

The Economic Impact of Northwood Deaconess Health Center



**Prepared by:
National Center for Rural Health Works
Oklahoma State University**

August 2013

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Prepared for:

Northwood Deaconess Health Center

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Medical facilities have a tremendous medical and economic impact on the community in which they are located. This is especially true with health care facilities, such as hospitals and nursing homes. These facilities not only employ a number of people and have a large payroll, but they also draw into the community a large number of people from rural areas that need medical services and may also attract visitors to the area through tourism activities. The overall objective of this study is to measure the economic impact of health services on the medical service area of Northwood Deaconess Health Center in North Dakota. The specific objectives of this report are to:

- 1.** Discuss the importance of health care services to rural development, including national health trend data;
- 2.** Identify the medical service area and review the demographic and economic data;
- 3.** Summarize the direct economic activities of the health services in the medical service area of Northwood Deaconess Health Center;
- 4.** Present concepts of community economics and multipliers; and
- 5.** Estimate the economic impact of the health services in the medical service area of Northwood Deaconess Health Center.

No recommendations will be made in this report.

Health Services and Rural Development

The relationship between health care services and rural development is often overlooked. At least three primary areas of commonality exist. A strong health care system can help attract and maintain business and industry growth, and attract and retain retirees. A strong health care system also creates jobs in the local area.

Services that Impact Rural Development

Type of Growth	Services Important to Attract Growth
Business and Industry	Health and Education
Retirees	Health and Safety

Studies have found that quality-of-life (QOL) factors are playing a dramatic role in business and industry location decisions. Among the most significant of the QOL variables are health care services, which are important for at least three reasons.

Business and Industry Growth

First, as noted by a member of the Board of Directors of a community economic development corporation, the presence of good health and education services is imperative to business and industrial leaders as they select a community for location. Employees and participating management may offer strong resistance if they are asked to move into a community with substandard or inconveniently located health services.

Secondly, when a business or industry makes a location decision, it wants to ensure that the local labor force will be productive and a key factor in productivity is good health. Thus, investments in health care services can be expected to yield dividends in the form of increased labor productivity.

The cost of health care services is the third factor that is considered by business and industry in development decisions. Research shows that corporations take a serious look at health care costs in determining site locations. Sites that provide health care services at a lower cost were given higher consideration for new industry than sites with much higher health care costs.

Health Services and Attracting Retirees

A strong and convenient health care system is important to retirees, a special group of residents whose spending and purchasing can be a significant source of income for the local economy. Many rural areas have environments that enable them to be in a good position to attract and retain retirees (e.g., moderate climate and outdoor activities). The amount of spending embodied in this population, including the purchasing power associated with Social Security, Medicare, and other transfer payments, is substantial. Additionally, middle and upper income retirees often have substantial net worth. Although the data are limited, several studies suggest health services may be a critical variable that influences the location decision of retirees. For example, one study found that four items were the best predictors of retirement locations: safety, recreational facilities, dwelling units, and health care. Another study found that nearly 60 percent of potential retirees said health services were in the “must have” category when considering a retirement community. Only protective services were mentioned more often than health services as a “must have” service.

Health Services and Job Growth

A factor important to the success of rural economic development is job creation. *The health care sector is an extremely fast growing sector, and based on the current demographics, there is every reason to expect this trend to continue.* Data in **Table 1** provide selected

expenditure and employment data for the United States. Several highlights from the national data are:

- In 1970, health care services as a share of the national gross domestic product (GDP) were 7.2 percent and increased to 17.9 percent in 2011;
- Per capita health expenditures increased from \$356 in 1970 to \$8,680 in 2011;
- Employment in the health sector increased 359.6 percent from 1970 to 2011; and
- Annual increases in employment from 2001 to 2011 ranged from 1.8 percent to 2.8 percent.

In addition, the U. S. Department of Health and Human Services, Centers for Medicare and Medicaid Services, projects that health care expenditures will account for 18.2 percent of GDP by 2015 and increase to 19.6 percent of GDP in 2021. Per capita health care expenditures are projected to increase to \$10,272 in 2015 and to \$14,103 in 2021. Total health expenditures are projected to increase to almost \$4.8 trillion in 2021.

Figure 1 illustrates 2011 health expenditures by percent of GDP and by type of health service. Health services represented 17.9 percent of national GDP in 2011. The largest category of health services was hospital care, representing 31.0 percent of the total and the second largest category was physician services with 27.0 percent of the total.

Table 1
United States Health Expenditures and Employment Data
1970-2011; Projected for 2015-2021

Year	Total Health Expenditures (\$Billions)	Per Capita Health Expenditures (\$)	Health as % of GDP (%)	Health Sector Employment (000)	Avg. Annual Increase in Employment (%)
1970	\$74.9	\$356	7.2%	3,052 ^a	
1980	255.8	1,110	9.2%	5,278 ^a	6.6%
1990	724.3	2,854	12.5%	8,211 ^a	5.1%
2000	1,377.2	4,878	13.8%	10,858 ^a	2.9%
2001	1,493.3	5,240	14.5%	11,188 ^b	
2003	1,775.4	6,121	15.9%	11,817 ^b	2.8%
2005	2,030.5	6,875	16.1%	12,314 ^b	2.1%
2007	2,298.3	7,636	16.4%	12,947 ^b	2.6%
2009	2,501.2	8,163	17.9%	13,543 ^b	2.3%
2011	2,700.7	8,680	17.9%	14,026 ^b	1.8%
				Avg Yrly Increase 2001 to 2011	2.5%
Projections					
2015	3,307.6	10,272	18.2%		
2017	3,723.3	11,360	18.4%		
2019	4,207.3	12,618	18.9%		
2021	4,781.0	14,103	19.6%		

SOURCES: U.S. Department of Labor, Bureau of Labor Statistics (www.bls.gov [July 2013]); U.S. Department of Health and Human Services, Centers for Medicare and Medicaid Services, National Health Expenditures 1960-2011 and National Health Expenditure Projections 2011-2021 (<http://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/NationalHealthExpendData/index.html> [July 2013])).

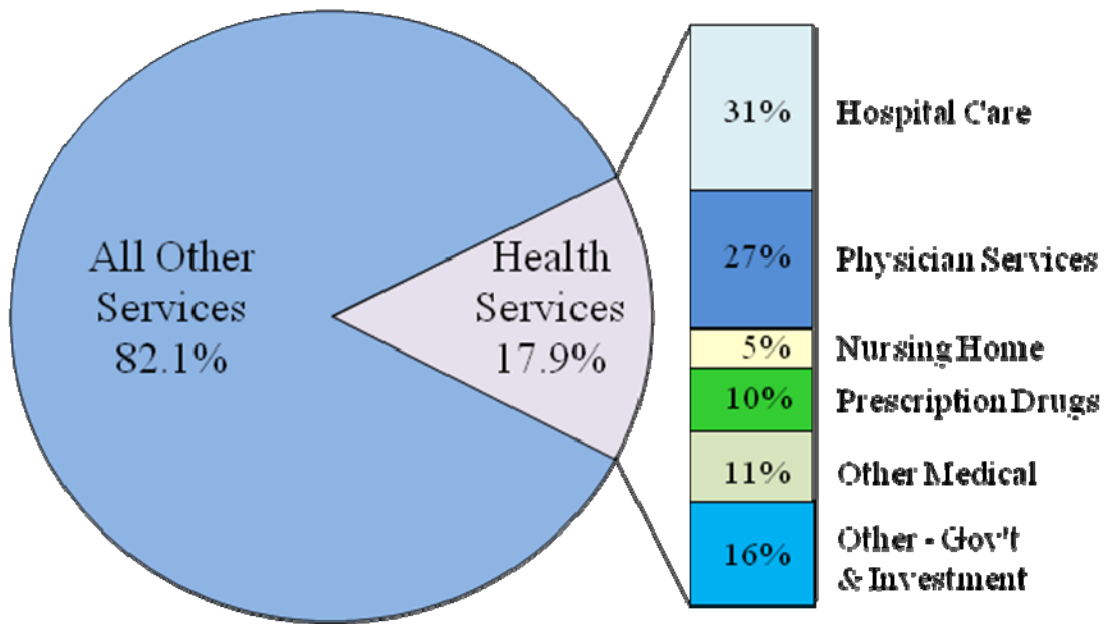
N/A - Not Available.

^a Based on Standard Industrial Classification (SIC) codes for health sector employment.

^b Based on North American Industrial Classification System (NAICS) for health sector employment.

Figure 1
National Health Expenditures
as a Percent of Gross Domestic Product
and by Health Service Type, 2011

National Health Care Expenditures
 \$2.7 trillion



SOURCE:
 of Health and **National Gross Domestic**
 Centers for Medicare **Product**

Services, National Health Expenditures 2011 (<http://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/NationalHealthExpendData/index.html> [July 2013]).

Type of Health U.S. Department
Service Human Services,
 and Medicaid

Medical Service Area Demographic and Economic Data


Zip code tabulation area data will be utilized in the IMPLAN model to generate the multipliers that will be representative of the medical service area (MSA) of Northwood Deaconess Health Center. Zip code tabulation area data are presented in the next tables to show the population, population forecasts, population projections, population by race and ethnic groups, and population by age groups and gender. The MSA of Northwood Deaconess Health Center is located in Eastern North Dakota in a five-county area (**Figure 2**). The five counties include Grand Forks, Griggs, Nelson, Steele, and Traill Counties. The MSA of Northwood Deaconess Health Center includes the following zip codes and corresponding zip code areas:

<u>Zip Code</u>	<u>Zip Code Area</u>
58212	Aneta
58214	Arvilla
58228	Emerado
58240	Hatton
58251	Larimore
58266	Niagara
58267	Northwood

The 2000 and 2010 U. S. Census Bureau populations by zip code tabulation area for the MSA of Northwood Deaconess Health Center are illustrated in **Table 2**. The total population for the MSA was 7,287 in 2000 and 6,769 in 2010, representing a decrease of 7.1 percent. All the individual zip code areas show a decrease in population from 2000 to 2010.

Table 2 also shows the 2000 and 2010 Census populations and the latest 2012 estimated populations for the five counties that the MSA spans (Grand Forks, Griggs, Nelson, Steele, and Traill Counties) and the State of North Dakota. All the counties, except Grand Forks County, show a decrease in population from 2000 to 2010; Grand Forks County shows minimal growth of 1.1 percent. The changes from 2010 to 2012 also show decreases or minimal growth for all

Delineates
medical
service
area of
Northwood
Deaconess
Health
Center

 Denotes
the
location
of a
hospital

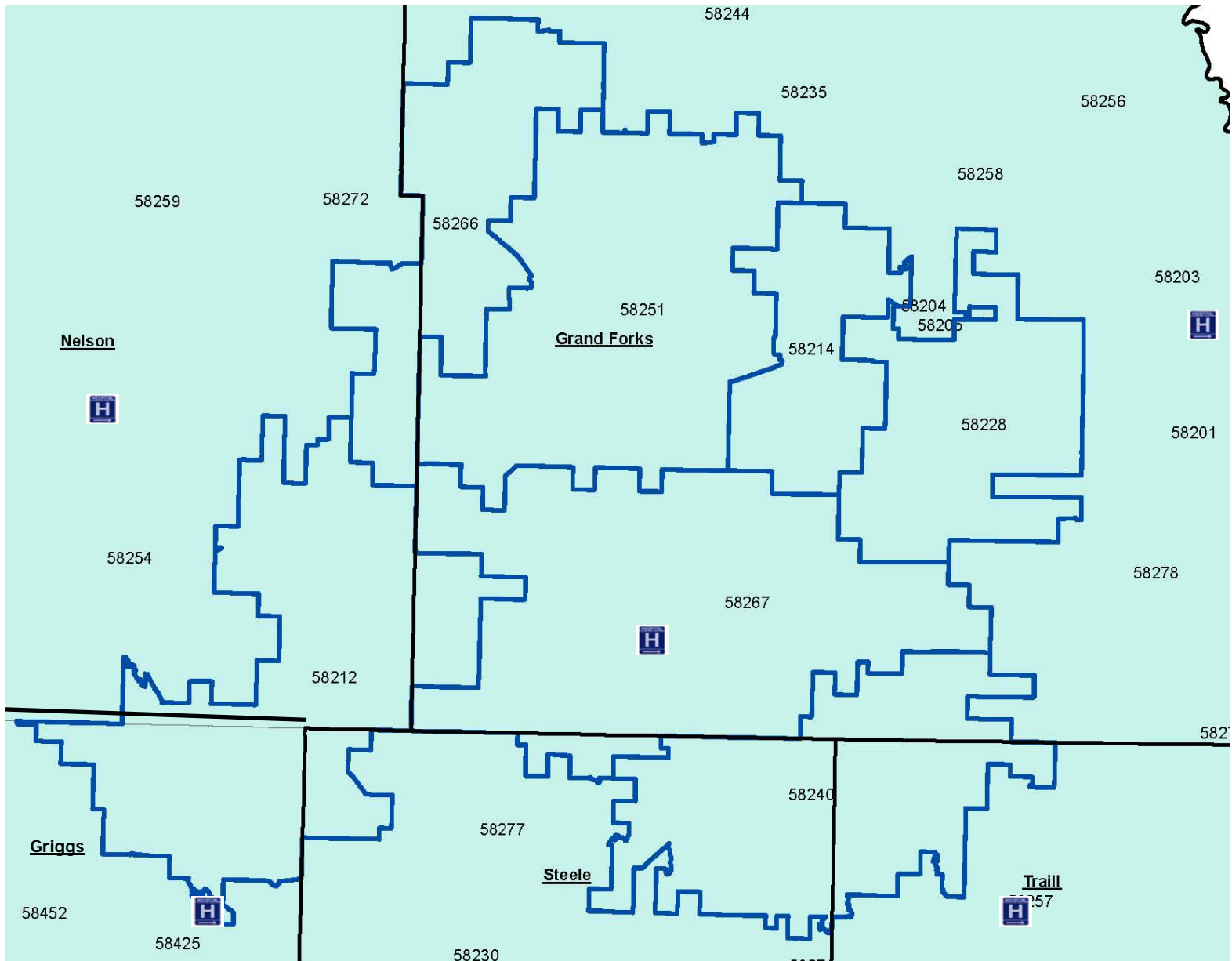


Figure 2
Zip Code Medical Service Area
of Northwood Deaconess Health Center with Hospital Locations

Table 2
Census Populations, Population Estimates, and Population Forecasts
for the Medical Service Area of Northwood Deaconess Medical Center,
for Grand Forks, Griggs, Nelson, Steele, and Traill Counties and the State of North Dakota

Geographic Category	2000 Census	2010 Census	2012 Estimates	% Change 2000 to 2010	% Change 2010 to 2012
58212, Aneta	623	474	N/A	-23.9%	N/A
58214, Arvilla	412	367	N/A	-10.9%	N/A
58228, Emerado	1,018	880	N/A	-13.6%	N/A
58240, Hatton	1,321	1,276	N/A	-3.4%	N/A
58251, Larimore	2,108	2,049	N/A	-2.8%	N/A
58266, Niagara	269	203	N/A	-24.5%	N/A
58267, Northwood	<u>1,536</u>	<u>1,520</u>	N/A	-1.0%	N/A
Total Medical Service Area	<u>7,287</u>	<u>6,769</u>	N/A	-7.1%	N/A
<i>Grand Forks County</i>	66,109	66,861	67,472	1.1%	0.9%
<i>Griggs County</i>	2,754	2,420	2,362	-12.1%	-2.4%
<i>Nelson County</i>	3,175	3,126	3,080	-1.5%	-1.5%
<i>Steele County</i>	2,258	1,975	1,989	-12.5%	0.7%
<i>Traill County</i>	<u>8,477</u>	<u>8,121</u>	<u>8,072</u>	-4.2%	-0.6%
<i>Five Counties Total</i>	<u>82,773</u>	<u>82,503</u>	<u>82,975</u>	-0.3%	0.6%
<i>State of North Dakota</i>	642,200	672,591	699,628	4.7%	4.0%

Geographic Category	2010 ESRI	2012 ESRI	2017 ESRI	% Change 2010 to 2012	% Change 2010 to 2017
58212, Aneta	475	461	433	-2.9%	-8.8%
58214, Arvilla	419	429	445	2.4%	6.2%
58228, Emerado	858	887	932	3.4%	8.6%
58240, Hatton	1,301	1,339	1,400	2.9%	7.6%
58251, Larimore	1,978	2,043	2,136	3.3%	8.0%
58266, Niagara	216	221	227	2.3%	5.1%
58267, Northwood	<u>1,486</u>	<u>1,521</u>	<u>1,559</u>	2.4%	4.9%
Total Medical Service Area	<u>6,733</u>	<u>6,901</u>	<u>7,132</u>	2.5%	5.9%

SOURCE: 2000 and 2010 Census populations and 2012 population estimates, U. S. Census Bureau (www.census.gov [August 2013]); ESRI 2010 populations and 2012 and 2017 forecasts [August 2013].

