

**UNSOM Health Policy Report**  
University of Nevada School of Medicine

# **The Impact of Hospitals and the Health Sector on the Nevada Economy**

**John Packham, PhD, Elizabeth Fadali, MS,  
Thomas Harris, PhD, and Tabor Griswold, MS**

**April 2011**



This report – *The Impact of Hospitals and the Health Sector on the Nevada Economy 2011 Edition* – was prepared by researchers affiliated with the Nevada Rural Health Works Program, which is a joint research and policy analysis project of the University of Nevada School of Medicine, Nevada Cooperative Extension, and the Center for Economic Development at the University of Nevada, Reno.

The report was prepared by Dr. John Packham and Tabor Griswold at the University of Nevada School of Medicine, and Dr. Thomas Harris and Elizabeth Fadali at the University of Nevada, Reno.

For additional information on this report, please contact Dr. Packham at (775) 784-1235 or [jpackham@medicine.nevada.edu](mailto:jpackham@medicine.nevada.edu).

John Packham, PhD  
Director of Health Policy Research  
University of Nevada School of Medicine  
Reno, Nevada  
(775) 784-1235  
[jpackham@medicine.nevada.edu](mailto:jpackham@medicine.nevada.edu)

# **The Impact of Hospitals and the Health Sector on the Nevada Economy – 2011 Edition**

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# The Impact of Hospitals and the Health Sector on the Nevada Economy – 2011 Edition

## Overview

*The Impact of Hospitals and the Health Sector on the Nevada Economy* documents the economic contribution of hospitals and other medical providers to the state's economy. This report provides detailed estimates of the direct and indirect impact of hospital and health sector activity and operations on payroll and employment in Nevada. Impacts are estimated at the county, regional, and state level in Nevada utilizing the most current employment and payroll data (2009). The analysis presented in this report reveals that Nevada's hospitals and other health service providers have a substantial impact on the state's economy – a contribution typically overlooked in public policy discussions of health care cost containment, access to care, and community benefits.

Hospitals and health service organizations are not only a major employer and source of income in their own right, they play a critical role in local and regional economic development by generating employment and income in a wide range of other businesses and contributing to the tax base at the local level. This report also provides data on the estimated amount of local tax revenue generated from hospital and health sector related employee spending in Nevada. The combination of a growing elderly population in Nevada and insurance coverage expansions resulting from recently passed health reform legislation suggest that there will be steady growth in demand for hospital services and thus growth in employment in the health services sector in Nevada over the next decade.

The most important economic impact of the health sector is in the direct jobs, salaries, and wages of health care employees. However, the purchasing power of hospitals, clinics and other health care organizations, and their employees ripples through the state's economy. For example, hospital workers earn wages and salaries above the norm for Nevada – when those employees purchase housing, food and clothing, cars and appliances, and services, they spur local and regional economic development in numerous ways. Finally, the taxes paid by direct and secondary employment in Nevada supports schools, community colleges and universities, local police and fire departments, cultural and arts programs, and a wide range of public services and amenities, such as community centers, parks, and recreational facilities.

This report – *The Impact of Hospitals and the Health Sector on the Nevada Economy* – was undertaken by John Packham and Tabor Griswold at the University of Nevada School of Medicine and Tom Harris and Betsy Fadali of the University of Nevada, Reno. Utilizing an economic impact model developed specifically for the health care industry, the report examines the direct and secondary economic contributions of hospitals operations and other health service organizations.

Utilizing data sources prepared by the federal government, input-output tables have been developed that enable researchers to examine and model the economic impact of employment and expenditures on a region's economy. The estimated impact of hospitals and health sector on jobs and income in other businesses utilize employment and income multipliers specifically derived for Nevada. A

complete description of the report's methodology and data sources is contained in the appendix to this report.

## **Report Highlights**

*The Impact of Hospitals and the Health Sector on the Nevada Economy* documents the economic contribution of hospitals and other medical providers to the state's economy. The report's findings reveal that Nevada's hospitals and other health service providers have a substantial impact on the state's economy – a contribution typically overlooked in public policy discussions of health care cost containment, access to care, and community benefits.

- In 2009, Nevada's 59 acute care and specialty hospitals employed 29,046 individuals and had a total payroll of \$2.0 billion (Table 1).
- When the income created in other businesses in the state as a result of hospital operating activity is included in the analysis, Nevada hospitals were responsible for an estimated total of \$3.0 billion in payroll for hospital employees and those employed in other businesses (Table 1).
- Likewise, when the jobs created in other businesses as a result of hospital operating activity is included in the analysis, Nevada hospitals were responsible for a total of 47,752 jobs in their facilities and other businesses in the state (Table 1).
- Nevada hospital spending on employee compensation and benefits, as well as spending on goods and services from other business in Nevada, generated \$8.5 billion in total economic activity across the state in 2009 (Table 1).

In stark contrast to nearly every industry sector in Nevada, the health services sector – hospitals, clinics, medical and dental practices, nursing homes, pharmacies, and other medical providers – has been an economic mainstay, and has provided stability and even growth during the deepest recession in the state's history since the Great Depression.

- In 2009, the health services sector produced \$6.6 billion in goods and services or 5.2% of total state domestic product (SDP) (Table 2).
- Nearly 90,000 Nevadans are employed in the health services sector – a figure representing 7.8% of all jobs in Nevada (Table 2).
- Hospitals and other business establishments in the health services sector generated \$4.4 billion in wages and salaries or 9.0% of all payroll in the state in 2009 (Table 2).
- Workers in health services jobs have an average annual wage of \$49,247 – a figure exceeding the state average of \$42,746 by 16.6% (Table 2).

- Between December 2007 and December 2010, Nevada employers shed a total of 175,987 jobs (-13.5%), including job losses of 71,028 in construction (-53.0%), 31,186 in accommodation and food services (-10.1%), and 11,479 in manufacturing (-22.8%) (Table 3).
- During the same period, the health services sector added 6,281 jobs in Nevada (+7.4%), including 1,125 new jobs in Nevada hospitals (+5.9%), 859 jobs in the offices of physicians and dentists (+3.7%), and 883 jobs in home health services agencies (23.8%) (Table 3).

#### *Hospital Employment Impacts in Nevada by Region and Type of Hospital*

- Community hospitals in rural and frontier Nevada employed 2,219 individuals in 2009. These 15 hospitals were responsible for an estimated total of 3,370 jobs for hospital employees and residents in their rural and frontier communities (Tables 4 and 7).
- Nevada's eleven federally designated Critical Access Hospitals (CAH) employed 1,461 individuals and produced an estimated secondary employment impact of 709 jobs resulting in a total employment impact of 2,170 jobs in their respective communities (Tables 4 and 7).
- In 2009, the 19 community and acute-care hospitals in urban counties of Nevada – Carson City, Clark County, and Washoe County – employed 21,485 individuals. When the jobs created in other businesses as a result of hospital operating activity is included in the analysis, these same hospitals were responsible for an estimated total of 42,876 jobs for hospital employees and those working in other local businesses (Tables 5 and 8).
- The 25 psychiatric, rehabilitation, and federally-owned hospitals in Nevada employed 5,342 individuals for the year 2009. These hospitals were responsible for an estimated total of 10,620 jobs for their employees and those employed in other businesses in Nevada (Tables 6 and 9).
- The employment impact of Nevada hospitals is diverse and affects almost every industrial sector in the state. For example, in 2009 Nevada hospitals generated an estimated secondary employment impact of 5,369 jobs in real estate, rental and leasing, 3,193 jobs in administrative services, and 3,733 jobs in retail trade (Table 13).

#### *Hospital Payroll and Income Impacts in Nevada by Region and Type of Hospital*

- Community hospitals in rural and frontier Nevada generated \$117.8 million in payroll in 2009. These 15 hospitals were responsible for an estimated total of \$149.6 million in payroll for their employees and those employed in businesses in their communities (Tables 4 and 10).

