

Needs Assessment of Long Term Care, North Dakota: 2002

Initial Report and Policy Recommendations

Issued November 2002



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

We wish to acknowledge the helpful assistance of many individuals from the North Dakota Department of Human Services for their advice and guidance throughout this project. Specifically, we wish to thank David Zentner, Dave Skalsky, Henry Lebak, and Nancy Shantz. In addition, we wish to thank Gary Garland from the Department of Health for his insight and assistance. Equally important, we wish to acknowledge all those who offered their assistance and input during the many surveys, interviews, and meetings that are the heart of this report.

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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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			
<i>Low Levels</i>	5.0%	6.5%	6.8%
<i>Moderate Levels</i>	2.6%	2.5%	1.6%
<i>Severe Levels</i>	4.5%	4.3%	3.4%
Age 75 and Over			
<i>Low Levels</i>	15.4%	13.8%	13.7%
<i>Moderate Levels</i>	8.7%	6.2%	6.9%
<i>Severe Levels</i>	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
<i>Low Levels</i>	0.659	0.271	0.071
<i>Moderate Levels</i>	0.584	0.333	0.083
<i>Severe Levels</i>	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

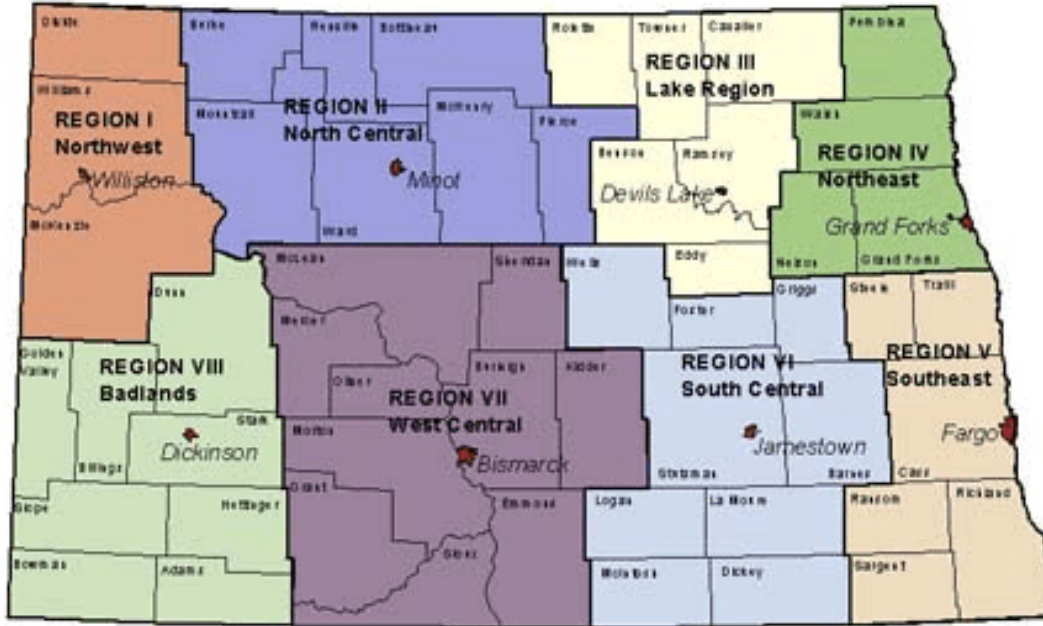


Table C. Services for Which North Dakota Residents Travel More Than 30 Miles by Region: 2002

