

NURSES IN WYOMING; DEMAND, RETENTION, & SUPPLY

*Fourth Annual Nursing Summit
Sheridan, Wyoming
September 20, 2007*

*Wyoming Department of Employment
Research & Planning
Tom Gallagher, Manager*



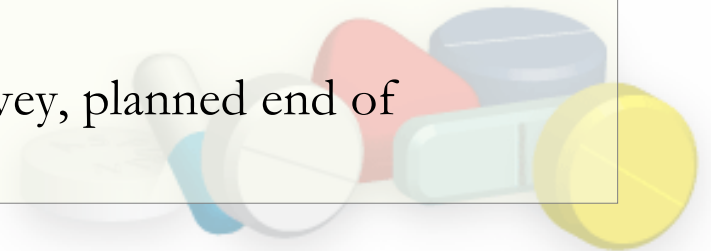
Study Structure

- Demand
- Retention
- Supply



Study Phases

- Obtain administrative databases – BON license file, hospital discharge file – Complete
- Nurse Advisory Committee meetings May 7 and August 23
- Ambulatory Care
 - Nurse Survey Completed n=466 responses, 70.1% response rate
 - Facility Office Vacancy – Retention Survey, n=169, 50.1% response rate (1st mailing)
- Hospitals and Long-Term Care
 - Nurse Survey Completed n=1,825 responses, 61.4% response rate (2nd mailing – 9/18/07)
 - Facility Office Vacancy – Retention Survey, planned end of September

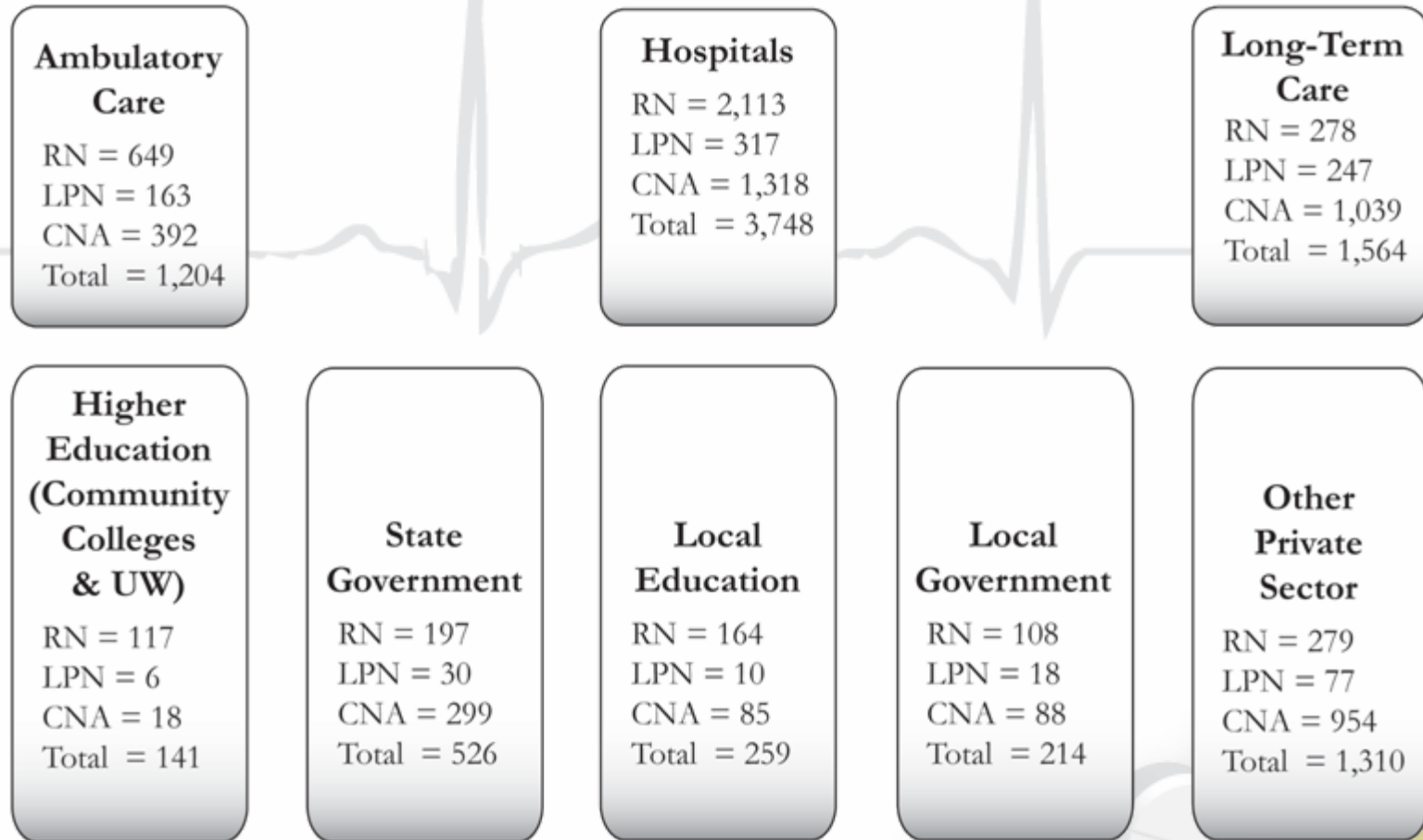


Study Phases (Continued)

- Demand Report in design
 - Demand projections completed & discussed with industry
 - Replacement projections in Progress
- Balance of nurses survey, collecting anecdotal evidence
- Higher education
 - Facility Nurses (faculty) Survey, collecting anecdotal evidence
 - Cohort retention analysis of new supply – under way
- Retention Report – to be determined
- Supply Report – to be determined



Health Care Professionals With Active Licenses by Place of Work, Fourth Quarter 2006



Selected Demand Characteristics

- Population Dynamics
- Discharge Files
- Industry Growth and the demand for RNs -- Hospitals



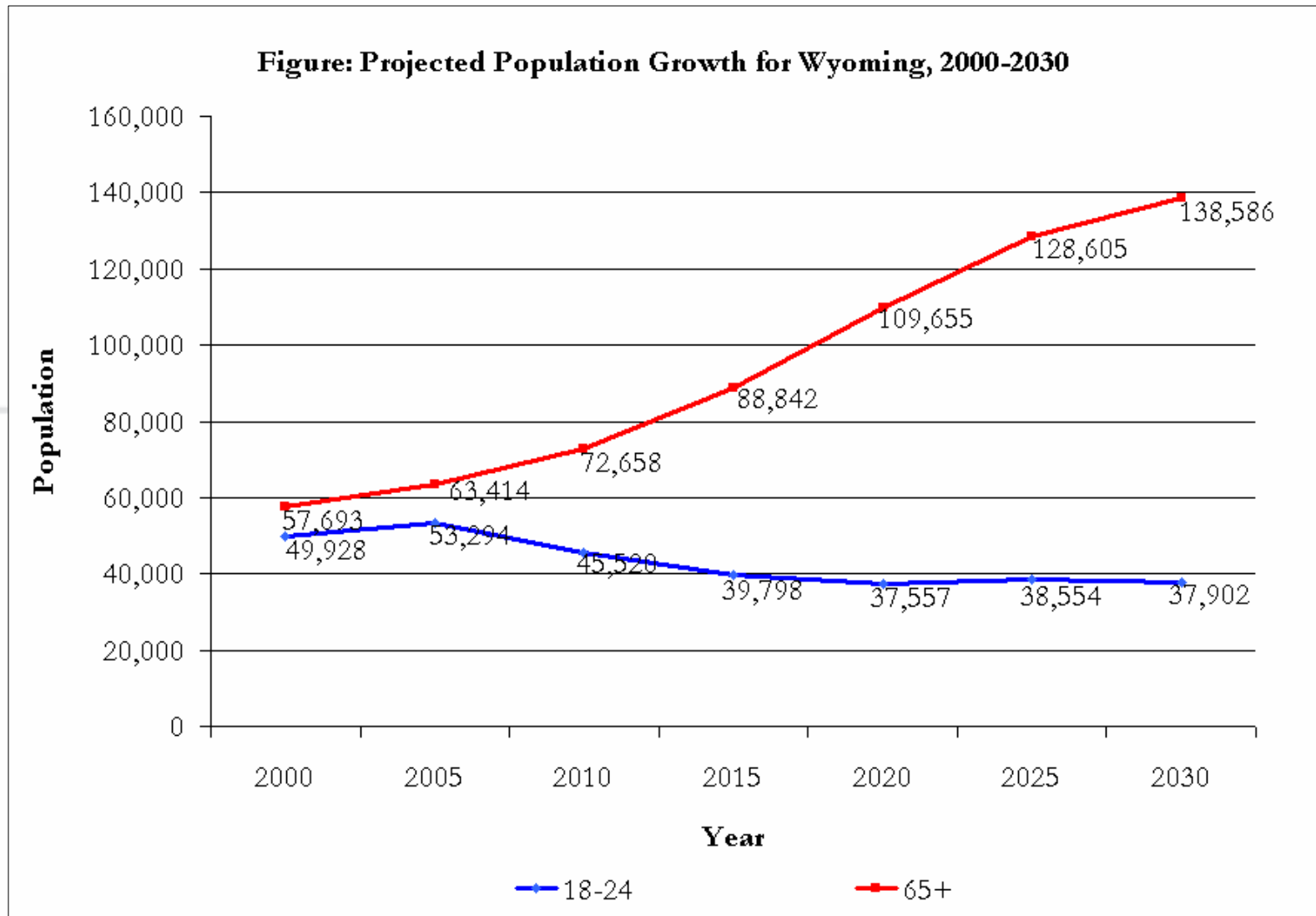


Table: Number of Persons Working at Any Time in Wyoming by Residency Status, 2004-2006

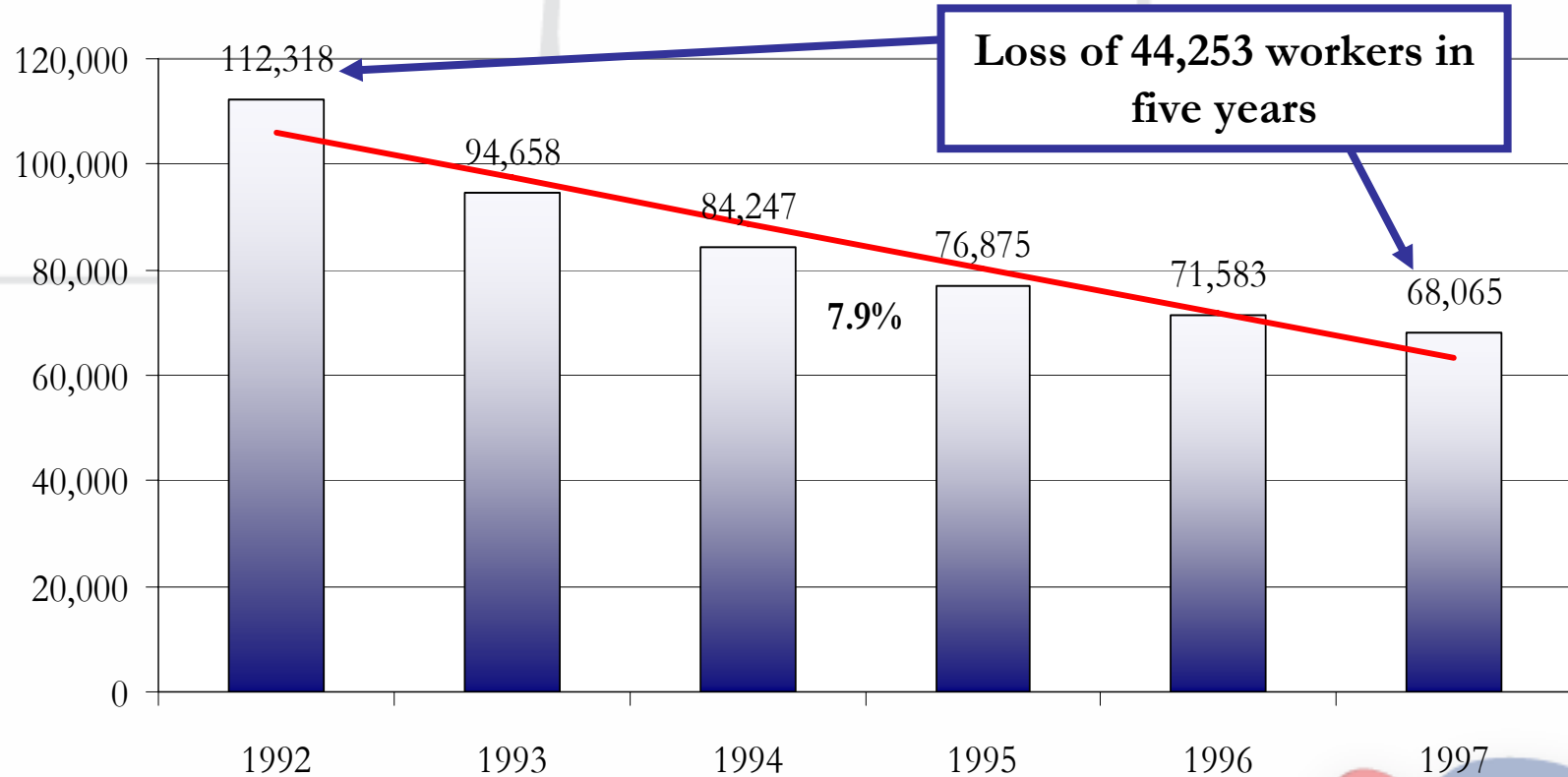
Residency Status	2004	2006	2004-2006	
	Number	Number	Numeric Change	Percent Change
Residents	275,740	275,015	-725	-0.3
Nonresidents	48,767	76,586	27,819	57.0
Total	324,507	351,601	27,094	8.3

