

Nursing Data Review Academic Year 2007-2008

Baccalaureate, Associate Degree,
and Diploma Programs



**National League
for Nursing**

Nursing Data Review
Academic Year 2007-2008

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National League for Nursing
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New York, NY 10006

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We are also extremely grateful to the members of the Ad Hoc Committee on LPN/LVN Education for their invaluable contributions to the redesign of the Annual Survey sections which pertain to LPN/LVN education. As a result of their insights and feedback, we anticipate greatly expanding publication of data on LPN/LVN programs later in 2010.

Finally, we would like to acknowledge the contribution of Robert McCauley, the NLN's public policy research data manager, who organized and composed these book pages.

PREFACE

The National League for Nursing is currently the only organization in the United States that collects comprehensive nursing education statistics from all types of programs that prepare students for licensure as registered nurses. The NLN's most recent effort to date, *Nursing Data Review, Academic Year 2007-2008*, draws on the NLN's annual survey of schools of nursing as well as previously published data book volumes to provide a contemporary overview of the 1,773 prelicensure registered nursing programs across the United States. To this end, this volume provides long-term trend data on schools, applications, admissions, enrollments, and graduations.

The National League for Nursing's public policy research program is fully independent of NLN membership and NLNAC accreditation activities in an effort to provide accurate information on all US nursing programs. Thus, nursing programs are represented in *Nursing Data Review* irrespective of their membership and accreditation status.

Nursing Data Review will be invaluable to decision-makers, organizations, and individuals interested in data reflecting the state of nursing education. Moreover, it will serve a critical role in models designed to project the magnitude of the future registered nurse workforce and help address the nursing shortage.

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JURISDICTIONS INCLUDED IN THE US REGIONS

North Atlantic

Connecticut
Delaware
District of Columbia
Maine
Massachusetts
New Hampshire
New Jersey
New York
Pennsylvania
Rhode Island
Vermont

Midwest

Illinois
Indiana
Iowa
Kansas
Michigan
Minnesota
Missouri
Nebraska
North Dakota
Ohio
South Dakota
Wisconsin

South

Alabama
Arkansas
Florida
Georgia
Kentucky
Louisiana
Maryland
Mississippi
North Carolina
Oklahoma
South Carolina
Tennessee
Texas
Virginia
West Virginia

West

Alaska
Arizona
California
Colorado
Hawaii
Idaho
Montana
Nevada
New Mexico
Oregon
Utah
Washington
Wyoming

EXECUTIVE SUMMARY

Findings from the Annual Survey of Schools of Nursing Academic Year 2007-2008

As Recession Hits, Expansion of Educational Capacity Stalls **Insufficient Faculty Is Major Constraint to Expansion of Postlicensure Programs**

Since the 1950s, the NLN has conducted an annual survey of all nursing programs in the United States to gather key statistics, including admissions, enrollments, graduations, student demographics, and numbers of faculty. The 2009 annual survey was administered from May to September 2009 to obtain 2007-2008 data.

The 2009 annual survey contains a number of new topics critical to addressing data gaps related to the nursing education workforce and nursing education capacity. New student-related topics are discussed below; an analysis of issues related to faculty will be available later this spring. Recent additions include:

- Unused educational capacity
- Constraints on expanding admissions
- Improved instructional staffing counts
- Faculty vacancies and recruitment
- Impact of faculty shortage on educational capacity

To supplement this synopsis, a comprehensive set of tables and figures is available in a variety of easy-to-use electronic formats at the NLN DataView™ website (www.nln.org/research/slides). In addition, the entire Nursing Data Review is available, at no cost, in pdf format at NLN DataView.

It is also important to note that this current analysis of the survey uses two different methodologies for estimating key summary statistics. (See Sidebar, “About the Methodology,” for details.) As noted in the sidebar, a more detailed discussion of estimation techniques is available online.

Key Statistics Reflect Slowing Growth In a surprising turnaround, annual admissions to prelicensure nursing programs fell in 2008 for the first time in at least six years. Since 2003, nursing program admissions consistently moved upward, achieving an overall increase of over 36 percent during the period. However, in 2008, new admissions were down by almost 2 percent across all prelicensure program types.

Overall enrollments in prelicensure nursing programs were flat in 2008 for the first time in six years. Consistent with admissions trends over the period, growth in enrollments in baccalaureate programs edged just slightly higher in 2008, increasing by 2 percent, after a notable decline in 2007. By contrast, enrollments in ADN programs dove into negative territory, falling by 0.7 percent, after experiencing a dramatic 12 percent spike between 2005 and 2006.

Sidebar. About the Methodology

Previous NLN Annual Surveys of Schools of Nursing estimated key statistics using historical imputation — a technique that increases the number of data points available for analysis by imputing missing data from historical records. These historically imputed population estimates will continue to be available to allow trending of new data against earlier statistics that were generated using that technique.

In the 2009 survey key statistics were also generated using historical imputation combined with poststratification sample weighting. Poststratification weighting adjusts sample statistics to more accurately represent the distribution of the population with respect

to key characteristics. This refinement improves the precision of the data by eliminating bias caused by dissimilarities between responding schools and the full universe of nursing education programs. In addition, it allows us to accurately weight reported data — which are typically available for approximately 85 percent of the population — to full population levels. As a result of poststratification weighting, 2009 estimates will be larger than previous estimates produced via historical imputation alone. A more detailed discussion of these estimation techniques is available at www.nln.org/research/slides/pdf/Appendix_Methodology_0708.pdf.

Prelicensure graduations did increase significantly in 2008, a lagging effect of the upsurge in admissions between 2003 and 2005. Overall nationwide graduations rose almost 12 percent over the prior year, with all three program types experiencing growth on the order of approximately 12 percent.

Growth of Nursing Programs Declines Expansion in the number of prelicensure RN programs ground to a near halt between 2007 and 2008, with the nation adding only 15 additional programs, a less than 1 percent increase. This minute increment constitutes a considerable slowdown in expansion, coming on the heels of almost 10 percent growth in the number of programs in 2006, and a smaller but still notable increase of almost 4 percent in 2007.

The pause in expansion did not affect associate degree programs, which experienced a steady growth rate of 2.3 percent in both 2007 and 2008. The number of baccalaureate programs, however, decreased by two over the same period, and the number of diploma programs dropped by six, from 75 to just 69.

High Levels of Unmet Demand for Admissions Persist In 2008, the number of applications to prelicensure nursing programs was nearly identical to the prior year, possibly signaling the end of a six-year growth trend. Although the number of applications has oscillated in the past, since 2003 the total volume of applications has trended strongly upward, rising a total of 57 percent. This uptick in applications is consistent with national trends: applications to four-year undergraduate institutions have increased in recent years as admissions have become more competitive and electronic forms have simplified the application process.

Despite the fact that applications did not grow significantly in 2008, there were still strong indications of sizable unmet demand for access to nursing education at this point in time. Nearly one quarter (23.4 percent) of US nursing programs of all types reported receiving more qualified applications than could be accepted in 2008. Among prelicensure programs, there was considerably more unmet demand for admissions; more than 119,000 qualified applications — or 39 percent of all qualified applications — were turned away from prelicensure programs in 2008. Moreover, more than one in three prelicensure programs (35 percent) had more qualified applications than openings.

Just over one half of all diploma programs turned away qualified applications, as did 42 percent of associate degree programs. Among prelicensure program types, BSN programs experienced the least unmet demand for admissions, with slightly under one quarter unable to accommodate all qualified applications. (See Figure 1.)

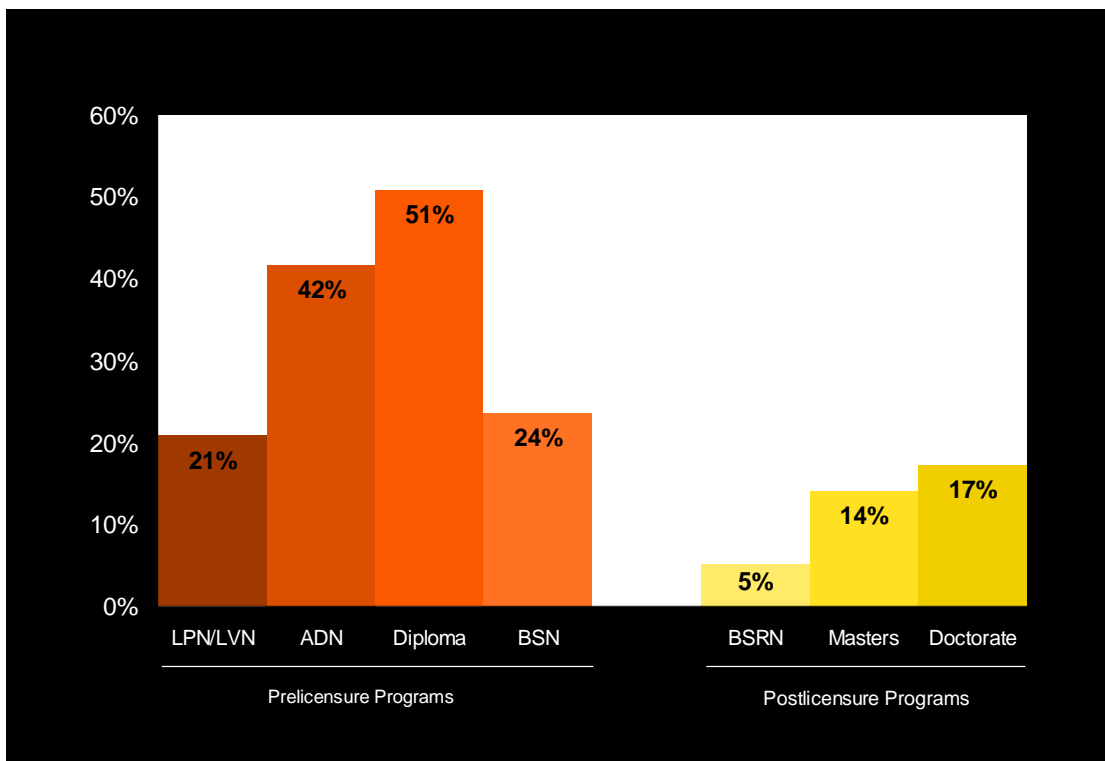


Figure 1. Percentage of Programs That Turned Away Qualified Applicants by Program Type, Fall 2008

Admissions Are Highly Competitive Selectivity and yield rates — key indicators of the competitiveness of college admissions — also continued to reflect a tight market for prelicensure nursing education. Selectivity rates (also known as acceptance rates) were down by a percentage point in 2008 to 49 percent, indicating that 49 percent of applications to prelicensure nursing programs resulted in an offer of admission.

The percentage of prelicensure programs that are “highly selective,” a designation earned by those programs that accept fewer than half of all applicants, remained very high, with 62 percent of ADN programs and 60 percent of diploma programs falling into that category. Although baccalaureate programs have become slightly more selective over the past three years, they remain much less selective than their counterparts, with under two thirds (39 percent) considered highly selective in 2008.

Yield rates — the percentage of accepted applicants who go on to enroll — are another benchmark of the level of demand for entrance into programs and the competitiveness of admissions in a given year. Among US four-year colleges, yield rates have decreased slightly over the past six years to just over 45 percent in 2007 (Hoover, 2009). Yield rates of prelicensure nursing programs, by contrast, were 91 percent at their peak in 2005, indicating that an astonishing nine out of 10 accepted applicants to nursing programs went on to enroll. Although, consistent with national trends, yield rates of basic nursing programs did drop between 2005 and 2006, they have rebounded substantially, rising to 86 percent in 2008.

Faculty Vacancies and Lack of Clinical Placements Limit Growth Schools that did not accept all qualified applicants were asked to identify the primary obstacle to expanding admissions in 2008. While shortages of faculty, clinical placements, and classroom space were all reported to impede the expansion of admissions, postlicensure programs were much more likely to cite a shortage of faculty, whereas prelicensure programs reported that lack of clinical placement settings were the biggest impediment to admitting more students. Specifically, almost two thirds (64 percent) of doctoral programs and one half of RN-BSN and master’s programs identified insufficient faculty as the major constraint to expansion, in contrast to just one third of prelicensure programs. ADN programs were much more likely than their counterparts to report a lack of clinical placements to be the main impediment to adding more admissions, as did 40 percent of LPN programs and 34 percent of BSN programs. (See Figure 2.)

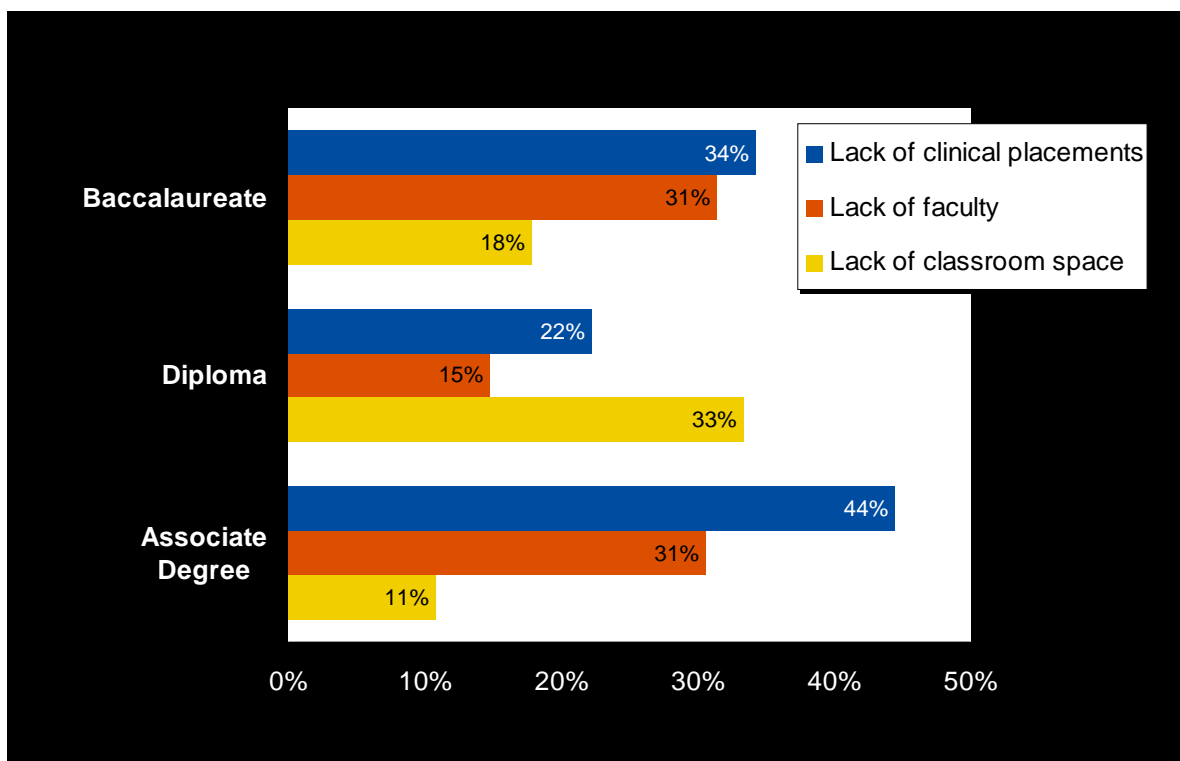


Figure 2. Main Obstacle to Expanding Admissions by Program Type, Fall 2008

How Increased Faculty Staffing Would Impact Admissions Capacity In addition to their actual annual admissions, for the first time this year schools were asked to also report the potential number of students that could hypothetically be admitted if all faculty and instructional vacancies were filled. In response to this question, 44 percent of all programs reported that full staffing would allow their program to increase admissions beyond actual 2007-2008 levels. Postlicensure programs were much more likely than prelicensure programs to report that filling faculty vacancies would positively impact admissions capacity. Almost three quarters of RN-BSN programs, over two thirds of master’s programs, and over half of doctoral programs projected that filling all faculty vacancies would positively impact admissions. By contrast, only 41 percent of prelicensure RN and only 29 percent of LPN/LVN programs anticipated that full staffing would allow their programs to expand admissions beyond actual 2007-2008 levels. (See Figure 3.)