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

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

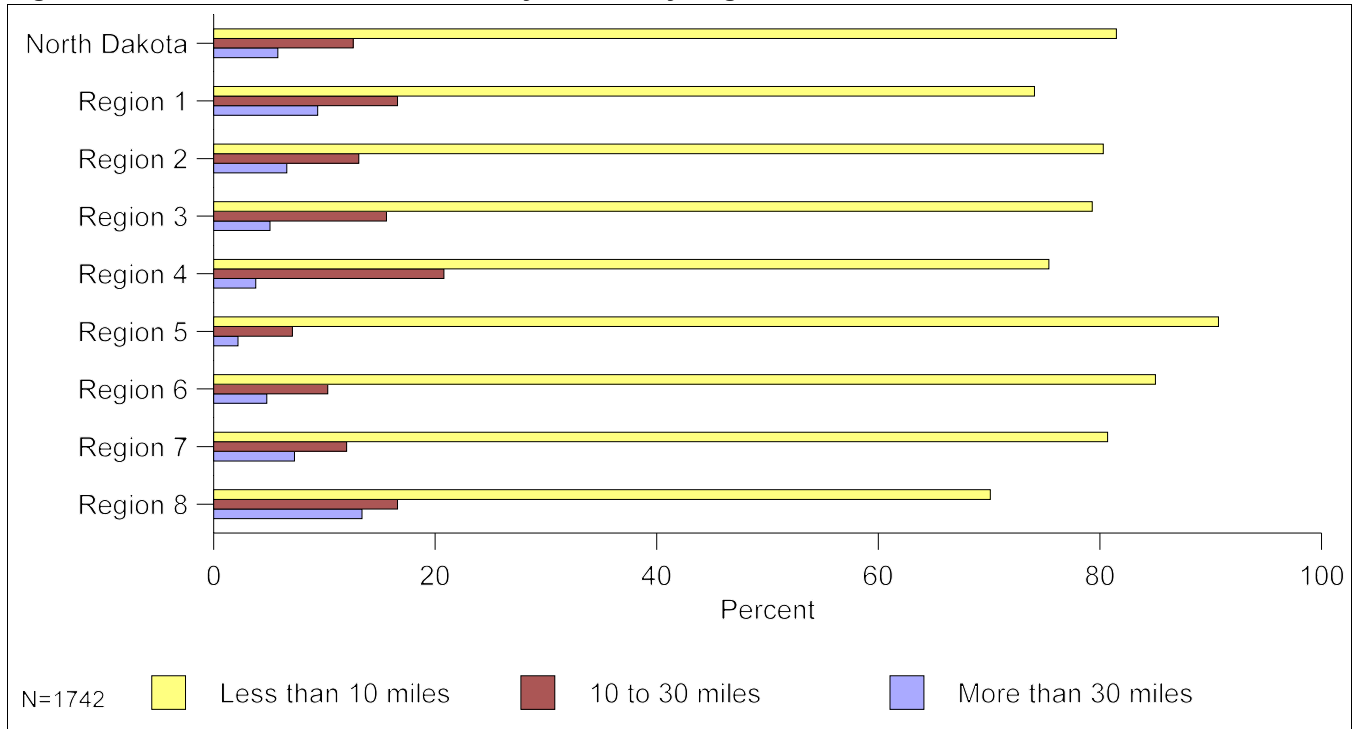


