

Department of Health Professions

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Healthcare Workforce Data Center

2008 Nursing Education Programs in Virginia

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Virginia Department of Health Professions
Healthcare Workforce Data Center
Perimeter Center
9960 Mayland Drive, Suite 300
Richmond, Virginia 23233
804-367-2115, 804-527-4434(fax)

E-mail: HWDC@dhp.virginia.gov

Preface

In August 2006, the Governor issued Executive Order 31 to create a Health Reform Commission charged with recommending ways to improve Virginia's healthcare system. The Commission addressed key issues relating to access to care; quality, transparency and prevention; long-term care; and healthcare workforce. In its September 2007 report, the Commission projected a shortage of approximately 22,600 nurses and 1,500 physicians in Virginia by 2020 and indicated that Virginia would be experiencing a growing need for direct support professionals, physician extenders, and other healthcare providers to address the requirements of the elderly, disabled, and others in long-term settings. They recommended the formation of the Healthcare Workforce Data Center within the Department of Health Professions (DHP). DHP was considered a natural repository of the Center because it maintains Virginia's licensure database for almost 100 health professions and approximately 350,000 practitioners. In the spring of 2008, the Governor designated Workforce Investment Act (WIA) discretionary funds for the Center's establishment, and in FY 2010, supplemental WIA funds were awarded to the Center for continued data collection and analysis activities.

The Center's mission is to:

improve the healthcare system in the Commonwealth by improving data collection and measurement of the Commonwealth's healthcare workforce through regular assessment of workforce supply and demand.¹

The Center's focus for FY2009 was to define the chief nursing and physician supply and demand issues. Also during FY2009, the Center's administrative structure was established, its website was instituted, and the Healthcare Workforce Advisory Council (the "Advisory Council") and three committees were formed. The Advisory Council, comprised of approximately 20 stakeholders, included representatives from state agencies, members of the General Assembly, and constituent organizations knowledgeable about healthcare workforce issues in Virginia and nationally. Specific expertise was provided by the: (1) Physicians Workforce Committee, (2) Nursing Workforce Committee, and (3) Healthcare Workforce Information Network.

During the Center's first full year beginning in FY2010, the Department's in-house research capabilities were determined and consultant research partners selected. Data from existing licensure renewal surveys for physicians and nurses and nursing education program survey information were made available for consultant analysis and reporting. Subsequently, DHP's existing nursing and physician surveys have been revised to better ensure that the data gathered would be of most direct relevance to workforce. The new workforce surveys will become part of the on-line licensure renewals process for calendar year 2010 and 2011. Further, an initial application workforce survey for all professions has been developed and is slated to launch with the DHP new online application process.

¹ Commonwealth of Virginia Health Reform Commission (2007). Roadmap for Virginia's Health: A Report of the Governor's Health Reform Commission September 2007.

² In the spring of 2008, Governor Timothy Kaine designated Workforce Investment Act (WIA) discretionary funds for the establishment of the Center under the direction of the DHP Director, Sandra Whitley Ryals. Supplemental WIA funds were awarded for FY2010 for continued data collection and analysis activities.

Findings from the 2007 and 2008Virginia Licensed Nurse Workforce Survey is the first in a series of reports from the DHP Healthcare Workforce Data Center (the Center) designed to inform readers on the workforce status of Virginia's licensed nurses (registered nurses and licensed practical nurses). The source data were drawn from the latest licensed nurse licensure renewal survey completed in 2007 and 2008 and analyzed and reported through the support of the Center's research partners.³ Future reports will be based upon the results of a revised nursing licensure renewal questionnaire specifically designed to address the issues identified by the Nursing Workforce Committee and the Advisory Council and the data needs of state agencies and others identified by the Healthcare Workforce Information Network Committee. The recommendations for modifying the 2007-2008 survey, the 2007-2008 survey instrument, and the new survey instrument for 2010-2011 are provided in the Appendix to this report.

This report is a compilation of the March 2008 survey results on Virginia's Practical Nursing and Registered Nurse programs. Factors ranging from program type, hours assigned to clinical observation, enrollment and capacity during the 2007-2008 academic year are highlighted.

Special appreciation is extended to the Board of Nursing for their assistance in the development of this report and the review of the findings.