Excerpt from Jones, S.D. (2007). Demographic Effects of Wyoming's Energy-Related Expansion. *Wyoming Labor Force Trends* 44(4).
<http://doe.state.wy.us/lmi/0407/a1.htm>

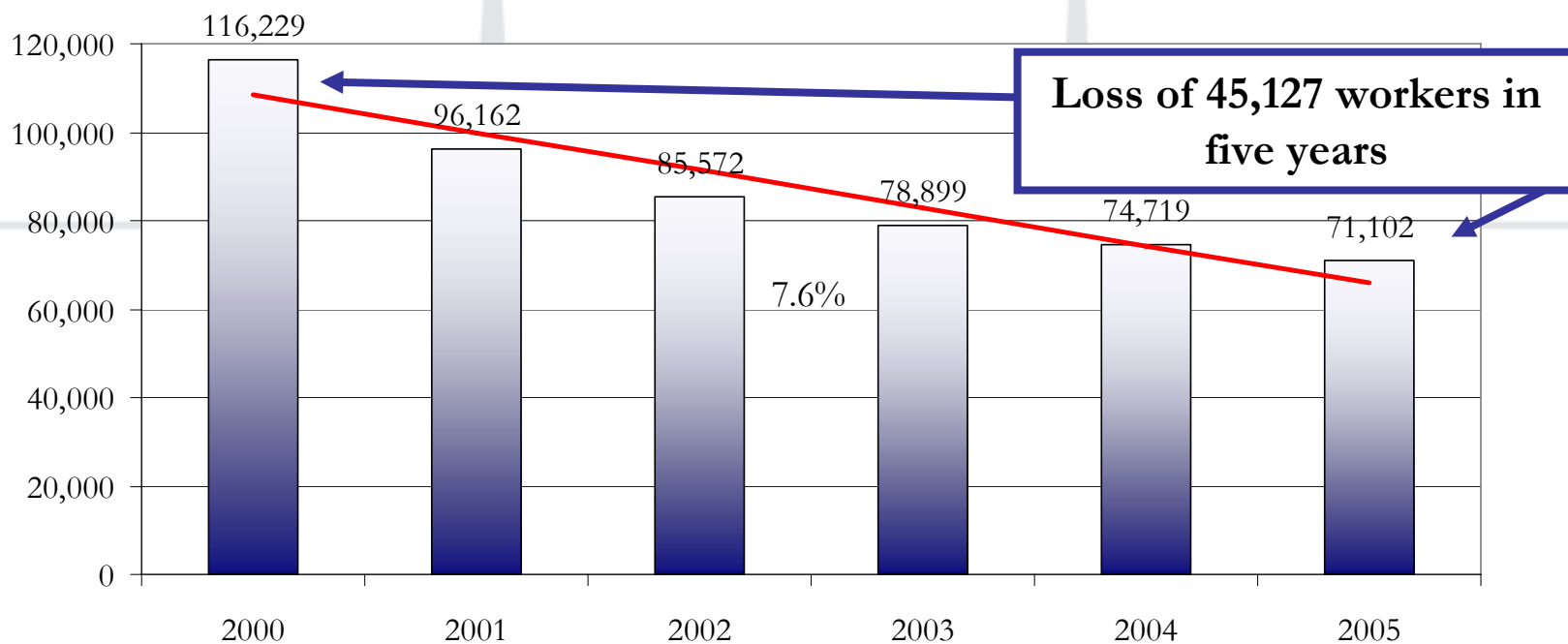
Note: Nonresidents represent segment of the population without known demographics.



Number of 1992 Worker Cohort Age 16-34 Still Working in Wyoming



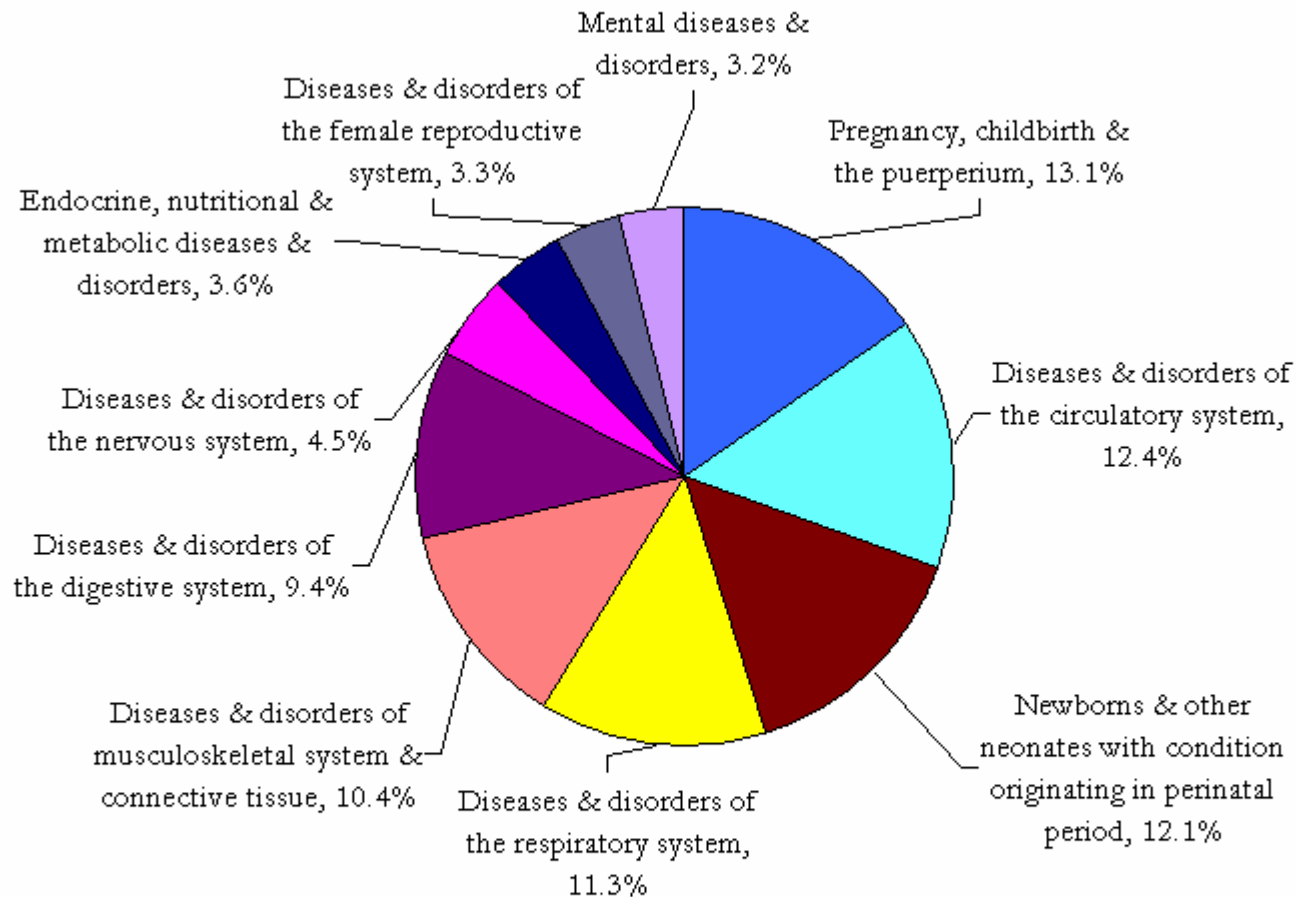
Number of 2000 Worker Cohort Age 16-34 Still Working in Wyoming



Hospital Discharge (In-Patient) Data



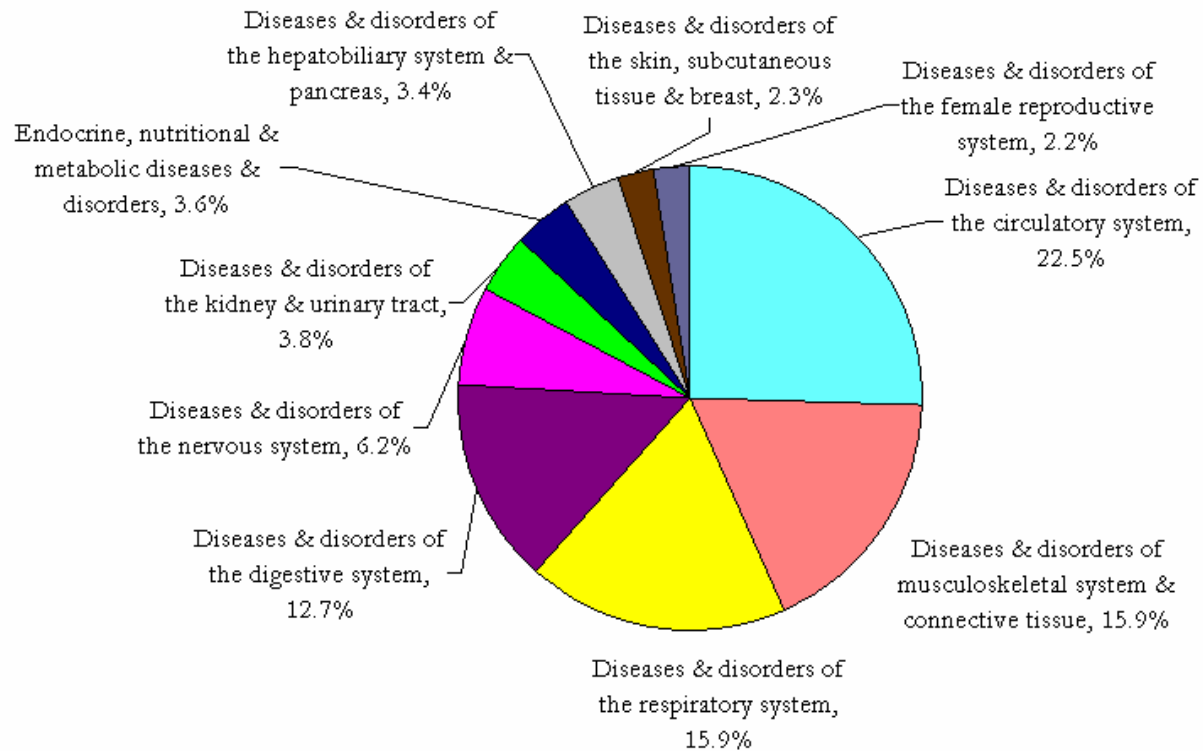
Figure: Top 10 Major Diagnostic Codes, All Hospitals, 2003^a



^aNo data available for hospitals in Johnson or Niobrara counties.

Note: Percent does not equal 100.0% because only top 10 Major Diagnostic Codes were

Figure: Top 10 MDC's for patients age 55-74 (young-old), All Hospitals, 2003^a



^aNo data available for hospitals in Johnson or Niobrara counties.

Note: Percent total does not equal 100.0% because only top 10 Major Diagnostic Codes were included.