NOTE: With Zip Code Tabulation areas (ZCTAs) being generalized areas of the U.S. Postal Service (USPS), each source above (U.S. Census Bureau and ESRI) will have different ZCTA boundaries delineated and, therefore, the populations from the two sources will vary based on these delineations.

five counties. The state of North Dakota shows a 4.7 percent increase from 2000 to 2010 and an additional 4.0 percent increase from 2010 to 2012.

ESRI data are also illustrated in **Table 2**. The U.S. Census Bureau data and ESRI data will vary based on the different methods of delineating the zip code tabulation areas. However, the populations are very similar. The 2010 ESRI population for the MSA was 6,733. The 2012 ESRI forecasted population is 6,901, representing a 2.5 percent increase. ESRI also forecasts the 2017 population to be 7,132, representing a 5.9 percent increase from 2010.

Table 3 illustrates the projected populations for the five counties and the state of North Dakota. Only Grand Forks County shows projected population increases from 2015 through

Table 3
Population Projections
for Grand Forks, Steele, Traill, Nelson, and Griggs Counties and North Dakota

Counties and State	Census 2010	Projected Population		
		2015	2020	2025
Grand Forks County	66,861	69,268	72,014	74,894
% change from 2010		3.6%	7.7%	12.0%
Griggs County	2,420	2,393	2,352	2,314
% change from 2010		-1.1%	-2.8%	-4.4%
Nelson County	3,126	3,047	2,976	2,857
% change from 2010		-2.5%	-4.8%	-8.6%
Steele County	1,975	1,824	1,689	1,595
% change from 2010		-7.6%	-14.5%	-19.2%
Traill County	8,121	8,084	8,033	8,000
% change from 2010		-0.5%	-1.1%	-1.5%
State of North Dakota	672,591	750,023	806,541	841,820
% change from 2010		11.5%	19.9%	25.2%

SOURCE: 2010 Census populations, U. S. Census Bureau (www.census.gov [August 2013]); North Dakota Statewide Housing Assessment Resource Project (www.ndsu.nodak.edu [August 2013]).

2025; 3.6 percent increase from 2010 to 2015, 7.7 percent increase from 2010 to 2020, and 12.0 percent increase from 2010 to 2025. The other four counties all show decreasing populations through 2025. The state of North Dakota is projected to increase in population; 11.5 percent from 2010 through 2015, 19.9 percent from 2010 to 2020, and 25.2 percent from 2010 to 2025.

Table 4 illustrates the age breakdowns for each of the zip code tabulation areas and for the total MSA for the 2000 and 2010 Census years. When comparing the 2000 and 2010 Census data, the age groups that increased from 2000 to 2010 included the age group 45-64, increasing 23.9 percent, and the age group 20-24 increased 2.7 percent. The age groups with the largest percent decrease in population from 2000 to 2010 were the age group 25-44, with a decrease of 25.6 percent, the age group 15-19, with a 20.0 percent decrease, and the age group 0-14, with a decrease of 17.7 percent. The male and female gender groups are basically evenly split and the overall decrease in population is evenly split between males and females.

Table 5 illustrates the age breakdowns for each of the zip code tabulation areas and for the total MSA for the 2010 ESRI data and the 2012 and 2017 ESRI forecast data. From 2010 to 2017, the age groups with the largest increase were the 65+ age group with 20.6 percent increase and the 45-64 and 0-14 age groups tied for second, with 3.6 percent increase for each group. From 2010 to 2017, the age groups with largest decrease were the 15-19 age group with a decrease of 4.6 percent and the 20-24 age group with a decrease of 4.2 percent. Overall, the population of the zip code MSA was forecast to increase by 5.8 percent from 2010 to 2017.

Table 6 illustrates the race breakdowns for the MSA based on U. S. Census Bureau data. According to the 2000 Census, the MSA had 95.7 percent of the population reported as “White,” the largest race group. The second largest race group was American Indian/Alaska Native with 1.1 percent. The race group with the largest percent change from 2000 to 2010 was the “Two or

Table 4
U.S Census Bureau Population by Zip Code Tabulation Areas by Age Groups and Gender
for the Medical Service Area (MSA) of Northwood Deaconess Medical Center

Zip Code	Zip Code Area	Age Groups						Totals	Gender	
		0-14	15-19	20-24	25-44	45-64	65+		Male	Female
2000 Census										
58212	Aneta	107	45	15	115	154	187	623	325	298
58214	Arvilla	72	30	27	121	113	49	412	231	181
58228	Emerado	218	66	58	382	236	58	1,018	557	461
58240	Hatton	286	93	33	336	287	286	1,321	655	666
58251	Larimore	453	167	71	585	464	368	2,108	1,044	1,064
58266	Niagara	51	20	6	59	73	60	269	138	131
58267	Northwood	<u>296</u>	<u>100</u>	<u>46</u>	<u>365</u>	<u>393</u>	<u>336</u>	<u>1,536</u>	<u>753</u>	<u>783</u>
2000 Census MSA Totals		<u>1,483</u>	<u>521</u>	<u>256</u>	<u>1,963</u>	<u>1,720</u>	<u>1,344</u>	<u>7,287</u>	<u>3,703</u>	<u>3,584</u>
2000 % of Total MSA		<u>20.4%</u>	<u>7.1%</u>	<u>3.5%</u>	<u>26.9%</u>	<u>23.6%</u>	<u>18.4%</u>	<u>100.0%</u>	<u>50.8%</u>	<u>49.2%</u>
2010 Census										
58212	Aneta	63	19	19	57	167	149	474	250	224
58214	Arvilla	58	16	14	76	157	46	367	191	176
58228	Emerado	149	50	48	221	316	96	880	464	416
58240	Hatton	220	97	40	271	377	271	1,276	637	639
58251	Larimore	410	139	72	486	617	325	2,049	1,026	1,023
58266	Niagara	24	12	10	31	68	58	203	106	97
58267	Northwood	<u>296</u>	<u>84</u>	<u>60</u>	<u>318</u>	<u>429</u>	<u>333</u>	<u>1,520</u>	<u>770</u>	<u>750</u>
2010 Census MSA Totals		<u>1,220</u>	<u>417</u>	<u>263</u>	<u>1,460</u>	<u>2,131</u>	<u>1,278</u>	<u>6,769</u>	<u>3,444</u>	<u>3,325</u>
2010 % of Total MSA		<u>18.0%</u>	<u>6.2%</u>	<u>3.9%</u>	<u>21.6%</u>	<u>31.5%</u>	<u>18.9%</u>	<u>100.0%</u>	<u>50.9%</u>	<u>49.1%</u>
MSA Percent Change										
2000 to 2010		<u>-17.7%</u>	<u>-20.0%</u>	<u>2.7%</u>	<u>-25.6%</u>	<u>23.9%</u>	<u>-4.9%</u>	<u>-7.1%</u>	<u>-7.0%</u>	<u>-7.2%</u>

SOURCE: 2000 and 2010 census populations by zip code tabulation areas, U. S. Census Bureau (www.census.gov [August 2013]).

Table 5
ESRI Population by Zip Code Tabulation Areas by Age Groups and Gender
for the Medical Service Area (MSA) of Northwood Deaconess Medical Center

Zip Code	Zip Code Area	Age Groups						Totals ¹	Gender	
		0-14	15-19	20-24	25-44	45-64	65+		Male	Female
2010 ESRI										
58212	Aneta	66	21	18	68	171	136	480	251	229
58214	Arvilla	71	20	18	94	158	59	420	224	196
58228	Emerado	164	53	43	210	304	86	860	452	408
58240	Hatton	231	88	39	282	392	271	1,303	642	661
58251	Larimore	366	133	77	456	609	334	1,975	993	982
58266	Niagara	40	14	9	47	68	42	220	111	109
58267	Northwood	287	87	58	315	417	321	1,485	756	729
2010 ESRI MSA Totals		<u>1,225</u>	<u>416</u>	<u>262</u>	<u>1,472</u>	<u>2,119</u>	<u>1,249</u>	<u>6,743</u>	<u>3,429</u>	<u>3,314</u>
2010 % of Total MSA		18.2%	6.2%	3.9%	21.8%	31.4%	18.5%	100.0%	50.9%	49.1%
2012 ESRI										
58212	Aneta	61	19	18	64	163	136	461	242	219
58214	Arvilla	71	19	19	95	163	62	429	228	201
58228	Emerado	167	53	45	214	316	92	887	467	420
58240	Hatton	236	86	42	287	400	288	1,339	662	677
58251	Larimore	374	130	80	467	634	358	2,043	1,033	1,010
58266	Niagara	40	13	9	48	67	44	221	111	110
58267	Northwood	290	85	60	319	429	338	1,521	779	742
2012 ESRI MSA Totals		<u>1,239</u>	<u>405</u>	<u>273</u>	<u>1,494</u>	<u>2,172</u>	<u>1,318</u>	<u>6,901</u>	<u>3,522</u>	<u>3,379</u>
2012 % of Total MSA		18.0%	5.9%	4.0%	21.6%	31.5%	19.1%	100.0%	51.0%	49.0%
2017 ESRI										
58212	Aneta	56	17	14	57	149	140	433	228	205
58214	Arvilla	73	19	18	97	166	72	445	237	208
58228	Emerado	176	53	43	220	329	111	932	494	438
58240	Hatton	243	85	39	292	407	334	1,400	692	708
58251	Larimore	387	128	75	479	647	420	2,136	1,085	1,051
58266	Niagara	41	13	8	48	68	49	227	113	114
58267	Northwood	293	82	54	321	429	380	1,559	798	761
2017 ESRI MSA Totals		<u>1,269</u>	<u>397</u>	<u>251</u>	<u>1,514</u>	<u>2,195</u>	<u>1,506</u>	<u>7,132</u>	<u>3,647</u>	<u>3,485</u>
2017 % of Total MSA		17.8%	5.6%	3.5%	21.2%	30.8%	21.1%	100.0%	51.1%	48.9%
Percent Change										
2010 to 2012		1.1%	-2.6%	4.2%	1.5%	2.5%	5.5%	2.3%	2.7%	2.0%
2010 to 2017		3.6%	-4.6%	-4.2%	2.9%	3.6%	20.6%	5.8%	6.4%	5.2%
2012 to 2017		2.4%	-2.0%	-8.1%	1.3%	1.1%	14.3%	3.3%	3.5%	3.1%

SOURCE: ESRI 2010 population data and 2012 and 2017 population forecasts [August 2013].

¹ The zip code data for 2010 ESRI do not match the 2010 ESRI data in **Table 2** due to rounding.

Table 6
U.S Census Bureau Population by Zip Code Tabulation Areas by Race and Ethnic Groups
for the Medical Service Area (MSA) of Northwood Deaconess Medical Center

Zip Code	Zip Code Area	White	Black	American Indian & Alaska Native	Asian	Some Other Race	Two or More Races ¹	Totals	Hispanic Origin ²
2000 Census									
58212	Aneta	611	0	3	2	1	6	623	2
58214	Arvilla	396	5	0	1	2	8	412	11
58228	Emerado	868	33	51	17	23	26	1,018	38
58240	Hatton	1,281	2	9	5	14	10	1,321	41
58251	Larimore	2,035	11	28	12	3	19	2,108	17
58266	Niagara	266	0	1	0	0	2	269	1
58267	Northwood	<u>1,518</u>	<u>3</u>	<u>2</u>	<u>2</u>	<u>1</u>	<u>10</u>	<u>1,536</u>	<u>10</u>
2000 Census MSA Totals		<u>6,975</u>	<u>54</u>	<u>94</u>	<u>39</u>	<u>44</u>	<u>81</u>	<u>7,287</u>	<u>120</u>
2000 % of Total MSA		<u>95.7%</u>	<u>0.7%</u>	<u>1.3%</u>	<u>0.5%</u>	<u>0.6%</u>	<u>1.1%</u>	<u>100.0%</u>	<u>1.6%</u>
2010 Census									
58212	Aneta	461	0	3	1	0	9	474	3
58214	Arvilla	348	0	1	1	1	16	367	6
58228	Emerado	775	24	34	13	8	25	879	40
58240	Hatton	1,245	2	3	3	6	17	1,276	31
58251	Larimore	1,921	11	32	7	46	32	2,049	67
58266	Niagara	197	0	0	0	0	6	203	2
58267	Northwood	<u>1,490</u>	<u>3</u>	<u>2</u>	<u>4</u>	<u>2</u>	<u>18</u>	<u>1,519</u>	<u>7</u>
2010 Census MSA Totals		<u>6,437</u>	<u>40</u>	<u>75</u>	<u>29</u>	<u>63</u>	<u>123</u>	<u>6,767</u>	<u>156</u>
2010 % of Total MSA		<u>95.1%</u>	<u>0.6%</u>	<u>1.1%</u>	<u>0.4%</u>	<u>0.9%</u>	<u>1.8%</u>	<u>100.0%</u>	<u>2.3%</u>
Percent Change									
2000 to 2010		<u>-7.7%</u>	<u>-25.9%</u>	<u>-20.2%</u>	<u>-25.6%</u>	<u>43.2%</u>	<u>51.9%</u>	<u>-7.1%</u>	<u>30.0%</u>

SOURCE: 2000 and 2010 census populations by zip code tabulation areas, U. S. Census Bureau (www.census.gov [August 2013]).

¹ Two or more races indicates a person is included in more than one race group; it was introduced as a new category in the 2000 Census.

² Hispanic population is not a race but rather a description of ethnic origin; Hispanics are included in the five race groups.

More Races” group with an increase of 51.9 percent and the “Some Other Race” group with an increase of 43.2 percent. The race groups with the least amount of change from 2000 to 2010 were the “Black” and Asian groups. The persons of Hispanic origin represented 1.6 percent of the 2000 population and increased to 2.3 percent in 2010. Comparing the 2000 and 2010 Census data, the Hispanic origin ethnic group increased 30.0 percent.

Table 7 illustrates the race breakdowns for the MSA based on ESRI data. According to the 2010 ESRI population data, the MSA had 93.4 percent of the population reported as “White,” the largest race group. The second largest race group was “Two or More Races” with 1.6 percent. The race group with the largest percent change from 2000 to 2017 was the American Indian/Alaska Native race group with an increase of 45.9 percent and the “Some Other Race” group was next with an increase of 22.4 percent. The race groups with the least amount of change from 2000 to 2010 were the “Asian” and Native Hawaiian/Other Pacific Islander race groups. The persons of Hispanic origin represented 2.0 percent of the 2000 population and increased to 2.4 percent in 2017. Comparing the 2000 and 2017 data, the Hispanic origin ethnic group increased 23.2 percent.

With the MSA of Northwood Deaconess Health Center spanning parts of five counties in Eastern North Dakota, it is difficult to provide data that is indicative of the zip code MSA shown in **Figure 2**. Data are readily available by county but not by zip code area. In **Appendix A**, tables are provided for the five counties, Grand Forks, Griggs, Nelson, Steele, and Traill. **Tables 1a – 1e** include data from the U. S. Census Bureau, County Business Patterns (www.census.gov) and show employment and payroll for health services and total county. **Tables 2a – 2e** through **Tables 4a – 4e** are data from the U. S. Department of Commerce, Bureau of Economic Analysis (www.bea.gov) and provide data on employment, earnings (income), and transfer receipts. The last set of tables, **Tables 5a – 5b**, are a summary of economic indicators from a variety of data sources.