If you have questions, please contact: Elizabeth Carter, Ph.D., Director

Healthcare Workforce Data Center

Virginia Department of Health Professions

Perimeter Center

9960 Mayland Drive, Suite 300

Richmond, VA 23233

804-367-4426, 804-527-4434 (fax) E-mail: HWDC@dhp.virginia.gov

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PN Program Structure

In March, 2008, there were 78 Practical Nursing Education Programs (PN) in operation in Virginia. Six new PN programs, not represented in this report, were approved by the VA Board of Nursing between July 1, 2007 and June 30, 2008 but had not yet admitted students at the time of the survey. PN education occurs in a variety of settings, as illustrated in Table 1. Approximately 26% of these programs are private or proprietary programs, and approximately 3% are based in hospitals. The remainder are delivered through publicly funded institutions. Most of the PN programs located in community colleges and in high schools admit students only once per year, but there are exceptions (see Table 2 for more information). Most of the propriety PN programs offer multiple admission points for students throughout the year.

Table 1.	Practical	Nursing	Education	Program	Types in V	irginia
					. , , , ,	

PN program types	# of programs	% of total
Community College Program	21	26.92
High School Extended Program	26	33.33
Hospital Based Program	4	5.13
Postsecondary Adult HOE Program	7	8.97
Proprietary Program	20	25.64
Totals	78	99.99

Only 7 PN programs (9%) are currently accredited by the National League for Nursing Accrediting Commission (NLNAC): three of the extended high school programs, two of the hospital-based programs, and one of the postsecondary adult HOE programs.

Table 2. Number of Admission Points in the PN Academic Year by Program Type

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# of admission points:		munity leges	9	School nded		spital ised		Adult HOE		rietary grams	To	tals
	#	%	#	%	#	%	#	%	#	%	#	%
one	18	85.7	25	96.2	3	75.0	5	71.4	1	5.0	52	66.7
two	3	14.3	1	3.8					2	10.0	6	7.7
three					1	25.0	1	14.3	3	15.0	5	6.4
four							1	14.3	6	30.0	7	9.0
seven									1	5.0	1	1.3
eight									2	10.0	2	2.6
nine									2	10.0	2	2.6
eleven									2	10.0	2	2.6
not reported	0	0	0	0	0	0	0		1	5.0	1	1.3
Totals	21	100%	26	100%	4	100%	7	100%	20	100%	78	100.2

Percentages may not sum to 100 due to rounding.

Surprisingly, the amount of time that PN students spend in the clinical setting, or in clinical practice, while in school can vary widely from one program to another, and by program type. There are three basic types of clinical experience for student nurses: clinical observation in which the students observe the ways in which a licensed, experienced nurse interacts with patients and other healthcare professionals and staff; clinical simulation in which students make use of simulators to practice common nursing procedures such as injections or taking vital signs in a safe environment; and direct patient care in which student nurses interact directly with patients or clients while under the guidance of an experienced nurse. Tables 3 through 5 summarize the amount of time PN programs in Virginia devote to each of these types of clinical experience. The tables subset this information by the different types of PN programs in the state.

Table 3. Number of Hours Assigned to Clinical Observation by PN Program Type

# of hours		nunity leges	•	School Inded		spital ised		dult IOE		rietary grams	То	tals
	#	%	#	%	#	%	#	%	#	%	#	%
0 to 25	8	38.1	7	26.9	1	25.0	1	14.3	13	65.0	30	38.5
26 to 50	7	33.3	4	15.4	0	0	1	14.3	1	5.0	13	16.7
51 to 75	3	14.3	9	34.6	2	50.0	2	28.6	1	5.0	17	21.8
76 to 100	1	4.8	4	15.4	1	25.0	2	28.6	2	10.0	10	12.8
101 to 125	0	0	1	3.9	0	0	0	0	2	10.0	3	3.9
126 to 150	0	0	0	0	0	0	0	0	1	5.0	1	1.3
151 to 175	0	0	0	0	0	0	1	14.3	0	0	1	1.3
176 to 200	1	4.8	1	3.9	0	0	0	0	0	0	2	2.6
More than 200	1	4.8	0	0	0	0	0	0	0	0	1	1.3
Totals	21	100.1	26	100.1	4	100	7	100.1	20	100	78	100.2

Percents may not sum to 100 due to rounding.

The percentages reported here are column percentages.