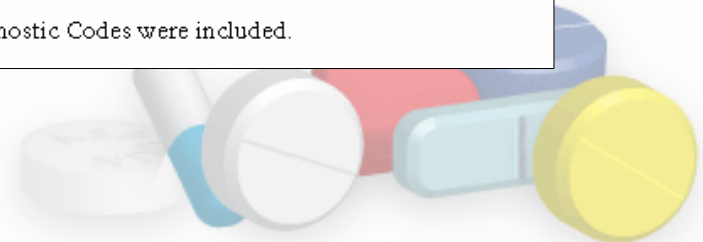
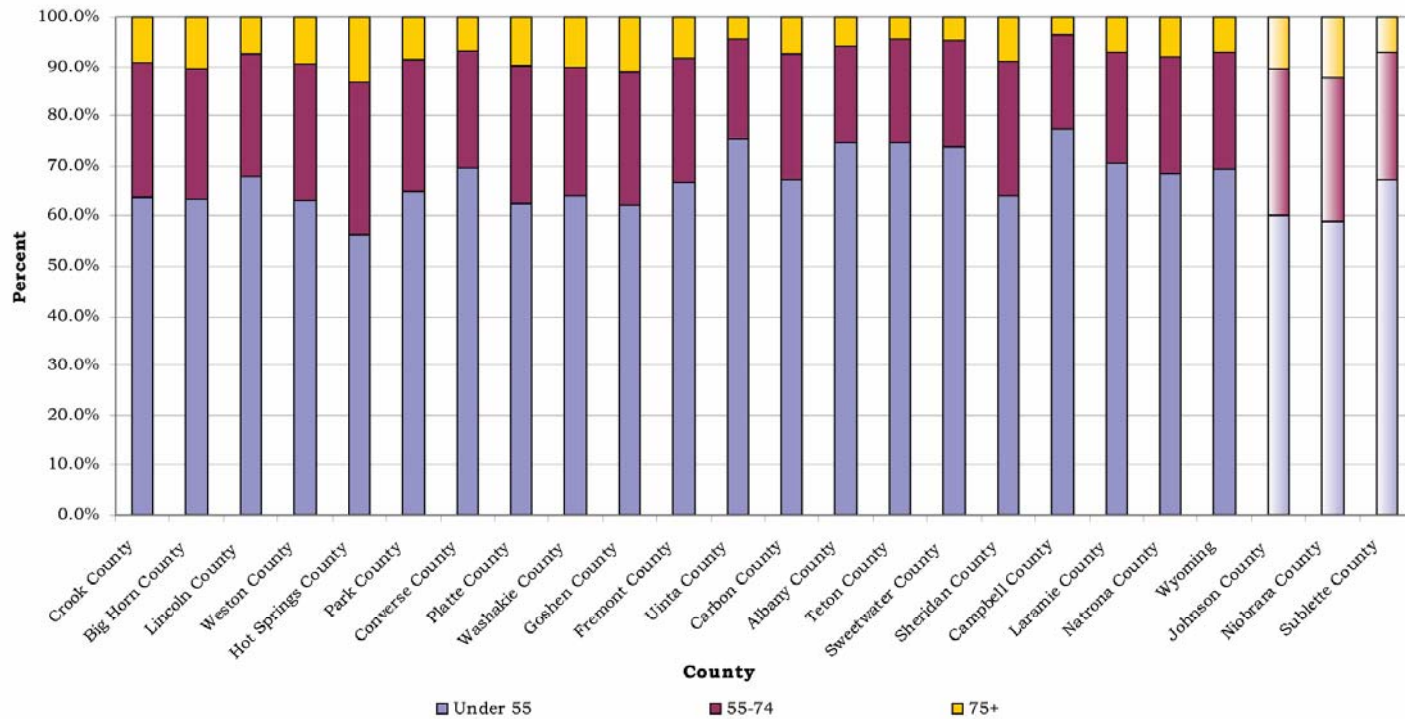


Figure: Projected Wyoming Population by County and Age Group, 2020, Ranked by Number of Hospital In-Patients in FY2003^a



^aNo hospital data available for Johnson, Niobrara, and Sublette Counties.



Nursing Demand Projections

- Assume current policies continue into the future
- Does not assume any intervention strategies
- Assumes constant compound annual growth rate in industry employment and RN demand between beginning and end points

Intermediate data points shown for illustrative purposes only

- RN Base period = 2006
- Employment Projection period=2014
- Connects jobs to number of RNs working in Health Care
- RNs assigned to primary industry (industry paying the most \$\$ each quarter)
- Annual averages based on quarterly numbers



Table: Occupational Staffing Levels for the U.S. and WY, Hospitals (NAICS 622), May 2005

Occupation (SOC Code)	U.S. Jobs	U.S.		Wyoming Jobs	WY Hourly		
		Column Percent	Hourly Mean Wage		Column Percent	Mean Wage	WY Wage Ratio
Management (11)	180,990	3.4%	\$39.25	505	5.6%	\$33.91	86.4%
Business and Financial Operations (13)	85,730	1.6%	\$24.05	103	1.1%	\$21.71	90.3%
Computer and Mathematical (15)	47,550	0.9%	\$27.12	52	0.6%	\$19.76	72.9%
Architecture and Engineering (17)	4,680	0.1%	\$26.76	ND	ND	ND	ND
Life, Physical, and Social Science (19)	30,390	0.6%	\$28.07	40	0.4%	\$24.60	87.6%
Community and Social Services (21)	125,570	2.4%	\$20.21	150	1.7%	\$20.11	99.5%
Legal Occupations (230000)	1,020	0.0%	\$39.85	ND	ND	ND	ND
Education, Training, and Library (25)	25,130	0.5%	\$25.52	12	0.1%	\$20.55	80.5%
Arts, Design, Entertain., Sports, and Media (27)	9,200	0.2%	\$20.34	ND	ND	ND	ND
Healthcare Practitioner and Technical (29)	2,701,560	51.5%	\$25.99	3,836	42.7%	\$23.03	88.6%
<i>Registered Nurses (291111)</i>	<i>1,424,860</i>	<i>27.2%</i>	<i>\$27.76</i>	<i>2,065</i>	<i>23.0%</i>	<i>\$23.44</i>	<i>84.4%</i>
<i>LPN/LVN (292061)</i>	<i>187,420</i>	<i>3.6%</i>	<i>\$16.70</i>	<i>211</i>	<i>2.4%</i>	<i>\$15.32</i>	<i>91.7%</i>
Healthcare Support (31)	690,930	13.2%	\$11.98	1,727	19.2%	\$11.03	92.1%
<i>Home Health Aides (311011)</i>	<i>18,470</i>	<i>0.4%</i>	<i>\$10.88</i>	<i>32</i>	<i>0.4%</i>	<i>\$9.93</i>	<i>91.3%</i>
<i>Nurse Aide, Orderlies, and Attend. (311012)</i>	<i>403,500</i>	<i>7.7%</i>	<i>\$11.09</i>	<i>1,264</i>	<i>14.1%</i>	<i>\$10.06</i>	<i>90.7%</i>
Protective Service (33)	46,150	0.9%	\$13.92	85	0.9%	\$12.23	87.9%
Food Prep and Serving (35)	152,340	2.9%	\$10.46	436	4.9%	\$9.16	87.6%
Building and Grounds Cleaning and Maint. (37)	194,880	3.7%	\$10.34	445	5.0%	\$9.91	95.8%
Personal Care and Service (39)	24,470	0.5%	\$11.68	138	1.5%	\$12.13	103.9%
Sales and Related (41)	12,150	0.2%	\$13.37	ND	ND	ND	ND
Office and Administrative Support (43)	797,590	15.2%	\$13.74	1,127	12.5%	\$11.97	87.1%
Construction and Extraction (47)	15,060	0.3%	\$21.94	12	0.1%	\$22.44	102.3%
Installation, Maint., and Repair (49)	55,780	1.1%	\$17.24	132	1.5%	\$15.95	92.5%
Production (51)	28,510	0.5%	\$14.47	80	0.9%	\$9.89	68.3%
Transportation and Material Moving (53)	16,940	0.3%	\$12.40	ND	ND	ND	ND
Total, all Occupations	5,246,630	100.0%	\$21.10	8,980	98.4%	\$17.84	84.5%

ND: No data available

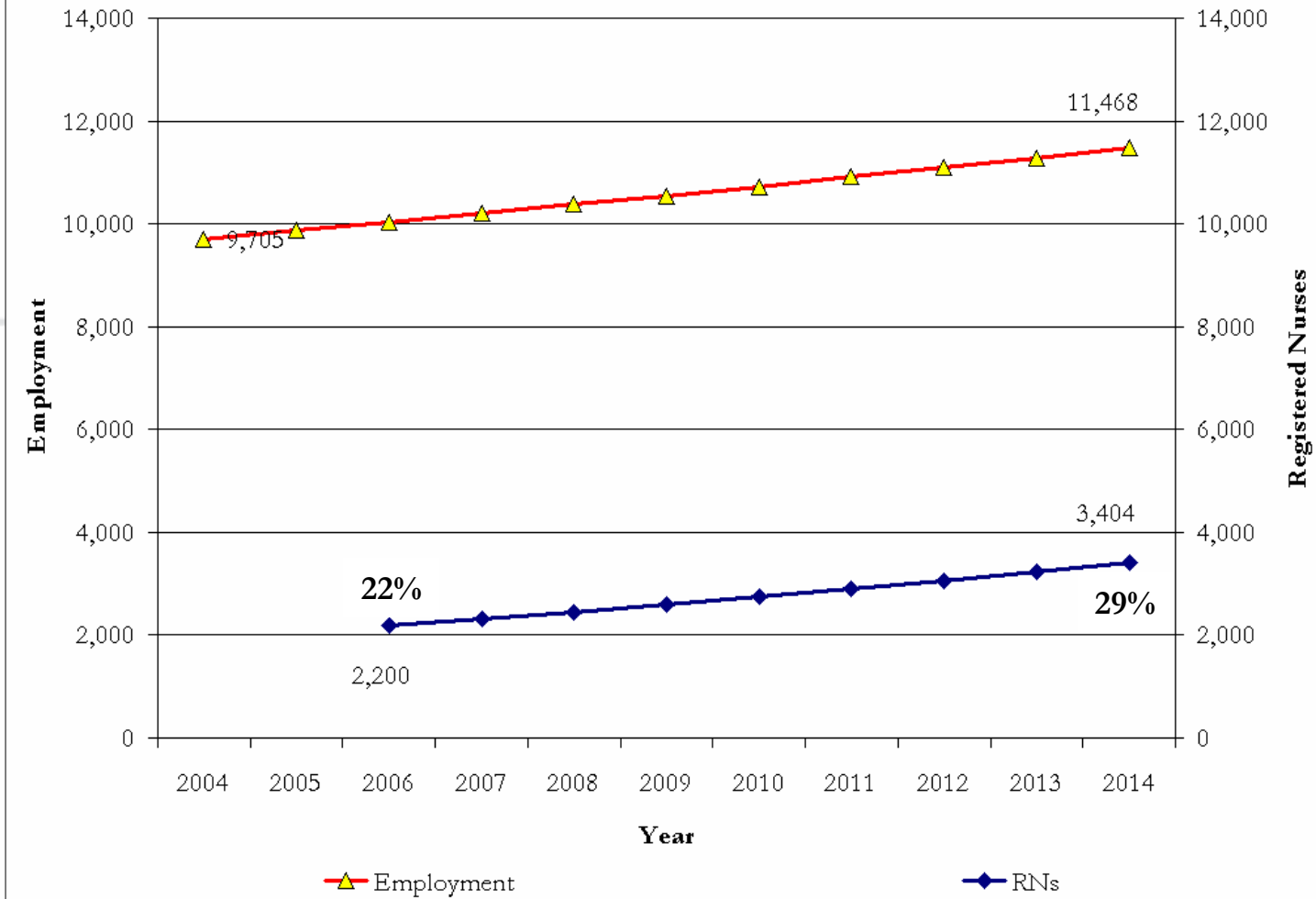
Table: Occupational Staffing Levels for South Dakota and Wyoming, Hospitals (NAICS 622), May 2005

Occupation	South Dakota Employment	Column %	SD Hourly Mean Wage	Wyoming Employment	Column %	WY Hourly Mean Wage
Management (11)	467	2.4%	\$40.01	505	5.6%	\$33.91
Business and Financial Operations (13)	338	1.7%	\$21.99	103	1.1%	\$21.71
Computer and Mathematical (15)	246	1.3%	\$23.69	52	0.6%	\$19.76
Architecture and Engineering (17)	ND	ND	ND	ND	ND	ND
Life, Physical, and Social Science (19)	35	0.2%	\$32.74	40	0.4%	\$24.60
Community and Social Services (21)	406	2.1%	\$19.12	150	1.7%	\$20.11
Legal (23)	ND	ND	ND	ND	ND	ND
Education, Training, and Library (25)	ND	ND	ND	ND	ND	ND
Arts, Design, Entertainment, Sports, and Media (27)	65	0.3%	\$19.52	ND	ND	ND
Healthcare Practitioners and Technical (29)	9,524	49.1%	\$23.32	3,836	42.7%	\$23.03
<i>Registered Nurses (29-1111)</i>	5,304	27.4%	\$24.43	2,065	23.0%	\$23.44
<i>LPN/LVN (29-2061)</i>	496	2.6%	\$14.11	211	2.4%	\$15.32
Healthcare Support (31)	2,982	15.4%	\$10.41	1,727	19.2%	\$11.03
<i>Home Health Aides (31-1011)</i>	112	0.6%	\$9.35	32	0.4%	\$9.93
<i>Nurse Aides, Orderlies, and Attend. (31-1012)</i>	1,998	10.3%	\$9.78	1,264	14.1%	\$10.06
Protective Service (33)	85	0.4%	\$12.92	85	0.9%	\$12.23
Food Preparation and Serving Related (35)	886	4.6%	\$9.51	436	4.9%	\$9.16
Building and Grounds Cleaning and Maint. (37)	888	4.6%	\$9.87	445	5.0%	\$9.91
Personal Care and Service (39)	397	2.0%	\$10.54	138	1.5%	\$12.13
Sales and Related (41)	ND	ND	ND	ND	ND	ND
Office and Administrative Support (43)	2,336	12.1%	\$11.96	1,127	12.5%	\$11.97
Construction and Extraction (47)	33	0.2%	\$19.26	12	0.1%	\$22.44
Installation, Maintenance, and Repair (49)	263	1.4%	\$16.84	132	1.5%	\$15.95
Production (51)	198	1.0%	\$11.09	80	0.9%	\$9.89
Transportation and Material Moving (53)	142	0.7%	\$13.13	ND	ND	ND
Total, All Occupations	19,377	99.6%	\$18.45	8,980	98.8%	\$17.84

