QUARTERLY UPDATE

WYOMING LABOR FORCE TRENDS

April 2017

Vol. 54 No. 4 Research & Planning

The Impact of Wyoming Postsecondary Graduates on Supply and Demand of Wyoming's Health Care Workforce

excerpted from *Health Care Workforce Needs in Wyoming: Update 2017*

by: Lynae Mohondro, Senior Economist

The Research & Planning (R&P) section of the Wyoming Department of Workforce Services recently published* Health Care Workforce Needs in Wyoming: Update 2017, *which examines demand and supply issues for the health care industry in Wyoming. This article is excerpted from that publication, which is available at http://doe.state.wy.us/LMI/health/2017/Health_Care_Update_2017.pdf.

The total number of persons working in Wyoming at any time decreased by 1.6% (-5,872 individuals) from 2014 to 2015, while the number of persons age 65 and older working at any time increased 2.9% (443 individuals; Moore, 2016). Previous research from the Research & Planning (R&P) section of the Wyoming Department of Workforce Services indicated a substantial outmigration of young people: based on a cohort analysis, approximately half of all 18-year-olds were found working in Wyoming eight years later (Glover, 2012), and only 40% remained working 10 years later. Other studies have found that males who attended high school in Wyoming tend to move out of state whether they have a bachelor's degree or not, whereas females who attended high school in Wyoming and obtained a bachelor's degree go to work in other states more so than those who do not have a bachelor's degree (Mohondro, 2016). As working-aged individuals leave Wyoming, thus reducing the workforce supply, the need for replacement workers under certain circumstances increases.

This article will first compare long-term projections to illustrate the demand for

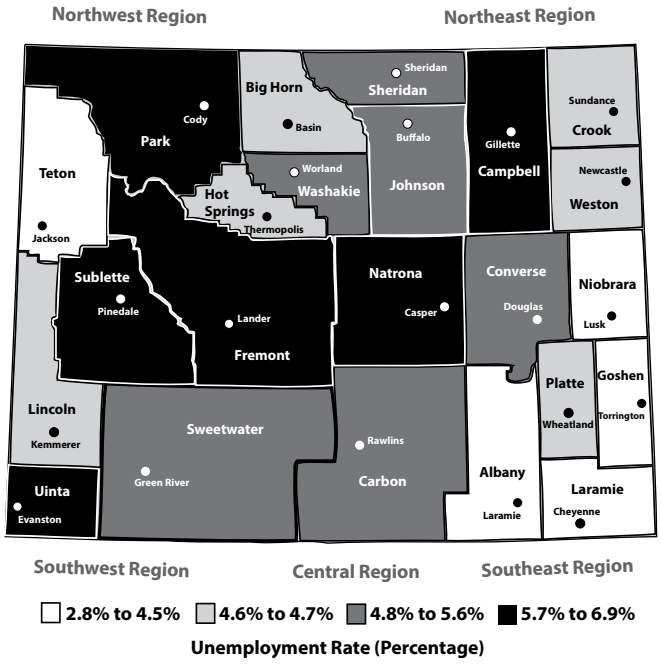
(Text continued on page 3)

HIGHLIGHTS

- **In fourth quarter 2016 (2016Q4), Wyoming lost more than 12,000 jobs compared to fourth quarter 2015 (2015Q4), according to data from the Quarterly Census of Employment and Wages (QCEW). In 2016Q4, Wyoming's average monthly employment (measured by the number of jobs worked) across all industries was 267,405, compared to 279,408 in 2015Q4, a decrease of 4.3%. …** ***page 18***

- **In 2016Q3, the number of hires in mining (1,374) in Wyoming increased from the previous quarter by 70.0% (566 hires). This marked the first over-the-quarter increase in hiring activity in mining since 2014Q3. …** ***page 23***

Unemployment Rate by Wyoming County, February 2017 (Not Seasonally Adjusted)



IN THIS ISSUE

Wyoming Labor Force Trends

A monthly publication of the Wyoming Department of Workforce Services,
John Cox, Director

Research & Planning
P.O. Box 2760
Casper, WY 82602-2760
dws-researchplanning@wyo.gov
307-473-3807

Tom Gallagher, Manager

Tony Glover, Workforce Information Supervisor

Carola Cowan, Bureau of Labor Statistics Programs Supervisor

Michael Moore, Editor

Editorial Committee: David Bullard, Katelynd Faler, Matthew Halama, Chris McGrath, Lynae Mohondro, Michael Moore, and Carol Toups

Contributors to *Wyoming Labor Force Trends* this month: David Bullard, Carola Cowan, Tony Glover, Patrick Manning, Lynae Mohondro, Michael Moore, and Carol Toups

Subscriptions, additional copies, and back issues available free of charge.

Department of Workforce Services Nondiscrimination Statement
The Department of Workforce Services does not discriminate on the basis of race, color, religion, national origin, sex, age, or disability. It is our intention that all individuals seeking services from our agency be given equal opportunity and that eligibility decisions be based upon applicable statutes, rules, and regulations.
Mission statement available at: http://doe.state.wy.us/LMI/mission.pdf.

ISSN 0512-4409

(Text continued from page 1)

a health care workforce and the impact of Wyoming postsecondary graduates. The article will then discuss University of Wyoming (UW) and community college students who graduated from health professions and related programs (Classification of Instructional Programs [CIP] 51) in fall 2006, spring 2007, and summer 2007 and their effect on the supply and demand of the health care workforce in Wyoming and partner states[1]. For the purposes of this article, the graduates from fall 2006, spring 2007, and summer 2007 semester are identified as the *2006/07 cohort*.

Wyoming's health care industry (NAICS[2] 62) is one of several industries with an older workforce. This is identified in Wyoming's Workforce Innovation and Opportunity Act (WIOA) Unified Plan at http://wyowdc.wyo.gov/unified-state-plan-1. With aging health care workers retiring and possibly needing additional health care themselves, the need for more health care workers in Wyoming becomes even greater. The University of Wyoming (UW) and the state's community colleges all offer degrees in health care. With access to Unemployment Insurance wage records and UW and community college student records, R&P has the ability to determine how many students who graduate with a degree in health care continue working in Wyoming or go to work in another state.

Supply and demand reports provide readers with an idea of how many trained workers it will take to meet employer demand (National Skills Coalition, 2014). As an example of the influence graduates can have on the workforce, Table 1 uses the long-term statewide employment projections from 2006-2016 to compare the number of projected vacancies in the

1 Partner states are those state labor market information (LMI) offices with which Research & Planning has data-sharing agreements: Alaska, Colorado, Idaho, Montana, Nebraska, New Mexico, Ohio, Oklahoma, South Dakota, Texas, and Utah.

2 North American Industry Classification System.

Table 1: Projected Vacancies in Wyoming Health Care and Impact of 2006/07 Health Care and Related Professions (CIP[a] 51) Graduates, 2007-2016

Year	A Projected Yearly Vacancies[b]	B Projected Cumulative Vacancies (A[Year 1] + A[Year 2])[b]	C N Employed 2006/07 Graduates	D N Not Employed From Previous Year (C[Year1] - C[Year2])	E Yearly Vacancies (A+D)	F Cumulative Vacancies (F[Year-1] + E)
2007	585	585	592		585	585
2008	585	1,170	546	46	631	1,216
2009	585	1,755	531	15	600	1,816
2010	585	2,340	496	35	620	2,436
2011	585	2,925	469	27	612	3,048
2012	585	3,510	460	9	594	3,642
2013	585	4,095	429	31	616	4,258
2014	585	4,680	418	11	596	4,854
2015	585	5,265	402	16	601	5,455
2016	585	5,850	372	30	615	6,070

[a]Classification of Instructional Programs.
Source: Workforce Data Quality Initiative (WDQI) custom extract.
[b]Source: 2006-2016 Statewide Employment Projections.
Prepared by L. Mohondro, Research & Planning, WY DWS, 3/9/2017.

health care industry and the influence the 2006/07 graduates have on the health care workforce. R&P updates projections every two years, thus the long-term projections with the base year of 2006 and a projected year of 2016 illustrate the demand for the employment of the 2006/07 cohort. Industry projections do not provide exact employment, but, as noted by Saulcy and Jones (2009), "use historical trends in employment within an industry to predict whether the industry is expected to expand or contract over the next decade."

This analysis uses the 2006/07 cohort, the earliest available to R&P, which provides the longest period to observe student outcomes and the corresponding 2006-2016 projections. This analysis is an initial attempt at assembling the data and will be refined as R&P continues to explore new ideas. The projections predicted that about 585 jobs would become available in the health care industry each year from 2006 to 2016. Table 1 shows that in 2007, 592 graduates from the 2006/07 cohort with a degree in CIP 51 worked in Wyoming and declined every year through 2016. As the number of graduates working in Wyoming declined, the projected demand for workers from future graduating classes increased. For example, the 2007/08 cohort would need to fill an additional 46 jobs combined with the

Table 2: 2006/07 Health Care and Related Professions (CIP[a] 51) Graduates from Wyoming Postsecondary Institution Working in WY and Partner States[b] (N=879)

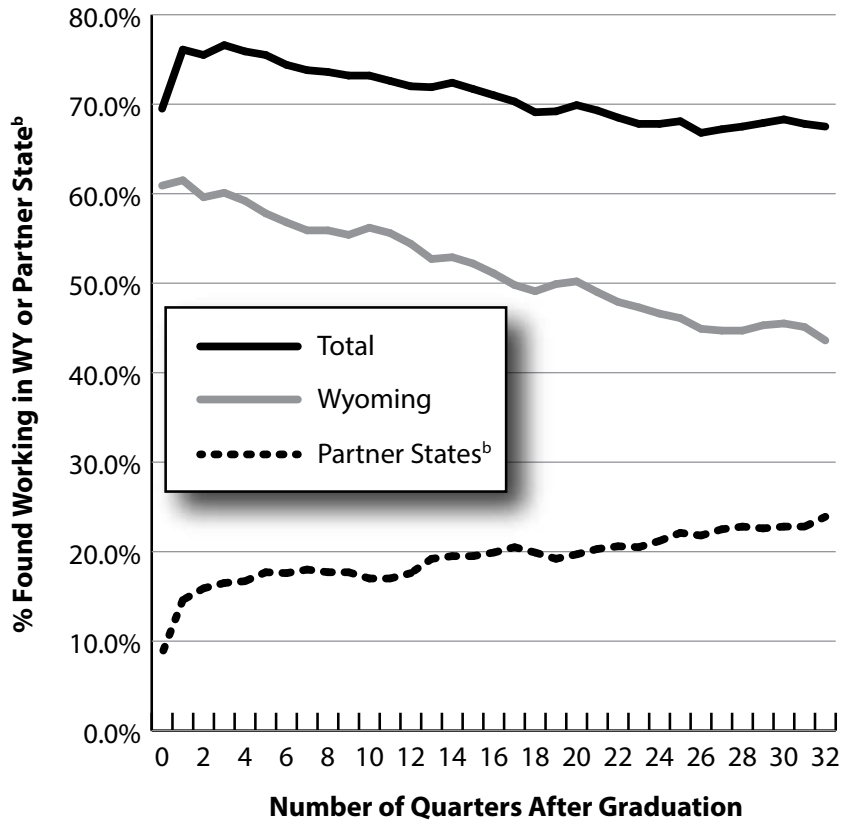
		Working in WY		Working in Partner State		Total Found	
Year After Grad.	Quarter After Grad.	N	%	N	%	N	%
0	0	535	60.9	76	8.6	611	69.5
1	1	541	61.5	128	14.6	669	76.1
	2	524	59.6	140	15.9	664	75.5
	3	528	60.1	145	16.5	673	76.6
	4	520	59.2	147	16.7	667	75.9
2	5	508	57.8	156	17.7	664	75.5
	6	499	56.8	155	17.6	654	74.4
	7	491	55.9	158	18.0	649	73.8
	8	491	55.9	156	17.7	647	73.6
3	9	487	55.4	156	17.7	643	73.2
	10	494	56.2	149	17.0	643	73.2
	11	489	55.6	149	17.0	638	72.6
	12	478	54.4	155	17.6	633	72.0
4	13	463	52.7	169	19.2	632	71.9
	14	465	52.9	171	19.5	636	72.4
	15	459	52.2	171	19.5	630	71.7
	16	449	51.1	175	19.9	624	71.0
5	17	438	49.8	180	20.5	618	70.3
	18	432	49.1	175	19.9	607	69.1
	19	439	49.9	169	19.2	608	69.2
	20	441	50.2	173	19.7	614	69.9
6	21	431	49.0	178	20.3	609	69.3
	22	421	47.9	181	20.6	602	68.5
	23	416	47.3	180	20.5	596	67.8
	24	410	46.6	186	21.2	596	67.8
7	25	405	46.1	194	22.1	599	68.1
	26	395	44.9	192	21.8	587	66.8
	27	393	44.7	198	22.5	591	67.2
	28	393	44.7	200	22.8	593	67.5
8	29	398	45.3	199	22.6	597	67.9
	30	400	45.5	200	22.8	600	68.3
	31	396	45.1	200	22.8	596	67.8
	32	383	43.6	210	23.9	593	67.5

[a]Classification of Instructional Programs.
[b]Partner states are those state labor market information (LMI) offices with which Research & Planning has data-sharing agreements: Alaska, Colorado, Idaho, Montana, Nebraska, New Mexico, Ohio, Oklahoma, South Dakota, Texas, and Utah.
Source: Workforce Data Quality Initiative (WDQI) custom extract.
Prepared by L. Mohondro, Research & Planning, WY DWS, 3/9/2017.

585 available jobs as shown by projections, for a total of 631 jobs in 2008. Table 1 only represents the demand from the 2006/07 cohort. Realistically, many factors will influence demand on the workforce, such as oil and gas prices. The demand could continue to increase for several other reasons as future graduates leave Wyoming's workforce. Additionally, in 2007, about 8.0% of individuals over the age of 16 worked more than one job[3]. Because projections measure jobs rather than individuals, the supply and demand may be affected more if graduates hold more than one job.

While it may appear that the supply of workers from the 2006/07 cohort should exceed the demand from R&P's employment projections, the supply of workers gradually disappears after graduation as people go to work in other states, choose to remain out of the workforce, or are unable to participate. As the 2006/07 graduates leave the Wyoming workforce, the replacement of supply will be left up to future graduating classes.

R&P's long-term employment projections show an expected growth of 5,856 jobs in Wyoming's health care industry (NAICS 621, 622, 623) between 2006 and 2016 (25.0% over 10 years; 585 jobs of all types per year; Leonard, 2008). At the beginning of that period, 879 students graduated from a Wyoming postsecondary education institution with a certificate, associate's, bachelor's, master's, or professional degree in a health care program (CIP 51) as part of the 2006/07 cohort. Three quarters after graduation, the percentage of students found working in Wyoming or a partner



[a]Classification of Instructional Programs.
[b]Partner states are those state labor market information (LMI) offices with which Research & Planning has data-sharing agreements: Alaska, Colorado, Idaho, Montana, Nebraska, New Mexico, Ohio, Oklahoma, South Dakota, Texas, and Utah.
Source: Workforce Data Quality Initiative (WDQI) custom extract.
Prepared by L. Mohondro, Research & Planning, WY DWS, 3/9/2017.

Figure 1: 2006/07 Health Care and Related Professions (CIP[a] 51) Graduates from Wyoming Postsecondary Institution Working in Wyoming and Partner States (N=879)

3 Bureau of Labor Statistics, Labor Force Statistics from the Current Population Survey. Multiple Jobholders as a Percent of Employed. Retrieved March 9, 2017, from https://data.bls.gov/pdq/SurveyOutputServlet.

state reached 76.6% (see Table 2, page 4). Eight years after graduation, the percentage of graduates found working in Wyoming dropped to 43.6% and the percentage working in partner states increased to 23.9%. This indicates that while the majority of graduates work in Wyoming or a partner state, a gradual shift occurs towards more graduates working in other states.

