

# **The Education and Work Experience of Youth in Wyoming's Counties**



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# The Education and Work Experience of Youth in Wyoming's Counties

## February 2016

**Wyoming Department of Workforce Services**

John Cox, Director

**Internet Address:** <http://doe.state.wy.us/LMI/>

**Research & Planning**

Tom Gallagher, Manager

**Author:** Lynae Mohondro, Senior Research Analyst

**Graphics and Pagination by:** Michael Moore, Editor

**Methodology by:** Tony Glover, Workforce Information Supervisor

**Edited by:**

David Bullard, Valerie A. Davis, Katelynd Faler, Matthew Halama, Patrick Harris,  
Ty Martinez, Lynae Mohondro, and Michael Moore

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**Research & Planning**

P.O. Box 2760

Casper, WY 82602

Phone: (307) 473-3807

Fax: (307) 473-3834

**R&P Website:** <http://doe.state.wy.us/LMI/>

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**"Your Source for Wyoming Labor Market Information"**

## **Who We Are**

Research & Planning (R&P) functions as an exclusively statistical entity within the Wyoming Department of Workforce Services. R&P collects, analyzes, and publishes timely and accurate labor market information (LMI) meeting established statistical standards. We work to make the labor market more efficient by providing the public and the public's representatives with the information needed for evidence-based, informed decision making.



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### Available Online: Related Publications and Presentations

#### ***A Decade Later: Tracking Wyoming's Youth into the Labor Force***

[http://doe.state.wy.us/LMI/w\\_r\\_research/A\\_Decade\\_Later.pdf](http://doe.state.wy.us/LMI/w_r_research/A_Decade_Later.pdf)

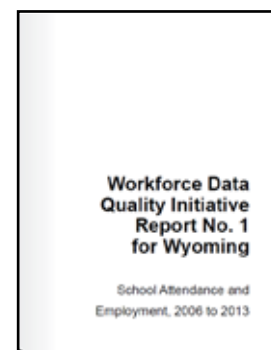
This publication explores issues related to exporting Wyoming's youth and lays a foundation to better understand forthcoming research on the Hathaway Scholarship program, which provides tuition assistance to Wyoming's youth who attend the state's colleges and the University of Wyoming.



#### ***Workforce Data Quality Initiative Report No. 1 for Wyoming***

[http://doe.state.wy.us/LMI/education\\_we\\_connect/WDQI\\_Pub1.pdf](http://doe.state.wy.us/LMI/education_we_connect/WDQI_Pub1.pdf)

This report is the first of its kind produced by the Research & Planning (R&P) section of the Wyoming Department of Workforce Services, and represents an attempt to describe, in statistical form, the numbers of high school students working in Wyoming and what they earn.



#### ***Administrative Records as Strategic Assets: Quarterly Census of Employment & Wages Data Matching***

[http://doe.state.wy.us/LMI/presentations/AUBER\\_Presentation\\_Oct\\_2015.pdf](http://doe.state.wy.us/LMI/presentations/AUBER_Presentation_Oct_2015.pdf)

This presentation discusses selected R&P publications for linked administrative records.

## I. Introduction

Since the late 1990s, the Research & Planning (R&P) section of the Department of Workforce Services has used administrative records in labor market studies, resulting in a better understanding of Wyoming's labor force, market conditions, and dynamics. The administrative databases used for this study include Unemployment Insurance (UI) employer tax records, driver's license database, and student records from the Wyoming Department of Education (WDE) and the Wyoming Community College Commission. Taken together, these datasets provide demographics, work history, and student data that allow further exploration of worker interaction with educational opportunity.

According to *Work Experiences of Wyoming's Youth* (Toups, 1997), in 1995, the majority of 18- to 20-year-olds were working in the two lowest paid industries: 32.2% in retail trade and 17.1% in services (see Box, page 18, for an explanation of industries). Toups noted that as males age, the industries in which they work become more diverse. The number of males working in construction, manufacturing, and public administration increases, while females continue working in retail trade and services. The industries in which Wyoming youth work today has not changed much from 1997. As noted by Hammer and Holmes (2015), in first quarter 2014 (2014Q1), the majority of youth ages 18 to 20 were hired in leisure & hospitality (1,373 hires, or 33% of youth hires) and retail trade (870 hires or 21% of youth hires).

*A Decade Later: Tracking Wyoming's Youth into the Labor Force* (Glover, 2012) used administrative records to follow

18-year-olds into the workforce in Wyoming and partner states<sup>1</sup> for 10 years. Longitudinal analysis revealed that after 10 years, approximately 40% of each cohort was found still working in Wyoming. Upon receiving the U.S. Department of Labor Workforce Data Quality Initiative (WDQI) grant in 2013, R&P began further study of the paths students take after completing high school.

The *Workforce Data Quality Initiative Report No. 1 for Wyoming (WDQI No. 1)* discusses the pathways leading either into postsecondary education or the workforce, as well as wages of the students in Wyoming and partner states. *A Decade Later* represents the linkage of demographics to the workplace experience. The additional linkage of demographics to workplace experience and educational opportunity in this publication provides a deeper look into the interaction of young people with the labor market and possible influences on their migration decisions.

Once a student completes high school, he or she has many options for the future. Many Wyoming students enroll in a Wyoming community college, the University of Wyoming, or an out-of-state postsecondary institution, while others go directly into the workforce. This publication discusses the different pathways the senior class of 2010 is taking and how they differ among the counties in Wyoming. Students who are deceased or have moved out of the country or to a state that does not have a data sharing agreement with R&P are not accounted for in the current analysis.

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<sup>1</sup> R&P had data sharing agreements with Alaska, Colorado, Idaho, Montana, Nebraska, New Mexico, Oklahoma, South Dakota, Texas, and Utah when *A Decade Later* was published. In 2014, a data sharing agreement went into effect with Ohio.

## II. Graduates

This publication uses longitudinal analysis to explore the different paths taken by 2010 high school seniors. A longitudinal analysis begins with a cohort at a single point in time and follows the cohort to measure the changes that occur over time (Diggle, Heagerty, Liang, & Zeger, 2002). In this case, the term cohort refers to the senior class of 2010. This type of study controls for the history of students; for example, different students' pasts are not explanations for different student outcomes within the cohort. Table 1 is an example of cross-sectional analysis, measuring the number of graduates from each county at a single point in time. Table 2 (see page 8) is an example of a longitudinal analysis, following the cohort and measuring the number of graduates in the workforce in each of the four years following high school graduation.

In 2010, 7,919 students made up the senior class and 5,481 seniors (69%) in Wyoming earned their high school diploma (see Table 1). The percentage of students who graduated by county ranged from 50% (Niobrara County) to 84% (Crook County; see Table 1 and Figure 1, page 7). Fourteen out of the 23 Wyoming counties had a higher percentage of graduates than the state as a whole.

Among any given senior class, the number of graduates with employment records in R&P's administrative databases decreases over time. As shown in Table 2 (see page 8), in 2011, 78% of graduates were found working – 74% worked in Wyoming and 4% worked in a partner state. By 2014, only 70% of 2010 graduates worked – 63% in Wyoming and 7% in partner states. In other words, the decrease

in graduates found working does not mean that more graduates leave the workforce, but possibly that more graduates leave Wyoming to work in other states.