Figure 2. Distance Traveled to Eyecare by Region: 2002

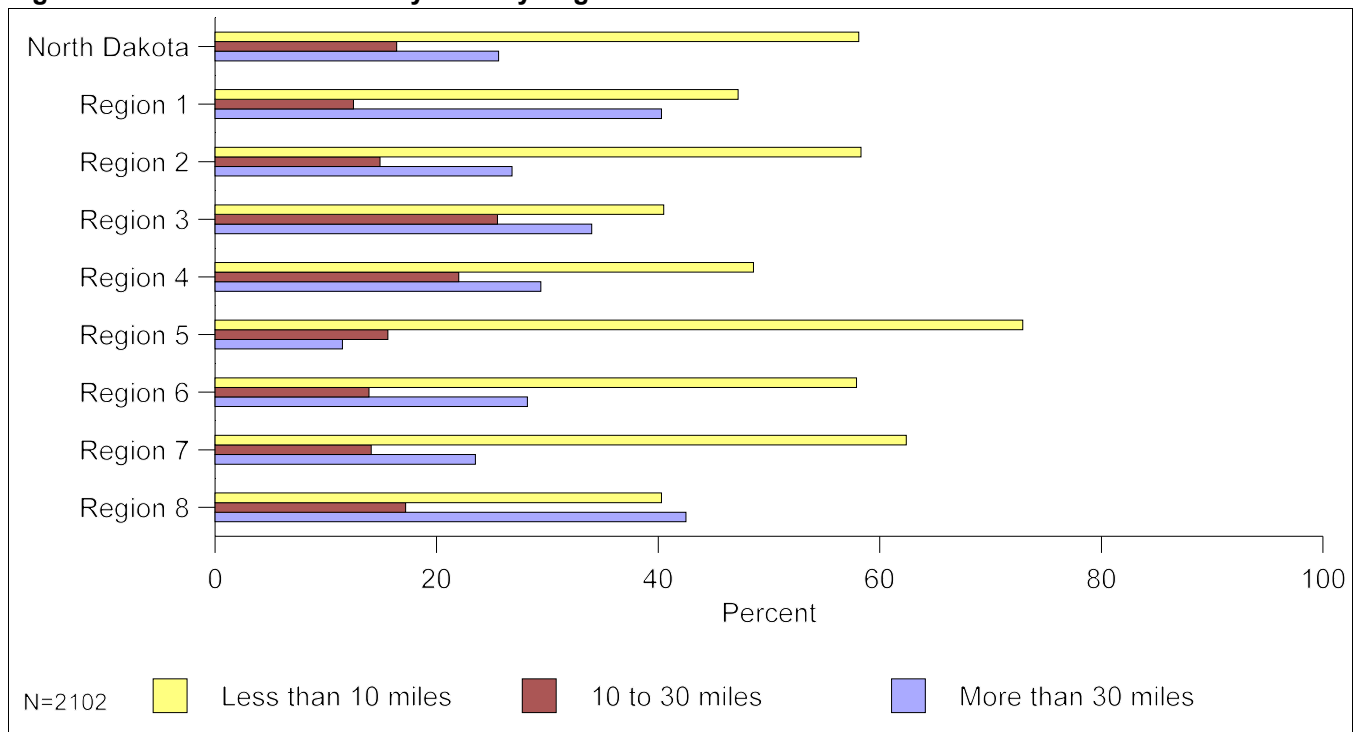


Figure 3. Distance Traveled to Dental Care by Region: 2002

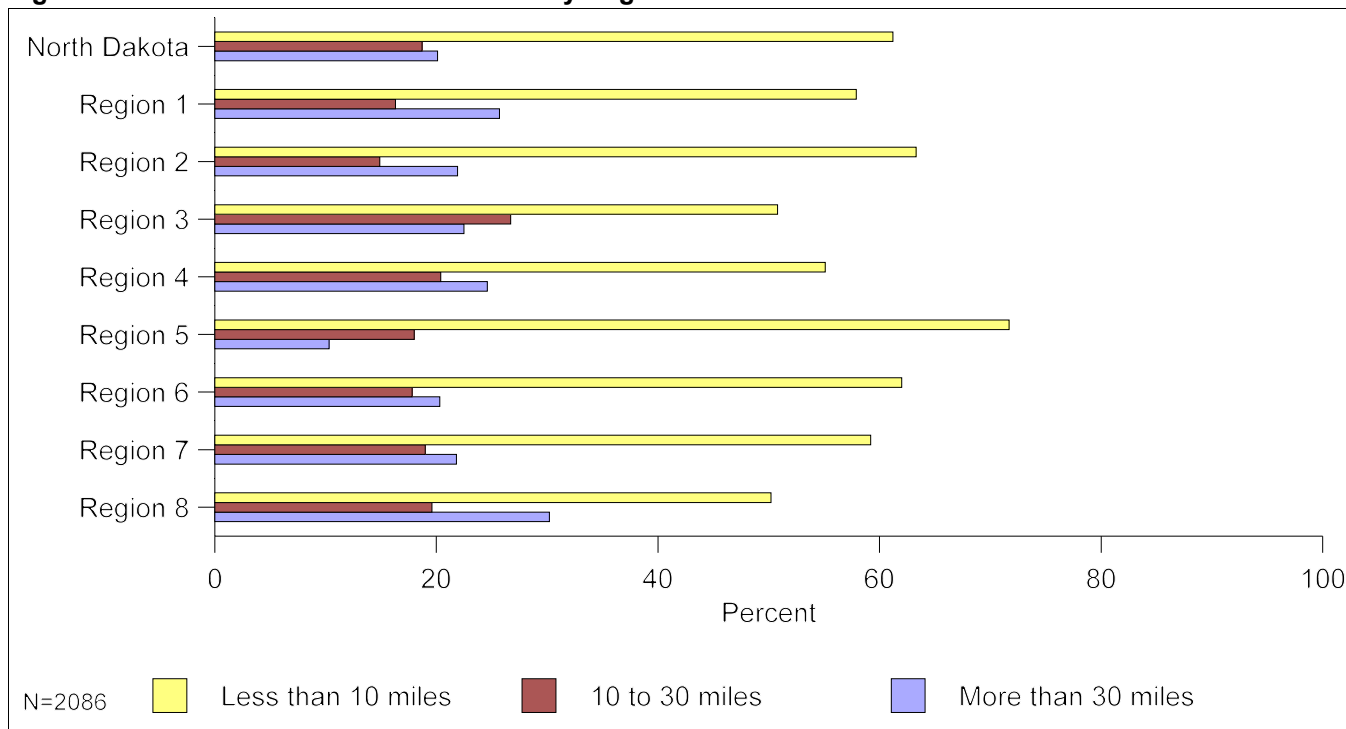