Figure 1 shows that in eight years

Table 3: 2006/07 Health Care and Related Professions (CIP[a] 51) Graduates from Wyoming Postsecondary Education Institution Working in WY and Partner States[b] by Gender

		Female (N=731)						Male (N=125)					
		Wyoming		Partner States		Total		Wyoming		Partner States		Total	
Year After Grad.	Quarter After Grad.	N	%	N	%	N	%	N	%	N	%	N	%
0	0	470	64.3	66	9.0	536	73.3	64	51.2	10	8.0	74	59.2
1	1	483	66.1	105	14.4	588	80.4	58	46.4	22	17.6	80	64.0
	2	467	63.9	119	16.3	586	80.2	57	45.6	21	16.8	78	62.4
	3	472	64.6	125	17.1	597	81.7	56	44.8	20	16.0	76	60.8
	4	466	63.7	126	17.2	592	81.0	54	43.2	21	16.8	75	60.0
2	5	455	62.2	137	18.7	592	81.0	53	42.4	19	15.2	72	57.6
	6	449	61.4	137	18.7	586	80.2	50	40.0	18	14.4	68	54.4
	7	443	60.6	138	18.9	581	79.5	48	38.4	20	16.0	68	54.4
	8	442	60.5	136	18.6	578	79.1	49	39.2	20	16.0	69	55.2
3	9	441	60.3	137	18.7	578	79.1	46	36.8	19	15.2	65	52.0
	10	446	61.0	131	17.9	577	78.9	48	38.4	18	14.4	66	52.8
	11	442	60.5	130	17.8	572	78.2	47	37.6	19	15.2	66	52.8
	12	433	59.2	134	18.3	567	77.6	45	36.0	21	16.8	66	52.8
4	13	419	57.3	148	20.2	567	77.6	44	35.2	21	16.8	65	52.0
	14	417	57.0	152	20.8	569	77.8	48	38.4	19	15.2	67	53.6
	15	412	56.4	151	20.7	563	77.0	47	37.6	20	16.0	67	53.6
	16	403	55.1	155	21.2	558	76.3	46	36.8	20	16.0	66	52.8
5	17	391	53.5	162	22.2	553	75.6	47	37.6	18	14.4	65	52.0
	18	384	52.5	160	21.9	544	74.4	48	38.4	15	12.0	63	50.4
	19	388	53.1	154	21.1	542	74.1	51	40.8	15	12.0	66	52.8
	20	394	53.9	156	21.3	550	75.2	47	37.6	17	13.6	64	51.2
6	21	383	52.4	160	21.9	543	74.3	48	38.4	18	14.4	66	52.8
	22	374	51.2	164	22.4	538	73.6	47	37.6	17	13.6	64	51.2
	23	369	50.5	163	22.3	532	72.8	47	37.6	17	13.6	64	51.2
	24	366	50.1	166	22.7	532	72.8	44	35.2	20	16.0	64	51.2
7	25	362	49.5	174	23.8	536	73.3	43	34.4	20	16.0	63	50.4
	26	355	48.6	169	23.1	524	71.7	40	32.0	23	18.4	63	50.4
	27	354	48.4	174	23.8	528	72.2	39	31.2	24	19.2	63	50.4
	28	354	48.4	175	23.9	529	72.4	39	31.2	25	20.0	64	51.2
8	29	359	49.1	173	23.7	532	72.8	39	31.2	26	20.8	65	52.0
	30	359	49.1	176	24.1	535	73.2	40	32.0	24	19.2	64	51.2
	31	355	48.6	176	24.1	531	72.6	40	32.0	24	19.2	64	51.2
	32	345	47.2	183	25.0	528	72.2	37	29.6	27	21.6	64	51.2

[a]Classification of Instructional Programs.
[b]Partner states are those state labor market information (LMI) offices with which Research & Planning has data-sharing agreements: Alaska, Colorado, Idaho, Montana, Nebraska, New Mexico, Ohio, Oklahoma, South Dakota, Texas, and Utah.
Source: Workforce Data Quality Initiative (WDQI) custom extract.
Prepared by L. Mohondro, Research & Planning, WY DWS, 3/9/2017.

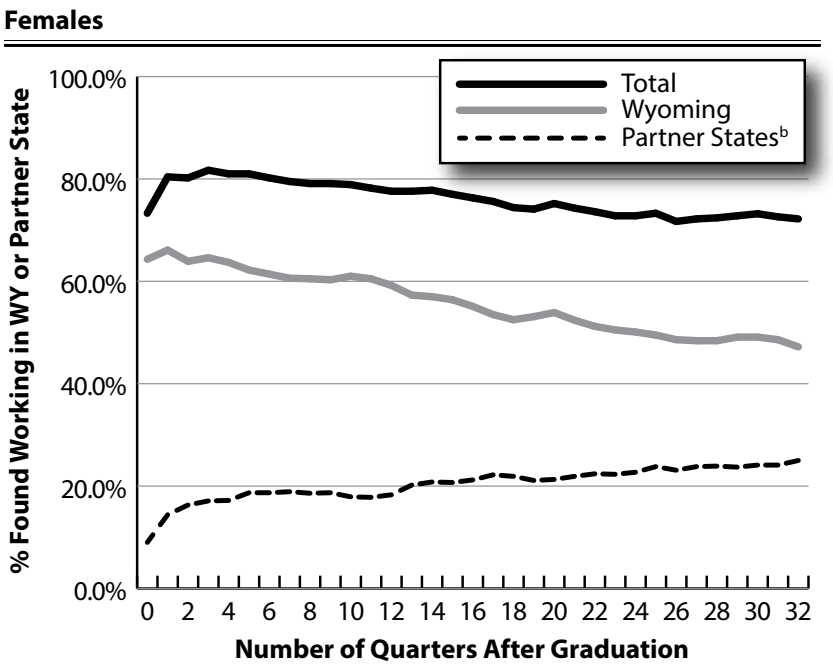
after graduation, the percentage of graduates from a health care program at a Wyoming postsecondary education institution from the 2006/07 cohort found working in Wyoming or a partner state increased by 9.3 percentage points, while the percentage of graduates working in Wyoming decreased by almost 18 percentage points. The increase in the percentage of graduates working in partner states shows that some students are leaving Wyoming to work in states with growing economies such as Colorado and Utah.

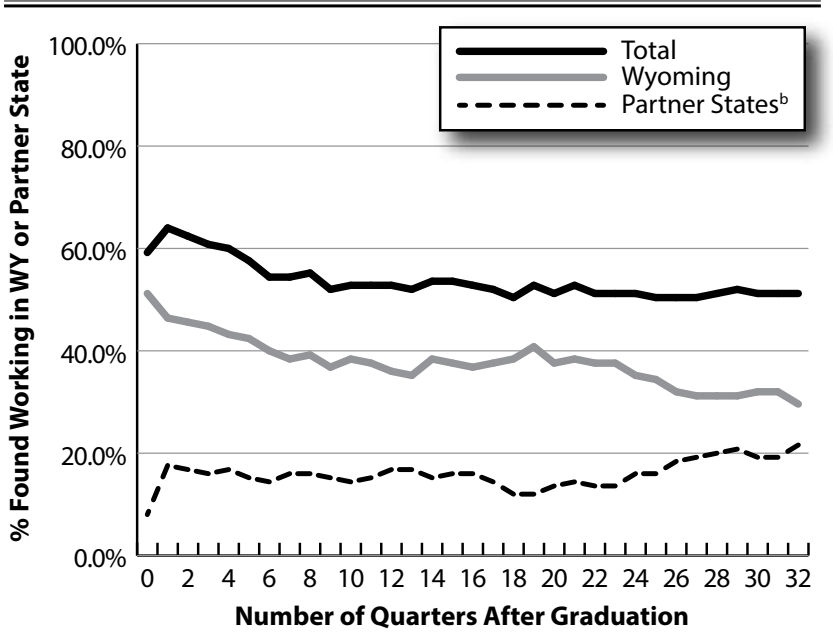
The health care programs offered by UW and the community colleges tend to be female dominated. Of the 2006/07 cohort, 731 females (83.2%) and 125 males (14.2%) graduated from a health care program (demographics were not available for 47 graduates, or 5.3%). Table 3 (see page 6) shows that one quarter after graduation, 80.4% of female graduates worked in Wyoming or a partner state, compared to 64.0% of male graduates. Eight years after graduation, the percentage of female graduates found working decreased to 72.2%: 47.2% in Wyoming and 25.0% in partner states. In that same time, the percentage of males found working decreased to 51.2%: 29.6% in Wyoming and 21.6% in a partner state (see Table 3). During the eight years following graduation, both males and females left Wyoming to work in partner states and states with which R&P does not have a data-sharing agreement. More females who graduated with a degree in health care worked in Wyoming or a partner state than did male graduates with a degree in health care.

Following graduation, the percentage of males working in Wyoming decreased more rapidly than the percentage of females. Almost two years after graduation, the percentage of males working in Wyoming dropped 12.8 percentage points, while the percentage of females working in Wyoming decreased more gradually over the eight years following graduation (see Figure 2, page 8). This shows that males with a degree in health care were more likely to leave Wyoming's workforce sooner after graduation than females, possibly to work in another state.

The majority of graduates from the 2006/07 cohort graduated with an associate's degree or certificate. Graduates with these degrees are more likely to be found working in Wyoming and partner states during the eight years after graduating. As shown in Table 4 (see page 9), between 70.8% and 85.6% of graduates with an associate's degree worked in Wyoming or a partner state during the eight years following graduation. Graduates who earned bachelor's degrees were the least likely to be found working in Wyoming or a partner state eight years after graduation (56.1%). Students who earned a graduate degree (master's, PhD, etc.) made up the highest percentage of graduates who were found working in one of the 11 partner states during the eighth year after graduation (30.1%; see Table 4). Overall, more graduates with lower level degrees in health care worked in Wyoming during the eight years following graduation than graduates with a bachelor's or master's degree in health care.

As noted earlier, many of the health care programs offered at Wyoming postsecondary education institutions tend to be female dominated. The most students graduated with a degree in registered nursing (RNs; four-digit





[a]Classification of Instructional Programs.
[b]Partner states are those state labor market information (LMI) offices with which Research & Planning has data-sharing agreements: Alaska, Colorado, Idaho, Montana, Nebraska, New Mexico, Ohio, Oklahoma, South Dakota, Texas, and Utah.
Source: Workforce Data Quality Initiative (WDQI) custom extract.
Prepared by L. Mohondro, Research & Planning, WY DWS, 3/9/2017.

Figure 2: **2006/07 Health Care and Related Professions (CIP[a] 51) Graduates from Wyoming Postsecondary Education Institution Working in Wyoming and Partner States by Gender**

CIP 5138; n = 339) and practical nursing, vocational nursing, & nursing assistants (LPNs, CNAs, and vocational nurses; four-digit CIP 5139; n = 179). As seen in Table 5 (see page 10), graduates from these two nursing programs (CIP 5138 and 5139) were more likely to be found working in Wyoming than graduates from another health care program. Between 64.3% and 66.4% of RNs and 70.4% to 74.9% of LPNs, CNAs, and vocational nurses worked in Wyoming during the first year after graduating. Eight years after graduating, 44.8% of RNs and 50.8% of LPNs, CNAs, and vocational nurses remained working in Wyoming. During this time, the supply of RNs working in a partner state increased to 19.8% while 23.5% of LPNs, CNAs, and vocational nurses worked in a partner state. The decrease of RNs, LPNs, CNAs, and vocational nurses in Wyoming with the increase in partner states suggests that these graduates are gradually leaving Wyoming for work in other states.

Graduates from most health care CIP codes were more likely to work in Wyoming than a partner state; however,

individuals who graduated with a degree in pharmacy, pharmaceutical sciences, & administration (four-digit CIP 5120) were more likely to be found working in a partner state than in Wyoming in every quarter during the eight years following graduation. Eight years after graduation, 65.2% of CIP 5120 graduates were found working: 21.7% in Wyoming and 43.5% in a partner state. By the eighth year after graduation, at least one-fourth of graduates from all other CIP codes worked in partner states, suggesting that graduates with degrees in most health care programs eventually leave to work in partner states.

Table 4: 2006/07 Health Care and Related Professions (CIP[a] 51) Graduates from Wyoming Postsecondary Education Institution Working in WY and Partner States[b] by Degree Level

Year (Y) & Quarter (Q) After Graduation		Certificate (N=246)						Associate's (N=411)						Bachelor's (N=139)						Graduate (N=83)					
		WY		Partner States		Total		WY		Partner States		Total		WY		Partner States		Total		WY		Partner States		Total	
Y	Q	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
0	0	148	60.2	13	5.3	161	65.4	287	69.8	33	8.0	320	77.9	67	48.2	13	9.4	80	57.6	33	39.8	17	20.5	50	60.2
1	1	158	64.2	20	8.1	178	72.4	287	69.8	65	15.8	352	85.6	68	48.9	21	15.1	89	64.0	28	33.7	22	26.5	50	60.2
	2	161	65.4	18	7.3	179	72.8	272	66.2	77	18.7	349	84.9	61	43.9	24	17.3	85	61.2	30	36.1	21	25.3	51	61.4
	3	164	66.7	20	8.1	184	74.8	274	66.7	76	18.5	350	85.2	60	43.2	28	20.1	88	63.3	30	36.1	21	25.3	51	61.4
	4	160	65.0	25	10.2	185	75.2	271	65.9	74	18.0	345	83.9	57	41.0	28	20.1	85	61.2	32	38.6	20	24.1	52	62.7
2	5	157	63.8	31	12.6	188	76.4	266	64.7	77	18.7	343	83.5	53	38.1	28	20.1	81	58.3	32	38.6	20	24.1	52	62.7
	6	156	63.4	33	13.4	189	76.8	260	63.3	78	19.0	338	82.2	52	37.4	26	18.7	78	56.1	31	37.3	18	21.7	49	59.0
	7	152	61.8	33	13.4	185	75.2	256	62.3	80	19.5	336	81.8	52	37.4	27	19.4	79	56.8	31	37.3	18	21.7	49	59.0
	8	151	61.4	33	13.4	184	74.8	256	62.3	77	18.7	333	81.0	54	38.8	29	20.9	83	59.7	30	36.1	17	20.5	47	56.6
3	9	148	60.2	33	13.4	181	73.6	256	62.3	79	19.2	335	81.5	54	38.8	27	19.4	81	58.3	29	34.9	17	20.5	46	55.4
	10	151	61.4	33	13.4	184	74.8	255	62.0	78	19.0	333	81.0	58	41.7	22	15.8	80	57.6	30	36.1	16	19.3	46	55.4
	11	149	60.6	33	13.4	182	74.0	253	61.6	77	18.7	330	80.3	58	41.7	22	15.8	80	57.6	29	34.9	17	20.5	46	55.4
	12	147	59.8	30	12.2	177	72.0	244	59.4	84	20.4	328	79.8	57	41.0	26	18.7	83	59.7	30	36.1	15	18.1	45	54.2
4	13	141	57.3	34	13.8	175	71.1	239	58.2	87	21.2	326	79.3	54	38.8	30	21.6	84	60.4	29	34.9	18	21.7	47	56.6
	14	140	56.9	36	14.6	176	71.5	240	58.4	88	21.4	328	79.8	55	39.6	28	20.1	83	59.7	30	36.1	19	22.9	49	59.0
	15	141	57.3	36	14.6	177	72.0	232	56.4	88	21.4	320	77.9	56	40.3	29	20.9	85	61.2	30	36.1	18	21.7	48	57.8
	16	135	54.9	38	15.4	173	70.3	230	56.0	94	22.9	324	78.8	54	38.8	26	18.7	80	57.6	30	36.1	17	20.5	47	56.6
5	17	135	54.9	38	15.4	173	70.3	222	54.0	95	23.1	317	77.1	52	37.4	28	20.1	80	57.6	29	34.9	19	22.9	48	57.8
	18	130	52.8	36	14.6	166	67.5	219	53.3	94	22.9	313	76.2	53	38.1	27	19.4	80	57.6	30	36.1	18	21.7	48	57.8
	19	133	54.1	36	14.6	169	68.7	223	54.3	88	21.4	311	75.7	52	37.4	25	18.0	77	55.4	31	37.3	20	24.1	51	61.4
	20	132	53.7	39	15.9	171	69.5	226	55.0	87	21.2	313	76.2	52	37.4	27	19.4	79	56.8	31	37.3	20	24.1	51	61.4
6	21	126	51.2	44	17.9	170	69.1	222	54.0	86	20.9	308	74.9	51	36.7	29	20.9	80	57.6	32	38.6	19	22.9	51	61.4
	22	126	51.2	39	15.9	165	67.1	213	51.8	94	22.9	307	74.7	50	36.0	29	20.9	79	56.8	32	38.6	19	22.9	51	61.4
	23	118	48.0	39	15.9	157	63.8	218	53.0	93	22.6	311	75.7	49	35.3	28	20.1	77	55.4	31	37.3	20	24.1	51	61.4
	24	116	47.2	41	16.7	157	63.8	214	52.1	100	24.3	314	76.4	52	37.4	26	18.7	78	56.1	28	33.7	19	22.9	47	56.6
7	25	115	46.7	44	17.9	159	64.6	208	50.6	101	24.6	309	75.2	52	37.4	29	20.9	81	58.3	30	36.1	20	24.1	50	60.2
	26	113	45.9	48	19.5	161	65.4	205	49.9	95	23.1	300	73.0	50	36.0	29	20.9	79	56.8	27	32.5	20	24.1	47	56.6
	27	116	47.2	50	20.3	166	67.5	200	48.7	101	24.6	301	73.2	49	35.3	27	19.4	76	54.7	28	33.7	20	24.1	48	57.8
	28	114	46.3	53	21.5	167	67.9	201	48.9	100	24.3	301	73.2	49	35.3	28	20.1	77	55.4	29	34.9	19	22.9	48	57.8
8	29	118	48.0	53	21.5	171	69.5	201	48.9	99	24.1	300	73.0	51	36.7	26	18.7	77	55.4	28	33.7	21	25.3	49	59.0
	30	119	48.4	51	20.7	170	69.1	200	48.7	97	23.6	297	72.3	52	37.4	29	20.9	81	58.3	29	34.9	23	27.7	52	62.7
	31	121	49.2	54	22.0	175	71.1	199	48.4	92	22.4	291	70.8	50	36.0	30	21.6	80	57.6	26	31.3	24	28.9	50	60.2
	32	116	47.2	56	22.8	172	69.9	192	46.7	99	24.1	291	70.8	48	34.5	30	21.6	78	56.1	27	32.5	25	30.1	52	62.7

[a]Classification of Instructional Programs

[b]Partner states are those state labor market information (LMI) offices with which Research & Planning has data-sharing agreements: Alaska, Colorado, Idaho, Montana, Nebraska, New Mexico, Ohio, Oklahoma, South Dakota, Texas, and Utah.