In 2008, the U.S. Department of Education implemented the final regulations of the No Child Left Behind Act, requiring a “uniform, comparable graduation rate.” The four-year adjusted cohort graduation rate is defined as “the number of students who graduate in four years with a regular high school diploma divided by the number of students who entered high school four years earlier (adjusted for transfers in and out, émigrés

**Table 1: Total Number of Wyoming Students, 2010 Graduates, and Percentage of 2010 Graduates in Senior Year 2010 by County**

County	Total Students in Class	Graduates	% Graduates
Albany	312	233	75
Big Horn	198	148	75
Campbell	686	486	71
Carbon	198	133	67
Converse	250	192	77
Crook	108	91	84
Fremont	593	331	56
Goshen	162	119	73
Hot Springs	58	41	71
Johnson	115	85	74
Laramie	1,268	908	72
Lincoln	289	212	73
Natrona	1,032	681	66
Niobrara	50	25	50
Park	389	295	76
Platte	156	113	72
Sheridan	400	282	71
Sublette	150	103	69
Sweetwater	620	426	69
Teton	237	154	65
Uinta	364	249	68
Washakie	135	93	69
Weston	102	80	78
<b>Wyoming</b>	<b>7,919</b>	<b>5,481</b>	<b>69%</b>

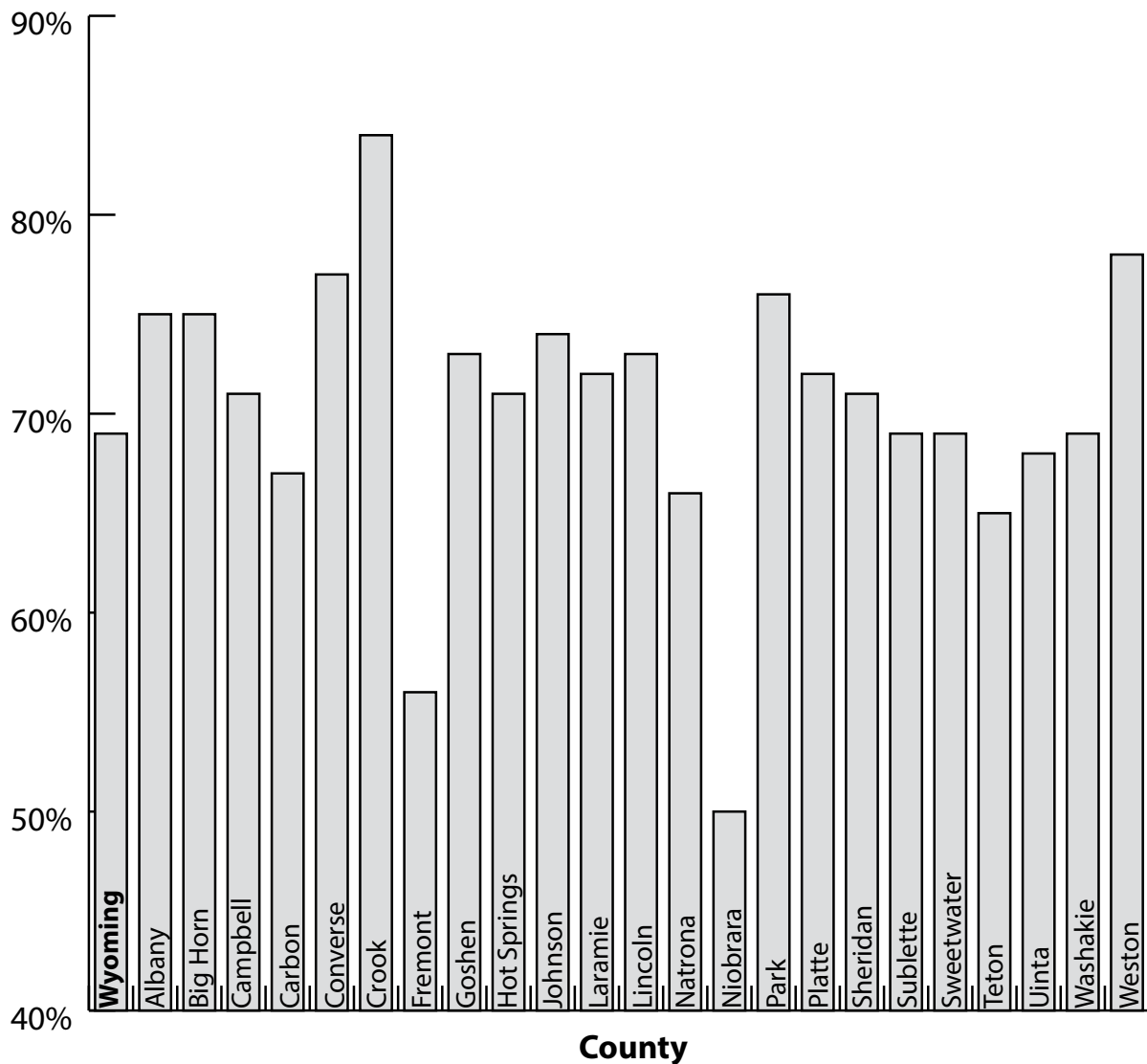
Source: Custom extract from the Workforce Data Quality Initiative database.

and deceased students)” (U.S. Department of Education, 2008).

The Wyoming Department of Education began collecting data on graduates and dropouts following the 2006/07 school year (WDE, 2009). For this reason, it is not certain that students in senior years 06/07, 07/08, and 08/09 graduated; therefore, these students are counted as

*enrolled in 12th grade or not enrolled in 12th grade*, while students in the following years are listed as *graduate* if they earned a regular high school diploma and *non-graduate* if they did not. The *WDQI Report No. 1* used student data from the WDE 684 spring data collection. To view the appendix tables to *WDQI Report No. 1 for Wyoming*, please see [http://doe.state.wy.us/LMI/education\\_we\\_connect.htm](http://doe.state.wy.us/LMI/education_we_connect.htm).

**Figure 1: Percentage of 2010 Wyoming Seniors who Graduated High School by County**



Source: Custom extract from the Workforce Data Quality Initiative database.

**Table 2: Longitudinal Analysis: Proportion of 2010 Wyoming Graduates in the Workforce in Wyoming or Partner States, 2011 to 2014**

County	% Working, 2011			% Working, 2012			% Working, 2013			% Working, 2014		
	Total	WY	Partner States <sup>a</sup>	Total	WY	Partner States <sup>a</sup>	Total	WY	Partner States <sup>a</sup>	Total	WY	Partner States <sup>a</sup>
Albany	78	74	4	76	70	6	76	68	8	73	66	7
Big Horn	74	70	4	72	66	5	75	66	10	72	60	12
Campbell	82	77	5	79	73	6	79	72	7	75	68	7
Carbon	73	67	6	74	69	5	72	68	5	66	59	7
Converse	82	79	4	82	78	4	80	72	7	71	66	5
Crook	78	N/D	N/D	76	69	7	71	57	14	66	57	9
Fremont	73	70	3	72	69	3	71	65	6	68	62	6
Goshen	82	76	7	80	74	6	81	74	7	77	68	8
Hot Springs	83	N/D	N/D	85	N/D	N/D	78	N/D	N/D	81	N/D	N/D
Johnson	82	N/D	N/D	81	N/D	N/D	77	69	7	73	64	9
Laramie	79	76	3	77	73	4	77	70	7	71	65	5
Lincoln	70	57	13	69	57	12	68	55	13	61	49	12
Natrona	80	77	3	81	78	3	78	72	6	77	72	5
Niobrara	80	N/D	N/D	84	N/D	N/D	72	N/D	N/D	68	N/D	N/D
Park	80	77	3	76	71	4	75	66	9	70	61	9
Platte	83	78	5	80	74	5	78	72	6	72	65	7
Sheridan	78	N/D	N/D	78	71	6	73	65	8	71	63	9
Sublette	73	64	9	68	52	17	71	54	17	65	50	16
Sweetwater	80	77	3	79	73	6	78	68	10	70	62	7
Teton	68	N/D	N/D	66	62	5	64	58	7	62	56	7
Uinta	72	64	8	68	58	9	71	58	13	61	50	11
Washakie	80	74	5	80	71	9	73	60	13	65	54	11
Weston	75	68	8	74	68	6	70	58	13	73	64	9
<b>Wyoming</b>	<b>78%</b>	<b>74%</b>	<b>4%</b>	<b>76%</b>	<b>71%</b>	<b>6%</b>	<b>75%</b>	<b>67%</b>	<b>8%</b>	<b>70%</b>	<b>63%</b>	<b>7%</b>

N/D = not discloseable due to confidentiality.