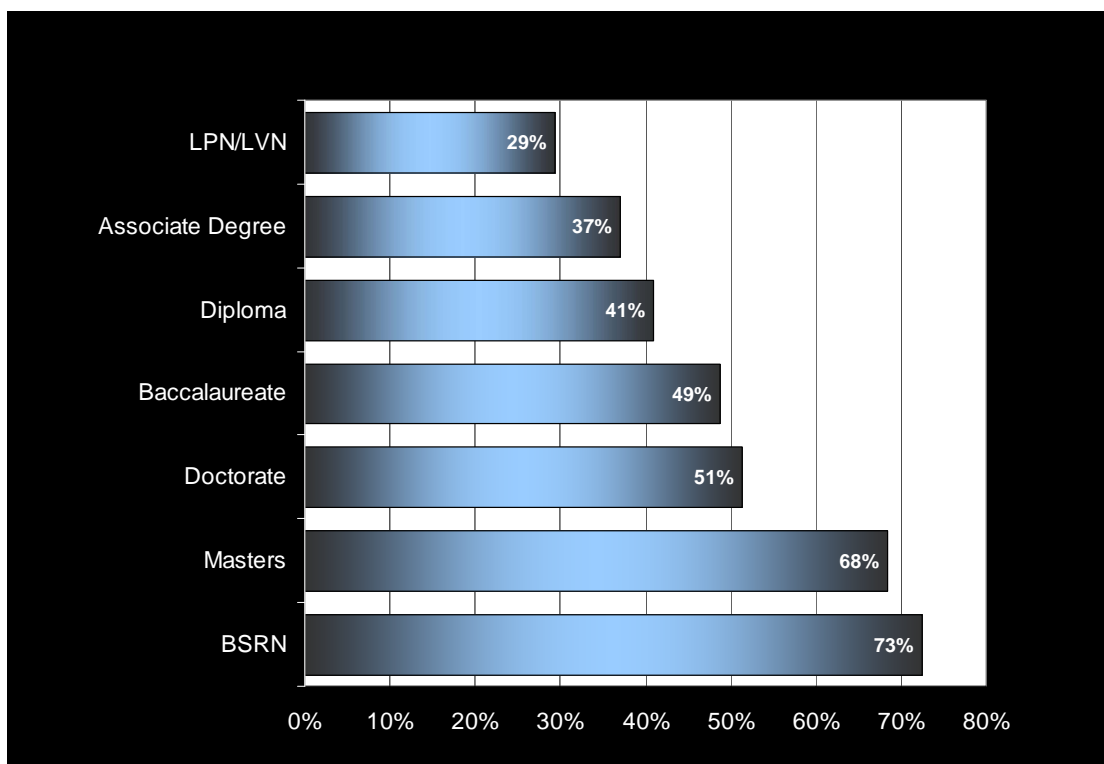


Figure 3. Percentage of Programs Projecting an Increase in Student Admissions Under Conditions of Full Instructional Staffing by Program Type, 2008

Those programs that did expect full staffing to increase their admissions capacity projected being able to admit, on average, 27 students more than they admitted in 2007-2008. There was significant variation in the projected impact of filling out staffing rosters across program types. RN-BS programs anticipated the largest potential gain (31 additional annual admissions), and master’s, LPN, and BSN programs reported similar potential increases (about 29 admissions per program). But ADN programs, most likely constrained by limited clinical placements, anticipated that full staffing would bring about smaller increases of 25 students per year. Doctoral and diploma programs projected the lowest expected benefit of only 17 and 14 additional admissions, respectively.

Some Seats Still Go Unfilled While the majority of the nation’s nursing programs were filled to capacity in 2007- 2008, some still began the school year with empty seats. Just under one in 10 US nursing programs (9.8 percent), and 12 percent of prelicensure programs, reported unfilled vacancies for new student admissions. Of those schools with unfilled spots, 44 percent attributed the vacancy rate to a lack of qualified students, whereas 19 percent stated that “lack of affordability” or “high cost of education” was the main obstacle to student recruitment. Only tiny fractions — 3 and 4 percent, respectively — indicated that a limited student recruitment territory or lack of student interest were the key obstacles to filling spots.

Despite the reduced growth, the distribution of prelicensure nursing programs by type and region has held remarkably steady over the past six years. Both region and program type shares have varied by less than a single percentage point from year to year throughout this period, in which associate degree and baccalaureate programs have constituted approximately 58 and 38 percent of programs, respectively. Nationally, diploma programs have comprised about 4 percent of programs.

On a regional basis, slightly over one third of the nation's prelicensure nursing programs have continued to be located in the South; just over a quarter in the Midwest; and about one fifth in the Northeast. The smallest concentration of programs remains in the West, where just under 18 percent of programs were located in 2008.

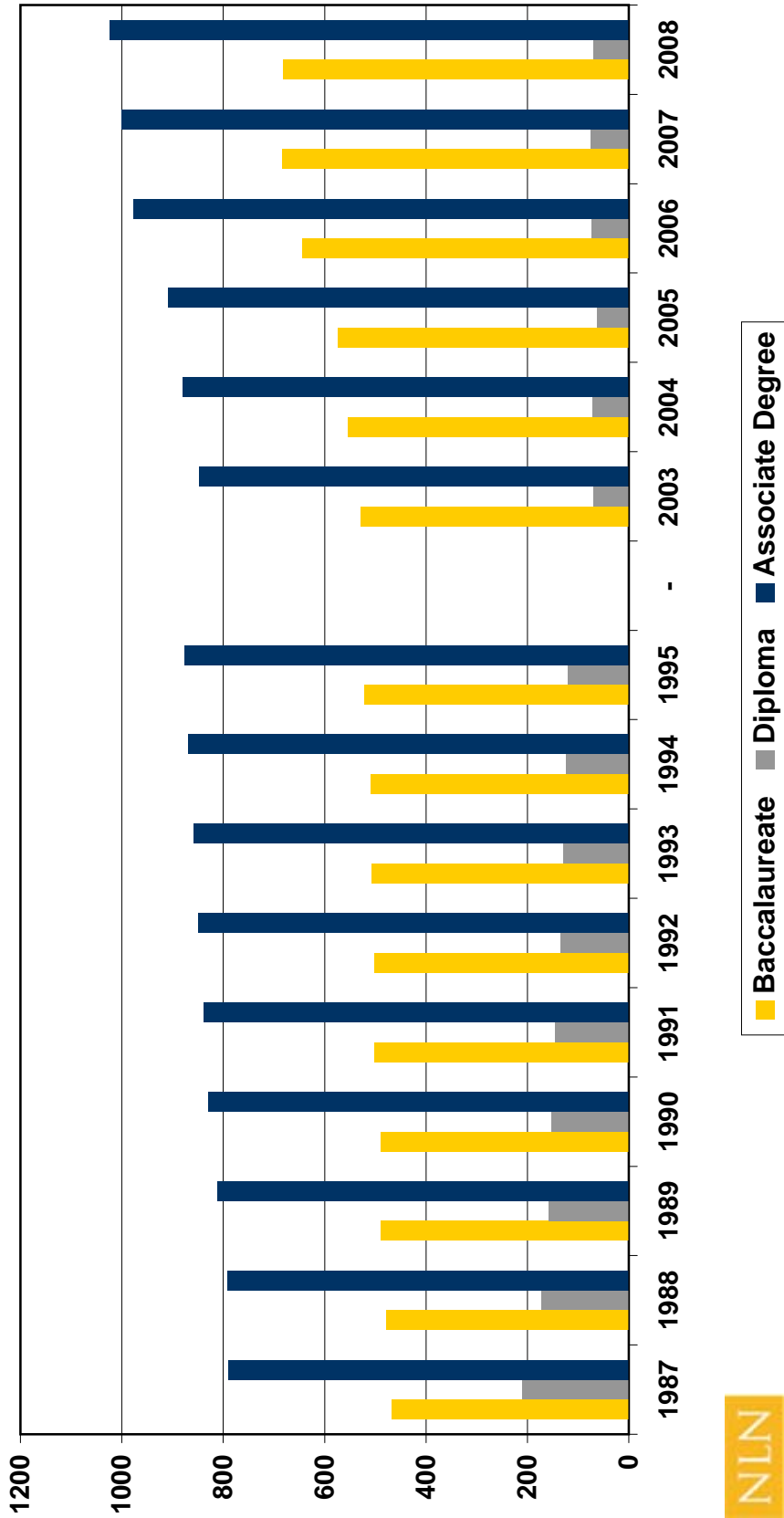
This dataset was made possible as a result of the generous support of all those nursing colleagues who contribute data each year to the NLN's Annual Survey of Schools of Nursing. The NLN is extremely grateful to all those who contributed their time and energy to make this effort a success.

Kathy A. Kaufman, PhD
Senior Research Scientist, Public Policy
National League for Nursing

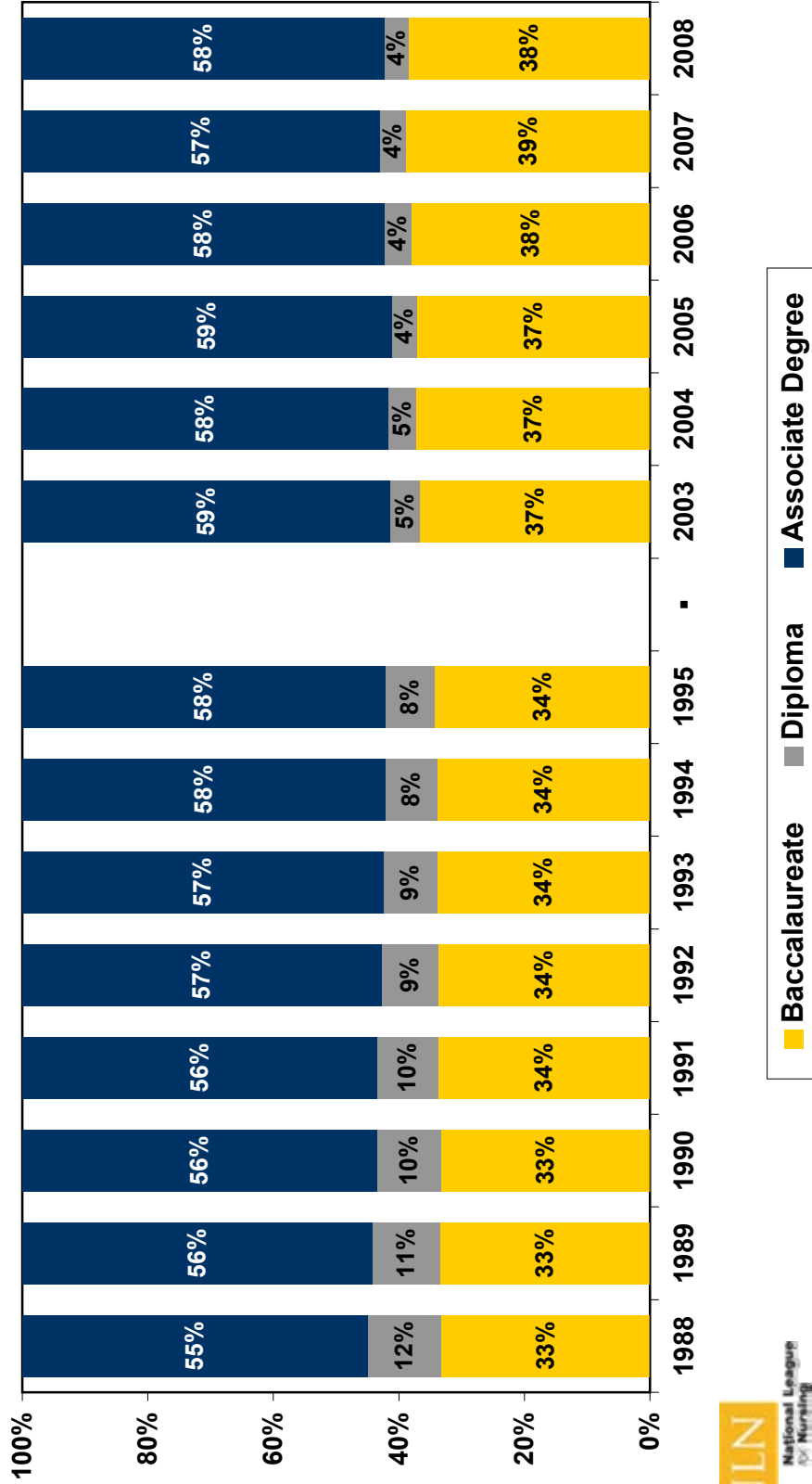
Reference Hoover, H. (2009, October 20). The state of college admissions: Full of uncertainty. *Chronicle of Higher Education*. Retrieved from <http://chronicle.com/article/The-State-of-College/48877/>

FIGURES

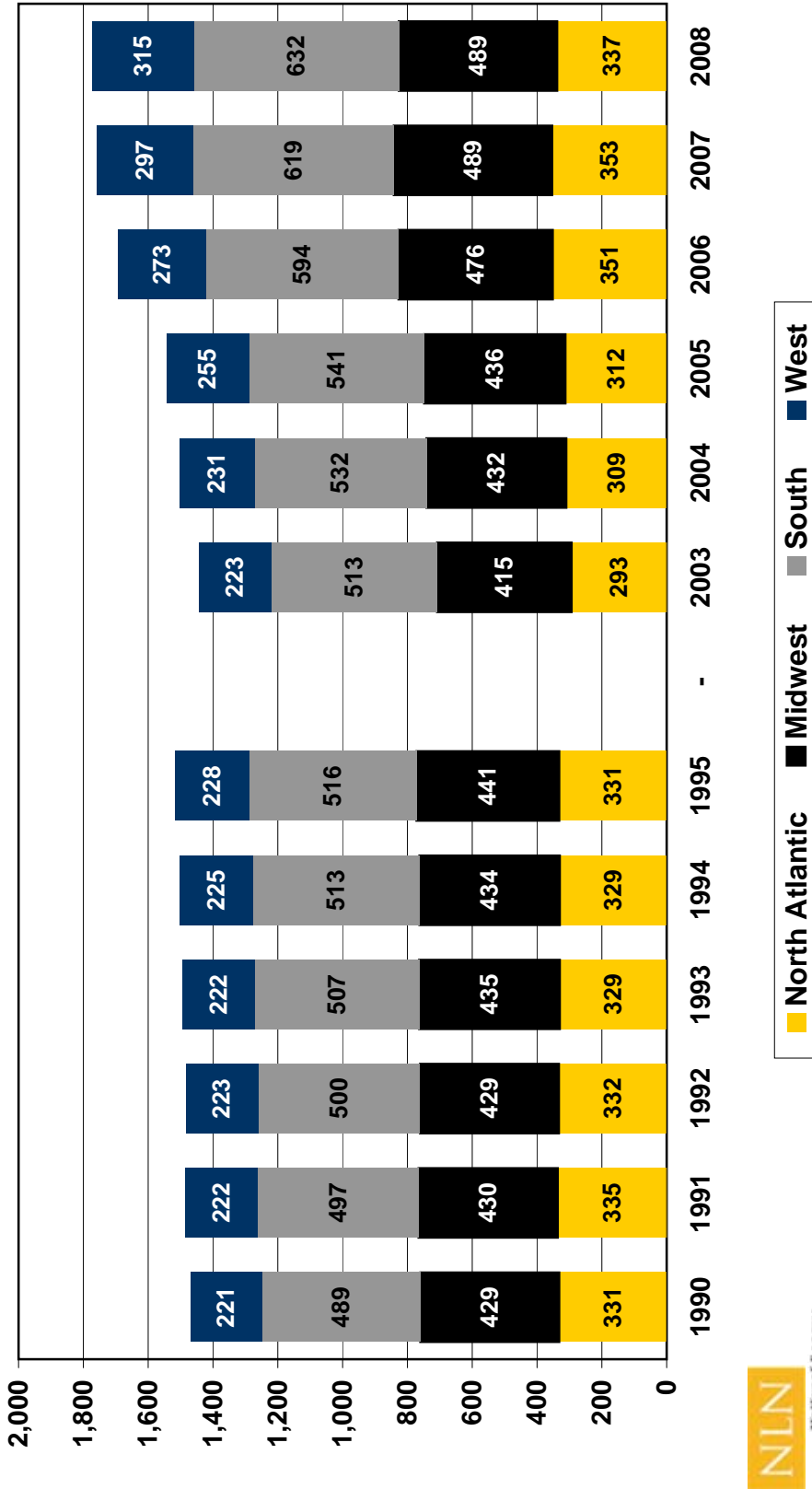
**Number of Basic RN Programs by Program Type:
1987 to 1995 and 2003 to 2008**



