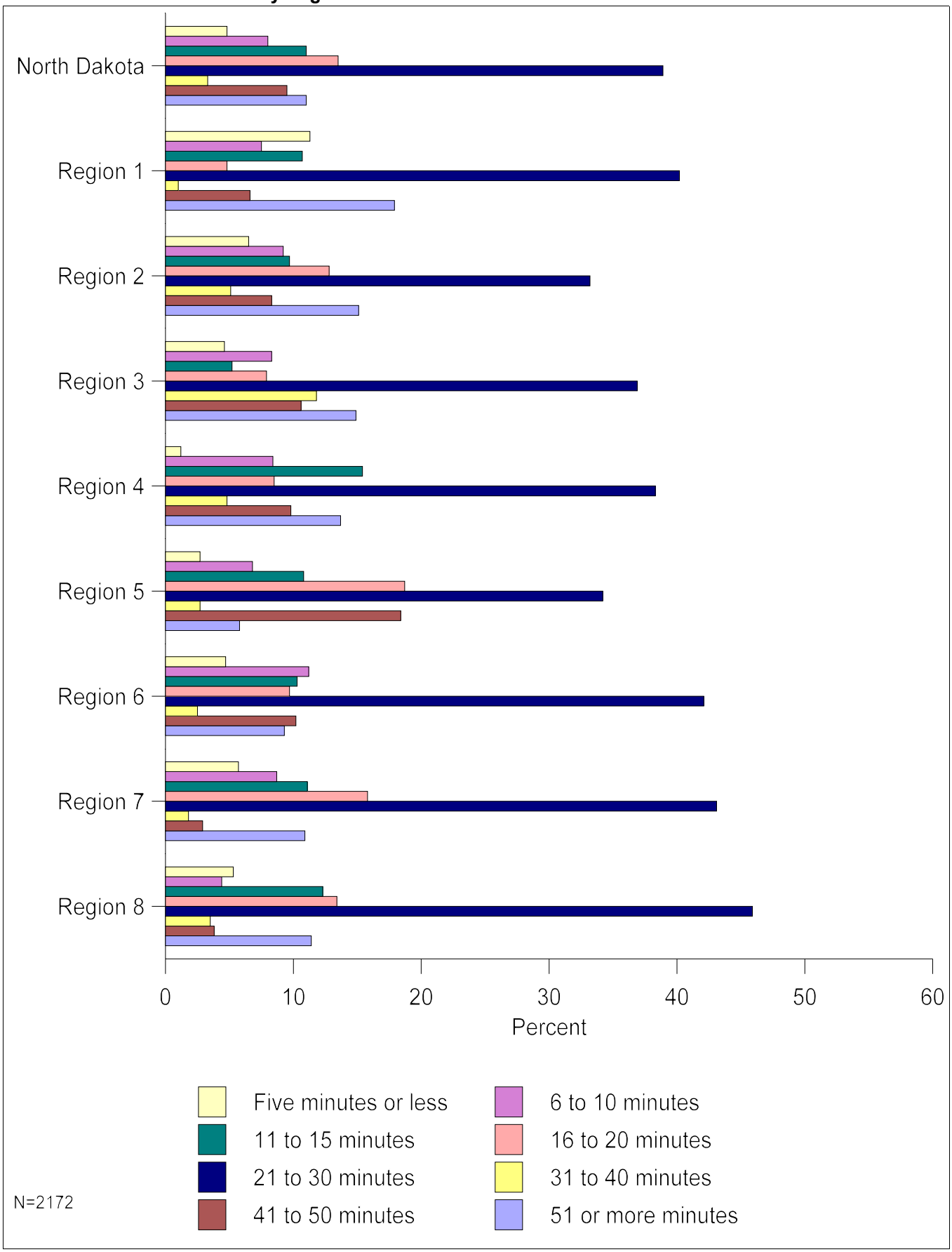


Figure 28. Maximum Number of Minutes Respondent is Willing to Commute One-Way From Home to Job for Those 66 Years and Older by Region: 2002