Note: Percentages may not equal 100% due to rounding.

<sup>a</sup>Research & Planning has data sharing agreements with Alaska, Colorado, Idaho, Montana, Nebraska, New Mexico, Ohio, Oklahoma, South Dakota, Texas, and Utah.

Source: Custom extract from the Workforce Data Quality Initiative database.



### III. Postsecondary Education Enrollment

Through a memorandum of understanding (MOU) with the Wyoming Department of Education, R&P has access to the postsecondary education enrollment of Wyoming high school students in any state in the U.S. In 2010, 42% (3,287) of 2010 Wyoming seniors enrolled in postsecondary education. Of those 3,287 enrolled, 1,764 (54%) were female and 1,523 (46%) were male (see Table 3 and Figure 2, page 10). The county with the highest percentage of students enrolled in postsecondary education was Goshen County (62%) and the lowest was Sweetwater County (31%; see Table 3).

In 2011, the percentage of 2010 seniors in Wyoming enrolled in postsecondary education declined slightly to 41% (3,275) while the percentage of females and males remained the same. Figure 2 shows the percentage of enrolled 2010 seniors by gender and county in calendar years 2010 to 2011. The percentage of females enrolled in postsecondary education increased from 2010 to 2011 in 12 counties, while the percentage of males enrolled in postsecondary education increased in eight counties (see Figure 2). This increase in postsecondary enrollment could be the result of students going into the workforce and enrolling in postsecondary education

**Table 3: Longitudinal Analysis: Number and Percentage of 2010 Wyoming Seniors Enrolled in Postsecondary Education Anywhere in the U.S. by Gender, 2010 and 2011**

County	Total		2010 Female		2010 Male		Total		2011 Female		2011 Male	
	N	%	N	%	N	%	N	%	N	%	N	%
Albany	159	51	86	54	73	46	164	53	91	55	73	45
Big Horn	99	50	47	47	52	53	84	42	45	54	39	46
Campbell	243	35	139	57	104	43	240	35	131	55	109	45
Carbon	81	41	42	52	39	48	80	40	40	50	40	50
Converse	127	51	72	57	55	43	116	46	68	59	48	41
Crook	63	58	30	48	33	52	44	41	22	50	22	50
Fremont	216	36	103	48	113	52	201	34	99	49	102	51
Goshen	101	62	50	50	51	50	86	53	43	50	43	50
Hot Springs	23	40	10	43	13	57	25	43	12	48	13	52
Johnson	51	44	23	45	28	55	53	46	28	53	25	47
Laramie	558	44	306	55	252	45	585	46	326	56	259	44
Lincoln	111	38	68	61	43	39	113	39	67	59	46	41
Natrona	442	43	244	55	198	45	427	41	243	57	184	43
Niobrara	17	34	9	53	8	47	16	32	8	50	8	50
Park	210	54	109	52	101	48	210	54	110	52	100	48
Platte	77	49	44	57	33	43	75	48	44	59	31	41
Sheridan	154	39	83	54	71	46	160	40	80	50	80	50
Sublette	52	35	29	56	23	44	55	37	28	51	27	49
Sweetwater	192	31	100	52	92	48	210	34	106	50	104	50
Teton	80	34	39	49	41	51	92	39	45	49	47	51
Uinta	126	35	69	55	57	45	134	37	69	51	65	49
Washakie	58	43	35	60	23	40	52	39	34	65	18	35
Weston	47	46	27	57	20	43	53	52	31	58	22	42
<b>Wyoming</b>	<b>3,287</b>	<b>42%</b>	<b>1,764</b>	<b>54%</b>	<b>1,523</b>	<b>46%</b>	<b>3,275</b>	<b>41%</b>	<b>1,770</b>	<b>54%</b>	<b>1,505</b>	<b>46%</b>

Source: Custom extract from the Workforce Data Quality Initiative database.

to get additional training in their chosen field or postponing their college enrollment after high school graduation for a semester.

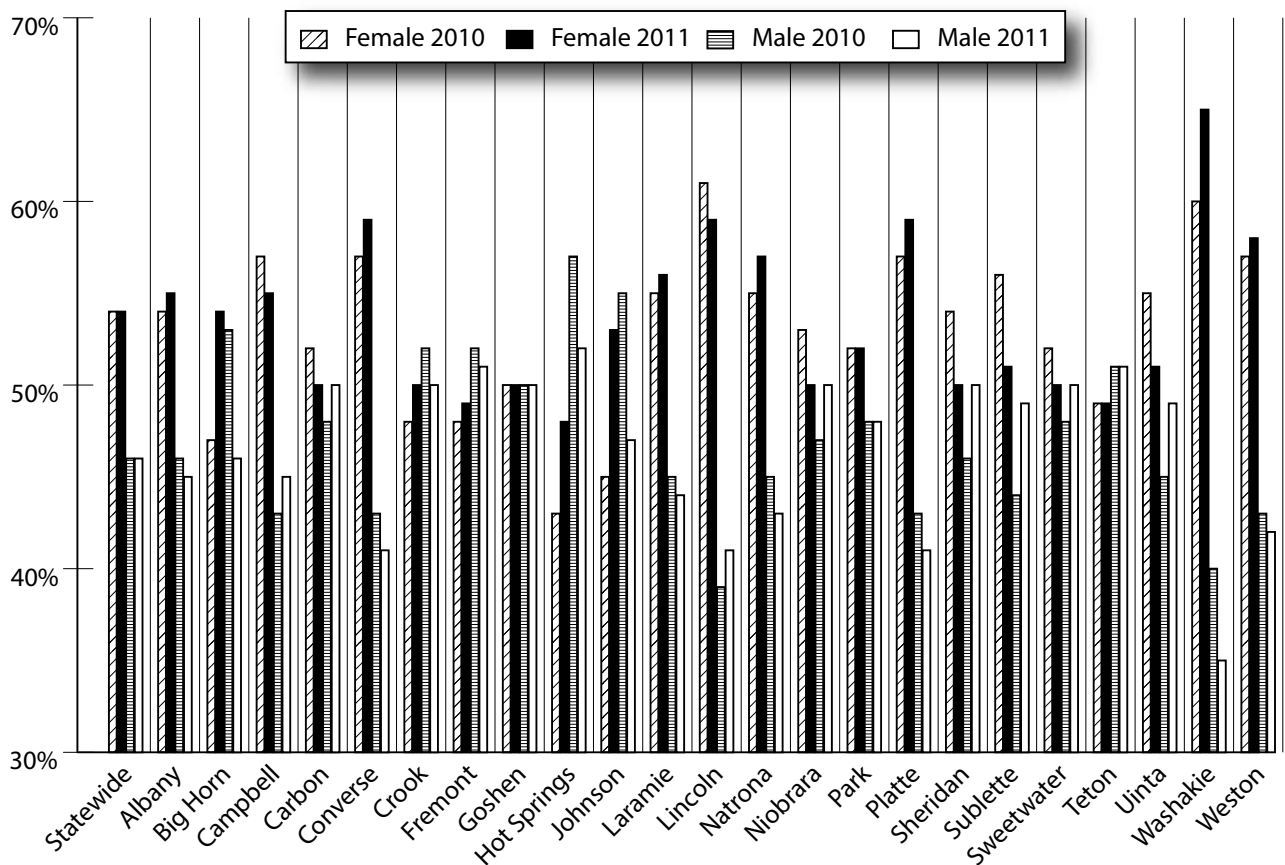
Table 4 (see page 11) shows the counties in Wyoming ranked by the percentage of 2010 students enrolled in postsecondary education by gender and

year. Goshen County had the highest percentage of males from the 2010 senior class enroll from 2010 to 2013 while Albany County had the highest percentage of females enroll from 2011 to 2014.