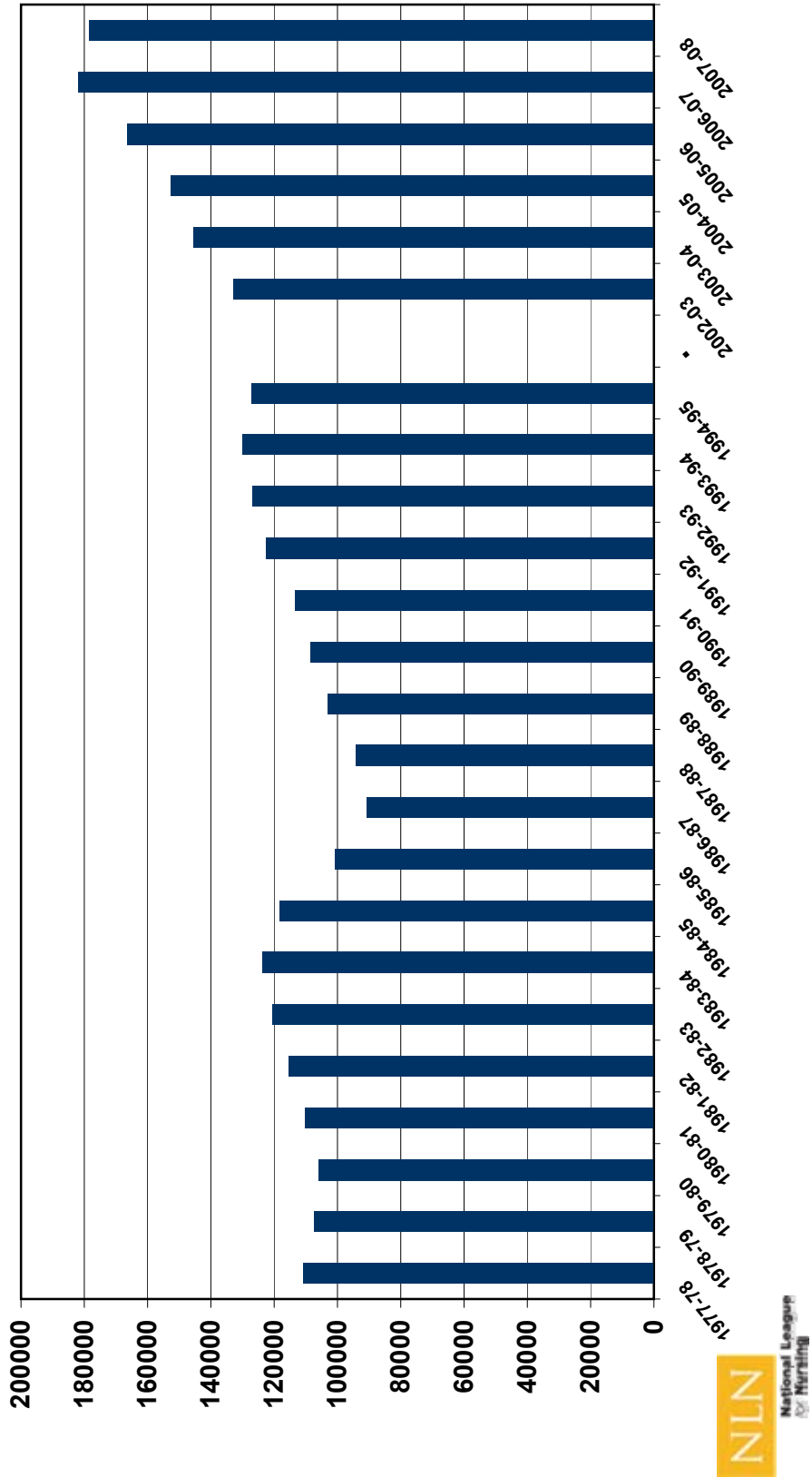
**Percentage of Basic RN Programs by Program Type:
1988 to 1995 and 2003 to 2008**



**Number of Basic RN Programs by Region:
1990 to 1995 and 2003 to 2008**



**Annual Admissions to Basic RN Programs:
1977-78 to 1994-95 and 2002-03 to 2007-08**



**Annual Admissions to Basic RN Programs by Program Type:
1982-83 to 1994-95 and 2002-03 to 2007-08**

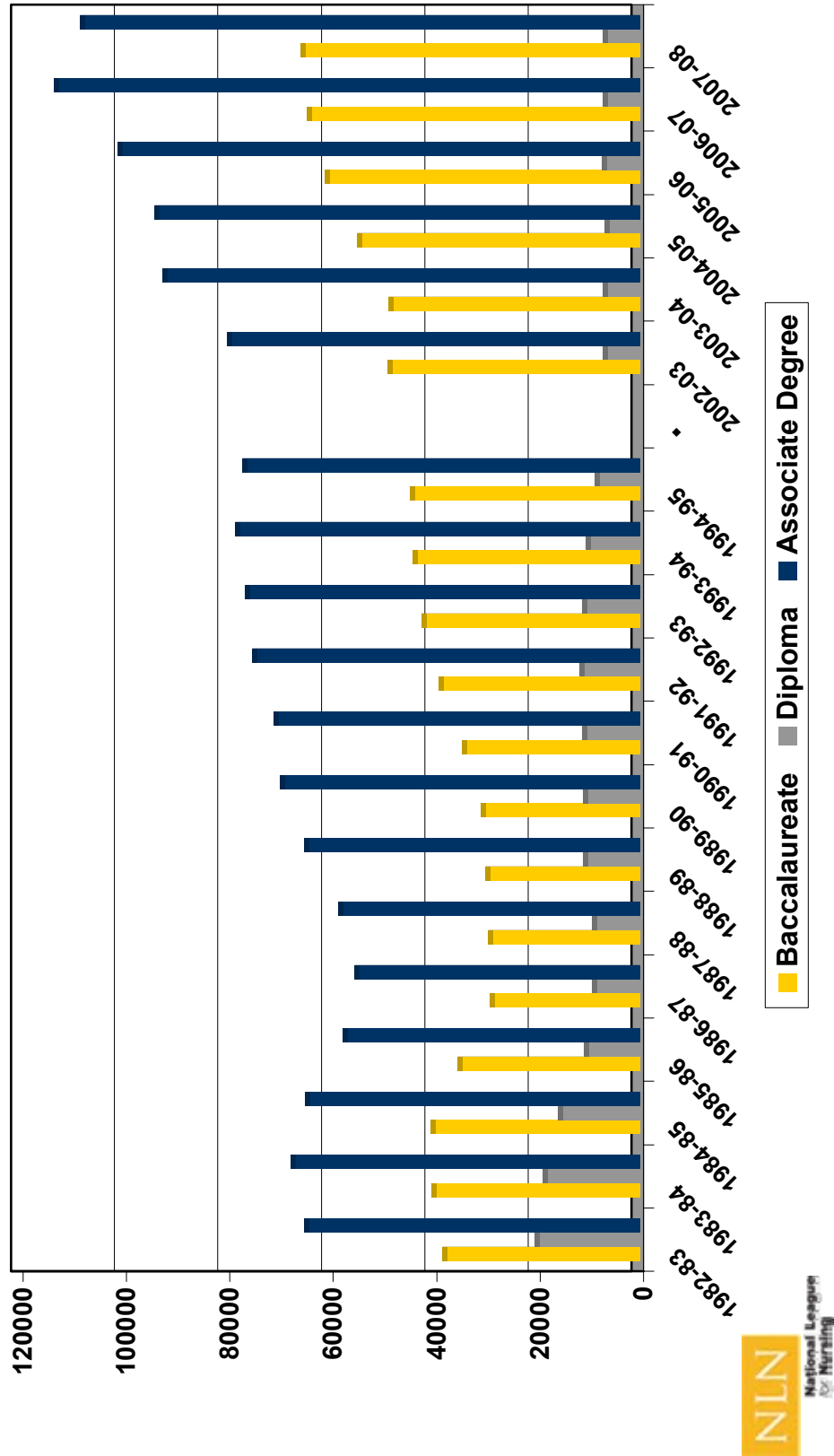
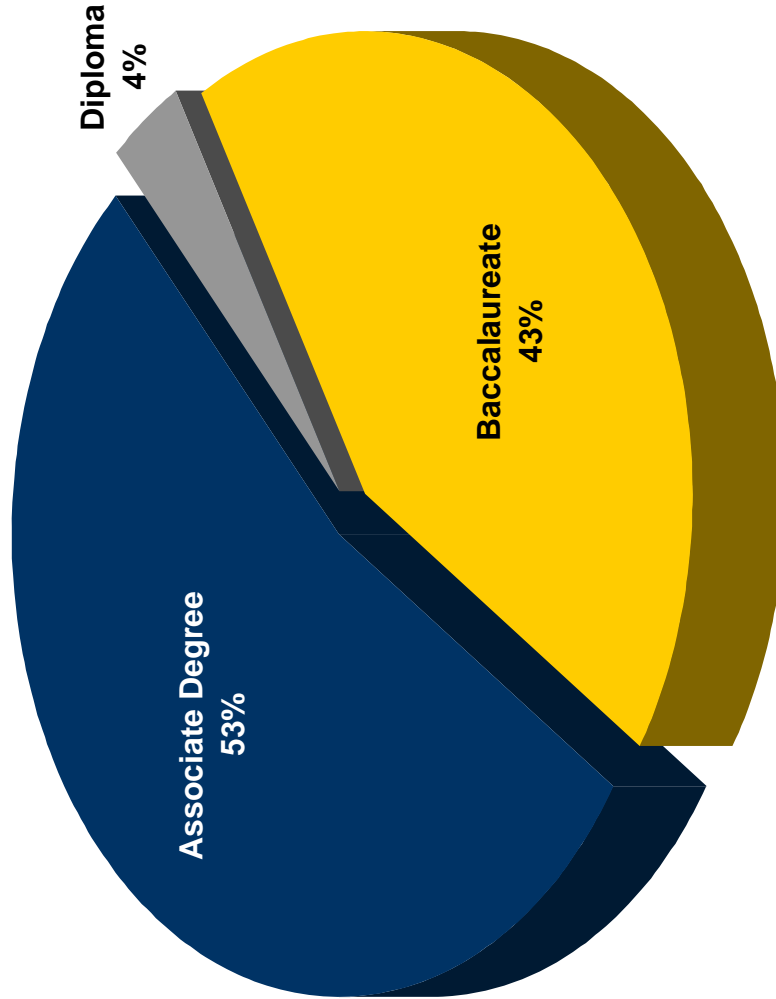
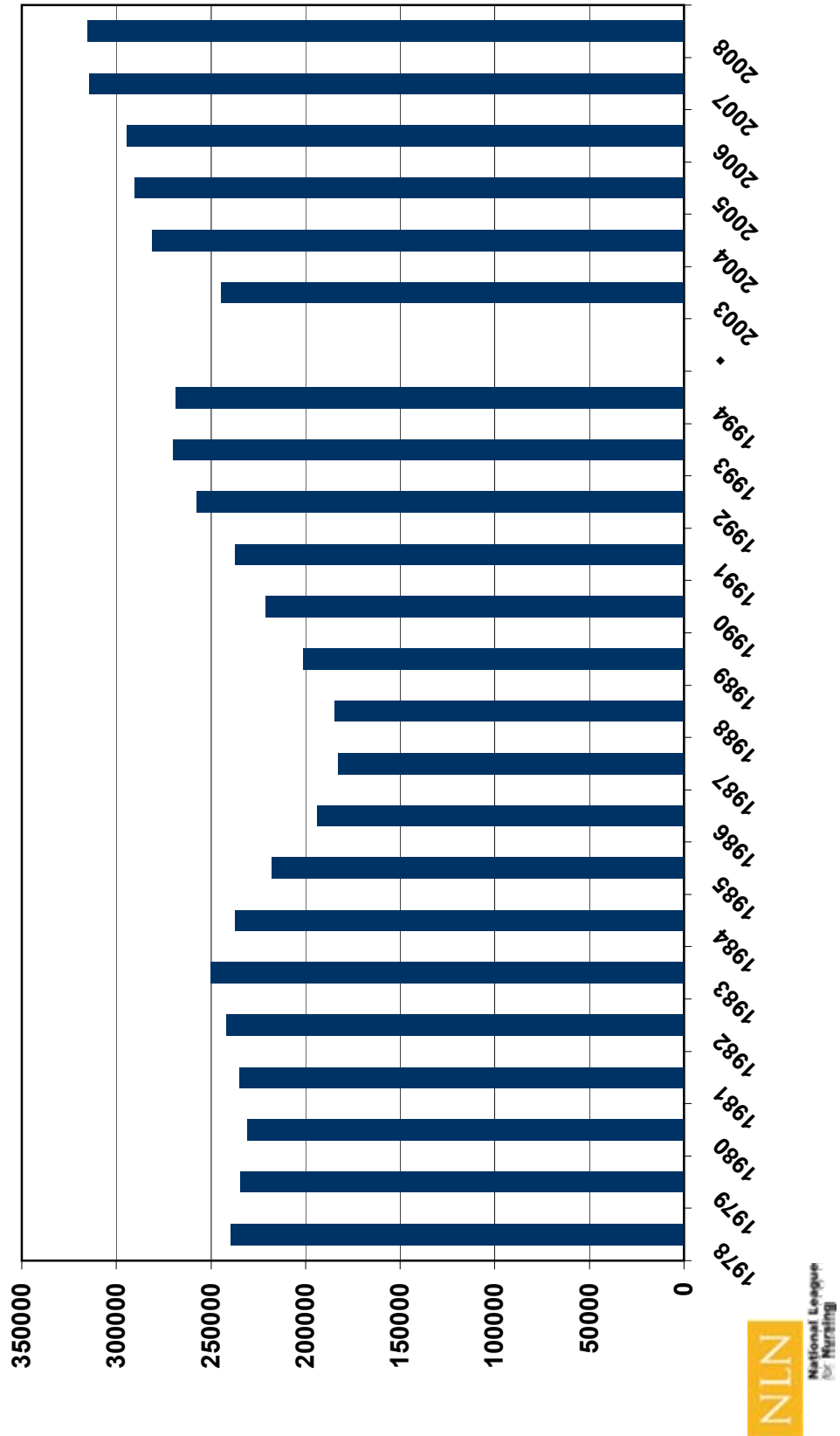