ND: No data available

Prepared by Lisa Knapp, Research Analyst, WY Dept. of Employment, Research & Planning, April 18, 2007

Figure: Estimates and Projections of Registered Nurses Working in Hospitals, 2004 - 2014



The Grand Total Based on Current HR Practices

Table 1 - Estimates and Projections of Wyoming Registered Nurses, 2004 - 2014

Analysis	Ambulatory Care	Hospitals	Long-Term Care	Health Care Only	All Other Industries
RNs 2006 (Est.)	652	2,200	293	3,145	870
RNs 2014 (Proj.)	1,969	3,404	552	5,925	1,413
Difference	1,317	1,204	259	2,780	543



Selected Survey Results

- Ambulatory Care
- Hospitals and Long-Term Care – Preliminary



The Literature Suggests:

Things That Can Be Changed

**Real
Wages**

Benefits

**Workplace
Stress**

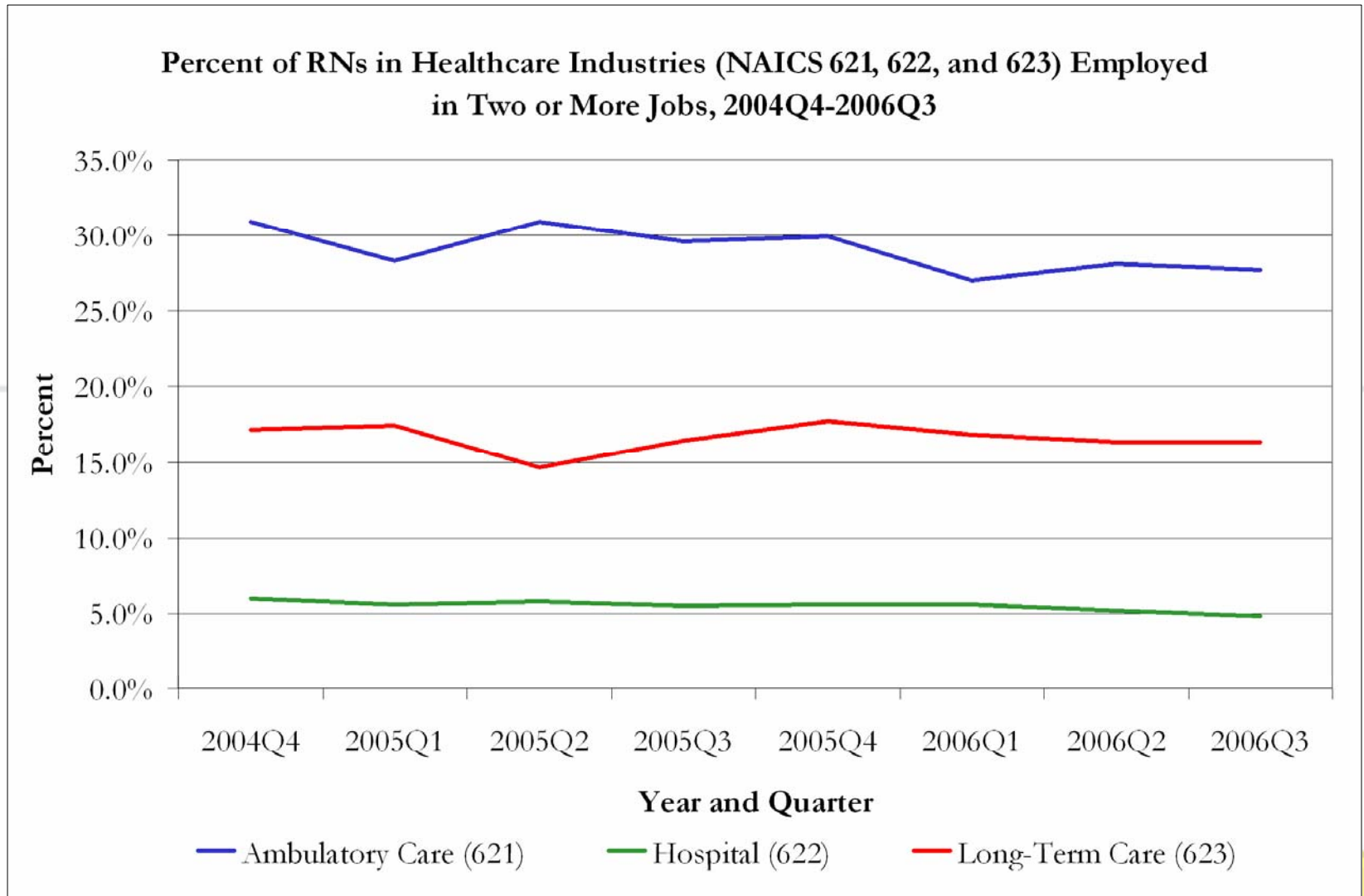
Workload

Safety

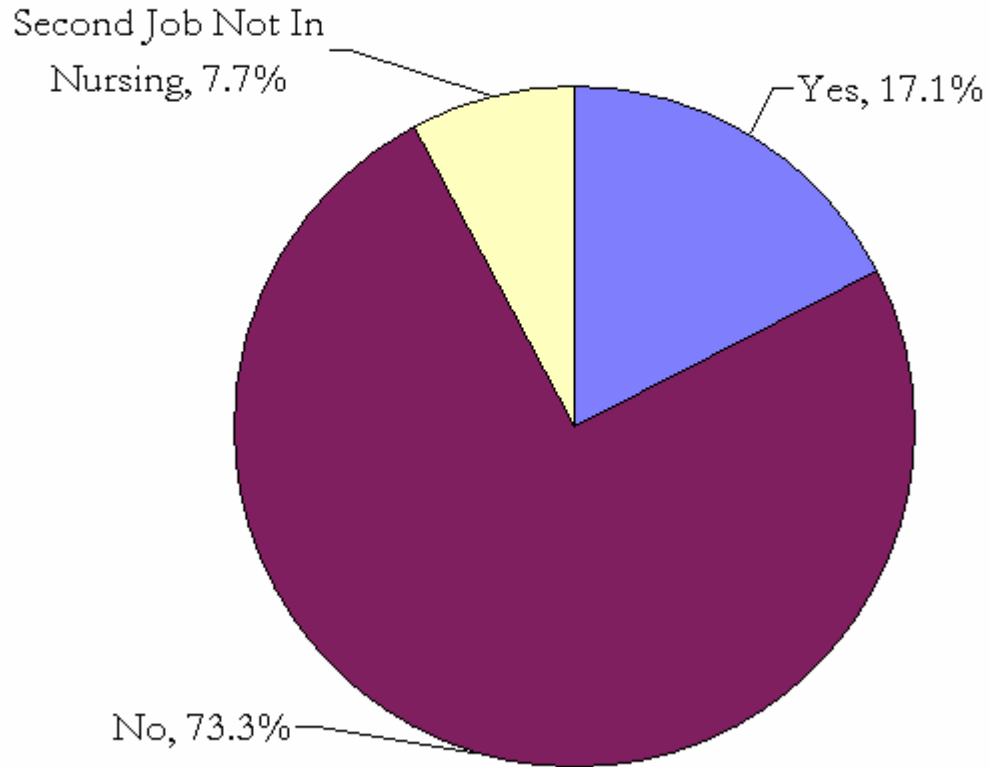
**Increased
Retention
of Nurses**

**What Happens
After the Change**





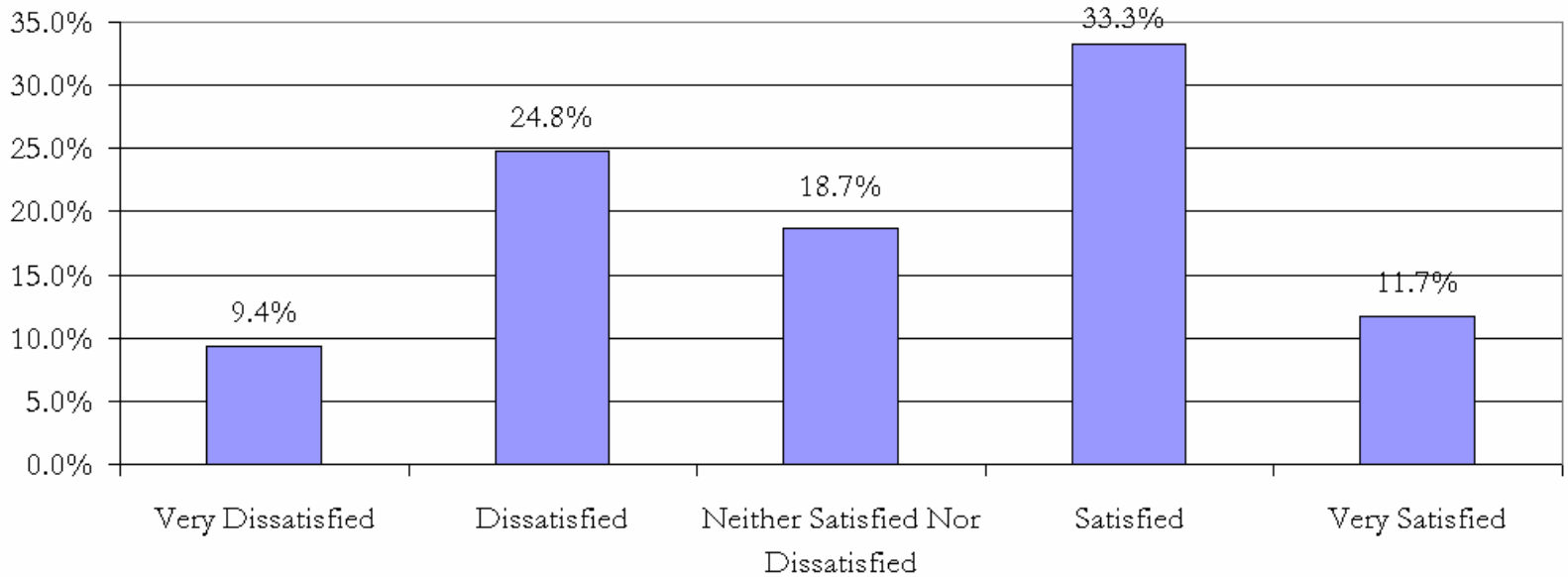
"Do You Have a Second Job in Healthcare?"



Note: Excludes respondents who did not answer the question.



"How Satisfied Are You With Your Base Salary?"

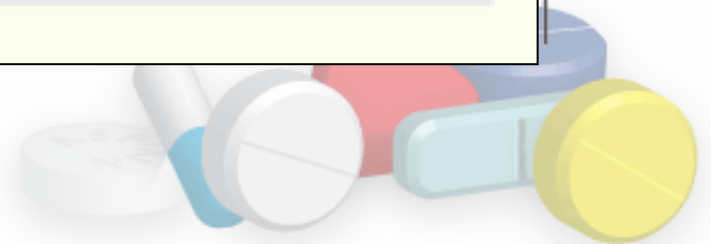


"No Answer" and "Not Applicable" responses have not been included on graphic (n= 9, 2.1 %).



Table: Why do you live in your current community * Where did you attend high school Crosstabulation

Reason for living in community	Where Respondent Attended High School				
		Wyoming	Out of State	Unknown	Total
Existing Job	N	23	35	1	59
	Col%	12.5	15.0	11.1	13.8
Proximity to School or Work	N	3	2	0	5
	Col%	1.6	0.9	0.0	1.2
Spouse or Partner Job	N	46	71	2	119
	Col%	25.0	30.3	22.2	27.9
Cost of Living/Affordable Housing	N	6	14	1	21
	Col%	3.3	6.0	11.1	4.9
Proximity to Natural Amenities	N	7	29	2	38
	Col%	3.8	12.4	22.2	8.9
Proximity to Family	N	67	28	3	98
	Col%	36.4	12.0	33.3	23.0
Other or No Answer	N	32	55	0	87
	Col%	17.4	23.5	0.0	20.4
Total	N	184	234	9	427
	Col%	100.0	100.0	100.0	100.0



Ambulatory Health Care – Comments

North American Industry Classification System Title and Code	Age	Comments
Offices of Physicians 621111	48	Coming from California 5 yrs ago, I was shocked at how low the wages were for nurses. I started at \$15.00 per hour. I was making near \$13.00 per hour in Arizona in 1987! I have a BSN! Thanks God I don't have to support a family on what I make. If I had to do it over again, I would not choose to go into nursing.
Offices of Physicians 621111	24	I used to work in the NICU - I loved the work & I loved the wages, but hated the hours/holiday/weekends. Now I work in a clinic and love the hours but am not happy with my wages and miss the skills & the babies.
Home Health Care Services 621610	54	... Besides nurses generally need more respect, more autonomy, better job security, more money, and more benefits. Often it is dirty, thankless work. Those of us who stay with it have a gift & a calling. ... Thanks for doing this survey!