In 2010, 63% of male seniors from

(Text continued on page 12)

**Figure 2: Longitudinal Analysis: Percentage of Wyoming 2010 Seniors Enrolled in Postsecondary Education in the U.S. in 2010 and 2011 by Gender**



Source: Custom extract from the Workforce Data Quality Initiative database.

Table 4: Longitudinal Analysis: Wyoming Counties Ranked by Proportion of Wyoming 2010 Seniors Enrolled in Postsecondary Education by Gender and Year, 2010 to 2014

	2010		2011		2012		2013		2014	
	Total	Female Male	Total	Female Male	Total	Female Male	Total	Female Male	Total	Female Male
1.	Goshen	Crook Goshen	Park	Albany Goshen	Goshen	Albany Goshen	Albany	Albany Goshen	Albany	Albany Park
2.	Crook	Converse Park	Goshen	Platte Park	Albany	Albany	Goshen	Weston	Park	Weston Albany
3.	Park	Goshen Crook	Albany	Converse Weston	Park	Goshen Albany	Weston	Platte Albany	Laramie	Laramie Sublette
4.	Albany	Albany Big Horn	Weston	Park Albany	Laramie	Johnson Weston	Park	Laramie Johnson	Weston	Johnson Goshen
5.	Converse	Platte Albany	Platte	Weston Hot Springs	Weston	Laramie Hot Springs	Platte	Park Hot Springs	Johnson	Teton Hot Springs
6.	Big Horn	Park Weston	Converse	Johnson Carbon	Platte	Converse Laramie	Laramie	Natrona Laramie	Teton	Park Johnson
7.	Platte	Big Horn Johnson	Laramie	Laramie Laramie	Johnson	Weston Johnson	Johnson	Goshen Sublette	Goshen	Natrona Big Horn
8.	Weston	Washakie Hot Springs	Johnson	Goshen Johnson	Converse	Washakie Niobrara	Teton	Teton Platte	Platte	Platte Laramie
9.	Johnson	Lincoln Converse	Hot Springs	Big Horn Platte	Sheridan	Lincoln Sheridan	Converse	Lincoln Teton	Lincoln	Washakie Teton
10.	Laramie	Laramie Platte	Big Horn	Lincoln Sheridan	Washakie	Park Carbon	WY	Converse Weston	WY	Goshen Sheridan
11.	Washakie	Natrona Carbon	Natrona	Washakie Teton	Teton	Teton Converse	Natrona	Johnson Carbon	Washakie	Lincoln Crook
12.	Natrona	Weston Laramie	WY	Crook WY	WY	Natrona WY	Sheridan	WY Converse	Big Horn	WY Lincoln
13.	WY	WY Natrona	Crook	Natrona Converse	Natrona	Sheridan Platte	Big Horn	Sheridan WY	Natrona	Converse WY
14.	Carbon	Johnson WY	Carbon	WY Big Horn	Hot Springs	Teton	Lincoln	Washakie Big Horn	Sweet-water	Sweet-water Platte
15.	Hot Springs	Sheridan Fremont	Sheridan	Hot Springs Sublette	Carbon	Big Horn Sublette	Sublette	Big Horn Sheridan	Crook	Niobrara Campbell
16.	Sheridan	Campbell Washakie	Lincoln	Sheridan Natrona	Niobrara	WY Washakie	Hot Springs	Sweet-water	Converse	Crook Sweet-water
17.	Lincoln	Carbon Sheridan	Teton	Teton Uinta	Big Horn	Sweet-water Campbell	Washakie	Crook Campbell	Sheridan	Sheridan Uinta
18.	Fremont	Sublette Niobrara	Washakie	Campbell Crook	Campbell	Natrona	Sweet-water	Niobrara Fremont	Sublette	Big Horn Washakie
19.	Campbell	Uinta Teton	Uinta	Carbon Fremont	Lincoln	Carbon Fremont	Campbell	Campbell Uinta	Campbell	Campbell Fremont
20.	Sublette	Hot Springs	Sublette	Uinta Niobrara	Sublette	Hot Springs	Carbon	Sublette Natrona	Niobrara	Uinta Converse
21.	Uinta	Fremont Sublette	Campbell	Sublette Sweet-water	Sweet-water	Uinta Big Horn	Niobrara	Hot Springs Washakie	Uinta	Fremont Carbon
22.	Niobrara	Teton Campbell	Fremont	Sweet-water Campbell	Crook	Sublette Sweet-water	Crook	Carbon Lincoln	Hot Springs	Sublette Weston
23.	Teton	Niobrara Sweet-water	Sweet-water	Fremont Lincoln	Uinta	Niobrara Lincoln	Fremont	Uinta Niobrara	Fremont	Carbon Natrona
24.	Sweet-water	Sweet-water Lincoln	Niobrara	Niobrara Washakie	Fremont	Fremont Crook	Uinta	Fremont Crook	Carbon	Hot Springs Niobrara

Source: Custom extract from the Workforce Data Quality Initiative database.

(Text continued from page 10)

the class of 2010 did not enroll in postsecondary education. The three counties with the highest percentage of males enrolled in postsecondary education were also the only three counties that had more male students enroll than not enroll: Goshen (64%), Park (53%), and Crook (52%; see Table 5). The three counties with the lowest percentage of males enrolled were Sweetwater (28%), Campbell (30%), and Sublette (30%; see Table 5). The availability of high-paying jobs in the mining industry in Sweetwater, Campbell, and Sublette Counties may result in lower proportions of males enrolled in

postsecondary education compared to Crook, Goshen, and Park counties, where fewer jobs in the mining industry exist.

Females from the 2010 senior class were more likely than males to enroll in postsecondary education in 2010, with 46% of females enrolled (see Table 6, page 13). Nine counties had more female students enrolled in 2010 than not enrolled, with the highest percentage in Crook County (67%). The number of females enrolled in postsecondary education increased slightly from 1,764 in 2010 to 1,770 in 2011. Since then, the proportions of both genders decreased as students completed their postsecondary education programs or dropped out.