Source: Workforce Data Quality Initiative (WDQI) custom extract.

Prepared by L. Mohondro, Research & Planning, WY DWS, 3/9/2017.

Students who reside in other states but enroll in a Wyoming college make up another source of workforce supply for Wyoming. While some of these students may stay in Wyoming to work, others may return to their resident state to find work. As seen in Figure 3 (see page 11), about 70% of 2006/07 CIP 51 graduates with Wyoming residency remained working in Wyoming through the eighth year after graduation, while more than one-fourth of students with out-of-state residency worked in Wyoming until the

Table 5: **2006/07 Graduates from Selected Health Care & Related Professions (CIP[a] 51) Graduates from Wyoming Postsecondary Education Institution Working in WY and Partner States[b] by Program of Study**

Year (Y) & Quarter (Q) After Graduation		Registered Nursing, Nursing Administration, Nursing Research & Clinical Nursing (CIP 5138; N=339)						Practical Nursing, Vocational Nursing, & Nursing Assistants (CIP 5139; N=179)						Dental Support Services & Allied Professions (CIP 5106; N=75)						Pharmacy, Pharmaceutical Sciences, & Administration (CIP 5120; N=46)					
		WY		Partner States		Total		WY		Partner States		Total		WY		Partner States		Total		WY		Partner States		Total	
Y	Q	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
0	0	218	64.3	19	5.6	237	69.9	118	65.9	9	5.0	127	70.9	36	48.0	9	12.0	45	60.0	14	30.4	14	30.4	28	60.9
1	1	223	65.8	37	10.9	260	76.7	126	70.4	15	8.4	141	78.8	39	52.0	26	34.7	65	86.7	11	23.9	19	41.3	30	65.2
	2	225	66.4	40	11.8	265	78.2	129	72.1	14	7.8	143	79.9	32	42.7	31	41.3	63	84.0	11	23.9	19	41.3	30	65.2
	3	220	64.9	46	13.6	266	78.5	134	74.9	15	8.4	149	83.2	31	41.3	31	41.3	62	82.7	11	23.9	19	41.3	30	65.2
	4	218	64.3	45	13.3	263	77.6	128	71.5	20	11.2	148	82.7	35	46.7	30	40.0	65	86.7	12	26.1	18	39.1	30	65.2
2	5	208	61.4	49	14.5	257	75.8	124	69.3	27	15.1	151	84.4	37	49.3	27	36.0	64	85.3	12	26.1	19	41.3	31	67.4
	6	203	59.9	49	14.5	252	74.3	125	69.8	29	16.2	154	86.0	35	46.7	27	36.0	62	82.7	12	26.1	17	37.0	29	63.0
	7	203	59.9	50	14.7	253	74.6	122	68.2	30	16.8	152	84.9	33	44.0	29	38.7	62	82.7	12	26.1	17	37.0	29	63.0
	8	204	60.2	49	14.5	253	74.6	122	68.2	29	16.2	151	84.4	30	40.0	27	36.0	57	76.0	12	26.1	16	34.8	28	60.9
3	9	202	59.6	46	13.6	248	73.2	120	67.0	29	16.2	149	83.2	31	41.3	27	36.0	58	77.3	12	26.1	16	34.8	28	60.9
	10	207	61.1	40	11.8	247	72.9	122	68.2	27	15.1	149	83.2	32	42.7	28	37.3	60	80.0	12	26.1	15	32.6	27	58.7
	11	205	60.5	43	12.7	248	73.2	119	66.5	27	15.1	146	81.6	31	41.3	28	37.3	59	78.7	12	26.1	16	34.8	28	60.9
	12	197	58.1	49	14.5	246	72.6	118	65.9	26	14.5	144	80.4	30	40.0	27	36.0	57	76.0	13	28.3	14	30.4	27	58.7
4	13	193	56.9	54	15.9	247	72.9	114	63.7	28	15.6	142	79.3	31	41.3	28	37.3	59	78.7	13	28.3	16	34.8	29	63.0
	14	194	57.2	50	14.7	244	72.0	112	62.6	29	16.2	141	78.8	32	42.7	27	36.0	59	78.7	13	28.3	17	37.0	30	65.2
	15	192	56.6	51	15.0	243	71.7	113	63.1	29	16.2	142	79.3	32	42.7	28	37.3	60	80.0	13	28.3	16	34.8	29	63.0
	16	188	55.5	53	15.6	241	71.1	108	60.3	32	17.9	140	78.2	31	41.3	27	36.0	58	77.3	13	28.3	16	34.8	29	63.0
5	17	177	52.2	56	16.5	233	68.7	105	58.7	32	17.9	137	76.5	32	42.7	27	36.0	59	78.7	13	28.3	18	39.1	31	67.4
	18	176	51.9	53	15.6	229	67.6	104	58.1	33	18.4	137	76.5	30	40.0	28	37.3	58	77.3	13	28.3	17	37.0	30	65.2
	19	174	51.3	50	14.7	224	66.1	107	59.8	31	17.3	138	77.1	31	41.3	26	34.7	57	76.0	14	30.4	18	39.1	32	69.6
	20	176	51.9	52	15.3	228	67.3	107	59.8	32	17.9	139	77.7	31	41.3	25	33.3	56	74.7	14	30.4	18	39.1	32	69.6
6	21	173	51.0	50	14.7	223	65.8	104	58.1	35	19.6	139	77.7	31	41.3	25	33.3	56	74.7	14	30.4	18	39.1	32	69.6
	22	169	49.9	55	16.2	224	66.1	101	56.4	31	17.3	132	73.7	31	41.3	27	36.0	58	77.3	14	30.4	18	39.1	32	69.6
	23	172	50.7	55	16.2	227	67.0	95	53.1	31	17.3	126	70.4	30	40.0	27	36.0	57	76.0	15	32.6	18	39.1	33	71.7
	24	172	50.7	55	16.2	227	67.0	96	53.6	31	17.3	127	70.9	30	40.0	27	36.0	57	76.0	14	30.4	17	37.0	31	67.4
7	25	168	49.6	61	18.0	229	67.6	94	52.5	33	18.4	127	70.9	30	40.0	27	36.0	57	76.0	14	30.4	18	39.1	32	69.6
	26	164	48.4	61	18.0	225	66.4	92	51.4	36	20.1	128	71.5	31	41.3	27	36.0	58	77.3	12	26.1	18	39.1	30	65.2
	27	161	47.5	63	18.6	224	66.1	92	51.4	37	20.7	129	72.1	32	42.7	28	37.3	60	80.0	12	26.1	18	39.1	30	65.2
	28	160	47.2	63	18.6	223	65.8	90	50.3	38	21.2	128	71.5	32	42.7	27	36.0	59	78.7	13	28.3	17	37.0	30	65.2
8	29	158	46.6	63	18.6	221	65.2	94	52.5	40	22.3	134	74.9	34	45.3	26	34.7	60	80.0	11	23.9	19	41.3	30	65.2
	30	158	46.6	70	20.6	228	67.3	93	52.0	38	21.2	131	73.2	34	45.3	25	33.3	59	78.7	12	26.1	18	39.1	30	65.2
	31	156	46.0	67	19.8	223	65.8	95	53.1	41	22.9	136	76.0	34	45.3	26	34.7	60	80.0	11	23.9	19	41.3	30	65.2
	32	152	44.8	67	19.8	219	64.6	91	50.8	42	23.5	133	74.3	32	42.7	28	37.3	60	80.0	10	21.7	20	43.5	30	65.2

[a]Classification of Instructional Programs

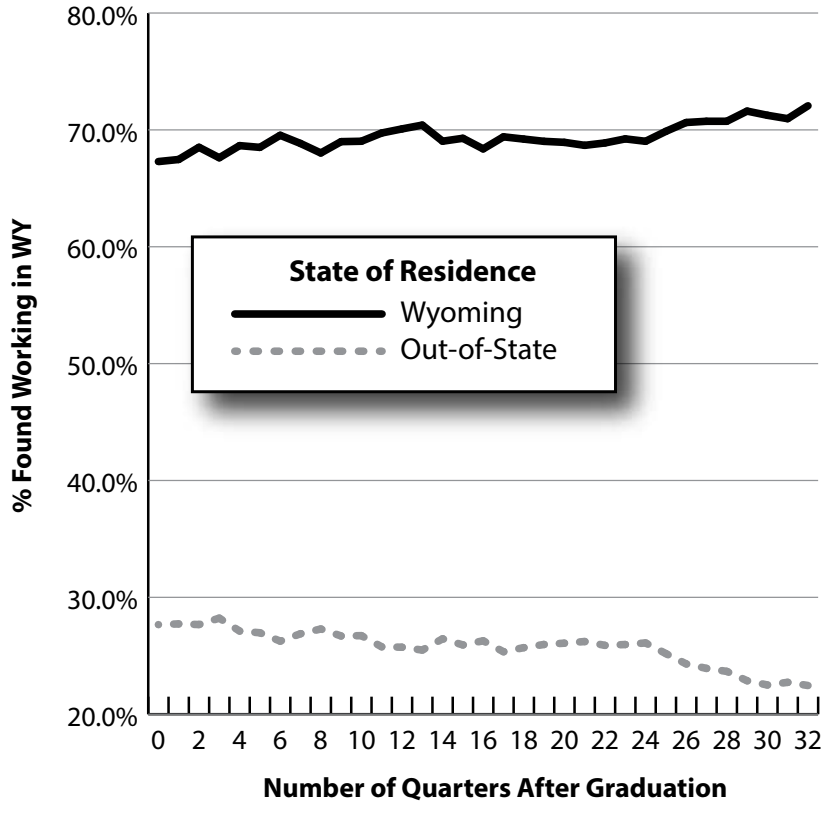
[b]Partner states are those state labor market information (LMI) offices with which Research & Planning has data-sharing agreements: Alaska, Colorado, Idaho, Montana, Nebraska, New Mexico, Ohio, Oklahoma, South Dakota, Texas, and Utah.

Source: Workforce Data Quality Initiative (WDQI) custom extract.

Prepared by L. Mohondro, Research & Planning, WY DWS, 3/9/2017.

seventh year after graduation before dropping slightly. The percentage of graduates working in other states fluctuated more; between 54% and 60% of out-of-state students worked in other states, while about one-third of in-state students worked in other states during the eight years following graduation (see Figure 4, page 12). It should be noted that graduates with residency in other states are over counted in this article. Data provided to R&P labeled students attending community colleges as a Wyoming high school graduate or a high school graduate from another state. Without any additional data to better determine student residency, any Wyoming resident graduate of a community college who attended high school in another state is considered an out-of-state resident for the purposes of this chapter.

Previous studies from R&P have shown that young workers from Wyoming tend to leave to work in other states, creating less supply and greater replacement need for workers in the state. Less than half of Wyoming's postsecondary education students who graduated in 2006/07 cohort with a degree in health care remained working in Wyoming. The migration of postsecondary education graduates creates an even greater replacement need for future graduates going into the health care workforce. It is possible that some of these students attended Wyoming postsecondary schools from out-of-state and returned home for work after graduation. Graduates may leave Wyoming due to more employment opportunities in the growing economies of other states or due to relocation of employment of a spouse. Future research will include studies on the work experience of the graduates from 2006/07 cohort beyond eight years after graduation and the work experience of graduates from later semesters as data becomes available. In addition, R&P is working to create a dataset in which the household is the unit of measurement. As these data become available, studies on the relocation of individuals for reasons

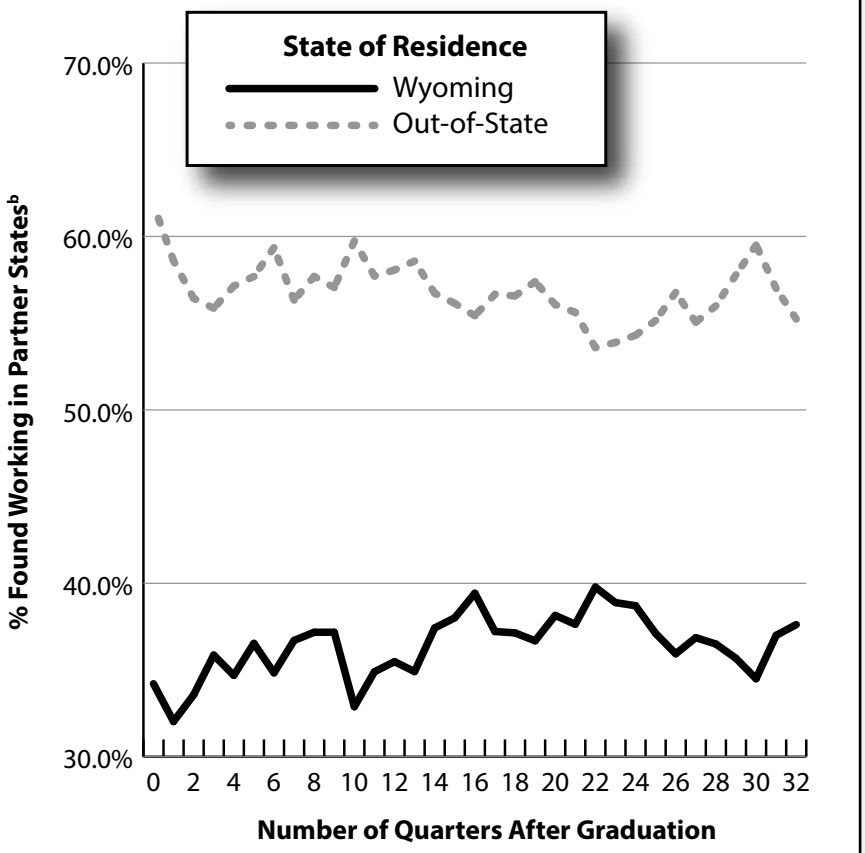


[a]Classification of Instructional Programs.
Source: Workforce Data Quality Initiative (WDQI) custom extract.
Prepared by L. Mohondro, Research & Planning, WY DWS, 3/9/2017.

Figure 3: **2006/07 Health Care and Related Professions (CIP[a] 51) Graduates Working in Wyoming by State of Residency**

related to families will also be conducted.

Using the same research strategy as this article, future analysis will focus on all programs of study available at UW and the community colleges and how the graduates of each program impact the workforce. A single academic year's cohort was used in this article to examine a longer time period after graduation; however, the future analysis will require stacked cohorts to account for the small number of graduates from each program of study. The future research will look at the graduates by degrees awarded within each CIP code and the workforce outcomes of those graduates in Wyoming and partner states.



[a]Classification of Instructional Programs.
[a]Partner states are those state labor market information (LMI) offices with which Research & Planning has data-sharing agreements: Alaska, Colorado, Idaho, Montana, Nebraska, New Mexico, Ohio, Oklahoma, South Dakota, Texas, and Utah.
Source: Workforce Data Quality Initiative (WDQI) custom extract.
Prepared by L. Mohondro, Research & Planning, WY DWS, 3/9/2017.

Figure 4: **2006/07 Health Care and Related Professions (CIP[a] 51) Graduates Working in Partner States[b] by State of Residency**

References

Glover, W. (2012). A decade later: Tracking Wyoming's youth into the labor force. Wyoming Department of Workforce Services, Research & Planning, Casper, WY. Retrieved November 30, 2016, from http://doe.state.wy.us/LMI/w_r_research/A_Decade_Later.pdf

Leonard, D. (2008). Wyoming statewide long-term employment projections 2006-2016. Wyoming Department of Workforce Services, Research & Planning, Casper, WY. Retrieved November 30, 2016 from http://doe.state.wy.us/LMI/LT_ind_0616.pdf

Mohondro, L. (2016). Chapter 4: Postsecondary education and labor market behavior. *Wyoming's Hathaway Scholarship Program: A Workforce Outcomes Evaluation of a State Merit-Based Scholarship Initiative Using Administrative Records.* Wyoming Department of Workforce Services, Research & Planning, Casper, WY. Retrieved

April 10, 2017, from http://doe.state.wy.us/LMI/education_we_connect/hathaway2016/hathaway_ch4.htm

Moore, M. (2016). Wage records in Wyoming: Employment and earnings by age, gender, county, & industry, 2000-2015. *Wyoming Labor Force Trends, 53*(10). Retrieved December 14, 2016 from http://doe.state.wy.us/LMI/trends/1016/1016.pdf

National Skills Coalition. (2014, June). How many more skilled workers do we need? Using supply and demand reports for state workforce planning. Retrieved December 23, 2016 from http://www.nationalskillscoalition.org/resources/publications/file/how-many-more-skilled-workers.pdf

Saulcy, S., and Jones, S. (2009, February). A closer look at occupational projections for Wyoming, 2006-2016. Wyoming Department of Workforce Services, Research & Planning, Casper, WY. Retrieved April 10, 2017, from http://doe.state.wy.us/LMI/occ_proj_06_16/text.htm

NAICS 2017: Changes to Selected Industry Classifications

by: Carola Cowan, Bureau of Labor Statistics Programs Supervisor

The North American Industry Classification System (NAICS) is used to group establishments into industries based on their production processes. Industries are defined as economic activity engaged in the production of goods and services. This assists statistical agencies with the tabulation, presentation, and analysis of data, as well as uniformity and comparability. It was designed for statistical purposes but is frequently used for administrative and tax purposes. For example, the state of Wyoming uses NAICS to assign employers Unemployment Insurance (UI) tax rates based on the first two digits of their NAICS code.