Table 4. Number of Hours Assigned to Clinical Simulation Experience by PN Program Type

# of hours		nunity leges	J	School ended		spital ised	Ac	lult OE		rietary grams		tals
	#	%	#	%	#	%	#	%	#	%	#	%
0 to 25	11	52.4	14	53.9	2	50.0	4	57.1	7	35.0	38	48.7
26 to 50	4	19.1	4	15.4	0	0	1	14.3	0	0	9	11.5
51 to 75	5	23.8	2	7.7	2	50.0	1	14.3	7	35.0	17	21.8
76 to 100	1	4.8	3	11.5	0	0	0	0	1	5.0	5	6.4
101 to 125	0	0	0	0	0	0	0	0	2	10.0	2	2.6
126 to 150	0	0	1	3.9	0	0	1	14.3	1	5.0	3	3.9
151 to 175	0	0	1	3.9	0	0	0	0	0	0	1	1.3
176 to 200	0	0	1	3.9	0	0	0	0	0	0	1	1.3
More than 200	0	0	0	0	0	0	0	0	2	10.0	2	2.6
Totals	21	100.1	26	100.2	4	100	7	100	20	100	78	100.1

Percents may not sum to 100 due to rounding.

The amount of time PN programs devote to clinical observation ranges from less than 26 hours to more than 200 hours, but 77% of PN programs fell in a range from 0 to 75 hours (see Table 3). The use of clinical simulators also varies widely, but almost half of all PN programs (48.7%) said they assign less than 26 hours of a student's time to the use of simulators. Although this technology has been available for more than 20 years, it has improved substantially in the last five years. However, state-of-the-art simulators are expensive to purchase, and require a substantial amount of faculty resources to program and use properly. In most, but not all, PN programs the majority of a student's clinical experience comes from direct patient care under the tutelage of an experienced nurse. Table 5 shows how this learning resource varies across the different types of PN programs in the state. Most programs report assigning more than 400 hours to direct patient care. Readers interested in knowing how much time a specific PN program devotes to these various types of clinical experience can find that information in the Virginia Board of Nursing 2007-2008 Report of Statistics.

Table 5. Number of Hours Assigned to Direct Client Care Experience by PN Program Types

# of hours		nunity leges		School Inded		spital ised		lult OE		rietary grams	То	tals
	#	%	#	%	#	%	#	%	#	%	#	%
0 to 300	3	14.3	0	0	0	0	0	0	1	5.0	4	5.1
301 to 325	0	0	2	7.7	0	0	1	14.3	1	5.0	4	5.1
326 to 350	3	14.3	2	7.7	0	0	0	0	0	0	5	6.4
351 to 375	0	0	1	3.9	0	0	0	0	1	5.0	2	2.6
376 to 400	3	14.3	1	3.9	2	50.0	0	0	1	5.0	7	9.0
More than 400	12	57.1	20	76.9	2	50.0	6	85.7	16	80.0	56	71.8
Totals	21	100	26	100.1	4	100	7	100	20	100	78	100

Percents may not sum to 100 due to rounding.

PN Student Enrollments

It appears that most PN programs in Virginia are operating close to their current capacity. Table 6 presents the numbers for student admissions and enrollments in the 2007-08 academic year, as well as the number of qualified students that were turned away and the number of unfilled student spaces (sometimes referred to as "slots" or "seats"). Using these figures, total student capacity has been estimated. Overall, 95.7% of the total capacity for PN students was utilized in 2007-08. This measure differs slightly across the different types of PN programs, but none were below 90%.

Table 6 also shows how the total student body of PN students is distributed across the various program types. Currently, proprietary programs hold 45.7% of the state's total student capacity for PN students, even though they made up only 25.6% of Virginia's PN programs in 2008. This is not surprising when you consider that many of these programs admit students at multiple points throughout the academic year (see Table 2 above). High school extended programs for practical nurse education accounted for 21.9% of the state's total capacity, followed by postsecondary adult HOE programs (14.2%) and PN programs in community colleges (15.5%). Hospital-based PN programs accounted for only 2.8% of PN capacity in Virginia in 2007-08.