**Table 5: Longitudinal Analysis: The College-Going Rate: Proportion of Wyoming 2010 Senior Males Enrolled in Postsecondary Education by Calendar Year, 2010 to 2014**

County	2010		2011		2012		2013		2014	
	N	%	N	%	N	%	N	%	N	%
Albany	73	45	73	45	59	36	61	37	58	35
Big Horn	52	48	39	36	26	24	30	28	31	28
Campbell	104	30	109	31	100	28	89	25	84	24
Carbon	39	41	40	42	30	31	27	28	20	21
Converse	55	42	48	36	40	30	37	28	29	22
Crook	33	52	22	35	12	19	12	19	16	25
Fremont	113	37	102	33	81	27	76	25	68	22
Goshen	51	64	43	54	38	48	35	44	24	30
Hot Springs	13	42	13	42	11	36	10	32	9	29
Johnson	28	44	25	40	22	35	23	37	18	29
Laramie	252	39	259	40	231	35	204	31	185	28
Lincoln	43	28	46	30	30	19	34	22	39	25
Natrona	198	38	184	35	147	28	124	24	99	19
Niobrara	8	33	8	33	8	33	5	21	N/D	N/D
Park	101	53	100	53	83	44	71	38	69	37
Platte	33	41	31	39	24	30	24	30	20	25
Sheridan	71	34	80	38	70	33	58	27	54	26
Sublette	23	30	27	36	22	29	23	30	23	30
Sweetwater	92	28	104	31	76	23	85	26	77	23
Teton	41	32	47	37	37	29	38	30	36	28
Uinta	57	31	65	35	48	26	46	25	42	23
Washakie	23	34	18	27	19	28	15	22	15	22
Weston	20	44	22	49	16	36	13	29	N/D	N/D
<b>Wyoming</b>	<b>1,523</b>	<b>37%</b>	<b>1,505</b>	<b>37%</b>	<b>1,230</b>	<b>30%</b>	<b>1,140</b>	<b>28%</b>	<b>1,029</b>	<b>25%</b>

N/D = not discloseable due to confidentiality.

Source: Custom extract from the Workforce Data Quality Initiative database.

**Table 6: Longitudinal Analysis: The College-Going Rate: Proportion of Wyoming 2010 Senior Females Enrolled in Postsecondary Education by Calendar Year, 2010 to 2014**

County	2010		2011		2012		2013		2014	
	N	%	N	%	N	%	N	%	N	%
Albany	86	58	91	62	87	59	81	55	70	47
Big Horn	47	53	45	51	37	42	29	33	22	25
Campbell	139	42	131	39	117	35	96	29	79	24
Carbon	42	41	40	39	35	34	26	26	17	17
Converse	72	61	68	58	54	46	44	37	35	30
Crook	30	67	22	49	19	42	14	31	12	27
Fremont	103	36	99	35	78	27	66	23	54	19
Goshen	50	61	43	52	41	50	33	40	26	32
Hot Springs	10	37	12	44	9	33	7	26	N/D	N/D
Johnson	23	44	28	54	25	48	19	37	18	35
Laramie	306	50	326	53	292	47	262	43	235	38
Lincoln	68	51	67	50	61	46	52	39	41	31
Natrona	244	48	243	48	216	43	204	40	171	34
Niobrara	9	35	8	31	8	31	8	31	N/D	N/D
Park	109	55	110	55	88	44	84	42	68	34
Platte	44	58	44	58	40	53	35	46	25	33
Sheridan	83	44	80	43	80	43	67	36	48	26
Sublette	29	39	28	38	23	31	21	28	13	18
Sweetwater	100	35	106	37	103	36	93	32	84	29
Teton	39	36	45	41	47	43	44	40	38	35
Uinta	69	39	69	39	56	32	41	23	34	19
Washakie	35	52	34	50	31	46	24	35	22	32
Weston	27	47	31	54	26	46	28	49	23	40
<b>Wyoming</b>	<b>1,764</b>	<b>46%</b>	<b>1,770</b>	<b>46%</b>	<b>1,573</b>	<b>41%</b>	<b>1,378</b>	<b>36%</b>	<b>1,145</b>	<b>30%</b>

N/D = not discloseable due to confidentiality.

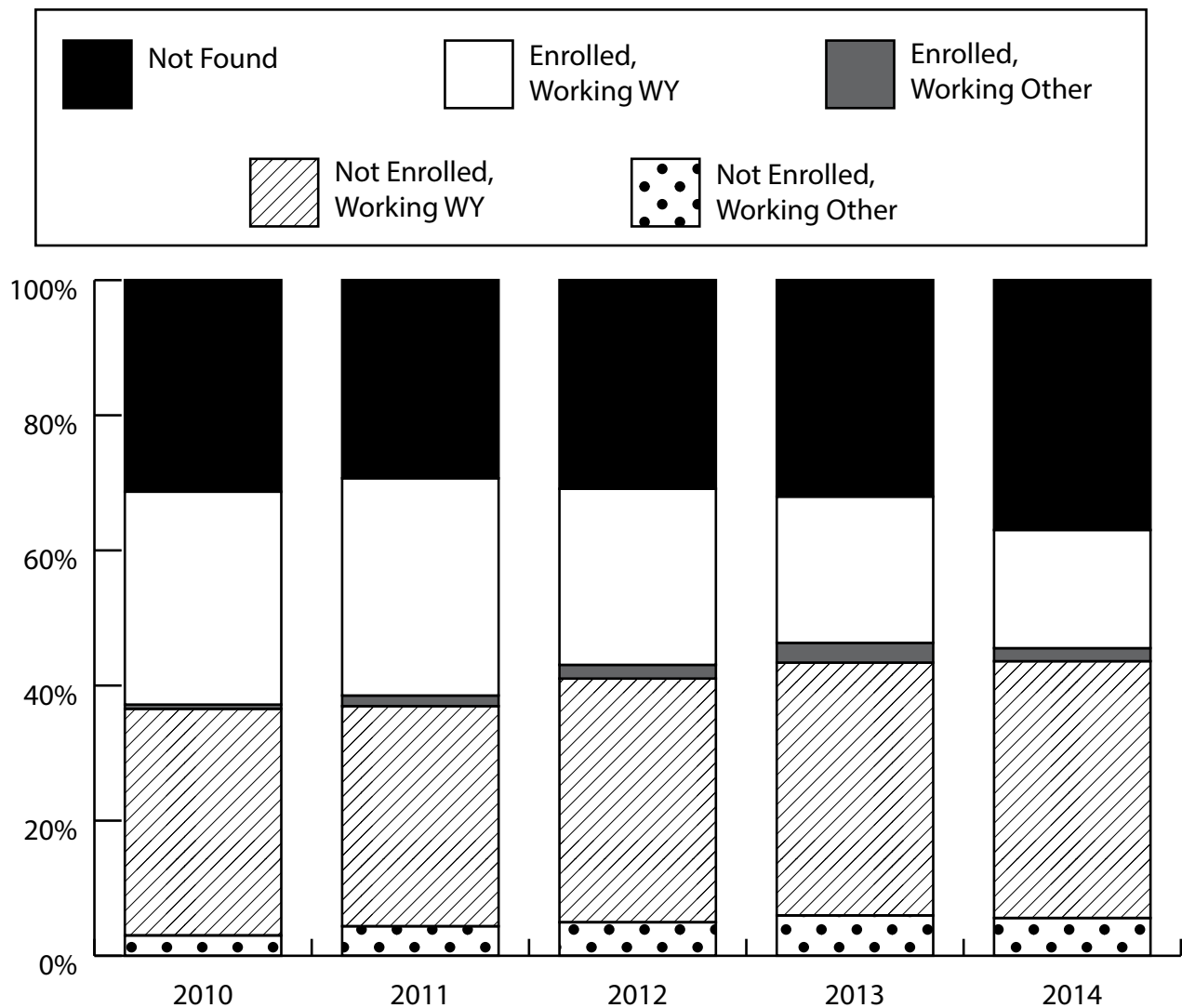
Source: Custom extract from the Workforce Data Quality Initiative database.