- Nevada CAHs generated \$75.9 million in payroll and produced a secondary payroll impact of \$20.7 million resulting in an estimated total payroll impact of \$96.6 million in their respective communities (Tables 4 and 10).
- In 2009, the 19 community hospitals located in urban counties of Nevada generated \$1.44 billion in payroll. When the income created in other businesses in the state as a result of hospital operating activity is included in the analysis, these same hospitals were responsible for an estimated total of \$2.17 billion in payroll for their employees and those working in other local businesses (Tables 5 and 11).
- The 25 psychiatric, rehabilitation, and federally-owned hospitals located in Nevada generated \$460.5 million in payroll for the year 2009. These hospitals were responsible for an estimated total of \$692.5 in payroll for their employees and workers in other businesses in the state (Tables 6 and 12).
- The payroll impact of Nevada hospitals is diverse and affects almost every industrial sector in the state. For example, in 2009 Nevada hospitals generated an estimated secondary payroll impact of \$78.0 million in administrative services, \$77.4 million in finance and insurance services, and \$83.9 million in professional, scientific, and technical services (Table 14).

#### *Health Sector Payroll and Employment Impacts in Nevada*

- The health services sector in Nevada – hospitals, clinics, medical and dental practices, nursing homes, pharmacies, and other medical providers – generated an estimated \$6.50 billion in payroll and employed 98,052 Nevadans in 2009 (Tables 15 and 16).
- When jobs created by other state businesses as a result of the health services sector in Nevada are included in the analysis, the health services sector was responsible for an additional 76,093 jobs in other businesses and an estimated total of 174,146 jobs in the state (Table 17).
- Likewise, when the income created by other Nevada businesses as a result of the health services sector is included in the analysis, the health services sector was responsible for additional payroll of \$3.08 billion in other businesses and an estimated total of \$9.58 billion in payroll in Nevada (Table 18).
- The health sector in Nevada affects employment in every industrial sector of the state. For example, of the 76,093 jobs created in other businesses in Nevada as a result of spending by establishments in the health sector, there was an estimated secondary employment impact of 10,708 jobs in real estate, rental and leasing, 8,898 jobs in administrative services, and 1,285 jobs in information services in 2009 (Table 19).



- Likewise, the health sector in Nevada affects payroll and income in every industrial sector in the state. For example, of the \$3.08 billion in payroll and income generated in other businesses in Nevada as result of spending by establishments in the health sector, there was an estimated secondary payroll impact of \$245.1 million in administrative services, \$255.8 million in finance and insurance services, and \$303.0 million in professional, scientific, and technical services (Table 20).

#### *Impact of Hospital and Health Sector Related Spending on Local Retail Sales and Tax Revenues in Nevada*

The economic impact of hospitals and the health sector extends beyond the ripple effects of payroll and employment. The wages and salaries paid by hospitals and other health care establishments are subject to federal, state, and local taxes.

- In 2009, an estimated \$27.1 million in local and county tax revenue in Nevada was generated as a result of hospital spending and operating activity (Table 21).
- Similarly, an estimated \$85.4 million in local and county revenue in Nevada was generated as a result of health sector spending and operating activity (Table 22).

#### *Economic Impact of Hospital Construction and Major Facility Expansion in Nevada*

- Over the past five years, hospitals in Nevada have spent nearly \$1 billion on the construction of new facilities and major facility expansions and renovations. From 2006 to 2010, hospital spending on construction has generated an estimated 13,242 construction jobs, \$783.1 million in construction-related payroll, and a total of \$1.79 billion in economic activity in Nevada (Table 23).
- Nevada hospitals spent an annual average of \$193.4 million on construction and major facility renovations between 2006 and 2010 resulting in an estimated total economic impact in Nevada of \$358.7 million dollars each year (Table 23).
- While urban hospitals account for the majority of construction spending, rural and frontier hospitals in Nevada spent nearly \$33.5 million on new facilities and major renovations since 2006. Over the past decade, three Critical Access Hospitals were built which now provide access to inpatient, emergency, and hospital-based outpatient services to nearly 100,000 rural and frontier residents of Nevada (Table 23).

In conclusion, a strong hospital industry and other health sector businesses provide essential medical services, improve the quality of life in a myriad of direct and indirect ways, and help Nevada attract and retain businesses and keep jobs in the state. Major employers from other economic sectors will never locate nor stay in Nevada communities that lack strong hospital and health care systems.

Policymakers must recognize that hospitals and strong health care systems play a key role in making Nevada an attractive place to settle, locate a business, or retire. Economic planning and development agencies frequently seek high-tech, manufacturing, and service industries that will create new, well-paying jobs. Across the state, Nevada hospitals and other medical providers are doing just that and should not be overlooked as economic engines in their own right.

Given the current economic recession and the contributions of hospitals and health care providers documented in this report, hospitals and other providers of medical services must be considered as part of any state economic development and stimulus planning to ensure that they are able to maintain and recruit a strong health care work force and that they are able to invest in the facilities, technology, and capital infrastructure to enable continued delivery of the best quality of care to Nevadans.

Table 1: Summary of Hospital Economic Impacts in Nevada – 2009

Hospital Economic Impacts			
Type of Impact	Direct Impact	Secondary Impact	Total Impact
Employment – Number of Jobs	29,046	18,706	47,752
Payroll – Dollars	2,022,713,656	993,005,521	3,015,719,177
Output – Dollars	4,732,618,874	3,763,709,812	8,496,328,686

Note: This table summarizes information contained in the following tables.

**Table 2: State Domestic Product, Average Employment, Total Payroll, and Average Annual Wage in Nevada by Industry Sector – 2009**

Industry Sector	State Domestic Product		Average Employment		Total Payroll		Average Annual Wage (Dollars)
	Millions of Dollars	Percent of Total SDP	Number of Jobs	Percent of Total Jobs	Millions of Dollars	Percent of Total Payroll	
Accommodation & Food Services	17,108	13.5	281,740	24.8	8,217	16.9	29,164
Administrative & Waste Services	3,242	2.6	68,935	6.1	2,060	4.2	29,883
Agriculture, Forestry, & Fishing	265	0.2	2,257	0.2	68	0.1	30,315
Arts, Entertainment & Recreation Services	2,846	2.2	26,267	2.3	779	1.6	29,671
Construction	9,501	7.5	80,079	7.0	4,739	9.7	58,658
Educational Services (Private)	428	0.3	8,050	0.7	308	0.6	38,257
Finance & Insurance Services	12,093	9.6	32,717	2.9	1,813	3.7	55,419
Health Care & Social Assistance	6,579	5.2	89,136	7.8	4,390	9.0	49,247
Information Services	2,380	1.9	13,158	1.2	726	1.5	55,151
Management of Companies & Enterprises	2,844	2.2	17,876	1.6	1,774	3.6	99,241
Manufacturing	5,206	4.1	40,029	3.5	2,004	4.1	49,855
Mining	4,320	3.4	11,609	1.0	914	1.9	78,727
Professional, Scientific & Technical Services	6,271	5.0	48,632	4.3	3,208	6.6	65,973
Real Estate, Rental & Leasing	17,346	13.7	22,756	2.0	882	1.8	38,771
Trade, Retail	8,137	6.4	128,174	11.3	3,567	7.3	27,833
Trade, Wholesale	4,774	3.8	35,013	3.1	2,081	4.3	59,443
Transportation & Warehousing	4,353	3.4	45,378	4.0	1,472	3.0	32,427
Utilities	2,334	1.8	4,568	0.4	401	0.8	87,783
Other Services Except Government	2,547	2.0	27,247	2.4	863	1.8	31,627
Government	13,930	11.0	152,387	13.4	8,111	16.7	53,224
Unclassified or Undetermined			888	0.1	52	0.1	58,564
Nevada – Total	126,504	99.8	1,137,786	100.1	48,635	99.3	42,746

Source: Nevada Department of Employment, Training, and Rehabilitation (2011).