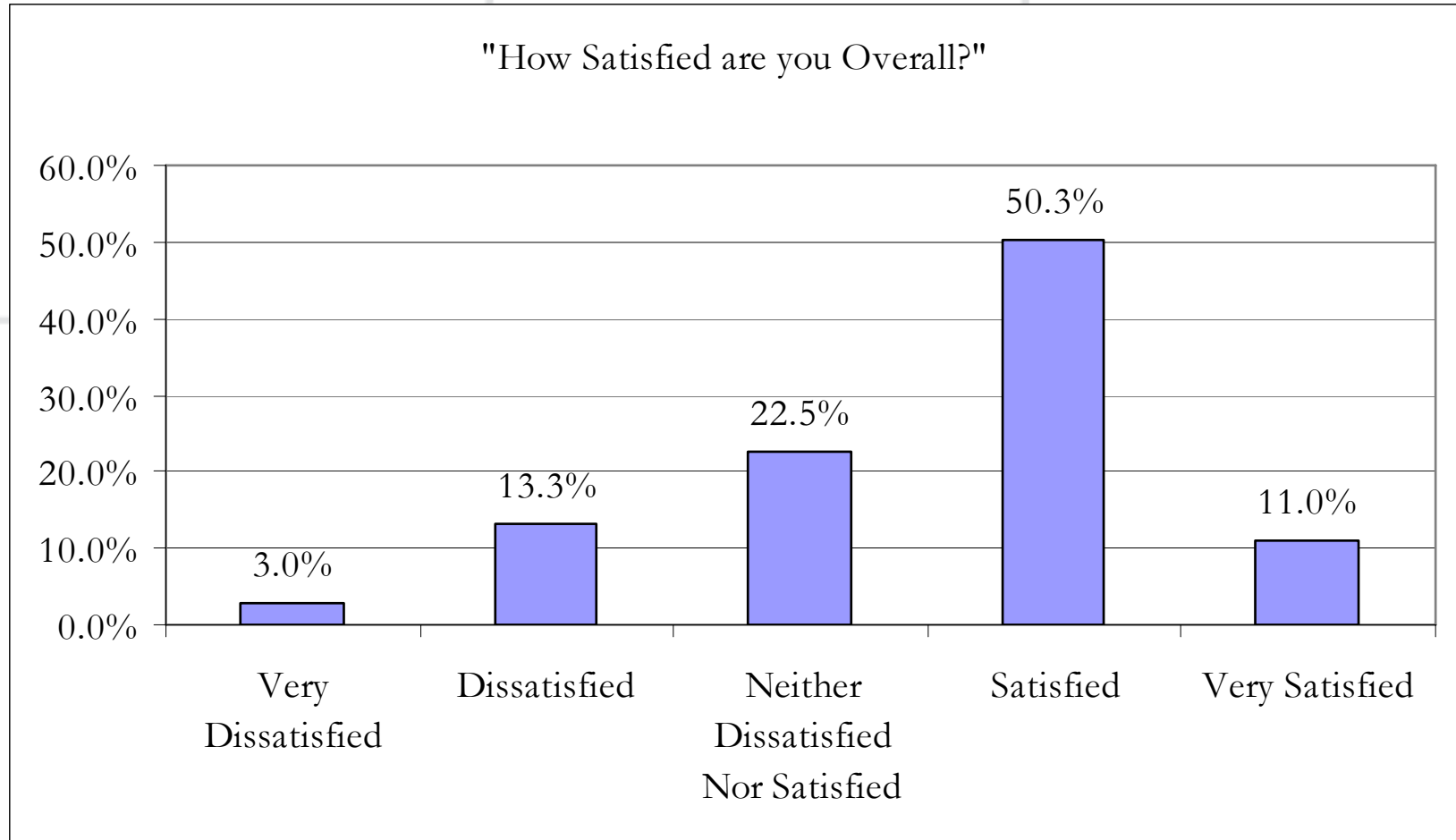


Hospitals & Long-Term Care

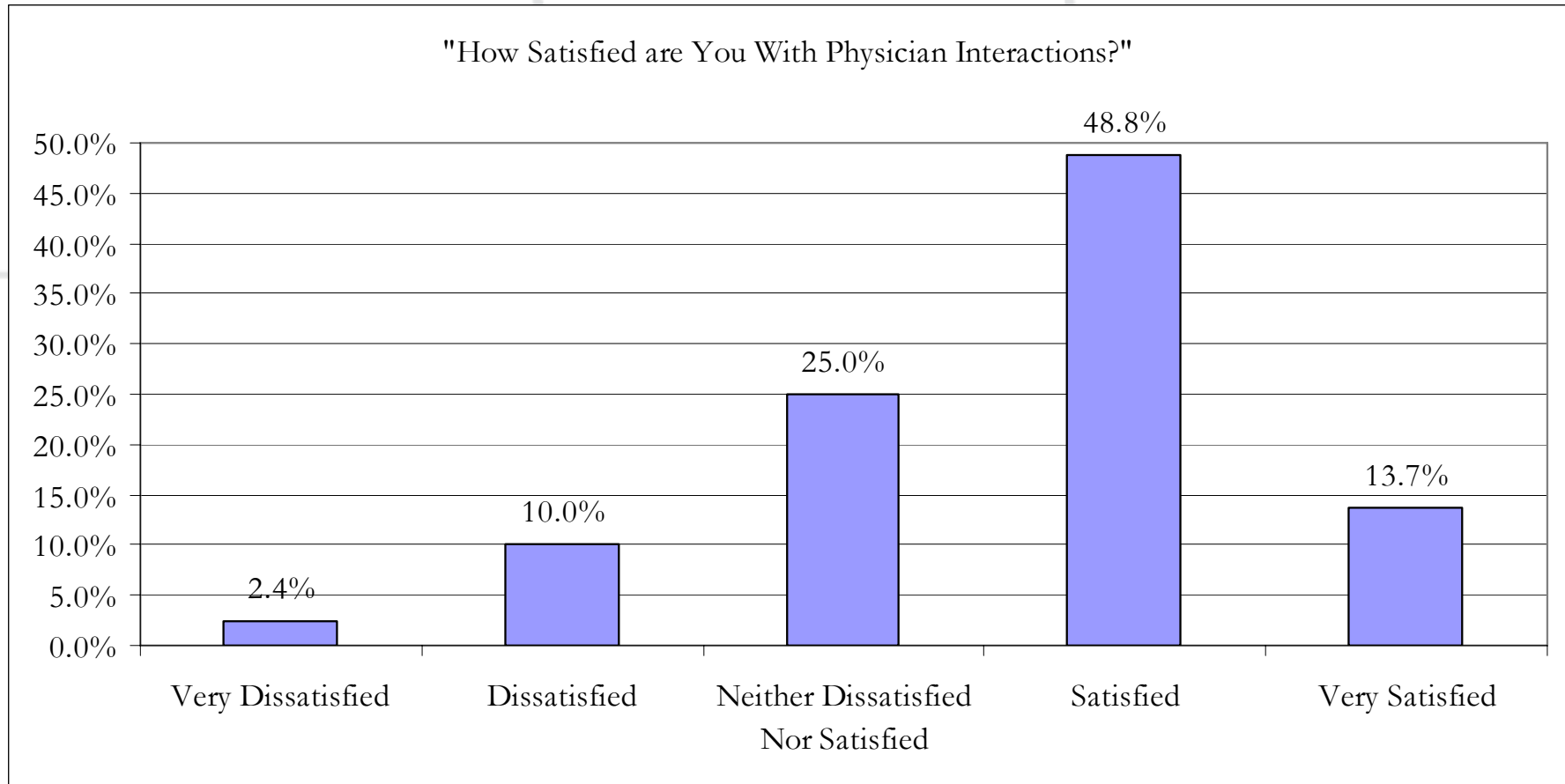
Primary Job Position		
	Frequency	Percent
Nurse Educator	42	2.6%
Administration/Management	186	11.5%
Quality Assurance/Risk Manager	20	1.2%
Direct Patient Care	1,202	74.0%
Infection Control	11	0.7%
Case Manager/Utilization Review	21	1.3%
No answer, multiple answer, or not working in nursing	86	5.3%
Other	56	3.4%
Total	1,624	100.0%



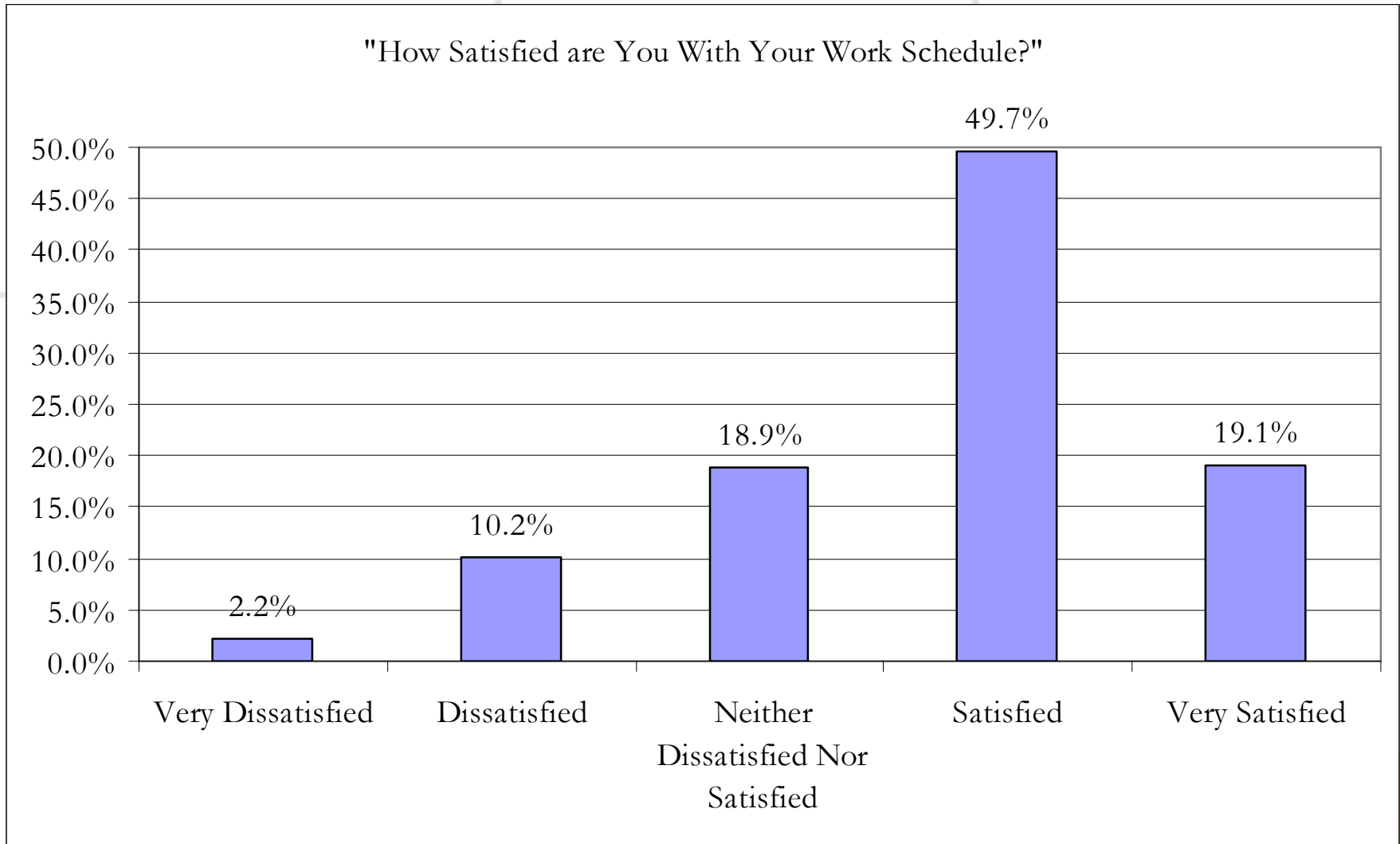
Direct Patient Care Nurses Only Hospitals & Long-Term Care