Table 7
ESRI Population by Zip Code Tabulation Areas by Race and Ethnic Groups
for the Medical Service Area (MSA) of Northwood Deaconess Medical Center

Zip Code	Zip Code Area	White	Black	American Indian & Alaska Native	Asian	Native HI/Other Pacific Islander	Some Other Race	Two or More Races	Totals ¹	Hispanic Origin
2010 ESRI										
58212	Aneta	457	1	5	1	1	1	11	477	5
58214	Arvilla	395	6	2	1	0	3	12	419	8
58228	Emerado	808	8	16	5	1	4	16	858	22
58240	Hatton	1,271	1	6	3	0	2	18	1,301	24
58251	Larimore	1,856	12	27	7	0	42	33	1,977	66
58266	Niagara	203	1	3	1	0	4	4	216	7
58267	Northwood	1,458	4	2	3	1	2	17	1,487	6
2010 ESRI MSA Totals		<u>6,448</u>	<u>33</u>	<u>61</u>	<u>21</u>	<u>3</u>	<u>58</u>	<u>111</u>	<u>6,735</u>	<u>138</u>
2010 % of Total MSA		93.4%	0.5%	0.9%	0.3%	0.0%	0.8%	1.6%	100.0%	2.0%
2012 ESRI										
58212	Aneta	441	1	5	1	1	1	11	461	4
58214	Arvilla	405	6	3	1	0	3	11	429	8
58228	Emerado	834	8	19	5	1	4	16	887	24
58240	Hatton	1,308	1	7	3	0	2	18	1,339	24
58251	Larimore	1,913	12	33	7	0	46	32	2,043	72
58266	Niagara	208	1	3	1	0	4	4	221	7
58267	Northwood	1,493	4	2	3	1	2	16	1,521	7
2012 ESRI MSA Totals		<u>6,602</u>	<u>33</u>	<u>72</u>	<u>21</u>	<u>3</u>	<u>62</u>	<u>108</u>	<u>6,901</u>	<u>146</u>
2012 % of Total MSA		95.7%	0.5%	1.0%	0.3%	0.0%	0.9%	1.6%	100.0%	2.1%
2017 ESRI										
58212	Aneta	412	1	5	1	1	1	12	433	6
58214	Arvilla	419	6	4	1	0	4	11	445	10
58228	Emerado	872	9	25	5	1	4	16	932	28
58240	Hatton	1,365	1	6	3	0	2	23	1,400	25
58251	Larimore	1,987	13	43	7	0	53	33	2,136	84
58266	Niagara	212	1	4	1	0	5	4	227	9
58267	Northwood	1,531	4	2	3	1	2	16	1,559	8
2017 ESRI MSA Totals		<u>6,798</u>	<u>35</u>	<u>89</u>	<u>21</u>	<u>3</u>	<u>71</u>	<u>115</u>	<u>7,132</u>	<u>170</u>
2017 % of Total MSA		95.3%	0.5%	1.2%	0.3%	0.0%	1.0%	1.6%	100.0%	2.4%
MSA Percent Change										
2010 to 2012		2.4%	0.0%	18.0%	0.0%	0.0%	6.9%	-2.7%	2.5%	5.8%
2010 to 2017		5.4%	6.1%	45.9%	0.0%	0.0%	22.4%	3.6%	5.9%	23.2%
2012 to 2017		3.0%	6.1%	23.6%	0.0%	0.0%	14.5%	6.5%	3.3%	16.4%

SOURCE: ESRI forecasts for 2012 and 2017 [August 2013].

¹ The zip code data for 2010 ESRI do not match the 2010 ESRI data in **Table 2** due to rounding.

The Direct Economic Activities

Northwood Deaconess Health Center provides the following health care services:

- 12 bed critical access hospital
- Emergency room
- Ambulance service
- In and outpatient physical, occupational, and speech therapy
- Athletic trainer for local schools
- Medical alert provider
- Contract with home health agency to provide physical and occupational therapy to clients
- 46 bed nursing home
- 10 bed dementia care unit separate from nursing home
- 5 basic care beds
- 6 assisted living apartments
- 10 independent living apartments
- Foot care
- Telemedicine
- Laboratory and x-ray
- Bone density examinations
- Mobile imaging services including mammogram, CT, MRT, and ultrasound

Northwood Deaconess Health Center not only provides hospital and other health services, but also contributes to the local economy through jobs and wages, salaries, and benefits (income), and construction activities. The economic impact of Northwood Deaconess Health Center on the economy of the MSA will be measured by employment, income, and construction activities.

Northwood Deaconess Health Center provided the direct economic activity data for two health components presented in **Table 8**. For 2012, the total full- and part-time employment for the hospital component was 61 employees with wages, salaries, and benefits (income) of \$2.4 million. For the other health services component, the total full- and part-time employment was 116 employees with wages, salaries, and benefits of \$3.5 million. Wages, salaries, and benefits will be referred to as “income” throughout the rest of the study. *Northwood Deaconess Health Center had total direct employment of 177 jobs with income of \$5.8 million in 2012.*

Table 8
Direct Economic Activities
of Northwood Deaconess Health Center

2012 Operations Employment (Total Full-Time and Part-Time)	
Hospital	61
Other Health Services	<u>116</u>
Total Healthcare Systems Employment from Operations	<u>177</u>
2012 Operations Income (Wages, Salaries, & Benefits)	
Hospital	\$2,370,765
Other Health Services	<u>\$3,468,345</u>
Total Healthcare Systems Income from Operations	<u>\$5,839,110</u>
Construction Totals	
2013	\$28,400
2014	\$1,875,000
Estimated Construction Employment	
2013	0
2014	18
Estimate Construction Income	
2013	\$0
2014	\$876,669

SOURCE: Local operations employment and income data and construction totals provided by Northwood Deaconess Health Center; estimated construction employment and income from IMPLAN data, Minnesota IMPLAN Group, Inc.

Northwood Deaconess Health Center had construction activities of \$28,400 in 2013 and \$1.9 million in 2014. IMPLAN data were utilized to estimate the construction employment and construction income. *Based on the 2014 construction activity of \$1.9 million, employment is estimated to be 18 construction employees with construction income of \$0.9 million.* These data reflect the direct economic activities of Northwood Deaconess Health Center (**Table 8**).

Many rural communities have a large number of elderly, and the ranchers and farmers often retire in the towns. Thus, hospital facilities are an important component of the health sector. In summary, Northwood Deaconess Health Center is vitally important as a community

employer and important to the community's economy. The hospital employs a large number of residents. The hospital and the employees in the hospital purchase a large amount of goods and services from businesses in the MSA. These impacts are referred to as secondary impacts or benefits to the economy. Before the secondary impacts of the hospital are discussed, basic concepts of community economics will be discussed.

Some Basic Concepts of Community Economics and Income and Employment Multipliers

Figure 3 illustrates the major flow of goods, services, and dollars of any economy. Those businesses which sell some or all of their goods and services to buyers outside of the community are the foundation of a community's economy. Such a business is a basic industry. The flow of products out of, and dollars into, a community are represented by the two arrows in the upper right portion of **Figure 3**. To produce these goods and services for "export" outside the community, the basic industry purchases inputs from outside of the community (upper left portion of **Figure 3**), labor from the residents or "households" of the community (left side of **Figure 3**), and inputs from service industries located within the community (right side of **Figure 3**). The flow of labor, goods, and services in the community is completed by households using their earnings to purchase goods and services from the community's service industries (bottom of **Figure 3**). The interrelationships shown in **Figure 3** illustrate that a change in any one segment of a community's economy will have reverberations throughout the entire economic system of the community.

Consider, for instance, the closing of a hospital. The services section will no longer pay employees and dollars going to households will stop. Likewise, the hospital will not purchase goods from other businesses and dollar flow to other businesses will stop. This decreases income in the "households" segment of the economy. Since earnings would decrease, households decrease their purchases of goods and services from businesses within the "services" segment of the economy. This, in turn, decreases these businesses' purchases of labor and inputs. Thus, the change in the economic base works its way throughout the entire local economy.

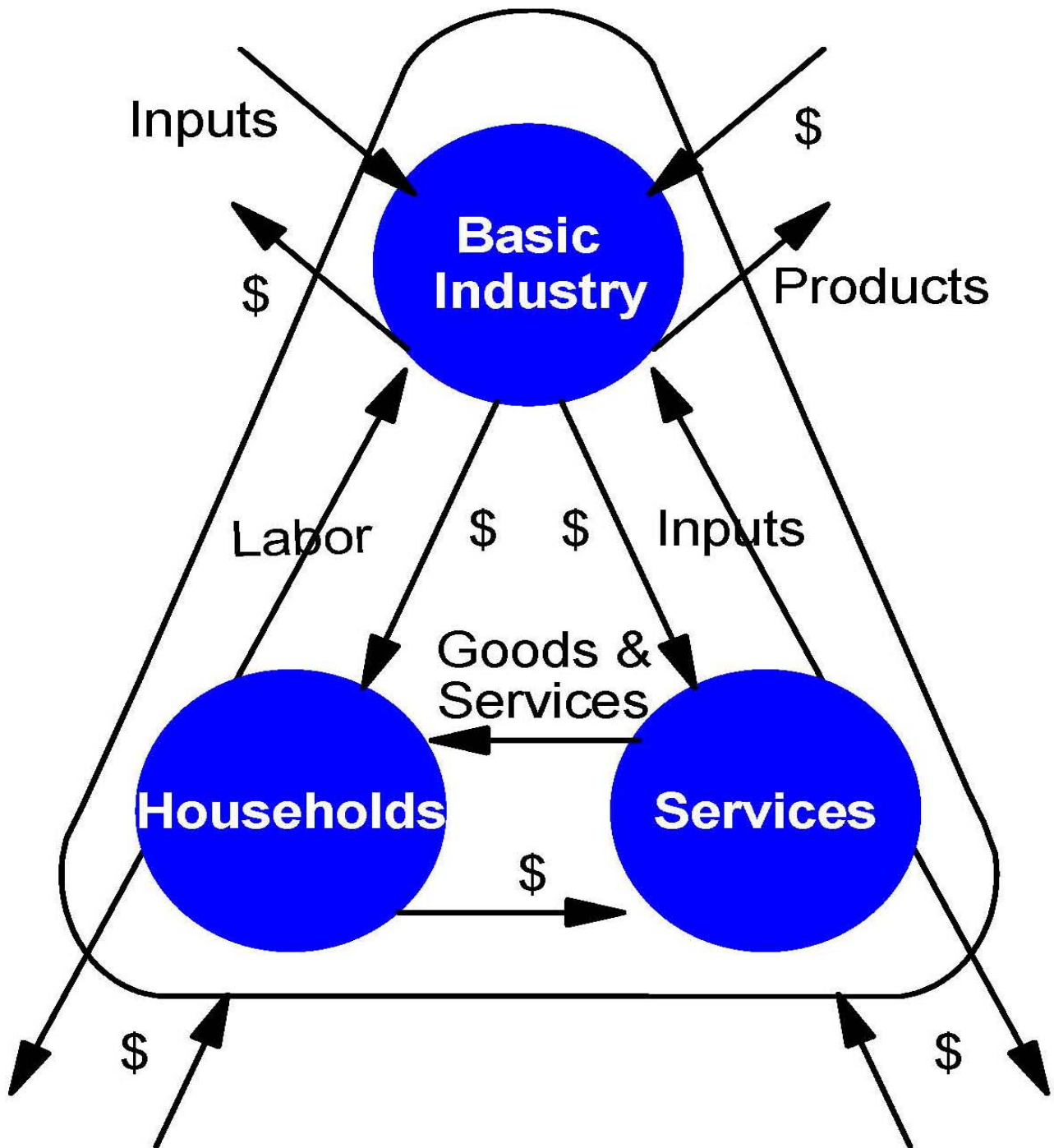


Figure 3.
Community Economic System

The total impact of a change in the economy consists of direct, indirect, and induced impacts. Direct impacts are the changes in the activities of the impacting industry, such as the closing of a hospital. The impacting business, such as the hospital, changes its purchases of inputs as a result of the direct impact. This produces an indirect impact in the business sectors. Both the direct and indirect impacts change the flow of dollars to the community's households. The households alter their consumption accordingly. The effect of this change in household consumption upon businesses in a community is referred to as an induced impact.

A measure is needed that yields the effects created by an increase or decrease in economic activity. In economics, this measure is called the multiplier effect. Multipliers are used in this report. An employment multiplier is defined as:

the ratio between direct employment, or that employment used by the industry initially experiencing a change in final demand and the direct, indirect, and induced employment.

An employment multiplier of 3.0 indicates that if one job is created by a new industry, 2.0 jobs are created in other sectors due to business (indirect) and household (induced) spending.

Secondary Impacts of Northwood Deaconess Health Center

Employment and income multipliers for the zip code MSA have been calculated using the IMPLAN model. The model was developed by the U.S. Forest Service and allows for development of zip code area multipliers. **Appendix B** includes additional information on the model and the IMPLAN data.

Northwood Deaconess Health Center creates employment through operations and construction activities. The employment multiplier for the hospital operations component is 1.23 (**Table 9**). This indicates that for each job created in that sector, a 0.23 job is created throughout the area due to business (indirect) and household (induced) spending. Applying the employment multiplier to the hospital employment of 61 yields an estimate of the hospital's employment impact on the MSA (**Table 9**). The hospital operations component of Northwood Deaconess Health Center had a total employment impact of 75 employees in 2012 ($61 \times 1.23 = 75$). The secondary impact of the hospital component of Northwood Deaconess Health Center was 14 employees ($61 \times 0.23 = 14$); these are the jobs created in other industry sectors in the economy of the MSA as a result of the spending of the hospital component of Northwood Deaconess Health Center and the spending of the hospital component employees.

All other health services offered as part of the operations of Northwood Deaconess Health Center have been combined into the other health services component. The employment multiplier for other medical and health services is 1.14. Applying this multiplier to the employment of 116 for the other services component resulted in secondary employment impact of 16 and total employment impact of 132 from the other health services. *Northwood Deaconess Health Center operations had a direct employment impact of 177 employees and secondary employment impact of 30 employees, for a total employment impact of 207 employees in 2012.*

Table 9
Employment Impact
of Northwood Deaconess Health Center, 2012 and 2014

Health Care Component	Number of Employees	Employment Multiplier	Secondary Employment Impact	Total Employment Impact
2012 Operations Employment				
Hospital	61	1.23	14	75
Other Health Services	<u>116</u>	1.14	<u>16</u>	<u>132</u>
Total Healthcare Systems Employment	<u>177</u>		<u>30</u>	<u>207</u>
2014 ESTIMATED Operations Employment*				
Hospital	61	1.23	14	75
Other Health Services	<u>116</u>	1.14	<u>16</u>	<u>132</u>
Total Healthcare Systems Employment*	<u>177</u>		<u>30</u>	<u>207</u>
2014 Construction Employment	<u>18</u>	1.22	<u>4</u>	<u>22</u>
Total 2014 ESTIMATED Employment	<u>195</u>		<u>34</u>	<u>229</u>

SOURCE: Local employment data and construction data provided by Northwood Deaconess Health Center; employment multipliers from IMPLAN data and construction employment derived from IMPLAN data, Minnesota IMPLAN Group, Inc.

* Assumption is that operations employment for 2014 is the same as 2012 and that the multipliers will remain the same in 2014.