Table 3: Employment Change in Nevada by Industry Sector and Selected Segments of the Health Care and Social Assistance Industries – December 2007 to December 2010

Industry Sector	Jobs		Change – December 2007 to December 2010	
	December 2007	December 2010	Number	Percent
Accommodation & Food Services	308,872	277,686	- 31,186	- 10.1
Administrative & Waste Services	87,760	71,447	- 16,313	- 18.6
Agriculture, Forestry, & Fishing	2,146	2,253	107	5.0
Arts, Entertainment & Recreation Services	30,635	25,308	- 5,327	- 17.4
Construction	133,899	62,871	- 71,028	- 53.0
Educational Services (Private)	7,066	7,954	888	12.6
Finance & Insurance Services	37,412	31,374	- 6,038	- 16.1
Health Care & Social Assistance	85,071	91,352	6,281	7.4
General Medical and Surgical Hospitals	18,975	20,100	1,125	5.9
Offices of Physicians	16,047	16,509	462	2.9
Offices of Dentists	6,976	7,373	397	5.7
Services for Elderly and Disabled	5,118	5,501	383	7.5
Nursing Care Facilities	5,164	5,501	337	6.5
Home Health Services	3,711	4,594	883	23.8
Offices of OT, PT, and other Therapists	1,953	2,270	317	16.2
Medical Laboratories	2,043	1,637	- 406	- 19.9
Freestanding Ambul. Surgery & Emergency Centers	1,486	1,597	111	7.5
Ambulance Services	1,112	1,199	87	7.8
Information Services	15,868	12,790	- 3,078	- 19.4
Management of Companies & Enterprises	16,668	19,036	2,368	14.2
Manufacturing	50,374	38,895	- 11,479	- 22.8
Mining	12,094	11,946	- 148	- 1.2
Professional, Scientific & Technical Services	54,873	45,814	- 9,059	- 16.5
Real Estate, Rental & Leasing	27,454	22,014	-5,440	- 19.8
Trade, Retail	139,855	124,752	- 15,103	- 10.8
Trade, Wholesale	39,633	35,744	- 3,889	- 9.8
Transportation & Warehousing	54,105	49,611	- 4,494	- 8.3
Utilities	4,516	4,412	- 104	- 2.3
Other Services Except Government	29,226	27,564	- 1,662	- 5.7
Government	163,703	162,420	- 1,283	- 0.8
<b>Nevada Total – All Industries</b>	<b>1,301,230</b>	<b>1,125,243</b>	<b>- 175,987</b>	<b>- 13.5</b>

Source: Nevada Department of Employment, Training and Rehabilitation (2011).

Table 4: Community Hospitals in Rural and Frontier Nevada

Hospital	Licensed Beds – 2011	Estimated Number of Jobs – FY 2009	Annual Payroll – FY 2009 (Dollars)
Critical Access Hospitals (CAH)			
Battle Mountain General Hospital	25	75	3,650,979
Boulder City Hospital	67	171	8,262,999
Carson Valley Medical Center	23	207	12,587,486
Desert View Hospital	24	135	6,961,530
Grover C. Dils Medical Center	20	72	2,626,563
Humboldt General Hospital	52	187	10,277,217
Incline Village Community Hospital	4	34	3,372,335
Mesa View Regional Hospital	25	161	8,997,743
Mount Grant General Hospital	35	107	4,867,214
Pershing General Hospital	45	105	4,636,437
William Bee Ririe Hospital	25	207	9,645,587
CAH Hospitals – Subtotal	345	1,461	75,886,090
CAH-Eligible Hospitals			
Banner Churchill Community Hospital	40	334	21,166,445
Northeastern Nevada Regional Hospital	75	207	11,992,432
Nye Regional Medical Center	18	46	1,467,870
South Lyon Medical Center	63	171	7,237,328
CAH-Eligible Hospitals – Subtotal	196	758	41,864,075
Rural & Frontier Nevada Hospitals – Subtotal	541	2,219	117,750,165
Urban Nevada Hospitals – Subtotal (See Table 2)	4,728	21,485	1,444,461,799
Nevada Community Hospitals – Total	5,269	23,704	1,562,211,964

Source: Center for Health Information Analysis (2010), Press Ganey Associates (2010), and Griswold and Packham (2011).

Note: Licensed beds in rural hospitals include both acute-care and long-term care bed licensed by the State of Nevada.

Table 5: Community Hospitals in Urban Nevada

Hospital	Licensed Beds – 2011	Estimated Number of Jobs – FY 2009	Annual Payroll – FY 2009 (Dollars)
Carson City			
Carson Tahoe Regional Medical Center	172	899	58,994,759
Sierra Surgery Hospital	15	121	9,541,123
Clark County			
Centennial Hills Hospital Medical Center	135	782	35,457,996
Desert Springs Hospital Medical Center	286	925	59,519,974
MountainView Hospital	235	862	72,201,697
North Vista Hospital	178	489	31,053,054
St. Rose Dominican Hospital, Rose de Lima Campus	131	706	55,555,479
St. Rose Dominican Hospital, San Martin Campus	147	652	48,897,525
St. Rose Dominican Hospital, Siena Campus	219	1,405	102,736,180
Southern Hills Hospital and Medical Center	139	424	30,501,687
Spring Valley Hospital Medical Center	180	775	52,462,123
Summerlin Hospital Medical Center	277	1,173	84,326,387
Sunrise Hospital and Medical Center	638	2,549	174,636,026
University Medical Center of Southern Nevada	530	3,684	252,045,860
Valley Hospital Medical Center	340	1,386	88,355,625
Washoe County			
Northern Nevada Medical Center	100	319	20,025,396
Renown Regional Medical Center	566	2,395	131,835,225
Renown South Meadows Medical Center	138	348	28,770,353
Saint Mary’s Regional Medical Center	302	1,591	107,545,330
Urban Nevada Hospitals – Subtotal	4,728	21,485	1,444,461,799
Rural & Frontier Hospitals – Subtotal (See Table 1)			
	541	2,219	117,750,165
Nevada Community Hospitals – Total			
	5,269	23,704	1,562,211,964

Source: Center for Health Information Analysis (2010), Press Ganey Associates (2010), and Griswold and Packham (2011).

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Table 6: Federal, Rehabilitation, Psychiatric, and Other Specialty Hospitals in Urban Nevada

Hospital	Licensed Beds – 2011	Estimated Number of Jobs – FY 2009	Annual Payroll – FY 2009 (Dollars)
Carson City			
Carson Tahoe Continuing Care Hospital	29	26	3,475,467
Clark County			
Desert Canyon Rehabilitation Hospital	50	77	6,725,324
Desert Willow Treatment Center	58	108	N/A
Harmon Medical and Rehabilitation Hospital	118	261	15,966,162
Healthsouth Hospital at Tenaya	70	197	14,012,792
Healthsouth Rehabilitation Hospital of Henderson	70	185	12,370,708
Healthsouth Rehabilitation Hospital of Las Vegas	79	204	12,226,871
Horizon Specialty Hospital of Las Vegas	61	55	3,919,376
Kindred Hospital Las Vegas – Desert Springs	40	79	5,898,298
Kindred Hospital Las Vegas – Flamingo Campus	142	253	17,240,379
Kindred Hospital Las Vegas – Sahara Campus	52	133	9,102,224
Mike O’Callahan Federal Hospital	114	720	111,113,100
Montevista Hospital	80	169	10,849,273
Progressive Hospital	24	47	3,126,834
Red Rock Behavioral Hospital	21	26	1,877,340
Southern Nevada Adult Mental Health Services	234	678	52,568,233
Spring Mountain Sahara	30	53	2,963,417
Spring Mountain Treatment Center	82	138	7,476,804
UMC Rancho Rehabilitation Center	–	32	3,281,815
Washoe County			
Ioannis Lougaris Veterans Administration Med Ctr	70	952	105,570,700
Northern Nevada Adult Mental Health Services	70	270	21,417,939
Renown Rehabilitation Hospital	62	163	11,817,823
Tahoe Pacific Hospitals	60	114	9,773,571
West Hills Hospital	95	152	9,578,282
Willow Springs Center	76	250	8,148,960
Nevada Psych, Rehab & Federal Hospitals – Total	1,787	5,342	460,501,692

Source: Center for Health Information Analysis (2010), Press Ganey Associates (2010), Griswold and Packham (2011), Nevada Department of Employment, Training and Rehabilitation (2011), and unpublished data collected by the Nevada Office of Rural Health.

Note: UMC Rancho Rehabilitation Center closed in 2009.