Table 6. PN Student Admissions, Enrollments and Capacity in the 2007-08 Academic Year

During Academic Year 2007-08:	Community Colleges	High School Extended	Hospital Based	Adult HOE	Proprietary Programs	Totals
N =	21	26	4	7	20	78
# new students admitted	686	858	122	753	1957	4376
# returning students	203	474	51	142	832	1702
Total enrollment ^a	872	1308	173	693	2826	5872
# qualified students denied admission	25	75	22	116	0	238
% qualified students denied admission b	3.5%	8.0%	15.3%	13.3%	0%	5.2%
# qualified students on wait lists	45	63	4	108	0	220
# unfilled slots for students	93	59	0	10	113	275
Capacity for PN students ^c	982	1391	173	905	2902	6353
% of capacity filled in 2007-08 d	90.5%	95.6%	100%	98.9%	96.1%	95.7%

a The number of students admitted plus the number returning may not equal the total number enrolled during the year due to the fact that not all admitted students actually enroll.

Tables 7 and 8, which appear on the following pages, report the reasons given by PN programs for either turning away qualified students, or for letting student slots go unfilled during the 2007-08 academic year. In the first case - denying admission to qualified applicants - most programs cite a lack of faculty resources, classroom space and limited clinical sites as the primary factors. There are slight differences by program type, as illustrated in Table 7.

In the second case, having some student spaces go unfilled, the reason offered most often was that not all of the students admitted to the program actually enrolled when classes began. This situation can leave a program with empty seats which are difficult to fill at the last moment. However, in some cases the problem was an inadequate number of qualified applicants. See Table 8 for the specifics.

It is interesting to note that the total number of qualified students turned away by PN programs in 2007-08 is similar in size to the number of unfilled spaces for new students (see Table 6 above). It might be worthwhile to exam the geographic areas where these events occur to determine if a regional solution can be crafted to maximize the state's PN resources and produce the maximum number of PN graduates each year.

b This percentage = # qualified students denied admission / (# new students admitted + # qualified students denied admission)

c Capacity = (# admitted + # returning + unfilled slots)

d This percentage = (# students admitted + # returning)/capacity

Table 7. Reasons for Turning Away Qualified Applicants to PN Programs

		<u> </u>							
Program Type	# of programs that could not accept more qualified students	# of qualified students turned away							
Community College	5	25							
Reasons:	Lack of class room and clinical spa-	ce							
	Lack of classroom space at one fac	ility and lack of adjunct faculty.							
	Lack of more full time faculty/space	ce both classroom and clinical space							
	Lack of additional faculty	·							
	Lack of faculty, clinical areas								
Extended High School	9	75							
Reasons:	Lack of classroom/clinical space, of	clinical faculty, and available clinical sites							
	Lack of funds to hire additional qua	alified faculty							
	(Inadequate) faculty numbers	•							
Increased enrollment in area RN programs has caused a significant lack of clinical sites for students.									
	Limited program spacing and limited enrollment slots								
	There are only two faculty members on staff. There is also limited clinical facilities for practical experience.								
	Lack of classroom space								
	Lack of qualified faculty								
Hospital Based	3	22							
Reasons:	Lack of faculty, classroom space &	clinical space							
	Met anticipated number of enrollm	nent							
	We decided to cut back the size of	the program so did not admit one starting cohort.							
Adult HOE	3	116							
Reasons:	Unable to hire additional faculty.								
		school board will only authorize one faculty member ed a temporary hold on all admission and transfers into the							
Grand Totals -	Programs that turned away qualified students: 20 of 78 - 25.6%	Total number of qualified students denied admission: 238							

Table 8. Reasons for Having Unfilled Students Spaces in PN Programs by Type

	Tubic 6. Reasons for Havii	ng offilited students spaces in the trograms by Type							
Program Type	# of programs that had unfilled spaces	# of unfilled spaces for new admits							
Community	· ·								
College	10	93							
Reasons:	Lack of qualified applicants.								
	Three students decided not to e	enroll at the last minute.							
	No qualified applicants								
		sted decided at the last minute not to attend for various ified applicants to place in the program.							
	Students that were officially ad	mitted did not show up for the beginning of the fall semester							
	No additional qualified applicat	ions for practical nursing program received.							
	Lack of qualified applicants								
	Lack of qualified applicants.								
	No additional applicants								
Extended									
High School	11	59							
Reasons:	We accepted students who were no shows. Apparently they were accepted to other programs or decided not to come. They paid a fee to hold a class seat and forfeited the fee.								
Keasons.	30 applicants were selected for the program. 2 adult students were a no-show; 4 high schoo seniors dropped the class at the end of August.								
		linical phase of our program. We have a capacity for 40							
		e in the number of adult applicants to the LPN program. Somin the number of proprietary LPN programs in the area that length programs.							
	Not enough qualified applicants).							
	Lack of qualified applicants.								
	We had no one on the wait list-	no one qualified to place							
	Three students who were enroll	led chose not to attend.							
	Not enough applicants								
	Lack of qualified applicants.								
	Lack of qualified applicants								
Hospital									
Based	0	0							
Adult HOE	3	10							
Reasons:	It is dependent upon the number	er of high school seniors admitted.							
	Students did not have financial	·							
	Students were admitted but did	I not come and it was too late to obtain other students.							