Changes in NAICS will cause a time series break and may cause problems for economists and researchers making projections and modeling the economy at a more detailed industry level. A time series is a series of data points in time order that is used in econometric modeling to predict future values based on previously observed values. Data users who prefer more breakout will benefit from the changes occurring with NAICS that have been split into two NAICS codes.

Every five years, NAICS is revised to keep up with changes in the economy. The economy is not static and some industries become obsolete as new industries emerge. For example, mail-order houses have been replaced for the most part by electronic shopping. On the other hand, emerging industries include research and development in nanotechnology or wind and solar energy generation. In order to keep up with these changes, NAICS needs to be revised on a regular basis. The current revision from NAICS 2012 to NAICS 2017 is small and was implemented January 1, 2017. It is desireable to keep revisions to a minimum in order to facilitate over the year comparisons between NAICS 2012 and NAICS 2017 and avoid time series breaks.

NAICS changes fall into three categories: direct changes, consolidations, and splits. Direct changes and consolidations are easy

and straight forward to make. Splits are more complicated and require input from employers.

Direct NAICS changes are only a change in numbering. Establishments from one industry move directly to a new NAICS industry. There were 11 direct changes for NAICS 2017 (see Table 1). Direct NAICS changes are often the result of consolidated and split NAICS changes to keep the numbering consistent. Sometimes they are also caused by a regrouping of industries. For example, in NAICS 2012, full-service restaurants were moved into the same industry group with limited-service restaurants; cafeterias, grill buffets, and buffets; and snack & nonalcoholic beverage bars, causing all four industries to be renumbered.

Consolidated NAICS changes combine two or more codes into one new code with a new title (see Table 2). These occur most

Table 1: **Direct North American Industry Classification System (NAICS) Changes from NAICS 2012 to NAICS 2017**

2012 NAICS		2017 NAICS	
Code	**Description**	**Code**	**Description**
211112	Natural Gas Liquid Extraction	211130	Natural Gas Extraction
452111	Department Stores (except Discount Department Stores)	452210	Department Stores
452910	Warehouse Clubs and Supercenters	452311	Warehouse Clubs and Supercenters
452990	All Other General Merchandise Stores	452319	All Other General Merchandise Stores
517110	Wired Telecommunications Carriers	517311	Wired Telecommunications Carriers
517210	Wireless Telecommunications Carriers (except Satellite)	517312	Wireless Telecommunications Carriers (except Satellite)
532220	Formal Wear and Costume Rental	532281	Formal Wear and Costume Rental
532230	Video Tape and Disc Rental	532282	Video Tape and Disc Rental
532291	Home Health Equipment Rental	532283	Home Health Equipment Rental
532292	Recreational Goods Rental	532284	Recreational Goods Rental
532299	All Other Consumer Goods Rental	532289	All Other Consumer Goods Rental

Source: North American Industry Classification System.

Table 2: **Consolidated North American Industry Classification System (NAICS) Changes from NAICS 2012 to NAICS 2017**

2012 NAICS		2017 NAICS	
Code	**Description**	**Code**	**Description**
212231	Lead Ore and Zinc Ore Mining	212230	Copper, Nickel, Lead, and Zinc Mining
212234	Copper Ore and Nickel Ore Mining		
333911	Pump and Pumping Equipment Manufacturing	333914	Measuring, Dispensing, and Other Pumping Equipment Manufacturing
333913	Measuring and Dispensing Pump Manufacturing		
335221	Household Cooking Appliance Manufacturing	335220	Major Household Appliance Manufacturing
335222	Household Refrigerator and Home Freezer Manufacturing		
335224	Household Laundry Equipment Manufacturing		
335228	Other Major Household Appliance Manufacturing		
454111	Electronic Shopping	454110	Electronic Shopping and Mail-Order Houses
454112	Electronic Auctions		
454113	Mail-Order Houses		
512210	Record Production	512250	Record Production and Distribution
512220	Integrated Record Production/Distribution		

Source: North American Industry Classification System.

frequently in the declining manufacturing sector. They also occur in industries where establishments frequently engage in more than one activity and it is difficult to determine a breakout. Thirteen industries from 2012 NAICS were consolidated into five for 2017 NAICS. For example, lead ore & zinc ore mining (NAICS 2012, 212231) and copper ore & nickel ore mining (NAICS 2012, 212234) were consolidated into copper, nickel, lead, & zinc mining (NAICS 2017, 212230).

All consolidated NAICS changes referenced in Table 2 added to 27 establishments with 419 employees. Most of these industries had no establishments in Wyoming.

Split NAICS changes divide one 2012 NAICS code into two 2017 NAICS codes (see Table 3). For this revision, four 2012 NAICS industries were split into eight 2017 NAICS industries. In order to determine which new industry the old industry is moving into, it needs to be known what constitutes the larger share of activity for the establishment. Splits happen most commonly in growing industries that combined multiple activities and a more detailed breakout is desireable.

For Wyoming, the split from crude petroleum & natural gas extraction (NAICS 2012, 211111) into crude petroleum extraction (NAICS 2017, 211120) and natural gas extraction (NAICS, 2017 211130) will have the largest impact. In second quarter 2016 (2016Q2), 207 establishments were assigned to NAICS 211111 with employment of 3,367. The other three split NAICS together had only 85 establishments with 1,532 employees.

In conclusion, data users need to be aware that changes in the NAICS classification will result in time series breaks starting with 2017 data. This will make comparing data over time more challenging. On the other hand, researchers who desire more detail of certain aspects of the economy are now able to receive those data.

Wyoming employers will see no change in their tax rates because of NAICS 2017, since tax rates are only based of the first two digits, which indicate the sector. None of the industry code changes resulted in a sector change.

More information regarding NAICS can be found at http://www.census.gov/eos/www/naics/.

Table 3: Split North American Industry Classification System (NAICS) Changes from NAICS 2012 to NAICS 2017

2012 NAICS		2017 NAICS	
Code	**Description**	**Code**	**Description**
211111	Crude Petroleum and Natural Gas Extraction	211120	Crude Petroleum Extraction
		211130	Natural Gas Extraction
452112	Discount Department Stores	452210	Department Stores
		452311	Warehouse Clubs and Supercenters
541711	Research and Development in Biotechnology	541713	Research and Development in Nanotechnology
		541714	Research and Development in Biotechnology (except Nanobiotechnology)
541712	Research and Development in the Physical, Engineering, and Life Sciences (except Biotechnology)	541713	Research and Development in Nanotechnology
		541715	Research and Development in the Physical, Engineering, and Life Sciences (except Nanotechnology and Biotechnology)

Source: North American Industry Classification System.

Total Wages, Average Monthly Employment, and Average Monthly Wage Changes for Wyoming by Year/Quarter: 2006Q4 to 2016Q4

Year/Quarter	Total Wages	% Change	Avg. Monthly Employment	% Change	Avg. Monthly Wage	% Change
2006Q4	$2,674,775,271		270,498		$3,296.11	
2007Q4	$2,976,397,551	11.3%	280,888	3.8%	$3,532.13	7.2%
2007Q1	$2,528,871,913		266,599		$3,161.89	
2008Q1	$2,798,237,273	10.7%	276,195	3.6%	$3,377.13	6.8%
2007Q2	$2,679,641,341		278,792		$3,203.87	
2008Q2	$2,918,008,721	8.9%	287,780	3.2%	$3,379.91	5.5%
2007Q3	$2,712,325,140		284,317		$3,179.93	
2008Q3	$2,985,771,294	10.1%	293,895	3.4%	$3,386.44	6.5%
2007Q4	$2,976,397,551		280,888		$3,532.13	
2008Q4	$3,177,223,682	6.7%	287,478	2.3%	$3,684.02	4.3%
2008Q1	$2,798,237,273		276,195		$3,377.13	
2009Q1	$2,764,364,307	-1.2%	273,471	-1.0%	$3,369.48	-0.2%
2008Q2	$2,918,008,721		287,780		$3,379.91	
2009Q2	$2,773,191,493	-5.0%	277,897	-3.4%	$3,326.40	-1.6%
2008Q3	$2,985,771,294		293,895		$3,386.44	
2009Q3	$2,736,056,780	-8.4%	278,234	-5.3%	$3,277.88	-3.2%
2008Q4	$3,177,223,682		287,478		$3,684.02	
2009Q4	$2,911,594,084	-8.4%	269,439	-6.3%	$3,602.04	-2.2%
2009Q1	$2,764,364,307		273,471		$3,369.48	
2010Q1	$2,627,558,836	-4.9%	260,726	-4.7%	$3,359.29	-0.3%
2009Q2	$2,773,191,493		277,897		$3,326.40	
2010Q2	$2,802,848,365	1.1%	273,044	-1.7%	$3,421.73	2.9%
2009Q3	$2,736,056,780		278,234		$3,277.88	
2010Q3	$2,866,694,334	4.8%	279,429	0.4%	$3,419.71	4.3%
2009Q4	$2,911,594,084		269,439		$3,602.04	
2010Q4	$3,087,069,661	6.0%	272,511	1.1%	$3,776.08	4.8%
2010Q1	$2,627,558,836		260,726		$3,359.29	
2011Q1	$2,769,072,169	5.4%	263,558	1.1%	$3,502.17	4.3%
2010Q2	$2,802,848,365		273,044		$3,421.73	
2011Q2	$2,933,492,659	4.7%	275,169	0.8%	$3,553.56	3.9%
2010Q3	$2,866,694,334		279,429		$3,419.71	
2011Q3	$3,053,914,162	6.5%	282,231	1.0%	$3,606.87	5.5%
2010Q4	$3,087,069,661		272,511		$3,776.08	
2011Q4	$3,165,745,021	2.5%	278,015	2.0%	$3,795.65	0.5%
2011Q1	$2,769,072,169		263,558		$3,502.17	
2012Q1	$2,991,246,352	8.0%	270,073	2.5%	$3,691.90	5.4%
2011Q2	$2,933,492,659		275,169		$3,553.56	
2012Q2	$3,074,207,136	4.8%	281,192	2.2%	$3,644.26	2.6%
2011Q3	$3,053,914,162		282,231		$3,606.87	
2012Q3	$3,060,122,560	0.2%	284,180	0.7%	$3,589.42	-0.5%
2011Q4	$3,165,745,021		278,015		$3,795.65	
2012Q4	$3,294,064,060	4.1%	278,934	0.3%	$3,936.49	3.7%
2012Q1	$2,991,246,352		270,073		$3,691.90	
2013Q1	$3,024,233,488	1.1%	270,881	0.3%	$3,721.48	0.8%
2012Q2	$3,074,207,136		281,192		$3,644.26	
2013Q2	$3,093,096,086	0.6%	281,707	0.2%	$3,659.94	0.4%
2012Q3	$3,060,122,560		284,180		$3,589.42	
2013Q3	$3,119,244,931	1.9%	285,726	0.5%	$3,638.97	1.4%
2012Q4	$3,294,064,060		278,934		$3,936.49	
2013Q4	$3,344,359,716	1.5%	280,701	0.6%	$3,971.44	0.9%
2013Q1	$3,024,233,488		270,881		$3,721.48	
2014Q1	$3,124,158,426	3.3%	274,050	1.2%	$3,799.99	2.1%

(p) Preliminary.
Source: Quarterly Census of Employment and Wages (http://doe.state.wy.us/LMI/toc_202.htm).
Prepared by C. Toups, Research & Planning, WY DWS.

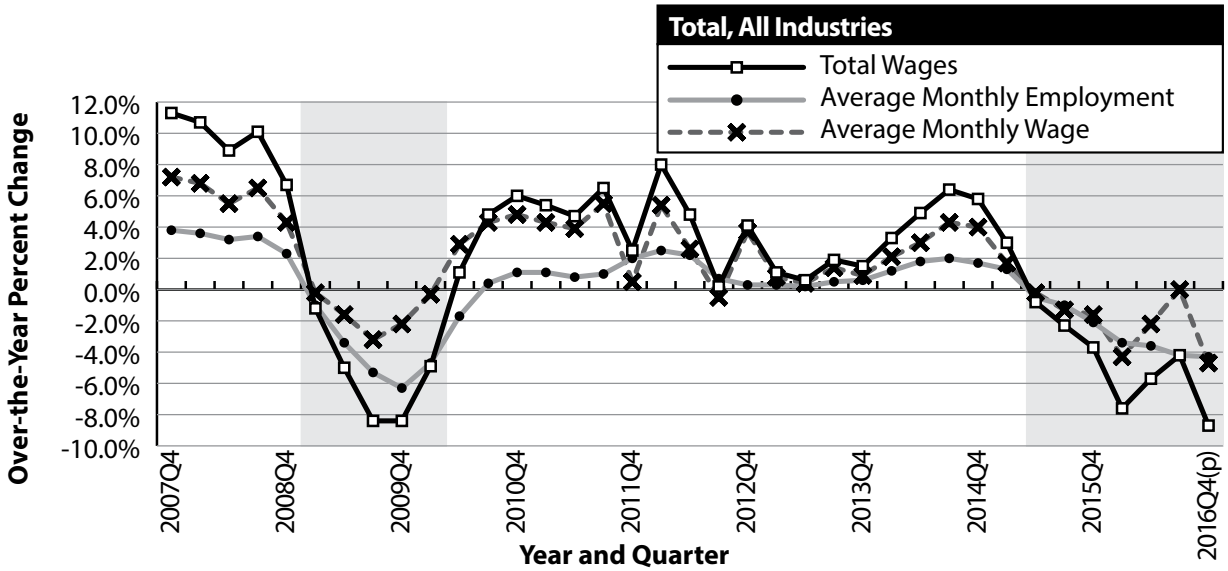
Table continued on page 17

(Table continued from page 16)

Total Wages, Average Monthly Employment, and Average Monthly Wage Changes for Wyoming by Year/Quarter: 2006Q4 to 2016Q4

Year/Quarter	Total Wages	% Change	Avg. Monthly Employment	% Change	Avg. Monthly Wage	% Change
2013Q2	$3,093,096,086		281,707		$3,659.94	
2014Q2	$3,243,373,986	4.9%	286,669	1.8%	$3,771.33	3.0%
2013Q3	$3,119,244,931		285,726		$3,638.97	
2014Q3	$3,317,475,865	6.4%	291,299	2.0%	$3,796.19	4.3%
2013Q4	$3,344,359,716		280,701		$3,971.44	
2014Q4	$3,536,857,567	5.8%	285,540	1.7%	$4,128.85	4.0%
2014Q1	$3,124,158,426		274,050		$3,799.99	
2015Q1	$3,218,193,073	3.0%	277,691	1.3%	$3,863.04	1.7%
2014Q2	$3,243,373,986		286,669		$3,771.33	
2015Q2	$3,219,023,155	-0.8%	285,186	-0.5%	$3,762.48	-0.2%
2014Q3	$3,317,475,865		291,299		$3,796.19	
2015Q3	$3,242,027,718	-2.3%	288,316	-1.0%	$3,748.23	-1.3%
2014Q4	$3,536,857,567		285,540		$4,128.85	
2015Q4	$3,406,817,213	-3.7%	279,408	-2.1%	$4,064.33	-1.6%
2015Q1	$3,218,193,073		277,691		$3,863.04	
2016Q1	$2,974,719,713	-7.6%	268,324	-3.4%	$3,695.43	-4.3%
2015Q2	$3,219,023,155		285,186		$3,762.48	
2016Q2	$3,035,536,278	-5.7%	275,018	-3.6%	$3,679.20	-2.2%
2015Q3	$3,242,027,718		288,316		$3,748.23	
2016Q3	$3,107,025,301	-4.2%	276,309	-4.2%	$3,748.25	0.0%
2015Q4	$3,406,817,213		279,408		$4,064.33	
2016Q4 (p)	$3,108,776,543	-8.7%	267,405	-4.3%	$3,875.24	-4.7%

(p) Preliminary.
Source: Quarterly Census of Employment and Wages (http://doe.state.wy.us/LMI/toc_202.htm).
Prepared by C. Toups, Research & Planning, WY DWS.



(p)Preliminary.
Shaded areas indicate periods of economic downturn: 2009Q1-2010Q1 and 2015Q2-2016Q4.
Source: Quarterly Census of Employment and Wages.
Prepared by M. Moore, Research & Planning, WY DWS, 6/20/17.