Figure 5

Enrollments in Basic RN Programs by Program Type, 2008



**Enrollments in Basic RN Programs:
1978 to 1994 and 2003 to 2008**



**Enrollments in Basic RN Programs by Program Type:
1982 to 1994 and 2003 to 2008**

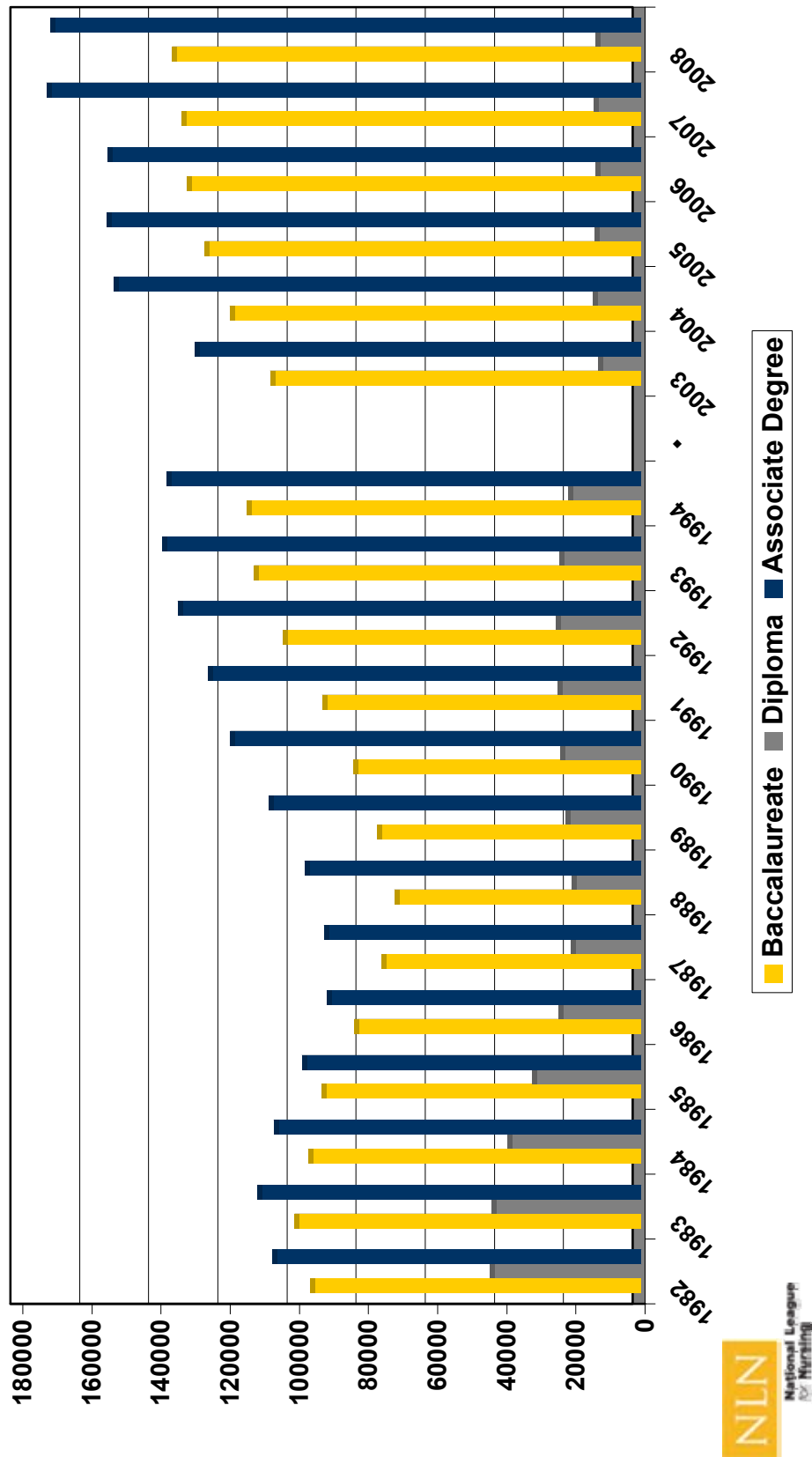


Figure 8

**Graduations from Basic RN Programs:
1987-88 to 1994-95 and 2002-03 to 2007-08**

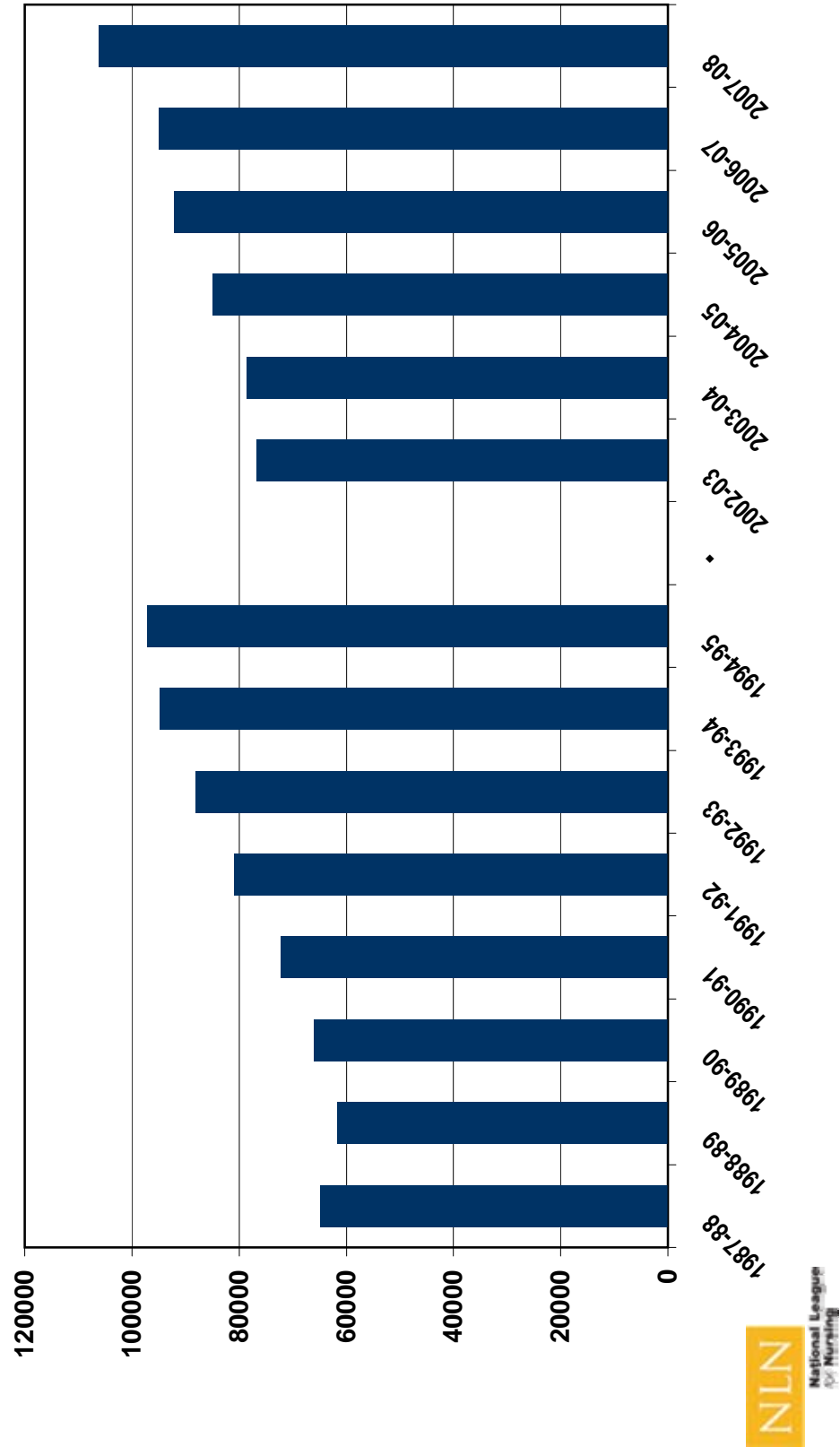
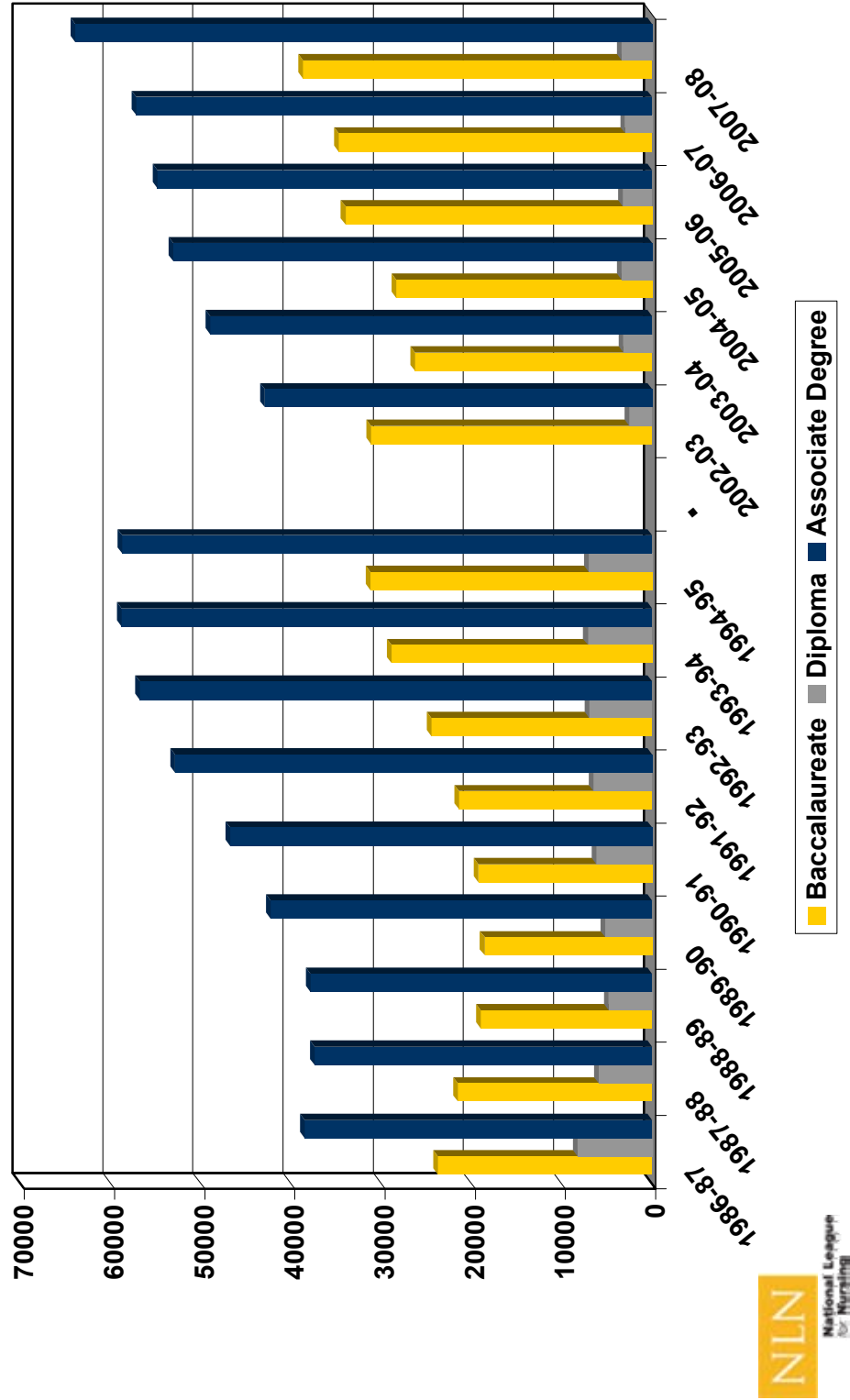
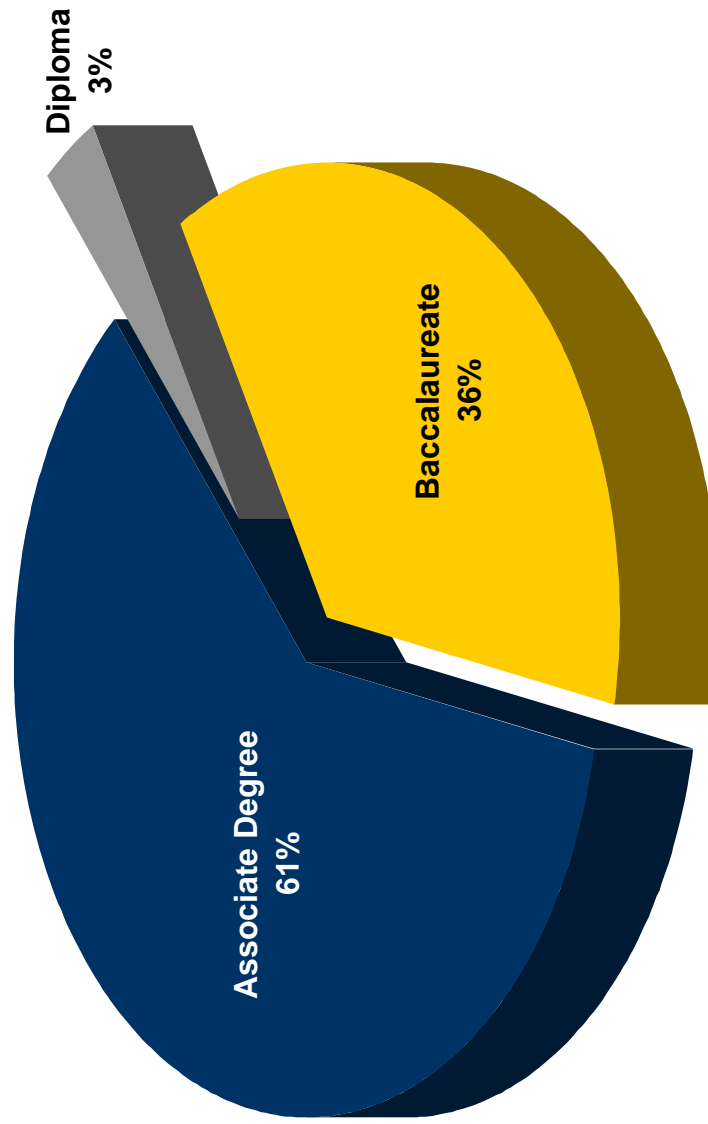