The 2013 construction activities were \$28,400; this low activity did not result in significant construction employment and income. The assumption is made that operations employment for 2014 will remain the same as for 2012 and that the 2012 multipliers will remain the same in 2014. The 2014 construction activities of \$1.9 million will result in an estimated 18 jobs (**Table 9**). These construction jobs will work directly on hospital construction activities. These construction companies and construction workers also will have secondary impacts that are measured by multipliers. The construction employment multiplier for the MSA is 1.22. Thus, four secondary jobs will be created in other businesses due to construction activities of Northwood Deaconess Health Center. ***Total jobs created by hospital construction activities in 2014 are 22. In 2014, combined operations and construction activities of Northwood Deaconess Health Center will generate 229 jobs in the MSA economy.***

Data on the income impact of Northwood Deaconess Health Center are presented in **Table 10**. Northwood Deaconess Health Center reported income from hospital operations of \$2.4 million in 2013. Using the hospital income multiplier of 1.16, the hospital operations component of Northwood Deaconess Health Center generated secondary income in other businesses of \$0.4 million. In 2012, the total income impact of the hospital operations component of Northwood Deaconess Health Center was \$2.8 million on the economy of the medical service area. The other health services component generated direct income of \$3.5 million. Using the other medical and health services income multiplier of 1.18, the other health services component of Northwood Deaconess Health Center generated secondary income in other businesses of \$0.6 million. In 2012, the total income impact of the other health services component of Northwood Deaconess Health Center was \$4.1 million on the economy of the medical service area. ***In 2012, the operations of Northwood Deaconess Health Center***

Table 10
Income Impact
of Northwood Deaconess Health Center, 2012 and 2014

Health Care Component	Income (Wages, Salaries, and Benefits)	Income Multiplier	Secondary Income Impact	Total Income Impact
2012 Operations Income				
Hospital	\$2,370,765	1.16	\$379,322	\$2,750,087
Other Health Services	<u>\$3,468,345</u>	1.18	<u>\$624,302</u>	<u>\$4,092,647</u>
Total Operations Income	<u>\$5,839,110</u>		<u>\$1,003,624</u>	<u>\$6,842,734</u>
2014 ESTIMATED Operations Income*				
Hospital	\$2,370,765	1.16	\$379,322	\$2,750,087
Other Health Services	<u>\$3,468,345</u>	1.18	<u>\$624,302</u>	<u>\$4,092,647</u>
Total Operations Income	<u>\$5,839,110</u>		<u>\$1,003,624</u>	<u>\$6,842,734</u>
2014 Construction Income	<u>\$876,669</u>	1.18	<u>\$157,800</u>	<u>\$1,034,469</u>
Total 2014 ESTIMATED Combined Income	<u>\$6,715,779</u>		<u>\$1,161,424</u>	<u>\$7,877,203</u>

SOURCE: Local income (wages, salaries, and benefits) data and construction data provided by Northwood Deaconess Health Center; income multipliers from IMPLAN data and construction income derived from IMPLAN data, Minnesota IMPLAN Group, Inc.

generated direct income impact of \$5.8 million, secondary income impact of \$1.0 million, and total income impact of \$6.8 million.

The 2013 construction activities were \$28,400; this low activity did not result in significant construction employment and income. The assumption is made that operations income for 2014 will remain the same as for 2012 and that the 2012 multipliers will remain the same in 2014. The 2014 construction activities will result in an estimated \$0.9 million in income (**Table 10**). These construction jobs will work directly on hospital construction activities. The spending of the construction companies and construction workers will have secondary income impacts that are measured by multipliers. The construction income multiplier for the MSA is 1.18. Thus, \$0.2 million income will be created in other businesses due to construction activities of Northwood Deaconess Health Center. *The total income impact created by hospital construction activities in 2014 is estimated to be \$1.0 million. In 2014, combined operations and construction activities of Northwood Deaconess Health Center are estimated to generate \$7.9 million income in the MSA economy.*

Summary

Northwood Deaconess Health Center has significant impacts on the economy of the zip code medical service area in the five county area; Grand Forks, Griggs, Nelson, Steele, and Traill Counties. In 2012, Northwood Deaconess Health Center operations employed 61 full- and part-time employees in the hospital component and 116 full- and part-time employees in the other health services component activities; the hospital component generated \$2.4 million in income and the other health services component generated \$3.5 million in income. ***In 2012, Northwood Deaconess Health Center directly employed a total of 177 full- and part-time employees and generated \$5.8 million in wages, salaries, and benefits (income).*** When the secondary benefits are included, the total employment impact from the hospital component was 75 jobs with income impact of \$2.8 million and the total employment impact from the other health services component was 132 jobs with income impact of \$4.1 million. ***In 2012, Northwood Deaconess Health Center had a total employment impact of 207 jobs with total income impact of \$6.8 million.*** The employment and income impacts from operating activities are annual and will continue each and every year that Northwood Deaconess Health Center remains in operation in the future. These are long term economic benefits to the local economy.

The construction activities of Northwood Deaconess Health Center vary year to year but also have significant impacts on the economy of the medical service area. The 2013 construction activities were \$28,400; this low activity did not result in significant construction employment and income. During 2014, Northwood Deaconess Health Center is estimated to have construction of \$1.9 million, resulting in 18 construction employees with income of \$0.9 million. ***The total estimated impact of construction for 2014 is 22 employees and \$1.0 million in income.*** Construction activities only occur during the year of construction.

The assumption was made that operations income for 2014 would remain the same as for 2012 and that the 2012 multipliers would remain the same in 2014. ***For the combined operations and construction in 2014, Northwood Deaconess Health Center has an estimated total employment impact 229 jobs with total estimate income impact of \$7.9 million.***

The fact that Northwood Deaconess Health Center provides quality care with outstanding technology enhances the opportunity to attract new business and industry to the local economy. This could, in turn, result in new jobs and new families moving into the area. Also, research clearly states that retirees are attracted to communities with quality health care services. All of these factors illustrate that Northwood Deaconess Health Center is critically important to the economic growth of the medical service area. Given this, not only do health care services contribute to the health and wellness of the residents but, also, to the overall strength of the economy of the medical service area.

Appendix A

Secondary Data for Grand Forks, Griggs, Nelson, Steele, and Trail Counties, North Dakota

Appendix Table 1a
Employment and Payroll for Grand Forks County and the State of North Dakota

	<i>Employment</i>			
	Health Services	Total County	Health Services as a % of Total County Employment	Health Services as a % of Total State Employment
2002	5,841	26,694	21.9%	19.3%
2003	6,132	27,096	22.6%	19.8%
2004	6,264	28,558	21.9%	19.4%
2005	6,809	30,537	22.3%	18.6%
2006	6,274	30,882	20.3%	18.4%
2007	5,981	31,938	18.7%	17.5%
2008	5,827	31,698	18.4%	17.0%
2009	6,379	30,760	20.7%	18.0%
2010	6,419	31,061	20.7%	18.6%
2011	6,668	30,738	21.7%	18.4%
% Change 2002 to 2011	14.2%	15.1%		

	<i>Payroll (\$1,000s)</i>			
	Health Services	Total County	Health Services as a % of Total County Payroll	Health Services as a % of Total State Payroll
2002	188,292	687,212	27.4%	20.8%
2003	202,652	721,102	28.1%	21.0%
2004	218,519	780,192	28.0%	20.9%
2005	233,291	828,937	28.1%	20.7%
2006	238,501	880,449	27.1%	19.9%
2007	210,225	901,090	23.3%	18.6%
2008	233,905	968,486	24.2%	18.4%
2009	247,973	961,384	25.8%	19.5%
2010	268,371	996,743	26.9%	19.5%
2011	281,831	1,045,144	27.0%	18.7%
% Change 2002 to 2011	49.7%	52.1%		

SOURCE: U.S. Census Bureau, County Business Patterns; 2002-2011 based upon NAICS (www.census.gov [August 2013]).

¹ The Health Care and Social Assistance NAICS sector comprises establishments providing health care and social assistance for individuals. The sector includes both health care and social assistance because it is sometimes difficult to distinguish between the boundaries of these two activities. Industries in this sector are arranged on a continuum starting with those establishments providing medical care exclusively, continuing with those providing health care and social assistance, and finally finishing with those providing only social assistance. The services provided by establishments in this sector are delivered by trained professionals. All industries in the sector shared this commonality of process, namely, labor inputs of health practitioners or social workers with the requisite expertise. Many of the industries in the sector are defined based on the educational degree held by the practitioners included in the industry.

*Data are excluded for self-employed persons, employees of private households, railroad employees, agricultural production workers, and for most government employees (except for those working in wholesale liquor establishments, retail liquor stores, Federally-chartered savings institutions, Federally-chartered credit unions, and hospitals).

**Appendix Table 1b
Employment and Payroll for Griggs County and the State of North Dakota**

<i>Employment</i>				
	Health Services	Total County	Health Services as a % of Total County Employment	Health Services as a % of Total State Employment
2002	114	758	15.0%	19.3%
2003	117	781	15.0%	19.8%
2004	122	810	15.0%	19.4%
2005	131	870	15.0%	18.6%
2006	119	790	15.0%	18.4%
2007	103	688	15.0%	17.5%
2008	105	702	15.0%	17.0%
2009	106	704	15.0%	18.0%
2010	106	706	15.0%	18.6%
2011	104	690	15.0%	18.4%
% Change 2002 to 2011	-9.0%	-9.0%		
<i>Payroll (\$1,000s)</i>				
	Health Services	Total County	Health Services as a % of Total County Payroll	Health Services as a % of Total State Payroll
2002	2,913	14,567	20.0%	20.8%
2003	3,138	15,688	20.0%	21.0%
2004	3,370	16,851	20.0%	20.9%
2005	3,784	18,920	20.0%	20.7%
2006	3,717	18,585	20.0%	19.9%
2007	3,363	16,816	20.0%	18.6%
2008	3,645	18,226	20.0%	18.4%
2009	3,783	18,917	20.0%	19.5%
2010	4,614	23,071	20.0%	19.5%
2011	4,589	22,945	20.0%	18.7%
% Change 2002 to 2011	57.5%	57.5%		

SOURCE: U.S. Census Bureau, County Business Patterns; 2002-2011 based upon NAICS (www.census.gov [August 2013]).

¹ The Health Care and Social Assistance NAICS sector comprises establishments providing health care and social assistance for individuals. The sector includes both health care and social assistance because it is sometimes difficult to distinguish between the boundaries of these two activities. Industries in this sector are arranged on a continuum starting with those establishments providing medical care exclusively, continuing with those providing health care and social assistance, and finally finishing with those providing only social assistance. The services provided by establishments in this sector are delivered by trained professionals. All industries in the sector shared this commonality of process, namely, labor inputs of health practitioners or social workers with the requisite expertise. Many of the industries in the sector are defined based on the educational degree held by the practitioners included in the industry.

*Data are excluded for self-employed persons, employees of private households, railroad employees, agricultural production workers, and for most government employees (except for those working in wholesale liquor establishments, retail liquor stores, Federally-chartered savings institutions, Federally-chartered credit unions, and hospitals).

* Assumes health services employment is 15% of total county employment and health services payroll is 20% of total county payroll.

Appendix Table 1c
Employment and Payroll for Nelson County and the State of North Dakota

<i>Employment</i>				
	Health Services	Total County	Health Services as a % of Total County Employment	Health Services as a % of Total State Employment
2002	242	701	34.5%	19.3%
2003	250	731	34.2%	19.8%
2004	232	753	30.8%	19.4%
2005	246	750	32.8%	18.6%
2006	244	748	32.6%	18.4%
2007	248	693	35.8%	17.5%
2008	236	742	31.8%	17.0%
2009	232	702	33.0%	18.0%
2010	251	737	34.1%	18.6%
2011	253	785	32.2%	18.4%
% Change 2002 to 2011	4.5%	12.0%		
<i>Payroll (\$1,000s)</i>				
	Health Services	Total County	Health Services as a % of Total County Payroll	Health Services as a % of Total State Payroll
2002	4,167	13,281	31.4%	20.8%
2003	4,140	13,419	30.9%	21.0%
2004	4,104	14,105	29.1%	20.9%
2005	4,168	14,476	28.8%	20.7%
2006	4,437	15,157	29.3%	19.9%
2007	5,299	15,850	33.4%	18.6%
2008	4,709	16,708	28.2%	18.4%
2009	5,081	16,994	29.9%	19.5%
2010	5,662	18,223	31.1%	19.5%
2011	5,676	22,248	25.5%	18.7%
% Change 2002 to 2011	36.2%	67.5%		

SOURCE: U.S. Census Bureau, County Business Patterns; 2002-2011 based upon NAICS (www.census.gov [August 2013]).

¹ The Health Care and Social Assistance NAICS sector comprises establishments providing health care and social assistance for individuals. The sector includes both health care and social assistance because it is sometimes difficult to distinguish between the boundaries of these two activities. Industries in this sector are arranged on a continuum starting with those establishments providing medical care exclusively, continuing with those providing health care and social assistance, and finally finishing with those providing only social assistance. The services provided by establishments in this sector are delivered by trained professionals. All industries in the sector shared this commonality of process, namely, labor inputs of health practitioners or social workers with the requisite expertise. Many of the industries in the sector are defined based on the educational degree held by the practitioners included in the industry.

*Data are excluded for self-employed persons, employees of private households, railroad employees, agricultural production workers, and for most government employees (except for those working in wholesale liquor establishments, retail liquor stores, Federally-chartered savings institutions, Federally-chartered credit unions, and hospitals).

Appendix Table 1d
Employment and Payroll for Steele County and the State of North Dakota

	<i>Employment</i>			
	Health Services	Total County	Health Services as a % of Total County Employment	Health Services as a % of Total State Employment
2002	NA	363	n/a	19.3%
2003	NA	325	n/a	19.8%
2004	10	337	3.0%	19.4%
2005	12	407	3.0%	18.6%
2006	13	415	3.0%	18.4%
2007	13	445	3.0%	17.5%
2008	14	475	3.0%	17.0%
2009	13	445	3.0%	18.0%
2010	15	512	3.0%	18.6%
2011	17	567	3.0%	18.4%
% Change 2004 to 2010	68.3%	68.2%		
	<i>Payroll (\$1,000s)</i>			
	Health Services	Total County	Health Services as a % of Total County Payroll	Health Services as a % of Total State Payroll
2002	NA	8,097	NA	20.8%
2003	NA	8,677	NA	21.0%
2004	405	10,125	4.0%	20.9%
2005	416	10,394	4.0%	20.7%
2006	455	11,385	4.0%	19.9%
2007	571	14,286	4.0%	18.6%
2008	588	14,711	4.0%	18.4%
2009	616	15,406	4.0%	19.5%
2010	721	18,023	4.0%	19.5%
2011	826	20,643	4.0%	18.7%
% Change 2004 to 2010	103.9%	103.9%		

SOURCE: U.S. Census Bureau, County Business Patterns; 2002-2011 based upon NAICS (www.census.gov [August 2013]).

¹ The Health Care and Social Assistance NAICS sector comprises establishments providing health care and social assistance for individuals. The sector includes both health care and social assistance because it is sometimes difficult to distinguish between the boundaries of these two activities. Industries in this sector are arranged on a continuum starting with those establishments providing medical care exclusively, continuing with those providing health care and social assistance, and finally finishing with those providing only social assistance. The services provided by establishments in this sector are delivered by trained professionals. All industries in the sector shared this commonality of process, namely, labor inputs of health practitioners or social workers with the requisite expertise. Many of the industries in the sector are defined based on the educational degree held by the practitioners included in the industry.

*Data are excluded for self-employed persons, employees of private households, railroad employees, agricultural production workers, and for most government employees (except for those working in wholesale liquor establishments, retail liquor stores, Federally-chartered savings institutions, Federally-chartered credit unions, and hospitals).

* Assumes health services employment is 3% of total county employment and health services payroll is 4% of total county payroll.

Appendix Table 1e
Employment and Payroll for Traill County and the State of North Dakota

	<i>Employment</i>			
	Health Services	Total County	Health Services as a % of Total County Employment	Health Services as a % of Total State Employment
2002	554	2,440	22.7%	19.3%
2003	578	2,423	23.9%	19.8%
2004	531	2,458	21.6%	19.4%
2005	591	2,450	24.1%	18.6%
2006	567	2,536	22.4%	18.4%
2007	631	2,602	24.3%	17.5%
2008	599	2,501	24.0%	17.0%
2009	577	2,530	22.8%	18.0%
2010	603	2,579	23.4%	18.6%
2011	621	2,555	24.3%	18.4%
% Change 2002 to 2011	12.1%	4.7%		

	<i>Payroll (\$1,000s)</i>			
	Health Services	Total County	Health Services as a % of Total County Payroll	Health Services as a % of Total State Payroll
2002	10,951	52,667	20.8%	20.8%
2003	11,390	54,609	20.9%	21.0%
2004	11,476	56,798	20.2%	20.9%
2005	11,843	58,435	20.3%	20.7%
2006	12,497	61,134	20.4%	19.9%
2007	13,205	66,000	20.0%	18.6%
2008	14,030	72,162	19.4%	18.4%
2009	14,803	73,035	20.3%	19.5%
2010	16,185	75,024	21.6%	19.5%
2011	16,999	80,653	21.1%	18.7%
% Change 2002 to 2011	55.2%	53.1%		

SOURCE: U.S. Census Bureau, County Business Patterns; 2002-2011 based upon NAICS (www.census.gov [August 2013]).