Table 8 continued. Reasons for Unfilled Student Spaces in PN Programs by Type

Program Type	# of programs that had unfilled spaces	# of unfilled spaces for new admits
Proprietary	7	113
Reasons:	I I	
		gh school diploma or GED and successful performance on aces were left unfilled when students who were accepted attend classes on the first day.
	Low enrollment	
	No qualified applicants	
	Late un-enroll from program	
	New school with no graduating cla	ss at this moment
	School was granted authority to ac was limited time for recruitment.	lmit in August 2007. Class began in October 2007, there
Grand Totals -	Programs that had unfilled spaces for new admits: 31 of 78 - 39.7%	Total number of unfilled spaces: 275

PN Graduates

Although they make up only 7 of the 78 PN programs in Virginia, postsecondary health occupation education programs (Adult HOE) have the largest proportion of men and students that become certified nurse assistants (CNAs) during their training period among their graduates. Table 9 summarizes the number of PN students that graduated during the 2007-08 academic year, the number of men in that graduating class, and the number that were CNAs at graduation. Almost half (47.3%) of all graduates that year were educated in proprietary programs; 18.8% came from community college PN programs; 17.3% from high school extension programs; 11.7% from Adult HOE programs; and 4.8% from hospital-based programs.

Table 9. Graduates from PN Programs in the 2007-08 Academic Year by Program Type

During Academic Year 2007-08:	Community Colleges	High School Extended	Hospital Based	Adult HOE	Proprietary Programs	Totals
N =	21	26	4	7	20	78
Total PN students graduated:	412	380	105	257	1037	2191
# of those graduates who were male	17	20	4	40	59	140
% who were male	4.1%	5.3%	3.8%	15.6%	5.7%	6.4%
# of those graduates who were CNAs	173	145	17	167	284	786
% who were CNAs	42.0%	38.2%	16.2%	65.0%	27.4%	35.9%

PN Student Attrition

Tracking student attrition is a difficult task in a summary report such as this due to the fact that many PN programs offer multiple admission points into their programs, and they may follow different curriculum schedules. For instance, most traditional daytime education programs typically run for 12 months (or 3 semesters), but non-traditional program options such as weekend or evening class schedules are often geared to student who prefer a part-time schedule. Those types of scheduling options often operate on longer time frames. PN programs were asked the following question:

"Based on your experience with admissions and graduates: For those students admitted for 2007-08, how many students left the program?"

Then they were asked to report how many of those students left within the 1st semester, 2nd semester, etc. The results are reported in Table 10. Unfortunately, programs did not report the total size of the beginning student cohort(s) they based their figures on. As a result, it is not possible to calculate a retention or attrition rate. However, an informal comparison between the number of students admitted for the 2007-08 year who left without the completing the program, and the number of graduates in the 2007-08 year (see Table 9) suggests that attrition rates are high in most PN program types.

Table 10. Student Attrition in PN Programs by Program Type

For those students admitted for 2007- 08, how many left the program:	Community Colleges	High School Extended	Hospital Based	Adult HOE	Proprietary Programs	Totals
N :	= 21	26	4	7	20	78
in the 1 st semester	98	136	14	24	503	775
in the 2 nd semester	52	113	7	56	91	319
in the 3 rd semester	23	61	4	1	22	111
in the 4 th semester	0	19	0	8	13	40
or						
in the 1 st trimester	40	10	0	12	17	79
in the 2 nd trimester	28	11	0	19	2	60
in the 3 rd trimester	0	1	0	1	0	2
Total	s 241	351	25	121	648	1386

Note: When asked directly how many students - total - had left their programs, the answers received summed to 1411, not 1386 as reported in this table. It is possible that some schools were not able to determine when some students left their program and those students were left out of the semester counts in this table.