## IV. Students in the Workforce

Students who do not enroll in postsecondary education may enter the workforce right away, while students who do enroll in postsecondary education may take longer to begin working. Other students may leave Wyoming or move to a state with whom R&P does not have a data sharing

agreement. For the purposes of this article, these students are considered *not found*. Figure 3 shows the proportion of 2010 seniors in the workforce by enrollment status. The percentage of 2010 seniors enrolled in postsecondary education and working, either in Wyoming or a partner state, was just above 30% and

**Figure 3: Longitudinal Analysis: Percentage of 2010 Wyoming Seniors in the Workforce by Enrollment Status, 2010 to 2014**



Source: Custom extract from the Workforce Data Quality Initiative database.

the number of 2010 seniors working and not enrolled in postsecondary education was almost 40%. By 2014, the number of students enrolled and working dropped below 20% while the number of students not enrolled and working in Wyoming or a partner state increased.

The enrollment status of students has an effect on wages earned after secondary school. Overall, students not enrolled in postsecondary education tend to earn higher wages than enrolled students. In 2010, the annual median wage of 2010 seniors not enrolled in postsecondary education was about \$5,800, while the annual median wage for students enrolled was approximately \$4,100 (see Table 7). In

2012, the year in which enrolled students may have completed a two-year degree program, wages of non-enrolled 2010 seniors increased over \$6,000 from 2010 while the wages of enrolled students were only about 60% of non-enrolled students' wages (see Table 7).

The U.S. Department of Health and Human Services updates and publishes poverty guidelines every year (HHS, 2015). To remain above the 2014 poverty guidelines set by the Department of Health and Human Services, a household with one person must earn an annual wage of \$11,670. According to these guidelines, in 2014, the majority of 2010 seniors enrolled in postsecondary education earned wages below the poverty

**Table 7: Longitudinal Analysis: Median Annual Earnings (\$) of Wyoming 2010 Seniors by Enrollment Status, 2010 to 2014**

County	2010		2011		2012		2013		2014	
	Not Enrolled	Enrolled	Not Enrolled	Enrolled	Not Enrolled	Enrolled	Not Enrolled	Enrolled	Not Enrolled	Enrolled
Albany	4,576	3,494	8,945	5,293	12,232	7,205	11,519	8,555	18,965	10,514
Big Horn	4,874	3,813	6,606	5,853	11,811	7,305	13,441	7,116	24,352	8,069
Campbell	6,856	5,392	11,898	7,165	13,512	8,488	17,373	8,881	26,970	9,931
Carbon	3,484	3,579	9,356	5,668	10,391	8,176	13,049	10,743	23,081	14,046
Converse	5,077	4,627	10,246	6,299	14,880	7,395	17,610	9,487	26,697	10,557
Crook	4,201	3,857	9,377	6,378	16,353	5,834	20,155	5,445	24,826	14,267
Fremont	5,183	3,732	8,480	5,815	11,096	6,865	13,730	6,812	19,881	10,650
Goshen	4,479	3,239	9,572	4,737	9,521	5,363	15,258	8,675	20,683	8,603
Hot Springs	5,562	3,762	12,777	5,783	10,120	8,751	11,348	14,765	20,810	17,599
Johnson	5,769	3,554	9,497	4,546	12,650	7,214	15,008	6,186	20,811	8,869
Laramie	5,793	3,811	9,788	5,841	12,213	7,425	15,355	7,631	19,379	9,273
Lincoln	5,180	4,372	11,121	5,306	11,103	6,237	16,717	8,606	23,942	14,112
Natrona	6,483	5,363	10,072	7,427	13,954	8,576	15,832	9,604	24,574	11,361
Niobrara	5,817	2,962	6,547	3,655	6,696	7,065	6,044	6,955	16,663	13,778
Park	6,049	3,710	8,961	5,460	12,795	6,852	14,287	8,694	18,563	9,038
Platte	6,403	3,438	8,469	5,252	13,739	6,539	14,847	8,504	21,616	8,078
Sheridan	6,244	3,686	8,717	5,306	9,972	6,591	14,572	7,898	19,777	10,054
Sublette	5,954	3,388	6,977	5,594	8,643	7,665	12,678	9,208	24,441	6,122
Sweetwater	5,876	4,346	10,529	7,542	13,210	7,561	15,619	7,312	23,446	9,318
Teton	5,159	3,013	5,584	4,153	7,951	4,946	9,032	6,191	19,039	8,010
Uinta	5,464	4,005	10,164	6,953	12,781	7,304	13,743	7,348	18,831	9,849
Washakie	5,997	4,689	10,142	5,207	14,944	8,200	16,315	8,586	27,018	13,614
Weston	5,653	3,990	9,140	5,998	11,128	7,090	17,865	13,601	28,297	17,831
<b>Wyoming</b>	<b>\$5,807</b>	<b>\$4,112</b>	<b>\$9,511</b>	<b>\$5,932</b>	<b>\$12,441</b>	<b>\$7,288</b>	<b>\$14,991</b>	<b>\$8,098</b>	<b>\$21,676</b>	<b>\$10,313</b>

Note: Wages adjusted due to unavailability of Q3 and Q4 data for 2014.  
 Source: Custom extract from the Workforce Data Quality Initiative database.

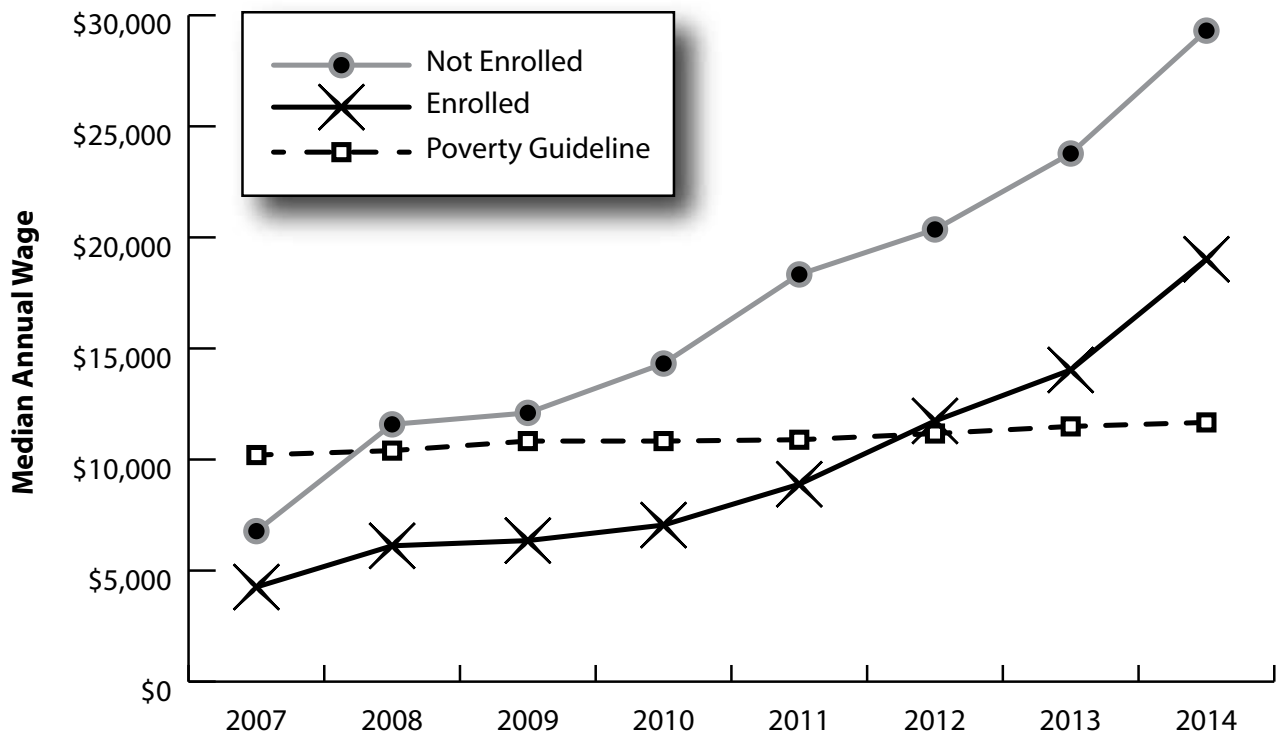
line, with a statewide median wage of \$10,313. The 2010 seniors not enrolled in postsecondary education earned wages above the poverty line, with a statewide median wage of \$21,676 (see Table 7). In 2014, 2010 seniors from Weston (\$28,297), Washakie (\$27,018), and Campbell (\$26,697) counties had the highest median annual wages of students not enrolled in postsecondary education. Among students enrolled in postsecondary education, students from seven counties had median annual wages above the poverty guideline, with the highest median wage earned by students from Weston County (\$17,831).