Figure 9

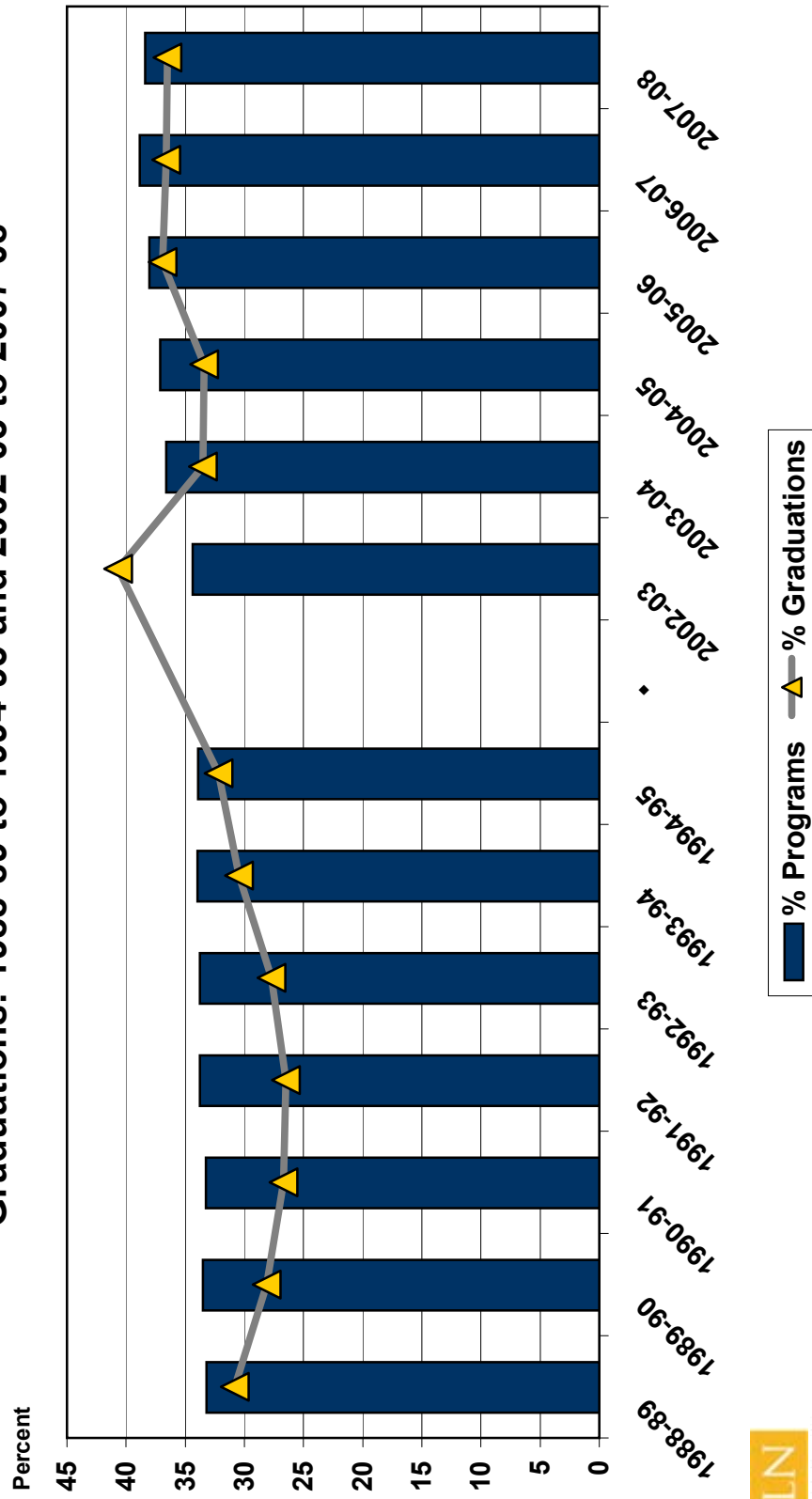
**Graduations from Basic RN Programs by Program Type:
1986-87 to 1994-95 and 2002-03 to 2007-08**



Graduations from Basic RN Programs by Program Type, 2007-08



**Baccalaureate Programs as a Percentage of All Basic RN Programs
and Baccalaureate Graduations as a Percentage of All Basic RN
Graduations: 1988-89 to 1994-95 and 2002-03 to 2007-08**



**Diploma Programs as a Percentage of All Basic RN Programs
and Diploma Graduations as a Percentage of All Basic RN
Graduations: 1987-88 to 1994-95 and 2002-03 to 2007-08**

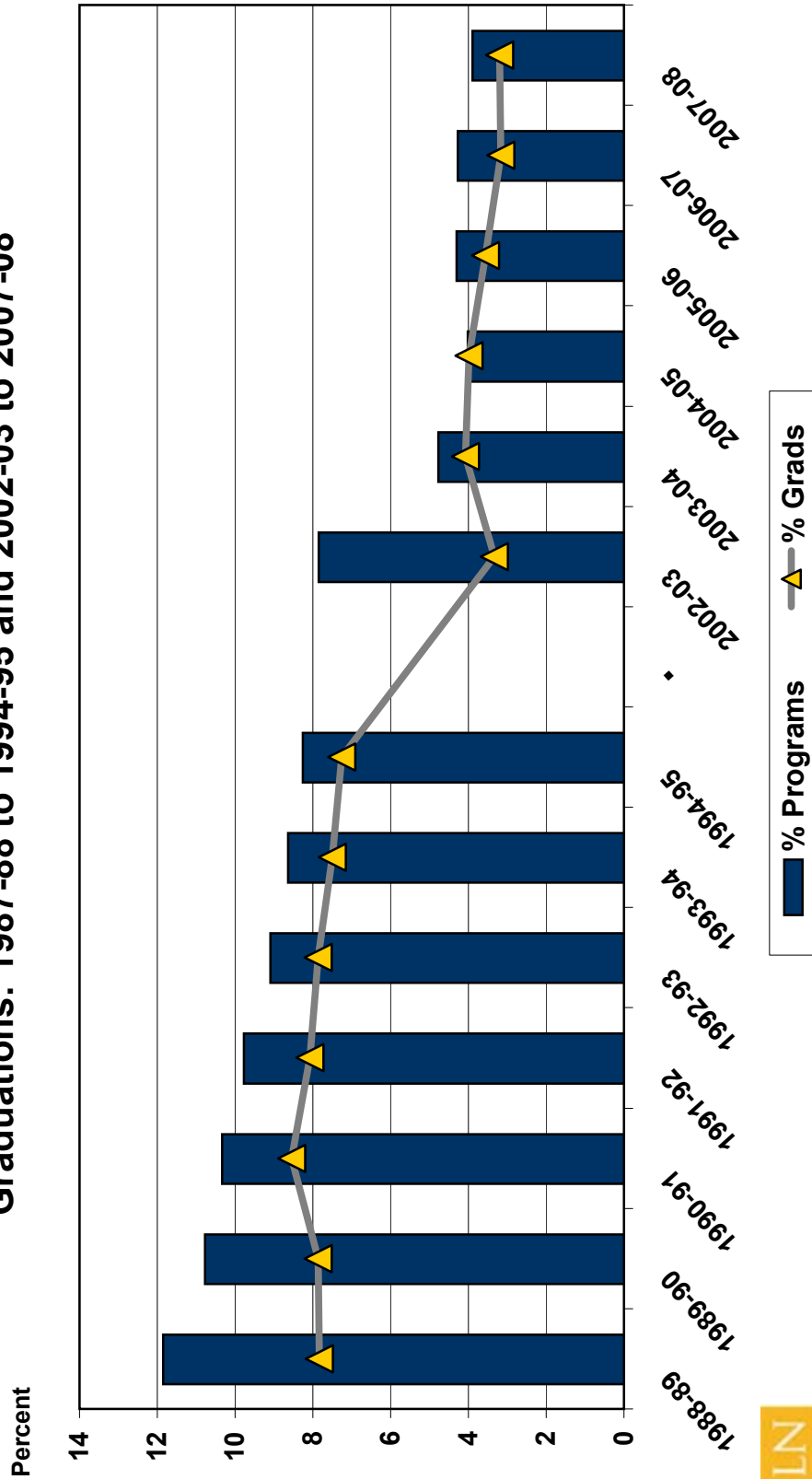


Figure 13

Associate Degree Programs as a Percentage of All Basic RN Programs and Associate Degree Graduations as a Percentage of All Basic RN Graduations: 1988-89 to 1994-95 and 2002-03 to 2007-08

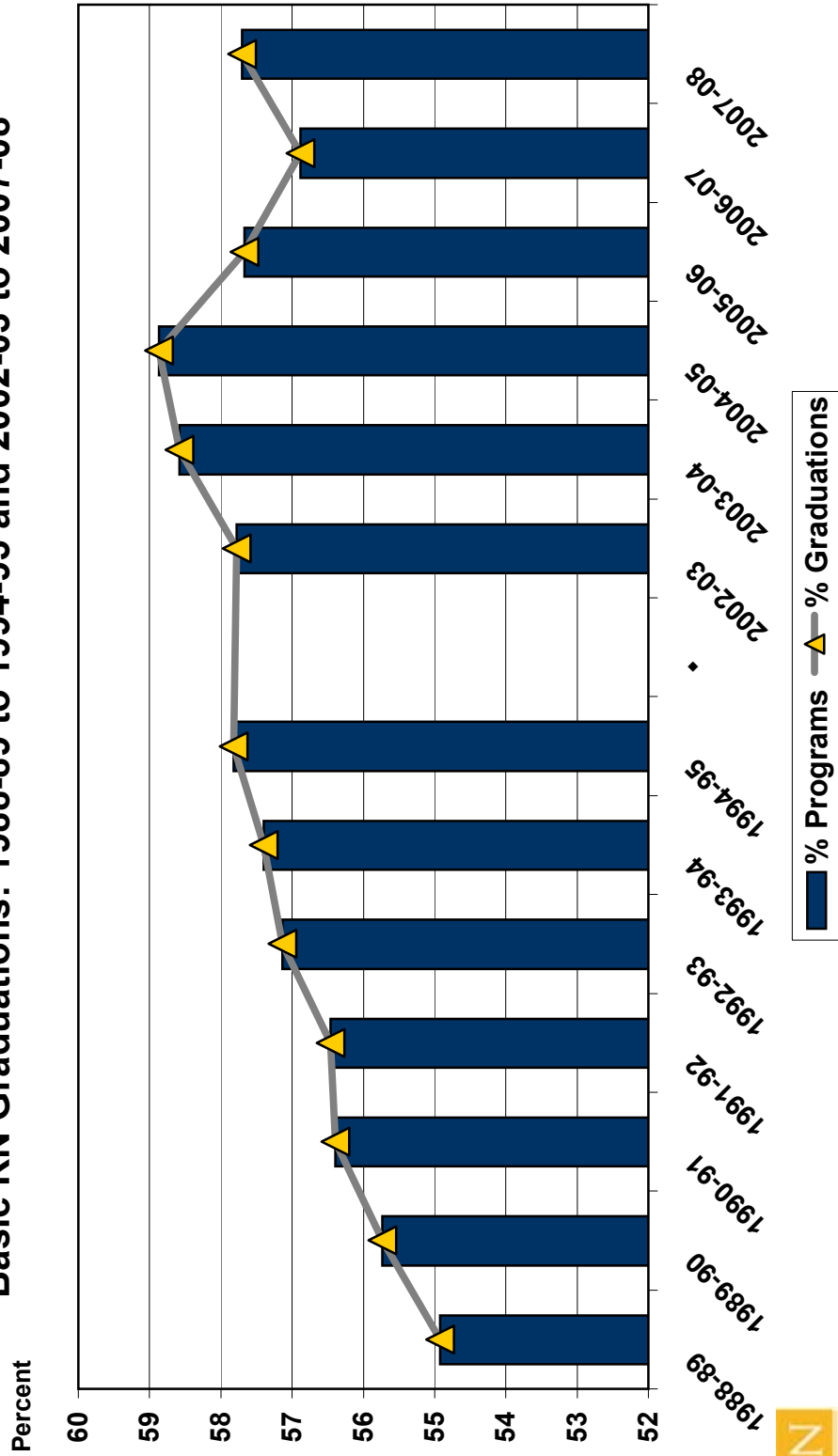
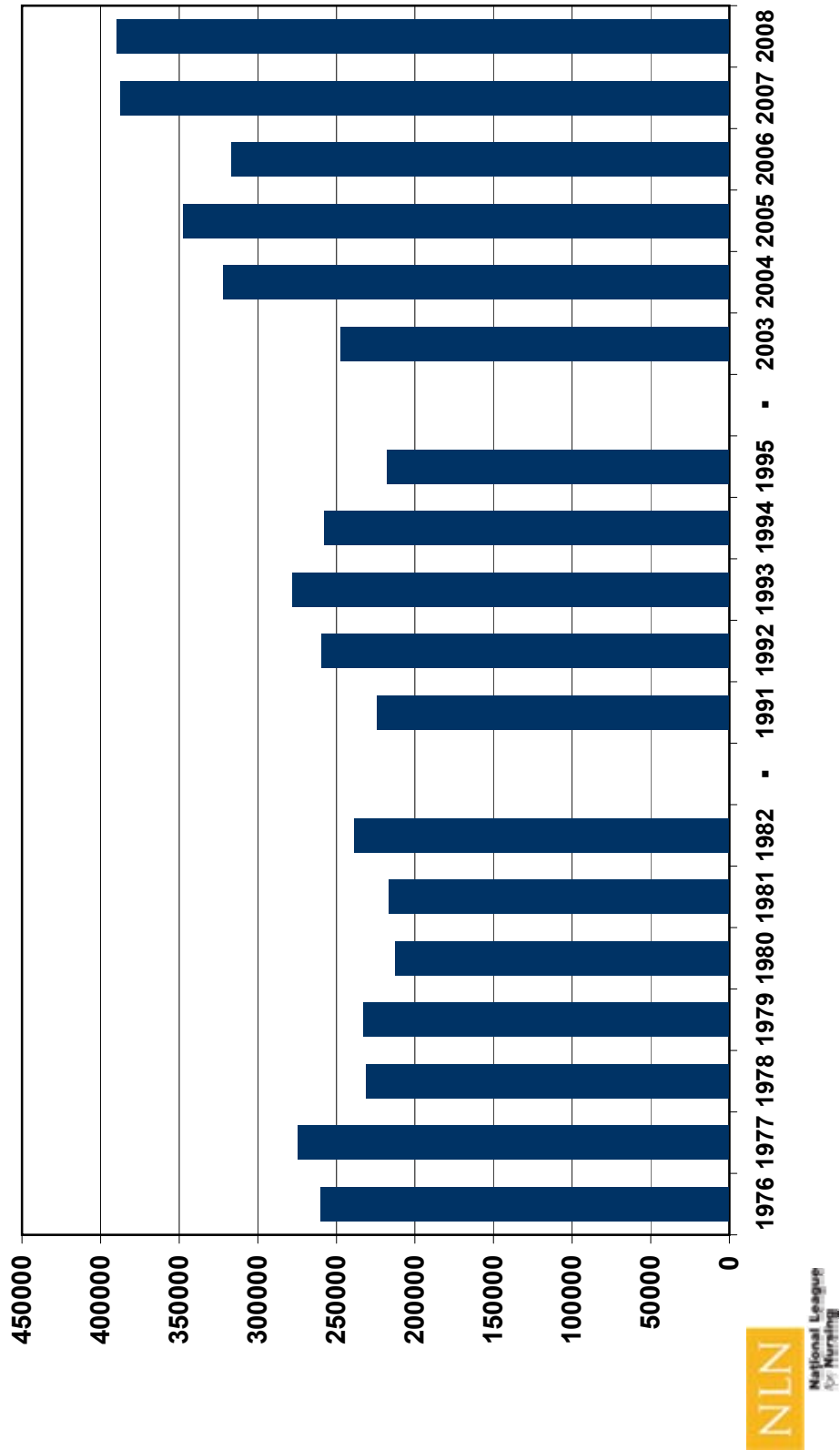
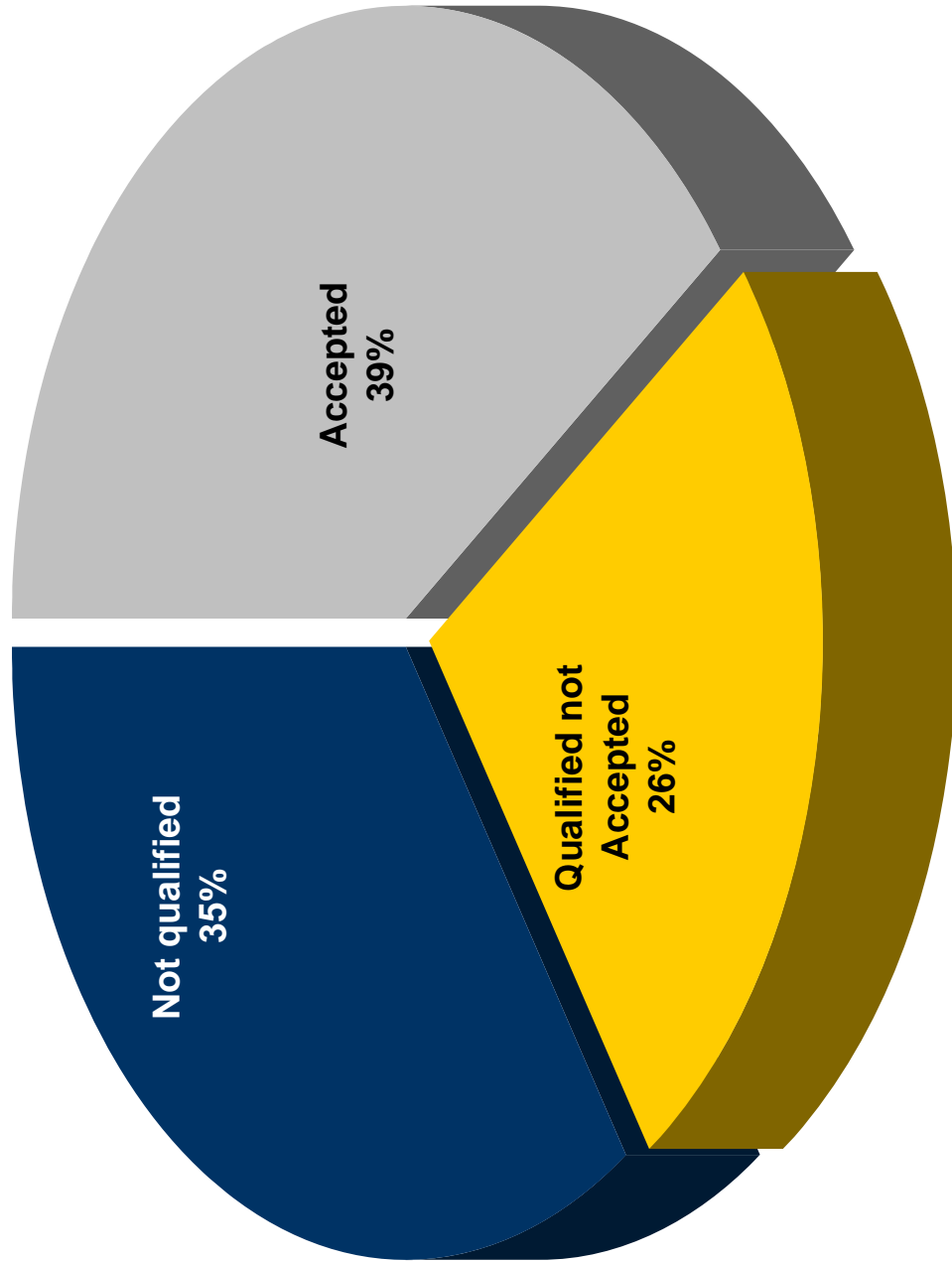