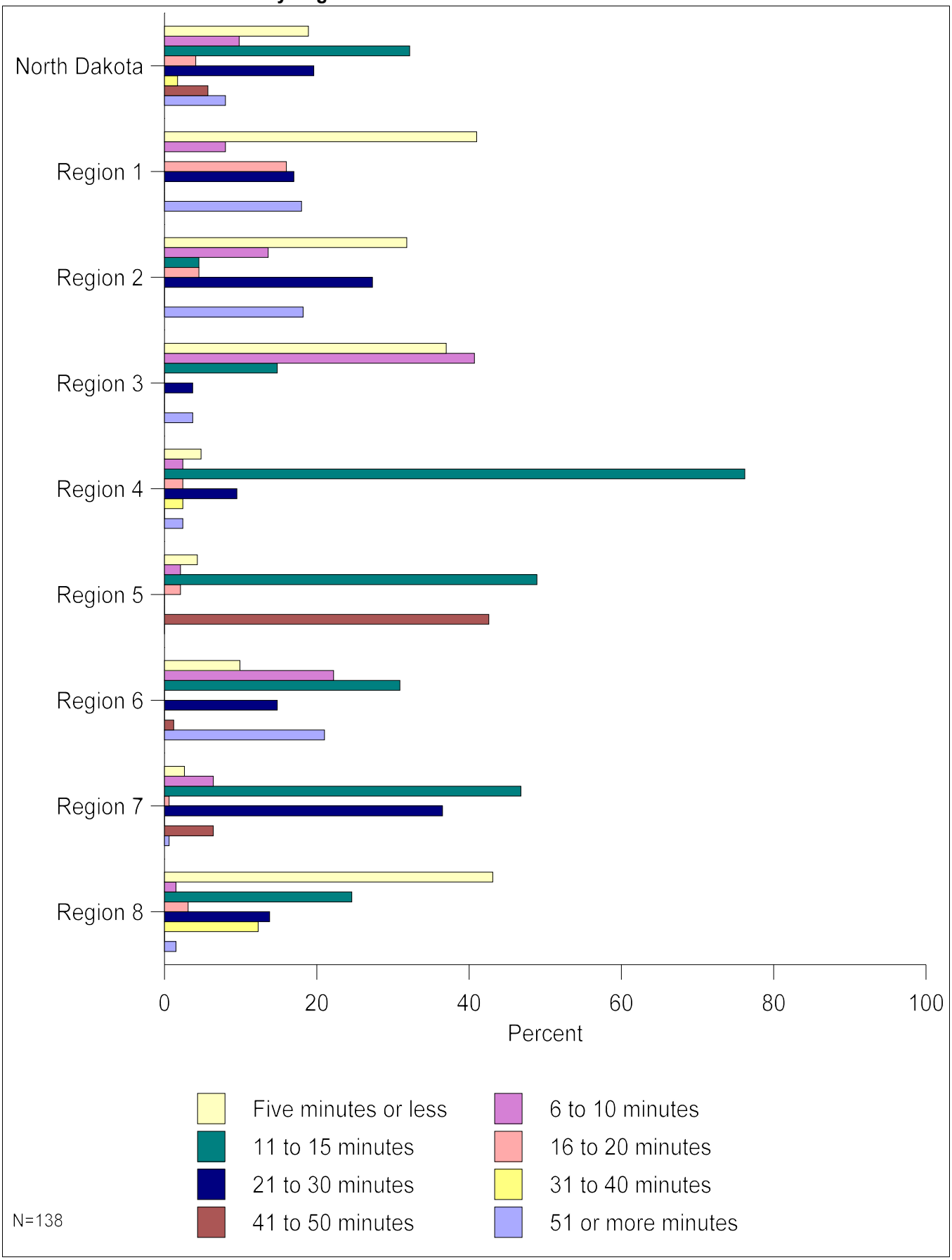


Table 16. Maximum Number of Minutes Respondent is Willing to Commute One-Way From Home to Job for Those 18 to 65 Years Old by Region: 2002