seniors from every county, except students not enrolled from Sublette County, was below the poverty guidelines for a household with one person (see Table 8, page 17). In other words, the majority of 2007 seniors earned wages below the poverty line whether they were enrolled in postsecondary education or not. Figure 4 shows that the majority of students who were not enrolled in postsecondary education earned wages above the poverty guideline by 2008. However, the annual median wage for students enrolled in postsecondary education did not exceed the poverty guideline until 2012. In 2012, the year after which 2007 seniors enrolled in postsecondary education might have graduated from a four-year institution, the

The senior class of 2006/07 is the earliest class for which R&P has student data. In 2007, the annual median wage of the 2007

(Text continued on page 18)

**Figure 4: Longitudinal Analysis: Median Annual Wages of 2007 Wyoming Seniors by Enrollment Status Compared to Poverty Guidelines, 2007 to 2014**



Note: Wages adjusted due to unavailability of Q3 and Q4 data for 2014.

Source: Custom extract from the Workforce Data Quality Initiative database.



Table 8: Longitudinal Analysis: Annual Median Earnings (\$) of Wyoming 2007 Seniors by Enrollment Status, 2007 to 2014

County	2007		2008		2009		2010		2011		2012		2013		2014	
	Not Enrolled	Enrolled	Not Enrolled	Enrolled	Not Enrolled	Enrolled	Not Enrolled	Enrolled	Not Enrolled	Enrolled	Not Enrolled	Enrolled	Not Enrolled	Enrolled	Not Enrolled	Enrolled
Albany	4,492	2,747	8,522	5,733	9,275	5,991	13,168	6,827	18,301	9,485	18,474	8,512	20,737	11,507	30,894	11,555
Big Horn	5,545	3,994	12,109	5,356	11,084	5,661	16,389	7,155	14,762	10,358	16,573	11,704	19,506	12,617	29,253	25,092
Campbell	9,526	5,425	18,475	7,556	18,701	8,283	21,794	8,393	24,329	9,405	28,661	12,090	32,129	15,799	38,014	27,615
Carbon	5,588	3,261	13,105	5,401	14,328	4,852	19,165	5,531	21,369	6,588	24,099	9,745	32,010	11,952	44,034	16,998
Converse	5,400	5,248	9,717	7,700	17,403	7,500	18,004	8,978	18,854	11,427	22,929	13,937	21,370	20,053	31,453	32,104
Crook	5,975	4,292	10,502	7,577	14,027	8,140	19,956	8,514	17,763	12,188	22,875	12,573	27,815	19,128	31,873	16,062
Fremont	5,569	4,012	11,293	5,520	10,081	6,753	11,519	6,283	14,385	8,787	18,952	12,157	21,869	16,050	28,097	29,099
Goshen	5,643	3,818	11,378	4,848	10,095	4,414	11,481	7,057	17,797	8,910	19,992	13,811	25,478	9,646	23,654	19,560
Hot Springs	5,908	3,845	6,985	5,376	8,440	5,621	11,052	6,597	6,690	9,134	9,115	9,750	9,750	14,213	17,641	N/D
Johnson	7,026	3,824	12,051	5,225	10,986	5,354	14,055	4,555	17,401	6,259	21,610	7,840	23,154	9,936	30,826	10,659
Laramie	6,562	3,879	10,534	5,321	11,607	5,797	14,573	5,571	17,084	8,390	17,963	10,868	21,185	14,053	27,652	20,472
Lincoln	6,084	4,190	10,933	5,738	7,771	5,745	9,642	5,110	10,417	6,400	15,181	11,975	16,038	12,604	22,824	14,525
Natrona	7,164	5,064	12,460	7,740	13,151	8,192	14,892	9,615	19,518	11,501	21,675	15,302	25,666	18,300	30,763	23,603
Niobrara	4,808	2,476	9,006	6,652	5,941	10,621	9,261	11,907	18,874	11,621	20,194	N/D	26,738	N/D	34,627	N/D
Park	6,181	4,014	9,555	5,616	12,727	5,258	12,443	7,376	15,117	6,916	19,173	10,204	23,011	14,416	29,145	20,685
Platte	6,984	3,434	9,392	4,001	13,450	4,839	18,967	4,989	20,754	10,114	28,939	12,791	30,032	10,827	33,131	37,326
Sheridan	6,558	4,524	10,304	6,720	13,440	6,643	16,377	7,146	18,984	10,549	20,437	10,902	25,257	14,906	27,889	23,301
Sublette	10,293	5,008	15,301	8,522	11,188	6,527	11,604	7,430	19,723	10,945	25,507	6,760	29,413	6,270	36,937	23,590
Sweetwater	7,337	4,382	12,710	7,192	12,807	5,926	14,008	8,265	19,719	9,824	22,171	12,568	26,116	13,520	33,562	24,725
Teton	5,055	4,204	5,940	4,935	7,019	4,511	7,756	5,076	13,406	6,621	12,455	6,852	16,691	9,665	26,262	12,996
Uinta	7,589	4,870	10,301	6,200	9,779	5,996	11,878	6,608	18,260	7,950	19,753	11,748	22,296	11,260	30,602	17,874
Washakie	6,479	3,961	9,508	6,134	9,678	7,073	11,980	8,351	17,768	7,455	23,001	13,720	21,531	17,362	34,414	56,946
Weston	7,310	4,320	19,363	9,680	26,618	8,272	23,403	8,242	26,646	8,888	24,267	12,801	29,324	14,123	29,500	37,183
<b>Wyoming</b>	<b>\$6,775</b>	<b>\$4,259</b>	<b>\$11,582</b>	<b>\$6,114</b>	<b>\$12,100</b>	<b>\$6,350</b>	<b>\$14,321</b>	<b>\$7,049</b>	<b>\$18,332</b>	<b>\$8,888</b>	<b>\$20,357</b>	<b>\$11,737</b>	<b>\$23,776</b>	<b>\$14,032</b>	<b>\$30,977</b>	<b>\$21,470</b>

N/D = not discloseable due to confidentiality.

Note: Wages adjusted due to unavailability of Q3 and Q4 data for 2014.

Source: Custom extract from the Workforce Data Quality Initiative database.

(Text continued from page 16)

annual median wage statewide and in most counties exceeded \$20,000 (see Table 8, page 17). Because the 2010 seniors have not been out of secondary school as long as 2007 seniors, it is not surprising that the average annual median wage for these students is much lower and still below the poverty line

for many counties in 2014 (see Table 7, page 15).

Different industries provide different levels of economic security that could influence the migration of young people. As indicated earlier, Wyoming youth tend

(Text continued on page 20)

## Box: Industry Classification

The North American Industry Classification System (NAICS) is “the standard used by Federal statistical agencies in classifying business establishments for the purpose of collecting, analyzing, and publishing statistical data related to the U.S. business economy” (U.S. Census Bureau, 2014). NAICS was adopted in 1997 to replace the Standard Industrial Classification (SIC) system.