PN Faculty

Among the PN programs in the state responding to the 2008 survey, a total of 301 full-time and 344 part-time faculty were employed on June 30, 2008 for the 2007-08 academic year. Programs also reported the number of new faculty appointments during the year: a total of 83 for full-time faculty and 145 for part-time faculty. Resignations during the year totaled 73 for full-time and 116 for part-time faculty. Given the different roles that full-time and part-time faculty play in nursing education programs, it is best to examine these figures separately. Tables 11 and 12 report the numbers by program type. These figures were used to create two indicators of the amount of change within the faculty during the 2007-08 academic year. Although resignations and new appointments are a common occurrence, they still have an impact on the working relationships and workloads within a program. Aggregated by program type, these measures illustrate how the different types of PN programs are being affected by this faculty "churn."

Table 11. Full Time Faculty in PN Programs on June 30, 2008 and New Appointments / Resignations

for the 2007-08 Academic Year:	Community Colleges	High School Extended	Hospital Based	Adult HOE	Proprietary Programs	Totals
Total # of full-time (FT) faculty	58	94	16	22	111	301
New full time faculty appointments	5	6	7	6	59	83
Resignations of full-time faculty	8	9	3	5	48	73
FT resignation turnover rate: ^a	13.8%	9.6%	18.8%	22.7%	43.2%	24.3%
New FT appointments as a percentage of total FT faculty: ^b	8.6%	6.4%	43.8%	27.3%	53.2%	24.5%

a Faculty resignation rate = # of resignations / total # of faculty

Table 12. Part Time Faculty in PN Programs on June 30, 2008 and New Appointments / Resignations

for the 2007-08 Academic Year:	Community Colleges	High School Extended	Hospital Based	Adult HOE	Proprietary Programs	Totals
Total # of part-time (PT) faculty	86	18	7	35	198	344
New full part faculty appointments	15	10	4	26	90	145
Resignations of part-time faculty	17	10	2	6	81	116
PT resignation turnover rate: ^a	19.8%	55.6%	28.6%	17.1%	40.9%	33.7%
New PT appointments as a percentage of total PT faculty: b	17.4%	55.5%	57.1%	74.3%	45.5%	42.2%

a Faculty resignation rate = # of resignations / total # of faculty

b This is calculated as follows: new appointments / total faculty

b This is calculated as follows: new appointments / total faculty

Tables 13 and 14 report the highest degrees held by PN faculty. Table 13 breaks faculty into their full- or part-time status, providing counts by degree type. This table can also be used to understand the relative balance between full-time and part-time faculty within each general type of PN program. For instance, PN programs in proprietary schools rely heavily on part-time faculty (63.3%), while PN programs offered through high school extension programs rely very little (18.7%) on part-time faculty. This table also illustrates how the variety of PN program types utilize faculty with different educational backgrounds. Table 14 summarizes the highest degree types held by PN program directors.

Table 13. PN Faculty Counts by their Highest Degree by Program Type

Number of Faculty by Highest Degree		nunity eges	Sch	gh Iool nded		pital sed	Ad H(ult DE		ietary rams	Tot	tals
Full Time and Part Time:	FT	PT	FT	PT	FT	PT	FT	PT	FT	PT	FT	PT
Doctorate	4	2	2	0	0	1	2	1	4	10	12	14
Masters in Nursing	29	17	15	4	4	1	7	6	15	34	70	62
non-nursing Masters	9	2	14	1	8	1	5	2	12	20	48	26
Nursing Baccalaureate	20	33	48	10	6	3	12	16	49	76	135	138
non-nursing Baccalaureate	1	9	6	2	0	0	1	3	4	8	12	22
Nursing Associate Degree	1	23	9	6	2	0	2	4	22	40	36	73
Diploma	0	6	6	0	1	2	0	1	10	12	17	21
Totals	64	92	100	23	21	8	29	33	116	200	330	356
% of faculty full / part time	41.0	59.0	81.3	18.7	72.4	27.6	46.8	53.2	36.7	63.3	48.1	51.9

Table 14. Highest Degree Held by PN Program Directors by Program Type

Director's Degree	Community Colleges	High School Extended	Hospital Based	Adult HOE	Proprietary Programs	Totals
Doctorate	1	1	2	1	0	5
Masters in Nursing	12	6	1	4	6	29
non-nursing Masters	3	6	1	2	5	17
Nursing Baccalaureate	5	11	0	0	7	23
non-nursing Baccalaureate	0	1	0	0	1	2
Nursing Associate Degree	0	1	0	0	1	2
Diploma	0	0	0	0	0	0
Total Program Count	21	26	4	7	20	78