Direct Patient Care Nurses Only Hospitals & Long-Term Care

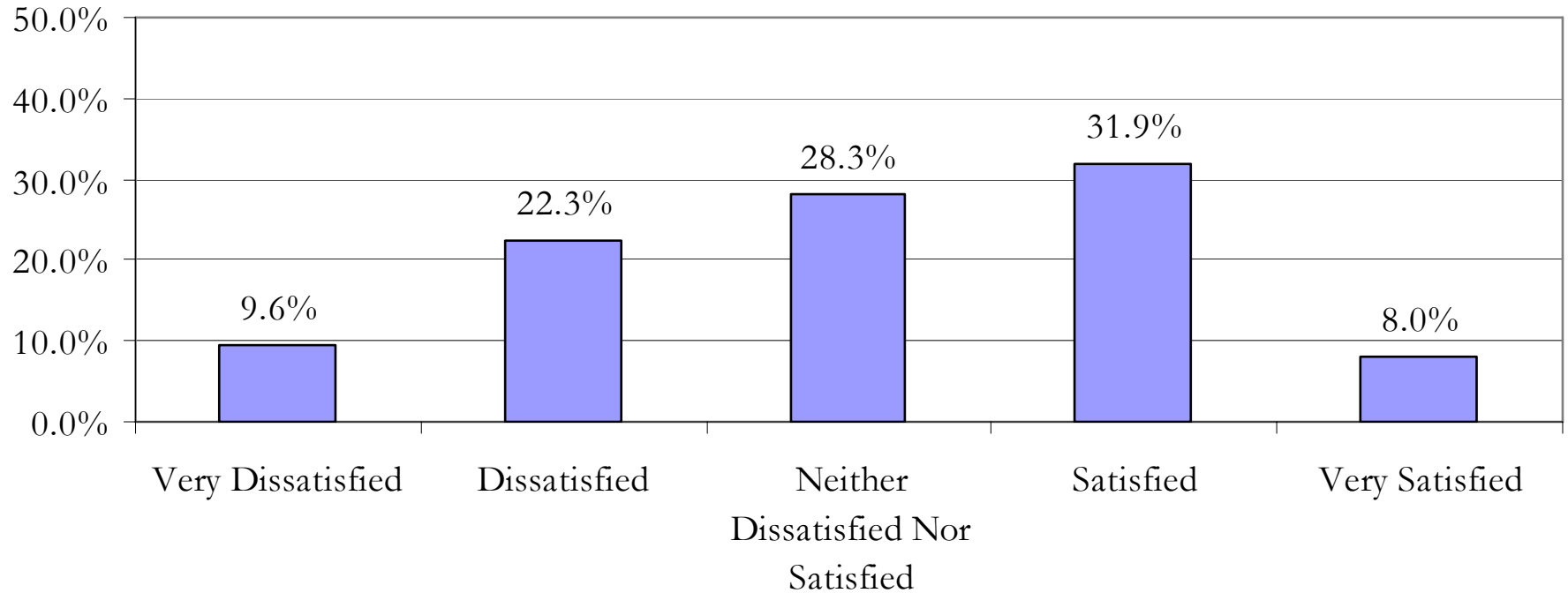


Direct Patient Care Nurses Only Hospitals & Long-Term Care

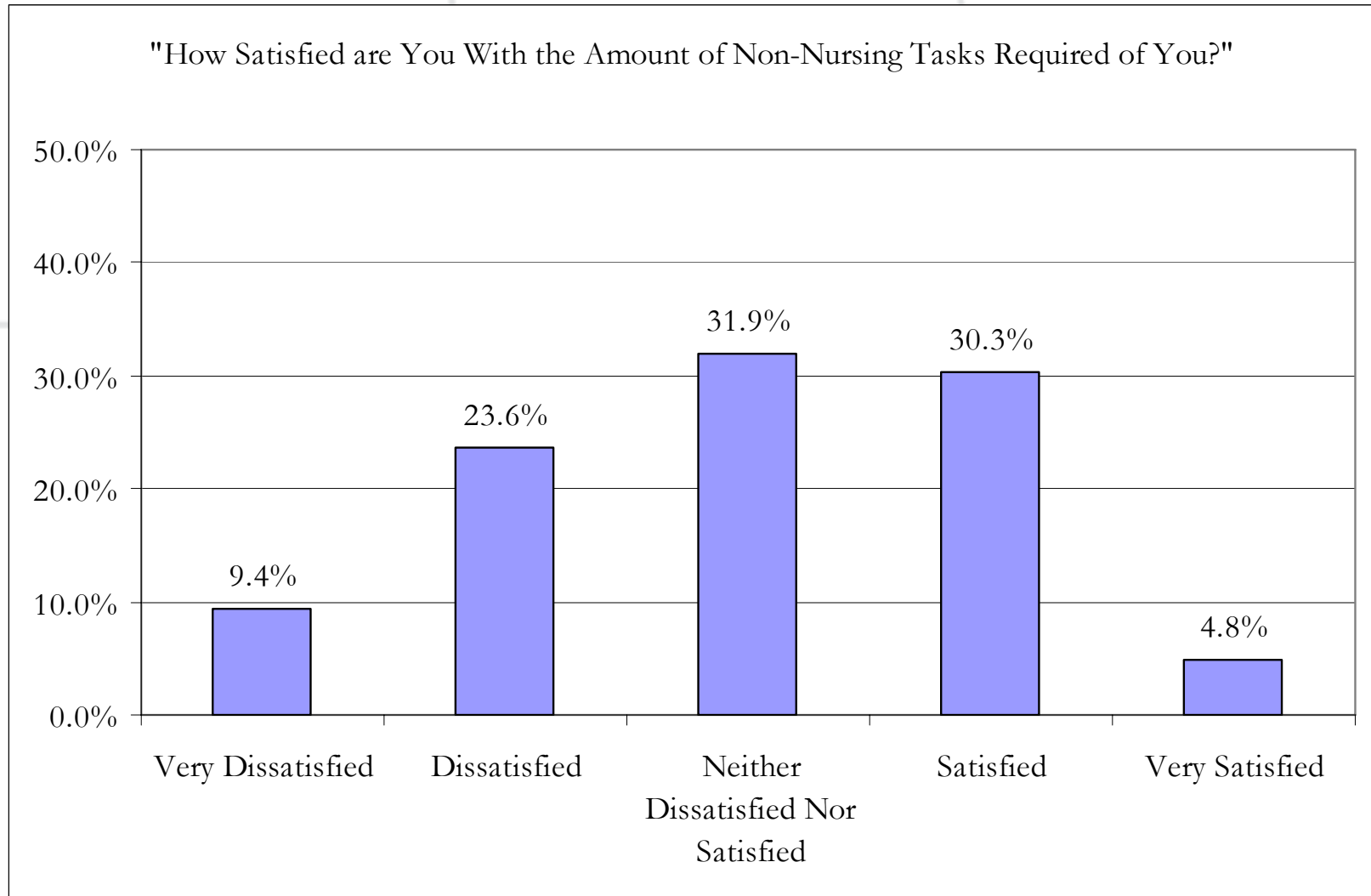


Direct Patient Care Nurses Only Hospitals & Long-Term Care

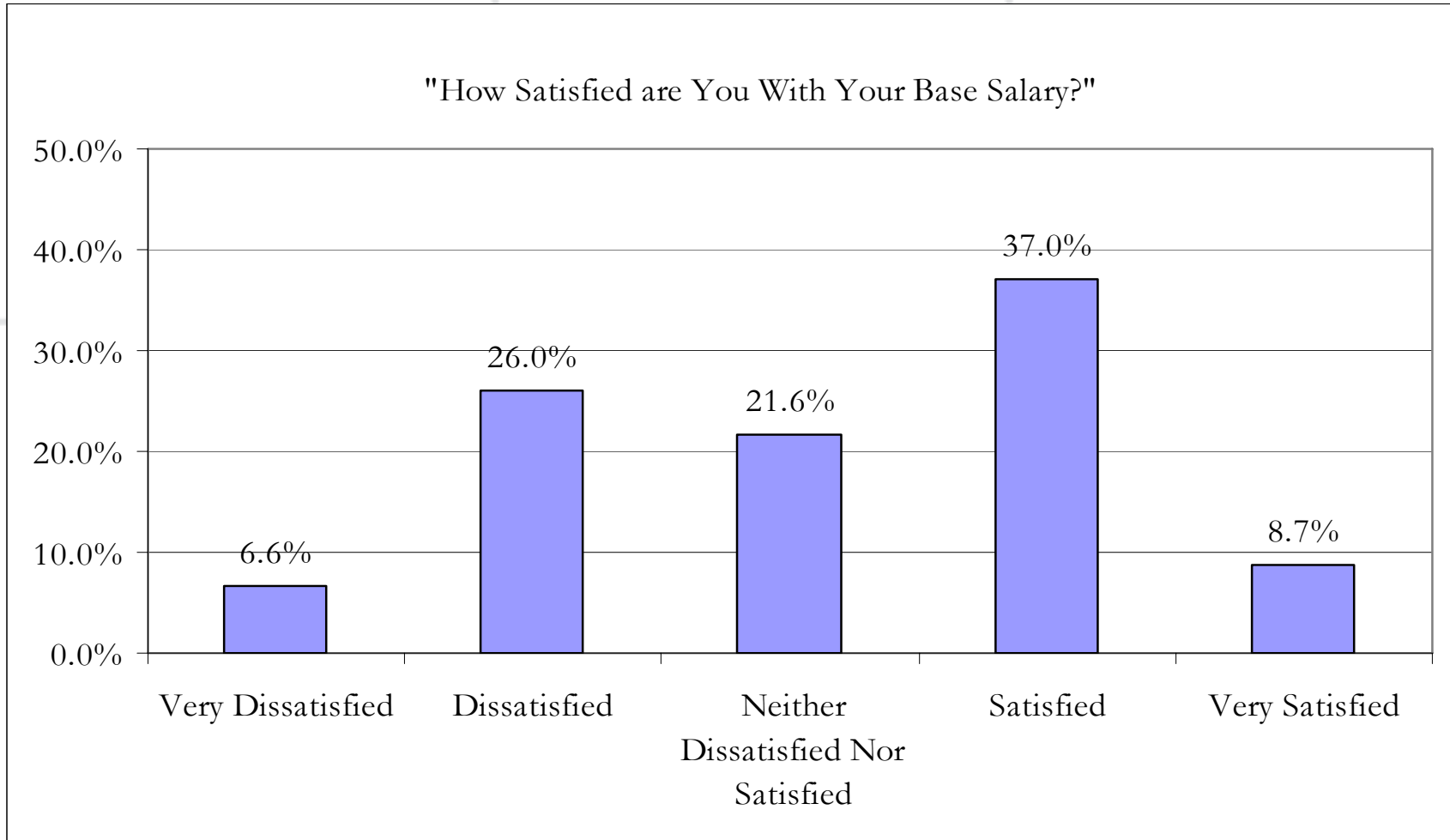
"How Satisfied are You With Clerical Staffing Levels?"



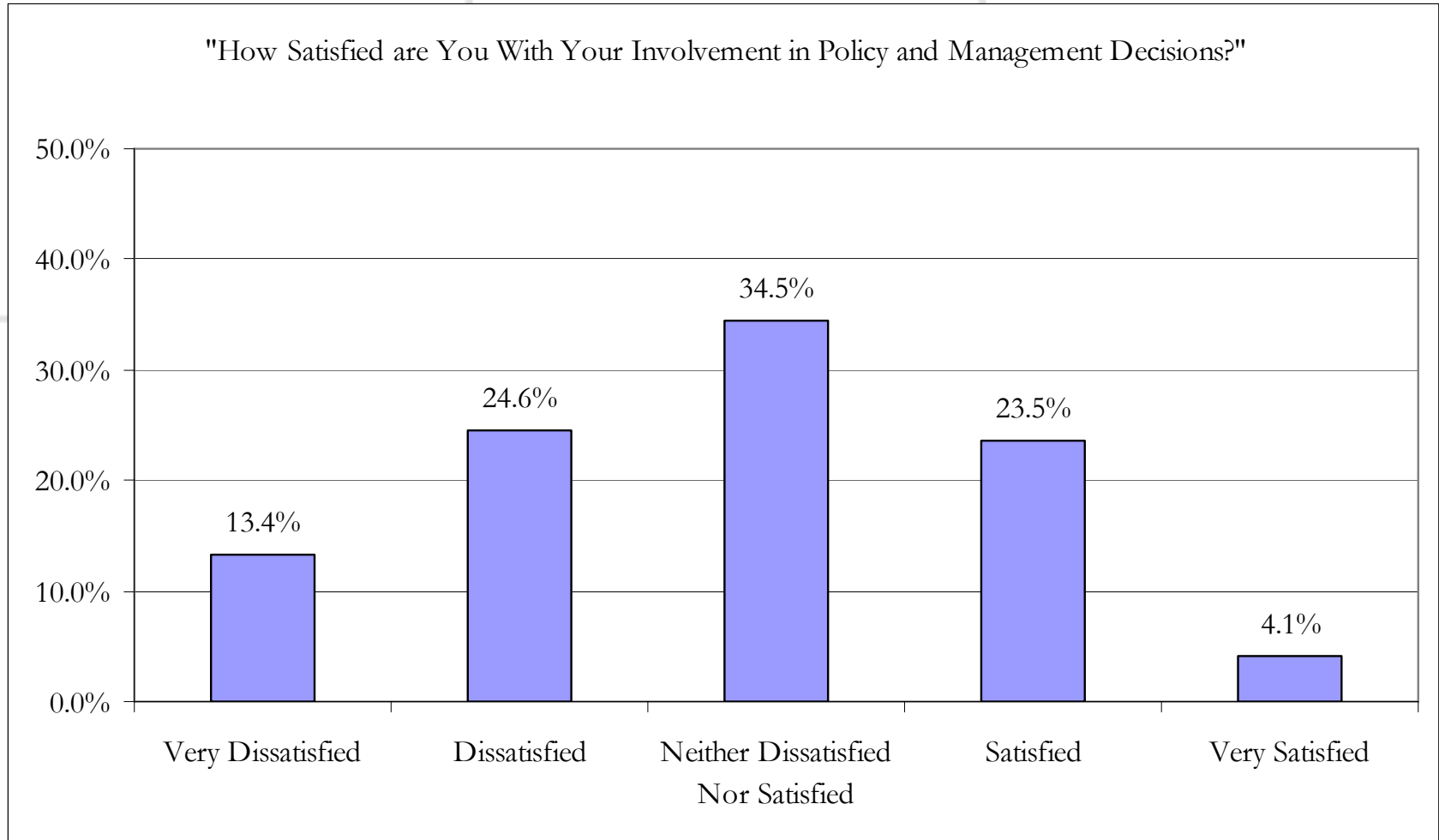
Direct Patient Care Nurses Only Hospitals & Long-Term Care