Figure 4. Distance Traveled to Pharmaceutical Needs by Region: 2002

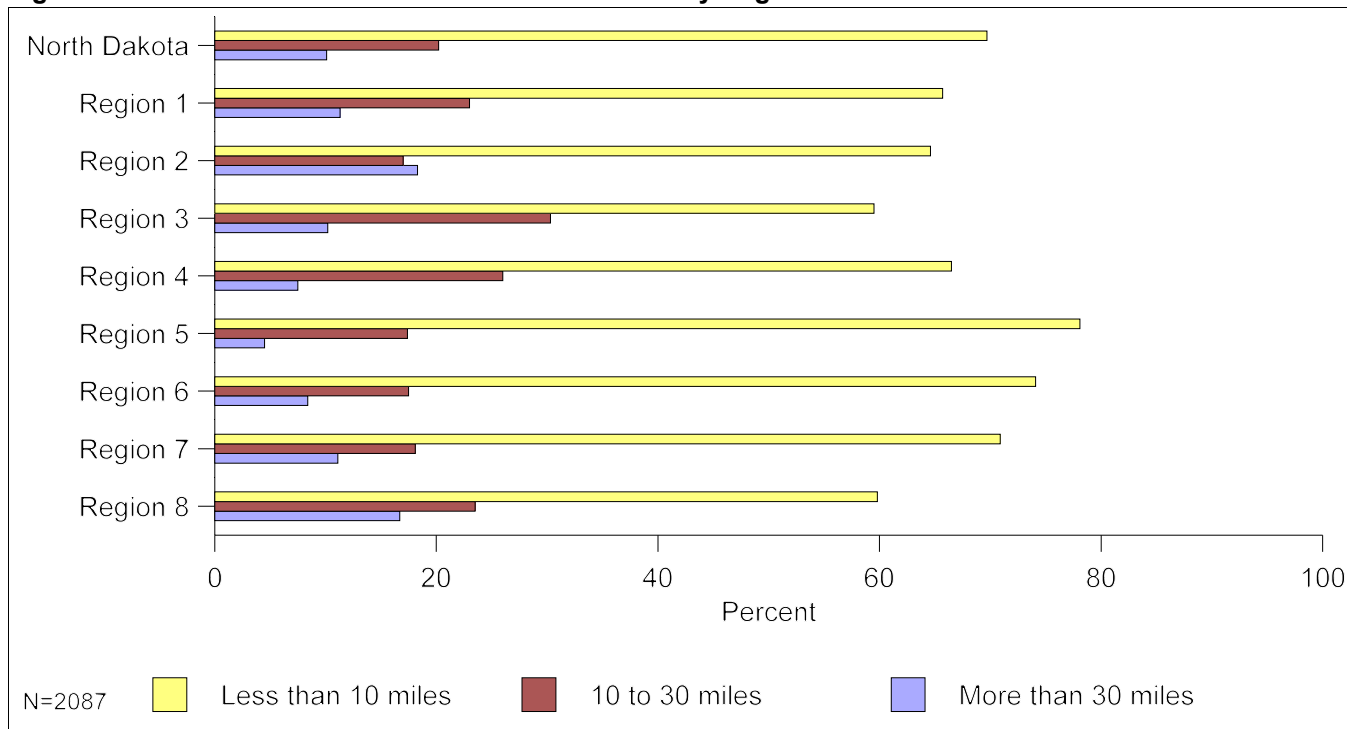


Figure 5. Distance Traveled to Clinical/Hospital Visits by Region: 2002