Minutes Willing to Commute to Work	North Dakota	Region							
		1	2	3	4	5	6	7	8
Five minutes or less	4.8	11.3	6.5	4.6	1.2	2.7	4.7	5.7	5.3
6-10 minutes	8.0	7.5	9.2	8.3	8.4	6.8	11.2	8.7	4.4
11-15 minutes	11.0	10.7	9.7	5.2	15.4	10.8	10.3	11.1	12.3
16-20 minutes	13.5	4.8	12.8	7.9	8.5	18.7	9.7	15.8	13.4
21-30 minutes	38.9	40.2	33.2	36.9	38.3	34.2	42.1	43.1	45.9
31-40 minutes	3.3	1.0	5.1	11.8	4.8	2.7	2.5	1.8	3.5
41-50 minutes	9.5	6.6	8.3	10.6	9.8	18.4	10.2	2.9	3.8
51 or more minutes	11.0	17.9	15.1	14.9	13.7	5.8	9.3	10.9	11.4
Total	100.0	100.0	99.9	100.2	100.1	100.1	100.0	100.0	100.0

Table 17. Maximum Number of Minutes Respondent is Willing to Commute One-Way From Home to Job for Those 66 Years and Older by Region: 2002

Minutes Willing to Commute to Work	North Dakota	Region							
		1	2	3	4	5	6	7	8
Five minutes or less	18.9	41.0	31.8	37.0	4.8	4.3	9.9	2.6	43.1
6-10 minutes	9.8	8.0	13.6	40.7	2.4	2.1	22.2	6.4	1.5
11-15 minutes	32.2	0.0	4.5	14.8	76.2	48.9	30.9	46.8	24.6
16-20 minutes	4.1	16.0	4.5	0.0	2.4	2.1	0.0	0.6	3.1
21-30 minutes	19.6	17.0	27.3	3.7	9.5	0.0	14.8	36.5	13.8
31-40 minutes	1.7	0.0	0.0	0.0	2.4	0.0	0.0	0.0	12.3
41-50 minutes	5.7	0.0	0.0	0.0	0.0	42.6	1.2	6.4	0.0
51 or more minutes	8.0	18.0	18.2	3.7	2.4	0.0	21.0	0.6	1.5
Total	100.0	100.0	99.9	99.9	100.1	100.0	100.0	99.9	99.9

Mobility of Labor Force

- ❑ Mobility among North Dakota residents is relatively the same between urban and rural residents. Roughly one in four households have had a member of their household move within the past five years.

- ❑ The destination of movers from urban and rural counties differs greatly. Nearly half of the movers in rural counties over the past five years have remained in the county compared to only one-third in urban counties. Similarly, only 14 percent of the rural movers who left the county left North Dakota compared to one-third from the urban counties.

- ❑ There is very little difference among residents living in urban and rural counties with regard to their future intention to move. Slightly more than 12 percent of rural residents indicated they have considered moving within the next year compared to roughly 15 percent in urban counties.

- ❑ The destination of future movers is very similar to the pattern of past movers. Slightly more than half of the rural county residents who are considering moving in the next year say they will stay within the county (55 percent) while the remaining potential movers are split between leaving the state (23 percent) or moving to another county in the state (22 percent). In contrast, potential movers in urban counties are roughly split between moving to another state (39 percent), moving to another county within the state (31 percent), or remaining in their existing county (30 percent).

Figure 29. Whether Any Household Members Have Moved in the Last Five Years by Rural/Urban Status: 2002