¹ The Health Care and Social Assistance NAICS sector comprises establishments providing health care and social assistance for individuals. The sector includes both health care and social assistance because it is sometimes difficult to distinguish between the boundaries of these two activities. Industries in this sector are arranged on a continuum starting with those establishments providing medical care exclusively, continuing with those providing health care and social assistance, and finally finishing with those providing only social assistance. The services provided by establishments in this sector are delivered by trained professionals. All industries in the sector shared this commonality of process, namely, labor inputs of health practitioners or social workers with the requisite expertise. Many of the industries in the sector are defined based on the educational degree held by the practitioners included in the industry.

*Data are excluded for self-employed persons, employees of private households, railroad employees, agricultural production workers, and for most government employees (except for those working in wholesale liquor establishments, retail liquor stores, Federally-chartered savings institutions, Federally-chartered credit unions, and hospitals).

* Highlighted cells were estimated based on the ranges provided by County Business Patterns and the past trends in the data.

Appendix Table 2a
Full- and Part-Time Employment by Type of Employment and by Major Industry¹
for Grand Forks County and the State of North Dakota, 2011

Employment Categories	Grand Forks County			State of North Dakota	
	No. of Jobs	% of Total	% of Private	% of Total	% of Private
Total FT & PT	<u>51,566</u>	<u>100.0%</u>		<u>100.0%</u>	
Wage & salary	44,360	86.0%		78.8%	
Proprietors'	<u>7,206</u>	<u>14.0%</u>		<u>21.2%</u>	
Farm proprietors'	808	11.2%		23.9%	
Nonfarm proprietors' ²	<u>6,398</u>	<u>88.8%</u>		<u>76.1%</u>	
By Industry:					
Farm employment	1,094	2.1%		6.1%	
Nonfarm employment	<u>50,472</u>	<u>97.9%</u>		<u>93.9%</u>	
Private	<u>38,400</u>	76.1%	<u>100.0%</u>	83.0%	<u>100.0%</u>
Forestry, fishing, related	(D)		**		1.0%
Mining	(D)		**		4.8%
Utilities	261		0.7%		0.8%
Construction	2,712		7.1%		8.1%
Manufacturing	1,929		5.0%		6.1%
Wholesale trade	1,467		3.8%		5.8%
Retail trade	7,286		19.0%		13.4%
Transp & warehousing	1,581		4.1%		4.9%
Information	483		1.3%		1.9%
Finance & ins	1,536		4.0%		6.1%
RE rental & leasing	1,530		4.0%		4.3%
Prof & techn svcs	1,825		4.8%		4.7%
Mgmt of cos & enterp	176		0.5%		1.1%
Admin & waste svcs	1,852		4.8%		4.3%
Educational svcs	492		1.3%		1.4%
Health care & social assist	7,342		19.1%		14.8%
Arts, entert, & recreation	905		2.4%		1.7%
Accomm & food svcs	4,390		11.4%		8.4%
Other svcs, not pub admin	<u>2,194</u>		<u>5.7%</u>		<u>6.2%</u>
<i>Sum of (D) Categories³</i>	<u>439</u>		<u>1.1%</u>		
Govt & govt enterprises	<u>12,072</u>	<u>23.9%</u>		<u>17.0%</u>	

SOURCE: Regional Economic Information System, Bureau of Economic Analysis (www.bea.gov [August 2013]).

(D) Not shown to avoid disclosure of confidential information, but estimates are included in totals.

** Due to nondisclosure of confidential data, no percentages are available.

¹ The estimates are based on the 2012 North American Industry Classification System (NAICS).

² Excludes limited partners.

³ All (D) categories have been totaled to show the total amount of missing data from private employment.

Appendix Table 2b
Full- and Part-Time Employment by Type of Employment and by Major Industry ¹
for Griggs County and the State of North Dakota, 2011

Employment Categories	Griggs County			State of North Dakota	
	No. of Jobs	% of Total	% of Private	% of Total	% of Private
Total FT & PT	<u>1,964</u>	<u>100.0%</u>		<u>100.0%</u>	
Wage & salary	1,051	53.5%		78.8%	
Proprietors'	<u>913</u>	<u>46.5%</u>		<u>21.2%</u>	
Farm proprietors'	398	43.6%		23.9%	
Nonfarm proprietors' ²	<u>515</u>	<u>56.4%</u>		<u>76.1%</u>	
By Industry:					
Farm employment	445	22.7%		6.1%	
Nonfarm employment	<u>1,519</u>	<u>77.3%</u>		<u>93.9%</u>	
Private	<u>1,288</u>	84.8%	<u>100.0%</u>	83.0%	<u>100.0%</u>
Forestry, fishing, related	(D)		**		1.0%
Mining	70		5.4%		4.8%
Utilities	(L)		**		0.8%
Construction	72		5.6%		8.1%
Manufacturing	170		13.2%		6.1%
Wholesale trade	80		6.2%		5.8%
Retail trade	129		10.0%		13.4%
Transp & warehousing	47		3.6%		4.9%
Information	(D)		**		1.9%
Finance & ins	68		5.3%		6.1%
RE rental & leasing	50		3.9%		4.3%
Prof & techn svcs	(D)		**		4.7%
Mgmt of cos & enterp	0		0.0%		1.1%
Admin & waste svcs	(D)		**		4.3%
Educational svcs	10		0.8%		1.4%
Health care & social assist	180		14.0%		14.8%
Arts, entert, & recreation	46		3.6%		1.7%
Accomm & food svcs	69		5.4%		8.4%
Other svcs, not pub admin	(D)		**		<u>6.2%</u>
<i>Sum of (D) Categories³</i>	<u>297</u>		<u>23.1%</u>		
Govt & govt enterprises	<u>231</u>	<u>15.2%</u>		<u>17.0%</u>	

SOURCE: Regional Economic Information System, Bureau of Economic Analysis (www.bea.gov [August 2013]).

(D) Not shown to avoid disclosure of confidential information, but estimates are included in totals.

** Due to nondisclosure of confidential data, no percentages are available.

¹ The estimates are based on the 2012 North American Industry Classification System (NAICS).

² Excludes limited partners.

³ All (D) categories have been totaled to show the total amount of missing data from private employment.

Appendix Table 2c
Full- and Part-Time Employment by Type of Employment and by Major Industry ¹
for Nelson County and the State of North Dakota, 2011

Employment Categories	Nelson County			State of North Dakota	
	No. of Jobs	% of Total	% of Private	% of Total	% of Private
Total FT & PT	<u>2,219</u>	<u>100.0%</u>		<u>100.0%</u>	
Wage & salary	1,167	52.6%		78.8%	
Proprietors'	<u>1,052</u>	<u>47.4%</u>		<u>21.2%</u>	
Farm proprietors'	547	52.0%		23.9%	
Nonfarm proprietors' ²	<u>505</u>	<u>48.0%</u>		<u>76.1%</u>	
By Industry:					
Farm employment	618	27.9%		6.1%	
Nonfarm employment	<u>1,601</u>	<u>72.1%</u>		<u>93.9%</u>	
Private	<u>1,324</u>	82.7%	<u>100.0%</u>	83.0%	<u>100.0%</u>
Forestry, fishing, related	(D)		**		1.0%
Mining	0		0.0%		4.8%
Utilities	(D)		**		0.8%
Construction	87		6.6%		8.1%
Manufacturing	(D)		**		6.1%
Wholesale trade	129		9.7%		5.8%
Retail trade	135		10.2%		13.4%
Transp & warehousing	(D)		**		4.9%
Information	(D)		**		1.9%
Finance & ins	137		10.3%		6.1%
RE rental & leasing	50		3.8%		4.3%
Prof & techn svcs	32		2.4%		4.7%
Mgmt of cos & enterp	0		0.0%		1.1%
Admin & waste svcs	(D)		**		4.3%
Educational svcs	(D)		**		1.4%
Health care & social assist	(D)		**		14.8%
Arts, entert, & recreation	(D)		**		1.7%
Accomm & food svcs	(D)		**		8.4%
Other svcs, not pub admin	<u>118</u>		8.9%		<u>6.2%</u>
<i>Sum of (D) Categories³</i>	<u>636</u>		<u>48.0%</u>		
Govt & govt enterprises	<u>277</u>	<u>17.3%</u>		<u>17.0%</u>	

SOURCE: Regional Economic Information System, Bureau of Economic Analysis (www.bea.gov [August 2013]).

(D) Not shown to avoid disclosure of confidential information, but estimates are included in totals.

** Due to nondisclosure of confidential data, no percentages are available.

¹ The estimates are based on the 2012 North American Industry Classification System (NAICS).

² Excludes limited partners.

³ All (D) categories have been totaled to show the total amount of missing data from private employment.

Appendix Table 2d
Full- and Part-Time Employment by Type of Employment and by Major Industry¹
for Steele County and the State of North Dakota, 2011

Employment Categories	Steele County			State of North Dakota	
	No. of Jobs	% of Total	% of Private	% of Total	% of Private
Total FT & PT	<u>1,491</u>	<u>100.0%</u>		<u>100.0%</u>	
Wage & salary	741	49.7%		78.8%	
Proprietors'	<u>750</u>	<u>50.3%</u>		<u>21.2%</u>	
Farm proprietors'	285	38.0%		23.9%	
Nonfarm proprietors' ²	<u>465</u>	<u>62.0%</u>		<u>76.1%</u>	
By Industry:					
Farm employment	362	24.3%		6.1%	
Nonfarm employment	<u>1,129</u>	<u>75.7%</u>		<u>93.9%</u>	
Private	<u>983</u>	87.1%	<u>100.0%</u>	83.0%	<u>100.0%</u>
Forestry, fishing, related	(D)		**		1.0%
Mining	(L)		**		4.8%
Utilities	(D)		**		0.8%
Construction	122		12.4%		8.1%
Manufacturing	139		14.1%		6.1%
Wholesale trade	55		5.6%		5.8%
Retail trade	77		7.8%		13.4%
Transp & warehousing	(D)		**		4.9%
Information	(D)		**		1.9%
Finance & ins	(D)		**		6.1%
RE rental & leasing	(D)		**		4.3%
Prof & techn svcs	22		2.2%		4.7%
Mgmt of cos & enterp	0		0.0%		1.1%
Admin & waste svcs	45		4.6%		4.3%
Educational svcs	14		1.4%		1.4%
Health care & social assist	(D)		**		14.8%
Arts, entert, & recreation	(D)		**		1.7%
Accomm & food svcs	(D)		**		8.4%
Other svcs, not pub admin	<u>(D)</u>		**		<u>6.2%</u>
<i>Sum of (D) Categories³</i>	<u>509</u>		<u>51.8%</u>		
Govt & govt enterprises	<u>146</u>	<u>12.9%</u>		<u>17.0%</u>	

SOURCE: Regional Economic Information System, Bureau of Economic Analysis (www.bea.gov [August 2013]).

(D) Not shown to avoid disclosure of confidential information, but estimates are included in totals.

** Due to nondisclosure of confidential data, no percentages are available.

¹ The estimates are based on the 2012 North American Industry Classification System (NAICS).

² Excludes limited partners.

³ All (D) categories have been totaled to show the total amount of missing data from private employment.

Appendix Table 2e
Full- and Part-Time Employment by Type of Employment and by Major Industry ¹
for Traill County and the State of North Dakota, 2011

Employment Categories	Traill County			State of North Dakota	
	No. of Jobs	% of Total	% of Private	% of Total	% of Private
Total FT & PT	<u>4,641</u>	<u>100.0%</u>		<u>100.0%</u>	
Wage & salary	3,568	76.9%		78.8%	
Proprietors'	<u>1,073</u>	<u>23.1%</u>		<u>21.2%</u>	
Farm proprietors'	360	33.6%		23.9%	
Nonfarm proprietors' ²	<u>713</u>	<u>66.4%</u>		<u>76.1%</u>	
By Industry:					
Farm employment	525	11.3%		6.1%	
Nonfarm employment	<u>4,116</u>	<u>88.7%</u>		<u>93.9%</u>	
Private	<u>3,232</u>	78.5%	<u>100.0%</u>	83.0%	<u>100.0%</u>
Forestry, fishing, related	(D)		**		1.0%
Mining	(D)		**		4.8%
Utilities	(D)		**		0.8%
Construction	174		5.4%		8.1%
Manufacturing	366		11.3%		6.1%
Wholesale trade	281		8.7%		5.8%
Retail trade	293		9.1%		13.4%
Transp & warehousing	(D)		**		4.9%
Information	41		1.3%		1.9%
Finance & ins	243		7.5%		6.1%
RE rental & leasing	70		2.2%		4.3%
Prof & techn svcs	89		2.8%		4.7%
Mgmt of cos & enterp	0		0.0%		1.1%
Admin & waste svcs	67		2.1%		4.3%
Educational svcs	(D)		**		1.4%
Health care & social assist	(D)		**		14.8%
Arts, entert, & recreation	58		1.8%		1.7%
Accomm & food svcs	259		8.0%		8.4%
Other svcs, not pub admin	<u>205</u>		<u>6.3%</u>		<u>6.2%</u>
<i>Sum of (D) Categories³</i>	<u>1,086</u>		<u>33.6%</u>		
Govt & govt enterprises	884	21.5%		17.0%	

SOURCE: Regional Economic Information System, Bureau of Economic Analysis (www.bea.gov [August 2013]).

(D) Not shown to avoid disclosure of confidential information, but estimates are included in totals.

** Due to nondisclosure of confidential data, no percentages are available.

¹ The estimates are based on the 2012 North American Industry Classification System (NAICS).

² Excludes limited partners.

³ All (D) categories have been totaled to show the total amount of missing data from private employment.

Appendix Table 3a
Personal Income, Earnings by Place of Work and by Industry¹
for Grand Forks County and the State of North Dakota, 2011

Employment Categories	Grand Forks County			State of North Dakota	
	Income (\$1,000s)	% of Total	% of Private	% of Total	% of Private
Total Personal Income	<u>2,640,345</u>	<u>100.0%</u>		<u>100.0%</u>	
Total earnings by place of work	<u>2,321,958</u>	<u>87.9%</u>		<u>81.6%</u>	
Wage & salary disbursements	1,590,223	68.5%		64.8%	
Proprietors' income ²	286,817	12.4%		19.3%	
Other	<u>444,918</u>	19.2%		<u>16.0%</u>	
Earnings by Industry					
Total by industry	<u>2,321,958</u>	<u>100.0%</u>		<u>100.0%</u>	
Farm	137,115	5.9%		12.0%	
Nonfarm	<u>2,184,843</u>	<u>94.1%</u>		<u>88.0%</u>	
Private	<u>1,484,417</u>	67.9%	<u>100.0%</u>	79.8%	<u>100.0%</u>
Forestry, fishing, related	(D)		**		0.8%
Mining	(D)		**		9.4%
Utilities	31,517		2.1%		2.2%
Construction	150,864		10.2%		10.7%
Manufacturing	93,705		6.3%		7.6%
Wholesale trade	92,300		6.2%		9.1%
Retail trade	200,405		13.5%		8.4%
Transp & warehousing	93,886		6.3%		7.1%
Information	23,125		1.6%		2.6%
Finance & ins	67,400		4.5%		6.0%
RE rental & leasing	33,944		2.3%		2.5%
Prof & techn svcs	91,572		6.2%		5.6%
Mgmt of cos & enterp	9,040		0.6%		1.9%
Admin & waste svcs	47,530		3.2%		2.6%
Educational svcs	6,947		0.5%		0.6%
Health care & soc assist	375,950		25.3%		15.3%
Arts, entert, & rec	10,423		0.7%		0.4%
Accomm & food svcs	72,135		4.9%		3.3%
Othr svcs, not pub admin	<u>63,668</u>		<u>4.3%</u>		<u>4.1%</u>
<i>Sum of (D) Categories</i> ³	<u>20,006</u>		<u>1.3%</u>		
Govt & govt enterprises	<u>700,426</u>	<u>32.1%</u>		<u>20.2%</u>	

SOURCE: Regional Economic Information System, Bureau of Economic Analysis (www.bea.gov [August 2013]).