**Table 7: Direct, Secondary, and Total Employment Impacts of Community Hospitals in Rural and Frontier Nevada – 2009**

Hospital	Estimated Number of Jobs	Type SAM Multiplier	Secondary Employment Impact – Number of Jobs			Total Impact – Number of Jobs
			Indirect	Induced	Total Secondary	
<b>Critical Access Hospitals (CAH)</b>						
Battle Mountain General Hospital	75	1.18	7	7	14	89
Boulder City Hospital	171	2.07	78	104	183	354
Carson Valley Medical Center	207	1.52	46	62	108	315
Desert View Hospital	135	1.46	34	28	62	197
Grover C. Dils Medical Center	72	1.14	7	3	10	82
Humboldt General Hospital	187	1.28	22	32	53	240
Incline Village Community Hospital	34	1.87	12	18	29	63
Mesa View Regional Hospital	161	2.07	74	98	172	333
Mount Grant General Hospital	107	1.18	8	12	20	127
Pershing General Hospital	105	1.12	5	7	12	117
William Bee Ririe Hospital	207	1.22	18	29	46	253
CAH Hospitals – Subtotal	1,461	–	309	400	709	2,170
<b>CAH-Eligible Hospitals</b>						
Banner Churchill Community Hospital	334	1.76	133	119	252	586
Northeastern Nev Regional Hospital	207	1.50	40	63	104	311
Nye Regional Medical Center	46	1.46	12	10	21	67
South Lyon Medical Center	171	1.38	34	31	65	236
CAH-Eligible Hospitals – Subtotal	758	–	219	222	442	1,200
Nevada Rural and Frontier Hospitals – Total	2,219	–	529	622	1,151	3,370

Source: Center for Health Information Analysis (2010), Press Ganey Associates (2010), Griswold and Packham (2011), and Minnesota IMPLAN Group (2011a).

**Table 8: Direct, Secondary, and Total Employment Impacts of Community Hospitals in Urban Nevada – 2009**

Hospital	Estimated Number of Jobs	Type SAM Multiplier	Secondary Employment Impact – Number of Jobs			Total Impact – Number of Jobs
			Indirect	Induced	Total Secondary	
<b>Carson City</b>						
Carson Tahoe Regional Medical Center	899	1.44	209	187	397	1,296
Sierra Surgery Hospital	121	1.44	28	25	53	174
<b>Clark County</b>						
Centennial Hills Hospital Medical Center	782	2.07	359	478	836	1,618
Desert Springs Hospital Medical Center	925	2.07	424	565	989	1,914
MountainView Hospital	862	2.07	396	526	922	1,784
North Vista Hospital	489	2.07	224	299	523	1,012
St. Rose Dominican Hospital, Rose de Lima Campus	706	2.07	324	431	755	1,461
St. Rose Dominican Hospital, San Martin Campus	652	2.07	299	398	697	1,349
St. Rose Dominican Hospital, Siena Campus	1,405	2.07	645	858	1,503	2,908
Southern Hills Hospital and Medical Center	424	2.07	195	259	454	878
Spring Valley Hospital Medical Center	775	2.07	356	473	829	1,604
Summerlin Hospital Medical Center	1,173	2.07	538	716	1,255	2,428
Sunrise Hospital and Medical Center	2,549	2.07	1,170	1,557	2,726	5,275
University Medical Center of Southern Nevada	3,684	2.07	1,691	2,250	3,941	7,625
Valley Hospital Medical Center	1,386	2.07	636	846	1,483	2,869
<b>Washoe County</b>						
Northern Nevada Medical Center	319	1.87	111	165	276	595
Renown Regional Medical Center	2,395	1.87	834	1,239	2,073	4,468
Renown South Meadows Medical Center	348	1.87	121	180	301	649
Saint Mary's Regional Medical Center	1,591	1.87	554	823	1,377	2,968
<b>Nevada Urban Hospitals – Total</b>	<b>21,485</b>	<b>–</b>	<b>9,114</b>	<b>12,277</b>	<b>21,391</b>	<b>42,876</b>

Source: Center for Health Information Analysis (2010), Press Ganey Associates (2010), Griswold and Packham (2011), and Minnesota IMPLAN Group (2011a).

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Table 9: Direct, Secondary, and Total Employment Impacts of Federal, Rehabilitation, Psychiatric, and Other Specialty Hospitals in Nevada – 2009

Hospital	Estimated Number of Jobs	Type SAM Multiplier	Secondary Employment Impact – Number of Jobs			Total Impact – Number of Jobs
			Indirect	Induced	Total Secondary	
Carson City						
Carson Tahoe Continuing Care Hospital	26	1.44	6	5	11	37
Clark County						
Desert Canyon Rehabilitation Hospital	77	2.07	35	47	82	159
Desert Willow Treatment Center	108	2.07	50	66	116	224
Harmon Medical and Rehabilitation Hospital	261	2.07	120	159	279	540
Healthsouth Hospital at Tenaya	197	2.07	90	20	211	408
Healthsouth Rehabilitation Hospital of Henderson	185	2.07	85	113	198	383
Healthsouth Rehabilitation Hospital of Las Vegas	204	2.07	94	125	218	422
Horizon Specialty Hospital of Las Vegas	55	2.07	25	34	59	114
Kindred Hospital Las Vegas – Desert Springs	79	2.07	36	48	85	164
Kindred Hospital Las Vegas – Flamingo Campus	253	2.07	116	155	271	524
Kindred Hospital Las Vegas – Sahara Campus	133	2.07	61	81	142	275
Mike O’Callahan Federal Hospital	720	2.07	330	440	770	1,490
Montevista Hospital	169	2.07	78	103	181	350
Progressive Hospital	47	2.07	22	29	50	97
Red Rock Behavioral Hospital	26	2.07	12	16	28	54
Southern Nevada Adult Mental Health Services	678	2.07	311	414	725	1,403
Spring Mountain Sahara	53	2.07	24	32	57	110
Spring Mountain Treatment Center	138	2.07	63	84	148	286
UMC Rancho Rehabilitation Center	32	2.07	15	20	34	66
Washoe County						
Ioannis Lougaris Veterans Administration Med Ctr	952	1.87	331	493	824	1,776
Northern Nevada Adult Mental Health Services	270	1.87	94	140	234	504
Renown Rehabilitation Hospital	163	1.87	57	84	141	304
Tahoe Pacific Hospitals	114	1.87	40	59	99	213
West Hills Hospital	152	1.87	53	79	132	284
Willow Springs Center	250	1.87	87	129	216	466
Nevada Non-Acute Hospitals – Total	5,342	1.99	2,281	2,997	5,278	10,620

Source: Center for Health Information Analysis (2010), Press Ganey Associates (2010), Griswold and Packham (2011), and Minnesota IMPLAN Group (2011a).

**Table 10: Direct, Secondary, and Total Payroll Impacts of Community Hospitals in Rural and Frontier Nevada – 2009**

Hospital	Payroll – Dollars	Type SAM Multiplier	Secondary Income Impact – Dollars			Total Payroll Impact – Dollars
			Indirect	Induced	Total Secondary	
Critical Access Hospitals (CAH)						
Battle Mountain General Hospital	3,650,979	1.10	165,106	193,035	358,141	4,009,120
Boulder City Hospital	8,262,999	1.51	1,685,709	2,512,808	4,198,517	12,461,516
Carson Valley Medical Center	12,587,486	1.25	1,284,069	1,845,876	3,129,945	15,717,431
Desert View Hospital	6,961,530	1.24	855,412	835,416	1,690,828	8,652,358
Grover C. Dils Medical Center	2,626,563	1.10	193,083	73,817	266,900	2,893,463
Humboldt General Hospital	10,277,217	1.21	990,935	1,155,499	2,146,434	12,423,651
Incline Village Community Hospital	3,372,335	1.56	779,949	1,112,746	1,892,695	5,265,030
Mesa View Regional Hospital	8,997,743	1.51	1,835,602	2,736,246	4,571,848	13,569,591
Mount Grant General Hospital	4,867,214	1.14	293,151	399,174	692,325	5,559,539
Pershing General Hospital	4,636,437	1.06	106,780	173,104	279,883	4,916,320
William Bee Ririe Hospital	9,645,587	1.16	623,660	883,889	1,507,550	11,153,137
CAH Hospitals – Subtotal	75,886,090	–	8,813,456	11,921,611	20,735,066	96,621,156
CAH-Eligible Hospitals						
Banner Churchill Community Hospital	21,166,445	1.22	1,664,822	3,012,328	4,677,150	25,843,595
Northeastern Nev Regional Hospital	11,992,432	1.37	1,975,034	2,402,879	4,377,913	16,370,345
Nye Regional Medical Center	1,467,870	1.24	180,367	176,151	356,519	1,824,389
South Lyon Medical Center	7,237,328	1.23	854,109	830,124	1,684,233	8,921,561
CAH-Eligible Hospitals – Subtotal	41,864,075	–	4,674,332	6,421,482	11,095,814	52,959,889
Nevada Rural & Frontier Hospitals – Total	117,750,165	–	13,487,788	18,343,093	31,830,881	149,581,046

Source: Center for Health Information Analysis (2010), Press Ganey Associates (2010), Griswold and Packham (2011), and Minnesota IMPLAN Group (2011a).