Direct Patient Care Nurses Only Hospitals & Long-Term Care

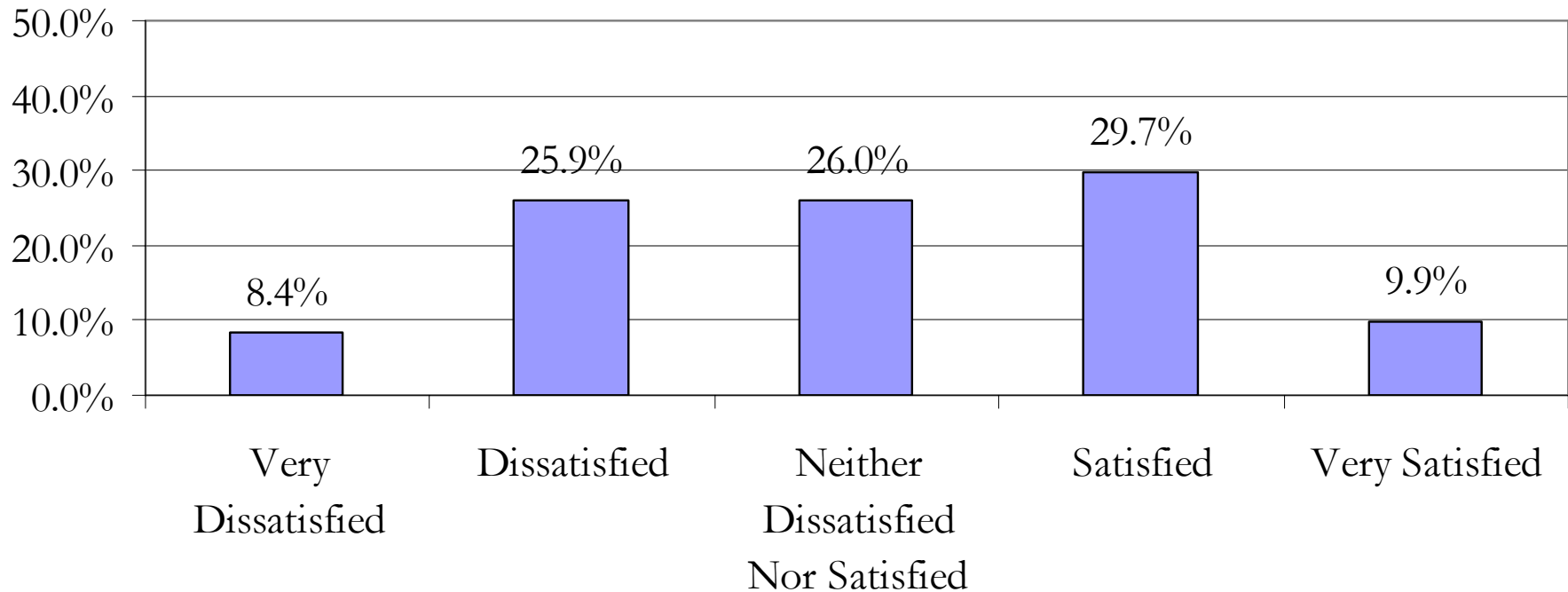


Direct Patient Care Nurses Only Hospitals & Long-Term Care

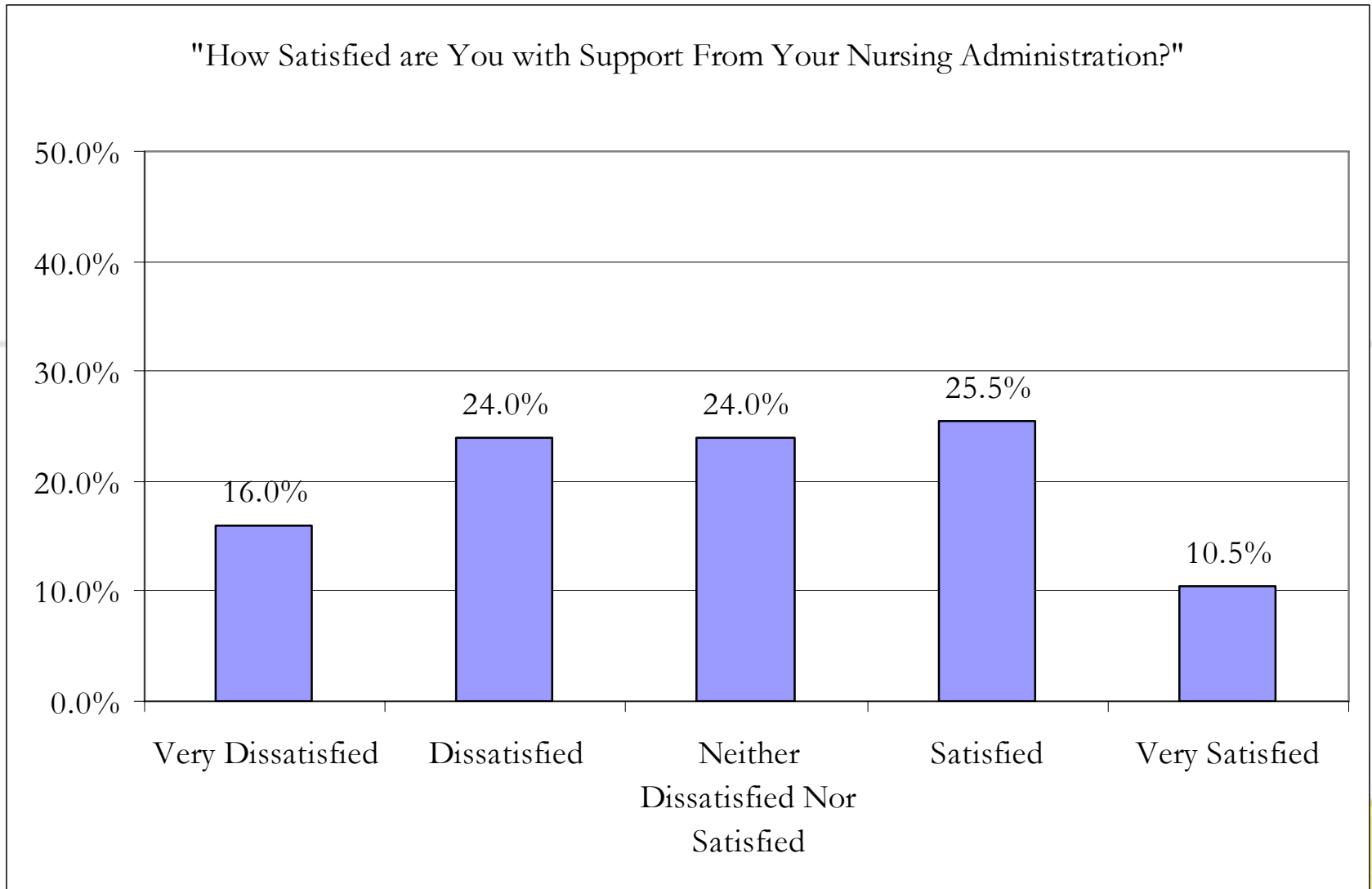


Direct Patient Care Nurses Only Hospitals & Long-Term Care

"How Satisfied are You with RN Staff Levels at Your Primary Place of Employment?"

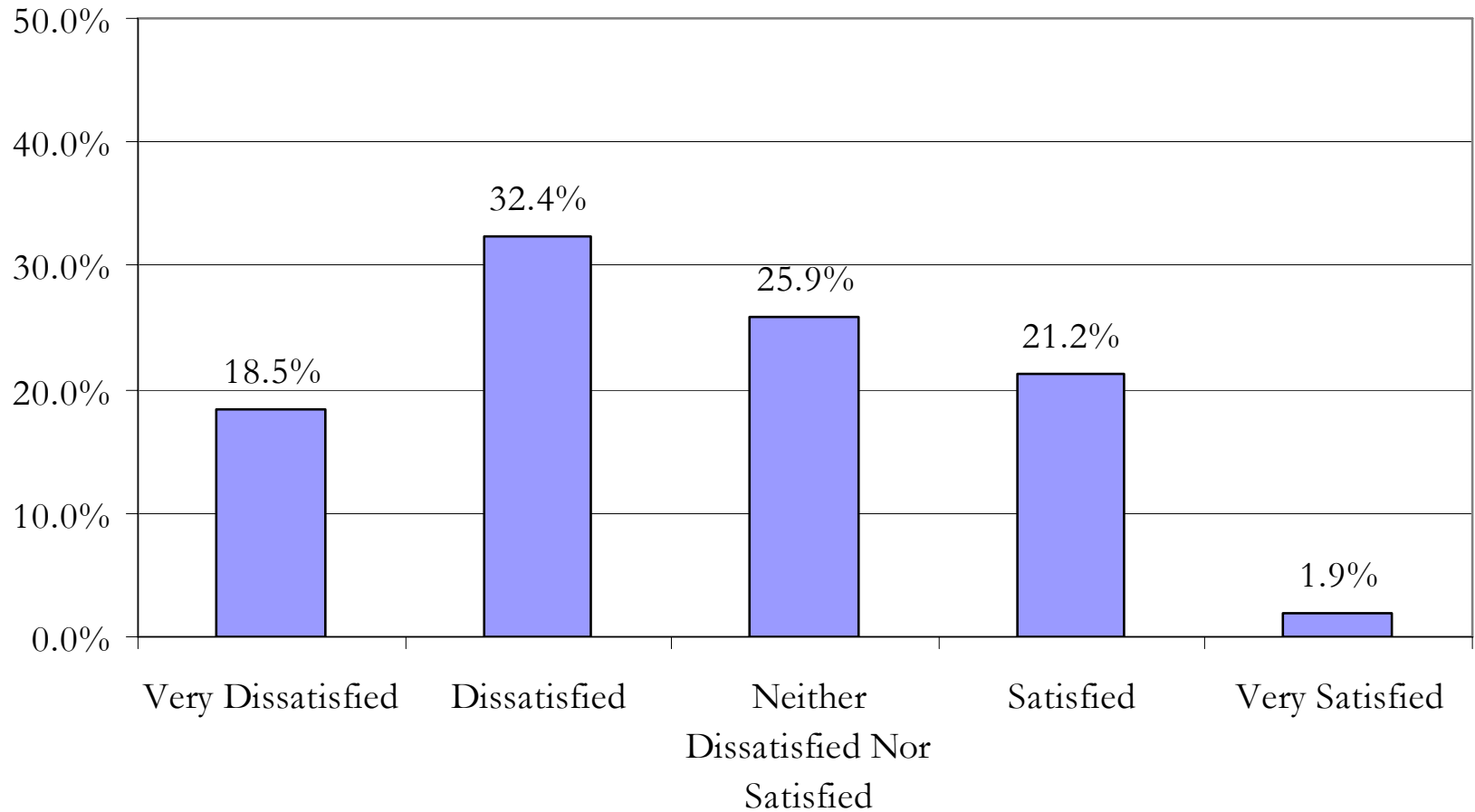


Direct Patient Care Nurses Only Hospitals & Long-Term Care



Direct Patient Care Nurses Only Hospitals & Long-Term Care

"How Satisfied are You With the Amount of Required Paperwork?"



Direct Patient Care Nurses Only Hospitals & Long-Term Care

Plan to Leave Primary Facility in Next 12 Months, Direct Patient Care Only

	Frequency	Percent
Yes	205	17.1%
No	994	82.7%
No Answer	3	0.2%
Total	1,202	100.0%



Direct Patient Care Nurses Only Hospitals & Long-Term Care

Crosstabulation: Where You Last Attended High School * Reason For Living in Community

Reason for Living in Community	Where Respondent Last Attended High School		
	Wyoming	Out of State	Total
Existing Job	75 15.4%	145 20.3%	220 18.3%
Proximity to School or Work	14 2.9%	22 3.1%	36 3.0%
Spouse or Partner's Job	96 19.7%	163 22.8%	259 21.5%
Cost of Living/Affordable Housing	23 4.7%	45 6.3%	68 5.7%
Proximity to Natural Amenities	15 3.1%	101 14.1%	116 9.7%
Proximity to Family	180 36.9%	111 15.5%	291 24.2%
Other or No Answer	85 17.4%	127 17.8%	212 17.6%
Total	488 100.0%	714 100.0%	1,202 100.0%

Hospitals & Long-Term Care – Comments

Direct Patient Care Nurses Only

North American Industry Classification System Title and Code	Age	Comments
Hospitals 622	38	I am a nurse and can go anywhere. Only staying now because of 2 kids. When they are grown, we will travel.
Hospitals 622	56	Will leave when sons graduate high school.
Hospitals 622	36	Cannot leave until children graduate high school because of joint custody agreement.
Hospitals 622	57	I have multiple job opportunities. I stay here til my son graduates from high school, then I leave.
Hospitals 622	56	Don't want to move until my children are out of school.
Hospitals 622	52	After one more year of high school, my son will leave for college and there will not be anyone dependent at home.