(D) Not shown to avoid disclosure of confidential information, but estimates are included in totals.

** Due to nondisclosure of confidential data, no percentages are available.

¹ The estimates are based on the 2012 North American Industry Classification System (NAICS).

² Proprietors' income includes the inventory valuation adjustment and capital consumption adjustment.

³ All (D) categories have been totaled to show the total amount of missing data from private employment.

Appendix Table 3b
Personal Income, Earnings by Place of Work and by Industry¹
for Griggs County and the State of North Dakota, 2011

Employment Categories	Griggs County			State of North Dakota	
	Income (\$1,000s)	% of Total	% of Private	% of Total	% of Private
Total Personal Income	<u>112,740</u>	<u>100.0%</u>		<u>100.0%</u>	
Total earnings by place of work	<u>69,159</u>	<u>61.3%</u>		<u>81.6%</u>	
Wage & salary disbursements	30,813	44.6%		64.8%	
Proprietors' income ²	30,574	44.2%		19.3%	
Other	<u>7,772</u>	11.2%		<u>16.0%</u>	
Earnings by Industry					
Total by industry	<u>69,159</u>	<u>100.0%</u>		<u>100.0%</u>	
Farm	21,523	31.1%		12.0%	
Nonfarm	<u>47,636</u>	<u>68.9%</u>		<u>88.0%</u>	
Private	<u>38,831</u>	81.5%	<u>100.0%</u>	79.8%	<u>100.0%</u>
Forestry, fishing, related	(D)		**		0.8%
Mining	(L)		**		9.4%
Utilities	59		0.2%		2.2%
Construction	3,309		8.5%		10.7%
Manufacturing	6,583		17.0%		7.6%
Wholesale trade	4,258		11.0%		9.1%
Retail trade	3,486		9.0%		8.4%
Transp & warehousing	1,809		4.7%		7.1%
Information	(D)		**		2.6%
Finance & ins	1,089		2.8%		6.0%
RE rental & leasing	104		0.3%		2.5%
Prof & techn svcs	(D)		**		5.6%
Mgmt of cos & enterp	0		0.0%		1.9%
Admin & waste svcs	(D)		**		2.6%
Educational svcs	(L)		**		0.6%
Health care & soc assist	5,742		14.8%		15.3%
Arts, entert, & recreation	258		0.7%		0.4%
Accomm & food svcs	757		1.9%		3.3%
Other svcs, not pub admin	(D)		**		<u>4.1%</u>
<i>Sum of (D) Categories³</i>	<u>11,377</u>		<u>29.3%</u>		
Govt & govt enterprises	<u>8,805</u>	<u>18.5%</u>		<u>0.0%</u>	

SOURCE: Regional Economic Information System, Bureau of Economic Analysis (www.bea.gov [August 2013]).

(D) Not shown to avoid disclosure of confidential information, but estimates are included in totals.

** Due to nondisclosure of confidential data, no percentages are available.

¹ The estimates are based on the 2012 North American Industry Classification System (NAICS).

² Proprietors' income includes the inventory valuation adjustment and capital consumption adjustment.

³ All (D) categories have been totaled to show the total amount of missing data from private employment.

Appendix Table 3c
Personal Income, Earnings by Place of Work and by Industry¹
for Nelson County and the State of North Dakota, 2011

Employment Categories	Nelson County			State of North Dakota	
	Income (\$1,000s)	% of Total	% of Private	% of Total	% of Private
Total Personal Income	<u>186,150</u>	<u>100.0%</u>		<u>100.0%</u>	
Total earnings by place of work	<u>119,898</u>	<u>64.4%</u>		<u>81.6%</u>	
Wage & salary disbursements	32,523	27.1%		64.8%	
Proprietors' income ²	79,112	66.0%		19.3%	
Other	<u>8,263</u>	6.9%		<u>16.0%</u>	
Earnings by Industry					
Total by industry	<u>119,898</u>	<u>100.0%</u>		<u>100.0%</u>	
Farm	75,278	62.8%		12.0%	
Nonfarm	<u>44,620</u>	<u>37.2%</u>		<u>88.0%</u>	
Private	<u>32,990</u>	73.9%	<u>100.0%</u>	79.8%	<u>100.0%</u>
Forestry, fishing, related	(D)		**		0.8%
Mining	0		0.0%		9.4%
Utilities	(D)		**		2.2%
Construction	2,998		9.1%		10.7%
Manufacturing	(D)		**		7.6%
Wholesale trade	6,025		18.3%		9.1%
Retail trade	1,820		5.5%		8.4%
Transp & warehousing	(D)		**		7.1%
Information	(D)		**		2.6%
Finance & ins	4,804		14.6%		6.0%
RE rental & leasing	209		0.6%		2.5%
Prof & techn svcs	599		1.8%		5.6%
Mgmt of cos & enterp	0		0.0%		1.9%
Admin & waste svcs	(D)		**		2.6%
Educational svcs	(D)		**		0.6%
Health care & soc assist	(D)		**		15.3%
Arts, entert, & recreation	(D)		**		0.4%
Accomm & food svcs	(D)		**		3.3%
Other svcs, not pub admin	3,151		9.6%		<u>4.1%</u>
<i>Sum of (D) Categories</i> ³	<u>13,384</u>		<u>40.6%</u>		
Govt & govt enterprises	<u>11,630</u>	<u>26.1%</u>		<u>0.0%</u>	

SOURCE: Regional Economic Information System, Bureau of Economic Analysis (www.bea.gov [August 2013]).

(D) Not shown to avoid disclosure of confidential information, but estimates are included in totals.

** Due to nondisclosure of confidential data, no percentages are available.

¹ The estimates are based on the 2012 North American Industry Classification System (NAICS).

² Proprietors' income includes the inventory valuation adjustment and capital consumption adjustment.

³ All (D) categories have been totaled to show the total amount of missing data from private employment.

Appendix Table 3d
Personal Income, Earnings by Place of Work and by Industry¹
for Steele County and the State of North Dakota, 2011

Employment Categories	Steele County			State of North Dakota	
	Income (\$1,000s)	% of Total	% of Private	% of Total	% of Private
Total Personal Income	<u>120,576</u>	<u>100.0%</u>		<u>100.0%</u>	
Total earnings by place of work	<u>83,635</u>	<u>69.4%</u>		<u>81.6%</u>	
Wage & salary disbursements	26,348	31.5%		64.8%	
Proprietors' income ²	50,874	60.8%		19.3%	
Other	<u>6,413</u>	7.7%		<u>16.0%</u>	
Earnings by Industry					
Total by industry	<u>83,635</u>	<u>100.0%</u>		<u>100.0%</u>	
Farm	50,772	60.7%		12.0%	
Nonfarm	<u>32,863</u>	<u>39.3%</u>		<u>88.0%</u>	
Private	<u>26,409</u>	80.4%	<u>100.0%</u>	79.8%	<u>100.0%</u>
Forestry, fishing, related	(D)		**		0.8%
Mining	(L)		**		9.4%
Utilities	(D)		**		2.2%
Construction	5,416		20.5%		10.7%
Manufacturing	5,101		19.3%		7.6%
Wholesale trade	2,700		10.2%		9.1%
Retail trade	2,346		8.9%		8.4%
Transp & warehousing	(D)		**		7.1%
Information	(D)		**		2.6%
Finance & ins	(D)		**		6.0%
RE rental & leasing	(D)		**		2.5%
Prof & techn svcs	411		1.6%		5.6%
Mgmt of cos & enterp	0		0.0%		1.9%
Admin & waste svcs	264		1.0%		2.6%
Educational svcs	(L)		**		0.6%
Health care & soc assist	(D)		**		15.3%
Arts, entert, & recreation	(D)		**		0.4%
Accomm & food svcs	(D)		**		3.3%
Other svcs, not pub admin	<u>(D)</u>		**		<u>4.1%</u>
<i>Sum of (D) Categories</i> ³	<u>10,171</u>		<u>38.5%</u>		
Govt & govt enterprises	<u>6,454</u>	<u>19.6%</u>		<u>0.0%</u>	

SOURCE: Regional Economic Information System, Bureau of Economic Analysis (www.bea.gov [August 2013]).

(D) Not shown to avoid disclosure of confidential information, but estimates are included in totals.

** Due to nondisclosure of confidential data, no percentages are available.

¹ The estimates are based on the 2012 North American Industry Classification System (NAICS).

² Proprietors' income includes the inventory valuation adjustment and capital consumption adjustment.

³ All (D) categories have been totaled to show the total amount of missing data from private employment.

Appendix Table 3e
Personal Income, Earnings by Place of Work and by Industry¹
for Traill County and the State of North Dakota, 2011

Employment Categories	Traill County			State of North Dakota	
	Income (\$1,000s)	% of Total	% of Private	% of Total	% of Private
Total Personal Income	<u>377,287</u>	<u>100.0%</u>		<u>100.0%</u>	
Total earnings by place of work	<u>237,771</u>	<u>63.0%</u>		<u>81.6%</u>	
Wage & salary disbursements	123,401	51.9%		64.8%	
Proprietors' income ²	82,837	34.8%		19.3%	
Other	<u>31,533</u>	13.3%		<u>16.0%</u>	
Earnings by Industry					
Total by industry	<u>237,771</u>	<u>100.0%</u>		<u>100.0%</u>	
Farm	77,500	32.6%		12.0%	
Nonfarm	<u>160,271</u>	<u>67.4%</u>		<u>88.0%</u>	
Private	<u>124,333</u>	77.6%	<u>100.0%</u>	79.8%	<u>100.0%</u>
Forestry, fishing, related	(D)		**		0.8%
Mining	(D)		**		9.4%
Utilities	(D)		**		2.2%
Construction	7,121		5.7%		10.7%
Manufacturing	25,378		20.4%		7.6%
Wholesale trade	19,517		15.7%		9.1%
Retail trade	7,395		5.9%		8.4%
Transp & warehousing	(D)		**		7.1%
Information	749		0.6%		2.6%
Finance & ins	8,116		6.5%		6.0%
RE rental & leasing	859		0.7%		2.5%
Prof & techn svcs	2,547		2.0%		5.6%
Mgmt of cos & enterp	0		0.0%		1.9%
Admin & waste svcs	1,976		1.6%		2.6%
Educational svcs	(D)		**		0.6%
Health care & soc assist	(D)		**		15.3%
Arts, entert, & recreation	304		0.2%		0.4%
Accomm & food svcs	2,660		2.1%		3.3%
Other svcs, not pub admin	<u>8,711</u>		<u>7.0%</u>		<u>4.1%</u>
<i>Sum of (D) Categories</i> ³	<u>39,000</u>		<u>31.4%</u>		
Govt & govt enterprises	<u>35,938</u>	<u>22.4%</u>		<u>0.0%</u>	

SOURCE: Regional Economic Information System, Bureau of Economic Analysis (www.bea.gov [August 2013]).

(D) Not shown to avoid disclosure of confidential information, but estimates are included in totals.

** Due to nondisclosure of confidential data, no percentages are available.

¹ The estimates are based on the 2012 North American Industry Classification System (NAICS).

² Proprietors' income includes the inventory valuation adjustment and capital consumption adjustment.

³ All (D) categories have been totaled to show the total amount of missing data from private employment.

Appendix Table 4a
Transfer Receipts for Grand Forks County and the State of North Dakota, 2011

Transfer Receipts Categories	Grand Forks County		State of North Dakota	
	Payments (\$1,000s)	% of Total	Payments (\$1,000s)	% of Total
<i>Personal transfer receipts total</i>	<u>378,769</u>	<u>100.0%</u>	<u>4,509,722</u>	<u>100.0%</u>
<i>Receipts of individuals from govts</i>	<u>364,321</u>	<u>96.2%</u>	<u>4,359,851</u>	<u>96.7%</u>
Retirement & disability ins benefits	<u>137,333</u>	<u>36.3%</u>	<u>1,702,145</u>	<u>37.7%</u>
Old-age, surv & disab ins (OASDI) benefits	120,111	31.7%	1,519,850	33.7%
Railroad ret & disab benefits	6,658	1.8%	63,875	1.4%
Workers' compensation	10,535	2.8%	118,141	2.6%
Other govt ret & disab ins benefits ¹	(L)	**	279	0.0%
Medical benefits	<u>140,082</u>	<u>37.0%</u>	<u>1,827,323</u>	<u>40.5%</u>
Medicare benefits	79,812	21.1%	1,048,403	23.2%
Public assist medical care benefits ²	52,050	13.7%	737,479	16.4%
Military medical ins benefits ³	<u>8,220</u>	<u>2.2%</u>	<u>41,441</u>	<u>0.9%</u>
Income maintenance benefits	<u>39,269</u>	<u>10.4%</u>	<u>414,053</u>	<u>9.2%</u>
Supplemental security income (SSI) benefits	3,774	1.0%	46,881	1.0%
Family Assistance ⁴	1,807	0.5%	20,691	0.5%
Suppl Nutrition Assistance Prog (SNAP)	9,814	2.6%	95,468	2.1%
Other income maint benefits ⁵	<u>23,874</u>	<u>6.3%</u>	<u>251,013</u>	<u>5.6%</u>
Unemp insurance compensation	<u>9,566</u>	<u>2.5%</u>	<u>95,214</u>	<u>2.1%</u>
State unemp ins compensation	8,928	2.4%	89,938	2.0%
Unemp comp for fed civilian empl (UCFE)	362	0.1%	1,975	0.0%
Unemp comp for railroad emp	(L)	**	563	0.0%
Unemp comp for vets (UCX)	235	0.1%	985	0.0%
Other unemp comp ⁶	0	0.0%	1,753	0.0%
Veterans benefits	<u>19,698</u>	<u>5.2%</u>	<u>160,570</u>	<u>3.6%</u>
Veterans pension & disabl benefits	15,246	4.0%	138,420	3.1%
Veterans readjustment benefits ⁷	4,118	1.1%	18,413	0.4%
Veterans life ins benefits	326	0.1%	3,676	0.1%
Other assistance to veterans ⁸	(L)	**	61	0.0%
Education & training assistance ⁹	<u>16,206</u>	<u>4.3%</u>	<u>122,503</u>	<u>2.7%</u>
Other receipts of individuals from govts ¹⁰	<u>2,167</u>	<u>0.6%</u>	<u>38,043</u>	<u>0.8%</u>
<i>Receipts of nonprofit institutions</i>	<u>8,569</u>	<u>2.3%</u>	<u>88,885</u>	<u>2.0%</u>
Receipts from Federal govt	3,438	0.9%	35,665	0.8%
Receipts from state and local govts	1,676	0.4%	17,385	0.4%
Receipts from businesses	<u>3,455</u>	<u>0.9%</u>	<u>35,835</u>	<u>0.8%</u>
<i>Receipts of individuals from businesses ¹¹</i>	<u>5,879</u>	<u>1.6%</u>	<u>60,986</u>	<u>1.4%</u>

SOURCE: U. S. Department of Commerce, Bureau of Economic Analysis, data based on NAICS (North American Industrial Classification System) (www.census.gov [August 2013]).

(L) Less than \$50,000, but the estimates for this item are included in the totals.

** Due to nondisclosure of confidential data, no percentages are available.

Appendix Table 4a Footnotes (Continued)

¹ Consists largely of temporary disability payments, pension benefit guaranty payments, black lung payments, and Panama Canal construction annuity payments.

² Consists of Medicaid and other medical vendor payments.

³ Consists of payments made under the TriCare Management Program (formerly called CHAMPUS) for the medical care of dependents of active duty military personnel and of retired military personnel and their dependents at nonmilitary medical facilities.

⁴ Consists of benefits-- generally known as Temporary Assistance for Needy Families (TANF)-- provided under the Personal Responsibility and Work Opportunity Reconciliation Act of 1996.

⁵ Consists largely of general assistance; expenditures for food under the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC); Other Needs Assistance; refugee assistance; foster home care and adoption assistance; Earned Income Tax Credits (EITC); Child Tax Credits; and energy assistance.

⁶ Consists of Trade Adjustment Assistance, Redwood Park benefit payments, public service employment benefit payments, and transitional benefit payments.

⁷ Consists largely of veterans' readjustment benefit payments, educational assistance to spouses and children of disabled or deceased veterans, payments to paraplegics, and payments for autos and conveyances for disabled veterans.