The article by Toups (1997) referenced in this publication was written when industries were classified under the SIC system. In 1995, the majority of youth were found working in retail trade (SIC 52-59) and services (SIC 70-89). In 2014Q1, the majority of youth were found working in leisure & hospitality (NAICS 71-72) and retail trade (NAICS 44-45). This box provides definitions of these industries according to SIC and NAICS manuals.

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#### Standard Industrial Classification (SIC)

**Retail Trade (SIC 52-59):** Division includes establishments engaged in selling merchandise for personal or household consumption and rendering services incidental to the sale of goods.

**Services (SIC 70-89):** Division includes establishments primarily engaged in providing a wide variety of services for individuals, business and government establishments, and other organizations.

Source: *Standard Industrial Classification Manual*

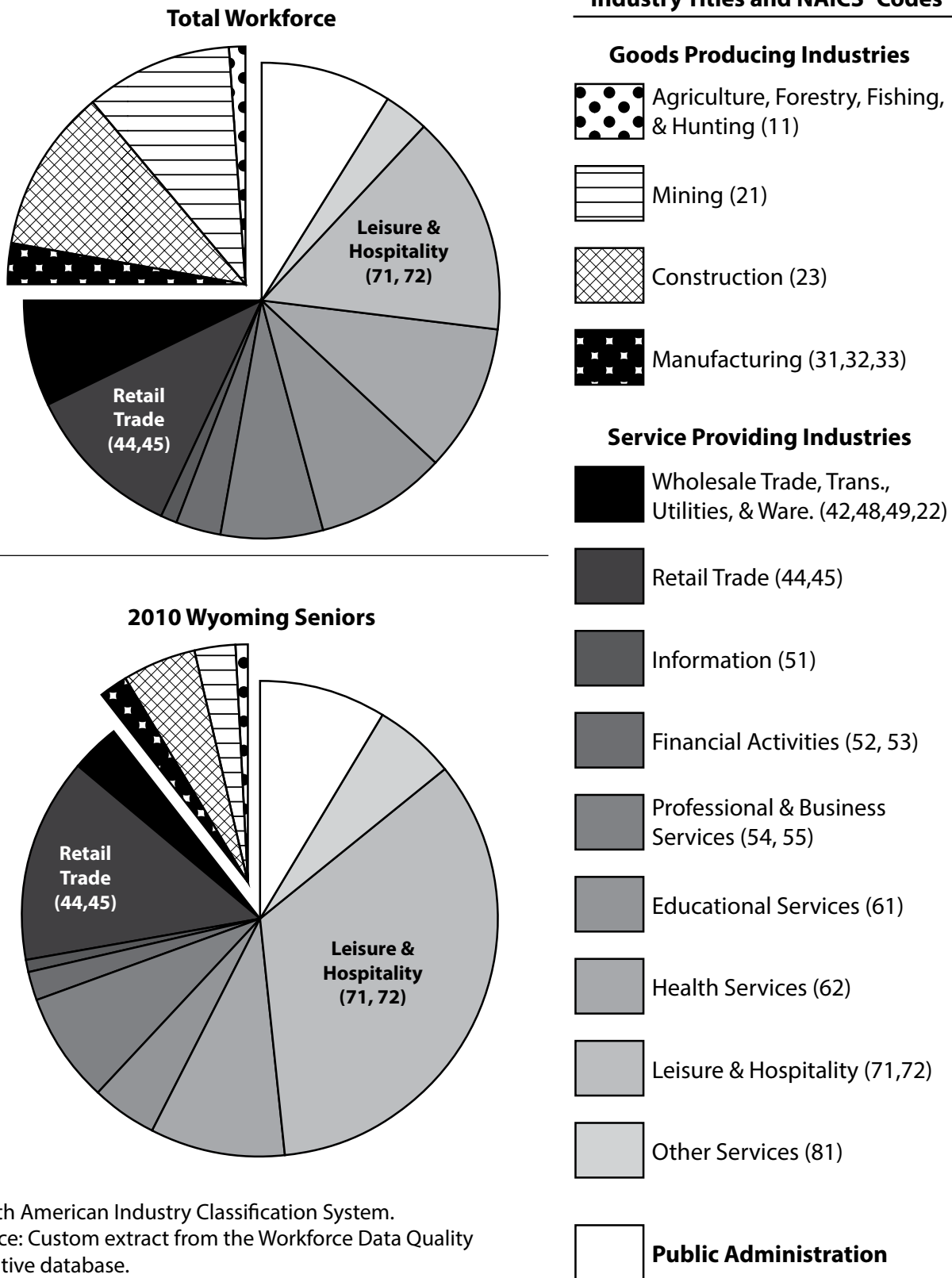
#### North American Industry Classification System (NAICS)

**Retail Trade (NAICS 44-45):** Sector comprises establishments engaged in retailing merchandise, generally without transformation, and rendering services incidental to the sale of merchandise.

**Leisure & Hospitality (NAICS 71-72):** Sector consists of the Arts, Entertainment, & Recreation (NAICS 71) and Accommodation & Food Services (NAICS 72) sectors.

Source: *North American Industry Classification System Manual*

**Figure 5: Industry Distribution of Employed 2010 Wyoming Seniors Compared to All Workers in Wyoming and Other States in 2012**



<sup>a</sup>North American Industry Classification System.  
 Source: Custom extract from the Workforce Data Quality Initiative database.

(Text continued from page 18)

to work in lower paying industries, such as leisure & hospitality and retail trade (Toups, 1997, and Hammer & Holmes, 2015; see Box for further discussion about industry classification). Figure 5 (see page 19) coincides with the findings of Toups (1997) and Hammer & Holmes (2015), showing that the majority of 2010 seniors were working in leisure and hospitality and retail trade in 2012.

Many 2010 seniors also worked in public administration and health services in 2012. The industry distribution of all Wyoming workers was more diverse than that of 2010 seniors, indicating that eventually, youth leave their jobs in leisure & hospitality and find work in other industries. More information on the students working by industry and by county can be found in the *WDQI Report No. 1* Appendix tables at [http://doe.state.wy.us/LMI/education\\_we\\_connect.htm](http://doe.state.wy.us/LMI/education_we_connect.htm).

## V. Conclusion and References

The different opportunities and attitudes toward education within each Wyoming county create an opportunity for further research to understand the different pathways taken by secondary students. Students in more rural counties in the state may commute to other counties for work or school. Future research will include the number of students who leave their home county for school or work and the turnover those students experience. The stability of jobs and wages earned affect students' decisions to migrate around and outside of Wyoming.

The percentage of students enrolled in postsecondary school differed among Wyoming counties. The proximity of students to a postsecondary institution could affect decisions to enroll, but according to Papay, Murname, and Willett (2014), family income and socioeconomic status also influence student success. Future research will analyze the effect of socioeconomic status and educational attainment on high school graduation and postsecondary enrollment of Wyoming high school students by county.

As indicated earlier, the different

industries in which students work will provide different levels of economic security. Over time, when students establish their place in the workforce, the industries in which they begin working can affect their job stability and wages. Future research on the industry sectors that employ students enrolled in postsecondary education and those that employ students not enrolled in postsecondary education will give further insight on how postsecondary enrollment affects economic security. Moreover, in a state in which cycles of economic expansion and contraction occur frequently, this research will provide information on the effect of educational attainment on UI claimants.

Wyoming secondary students have many different pathways they can take upon high school completion. These different paths all lead to different levels of success. Research & Planning has the tools to follow students into postsecondary education and the workforce to understand why students may leave Wyoming, or the labor force in general, and what leads to economic security of Wyoming high school students.

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

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