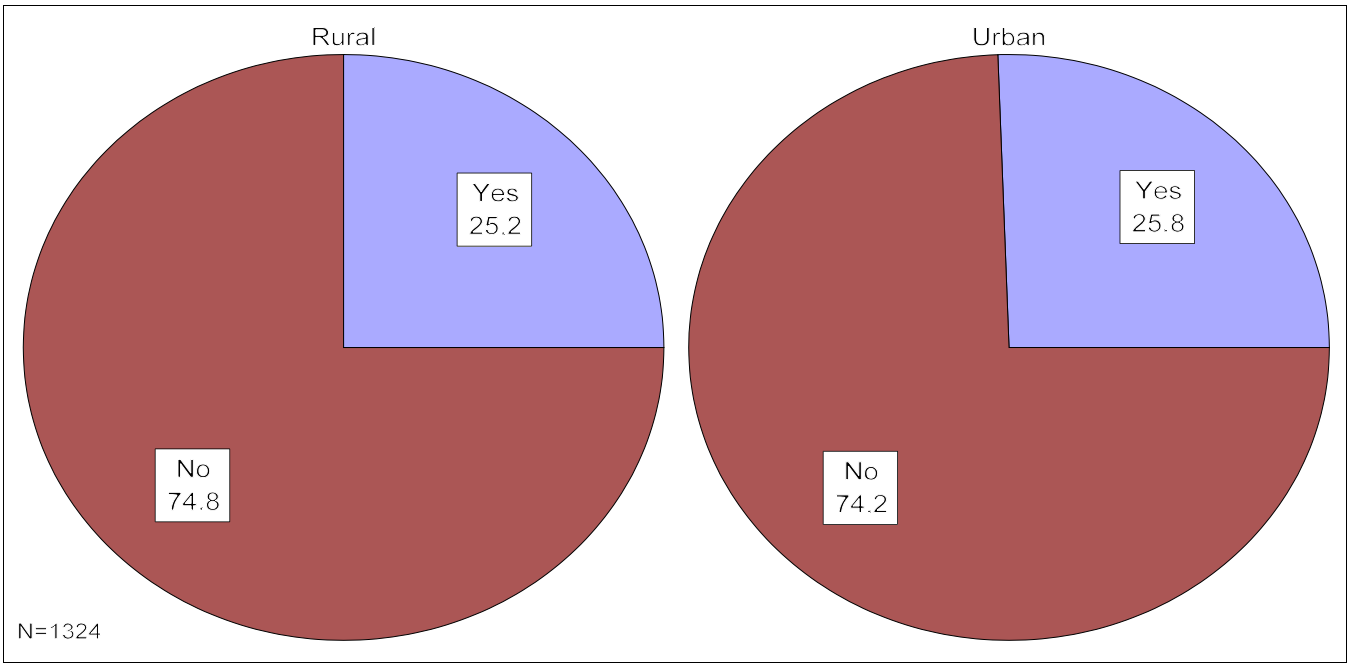


Figure 30. Whether Household Members Who Moved in the Last Five Years Left Their Present County or North Dakota by Rural/Urban Status: 2002