Figure: Over-the-Year Percentage Change for Total Wages, Average Monthly Employment, and Average Monthly Wage Across All Industries in Wyoming by Year and Quarter, 2007Q4 to 2016Q4

Employment (Jobs Worked) and Wage Change For Selected Industries in Wyoming, 2016Q4

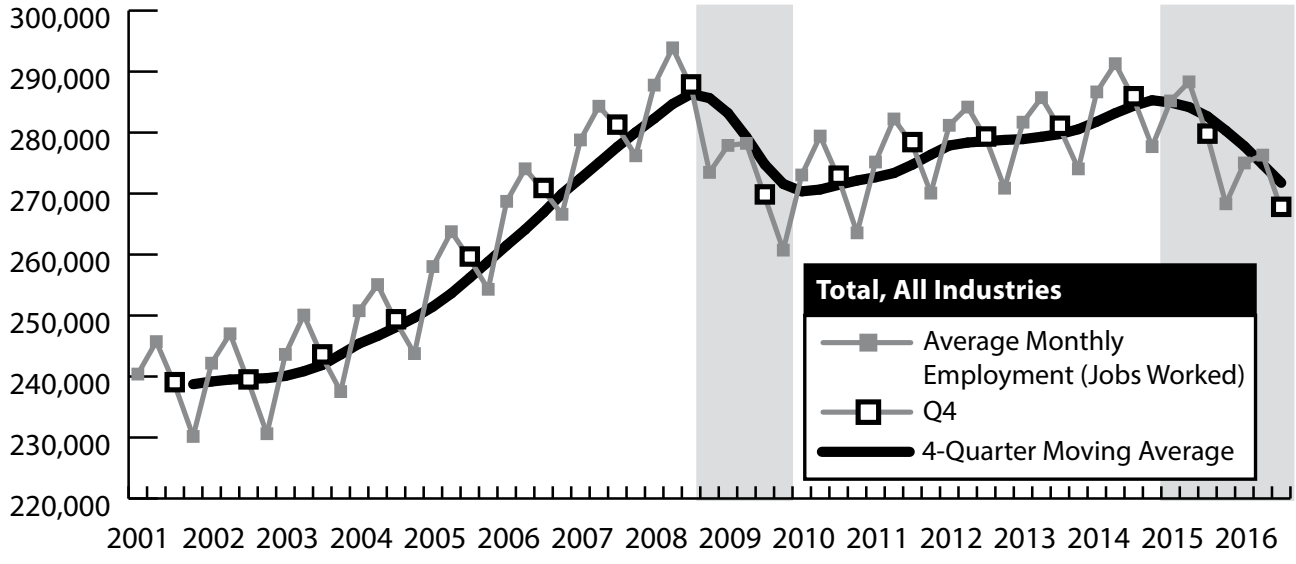
by: Michael Moore, Editor

In fourth quarter 2016 (2016Q4), Wyoming lost more than 12,000 jobs compared to fourth quarter 2015 (2015Q4), according to data from the Quarterly Census of Employment and Wages (QCEW). In 2016Q4, Wyoming's average monthly employment (measured by the QCEW in terms of the number of jobs worked) across all industries was 267,405, compared to 279,408 in 2015Q4, a decrease of 4.3%.

The QCEW is a quarterly count of employment and wages reported by employers based on Unemployment Insurance (UI) tax records and edited to meet statistical standard guidelines of the U.S. Bureau of Labor Statistics.

As noted by Gallagher (2016), Wyoming entered an economic downturn in 2015Q2, as the state's "economy was exposed to a substantial decline in the prices of oil, an extended period of low natural gas prices, and the erosion in the price of coal." As of 2016Q4, the downturn has continued for seven consecutive quarters. By comparison, the state's previous downturn lasted five quarters, from 2009Q1 to 2010Q1.

This article provides a brief synopsis of average monthly employment changes in four key industries in Wyoming's economy: mining, construction, health care & social assistance, and leisure & hospitality. The data referenced in this article are available online at http://doe.state.wy.us/LMI/QCEW_OTY/toc.htm.



(p) Preliminary.
Shaded areas indicate periods of economic downturn: 2009Q1-2010Q1 and 2015Q2-2016Q4.
Source: Quarterly Census of Employment and Wages.
Prepared by M. Moore, Research & Planning, WY DWS, 6/15/17.

Figure 1: **Average Monthly Employment (Jobs Worked) Across All Industries in Wyoming by Year and Quarter, 2001Q2-2016Q4**

As shown in Figure 1, Wyoming's employment tends to follow a seasonal pattern, with employment peaking in the third quarter of each year, and then declining in the fourth quarter. In 2016Q4, Wyoming's average monthly employment was lower than it has been during any other fourth quarter since 2005Q4.

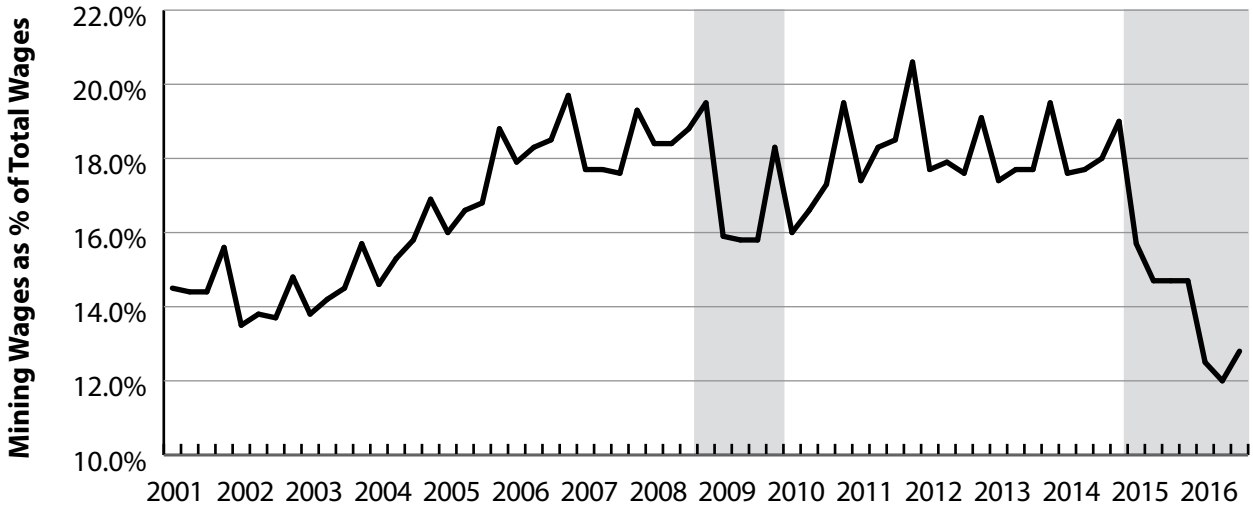
Not all industries follow the same patterns of employment. Industries such as construction and leisure & hospitality follow the same general seasonal pattern as the total presented in Figure 1, while industries such as mining and health care & social assistance are not as affected by seasonal changes.

Mining (NAICS 21)

According to the North American Industry Classification System (NAICS 21), the mining sector "comprises establishments that extract naturally occurring mineral solids, such as coal and ores; liquid minerals, such as crude petroleum; and gases, such as natural gas. The term mining is used in the broad sense to include quarrying, well operations, beneficiating (e.g., crushing, screening, washing, and flotation), and other preparation customarily performed at the mine site, or as a part of mining activity."

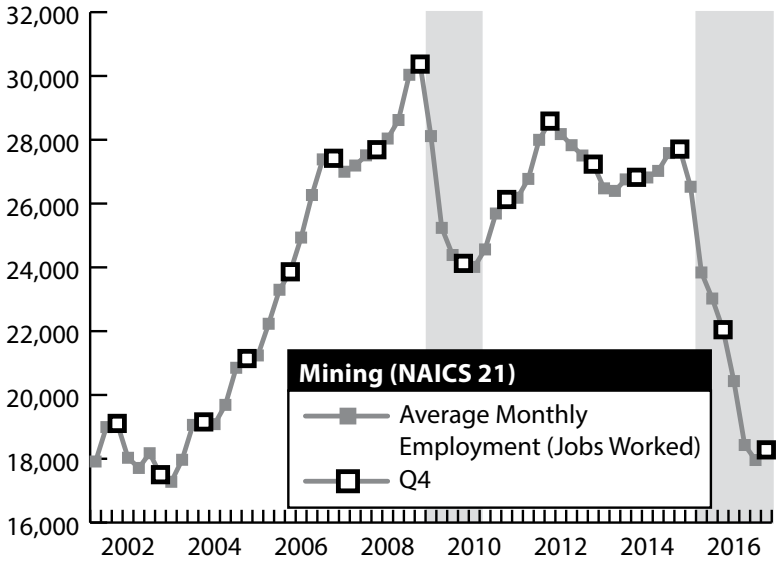
Bullard (2015) explained that in 2015Q1, mining paid $1 of every $5 (approximately 20% of total wages) in total covered Unemployment Insurance (UI) wage and salary compensation in Wyoming. During the last three quarters of 2016, total wages in mining made up a smaller proportion (approximately 12%) of the total state wages than at any time since 2001 (see Figure 2).

The decline in oil and coal prices is significant to Wyoming's economy, and average monthly employment in the mining sector has declined substantially from prior-year levels for eight consecutive quarters



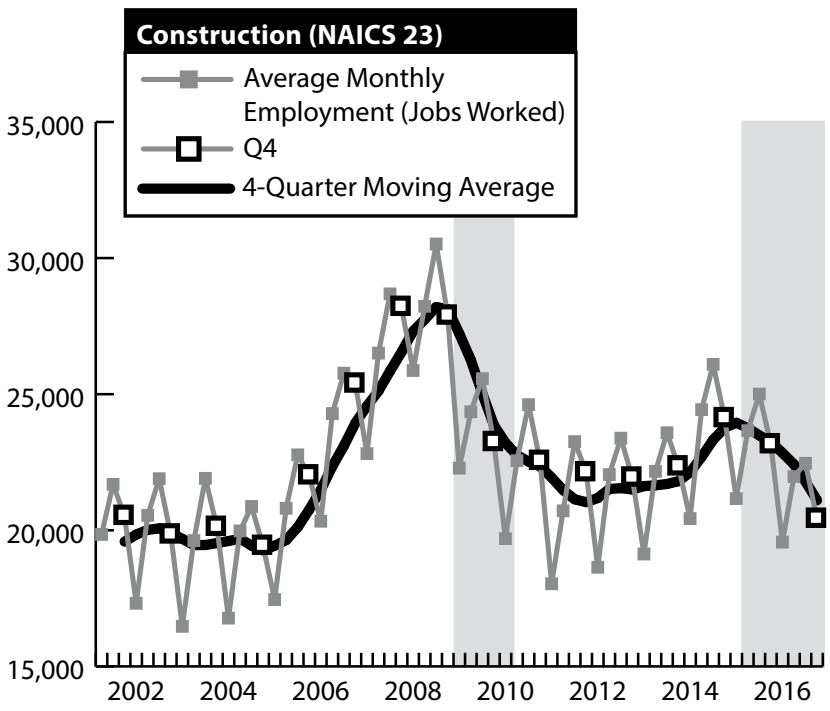
2016Q4 data are preliminary.
Shaded areas indicate periods of economic downturn: 2009Q1-2010Q1 and 2015Q2-2016Q4.
Source: Quarterly Census of Employment and Wages.
Prepared by M. Moore, Research & Planning, WY DWS, 6/15/17.

Figure 2: **Total Wages in Mining (NAICS 21) as a Percent of Total Wages in Wyoming, 2001Q2 to 2016Q4**



(p) Preliminary.
Shaded areas indicate periods of economic downturn: 2009Q1-2010Q1 and 2015Q2-2016Q4.
Source: Quarterly Census of Employment and Wages.
Prepared by M. Moore, Research & Planning, WY DWS, 6/15/17.

Figure 3: **Average Monthly Employment (Jobs Worked) in Mining (NAICS 21) in Wyoming by Year and Quarter, 2001Q2-2016Q4**



(p) Preliminary.
Shaded areas indicate periods of economic downturn: 2009Q1-2010Q1 and 2015Q2-2016Q4.
Source: Quarterly Census of Employment and Wages.
Prepared by M. Moore, Research & Planning, WY DWS, 6/15/17.

Figure 4: **Average Monthly Employment (Jobs Worked) in Construction (NAICS 23) in Wyoming by Year and Quarter, 2001Q2-2016Q4**

(see Figure 3). Over the year, average monthly employment in mining in Wyoming fell from 22,046 to 18,279 (-3,767, or -17.1%). Average monthly employment was down from 27,708 in 2014Q4, a loss of 9,429 jobs, or -33.9%. In other words, Wyoming's mining industry lost approximately one of every three jobs that were available in 2014Q4.

As previously stated and illustrated in Figure 3, Wyoming's mining sector is not as affected by seasonal changes as some other industries. Over the quarter, average monthly employment actually increased slightly, from 17,961 in 2016Q3 to 18,279 in 2016Q4 (318, or 1.8%). This was the first over-the-quarter increase in average monthly employment mining since 2014Q4.

Construction (NAICS 23)

Average monthly employment in Wyoming's construction industry tends to peak in the third quarter each year during the warm summer months. Employment then tends to drop from third quarter to fourth, and hits its lowest point during the first quarter. This is illustrated in Figure 4.

During the first part of the current downturn, job losses in construction occurred at a much lower rate compared to the previous downturn. However, over-the-year job losses in construction accelerated during the last two quarters of 2016. Average monthly employment in construction fell from 23,149 in 2015Q4 to 20,412 in 2016Q4 (-2,737, or -11.8%).

Health Care & Social Assistance (NAICS 62)

Average monthly employment in health care & social assistance has grown steadily over the last decade. Wyoming's health care sector is not influenced by seasonal changes and has continued to grow, even during times of economic downturns (see Figure 5).

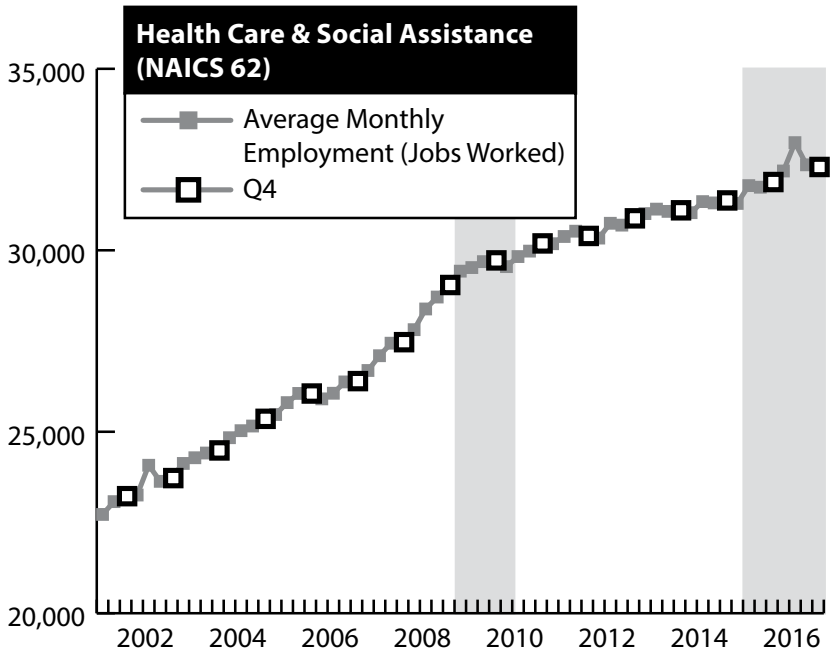
While Wyoming's economy has contracted over the last seven quarters, average monthly employment in health care has grown at a rate of 2.0% over that time. In 2016Q4, the average monthly employment in health care & social assistance (including local government) was 32,324, up from 31,909 (415, or 1.3%) in 2015Q4.

As demonstrated by Knapp (2017), demographics are a major driver of Wyoming's health care sector. In 2015, 28.3% of the state's population was age 55 or older; that percentage was much higher in counties like Hot Springs (41.3%), Platte (39.3%), and Johnson (37.5%) counties. Knapp, citing information from the National Center for Health Statistics, noted that "individuals age 55 or older have a greater likelihood of having chronic health conditions requiring medical attention compared to a younger population."

An in-depth analysis of Wyoming's health care workforce is available at http://doe.state.wy.us/lmi/health/2017/toc.htm.

Leisure & Hospitality (NAICS 71-72)

Much like construction, employment in leisure & hospitality peaks during the second and third quarter each year during the warm



(p) Preliminary.
Shaded areas indicate periods of economic downturn: 2009Q1-2010Q1 and 2015Q2-2016Q4.
Source: Quarterly Census of Employment and Wages.
Prepared by M. Moore, Research & Planning, WY DWS, 6/15/17.

Figure 5: **Average Monthly Employment (Jobs Worked) in Health Care & Social Assistance (NAICS 62) in Wyoming by Year and Quarter, 2001Q2-2016Q4**

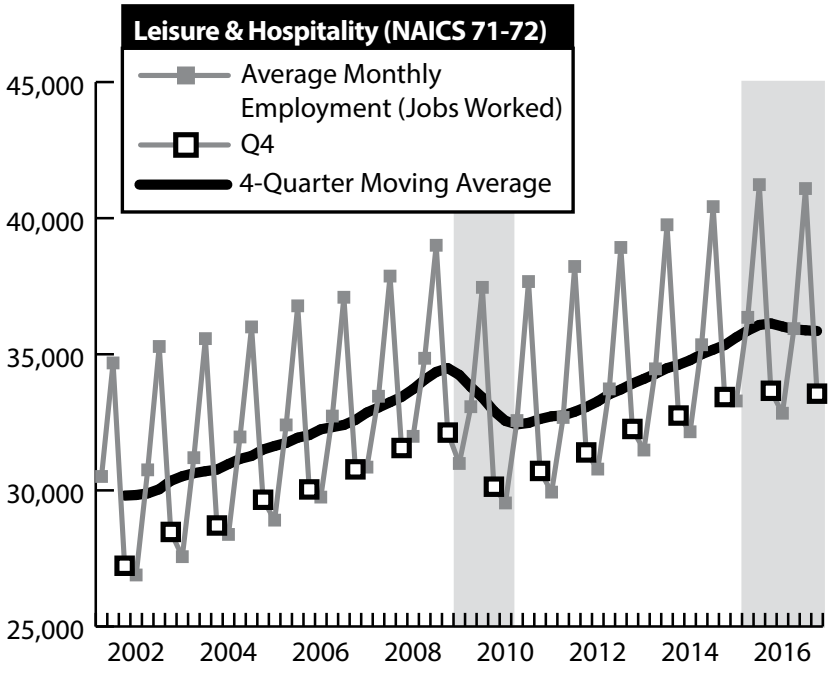
summer months (see Figure 6). Leisure & hospitality experienced over-the-year growth in employment through 2015Q4, but declined slightly throughout 2016.