**Table 11: Direct, Secondary, and Total Payroll Impacts of Community Hospitals in Urban Nevada – 2009**

Hospital	Payroll – Dollars	Type SAM Multiplier	Secondary Income Impact – Dollars			Total Payroll Impact – Dollars
			Indirect	Induced	Total Secondary	
Carson City						
Carson Tahoe Regional Medical Center	58,994,759	1.22	6,234,938	6,454,141	12,689,079	71,683,838
Sierra Surgery Hospital	9,541,123	1.22	1,008,366	1,043,817	2,052,183	11,593,306
Clark County						
Centennial Hills Hospital Medical Center	35,457,996	1.51	7,233,676	10,782,905	18,016,581	53,474,577
Desert Springs Hospital Medical Center	59,519,974	1.51	12,142,486	18,100,239	30,242,725	89,762,699
MountainView Hospital	72,201,697	1.51	14,729,645	21,956,797	36,686,442	108,888,139
North Vista Hospital	31,053,054	1.51	6,335,038	9,443,346	15,778,384	46,831,438
St. Rose Dominican Hospital, Rose de Lima Campus	55,555,479	1.51	11,333,702	16,894,622	28,228,324	83,783,803
St. Rose Dominican Hospital, San Martin Campus	48,897,525	1.51	9,975,433	14,869,914	24,845,347	73,742,872
St. Rose Dominican Hospital, Siena Campus	102,736,180	1.51	20,958,891	31,242,444	52,201,334	154,937,514
Southern Hills Hospital and Medical Center	30,501,687	1.51	6,222,555	9,275,673	15,498,228	45,999,915
Spring Valley Hospital Medical Center	52,462,123	1.51	10,702,636	15,953,921	26,656,557	79,118,680
Summerlin Hospital Medical Center	84,326,387	1.51	17,203,166	25,643,959	42,847,125	127,173,512
Sunrise Hospital and Medical Center	174,636,026	1.51	35,626,956	53,107,446	88,734,403	263,370,429
University Medical Center of Southern Nevada	252,045,860	1.51	51,419,097	76,648,057	128,067,154	380,113,014
Valley Hospital Medical Center	88,355,625	1.51	18,025,158	26,869,265	44,894,423	133,250,048
Washoe County						
Northern Nevada Medical Center	20,025,396	1.56	4,631,444	6,607,644	11,239,088	31,264,484
Renown Regional Medical Center	131,835,225	1.56	30,490,658	43,500,774	73,991,432	205,826,657
Renown South Meadows Medical Center	28,770,353	1.56	6,653,965	9,493,158	16,147,123	44,917,476
Saint Mary's Regional Medical Center	107,545,330	1.56	24,872,927	35,486,002	60,358,929	167,904,259
Nevada Urban Hospitals – Total	1,444,461,799	–	295,800,736	433,374,123	729,174,860	2,173,636,659

Source: Center for Health Information Analysis (2010), Press Ganey Associates (2010), Griswold and Packham (2011), and Minnesota IMPLAN Group (2011a).

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Table 12: Direct, Secondary, and Total Payroll Impacts of Federal, Rehabilitation, Psychiatric, and Other Specialty Hospitals Nevada – 2009

Hospital	Payroll – Dollars	Type SAM Multiplier	Secondary Income Impact – Dollars			Total Payroll Impact – Dollars
			Indirect	Induced	Total Secondary	
Carson City						
Carson Tahoe Continuing Care Hospital	3,475,467	1.22	367,309	380,223	747,532	4,222,999
Clark County						
Desert Canyon Rehabilitation Hospital	6,725,324	1.51	1,372,013	2,045,195	3,417,208	10,142,532
Desert Willow Treatment Center	N/A	1.51	N/A	N/A	N/A	N/A
Harmon Medical and Rehabilitation Hospital	15,966,162	1.51	3,257,207	4,855,368	8,112,575	24,078,737
Healthsouth Hospital at Tenaya	14,012,792	1.51	2,858,706	4,261,341	7,120,047	21,132,839
Healthsouth Rehab Hospital of Henderson	12,370,708	1.51	2,523,710	3,761,977	6,285,687	18,656,395
Healthsouth Rehab Hospital of Las Vegas	12,226,871	1.51	2,494,366	3,718,236	6,212,602	18,439,473
Horizon Specialty Hospital of Las Vegas	3,919,376	1.51	799,580	1,191,896	1,991,476	5,910,852
Kindred Hospital Las Vegas – Desert Springs	5,898,298	1.51	1,203,294	1,793,694	2,996,987	8,895,285
Kindred Hospital Las Vegas – Flamingo Campus	17,240,379	1.51	3,517,156	5,242,862	8,760,018	26,000,397
Kindred Hospital Las Vegas – Sahara Campus	9,102,224	1.51	1,856,917	2,768,019	4,624,936	13,727,160
Mike O'Callahan Federal Hospital	111,113,100	1.51	22,667,840	33,789,895	56,457,735	167,570,835
Montevista Hospital	10,849,273	1.51	1,213,327	3,299,303	5,512,630	16,361,903
Progressive Hospital	3,126,834	1.51	637,896	950,882	1,588,777	4,715,611
Red Rock Behavioral Hospital	1,877,340	1.51	382,990	570,906	953,896	2,831,236
Southern Nevada Adult Mental Health Services	52,568,233	1.51	10,724,283	15,986,190	26,710,472	79,278,705
Spring Mountain Sahara	2,963,417	1.51	604,558	901,186	1,505,743	4,469,160
Spring Mountain Treatment Center	7,476,804	1.51	1,525,320	2,273,723	1,799,043	11,275,847
UMC Rancho Rehabilitation Center	3,281,815	1.51	669,513	998,012	1,667,525	4,949,340
Washoe County						
Ioannis Lougaris Veterans Admin Med Center	105,570,700	1.56	24,416,237	34,834,447	59,250,684	164,821,384
Northern Nevada Adult Mental Health Services	21,417,939	1.56	4,953,510	7,067,132	12,020,641	33,438,580
Renown Rehabilitation Hospital	11,817,823	1.56	2,733,209	3,899,447	6,632,656	18,450,479
Tahoe Pacific Hospital	9,773,571	1.56	2,260,417	3,224,919	5,485,336	15,258,907
West Hills Hospital	9,578,282	1.56	2,215,251	3,160,481	5,375,732	14,954,014
Willow Springs Center	8,148,960	1.56	1,884,680	2,688,857	4,573,537	12,722,497
Nevada Non-Acute Hospitals – Total	460,501,692	1.50	94,909,063	137,090,717	231,999,780	692,501,472

Source: Center for Health Information Analysis (2010), Press Ganey Associates (2010), Griswold and Packham (2011), and Minnesota IMPLAN Group (2011a).

**Table 13: Distribution of Indirect, Induced, and Total Secondary Hospital Employment Impacts in Nevada Across Industry Sectors – 2009**

Industry Sector	Indirect Employment		Induced Employment		Total Secondary Employment	
	Number of Jobs	Percent of Total Indirect Jobs	Number of Jobs	Percent of Total Induced Jobs	Number of Jobs	Percent of Total Secondary Jobs
Accommodation & Food Services	763	6%	1,925	12%	2,688	9%
Administrative & Waste Services	2,431	20%	761	5%	3,193	11%
Agriculture, Forestry, & Fishing	3	0%	13	0%	17	0%
Arts, Entertainment & Recreation Services	83	1%	565	3%	647	2%
Construction	107	1%	130	1%	237	1%
Educational Services (Private)	3	0%	326	2%	329	1%
Finance & Insurance Services	596	5%	1,181	7%	1,776	6%
Health Care & Social Assistance	474	4%	2,957	18%	3,431	12%
Information Services	199	2%	226	1%	425	1%
Management of Companies & Enterprises	579	5%	89	1%	668	2%
Manufacturing	99	1%	103	1%	201	1%
Mining	1	0%	2	0%	3	0%
Professional, Scientific & Technical Services	970	8%	676	4%	1,646	6%
Real Estate, Rental & Leasing	4,142	33%	1,227	8%	5,369	19%
Trade, Retail	241	2%	3,491	21%	3,733	13%
Trade, Wholesale	480	4%	548	3%	1,028	4%
Transportation & Warehousing	416	3%	408	3%	825	3%
Utilities	70	1%	54	0%	124	0%
Other Services Except Government	550	4%	1,495	9%	2,045	7%
Government & Other	192	2%	120	1%	312	1%
<b>Nevada Hospitals – Total</b>	<b>12,401</b>	<b>100%</b>	<b>16,296</b>	<b>100%</b>	<b>28,697</b>	<b>100%</b>

Source: Center for Health Information Analysis (2010), Press Ganey Associates (2010), Griswold and Packham (2011), and Minnesota IMPLAN Group (2011a).