Registered Nurse Education Programs

RN Program Structure

In March, 2008, there were 53 Registered Nurse (RN) education programs in operation in Virginia. There are three educational portals for RNs: hospital-based diploma programs which typically take 5 – 6 semesters to complete but do not confer an educational degree upon completion; associate degree programs which are generally located in community colleges and typically take 4 – 5 semesters to complete and confer an associates degree upon completion; and baccalaureate programs located in colleges and universities which typically take 4 – 8 semesters to complete and confer a baccalaureate in nursing degree upon completion. Students graduating from any of these program types are eligible to take the national licensing exam for Registered Nurses.

In Virginia, most RN education programs run on a semester schedule, although three of the seven hospital-based programs use a trimester schedule. Table 15 reports the numbers. Many RN programs also offer more than one admission point to students during the academic year: 53.3% of associate degree programs have 2 or more admission points; 62.5% of baccalaureate programs; and 71.4% of diploma programs (see Table 16). This practice effectively expands access opportunities for students.

Table 15. Structure of RN Education Programs by Program Type

Many programs schedules in the weekends that for students who prepare for a career Unfortunately, the number and

RN Program Type	Program Structure	# of Programs
Associate Degree	Semesters	30
Baccalaureate Degree	Semesters	16
Diploma	Semesters	4
ырюша	Trimesters	3

also offer part-time evening or on makes it possible must work to in nursing. information about type of part-time,

evening, weekend or on-line program options available in Virginia was not collected in the 2008 survey of nursing programs.

⁴ Some baccalaureate nursing programs allow students into the nursing program in their freshman year, but others restrict admission to rising Juniors who have already completed the prerequisite courses. This difference in admission points explains the wide variety in semesters required to complete the program.

Table 16. Number of Admission Points in the Academic Year by Program Type

# of admission points:		ciate gree		aureate gree		oma rams	To	tals
	#	%	#	%	#	%	#	%
one	13	43.3	5	31.3	2	28.6	20	37.7
two	11	36.7	10	62.5	4	57.1	25	47.2
three	4	13.3	0	0	1	14.3	5	9.4
four	1	3.3	0	0	0	0	1	1.9
not reported	1	3.3	1	6.3	0	0	2	3.8
Totals	30	99.9	16	100.1	7	100	53	100

Percentages may not sum to 100 due to rounding.

As noted earlier, there are three basic types of clinical experience for student nurses: clinical observation in which the students observe the ways in which a licensed, experienced nurse interacts with patients and other healthcare professionals and staff; clinical simulation in which students make use of a variety of simulators in an environment that allows for mistakes while learning common nursing procedures such as injections or taking vital signs; and direct patient care in which student nurses interact directly with patients or clients while under the guidance of an experienced nurse. Tables 17 through 19 summarize the amount of time that RN programs in Virginia devote to each of these types of clinical experience, depending on program type.

Table 17. Number of Hours Assigned to Clinical Observation by RN Program Type

# of hours	Associate Degree			Baccalaureate Degree		loma Irams	Total	
	#	%	#	%	#	%	#	%
0 to 25	12	40.0	7	43.8	0	0	19	35.9
26 to 50	10	33.3	5	31.3	0	0	15	28.3
51 to 75	4	13.3	1	6.3	3	42.9	8	15.1
76 to 100	1	3.3	2	12.5	2	28.6	5	9.4
101 to 125	3	10.0	1	6.3	0	0	4	7.5
176 to 200	0	0	0	0	1	14.3	1	1.9
More than 200	0	0	0	0	1	14.3	1	1.9
Totals	30	99.9	16	100.2	7	100.1	53	100

Percents may not sum to 100 due to rounding.

Note: No programs reported requiring between 126 and 175 hours of clinical observation.

Associate nursing degree (ADN) and baccalaureate (BSN) programs are similar, in general, in the amount of curriculum time assigned to clinical observation: 70% of ADN programs assign up to 50 hours; in BSN programs that proportion is 75.1%. (See Table 17.) Diploma programs tend to assign a much higher number of clinical hours to observation, but they are uniquely situated to do so, given their hospital affiliations. Surprisingly, given the difficulty of obtaining clinical experience sites for student nurses these days, slightly more than 1/3 of all RN programs devote little or no time to clinical simulations. This may be due, at least in part, to the expense associated with the more realistic simulators on the market today, and with the large amount of faculty time needed to utilize these new simulators to their maximum potential. However, about 25% of all RN programs are assigning more than 100 hours to such experience in their curriculum plans. The programs vary widely in their use of simulator resources, regardless of program type.