The average rate of over-the-year change in employment in leisure & hospitality during the most recent downturn was 0.3%, compared to -4.6% during the previous downturn. This is likely due to the fact that Wyoming's tourism industry was hurt by the national Great Recession that preceded the previous downturn, but bolstered by a growing national economy in 2015 and 2016.

Conclusion

Average monthly employment in Wyoming decreased over the year for the seventh consecutive quarter from 2015Q4 to 2016Q4. Substantial job losses were seen in mining (-3,767 jobs, or -17.1%) and construction (-2,737 jobs, or -11.8%), while moderate growth was seen in health care & social assistance (415 jobs, or 1.3%).

Historical wage and employment data for Wyoming are available online at http://doe.state.wy.us/LMI/toc_202.htm.



(p) Preliminary.
Shaded areas indicate periods of economic downturn: 2009Q1-2010Q1 and 2015Q2-2016Q4.
Source: Quarterly Census of Employment and Wages.
Prepared by M. Moore, Research & Planning, WY DWS, 6/15/17.

Figure 6: **Average Monthly Employment (Jobs Worked) in Leisure & Hospitality (NAICS 71-72) in Wyoming by Year and Quarter, 2001Q2-2016Q4**

References

Bullard, D. (2015). Local jobs and payroll in Wyoming in First Quarter 2015: Job losses appear in the oil & gas sector. *Wyoming Labor Force Trends, 10*(52). Retrieved May 9, 2016, from http://doe.state.wy.us/LMI/trends/1015/1015.pdf

Gallagher, T. (2016, April). Chapter 1: Economic analysis. *Wyoming Labor Force Trends, 53*(4). Retrieved June 19, 2017, from http://doe.state.wy.us/LMI/trends/0416/a1.htm

Knapp, L. (2017). Chapter 2: Analysis of Wyoming's demographics and the health care workforce. *Health Care Workforce Needs in Wyoming: Update 2017.* Retrieved June 19, 2017, from http://doe.state.wy.us/LMI/health/2017/chapter2.htm

Quarterly Turnover Statistics by Industry, Third Quarter 2016

In 2016Q3, the number of hires in mining (1,374) in Wyoming increased from the previous quarter by 70.0% (566 hires). This marked the first over-the-quarter increase in hiring activity in mining since 2014Q3. Historical tabular data are available at http://doe.state.wy.us/LMI/turnover.htm.

Sector	Major Industry		(H) Hire Only	(H)+(B) Total Hires	(B) Both Hire and Exit	(E) Exit Only	(E)+(B) Total Exits	(C) Continuous Employment	(H+E+B+C) Total	Turnover Rate[a]	Turnover Change Prior Year
Goods Producing	Agriculture, Forestry, Fishing, & Hunting	Transactions[b]	312	605	293	626	919	2,270	3,501	35.2	-2.8
		Rates	8.9	17.3	8.4	17.9	26.2	64.8	100.0		
	Mining	Transactions	1,374	1,824	450	1,404	1,854	16,527	19,755	16.3	-2.9
		Rates	7.0	9.2	2.3	7.1	9.4	83.7	100.0		
	Construction	Transactions	3,938	7,046	3,108	4,495	7,603	17,141	28,682	40.2	-4.6
		Rates	13.7	24.6	10.8	15.7	26.5	59.8	100.0		
	Manufacturing	Transactions	852	1,181	329	971	1,300	8,686	10,838	19.9	-1.6
		Rates	7.9	10.9	3.0	9.0	12.0	80.1	100.0		
	Wholesale Trade, Transp., Utilities, & Warehousing	Transactions	1,687	2,364	677	2,134	2,811	17,493	21,991	20.5	-1.8
		Rates	7.7	10.7	3.1	9.7	12.8	79.5	100.0		
Service Providing	Retail Trade	Transactions	5,351	7,985	2,634	6,383	9,017	25,753	40,121	35.8	-2.1
		Rates	13.3	19.9	6.6	15.9	22.5	64.2	100.0		
	Information	Transactions	351	438	87	450	537	3,904	4,792	18.5	-4.5
		Rates	7.3	9.1	1.8	9.4	11.2	81.5	100.0		
	Financial Activities	Transactions	972	1,360	388	1,119	1,507	9,450	11,929	20.8	-2.5
		Rates	8.1	11.4	3.3	9.4	12.6	79.2	100.0		
	Professional & Business Services	Transactions	2,900	5,663	2,763	3,821	6,584	14,238	23,722	40.0	-0.4
		Rates	12.2	23.9	11.6	16.1	27.8	60.0	100.0		
	Educational Services	Transactions	2,690	3,546	856	3,344	4,200	26,316	33,206	20.7	0.2
		Rates	8.1	10.7	2.6	10.1	12.6	79.3	100.0		
	Health Services	Transactions	3,747	4,752	1,005	3,986	4,991	28,875	37,613	23.2	-0.7
		Rates	10.0	12.6	2.7	10.6	13.3	76.8	100.0		
	Leisure & Hospitality	Transactions	8,807	16,252	7,445	12,212	19,657	27,157	55,621	51.2	-0.6
		Rates	15.8	29.2	13.4	22.0	35.3	48.8	100.0		
	Other Services	Transactions	902	1,615	713	1,260	1,973	6,070	8,945	32.1	-1.1
		Rates	10.1	18.1	8.0	14.1	22.1	67.9	100.0		
	Public Admin.	Transactions	1,069	2,021	952	2,725	3,677	19,390	24,136	19.7	-0.3
		Rates	4.4	8.4	3.9	11.3	15.2	80.3	100.0		
	Unclassified	Transactions	22	51	29	44	73	81	176	54.0	-10.4
		Rates	12.5	29.0	16.5	25.0	41.5	46.0	100.0		
Total		**Transactions**	**34,974**	**56,703**	**21,729**	**44,974**	**66,703**	**223,351**	**325,028**	**31.3**	**-1.4**
		Rates	**10.8**	**17.4**	**6.7**	**13.8**	**20.5**	**68.7**	**100.0**		

(H) Hire Only. (B) Both Hire and Exit. (E) Exit Only. (C) Continuous Employment.
[a]Turnover rate equals (H+E+B)/Total.
[b]Jobs worked at any time during the quarter.
Historical turnover data can be found online at http://doe.state.wy.us/LMI/turnover.htm.

Persons Working in Jobs Covered by Wyoming State Unemployment Insurance, Fourth Quarter 2016

by: Tony Glover, Workforce Information Supervisor

The total number of persons found in Wyoming wage records declined over the year (5.0%; see Figure 1) for the seventh consecutive quarter.

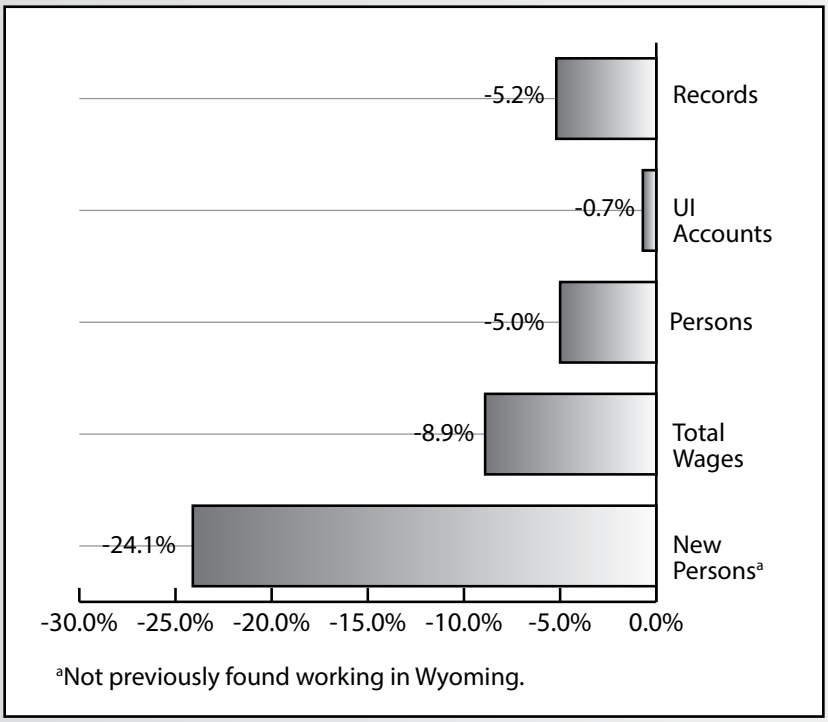


Figure 1: **Percentage Change from Previous Year, Wyoming Wage Records, Fourth Quarter 2016**

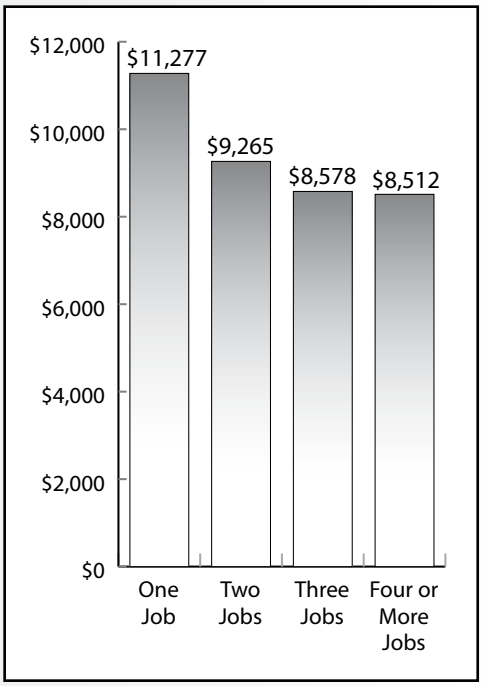


Figure 2: **Mean Quarterly Wages in Wyoming by Number of Jobs, Fourth Quarter 2016**

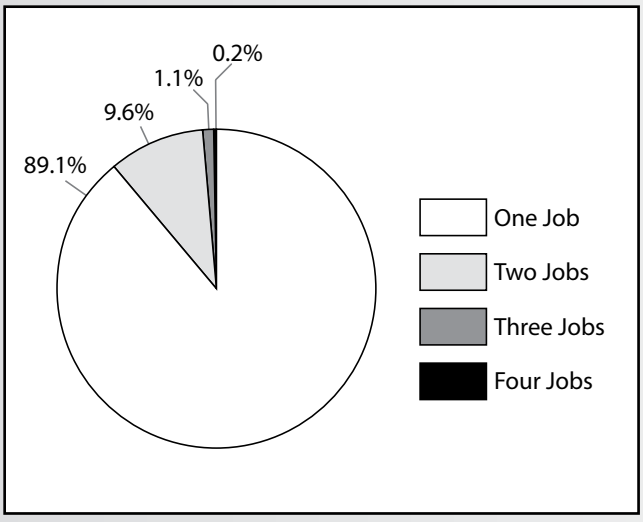


Figure 3: **Percentage of Total Persons by Number of Jobs Worked in Wyoming, Fourth Quarter 2016**

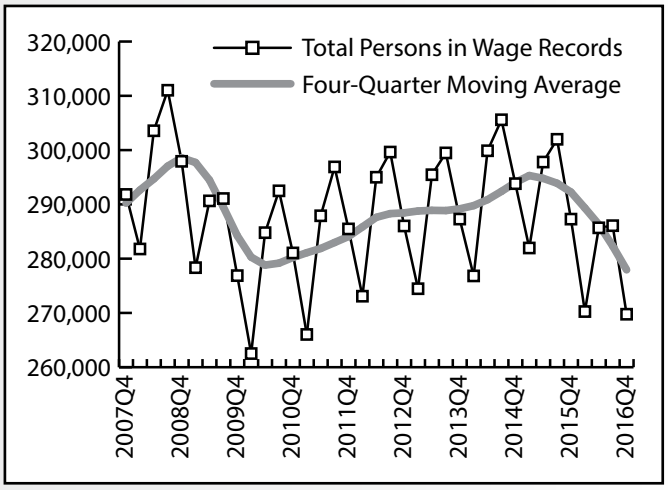


Figure 4: **Running Total of Persons in Wyoming Wage Records, Fourth Quarter 2007 (2007Q4) to Fourth Quarter 2016 (2016Q4)**

Wyoming Unemployment Rate Falls to 4.7% in February 2017

by: David Bullard, Senior Economist

The Research & Planning section of the Wyoming Department of Workforce Services reported that the state's seasonally adjusted[1] unemployment rate fell slightly from 4.8% in January to 4.7% in February (not a statistically significant change). Wyoming's unemployment rate was significantly lower than its February 2016 level of 5.3%. Seasonally adjusted employment of Wyoming residents increased slightly from January to February, rising by an estimated 1,214 individuals (0.4%; not a statistically significant change).

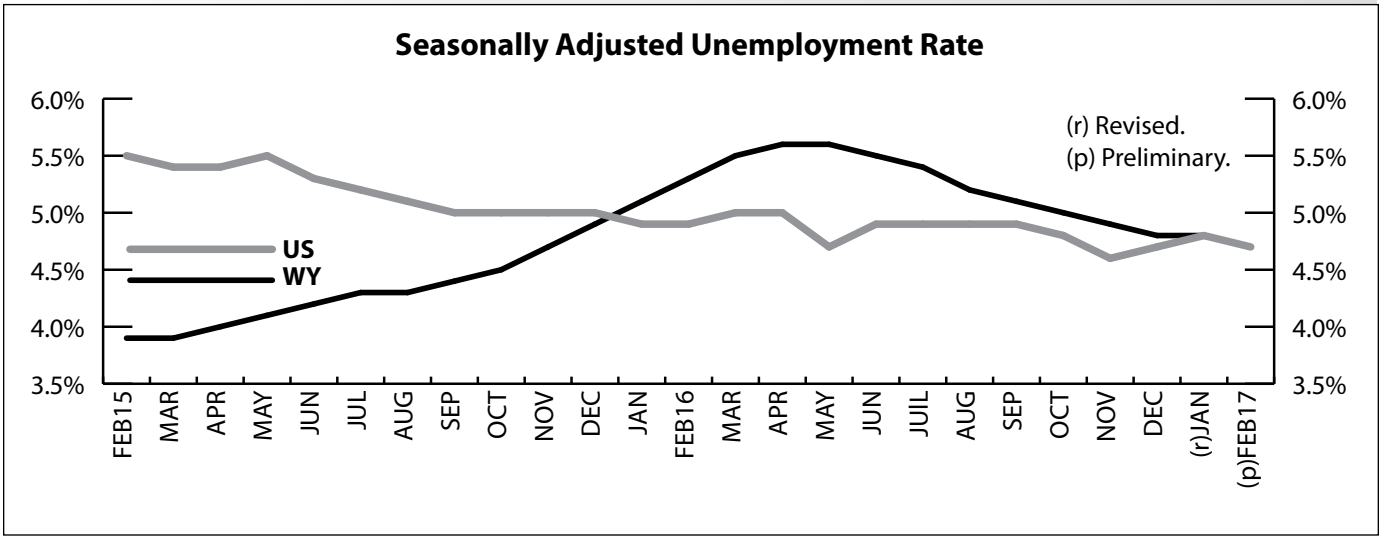
From January to February, most county unemployment rates followed their normal seasonal pattern and decreased slightly. The largest decreases occurred in Johnson (down from 6.5% to 5.6%), Natrona (down from 7.6% to 6.8%), Campbell (down from 6.7% to 6.0%), and Big Horn (down from 5.4% to 4.7%) counties. Niobrara County's unemployment was unchanged from January to February at 3.3%.

From February 2016 to February 2017, unemployment rates fell in 22 counties and rose slightly in Weston County (up from 4.2% to 4.7%). The largest decreases were seen in Johnson (down from 7.3% to 5.6%), Sublette (down from 7.4% to 5.8%), Fremont (down from 8.5% to 6.9%), and Big Horn (down from 6.2% to 4.7%) counties.

Fremont County (6.9%) posted the highest unemployment rate in February. It was followed by Natrona (6.8%), Campbell (6.0%), and Sublette (5.8%) counties. The lowest unemployment rates were found in Teton (2.8%), Goshen (2.8%), and Albany (2.8%) counties.

The estimate of total nonfarm jobs (not seasonally adjusted and measured by place of work) fell from 277,500 in February 2016 to 270,600 in February 2017, a decrease of 6,900 jobs (or –2.5%; a statistically significant decrease).

1 Seasonal adjustment is a statistical procedure to remove the impact of normal regularly recurring events (such as weather, major holidays, and the opening and closing of schools) from economic time series to better understand changes in economic conditions from month to month.