Table 14: Distribution of Indirect, Induced, and Total Secondary Hospital Payroll Impacts (Thousands of Dollars) in Nevada Across Industry Sectors – 2009

Industry Sector	Indirect Income		Induced Income		Total Secondary Income	
	Income	Percent of Total Indirect Income	Income	Percent of Total Induced Income	Income	Percent of Total Secondary Income
Accommodation & Food Services	26,787,940	6%	55,082,339	9%	81,870,279	8%
Administrative & Waste Services	58,445,769	14%	19,543,127	3%	77,988,896	8%
Agriculture, Forestry, & Fishing	45,828	0%	591,432	0%	637,260	0%
Arts, Entertainment & Recreation Services	2,219,269	1%	16,067,354	3%	18,286,623	2%
Construction	6,260,036	2%	7,296,548	1%	13,556,584	1%
Educational Services (Private)	91,746	0%	9,130,616	2%	9,222,362	1%
Finance & Insurance Services	25,853,661	6%	51,564,483	9%	77,418,144	8%
Health Care & Social Assistance	26,578,402	6%	156,609,591	26%	183,187,993	18%
Information Services	11,083,577	3%	10,800,858	2%	21,884,435	2%
Management of Companies & Enterprises	55,083,896	13%	8,500,538	1%	63,584,433	6%
Manufacturing	5,161,882	1%	4,817,865	1%	9,979,747	1%
Mining	73,364	0%	79,571	0%	152,934	0%
Professional, Scientific & Tech Services	50,133,309	12%	33,756,502	6%	83,889,811	8%
Real Estate, Rental & Leasing	47,502,709	11%	16,239,934	3%	63,742,643	6%
Trade, Retail	7,128,428	2%	102,290,246	17%	109,418,675	11%
Trade, Wholesale	30,238,909	7%	34,644,087	6%	64,882,995	6%
Transportation & Warehousing	17,143,642	4%	19,132,984	3%	36,276,626	4%
Utilities	7,654,712	2%	5,757,856	1%	13,412,568	1%
Other Services Except Government	24,175,829	6%	40,400,968	7%	64,576,797	6%
Government & Other	15,216,903	4%	9,852,160	2%	25,069,063	2%
<b>Nevada Hospitals – Total</b>	<b>416,879,812</b>	<b>100%</b>	<b>602,159,058</b>	<b>100%</b>	<b>1,019,038,869</b>	<b>100%</b>

Source: Center for Health Information Analysis (2010), Press Ganey Associates (2010), Griswold and Packham (2011), and Minnesota IMPLAN Group (2011a).



Table 15: Health Services Industry Employment in Nevada by County and Industry Sector – 2009

Region/County	Health Services Industry Employment – Number of Jobs					
	Hospital	Physicians, Dentists & Other Professionals	Nursing & Protective Care	Pharmacies	Other Medical & Health Services	Total Number of Jobs
Rural and Frontier						
Churchill County	401	328	185	65	101	1,081
Douglas County	177	606	218	47	258	1,305
Elko County	386	567	212	27	150	1,341
Esmeralda County	0	0	0	0	0	0
Eureka County	0	16	0	1	0	17
Humboldt County	204	148	11	11	18	391
Lander County	89	9	0	15	6	119
Lincoln County	81	12	91	5	6	195
Lyon County	151	136	79	187	87	641
Mineral County	135	44	0	0	0	179
Nye County	190	325	93	54	81	742
Pershing County	102	15	8	1	8	134
Storey County	0	0	0	0	0	0
White Pine County	180	49	76	27	21	353
Rural & Frontier Subtotal	2,095	2,254	973	442	735	6,499
Urban						
Carson City	1,225	1,191	574	140	422	3,552
Clark County	20,040	24,063	7,493	5,211	10,852	67,659
Washoe County	6,701	6,917	2,863	715	3,146	20,342
Urban Subtotal	27,966	32,171	10,930	6,066	14,420	91,553
Nevada – Total	30,061	34,425	11,903	6,508	15,155	98,052

Source: Griswold and Packham (2011).

Table 16: Health Services Industry Payroll in Nevada by County and Industry Sector – 2009

Region/County	Health Services Industry Payroll – Dollars					
	Hospital	Physicians, Dentists & Other Professionals	Nursing & Protective Care	Pharmacies	Other Medical & Health Services	Total Payroll
Rural and Frontier						
Churchill County	29,663,767	20,189,749	5,338,211	2,115,577	5,112,778	62,420,082
Douglas County	12,141,295	36,419,030	10,186,881	1,776,516	14,809,756	75,333,477
Elko County	21,221,250	40,463,622	5,257,999	707,594	7,411,560	75,062,024
Esmeralda County	0	0	0	0	0	0
Eureka County	0	1,083,340	0	787	0	1,084,128
Humboldt County	9,561,343	7,108,607	205,437	168,779	556,011	17,600,178
Lander County	4,171,370	346,692	0	439,989	179,361	5,137,413
Lincoln County	3,265,483	404,180	4,618,837	133,036	190,834	8,612,369
Lyon County	7,653,305	7,699,039	2,271,963	10,064,013	3,580,875	31,269,193
Mineral County	6,327,354	2,443,592	0	0	0	8,770,946
Nye County	9,949,819	14,283,132	2,645,439	1,673,818	4,521,307	33,073,515
Pershing County	4,780,671	801,207	245,006	7,523	395,211	6,229,618
Storey County	0	0	0	0	0	0
White Pine County	8,436,476	1,959,951	3,158,798	993,606	798,315	15,347,147
Rural & Frontier Subtotal	117,172,132	133,202,141	33,928,572	18,081,237	37,556,006	339,940,089
Urban						
Carson City	84,068,356	102,008,050	18,466,550	4,207,812	24,514,199	233,264,966
Clark County	1,653,299,496	1,808,743,168	289,477,062	185,300,543	613,543,200	4,550,363,469
Washoe County	450,856,666	623,719,768	96,735,040	30,385,650	177,945,920	1,379,643,044
Urban Subtotal	2,188,224,518	2,534,470,986	404,678,652	219,894,005	816,003,319	6,163,271,480
Nevada – Total	2,305,396,650	2,667,673,127	438,607,224	237,975,242	853,559,325	6,503,211,568

Source: Griswold and Packham (2011).

Table 17: Direct, Secondary, and Total Employment Impacts of the Health Services Industry in Nevada by County – 2009

Region/County	Employment – Number of Jobs	Type SAM Multiplier	Secondary Employment Impact – Number of Jobs			Total Employment Impact – Number of Jobs
			Indirect	Induced	Total Secondary	
Rural and Frontier						
Churchill County	1,081	1.53	266	304	569	1,650
Douglas County	1,305	1.43	229	329	558	1,863
Elko County	1,341	1.45	198	401	599	1,940
Esmeralda County	0	0.00	0	0	0	0
Eureka County	17	1.11	1	1	2	19
Humboldt County	391	1.27	41	64	105	496
Lander County	119	1.16	9	10	19	138
Lincoln County	195	1.11	13	9	21	216
Lyon County	641	1.28	73	106	179	819
Mineral County	179	1.19	12	21	33	212
Nye County	742	1.31	107	123	231	973
Pershing County	134	1.11	6	9	15	149
Storey County	0	0.00	0	0	0	0
White Pine County	353	1.19	23	45	67	420
Rural and Frontier Subtotal	6,499	–	978	1,421	2,399	8,897
Urban						
Carson City	3,552	1.37	587	722	1,308	4,861
Clark County	67,659	1.81	21,402	33,285	54,686	122,346
Washoe County	20,342	1.78	5,787	10,043	15,830	36,172
Urban Subtotal	91,553	–	27,775	44,049	71,825	163,378
Nevada – Total	98,052	1.78	29,681	46,412	76,093	174,146

Source: Griswold and Packham (2011) and Minnesota IMPLAN Group (2011a).