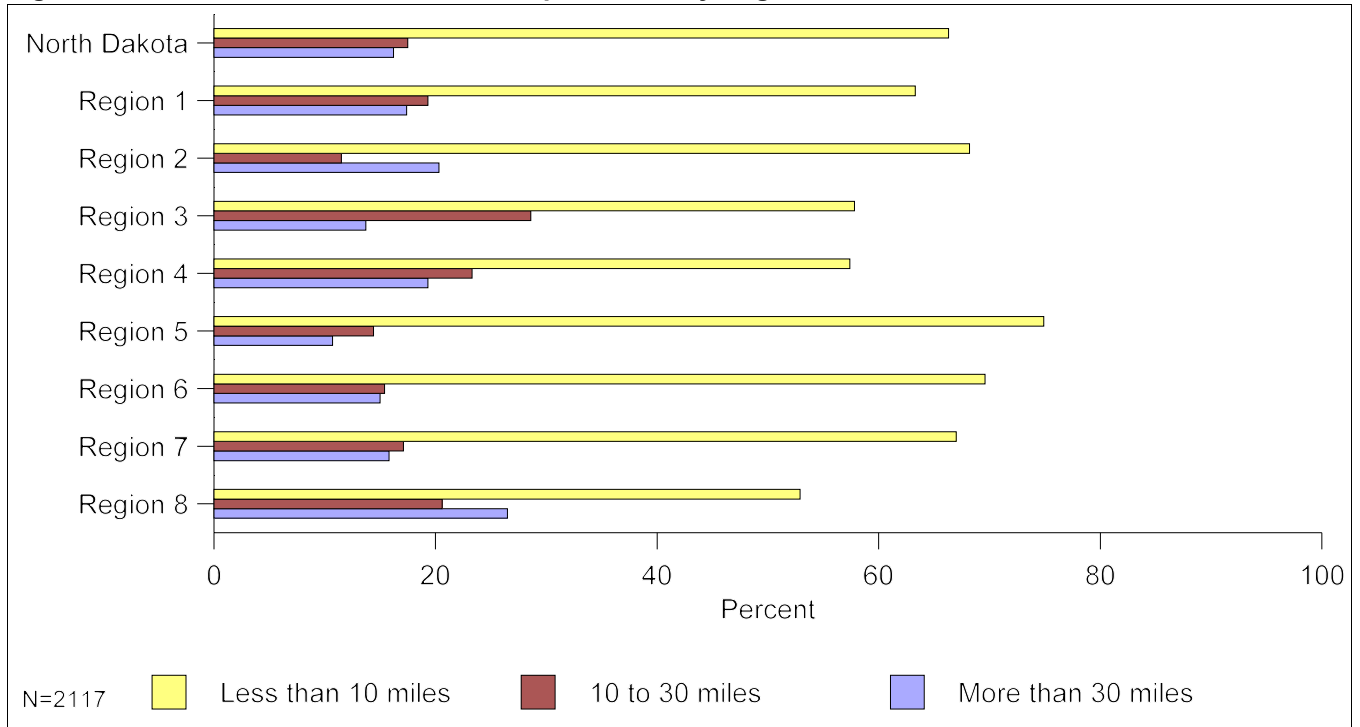


Figure 6. Distance Traveled to Support Groups by Region: 2002

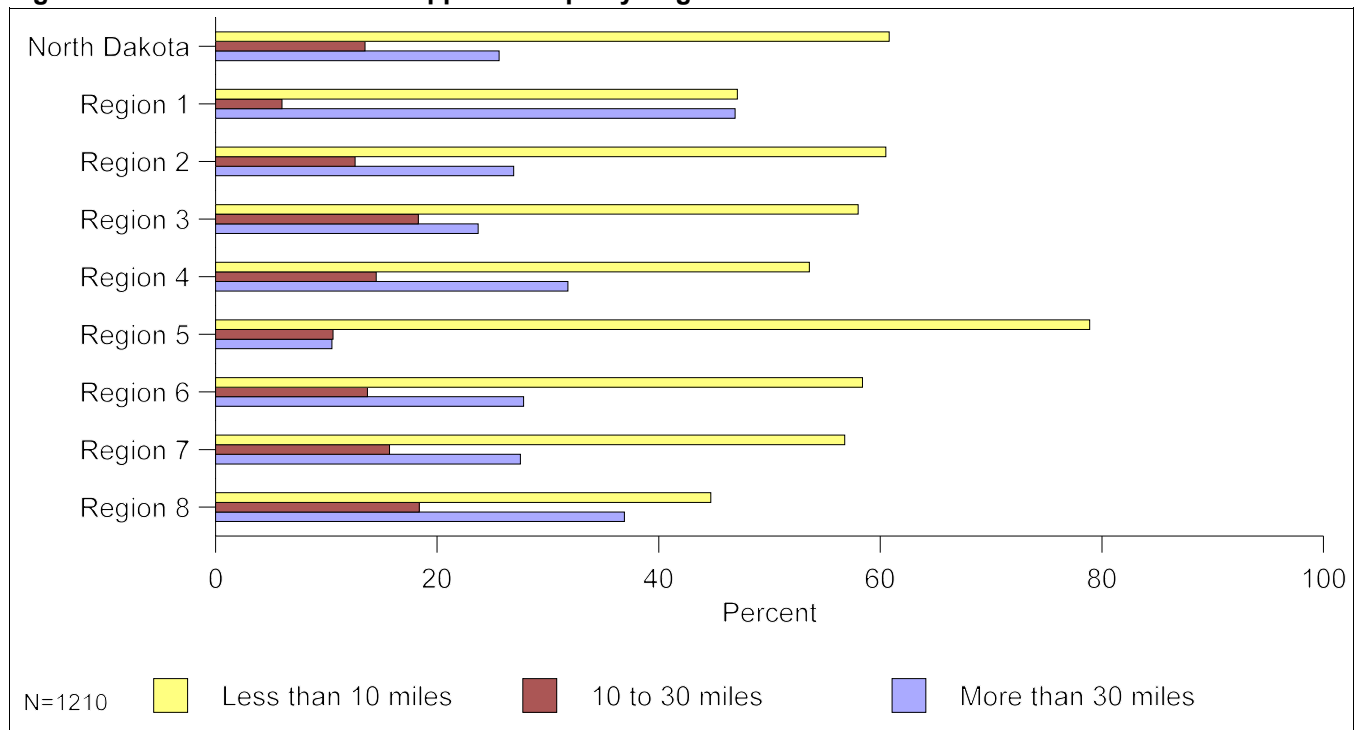