Hospitals & Long-Term Care – Comments

Direct Patient Care Nurses Only

North American Industry Classification System		
Title and Code	Age	Comments
Hospitals 622	50	I see very disturbing changes in our facility -- more chiefs than Indians. Soon we won't have enough staff nurses to care for patients but we have 40+ department managers ... No wonder health care costs so much.
Long-Term Care 623	61	I hope I die before I have to live in a nursing home. Reason being: quality of care. Staffing is short and the reason given by "corporation" is "we can't go over budget," or "there is a hiring freeze right now." I don't know where "they" come up with the staff-to-resident/patient ratio but in my opinion it is very unsafe and direct care suffers. The only thing I can do, is the very best for the residents on my shifts.
Hospitals 622	67	I retired last winter. I had planned on working several more years, but related to 12-hour shifts, frequent on-call status, night shifts, heavy 8-10 patient load, the current culture of disrespect shown to nurses by patients (particularly their family members) & upper-echelon hospital, I got out while I still had my health ... with all the physical and mental stress, no amount of money could entice me to return to the medical world ...

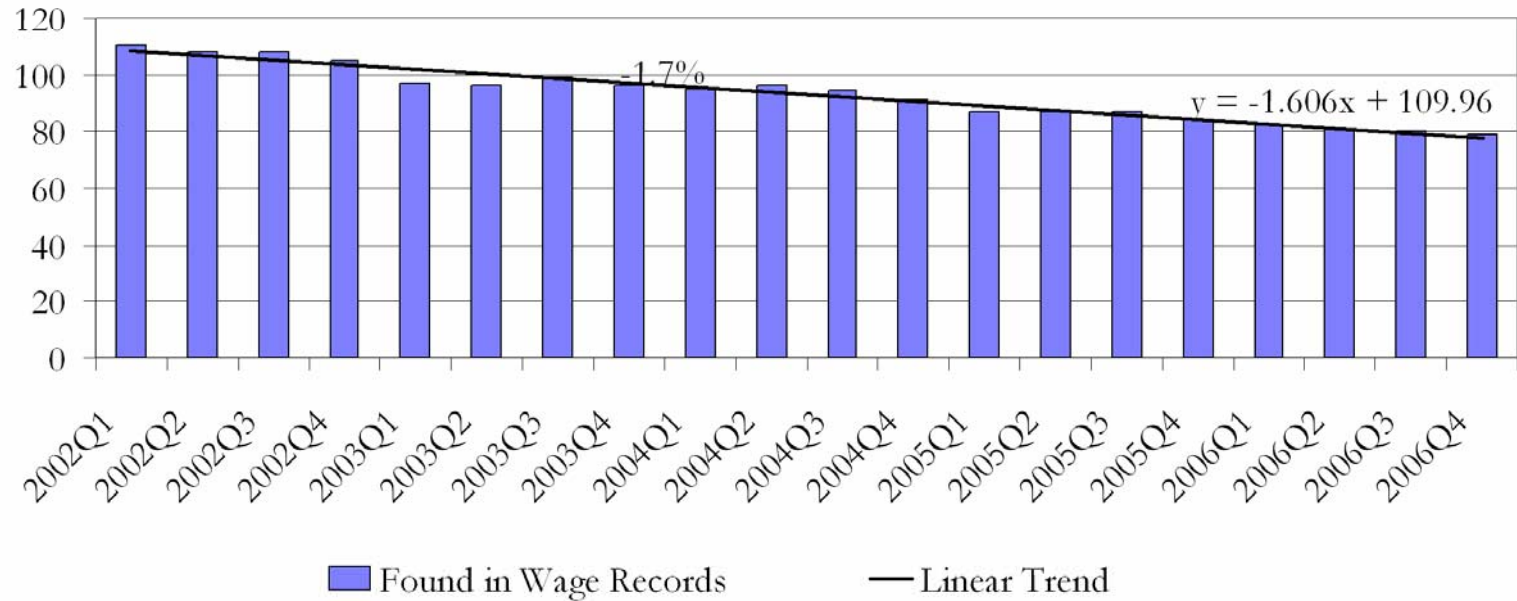


A light gray ECG (heart rate) line is centered on the page. A yellow rectangular box with a black border is superimposed over the line, containing the word "Supply" in a black serif font.

Supply



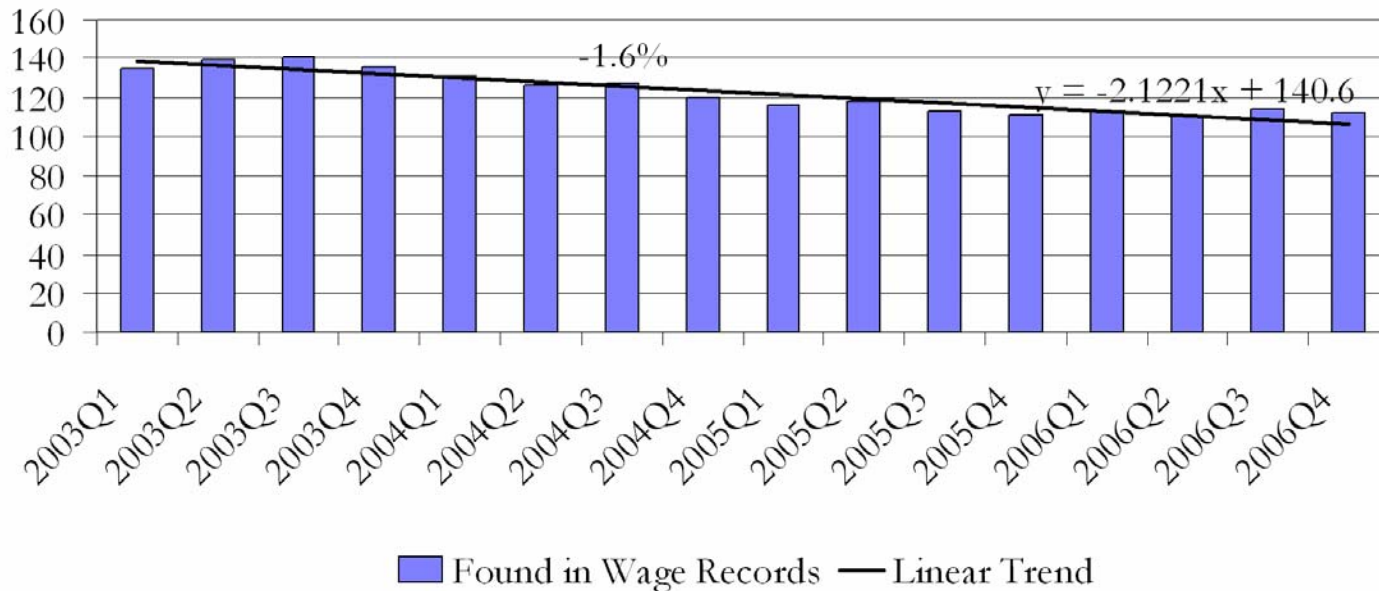
Subsequent Wyoming Work Status of the Cohort of Nurses (N =118) Who Graduated From a Wyoming Nursing Program and Became Registered in Wyoming* During Calendar Year 2001



*Source Data: Wyoming Wage Records and Wyoming Board of Nursing registration files.



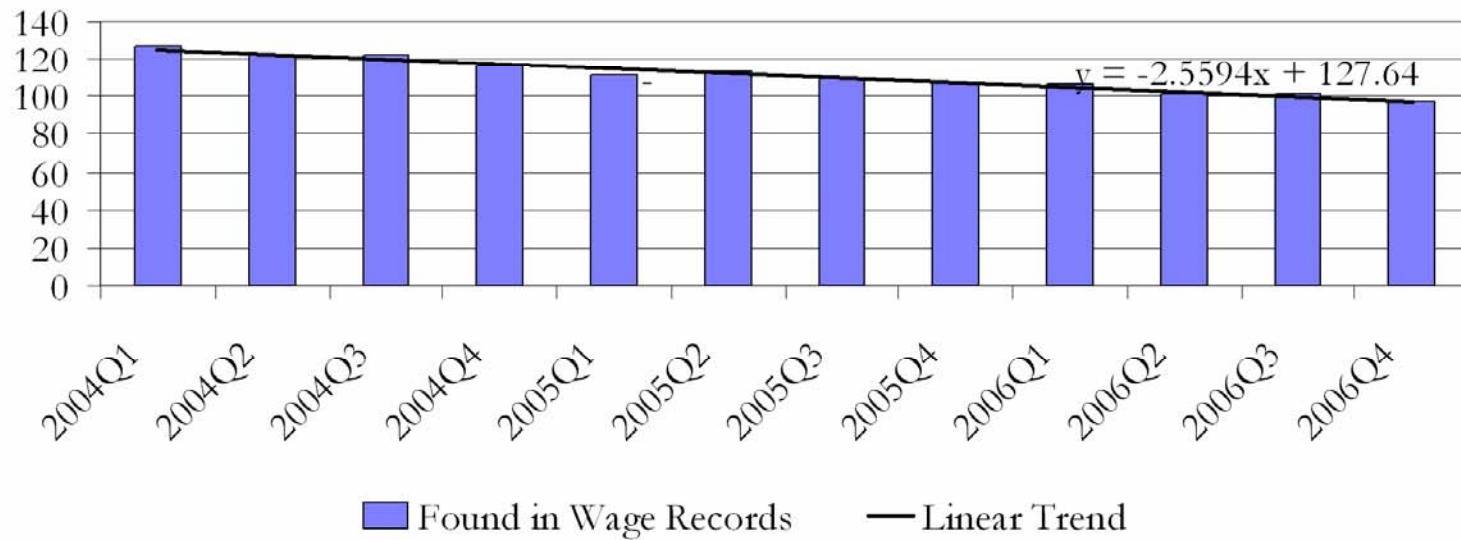
**Subsequent Wyoming Work Status of the Cohort of Nurses (N =169)
Who Graduated From a Wyoming Nursing Program and Became
Registered in Wyoming* During Calendar Year 2002**



*Source Data: Wyoming Wage Records and Wyoming Board of Nursing registration files.



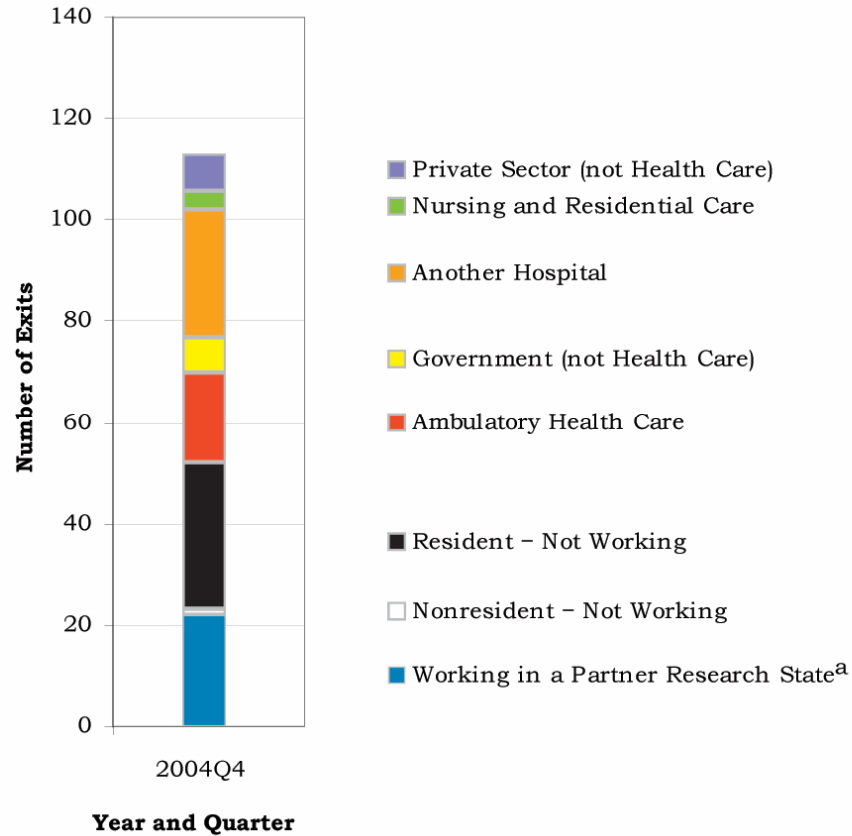
Subsequent Wyoming Work Status of the Cohort of Nurses (N = 141) Who Graduated From a Wyoming Nursing Program and Became Registered in Wyoming* During Calendar Year 2003



*Source Data: Wyoming Wage Records and Wyoming Board of Nursing registration files.



Figure: Detailed Destination of Nurse Exits from Wyoming Hospitals, Fourth Quarter 2004



^aPartner Research States include Alaska, Colorado, Idaho, Montana, Nebraska, New Mexico, Oklahoma, South Dakota, Texas, and Utah.



For More Information, See the Wyoming
Health Care Commission's Website:

<http://www.wyominghealthcarecommission.org/>