**Table 18: Direct, Secondary, and Total Payroll Impacts of the Health Services Industry in Nevada by County – 2009**

Region/County	Payroll – Dollars	Type SAM Multiplier	Secondary Income Impact – Dollars			Total Payroll Impact – Dollars
			Indirect	Induced	Total Secondary	
Rural and Frontier						
Churchill County	62,420,082	1.22	4,686,619	8,995,300	13,681,919	76,102,001
Douglas County	75,333,477	1.26	8,509,449	11,099,215	19,608,665	94,942,141
Elko County	75,062,024	1.31	8,805,112	14,430,222	23,235,335	98,297,359
Esmeralda County	0	0.00	0	0	0	0
Eureka County	1,084,128	1.04	21,367	17,758	39,125	1,123,253
Humboldt County	17,600,178	1.20	1,604,321	1,958,194	3,562,515	21,162,693
Lander County	5,137,413	1.09	217,438	270,037	487,475	5,624,888
Lincoln County	8,612,369	1.07	387,364	240,398	627,761	9,240,131
Lyon County	31,269,193	1.18	2,325,915	3,449,689	5,775,604	37,044,797
Mineral County	8,770,946	1.14	484,441	717,258	1,201,699	9,972,645
Nye County	33,073,515	1.21	3,303,949	3,716,038	7,019,987	40,093,502
Pershing County	6,229,618	1.06	136,015	233,264	369,279	6,598,897
Storey County	0	0.00	0	0	0	0
White Pine County	15,347,147	1.14	791,899	1,390,037	2,181,936	17,529,082
Rural and Frontier Subtotal	339,940,089	–	31,273,889	46,517,412	77,791,301	417,731,389
Urban						
Carson City	233,264,966	1.20	20,066,236	25,963,509	46,029,745	279,294,712
Clark County	4,550,363,469	1.49	843,690,175	1,366,543,902	2,210,234,077	6,760,597,546
Washoe County	1,379,643,044	1.50	259,076,921	430,603,792	689,680,713	2,069,323,757
Urban Subtotal	6,163,271,480	–	1,122,833,332	1,823,111,203	2,945,944,535	9,109,216,014
Nevada – Total	6,503,211,568	1.47	1,179,655,248	1,900,622,684	3,080,277,932	9,583,489,500

Source: Griswold and Packham (2011) and Minnesota IMPLAN Group (2011a).

Table 19: Distribution of Indirect, Induced, and Total Secondary Health Sector Employment Impacts in Nevada Across Industry Sectors – 2009

Industry Sector	Indirect Employment		Induced Employment		Total Secondary Employment	
	Number of Jobs	Percent of Total Indirect Jobs	Number of Jobs	Percent of Total Induced Jobs	Number of Jobs	Percent of Total Secondary Jobs
Accommodation & Food Services	2,214	7%	5,474	12%	7,688	10%
Administrative & Waste Services	6,730	23%	2,168	5%	8,898	12%
Agriculture, Forestry, & Fishing	5	0%	38	0%	42	0%
Arts, Entertainment & Recreation Services	309	1%	1,612	3%	1,921	3%
Construction	247	1%	370	1%	617	1%
Educational Services (Private)	10	0%	935	2%	945	1%
Finance & Insurance Services	1,698	6%	3,362	7%	5,060	7%
Health Care & Social Assistance	1,152	4%	8,409	18%	9,561	13%
Information Services	643	2%	643	1%	1,285	2%
Management of Companies & Enterprises	1,044	4%	253	1%	1,286	2%
Manufacturing	232	1%	291	1%	523	1%
Mining	5	0%	5	0%	9	0%
Professional, Scientific & Technical Services	3,430	12%	1,923	4%	5,353	7%
Real Estate, Rental & Leasing	7,242	24%	3,467	7%	10,708	14%
Trade, Retail	490	2%	9,974	21%	10,463	14%
Trade, Wholesale	1,222	4%	1,551	3%	2,772	4%
Transportation & Warehousing	1,186	4%	1,164	3%	2,350	3%
Utilities	130	0%	153	0%	283	0%
Other Services Except Government	1,245	4%	4,280	9%	5,524	7%
Government & Other	450	2%	341	1%	791	1%
<b>Total</b>	<b>29,681</b>	<b>100%</b>	<b>46,412</b>	<b>100%</b>	<b>76,093</b>	<b>100%</b>

Source: Minnesota IMPLAN Group (2011a).

Table 20: Distribution of Indirect, Induced, and Total Secondary Health Sector Payroll Impacts (Thousands of Dollars) in Nevada Across Industry Sectors – 2009

Industry Sector	Indirect Income		Induced Income		Total Secondary Income	
	Income (Thousands of Dollars)	Percent of Total Indirect Income	Income (Thousands of Dollars)	Percent of Total Induced Income	Income (Thousands of Dollars)	Percent of Total Secondary Income
Accommodation & Food Services	78,967	7%	173,741	9%	252,707	8%
Administrative & Waste Services	183,445	16%	61,702	3%	245,147	8%
Agriculture, Forestry, & Fishing	89	0%	1,857	0%	1,945	0%
Arts, Entertainment & Recreation Services	8,580	1%	50,902	3%	59,482	2%
Construction	15,978	1%	23,095	1%	39,072	1%
Educational Services (Private)	308	0%	29,057	2%	29,365	1%
Finance & Insurance Services	92,995	8%	162,850	9%	255,844	8%
Health Care & Social Assistance	71,136	6%	493,442	26%	564,579	18%
Information Services	38,914	3%	34,034	2%	72,948	2%
Management of Companies & Enterprises	110,054	9%	26,791	1%	136,845	4%
Manufacturing	13,212	1%	15,170	1%	28,382	1%
Mining	310	0%	251	0%	561	0%
Professional, Scientific & Technical Services	196,552	17%	106,434	6%	302,986	10%
Real Estate, Rental & Leasing	97,782	8%	51,007	3%	148,788	5%
Trade, Retail	16,040	1%	324,096	17%	340,136	11%
Trade, Wholesale	85,215	7%	108,730	6%	193,944	6%
Transportation & Warehousing	54,410	5%	60,484	3%	114,894	4%
Utilities	15,729	1%	18,074	1%	33,803	1%
Other Services Except Government	60,539	5%	127,846	7%	188,385	6%
Government & Other	39,400	3%	31,062	2%	70,461	2%
<b>Total</b>	<b>1,179,655</b>	<b>100%</b>	<b>1,900,623</b>	<b>100%</b>	<b>3,080,278</b>	<b>100%</b>

Source: Minnesota IMPLAN Group (2011a).

**Table 21: Estimated Local Spending and Tax Revenue Attributed to the Hospital Sector in Nevada by County – 2009**

County/Region	Total Hospital Sector Payroll – Direct and Secondary (\$)	Hospital Related Payroll Spent on Taxable Retail, Food, & Drink Sales (%)	Total Hospital Related Payroll Spent on Taxable Retail, Food, & Drink Sales (\$)	Local and County Retail Sales Tax Rate (%)	Total Tax Revenue Generated by Hospital Related Spending on Retail, Food, & Drink Sales (\$)
<b>Rural and Frontier</b>					
Churchill County	25,843,595	6.0	1,544,360	7.600	117,371
Douglas County	15,717,431	8.8	1,277,549	7.100	97,806
Elko County	16,370,345	10.9	1,778,408	6.850	121,821
Esmeralda County	–	–	–	–	–
Eureka County	–	–	–	–	–
Humboldt County	12,423,651	8.5	1,051,244	6.850	72,010
Lander County	4,009,120	2.8	112,642	7.100	7,998
Lincoln County	2,893,463	1.7	49,721	7.100	3,530
Lyon County	8,921,561	6.9	618,317	7.100	43,900
Mineral County	5,559,539	4.8	268,238	6.850	18,374
Nye County	10,476,747	7.2	757,441	7.100	53,778
Pershing County	4,916,320	2.1	102,431	7.100	7,273
Storey County	–	–	–	–	–
White Pine County	11,153,137	5.7	633,248	7.475	47,335
Rural & Frontier Subtotal	118,284,909	7.0	8,293,598	–	591,197
<b>Urban</b>					
Carson City	87,500,144	5.0	4,413,328	7.475	329,896
Clark County	2,104,914,052	11.2	236,686,254	8.100	19,171,587
Washoe County	714,823,767	11.7	83,763,499	7.725	6,470,730
Urban Subtotal	2,907,237,963	11.1	324,863,081	–	25,972,213
Nevada – Total	3,041,752,525	11.2	339,894,793	8.000	27,100,657

Source: Minnesota IMPLAN Group (2011a) and Nevada Department of Taxation (2009).