Figure 7. Distance Traveled to Clubs or Service Organizations by Region: 2002

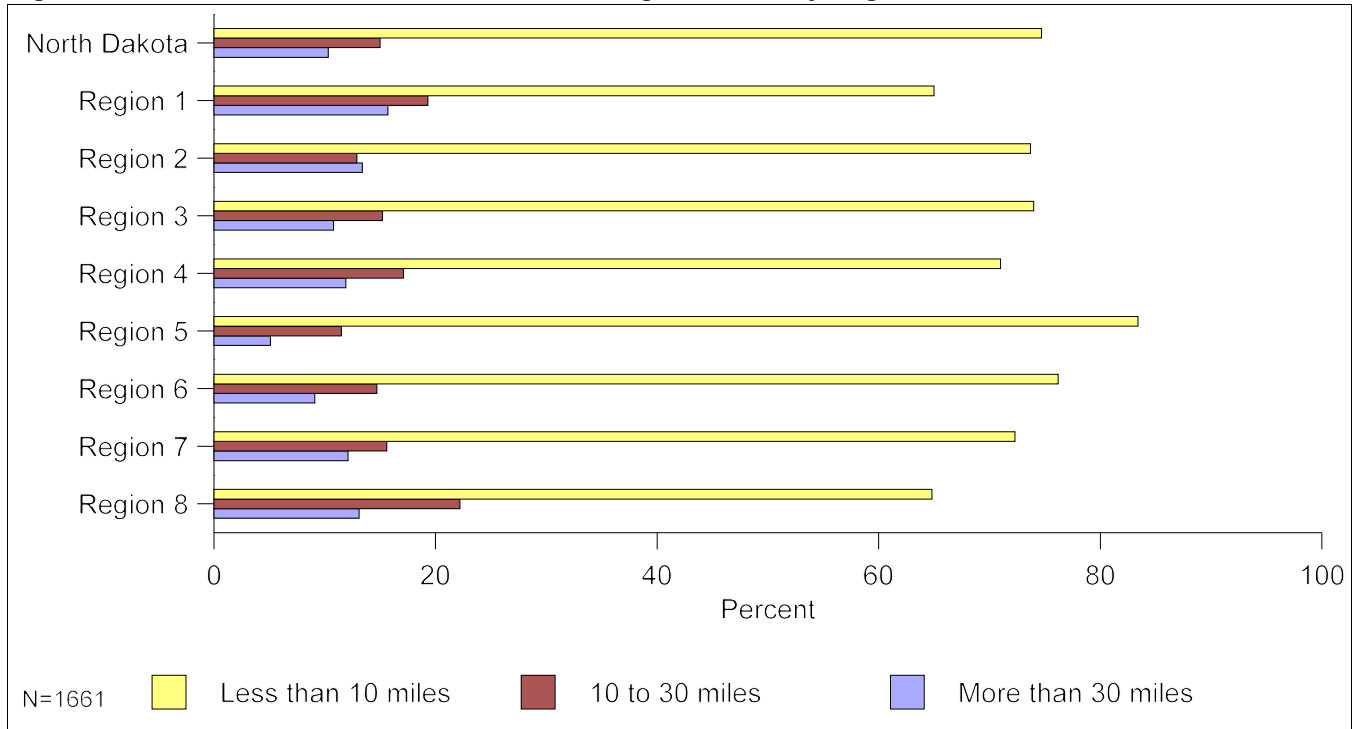


Figure 8. Distance Traveled to Church by Region: 2002