Figure 14

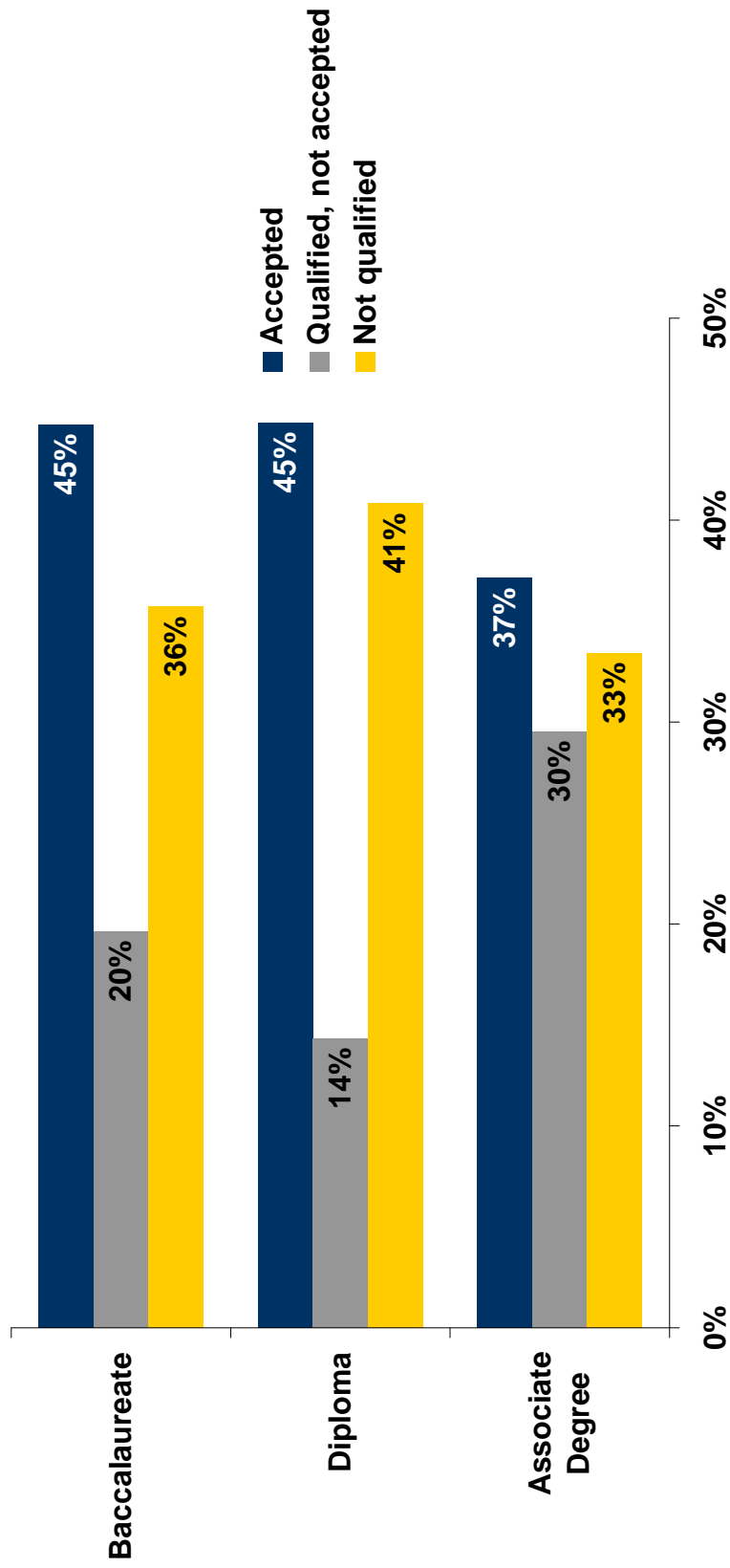
**Number of Applications Submitted to Basic RN Programs:
1976 to 1982, 1991 to 1995, and 2003 to 2008**



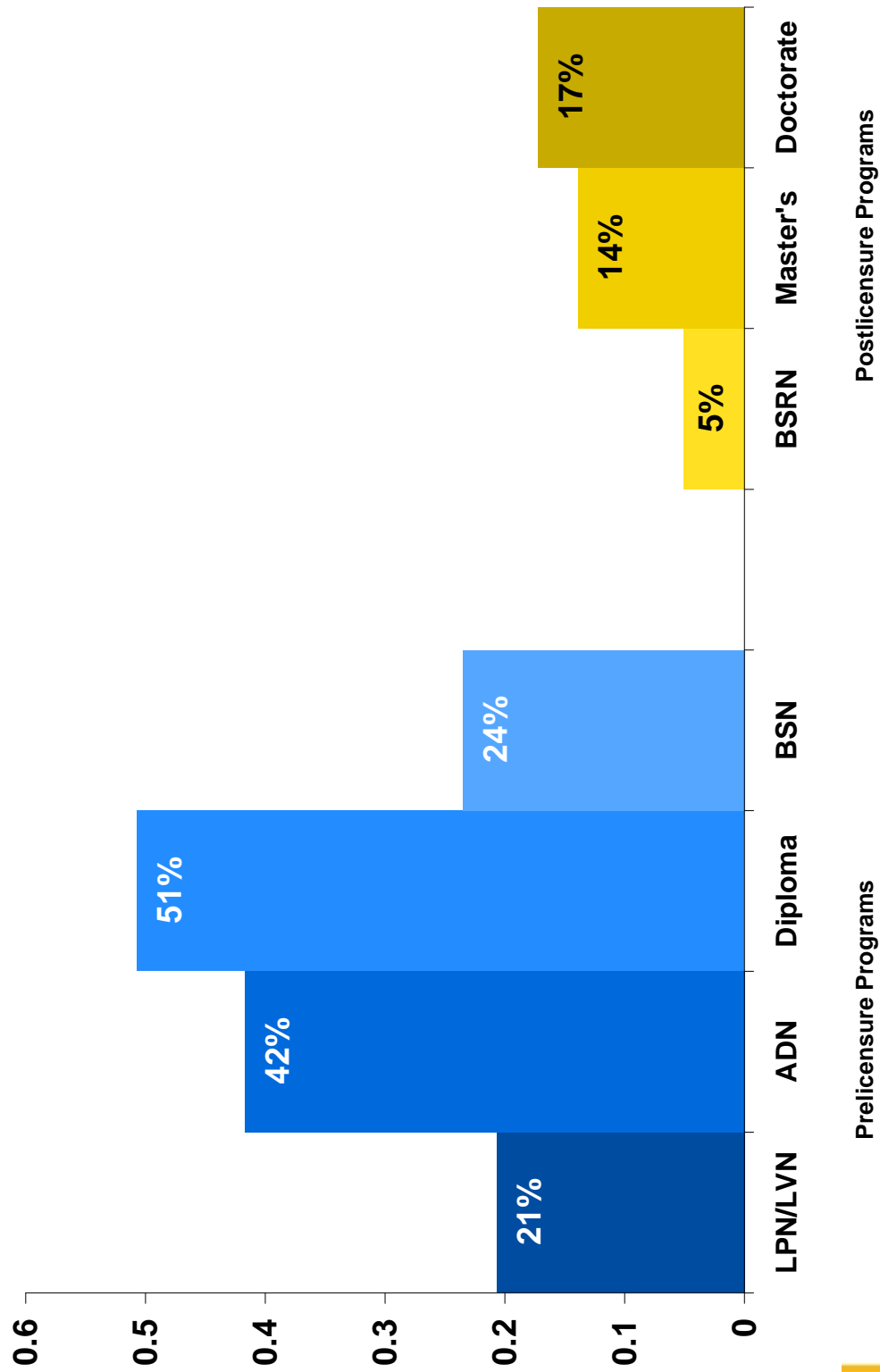
Disposition of Applications to Basic RN Programs, 2007-08



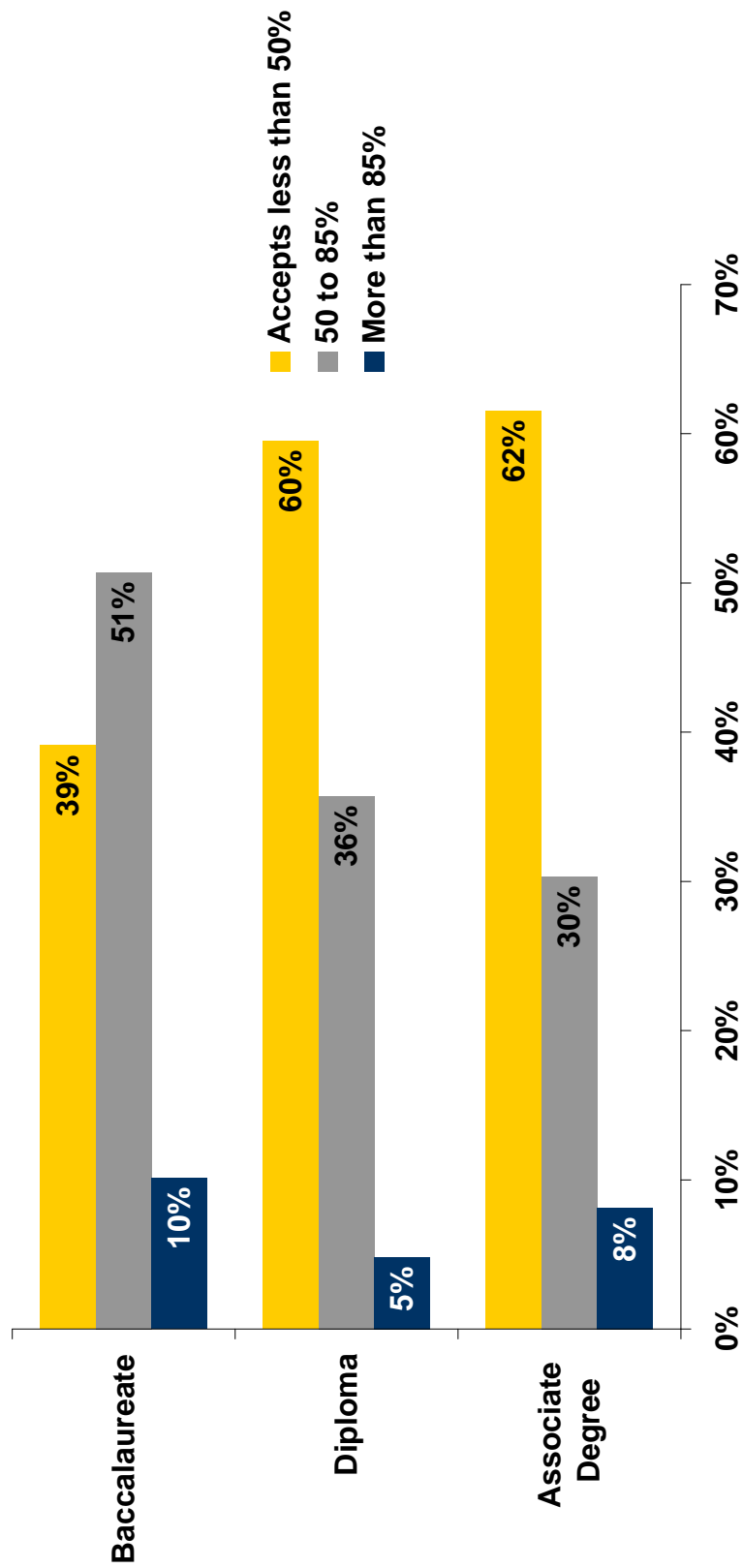
Disposition of Applications to Basic RN Programs by Program Type: 2007-08