⁸ Consists largely of state and local government payments to veterans.

⁹ Consists largely of federal fellowship payments (National Science Foundation fellowships and traineeships, subsistence payments to state maritime academy cadets, and other federal fellowships), interest subsidy on higher education loans, Pell Grants, Job Corps payments, education exchange payments, and state education assistance payments.

¹⁰ Consists largely of Bureau of Indian Affairs payments; Alaska Permanent Fund dividend payments; compensation of survivors of public safety officers; compensation of victims of crime; disaster relief payments; compensation for Japanese internment; the Economic Stimulus Act of 2008 rebates; the American Recovery and Reinvestment Act of 2009 funded Federal Additional Compensation for unemployment, COBRA premium reduction, and the Economic Recovery lump sum payment; and other special payments to individuals.

¹¹ Consists of personal injury payments to individuals other than employees and other business transfer payments.

Appendix Table 4b
Transfer Receipts for Griggs County and the State of North Dakota, 2011

Transfer Receipts Categories	Griggs County		State of North Dakota	
	Payments (\$1,000s)	% of Total	Payments (\$1,000s)	% of Total
<i>Personal transfer receipts total</i>	<u>22,645</u>	<u>100.0%</u>	<u>4,509,722</u>	<u>100.0%</u>
<i>Receipts of individuals from govts</i>	<u>22,119</u>	<u>97.7%</u>	<u>4,359,851</u>	<u>96.7%</u>
Retirement & disability ins benefits	<u>9,419</u>	<u>41.6%</u>	<u>1,702,145</u>	<u>37.7%</u>
Old-age, surv & disab ins (OASDI) benefits	8,840	39.0%	1,519,850	33.7%
Railroad ret & disab benefits	289	1.3%	63,875	1.4%
Workers' compensation	288	1.3%	118,141	2.6%
Other govt ret & disab ins benefits ¹	(L)	**	279	0.0%
Medical benefits	<u>10,419</u>	<u>46.0%</u>	<u>1,827,323</u>	<u>40.5%</u>
Medicare benefits	6,055	26.7%	1,048,403	23.2%
Public assist medical care benefits ²	4,267	18.8%	737,479	16.4%
Military medical ins benefits ³	97	0.4%	41,441	0.9%
Income maintenance benefits	<u>1,197</u>	<u>5.3%</u>	<u>414,053</u>	<u>9.2%</u>
Supplemental security income (SSI) benefits	60	0.3%	46,881	1.0%
Family Assistance ⁴	(L)	**	20,691	0.5%
Suppl Nutrition Assistance Prog (SNAP)	217	1.0%	95,468	2.1%
Other income maint benefits ⁵	919	4.1%	251,013	5.6%
Unemp insurance compensation	<u>194</u>	<u>0.9%</u>	<u>95,214</u>	<u>2.1%</u>
State unemp ins compensation	192	0.8%	89,938	2.0%
Unemp comp for fed civilian empl (UCFE)	0	0.0%	1,975	0.0%
Unemp comp for railroad emp	(L)	**	563	0.0%
Unemp comp for vets (UCX)	0	0.0%	985	0.0%
Other unemp comp ⁶	0	0.0%	1,753	**
Veterans benefits	<u>660</u>	<u>2.9%</u>	<u>160,570</u>	<u>3.6%</u>
Veterans pension & disabl benefits	653	2.9%	138,420	3.1%
Veterans readjustment benefits ⁷	(L)	**	18,413	0.4%
Veterans life ins benefits	0	0.0%	3,676	0.1%
Other assistance to veterans ⁸	0	0.0%	61	0.0%
Education & training assistance ⁹	<u>203</u>	<u>0.9%</u>	<u>122,503</u>	<u>2.7%</u>
Other receipts of individuals from govts ¹⁰	<u>(L)</u>	<u>**</u>	<u>38,043</u>	<u>0.8%</u>
<i>Receipts of nonprofit institutions</i>	<u>312</u>	<u>1.4%</u>	<u>88,885</u>	<u>2.0%</u>
Receipts from Federal govt	125	0.6%	35,665	0.8%
Receipts from state and local govts	61	0.3%	17,385	0.4%
Receipts from businesses	126	0.6%	35,835	0.8%
<i>Receipts of individuals from businesses ¹¹</i>	<u>214</u>	<u>0.9%</u>	<u>60,986</u>	<u>1.4%</u>

SOURCE: U. S. Department of Commerce, Bureau of Economic Analysis, data based on NAICS (North American Industrial Classification System) (www.census.gov [August 2013]).

(L) Less than \$50,000, but the estimates for this item are included in the totals.

** Due to nondisclosure of confidential data, no percentages are available.

Appendix Table 4b Footnotes (Continued)

¹ Consists largely of temporary disability payments, pension benefit guaranty payments, black lung payments, and Panama Canal construction annuity payments.

² Consists of Medicaid and other medical vendor payments.

³ Consists of payments made under the TriCare Management Program (formerly called CHAMPUS) for the medical care of dependents of active duty military personnel and of retired military personnel and their dependents at nonmilitary medical facilities.

⁴ Consists of benefits-- generally known as Temporary Assistance for Needy Families (TANF)-- provided under the Personal Responsibility and Work Opportunity Reconciliation Act of 1996.

⁵ Consists largely of general assistance; expenditures for food under the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC); Other Needs Assistance; refugee assistance; foster home care and adoption assistance; Earned Income Tax Credits (EITC); Child Tax Credits; and energy assistance.

⁶ Consists of Trade Adjustment Assistance, Redwood Park benefit payments, public service employment benefit payments, and transitional benefit payments.

⁷ Consists largely of veterans' readjustment benefit payments, educational assistance to spouses and children of disabled or deceased veterans, payments to paraplegics, and payments for autos and conveyances for disabled veterans.

⁸ Consists largely of state and local government payments to veterans.

⁹ Consists largely of federal fellowship payments (National Science Foundation fellowships and traineeships, subsistence payments to state maritime academy cadets, and other federal fellowships), interest subsidy on higher education loans, Pell Grants, Job Corps payments, education exchange payments, and state education assistance payments.

¹⁰ Consists largely of Bureau of Indian Affairs payments; Alaska Permanent Fund dividend payments; compensation of survivors of public safety officers; compensation of victims of crime; disaster relief payments; compensation for Japanese internment; the Economic Stimulus Act of 2008 rebates; the American Recovery and Reinvestment Act of 2009 funded Federal Additional Compensation for unemployment, COBRA premium reduction, and the Economic Recovery lump sum payment; and other special payments to individuals.

Appendix Table 4c
Transfer Receipts for Nelson County and the State of North Dakota, 2011

Transfer Receipts Categories	Nelson County		State of North Dakota	
	Payments (\$1,000s)	% of Total	Payments (\$1,000s)	% of Total
<i>Personal transfer receipts total</i>	<u>36,618</u>	<u>100.0%</u>	<u>4,509,722</u>	<u>100.0%</u>
<i>Receipts of individuals from govts</i>	<u>35,942</u>	<u>98.2%</u>	<u>4,359,851</u>	<u>96.7%</u>
Retirement & disability ins benefits	<u>13,405</u>	<u>36.6%</u>	<u>1,702,145</u>	<u>37.7%</u>
Old-age, surv & disab ins (OASDI) benefits	12,755	34.8%	1,519,850	33.7%
Railroad ret & disab benefits	322	0.9%	63,875	1.4%
Workers' compensation	326	0.9%	118,141	2.6%
Other govt ret & disab ins benefits ¹	(L)	**	279	0.0%
Medical benefits	<u>19,116</u>	<u>52.2%</u>	<u>1,827,323</u>	<u>40.5%</u>
Medicare benefits	10,066	27.5%	1,048,403	23.2%
Public assist medical care benefits ²	8,735	23.9%	737,479	16.4%
Military medical ins benefits ³	<u>315</u>	<u>0.9%</u>	<u>41,441</u>	<u>0.9%</u>
Income maintenance benefits	<u>1,583</u>	<u>4.3%</u>	<u>414,053</u>	<u>9.2%</u>
Supplemental security income (SSI) benefits	97	0.3%	46,881	1.0%
Family Assistance ⁴	(L)	**	20,691	0.5%
Suppl Nutrition Assistance Prog (SNAP)	213	0.6%	95,468	2.1%
Other income maint benefits ⁵	<u>1,242</u>	<u>3.4%</u>	<u>251,013</u>	<u>5.6%</u>
Unemp insurance compensation	<u>363</u>	<u>1.0%</u>	<u>95,214</u>	<u>2.1%</u>
State unemp ins compensation	356	1.0%	89,938	2.0%
Unemp comp for fed civilian empl (UCFE)	(L)	**	1,975	0.0%
Unemp comp for railroad emp	(L)	**	563	0.0%
Unemp comp for vets (UCX)	0	0.0%	985	0.0%
Other unemp comp ⁶	<u>0</u>	<u>0.0%</u>	<u>1,753</u>	<u>**</u>
Veterans benefits	<u>1,169</u>	<u>3.2%</u>	<u>160,570</u>	<u>3.6%</u>
Veterans pension & disabl benefits	1,085	3.0%	138,420	3.1%
Veterans readjustment benefits ⁷	(L)	**	18,413	0.4%
Veterans life ins benefits	(L)	**	3,676	0.1%
Other assistance to veterans ⁸	<u>0</u>	<u>0.0%</u>	<u>61</u>	<u>0.0%</u>
Education & training assistance ⁹	<u>262</u>	<u>0.7%</u>	<u>122,503</u>	<u>2.7%</u>
Other receipts of individuals from govts ¹⁰	<u>(L)</u>	<u>**</u>	<u>38,043</u>	<u>0.8%</u>
<i>Receipts of nonprofit institutions</i>	<u>401</u>	<u>1.1%</u>	<u>88,885</u>	<u>2.0%</u>
Receipts from Federal govt	161	0.4%	35,665	0.8%
Receipts from state and local govts	78	0.2%	17,385	0.4%
Receipts from businesses	<u>162</u>	<u>0.4%</u>	<u>35,835</u>	<u>0.8%</u>
<i>Receipts of individuals from businesses ¹¹</i>	<u>275</u>	<u>0.8%</u>	<u>60,986</u>	<u>1.4%</u>

SOURCE: U. S. Department of Commerce, Bureau of Economic Analysis, data based on NAICS (North American Industrial Classification System) (www.census.gov [August 2013]).

(L) Less than \$50,000, but the estimates for this item are included in the totals.

** Due to nondisclosure of confidential data, no percentages are available.

Appendix Table 4c Footnotes (Continued)

¹ Consists largely of temporary disability payments, pension benefit guaranty payments, black lung payments, and Panama Canal construction annuity payments.

² Consists of Medicaid and other medical vendor payments.

³ Consists of payments made under the TriCare Management Program (formerly called CHAMPUS) for the medical care of dependents of active duty military personnel and of retired military personnel and their dependents at nonmilitary medical facilities.

⁴ Consists of benefits-- generally known as Temporary Assistance for Needy Families (TANF)-- provided under the Personal Responsibility and Work Opportunity Reconciliation Act of 1996.

⁵ Consists largely of general assistance; expenditures for food under the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC); Other Needs Assistance; refugee assistance; foster home care and adoption assistance; Earned Income Tax Credits (EITC); Child Tax Credits; and energy assistance.

⁶ Consists of Trade Adjustment Assistance, Redwood Park benefit payments, public service employment benefit payments, and transitional benefit payments.

⁷ Consists largely of veterans' readjustment benefit payments, educational assistance to spouses and children of disabled or deceased veterans, payments to paraplegics, and payments for autos and conveyances for disabled veterans.

⁸ Consists largely of state and local government payments to veterans.

⁹ Consists largely of federal fellowship payments (National Science Foundation fellowships and traineeships, subsistence payments to state maritime academy cadets, and other federal fellowships), interest subsidy on higher education loans, Pell Grants, Job Corps payments, education exchange payments, and state education assistance payments.

¹⁰ Consists largely of Bureau of Indian Affairs payments; Alaska Permanent Fund dividend payments; compensation of survivors of public safety officers; compensation of victims of crime; disaster relief payments; compensation for Japanese internment; the Economic Stimulus Act of 2008 rebates; the American Recovery and Reinvestment Act of 2009 funded Federal Additional Compensation for unemployment, COBRA premium reduction, and the Economic Recovery lump sum payment; and other special payments to individuals.

¹¹ Consists of personal injury payments to individuals other than employees and other business transfer payments.

Appendix Table 4d
Transfer Receipts for Steele County and the State of North Dakota, 2011

Transfer Receipts Categories	Steele County		State of North Dakota	
	Payments (\$1,000s)	% of Total	Payments (\$1,000s)	% of Total
<i>Personal transfer receipts total</i>	<u>13,830</u>	<u>100.0%</u>	<u>4,509,722</u>	<u>100.0%</u>
<i>Receipts of individuals from govts</i>	<u>13,398</u>	<u>96.9%</u>	<u>4,359,851</u>	<u>96.7%</u>
Retirement & disability ins benefits	<u>6,874</u>	<u>49.7%</u>	<u>1,702,145</u>	<u>37.7%</u>
Old-age, surv & disab ins (OASDI) benefits	6,589	47.6%	1,519,850	33.7%
Railroad ret & disab benefits	(L)	**	63,875	1.4%
Workers' compensation	243	1.8%	118,141	2.6%
Other govt ret & disab ins benefits ¹	(L)	**	279	0.0%
Medical benefits	<u>4,791</u>	<u>34.6%</u>	<u>1,827,323</u>	<u>40.5%</u>
Medicare benefits	4,158	30.1%	1,048,403	23.2%
Public assist medical care benefits ²	433	3.1%	737,479	16.4%
Military medical ins benefits ³	<u>200</u>	<u>1.4%</u>	<u>41,441</u>	<u>0.9%</u>
Income maintenance benefits	<u>803</u>	<u>5.8%</u>	<u>414,053</u>	<u>9.2%</u>
Supplemental security income (SSI) benefits	60	0.4%	46,881	1.0%
Family Assistance ⁴	(L)	**	20,691	0.5%
Suppl Nutrition Assistance Prog (SNAP)	117	0.8%	95,468	2.1%
Other income maint benefits ⁵	<u>622</u>	<u>4.5%</u>	<u>251,013</u>	<u>5.6%</u>
Unemp insurance compensation	<u>87</u>	<u>0.6%</u>	<u>95,214</u>	<u>2.1%</u>
State unemp ins compensation	85	0.6%	89,938	2.0%
Unemp comp for fed civilian empl (UCFE)	(L)	**	1,975	0.0%
Unemp comp for railroad emp	0	0.0%	563	0.0%
Unemp comp for vets (UCX)	0	0.0%	985	0.0%
Other unemp comp ⁶	<u>0</u>	<u>0.0%</u>	<u>1,753</u>	<u>**</u>
Veterans benefits	<u>649</u>	<u>4.7%</u>	<u>160,570</u>	<u>3.6%</u>
Veterans pension & disabl benefits	591	4.3%	138,420	3.1%
Veterans readjustment benefits ⁷	(L)	**	18,413	0.4%
Veterans life ins benefits	(L)	**	3,676	0.1%
Other assistance to veterans ⁸	<u>0</u>	<u>0.0%</u>	<u>61</u>	<u>0.0%</u>
Education & training assistance ⁹	<u>167</u>	<u>1.2%</u>	<u>122,503</u>	<u>2.7%</u>
Other receipts of individuals from govts ¹⁰	<u>(L)</u>	<u>**</u>	<u>38,043</u>	<u>0.8%</u>
<i>Receipts of nonprofit institutions</i>	<u>256</u>	<u>1.9%</u>	<u>88,885</u>	<u>2.0%</u>
Receipts from Federal govt	103	0.7%	35,665	0.8%
Receipts from state and local govts	50	0.4%	17,385	0.4%
Receipts from businesses	<u>103</u>	<u>0.7%</u>	<u>35,835</u>	<u>0.8%</u>
<i>Receipts of individuals from businesses ¹¹</i>	<u>176</u>	<u>1.3%</u>	<u>60,986</u>	<u>1.4%</u>

SOURCE: U. S. Department of Commerce, Bureau of Economic Analysis, data based on NAICS (North American Industrial Classification System) (www.census.gov [August 2013]).