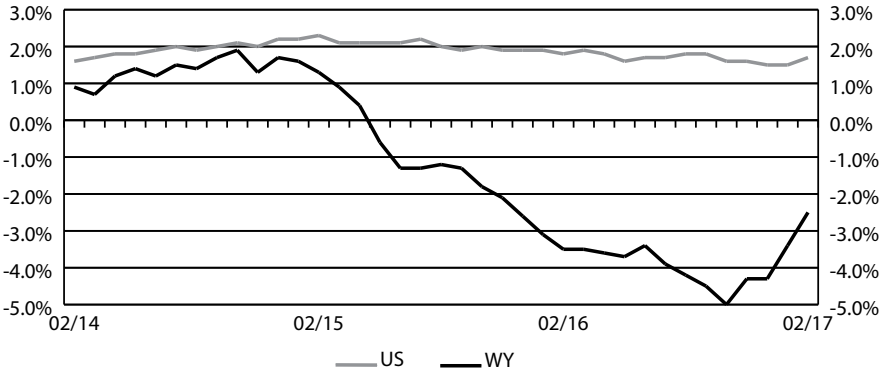
Current Employment Statistics (CES) Estimates and Research & Planning's Short-Term Projections, February 2017

by: David Bullard, Senior Economist

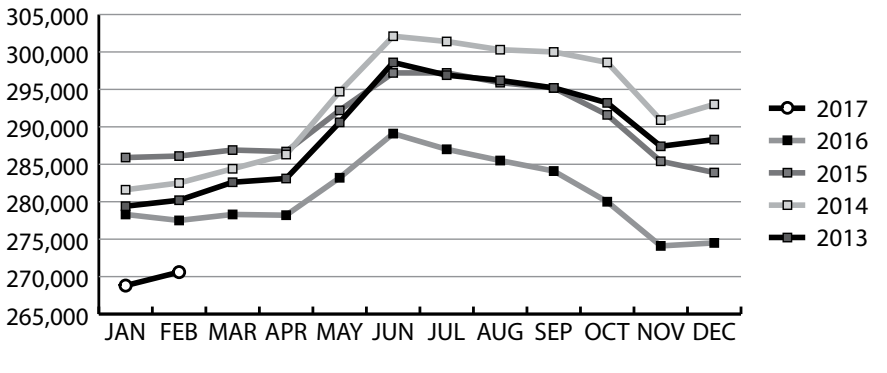
Industry Sector	Research & Planning's Short-Term Projections	Current Employment Statistics (CES) Estimates	N Difference	% Difference
Total Nonfarm	**268,852**	**270,600**	**1,748**	**0.6%**
Natural Resources & Mining	17,282	18,700	1,418	7.6%
Construction	17,363	18,700	1,337	7.1%
Manufacturing	8,848	9,100	252	2.8%
Wholesale Trade	8,094	8,100	6	0.1%
Retail Trade	29,408	29,700	292	1.0%
Transportation & Utilities	13,989	14,300	311	2.2%
Information	3,661	3,700	39	1.1%
Financial Activities	10,530	10,200	-330	-3.2%
Professional & Business Services	16,768	16,400	-368	-2.2%
Educational & Health Services	28,051	28,000	-51	-0.2%
Leisure & Hospitality	32,656	31,900	-756	-2.4%
Other Services	10,804	10,900	96	0.9%
Government	71,398	70,900	-498	-0.7%

Projections were run in February 2017 and based on QCEW data through September 2016.

Nonagricultural Employment Growth (Percentage Change Over Previous Year)



Wyoming Nonagricultural Wage and Salary Employment



State Unemployment Rates February 2017 (Seasonally Adjusted)

State	Unemp. Rate
Puerto Rico	12.0
New Mexico	6.8
Alaska	6.4
Alabama	6.2
Louisiana	5.8
District of Columbia	5.7
Illinois	5.4
Georgia	5.3
Michigan	5.3
Tennessee	5.3
Mississippi	5.2
West Virginia	5.2
Arizona	5.1
North Carolina	5.1
Ohio	5.1
California	5.0
Florida	5.0
Pennsylvania	5.0
Kentucky	4.9
Nevada	4.9
Texas	4.9
Washington	4.9
Connecticut	4.7
United States	**4.7**
Wyoming	**4.7**
Oklahoma	4.6
Delaware	4.5
Rhode Island	4.5
New Jersey	4.4
New York	4.4
South Carolina	4.4
Maryland	4.2
Indiana	4.1
Missouri	4.1
Kansas	4.0
Minnesota	4.0
Oregon	4.0
Virginia	3.9
Montana	3.8
Arkansas	3.7
Wisconsin	3.7
Idaho	3.6
Massachusetts	3.4
Iowa	3.2
Maine	3.2
Nebraska	3.2
Utah	3.1
Vermont	3.0
Colorado	2.9
North Dakota	2.9
Hawaii	2.8
South Dakota	2.8
New Hampshire	2.7

Wyoming Nonagricultural Wage and Salary Employment

by: David Bullard, Senior Economist

	Employment in Thousands			% Change Total Employment	
	Feb 17	Jan 17	Feb 16	Feb 17 Jan 17	Feb 17 Feb 16
CAMPBELL COUNTY					
TOTAL NONAG. WAGE & SALARY EMPLOYMENT	**24.1**	**24.3**	**26.7**	**-0.8**	**-9.7**
TOTAL PRIVATE	18.8	19.1	21.3	-1.6	-11.7
GOODS PRODUCING	7.5	7.6	9.1	-1.3	-17.6
Natural Resources & Mining	5.3	5.4	6.6	-1.9	-19.7
Construction	1.8	1.8	2.0	0.0	-10.0
Manufacturing	0.4	0.4	0.5	0.0	-20.0
SERVICE PROVIDING	16.6	16.7	17.6	-0.6	-5.7
Trade, Transportation, & Utilities	5.0	5.1	5.7	-2.0	-12.3
Information	0.2	0.2	0.2	0.0	0.0
Financial Activities	0.7	0.7	0.7	0.0	0.0
Professional & Business Services	1.5	1.5	1.6	0.0	-6.3
Educational & Health Services	1.0	1.1	1.1	-9.1	-9.1
Leisure & Hospitality	2.2	2.2	2.2	0.0	0.0
Other Services	0.7	0.7	0.7	0.0	0.0
GOVERNMENT	5.3	5.2	5.4	1.9	-1.9

	Employment in Thousands			% Change Total Employment	
	Feb 17	Jan 17	Feb 16	Feb 17 Jan 17	Feb 17 Feb 16
SWEETWATER COUNTY					
TOTAL NONAG. WAGE & SALARY EMPLOYMENT	**21.9**	**22.0**	**23.0**	**-0.5**	**-4.8**
TOTAL PRIVATE	17.1	17.2	18.2	-0.6	-6.0
GOODS PRODUCING	6.7	6.7	7.4	0.0	-9.5
Natural Resources & Mining	4.1	4.1	4.6	0.0	-10.9
Construction	1.2	1.2	1.4	0.0	-14.3
Manufacturing	1.4	1.4	1.4	0.0	0.0
SERVICE PROVIDING	15.2	15.3	15.6	-0.7	-2.6
Trade, Transportation, & Utilities	4.6	4.6	4.7	0.0	-2.1
Information	0.1	0.2	0.2	-50.0	-50.0
Financial Activities	0.7	0.7	0.8	0.0	-12.5
Professional & Business Services	0.9	0.9	0.9	0.0	0.0
Educational & Health Services	1.3	1.3	1.3	0.0	0.0
Leisure & Hospitality	2.2	2.2	2.3	0.0	-4.3
Other Services	0.6	0.6	0.6	0.0	0.0
GOVERNMENT	4.8	4.8	4.8	0.0	0.0

	Employment in Thousands			% Change Total Employment	
	Feb 17	Jan 17	Feb 16	Feb 17 Jan 17	Feb 17 Feb 16
TETON COUNTY					
TOTAL NONAG. WAGE & SALARY EMPLOYMENT	**19.1**	**19.5**	**18.9**	**-2.1**	**1.1**
TOTAL PRIVATE	16.6	17.0	16.4	-2.4	1.2
GOODS PRODUCING	1.9	2.0	2.1	-5.0	-9.5
Natural Resources, Mining & Construction	1.8	1.8	1.9	0.0	-5.3
Manufacturing	0.1	0.2	0.2	-50.0	-50.0
SERVICE PROVIDING	17.2	17.5	16.8	-1.7	2.4
Trade, Transportation, & Utilities	2.6	2.7	2.6	-3.7	0.0
Information	0.2	0.2	0.2	0.0	0.0
Financial Activities	1.0	1.0	0.9	0.0	11.1
Professional & Business Services	1.7	1.7	1.7	0.0	0.0
Educational & Health Services	1.2	1.2	1.2	0.0	0.0
Leisure & Hospitality	7.5	7.7	7.2	-2.6	4.2
Other Services	0.5	0.5	0.5	0.0	0.0
GOVERNMENT	2.5	2.5	2.5	0.0	0.0

State Unemployment Rates February 2017 (Not Seasonally Adjusted)

State	Unemp. Rate
Puerto Rico	11.3
Alaska	7.4
New Mexico	6.9
Alabama	6.1
District of Columbia	6.1
West Virginia	6.0
Ohio	5.9
Michigan	5.7
Connecticut	5.5
Illinois	5.5
Kentucky	5.5
Louisiana	5.4
Pennsylvania	5.4
Washington	5.3
California	5.2
Georgia	5.1
Nevada	5.1
New York	5.1
Texas	5.1
Wyoming	**5.1**
Arizona	5.0
Delaware	5.0
North Carolina	5.0
Rhode Island	5.0
New Jersey	4.9
Tennessee	4.9
United States	**4.9**
Minnesota	4.8
Missouri	4.8
Oklahoma	4.8
Florida	4.7
Indiana	4.7
Maryland	4.6
Mississippi	4.6
South Carolina	4.6
Montana	4.5
Wisconsin	4.5
Arkansas	4.3
Idaho	4.2
Massachusetts	4.2
Kansas	4.1
Oregon	4.0
Virginia	4.0
Maine	3.9
Iowa	3.6
North Dakota	3.6
Utah	3.5
Colorado	3.4
South Dakota	3.4
Vermont	3.4
Nebraska	3.3
New Hampshire	3.3
Hawaii	2.7

Economic Indicators

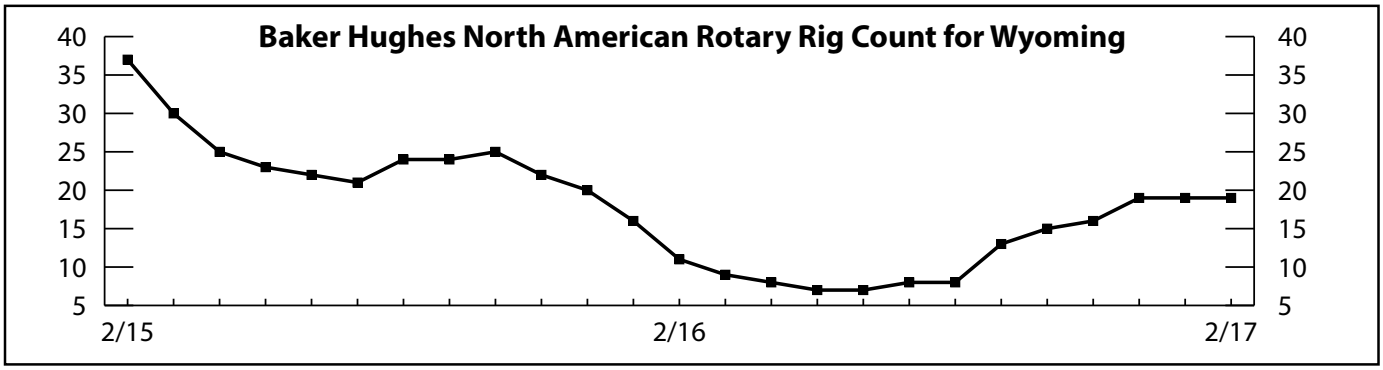
by: David Bullard, Senior Economist

The Baker Hughes North American Rotary Rig Count for Wyoming remained unchanged at 19 for the third consecutive month.

	Feb 2017 (p)	Jan 2017 (r)	Feb 2016 (b)	Percent Change Month	Year
Wyoming Total Nonfarm Employment	**270,600**	**268,800**	**277,500**	**0.7**	**-2.5**
Wyoming State Government	15,200	14,600	15,800	4.1	-3.8
Laramie County Nonfarm Employment	46,000	45,600	45,900	0.9	0.2
Natrona County Nonfarm Employment	36,100	36,200	39,400	-0.3	-8.4
Selected U.S. Employment Data					
U.S. Multiple Jobholders	7,980,000	7,405,000	7,454,000	7.8	7.1
As a percent of all workers	5.3%	4.9%	5.0%	N/A	N/A
U.S. Discouraged Workers	522,000	532,000	599,000	-1.9	-12.9
U.S. Part Time for Economic Reasons	5,773,000	6,226,000	6,106,000	-7.3	-5.5
Wyoming Unemployment Insurance					
Weeks Compensated	22,909	28,119	29,447	-18.5	-22.2
Benefits Paid	$8,712,098	$10,876,029	$11,745,479	-19.9	-25.8
Average Weekly Benefit Payment	$380.29	$386.79	$398.87	-1.7	-4.7
State Insured Covered Jobs[1]	252,394	252,237	257,000	0.1	-1.8
Insured Unemployment Rate	3.0%	3.1%	4.0%	N/A	N/A
Consumer Price Index (U) for All U.S. Urban Consumers					
(1982 to 1984 = 100)					
All Items	243.6	242.8	237.1	0.3	2.7
Food & Beverages	248.6	248.1	248.5	0.2	0.1
Housing	248.7	247.9	241.0	0.3	3.2
Apparel	126.1	123.1	125.6	2.4	0.4
Transportation	199.1	199.3	187.3	-0.1	6.3
Medical Care	474.5	471.7	458.3	0.6	3.5
Recreation (Dec. 1997=100)	118.4	117.3	116.6	0.9	1.5
Education & Communication (Dec. 1997=100)	138.8	139.0	139.2	-0.2	-0.3
Other Goods & Services	428.0	427.6	419.6	0.1	2.0
Producer Prices (1982 to 1984 = 100)					
All Commodities	191.1	190.6	181.3	0.3	5.4
Wyo. Bldg. Permits (New Privately Owned Housing Units Authorized)					
Total Units	111	63	89	76.2	24.7
Valuation	$34,221,000	$17,175,000	$37,225,000	99.2	-8.1
Single Family Homes	95	54	87	75.9	9.2
Valuation	$32,350,000	$16,131,000	$36,932,000	100.5	-12.4
Casper MSA[2] Building Permits	7	7	11	0.0	-36.4
Valuation	$1,539,000	$1,049,000	$2,469,000	46.7	-37.7
Cheyenne MSA Building Permits	37	29	13	27.6	184.6
Valuation	$6,382,000	$4,782,000	$2,671,000	33.5	138.9
Baker Hughes North American Rotary Rig Count for Wyoming	**19**	**19**	**11**	**0.0**	**72.7**

(p) Preliminary. (r) Revised. (b) Benchmarked.
[1]Local Area Unemployment Statistics Program estimates.
[2]Metropolitan Statistical Area.

Note: Production worker hours and earnings data have been dropped from the Economic Indicators page because of problems with accuracy due to a small sample size and high item nonresponse. The U.S. Bureau of Labor Statistics will continue to publish these data online at http://www.bls.gov/eag/eag.wy.htm.



Wyoming County Unemployment Rates

by: Carola Cowan, BLS Programs Supervisor

Fremont County (6.9%) posted the highest unemployment rate in February, followed by Natrona (6.8%), Campbell (6.0%), and Sublette (5.8%) counties.