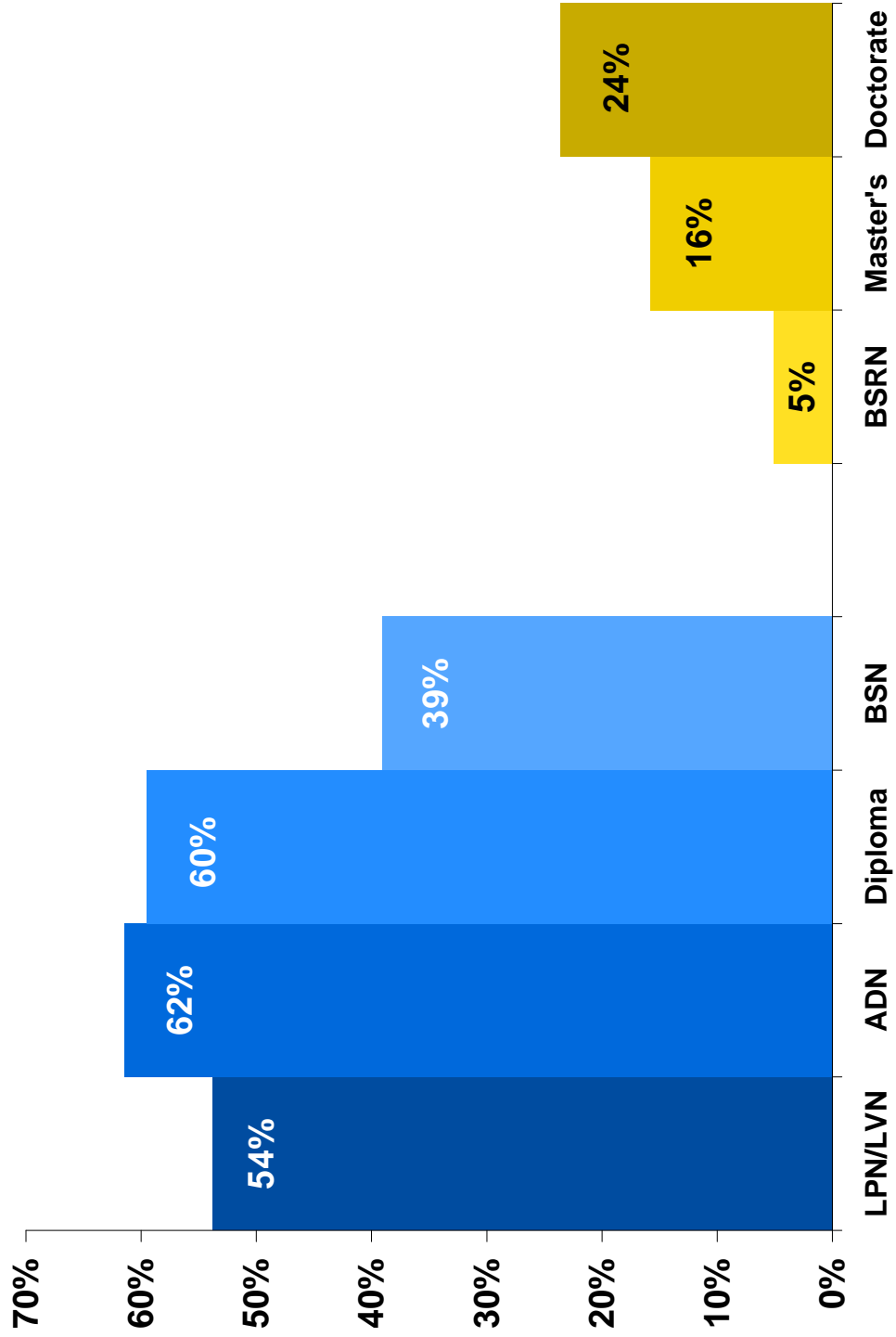
Percentage of Programs that Turned Away Qualified Applicants by Program Type, Fall 2008



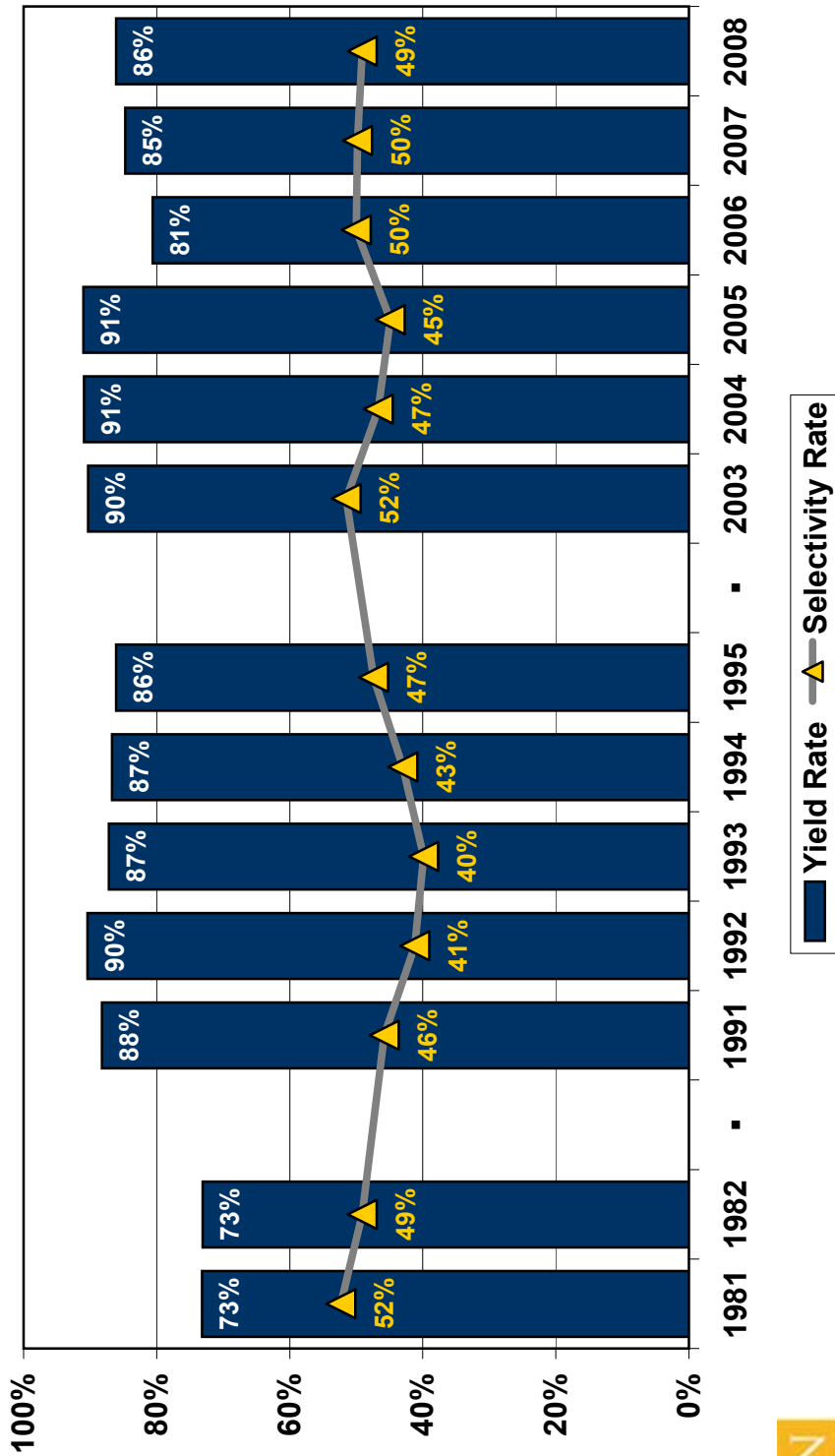
Selectivity Level of Basic RN Programs by Program Type, 2007-08



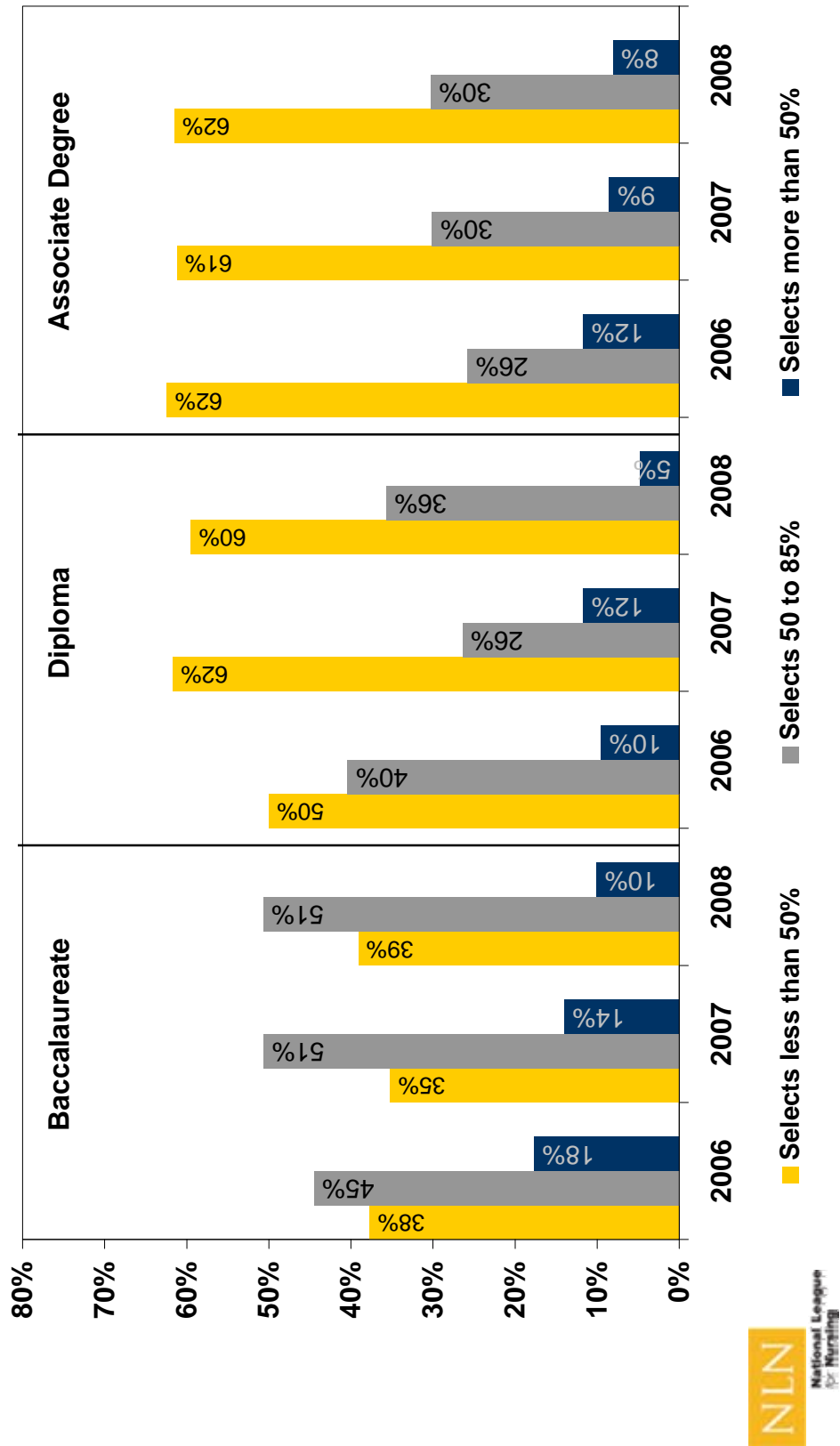
Percentage of Programs that are Highly Selective by Program Type, 2008



**Average Yield Rate and Selectivity Rate of Basic RN Programs:
1981 to 1982, 1991 to 1995, and 2003 to 2008**



Selectivity Level of Basic RN Programs by Program Type: 2006 to 2008



TABLES

Number of Basic RN Programs and Percentage Change from Previous Years by Program Type: 1981 to 1995 and 2002 to 2008

YEAR	NUMBER OF SCHOOLS	ALL BASIC RN PROGRAMS		BACCALAUREATE PROGRAMS		DIPLOMA PROGRAMS		ASSOCIATE DEGREE PROGRAMS	
		Number of Programs	Percent Change	Number of Programs	Percent Change	Number of Programs	Percent Change	Number of Programs	Percent Change
1981	1,377	1,401	1.2	383	1.6	303	-2.6	715	2.6
1982	1,406	1,432	2.2	402	5.0	288	-5.0	742	3.8
1983	1,432	1,466	2.4	421	4.7	281	-2.4	764	3.0
1984	1,445	1,477	0.8	427	1.4	273	-2.8	777	1.7
1985	1,434	1,473	-0.2	441	3.3	256	-6.2	776	-0.1
1986	1,426	1,469	-0.3	455	3.2	238	-7.0	776	0.0
1987	1,406	1,465	-0.3	467	2.6	209	-12.2	789	1.7
1988	1,391	1,442	-1.6	479	2.6	171	-18.7	792	0.3
1989	1,429	1,457	1.0	488	1.9	157	-8.2	812	2.5
1990	1,412	1,470	0.9	489	0.2	152	-3.2	829	2.1
1991	1,411	1,484	1.0	501	2.4	145	-4.6	838	1.1
1992	1,404	1,484	0.0	501	0.0	135	-6.9	848	1.2
1993	1,415	1,493	0.6	507	1.2	129	-4.4	857	1.1
1994	1,422	1,501	0.5	509	0.4	124	-3.9	868	1.3
1995	1,434	1,516	1.0	521	2.4	119	-4.0	876	0.9
...									
2002	*	1,459	-3.8	526	1.0	76	-36.1	857	-2.2
2003	1,376	1,444	-1.0	529	0.6	69	-9.2	846	-1.3
2004	1,410	1,504	4.2	553	4.5	71	2.9	880	4.0
2005	1,446	1,544	2.7	573	3.6	62	-12.7	909	3.3
2006	1,538	1,694	9.7	644	12.4	73	17.7	977	7.5
2007	1,626	1,758	3.8	683	6.1	75	2.7	1000	2.4
2008	1,656	1,773	0.9	681	-0.3	69	-8.0	1023	2.3

*Data not available.

**Annual Admissions to Basic RN Programs and Percentage Change from
Previous Year by Program Type: 1985-86 to 1994-95 and 2002-03 to 2007-08[†]**

ACADEMIC YEAR	ALL BASIC RN PROGRAMS		BACCALAUREATE PROGRAMS		DIPLOMA PROGRAMS		ASSOCIATE DEGREE PROGRAMS	
	Number of Admissions	Percent Change	Number of Admissions	Percent Change	Number of Admissions	Percent Change	Number of Admissions	Percent Change
1985-86	100,791	-14.7	34,310	-13.3	9,846	-33.0	56,635	-11.2
1986-87	90,693	-10.0	28,026	-18.3	8,337	-15.3	54,330	-4.1
1987-88	94,269	3.9	28,505	1.7	8,389	0.6	57,375	5.6
1988-89	103,025	9.3	29,042	1.9	10,010	19.3	63,973	11.5
1989-90	108,580	5.4	29,858	2.6	10,088	0.8	68,634	7.3
1990-91	113,526	4.6	33,437	12.0	10,220	-1.3	69,869	1.8
1991-92	122,656	8.0	37,886	13.3	10,691	4.6	74,079	6.0
1992-93	126,837	3.4	41,290	9.0	10,165	-4.9	75,382	1.7
1993-94	129,897	2.4	42,953	4.0	9,601	-5.5	77,343	2.6
1994-95	127,184	-2.1	43,451	1.2	7,717	-19.6	76,016	-1.7
...								
2002-03	133,011	—	47,903	—	6,196	—	78,912	—
2003-04	145,410	9.3	47,668	-0.5	6,294	1.6	91,448	15.9
2004-05	152,627	5.0	53,799	12.9	5,858	-6.9	92,970	1.7
2005-06	166,442	9.1	60,013	11.6	6,406	9.4	100,023	7.6
2006-07	181,862	9.3	63,390	5.6	6,140	-4.2	112,332	12.3
2007-08	178,354	-1.9	64,681	2.0	6,265	2.0	107,408	-4.4

[†] After 2001 missing values for individual programs were imputed from historical records. See *Appendix* for detailed methodology.