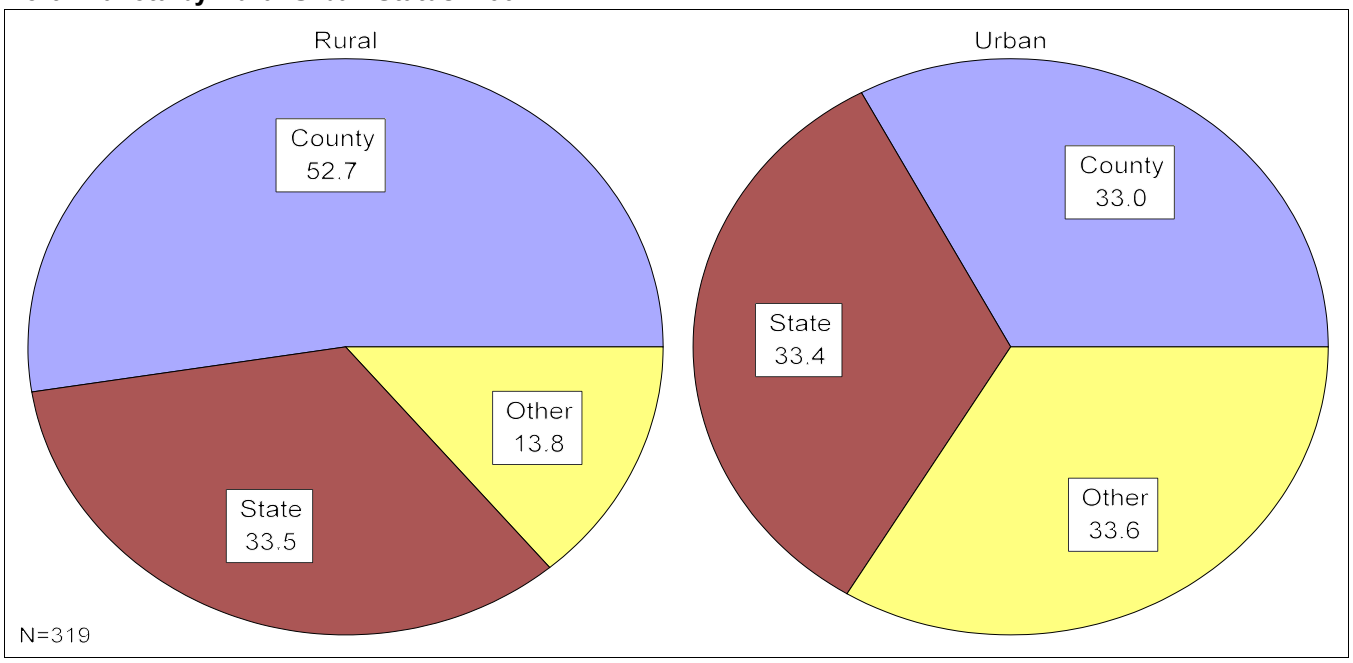


Figure 31. Whether Anyone in Household is Considering Moving in the Next Year by Rural/Urban Status: 2002

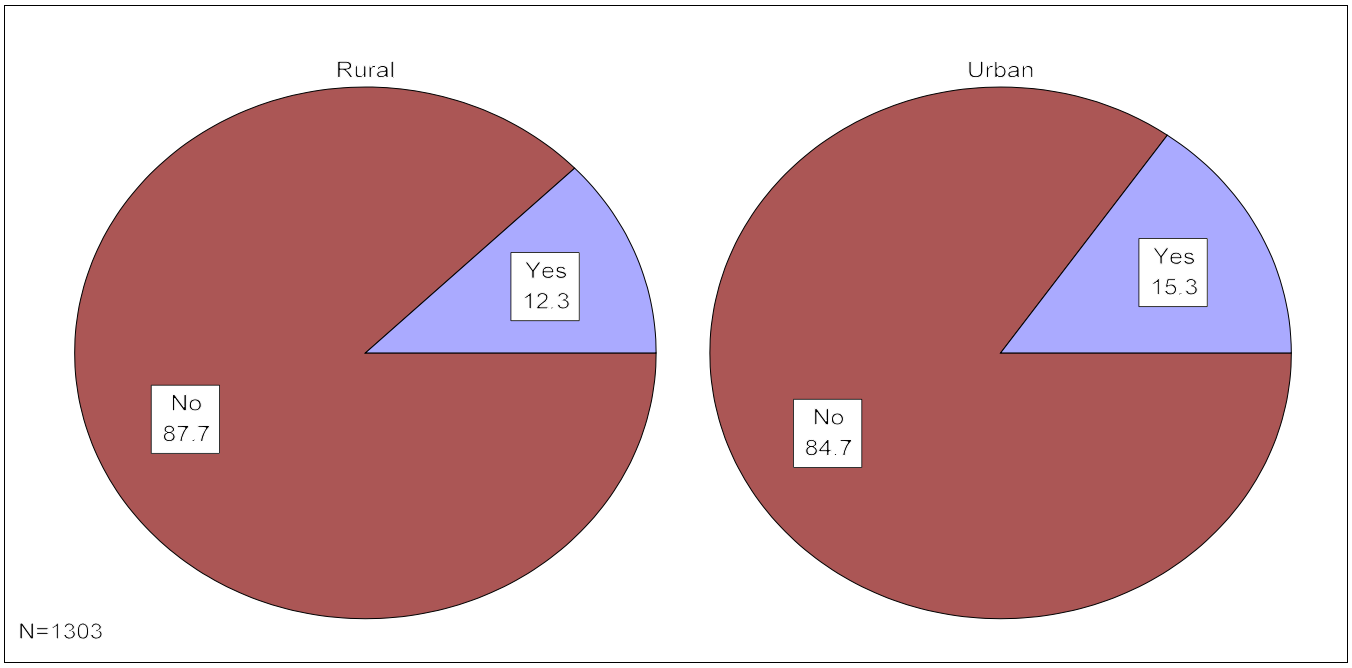


Figure 32. Whether Household Member Considering a Move (in the Next Year) Will Leave Their Present County or North Dakota by Rural/Urban Status: 2002