(L) Less than \$50,000, but the estimates for this item are included in the totals.

** Due to nondisclosure of confidential data, no percentages are available.

Appendix Table 4d Footnotes (Continued)

¹ Consists largely of temporary disability payments, pension benefit guaranty payments, black lung payments, and Panama Canal construction annuity payments.

² Consists of Medicaid and other medical vendor payments.

³ Consists of payments made under the TriCare Management Program (formerly called CHAMPUS) for the medical care of dependents of active duty military personnel and of retired military personnel and their dependents at nonmilitary medical facilities.

⁴ Consists of benefits-- generally known as Temporary Assistance for Needy Families (TANF)-- provided under the Personal Responsibility and Work Opportunity Reconciliation Act of 1996.

⁵ Consists largely of general assistance; expenditures for food under the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC); Other Needs Assistance; refugee assistance; foster home care and adoption assistance; Earned Income Tax Credits (EITC); Child Tax Credits; and energy assistance.

⁶ Consists of Trade Adjustment Assistance, Redwood Park benefit payments, public service employment benefit payments, and transitional benefit payments.

⁷ Consists largely of veterans' readjustment benefit payments, educational assistance to spouses and children of disabled or deceased veterans, payments to paraplegics, and payments for autos and conveyances for disabled veterans.

⁸ Consists largely of state and local government payments to veterans.

⁹ Consists largely of federal fellowship payments (National Science Foundation fellowships and traineeships, subsistence payments to state maritime academy cadets, and other federal fellowships), interest subsidy on higher education loans, Pell Grants, Job Corps payments, education exchange payments, and state education assistance payments.

¹⁰ Consists largely of Bureau of Indian Affairs payments; Alaska Permanent Fund dividend payments; compensation of survivors of public safety officers; compensation of victims of crime; disaster relief payments; compensation for Japanese internment; the Economic Stimulus Act of 2008 rebates; the American Recovery and Reinvestment Act of 2009 funded Federal Additional Compensation for unemployment, COBRA premium reduction, and the Economic Recovery lump sum payment; and other special payments to individuals.

¹¹ Consists of personal injury payments to individuals other than employees and other business transfer payments.

Appendix Table 4e
Transfer Receipts for Traill County and the State of North Dakota, 2011

Transfer Receipts Categories	Traill County		State of North Dakota	
	Payments (\$1,000s)	% of Total	Payments (\$1,000s)	% of Total
<i>Personal transfer receipts total</i>	<u>61,661</u>	<u>100.0%</u>	<u>4,509,722</u>	<u>100.0%</u>
<i>Receipts of individuals from govts</i>	<u>59,858</u>	<u>97.1%</u>	<u>4,359,851</u>	<u>96.7%</u>
Retirement & disability ins benefits	<u>23,848</u>	<u>38.7%</u>	<u>1,702,145</u>	<u>37.7%</u>
Old-age, surv & disab ins (OASDI) benefits	22,160	35.9%	1,519,850	33.7%
Railroad ret & disab benefits	413	0.7%	63,875	1.4%
Workers' compensation	1,271	2.1%	118,141	2.6%
Other govt ret & disab ins benefits ¹	(L)	**	<u>279</u>	<u>0.0%</u>
Medical benefits	<u>26,190</u>	<u>42.5%</u>	<u>1,827,323</u>	<u>40.5%</u>
Medicare benefits	14,275	23.2%	1,048,403	23.2%
Public assist medical care benefits ²	11,327	18.4%	737,479	16.4%
Military medical ins benefits ³	<u>588</u>	<u>1.0%</u>	<u>41,441</u>	<u>0.9%</u>
Income maintenance benefits	<u>3,826</u>	<u>6.2%</u>	<u>414,053</u>	<u>9.2%</u>
Supplemental security income (SSI) benefits	375	0.6%	46,881	1.0%
Family Assistance ⁴	109	0.2%	20,691	0.5%
Suppl Nutrition Assistance Prog (SNAP)	762	1.2%	95,468	2.1%
Other income maint benefits ⁵	<u>2,580</u>	<u>4.2%</u>	<u>251,013</u>	<u>5.6%</u>
Unemp insurance compensation	<u>1,188</u>	<u>1.9%</u>	<u>95,214</u>	<u>2.1%</u>
State unemp ins compensation	1,183	1.9%	89,938	2.0%
Unemp comp for fed civilian empl (UCFE)	(L)	**	1,975	0.0%
Unemp comp for railroad emp	0	0.0%	563	0.0%
Unemp comp for vets (UCX)	(L)	**	985	0.0%
Other unemp comp ⁶	<u>0</u>	<u>0.0%</u>	<u>1,753</u>	<u>**</u>
Veterans benefits	<u>2,412</u>	<u>3.9%</u>	<u>160,570</u>	<u>3.6%</u>
Veterans pension & disabl benefits	2,188	3.5%	138,420	3.1%
Veterans readjustment benefits ⁷	192	0.3%	18,413	0.4%
Veterans life ins benefits	(L)	**	3,676	0.1%
Other assistance to veterans ⁸	(L)	**	<u>61</u>	<u>0.0%</u>
Education & training assistance ⁹	<u>2,241</u>	<u>3.6%</u>	<u>122,503</u>	<u>2.7%</u>
Other receipts of individuals from govts ¹⁰	<u>153</u>	<u>0.2%</u>	<u>38,043</u>	<u>0.8%</u>
<i>Receipts of nonprofit institutions</i>	<u>1,069</u>	<u>1.7%</u>	<u>88,885</u>	<u>2.0%</u>
Receipts from Federal govt	429	0.7%	35,665	0.8%
Receipts from state and local govts	209	0.3%	17,385	0.4%
Receipts from businesses	<u>431</u>	<u>0.7%</u>	<u>35,835</u>	<u>0.8%</u>
<i>Receipts of individuals from businesses ¹¹</i>	<u>734</u>	<u>1.2%</u>	<u>60,986</u>	<u>1.4%</u>

SOURCE: U. S. Department of Commerce, Bureau of Economic Analysis, data based on NAICS (North American Industrial Classification System) (www.census.gov [August 2013]).

(L) Less than \$50,000, but the estimates for this item are included in the totals.

** Due to nondisclosure of confidential data, no percentages are available.

Appendix Table 4e Footnotes (Continued)

¹ Consists largely of temporary disability payments, pension benefit guaranty payments, black lung payments, and Panama Canal construction annuity payments.

² Consists of Medicaid and other medical vendor payments.

³ Consists of payments made under the TriCare Management Program (formerly called CHAMPUS) for the medical care of dependents of active duty military personnel and of retired military personnel and their dependents at nonmilitary medical facilities.

⁴ Consists of benefits-- generally known as Temporary Assistance for Needy Families (TANF)-- provided under the Personal Responsibility and Work Opportunity Reconciliation Act of 1996.

⁵ Consists largely of general assistance; expenditures for food under the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC); Other Needs Assistance; refugee assistance; foster home care and adoption assistance; Earned Income Tax Credits (EITC); Child Tax Credits; and energy assistance.

⁶ Consists of Trade Adjustment Assistance, Redwood Park benefit payments, public service employment benefit payments, and transitional benefit payments.

⁷ Consists largely of veterans' readjustment benefit payments, educational assistance to spouses and children of disabled or deceased veterans, payments to paraplegics, and payments for autos and conveyances for disabled veterans.

⁸ Consists largely of state and local government payments to veterans.

⁹ Consists largely of federal fellowship payments (National Science Foundation fellowships and traineeships, subsistence payments to state maritime academy cadets, and other federal fellowships), interest subsidy on higher education loans, Pell Grants, Job Corps payments, education exchange payments, and state education assistance payments.

¹⁰ Consists largely of Bureau of Indian Affairs payments; Alaska Permanent Fund dividend payments; compensation of survivors of public safety officers; compensation of victims of crime; disaster relief payments; compensation for Japanese internment; the Economic Stimulus Act of 2008 rebates; the American Recovery and Reinvestment Act of 2009 funded Federal Additional Compensation for unemployment, COBRA premium reduction, and the Economic Recovery lump sum payment; and other special payments to individuals.

¹¹ Consists of personal injury payments to individuals other than employees and other business transfer payments.

Appendix Table 5a
Economic Indicators for Grand Forks, Steele and Traill Counties,
the State of North Dakota and the United States

Indicator	Grand Forks County	Steele County	Traill County	Nelson County	Griggs County	North Dakota	United States
Total Personal Income (2012)	\$2,640,345,000	\$120,576,000	\$377,287,000	\$186,150,000	\$112,740,000	\$32,306,315,000	\$12,949,905,000,000
Per Capita Income (2012)	\$39,646	\$61,834	\$46,310	\$60,893	\$47,530	\$47,236	\$41,560
Employment (2012)	34,813	1,073	3,845	1,436	1,178	379,828	142,469,000
Unemployment (2012)	1,338	27	141	62	32	12,236	12,506,000
Unemployment Rate (2012)	3.7%	2.5%	3.5%	4.1%	2.6%	3.1%	8.1%
Employment (Jun 2013)	33,955	1,065	3,803	1,296	1,162	395,927	145,113,000
Unemployment (Jun 2013)	1,376	28	148	68	28	13,237	12,083,000
Unemployment Rate (Jun 2013)	3.9%	2.6%	3.7%	5.0%	2.4%	3.2%	7.7%
% of People in Poverty (2012)	14.2%	8.2%	9.9%	10.5%	9.7%	12.0%	15.9%
% of Under 18 in Poverty (2012)	14.6%	14.4%	11.6%	13.1%	11.9%	14.8%	22.5%

SOURCES: U.S. Department of Labor, Bureau of Labor Statistics; U.S. Department of Commerce, Bureau of Economic Analysis; U.S. Census Bureau [August 2013].

Appendix Table 5b
Economic Indicators for Grand Forks, Steele and Traill Counties,
the State of North Dakota and the United States

Indicator	Grand Forks County	Steele County	Traill County	Nelson County	Griggs County	North Dakota	United States
Transfer Dollars (2011)	\$378,769,000	\$13,830,000	\$61,661,000	\$36,618,000	\$22,645,000	\$4,509,722,000	\$2,319,212,000,000
Transfer Dollars as Percentage of Total Personal Income (2011)	14.3%	11.5%	16.3%	19.7%	20.1%	14.0%	17.9%
Transfer Dollars Sub-Categories (2011)							
<i>Retirement/Disability Insurance</i>	137,333,000	6,874,000	23,848,000	13,405,000	9,419,000	1,702,145,000	749,880,000,000
	36.3%	49.7%	38.7%	36.6%	41.6%	37.7%	32.3%
<i>Medical Benefits</i>	140,082,000	4,791,000	26,190,000	19,116,000	10,419,000	1,827,323,000	974,728,000,000
	37.0%	34.6%	42.5%	52.2%	46.0%	40.5%	42.0%
Medicare	79,812,000	4,158,000	14,275,000	10,066,000	6,055,000	1,048,403,000	545,096,000,000
	21.1%	30.1%	23.2%	27.5%	26.7%	23.2%	23.5%
Public Assist Medical Care (Medicaid)	52,050,000	433,000	11,327,000	8,735,000	4,267,000	737,479,000	418,330,000,000
	13.7%	3.1%	18.4%	23.9%	18.8%	16.4%	18.0%
<i>Income Maintenance Benefits</i>	39,269,000	803,000	3,826,000	1,583,000	1,197,000	414,053,000	278,037,000,000
	10.4%	5.8%	6.2%	4.3%	5.3%	9.2%	12.0%
<i>Unemployment Insurance Benefits</i>	9,566,000	87,000	1,188,000	363,000	194,000	95,214,000	108,555,000,000
	2.5%	0.6%	1.9%	1.0%	0.9%	2.1%	4.7%

SOURCES: U.S. Department of Labor, Bureau of Labor Statistics; U.S. Department of Commerce, Bureau of Economic Analysis; U.S. Census Bureau [August 2013].

APPENDIX B

**IMPLAN Software and Data
from Minnesota IMPLAN Group, Inc. (MIG):**

**Model and Data Used
to Derive Multipliers**

**IMPLAN Software and Data from Minnesota IMPLAN Group, Inc. (MIG):
Model and Data Used to Derive Multipliers**

A Review of Input-Output Analysis

Input-output (I/O) (Miernyk, 1965) was designed to analyze the transactions among the industries in an economy. These models are largely based on the work of Wassily Leontief (1936). Detailed I/O analysis captures the indirect and induced interrelated circular behavior of the economy. For example, an increase in the demand for health services requires more equipment, more labor, and more supplies, which, in turn, requires more labor to produce the supplies, etc. By simultaneously accounting for structural interaction between sectors and industries, I/O analysis gives expression to the general economic equilibrium system. The analysis utilizes assumptions based on linear and fixed coefficients and limited substitutions among inputs and outputs. The analysis also assumes that average and marginal I/O coefficients are equal.

Nonetheless, the framework has been widely accepted and used. I/O analysis is useful when carefully executed and interpreted in defining the structure of an area, the interdependencies among industries, and forecasting economic outcomes.

The I/O model coefficients describe the structural interdependence of an economy. From the coefficients, various predictive devices can be computed, which can be useful in analyzing economic changes in a state, an area or a county. Multipliers indicate the relationship between some observed change in the economy and the total change in economic activity created throughout the economy.

The basis of IMPLAN was developed by the U. S. Forest Service to construct input/output accounts and models. The complexity of this type of modeling had hindered practitioners from constructing models specific to a community requesting an analysis. The

University of Minnesota utilized the U.S. Forest Service model to further develop the methodology and expand the data sources to form the model known as IMPLAN. The founders of IMPLAN, Scott Lindall and Doug Olson, joined the University of Minnesota in 1984 and, as an outgrowth of their work with the University of Minnesota, entered into a technology transfer agreement with the University of Minnesota that allowed them to form Minnesota IMPLAN Group, Inc. (MIG).

Minnesota IMPLAN Group, Inc. (MIG) – IMPLAN Software and Data

At first, MIG focused on database development and provided data that could be used in the Forest Service version of the software. In 1995, MIG took on the task of writing a new version of the IMPLAN software from scratch that extended the previous Forest Service version by creating an entirely new modeling system – an extension of input-output accounts and resulting Social Accounting Matrices (SAM) multipliers. Version 2 of the new IMPLAN software became available in May of 1999. MIG has continued to develop the software and now has available IMPLAN Version 3 Software System, the new economic impact assessment software system.

With IMPLAN Version 3 software, MIG changed the packaging of products. Versions 3 utilizes 2007 or later data. When data are ordered, the data cost plus shipping are your only costs. Version 3.0 software and the new IMPLAN appliance are included in the cost of the data. There are no additional fees to upgrade to IMPLAN Version 3.0. Data files are licensed to an individual user. Version 2 is no longer compatible with 2008 and later data sets.

Version 3 allows the user to do much more detailed analyses. Users can continued to create detailed economic impact estimates. Version 3.0 takes the analysis further, providing a new method for estimating regional imports and exports is being implemented - a trade model. IMPLAN can construct a model for any state, region, area, county, or zip code area in the United States by

using available national, state, county, and zip code level data. Impact analysis can be performed once a regional input/output model is constructed.

For more information about Minnesota IMPLAN Group, Inc., contact MIG by phone at 651-439-4421, by email at info@implan.com, or review their website at www.implan.com.

IMPLAN Multipliers

Five different sets of multipliers are estimated by IMPLAN, corresponding to five measures of regional economic activity. These are: total industry output, personal income, total income, value added, and employment. Two types of multipliers are generated. Type I multipliers measure the impact in terms of direct and indirect effects. Direct impacts are the changes in the activities of the focus industry or firm, such as the closing of a hospital. The focus business changes its purchases of inputs as a result of the direct impacts. This produces indirect impacts in other business sectors. However, the total impact of a change in the economy consists of direct, indirect, and induced changes. Both the direct and indirect impacts change the flow of dollars to the households. Subsequently, the households alter their consumption accordingly. The effect of the changes in household consumption on businesses in a community is referred to as an induced effect. To measure the total impact, a Type II (or Type SAM) multiplier is used. The Type II multiplier compares direct, indirect, and induced effects with the direct effects generated by a change in final demand (the sum of direct, indirect, and induced divided by direct).

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