**Enrollments in Basic RN Programs and Percentage Change from Previous
Year by Program Type: 1981 to 1995 and 2002 to 2008[†]**

YEAR	ALL BASIC RN PROGRAMS		BACCALAUREATE PROGRAMS		DIPLOMA PROGRAMS		ASSOCIATE DEGREE PROGRAMS	
	Number of Enrollments	Percent Change	Number at Enrollments	Percent Change	Number of Enrollments	Percent Change	Number of Enrollments	Percent Change
1981	234,995	1.7	93,967	-2.0	41,009	-0.1	100,019	6.3
1982	242,035	3.0	94,363	0.4	42,348	3.3	105,324	5.3
1983	250,553	3.5	98,941	4.9	42,007	-0.8	109,605	4.1
1984	237,232	-5.3	95,008	-4.0	37,256	-11.3	104,968	-4.2
1985	217,955	-8.1	91,020	-4.2	30,179	-19.0	96,756	-7.8
1986	193,712	-11.1	81,602	-10.3	22,641	-25.0	89,469	-7.5
1987	182,947	-5.6	73,621	-9.8	18,927	-16.4	90,399	1.0
1988	184,924	1.1	70,078	-4.8	18,860	-0.4	95,986	6.2
1989	201,458	8.9	74,865	6.8	20,418	8.3	106,175	10.6
1990	221,170	9.8	81,788	9.2	21,969	7.6	117,413	10.6
1991	237,598	7.4	90,877	11.1	22,905	4.3	123,816	5.4
1992	257,983	8.6	102,128	12.4	23,252	1.5	132,603	7.1
1993	270,228	4.7	110,693	8.4	22,235	-4.4	137,300	3.5
1994	268,350	-0.7	112,659	1.8	19,796	-11.0	135,895	-1.0
1995	261,219	-2.7	109,505	-2.8	16,479	-16.8	135,235	-0.5
...								
2002	221,698	—	94,739	—	9,767	—	117,192	—
2003	244,769	10.4	105,907	11.8	11,153	14.2	127,709	9.0
2004	281,141	14.9	117,586	11.0	12,447	11.6	151,108	18.3
2005	290,309	3.3	124,906	6.2	12,162	-2.3	153,241	1.4
2006	292,238	0.7	130,120	4.2	11,841	-2.6	150,277	-1.9
2007	314,431	6.5	131,543	1.1	12,237	3.3	170,651	13.6
2008	315,524	0.3	134,236	2.0	11,777	-3.8	169,511	-0.7

[†] After 2001 missing values for individual programs were imputed from historical records. See *Appendix* for detailed methodology.

**Graduations from Basic RN Programs and Percentage Change from Previous Year by
Program Type: 1985-86 to 1994-95 and 2001-02 to 2007-08[†]**

ACADEMIC YEAR	BASIC RN PROGRAMS		BACCALAUREATE PROGRAMS		DIPLOMA PROGRAMS		ASSOCIATE DEGREE PROGRAMS	
	Number of Graduations	Percent Change	Number of Graduations	Percent Change	Number of Graduations	Percent Change	Number of Graduations	Percent Change
1985-86	77,027	-6.2	25,170	0.8	10,524	-11.5	41,333	-8.6
1986-87	70,561	-8.4	23,761	-5.6	8,272	-21.4	38,528	-6.8
1987-88	64,839	-8.0	21,504	-9.5	5,938	-28.2	37,397	-2.9
1988-89	61,660	-4.9	18,997	-11.6	4,826	-18.7	37,837	1.2
1989-90	66,088	7.2	18,571	-2.2	5,199	7.7	42,318	11.8
1990-91	72,230	9.3	19,264	3.7	6,172	18.7	46,794	10.6
1991-92	80,839	11.9	21,415	11.2	6,528	5.8	52,896	13.0
1992-93	88,149	9.0	24,442	14.1	6,937	6.3	56,770	7.3
1993-94	94,870	7.6	28,912	18.3	7,119	2.6	58,839	3.6
1994-95	97,052	2.3	31,254	8.1	7,049	-1.0	58,749	-0.1
...								
2001-02	72,882	—	30,522	—	2,287	—	40,073	—
2002-03	76,659	5.2	31,187	2.2	2,550	11.5	42,922	7.1
2003-04	78,476	2.4	26,293	-15.7	3,203	25.6	48,980	14.1
2004-05	84,878	8.2	28,373	7.9	3,387	5.7	53,118	8.4
2005-06	92,123	8.5	33,992	19.8	3,275	-3.3	54,856	3.3
2006-07	94,949	3.1	34,750	2.2	3,006	-8.2	57,193	4.3
2007-08	106,095	11.7	38,724	11.4	3,389	12.7	63,982	11.9

[†] After 2001 missing values for individual programs were imputed from historical records. See *Appendix* for detailed methodology.

Percentage of Applications for Admission Accepted, Not Accepted, Qualified, and Not Qualified by Program Type, 2008	
	Percentage of Applications
All RN Programs	<u>100%</u>
Accepted	39.7
Not Accepted (<i>subtotal</i>)	<u>60.3</u>
Not Qualified	34.5
Qualified	25.8
Baccalaureate	<u>100%</u>
Accepted	44.7
Not Accepted (<i>subtotal</i>)	<u>55.3</u>
Not Qualified	35.7
Qualified	19.6
Diploma	<u>100%</u>
Accepted	44.8
Not Accepted (<i>subtotal</i>)	<u>55.2</u>
Not Qualified	40.8
Qualified	14.4
Associate Degree	<u>100%</u>
Accepted	37.1
Not Accepted (<i>subtotal</i>)	<u>62.9</u>
Not Qualified	29.5
Qualified	33.4

METHODOLOGY

Overview In the spring of 2009, the deans, directors, or department chairs of all state-accredited prelicensure nursing programs in the United States* were contacted by email by the National League for Nursing and invited to participate in the Spring 2009 Annual Survey of Schools of Nursing. Invitations were sent on June 4, 2009 followed by a series of follow-up emails sent to non-responding schools between July 14 and August 25, 2009. The survey was closed to responses on September 14, 2009. Electronic, web-based survey forms were made available to nursing school administrators and staff members.

Data Reporting and Estimation Techniques The estimation techniques used to generate the Annual Survey graphs and tables were devised to balance two key objectives: a) the evaluation of the 2007-08 dataset within the context of historical trends, and b) accurate statistical estimation of the size of the 2007-08 student and nurse educator populations and their respective subpopulations.

To improve the accuracy of population estimates, and also to mitigate the impact of non-response bias, a refined estimation technique was introduced this year for key summary statistics. Between 2003 and 2008 key statistics were estimated using unweighted historical imputation -- a technique that increases the number of data points available for analysis by imputing missing data from historical records.

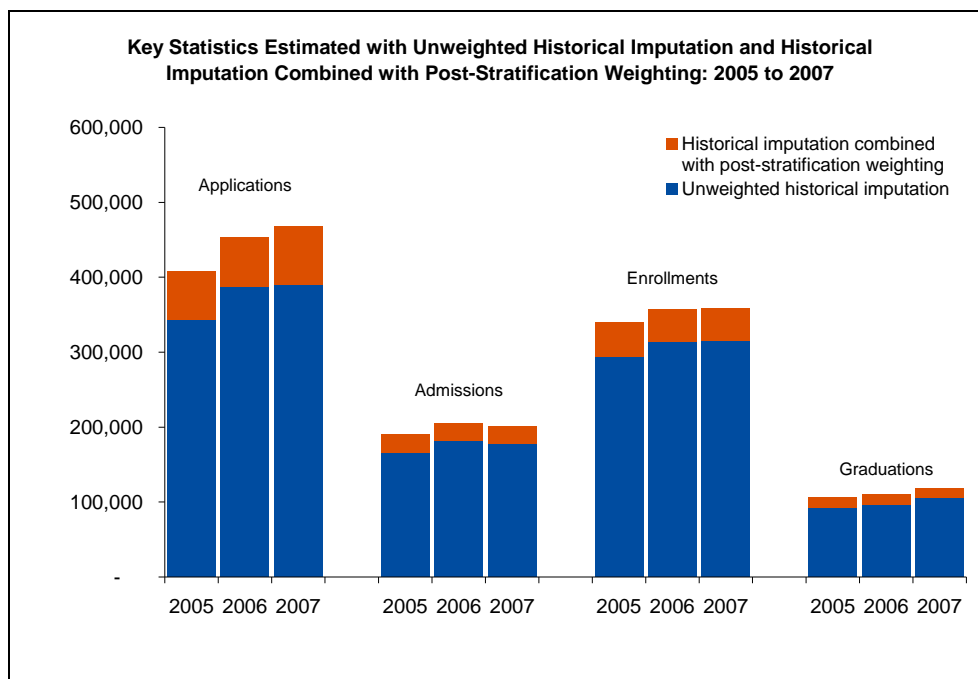
In addition, this year key statistics have also been generated using historical imputation combined with post-stratification sample weighting. Post-stratification weighting adjusts sample statistics to more accurately represent the distribution of the population with respect to key factors. This additional refinement improves the precision of population estimates by eliminating bias caused by dissimilarities between responding schools and the full universe of nursing education programs. In addition, it permits the accurate weighting of reported data -- which are typically available for approximately 85 percent of the population -- to full population levels. As a result, estimates produced using historical imputation combined with post-stratification weighting will be larger than previous estimates produced via historical imputation alone.

As in previous years, throughout this report figures and tables that present the proportional distribution of the 2007-08 nursing student population use only data derived from the most current survey. Also as in the past, population estimates produced via unweighted historical imputation will continue to be available in order to allow new data points to be interpreted in light of earlier ones which were generated using that technique. **What is new in 2010 is that more accurate statistics generated using historical imputation combined with post-stratification sample weighting are introduced for the first time in this “Methodology” section.**

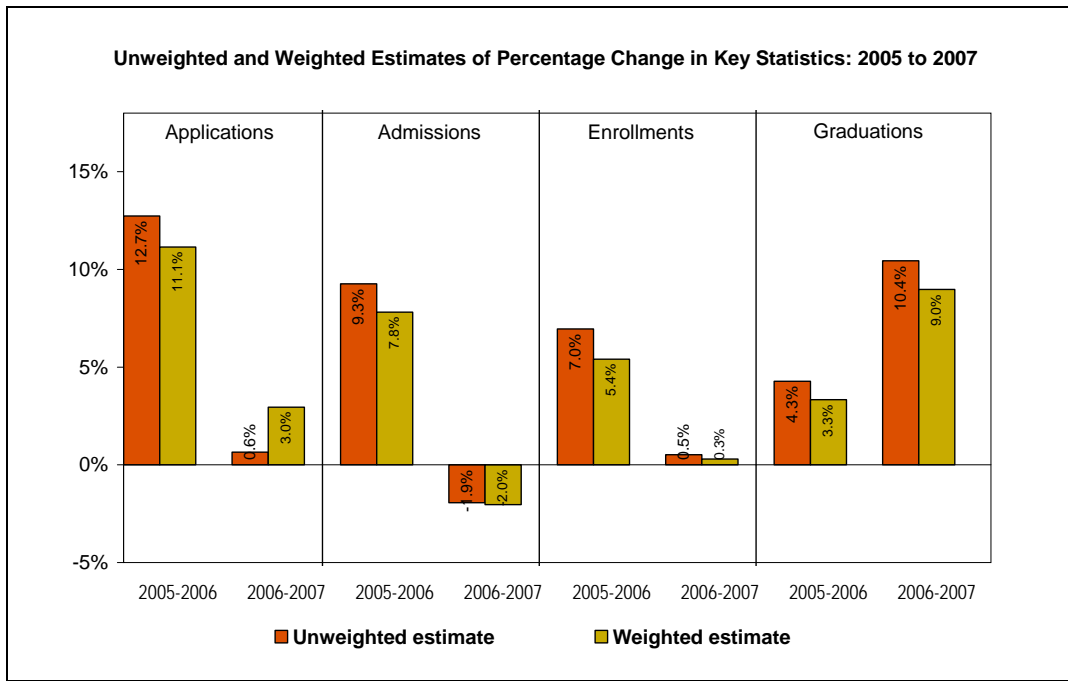
* US territories are not included in this publication.

Impact of Estimation Strategies The differences between key statistics produced using weighted and unweighted estimation techniques for trend data on prelicensure RN programs are illustrated in the figures below. Post-stratification weighting had the largest impact on estimates of the total number applications submitted, which were on average 15.7 percent higher than estimates produced using unweighted historical imputation. Estimates of the numbers of enrollments, admissions and graduations were approximately 12 percent higher when post-stratification weights were applied.

Prelicensure RN Programs	Applications			Admissions			Enrollments			Graduations		
	2005	2006	2007	2005	2006	2007	2005	2006	2007	2005	2006	2007
Unweighted estimate	343,659	387,450	389,948	166,442	181,862	178,354	293,442	313,875	315,524	92,123	96,065	106,095
Weighted estimate	408,398	453,927	467,341	190,939	205,869	201,681	339,300	357,653	358,729	106,029	109,564	119,402
Increase due to weighting	15.9%	14.6%	16.6%	12.8%	11.7%	11.6%	13.5%	12.2%	12.0%	13.1%	12.3%	11.1%



Although applying post-stratification weights does increase the size of estimates, the techniques produce very similar estimates of the magnitude and direction of statistical trends. The chart below shows the percentage change in applications, admissions, enrollments and graduations from 2005 to 2006, and from 2006 to 2007, estimated using both weighted and unweighted estimation methods. The most pronounced discrepancy in estimates produced by the two methods is in the percentage change in the number of applications submitted to prelicensure programs between 2006 and 2007, which was 2.3 percent higher using the weighted method. However, for all other statistics and periods the discrepancies were much more minor, ranging from 0.1 to 1.6 percent and averaging .6 percent.



Response Rate Analysis Of 1,773 prelicensure RN programs, 1,541 reported survey data within the past four years yielding an overall cumulative response rate of 86.9 percent. The cumulative response rate varied slightly by program type, with 84 percent of baccalaureate programs, 90 percent of diploma programs, and 89 percent of associate degree programs submitting data in the most recent survey or a prior year. When reported data are combined with historical data to produce population estimates, the 2007-08 dataset is very similar to the universe of nursing schools with respect to program type and almost identical with respect to region (see tables below).

	All Nursing Programs		Data Collection Year											
			Any data		Spring 2009		2008		2007		pre-2007		no data	
	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
Program Type	1773	100.0	1541	86.9	911	51.4	243	13.7	101	5.7	286	16.1	232	13.1
Baccalaureate	681	100.0	569	83.6	281	41.3	91	13.4	43	6.3	154	22.6	112	16.4
Diploma	69	100.0	62	89.9	49	71.0	5	7.2	5	7.2	3	4.3	7	10.1
Associate Degree	1023	100.0	910	89.0	581	56.8	147	14.4	53	5.2	129	12.6	113	11.0

Isolating only data reported in the most recent survey year, a total of 911 prelicensure programs submitted data in the spring of 2009, producing an overall single-year response rate for prelicensure programs of 51.4 percent. The single year response rate varied considerably by program type, ranging from a rate of 71 percent among diploma programs to 41.3 percent among baccalaureate programs. Associate degree programs responded at a rate of 56.8 percent.

Distribution of Responding Programs by Program Type

			Data Collection Year											
			Any data		Spring 2009		2008		2007		pre-2007		no data	
	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
Program Type	1773	100.0	1541	100.0	911	100.0	243	100.0	101	100.0	286	100.0	232	100.0
Baccalaureate	681	38.4	569	36.9	281	30.8	91	37.4	43	42.6	154	53.8	112	48.3
Diploma	69	3.9	62	4.0	49	5.4	5	2.1	5	5.0	3	1.0	7	3.0
Associate Degree	1023	57.7	910	59.1	581	63.8	147	60.5	53	52.5	129	45.1	113	48.7

Distribution of Responding Programs by Region

	Total		Data Collection Year											
			Any data		Spring 2009		2008		2007		pre-2007		no data	
	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
Region	1773	100.0	1541	100.0	911	100.0	243	100.0	101	100.0	286	100.0	232	100.0
Midwest	489	27.6	424	27.5	241	26.5	78	32.1	32	31.7	73	25.5	65	28.0
North Atlantic	337	19.0	305	19.8	188	20.6	40	16.5	25	24.8	52	18.2	32	13.8
South	631	35.6	554	36.0	335	36.8	85	35.0	29	28.7	105	36.7	77	33.2
West	316	17.8	258	16.7	147	16.1	40	16.5	15	14.9	56	19.6	58	25.0