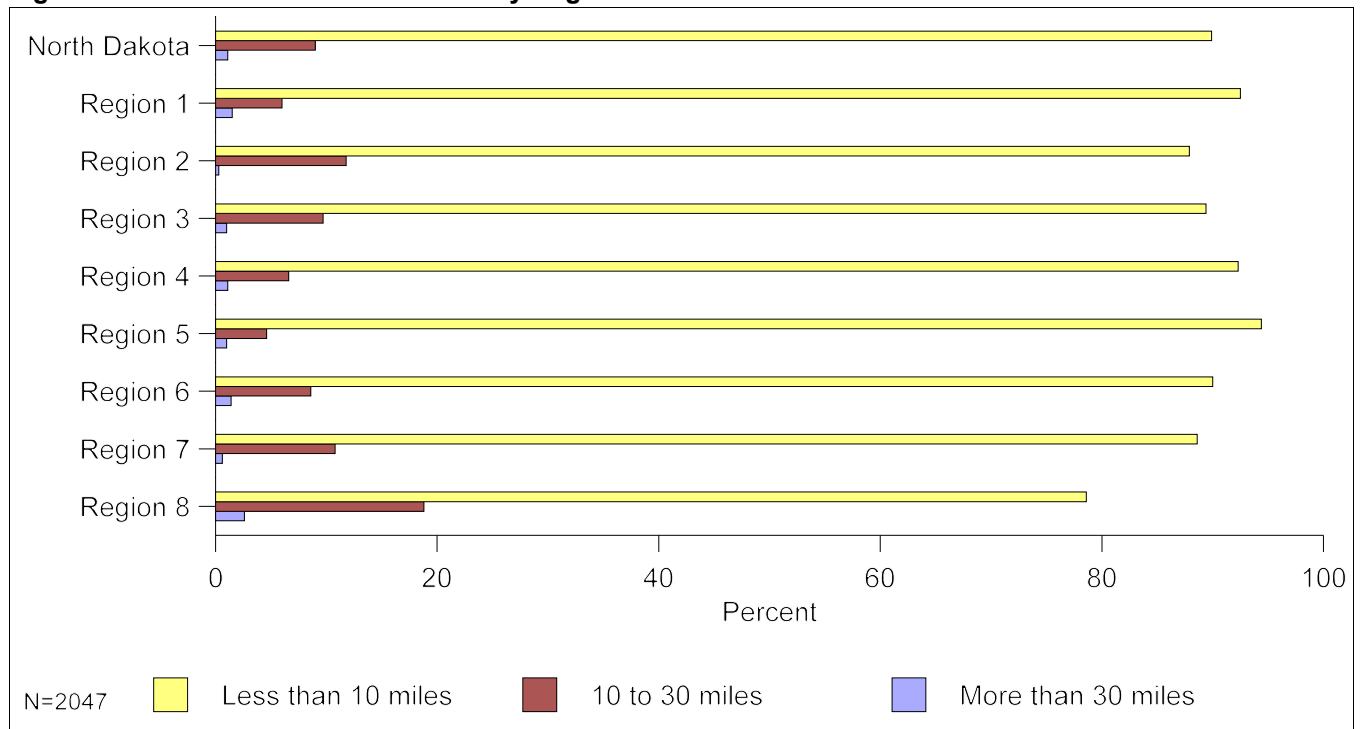


Figure 9. Distance Traveled for Groceries by Region: 2002

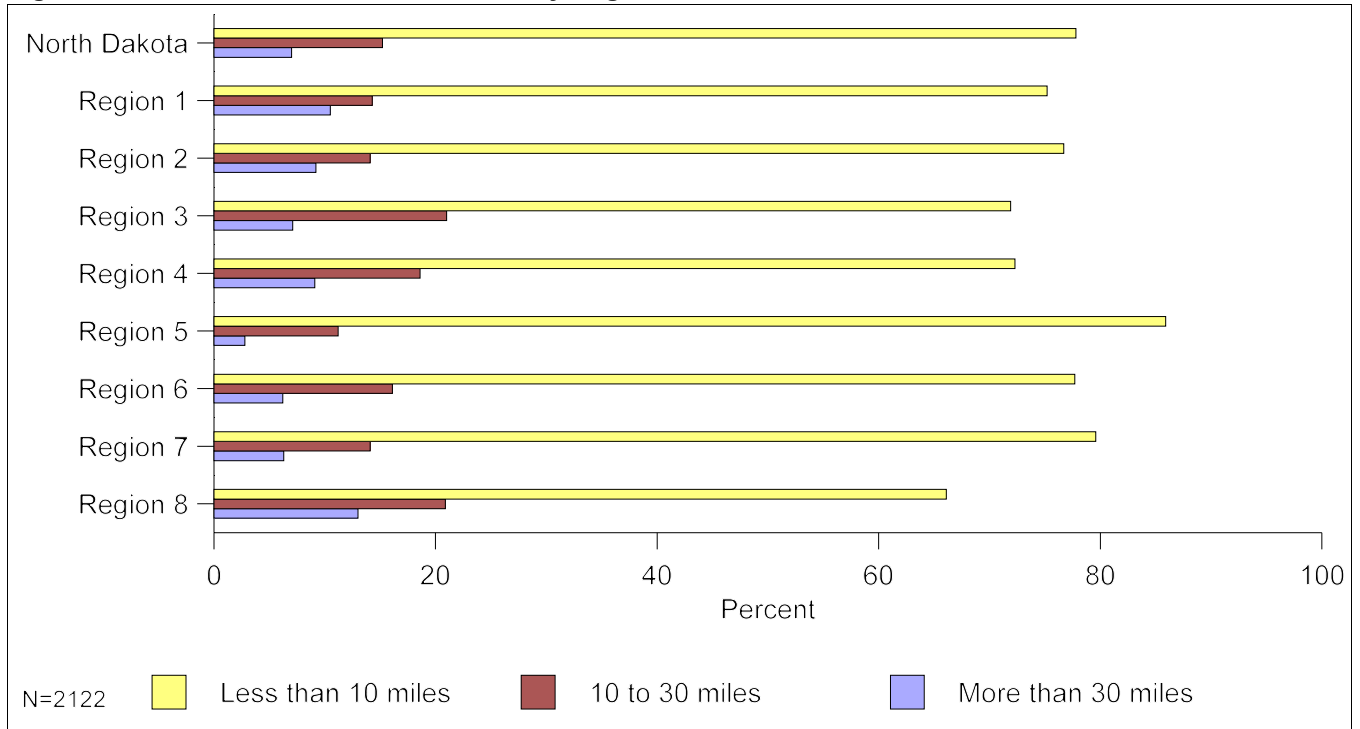
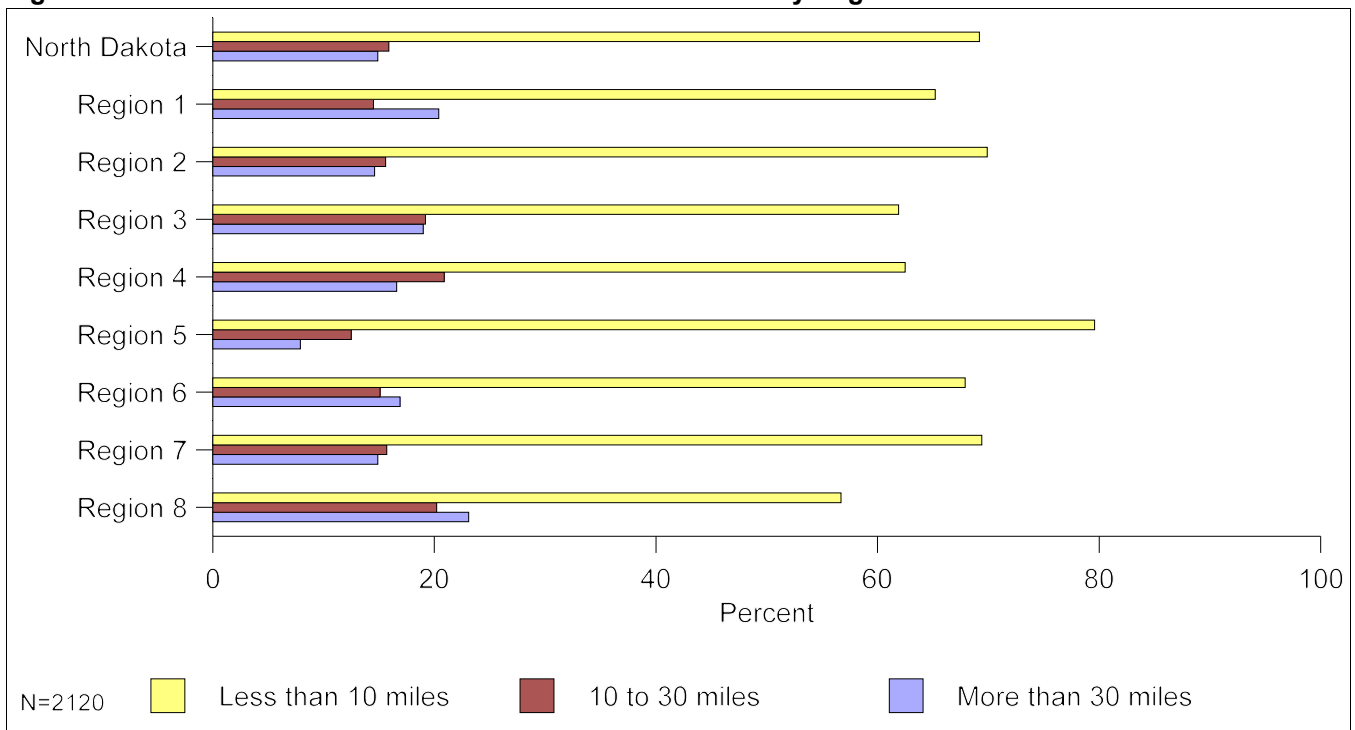