	Labor Force			Employed			Unemployed			Unemployment Rates		
REGION	Feb	Jan	Feb	Feb	Jan	Feb	Feb	Jan	Feb	Feb	Jan	Feb
County	2017	2017	2016	2017	2017	2016	2017	2017	2016	2017	2017	2016
	(p)	(r)	(b)	(p)	(r)	(b)	(p)	(r)	(b)	(p)	(r)	(b)
NORTHWEST	**47,649**	**47,959**	**46,678**	**44,805**	**44,846**	**43,318**	**2,844**	**3,113**	**3,360**	**6.0**	**6.5**	**7.2**
Big Horn	5,393	5,514	5,273	5,140	5,217	4,947	253	297	326	4.7	5.4	6.2
Fremont	20,167	20,137	20,091	18,768	18,625	18,384	1,399	1,512	1,707	6.9	7.5	8.5
Hot Springs	2,493	2,496	2,390	2,376	2,371	2,253	117	125	137	4.7	5.0	5.7
Park	15,353	15,493	14,774	14,485	14,530	13,835	868	963	939	5.7	6.2	6.4
Washakie	4,243	4,319	4,150	4,036	4,103	3,899	207	216	251	4.9	5.0	6.0
NORTHEAST	**52,002**	**52,401**	**52,813**	**49,149**	**49,221**	**49,519**	**2,853**	**3,180**	**3,294**	**5.5**	**6.1**	**6.2**
Campbell	24,109	24,189	25,447	22,658	22,572	23,755	1,451	1,617	1,692	6.0	6.7	6.6
Crook	3,613	3,747	3,518	3,442	3,560	3,338	171	187	180	4.7	5.0	5.1
Johnson	4,084	4,174	3,999	3,857	3,904	3,708	227	270	291	5.6	6.5	7.3
Sheridan	16,197	16,275	15,916	15,381	15,371	14,951	816	904	965	5.0	5.6	6.1
Weston	3,999	4,016	3,933	3,811	3,814	3,767	188	202	166	4.7	5.0	4.2
SOUTHWEST	**59,884**	**60,022**	**58,952**	**57,016**	**56,949**	**55,714**	**2,868**	**3,073**	**3,238**	**4.8**	**5.1**	**5.5**
Lincoln	8,835	8,857	8,512	8,429	8,430	8,003	406	427	509	4.6	4.8	6.0
Sublette	4,257	4,365	4,138	4,011	4,097	3,831	246	268	307	5.8	6.1	7.4
Sweetwater	22,354	22,250	22,432	21,097	20,888	21,041	1,257	1,362	1,391	5.6	6.1	6.2
Teton	15,154	15,240	14,312	14,726	14,790	13,876	428	450	436	2.8	3.0	3.0
Uinta	9,284	9,310	9,558	8,753	8,744	8,963	531	566	595	5.7	6.1	6.2
SOUTHEAST	**85,306**	**84,290**	**83,260**	**82,188**	**80,753**	**79,693**	**3,118**	**3,537**	**3,567**	**3.7**	**4.2**	**4.3**
Albany	21,731	20,961	21,502	21,118	20,250	20,803	613	711	699	2.8	3.4	3.3
Goshen	6,999	7,174	6,874	6,801	6,939	6,614	198	235	260	2.8	3.3	3.8
Laramie	50,584	50,051	48,990	48,534	47,737	46,703	2,050	2,314	2,287	4.1	4.6	4.7
Niobrara	1,310	1,347	1,280	1,267	1,302	1,235	43	45	45	3.3	3.3	3.5
Platte	4,682	4,757	4,614	4,468	4,525	4,338	214	232	276	4.6	4.9	6.0
CENTRAL	**56,177**	**56,525**	**58,262**	**52,658**	**52,619**	**54,126**	**3,519**	**3,906**	**4,136**	**6.3**	**6.9**	**7.1**
Carbon	8,317	8,411	8,054	7,921	8,003	7,558	396	408	496	4.8	4.9	6.2
Converse	7,770	7,834	8,117	7,361	7,380	7,617	409	454	500	5.3	5.8	6.2
Natrona	40,090	40,280	42,091	37,376	37,236	38,951	2,714	3,044	3,140	6.8	7.6	7.5
STATEWIDE	**301,019**	**301,194**	**299,963**	**285,816**	**284,386**	**282,370**	**15,203**	**16,808**	**17,593**	**5.1**	**5.6**	**5.9**
Statewide Seasonally Adjusted										4.7	4.8	5.3
U.S.										4.9	5.1	5.2
U.S. Seasonally Adjusted										4.7	4.8	4.9

Prepared in cooperation with the Bureau of Labor Statistics. Benchmarked 03/2017. Run Date 03/2017.

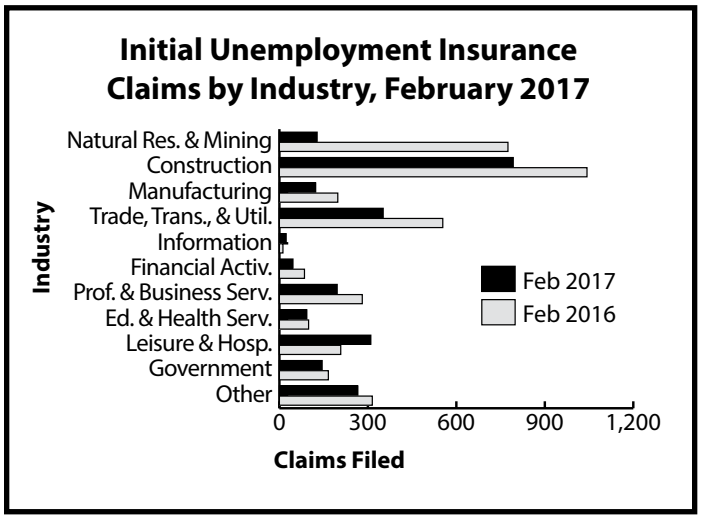
Data are not seasonally adjusted except where otherwise specified.

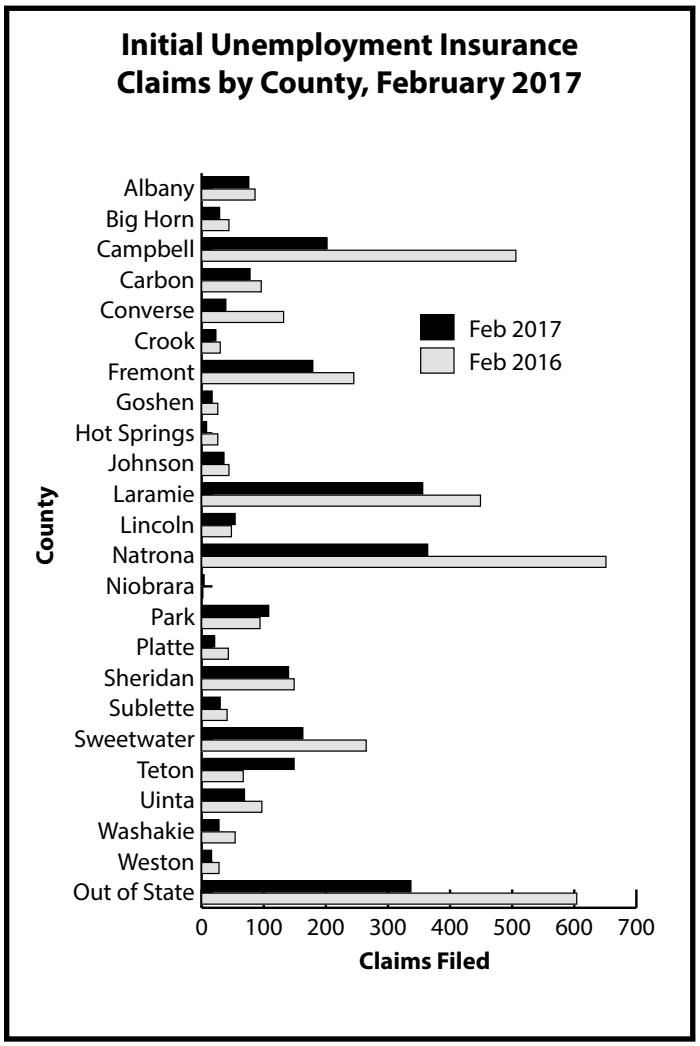
(p) Preliminary. (r) Revised. (b) Benchmarked.

Wyoming Normalized[a] Unemployment Insurance Statistics: Initial Claims

by: Patrick Manning, Principal Economist

Total initial claims decreased by 34.0% (-1,302 claims) from February 2016 to February 2017. Initial claims in natural resources & mining decreased 83.5% (-647 claims) over the year.





Initial Claims	Claims Filed			% Change Claims Filed	
	Feb 17	Jan 17	Feb 16	Feb 17 Jan 17	Feb 17 Feb 16
Wyoming Statewide					
TOTAL CLAIMS FILED	**2,527**	**3,817**	**3,829**	**-33.8**	**-34.0**
TOTAL GOODS-PRODUCING	1,045	1,786	2,017	-41.5	-48.2
Natural Res. & Mining	128	195	775	-34.4	-83.5
Mining	121	177	758	-31.6	-84.0
Oil & Gas Extraction	17	20	32	-15.0	-46.9
Construction	793	1,421	1,043	-44.2	-24.0
Manufacturing	123	168	198	-26.8	-37.9
TOTAL SERVICE-PROVIDING	1,070	1,396	1,330	-23.4	-19.5
Trade, Transp., & Utilities	352	479	554	-26.5	-36.5
Wholesale Trade	34	58	156	-41.4	-78.2
Retail Trade	199	257	179	-22.6	11.2
Transp., Warehousing & Utilities	119	164	219	-27.4	-45.7
Information	23	10	12	130.0	91.7
Financial Activities	46	46	85	0.0	-45.9
Prof. & Business Svcs.	196	296	281	-33.8	-30.2
Educational & Health Svcs.	93	115	99	-19.1	-6.1
Leisure & Hospitality	310	375	208	-17.3	49.0
Other Svcs., exc. Public Admin.	42	67	84	-37.3	-50.0
TOTAL GOVERNMENT	145	285	166	-49.1	-12.7
Federal Government	57	123	51	-53.7	11.8
State Government	10	28	19	-64.3	-47.4
Local Government	76	134	95	-43.3	-20.0
Local Education	14	22	16	-36.4	-12.5
UNCLASSIFIED	266	349	315	-23.8	-15.6
Laramie County					
TOTAL CLAIMS FILED	**356**	**519**	**449**	**-31.4**	**-20.7**
TOTAL GOODS-PRODUCING	132	267	217	-50.6	-39.2
Construction	99	244	147	-59.4	-32.7
TOTAL SERVICE-PROVIDING	191	202	198	-5.4	-3.5
Trade, Transp., & Utilities	64	70	80	-8.6	-20.0
Financial Activities	9	9	7	0.0	28.6
Prof. & Business Svcs.	69	54	54	27.8	27.8
Educational & Health Svcs.	18	23	20	-21.7	-10.0
Leisure & Hospitality	20	27	20	-25.9	0.0
TOTAL GOVERNMENT	11	25	18	-56.0	-38.9
UNCLASSIFIED	20	23	15	-13.0	33.3
Natrona County					
TOTAL CLAIMS FILED	**363**	**540**	**650**	**-32.8**	**-44.2**
TOTAL GOODS-PRODUCING	175	271	346	-35.4	-49.4
Construction	130	212	162	-38.7	-19.8
TOTAL SERVICE-PROVIDING	165	238	277	-30.7	-40.4
Trade, Transp., & Utilities	70	91	123	-23.1	-43.1
Financial Activities	7	6	23	16.7	-69.6
Prof. & Business Svcs.	28	49	46	-42.9	-39.1
Educational & Health Svcs.	16	22	21	-27.3	-23.8
Leisure & Hospitality	26	50	24	-48.0	8.3
TOTAL GOVERNMENT	5	10	9	-50.0	-44.4
UNCLASSIFIED	17	19	17	-10.5	0.0

[a]An average month is considered 4.33 weeks. If a month has four weeks, the normalization factor is 1.0825. If the month has five weeks, the normalization factor is 0.866. The number of raw claims is multiplied by the normalization factor to achieve the normalized claims counts.

Wyoming Normalized[a] Unemployment Insurance Statistics: Continued Claims

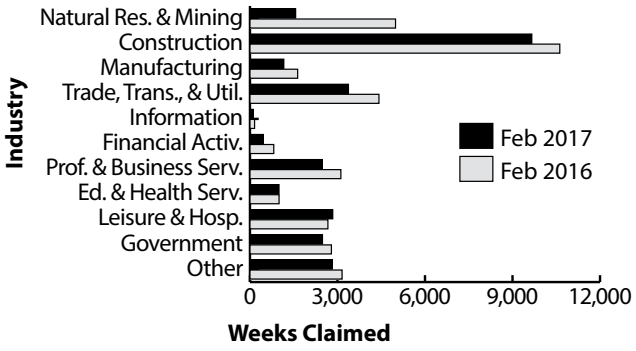
by: Patrick Manning, Principal Economist

Over the year, the total number of unique claimants decreased by 2,229 individuals (-21.6%), while the total number of weeks claimed decreased by 7,768 weeks (-21.5%).

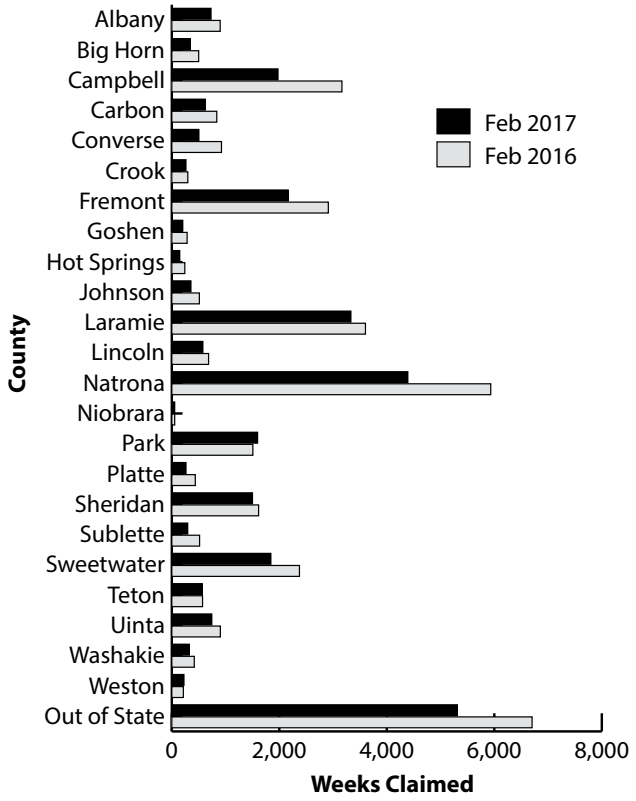
CONTINUED CLAIMS	Continued Weeks Claimed			% Change Weeks Claimed	
	Feb 17	Jan 17	Feb 16	Feb 17 Jan 17	Feb 17 Feb 16
Wyoming Statewide					
TOTAL WEEKS CLAIMED	**28,356**	**29,000**	**36,124**	**-2.2**	**-21.5**
TOTAL UNIQUE CLAIMANTS	8,068	8,565	10,297	-5.8	-21.6
Benefit Exhaustions	508	490	544	3.7	-6.6
Benefit Exhaustion Rates	6.3%	5.7%	5.3%	0.6%	1.0%
TOTAL GOODS-PRODUCING	12,388	12,773	17,247	-3.0	-28.2
Natural Res. & Mining	1,566	1,895	4,990	-17.4	-68.6
Mining	1,326	1,668	4,793	-20.5	-72.3
Oil & Gas Extraction	194	190	491	2.1	-60.5
Construction	9,661	9,796	10,621	-1.4	-9.0
Manufacturing	1,160	1,081	1,635	7.3	-29.1
TOTAL SERVICE-PROVIDING	10,665	10,411	12,926	2.4	-17.5
Trade, Transp., & Utilities	3,376	3,241	4,422	4.2	-23.7
Wholesale Trade	561	572	1,059	-1.9	-47.0
Retail Trade	1,824	1,755	1,591	3.9	14.6
Transp., Warehousing & Utilities	991	914	1,772	8.4	-44.1
Information	108	123	158	-12.2	-31.6
Financial Activities	449	361	816	24.4	-45.0
Prof. & Business Services	2,472	2,348	3,116	5.3	-20.7
Educational & Health Svcs.	996	1,043	997	-4.5	-0.1
Leisure & Hospitality	2,838	2,876	2,672	-1.3	6.2
Other Svcs., exc. Public Admin.	420	412	736	1.9	-42.9
TOTAL GOVERNMENT	2,486	2,535	2,792	-1.9	-11.0
Federal Government	1,181	1,236	1,104	-4.4	7.0
State Government	226	210	286	7.6	-21.0
Local Government	1,079	1,088	1,401	-0.8	-23.0
Local Education	200	213	166	-6.1	20.5
UNCLASSIFIED	2,815	3,279	3,157	-14.2	-10.8
Laramie County					
TOTAL WEEKS CLAIMED	**3,331**	**3,355**	**3,602**	**-0.7**	**-7.5**
TOTAL UNIQUE CLAIMANTS	**971**	**1,001**	**1,048**	**-3.0**	**-7.3**
TOTAL GOODS-PRODUCING	1,668	1,794	1,993	-7.0	-16.3
Construction	1,519	1,634	1,639	-7.0	-7.3
TOTAL SERVICE-PROVIDING	1,392	1,247	1,215	11.6	14.6
Trade, Transp., & Utilities	515	450	472	14.4	9.1
Financial Activities	68	42	105	61.9	-35.2
Prof. & Business Svcs.	438	393	299	11.5	46.5
Educational & Health Svcs.	158	163	149	-3.1	6.0
Leisure & Hospitality	152	149	110	2.0	38.2
TOTAL GOVERNMENT	142	156	263	-9.0	-46.0
UNCLASSIFIED	128	156	129	-17.9	-0.8
Natrona County					
TOTAL WEEKS CLAIMED	**4,390**	**4,578**	**5,934**	**-4.1**	**-26.0**
TOTAL UNIQUE CLAIMANTS	**1,236**	**1,352**	**1,725**	**-8.6**	**-28.3**
TOTAL GOODS-PRODUCING	2,153	2,267	3,128	-5.0	-31.2
Construction	1,684	1,680	1,742	0.2	-3.3
TOTAL SERVICE-PROVIDING	1,985	2,067	2,567	-4.0	-22.7
Trade, Transp., & Utilities	675	695	1,049	-2.9	-35.7
Financial Activities	78	71	187	9.9	-58.3
Professional & Business Svcs.	462	501	548	-7.8	-15.7
Educational & Health Svcs.	245	278	189	-11.9	29.6
Leisure & Hospitality	394	378	377	4.2	4.5
TOTAL GOVERNMENT	126	123	96	2.4	31.3
UNCLASSIFIED	125	120	141	4.2	-11.3

[a]An average month is considered 4.33 weeks. If a month has four weeks, the normalization factor is 1.0825. If the month has five weeks, the normalization factor is 0.866. The number of raw claims is multiplied by the normalization factor to achieve the normalized claims counts.

Continued Unemployment Insurance Claims by Industry, February 2017



Continued Unemployment Insurance Claims by County, February 2015



Wyoming Department of Workforce Services, Research & Planning
P.O. Box 2760
Casper, WY 82602

Official Business
Penalty for Private Use $300
Return Service Requested

PRSRT STD
US POSTAGE PAID
CASPER WY
PERMIT NO. 100