**Table 22: Estimated Local Spending and Tax Revenue Attributed to the Health Services Industry in Nevada by County – 2009**

County/Region	Total Health Services Industry Payroll – Direct and Secondary	Health Services Related Payroll Spent on Taxable Retail, Food, & Drink Sales (%)	Total Health Services Related Payroll Spent on Taxable Retail, Food, and Drink Sales (\$)	Local and County Retail Sales Tax Rate (%)	Total Tax Revenue Generated by Health Services Related Spending on Retail, Food, & Drink Sales (\$)
<b>Rural and Frontier</b>					
Churchill County	76,102,001	6.0	4,547,696	7.600	345,625
Douglas County	94,942,141	8.8	8,321,173	7.100	590,803
Elko County	98,297,359	10.9	10,678,630	6.850	731,486
Esmeralda County	–	–	–	–	–
Eureka County	1,123,253	0.2	2,122	–	145
Humboldt County	21,162,693	8.5	1,790,710	6.850	122,664
Lander County	5,624,888	2.8	158,040	7.100	11,221
Lincoln County	9,240,131	1.7	158,781	7.100	11,273
Lyon County	37,044,797	6.9	2,567,423	7.100	182,287
Mineral County	9,972,645	4.8	481,159	6.850	32,959
Nye County	40,093,502	7.2	2,898,655	7.100	205,805
Pershing County	6,598,897	2.1	137,487	7.100	9,762
Storey County	–	–	–	–	–
White Pine County	17,529,082	5.7	995,258	7.475	74,396
Rural & Frontier Subtotal	417,731,389	7.0	32,737,135	–	2,318,426
<b>Urban</b>					
Carson City	279,294,712	5.0	13,980,315	7.475	1,045,029
Clark County	6,760,597,546	11.2	760,192,814	8.100	61,575,618
Washoe County	2,069,323,757	11.7	242,484,635	7.725	18,731,938
Urban Subtotal	9,109,216,014	11.1	1,016,657,765	–	81,352,585
Nevada – Total	9,583,489,500	11.2	1,070,888,499	8.000	85,384,751

Source: Minnesota IMPLAN Group (2011a) and Nevada Department of Taxation (2009).



**Table 23: Estimated Economic Impact of Hospital Construction and Major Facility Expansions in Nevada – 2006 to 2010**

Year	Spending on Construction and Major Facility Expansions (Dollars)*			Hospital Construction Impacts in Nevada		
	Rural	Urban	Total	Total Construction-Related Employment (Number of Jobs)	Total Construction-Related Labor Income (2010 Dollars)	Total Construction-Related Output (2010 Dollars)
2006	13,954,316	156,552,491	170,506,807	2,499	147,665,676	337,924,634
2007	5,287,956	501,518,912	506,806,868	7,022	414,990,658	949,682,930
2008	5,827,608	122,051,983	127,879,591	1,708	100,945,123	231,007,267
2009	4,417,949	93,160,800	97,578,749	1,250	73,854,656	169,012,256
2010	4,000,000	60,000,000	64,000,000	763	45,600,180	105,797,670
Total	33,487,829	933,284,186	966,772,015	13,242	783,056,293	1,793,424,757
Five-Year Average	6,697,566	186,656,837	193,354,403	2,648	156,611,259	358,684,951

Source: Minnesota IMPLAN Group (2011a), Nevada Hospital Association (2011), and Nevada Rural Hospital Partners (2011).

**Appendix: The Multiplier Effect**

An important method of assessing the impact of businesses and industry sectors on local economies is through the estimation of multiplier effects. Multiplier effects are a simplified and compact way of representing the effects of business and employee expenditures on the local economy. The multiplier is interpreted as the impact of a one-unit change in sales, employment, or income that results in a corresponding total impact on sales, employment, or income in the larger economy. In essence, the multiplier represents the recycling of dollars and income in a specified geographic unit, such as Clark County or the State of Nevada. This recycling creates new job opportunities and additional wages for residents and business establishments.

There are three types of multiplier effects based on the type of economic impact analysis undertaken: direct, indirect, and induced. These types are illustrated in Table 24 with examples from the hospital industry. The *direct multiplier effect* is based on an industry’s initial economic impact on the region’s economy.

Table 24: Illustration of Economic Impact Multipliers

Type of Multiplier	Direct	Induced	Indirect
Employment Multiplier	Hospital jobs	Local retail and service jobs related to hospital employee spending	Hospital supplier jobs
Income Multiplier	Hospital employee income	Local retail and service income related employee spending	Hospital supplier employee income
Output Multiplier	Hospital expenditures	Local retail and service expenditures related to hospital spending	Hospital supplier expenditures

For example, if a hospital has annual expenditures of \$5 million on goods and services to support hospital operating activities, then this figure becomes the direct economic impact on the community.

The *indirect multiplier effect* is based on industry-to-industry transactions only. For example, indirect effects would include hospital purchases of medical supplies, local laundry services, food, and other contracted services. Finally, the *induced multiplier effect* includes both the industry-to-industry transactions and household purchases, including employee spending. The total economic impact is thus defined as the direct plus indirect and induced economic impacts.

The direct, indirect, and induced multiplier effects can be classified as output, employment and income multipliers. An output multiplier of 2.0 indicates that if one dollar is spent by the hospital, an additional dollar is spent in other sectors due to business and household spending. An employment multiplier of 2.0 indicates that if one job is created in the health care sector, 1.0 additional jobs are created in other sectors due to business and household spending. Likewise, an income multiplier of 2.0 indicates that for every dollar of income created in the health sector, an additional dollar of income is created in other sectors due to inter-industry spending by health businesses and employees.

### **Model and Data Used to Estimate Multipliers**

The economic impacts presented in this report are measured by multipliers using an input-output model and data from IMPLAN, a model that is widely used by economists and other academics in the United States. A computer spreadsheet that uses state IMPLAN multipliers was originally developed to enable community development specialists to measure the secondary benefits of the health sector on state, regional, or county economies. The complete methodology is presented in *Measuring the Economic Importance of the Health Sector on a Local Economy: A Brief Literature Review and Procedures to Measure Local Impacts* (Doeksen, et al. 1997).

Input-output (I/O) analysis is designed to analyze the transactions among industries in an economy (Miernyk 1965). These models are largely based on the work of Wassily Leontief during the 1930s. 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, and so on. By simultaneously accounting for structural interaction between sectors and industries, I/O analysis gives expression to the general economic equilibrium systems.

The analysis utilizes assumptions based on linear and fixed coefficients and limited substitutions among inputs and outputs. The analysis assumes that average and marginal I/O coefficients are equal. Nonetheless, the framework has been widely accepted and used by economists and policymakers. I/O analysis is useful when carefully executed and interpreted in defining the structure of a region, the interdependencies among industries, and forecasting economic outcomes. The I/O model coefficients describe the structural interdependencies of an economy. From the coefficients, various predictive devices can be computed, which can be useful in analyzing economic changes in a state, region, or county. Multipliers indicate the relationship between some observed change in the economy and the total change in economic activity created through the economy.

Typically, the complexity of I/O modeling has hindered practitioners from constructing models specific to a community requesting an analysis. Too often, inappropriate multipliers have been used to estimate local economic impacts. In contrast, IMPLAN can construct a model for any state, region, county, or zip code area in the United States by using available state, region, county, or zip code data. Impact analysis can be performed once a regional I/O model is constructed.

Four main sets of multipliers are estimated by IMPLAN, corresponding to four measures of regional economic activity: (1) total industry output, (2) labor income, (3) value added, and (4) employment. Multipliers for four components of value added can also be estimated. 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 construction of a hospital or the closing of a hospital. The focus business changes its purchases and 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 state, region, or county's households. Subsequently, the households alter their consumption. 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 Social Accounting Matrix (SAM) multiplier is used. The Type SAM 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 effects divided by direct effects). The default SAM multiplier internalizes household income and expenditures. The Type SAM multiplier may also be modified in special cases to internalize other final demand categories such as state government spending.

Additional information on the data, methodology, and software requirements of I/O modeling and IMPLAN analysis can be found in guides developed by Doeksen, et al. (1997), Alward, et al., (1989), and the Minnesota IMPLAN Group (MIG) (2011b).

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