Figure 10. Distance Traveled for Household Goods/Toiletries by Region: 2002



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			TOT	Level of Functional Limitation			TOT	Level of Functional Limitation			TOT
	LOW	MOD	SEV		LOW	MOD	SEV		LOW	MOD	SEV	
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			TOT	Level of Functional Limitation			TOT	Level of Functional Limitation			TOT
	LOW	MOD	SEV		LOW	MOD	SEV		LOW	MOD	SEV	
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

Area	50 to 74 Years				75 Years and Older				50 Years and Older			
	Level of Functional Limitation			TOT	Level of Functional Limitation			TOT	Level of Functional Limitation			TOT
	LOW	MOD	SEV		LOW	MOD	SEV		LOW	MOD	SEV	
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			TOT	Level of Functional Limitation			TOT	Level of Functional Limitation			TOT
	LOW	MOD	SEV		LOW	MOD	SEV		LOW	MOD	SEV	
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			TOT	Level of Functional Limitation			TOT	Level of Functional Limitation			TOT
	LOW	MOD	SEV		LOW	MOD	SEV		LOW	MOD	SEV	
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			TOT	Level of Functional Limitation			TOT	Level of Functional Limitation			TOT
	LOW	MOD	SEV		LOW	MOD	SEV		LOW	MOD	SEV	
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

Area	2000				2010				2020			
	Level of Functional Limitation			TOT	Level of Functional Limitation			TOT	Level of Functional Limitation			TOT
	LOW	MOD	SEV		LOW	MOD	SEV		LOW	MOD	SEV	
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