Table 18. Number of Hours Assigned to Clinical Simulation by RN Program Type

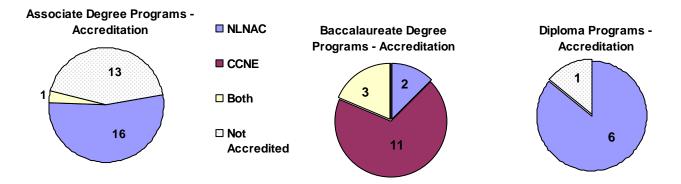
			,			, 	<i></i>	
# of hours	Assoc Degi			aureate gree		loma grams	То	tal
	#	%	#	%	#	%	#	%
0 to 25	12	40.0	6	37.5	2	28.6	20	37.7
26 to 50	7	23.3	2	12.5	0	0	9	17.0
51 to 75	4	13.3	3	18.8	2	28.6	9	17.0
76 to 100	1	3.3	1	6.3	0	0	2	3.8
101 to 125	2	6.7	2	12.5	0	0	4	7.5
126 to 150	2	6.7	1	6.3	1	14.3	4	7.5
176 to 200	1	3.3	1	6.3	0	0	2	3.8
More than 200	1	3.3	0	0.0	2	28.6	3	5.7
Totals	30	99.8	16	100.2	7	100.1	53	100

Percents may not sum to 100 due to rounding.

Table 19. Number of Hours Assigned to Direct Client Care by RN Program Type

# of hours	Associate Degree		Baccalaureate Degree		Diploma Programs		Total	
	#	%	#	%	#	%	#	%
0 to 400	3	10.0	1	6.3	0	0	4	7.5
401 to 425	1	3.3	0	0	0	0	1	1.9
426 to 450	3	10.0	1	6.3	0	0	4	7.5
451 to 475	1	3.3	2	12.5	0	0	3	5.7
476 to 500	8	26.7	2	12.5	1	14.3	11	20.8
More than 500	14	46.7	10	62.5	6	85.7	30	56.6
Totals	30	100	16	100.1	7	100	53	100

Percents may not sum to 100 due to rounding.



Across all programs types, 77.4% of all the RN education programs in Virginia assign a minimum of 476 hours in the curriculum to direct patient care experiences for their students, although there is a wide range within each program type. See Table 19 for more information. Readers interested in how specific programs structure clinical experience hours for their students, this information can be found for each individual RN program in the state in the Virginia Board of Nursing 2007-08 Report of Statistics available at:

http://www.dhp.virginia.gov/nursing/nursing_reports.htm The way in which RN programs are – or are not – accredited by the national accrediting agencies differs by program type. The pie charts above illustrate how the different types of accreditation are distributed in the three program types. All of the baccalaureate programs are accredited, most of them (87.5%) by the Commission on Collegiate Nursing Education (CCNE), and 31.3% by the National League for Nursing Accrediting Commission (NLNAC). Note that some of the BSN programs are accredited by both of these agencies. All diploma programs but one (85.7%) are accredited through the NLNAC. Associate degree programs deviate from this pattern: 43.3% of them are not accredited by either of the national agencies.

RN Student Enrollments

During the 2007-08 academic year, almost 10,000 students were enrolled in prelicensure RN programs in Virginia. Table 20 reports the numbers by program type. Students in diploma programs accounted for only 13.9% of those enrollments; 44.6% of the total number of students enrolled were in associate degree programs, and 41.5% were in BSN programs.

Table 20 also reports on the number of qualified applicants denied admission and how many of those applicants were placed on wait lists. Across the state, a total of 1,285 qualified students were denied admission to prelicense RN programs in the 2007-08 academic year. Sixty-eight percent of those were turned away from BSN programs.

It seems contradictory, but there were also spaces for new RN enrollees that went unfilled last year. A few programs suffered from an inadequate number of qualified applicants, but for the most part having unfilled spots for new enrollees was the result of qualified students who had been admitted deciding at the last minute to not enroll (see Table 22 for the reasons programs gave for having unfilled spaces). Undoubtedly, some of these decisions are related to the fact that students submit applications to more than one program in order to increase their odds of acceptance, and to give themselves choices. There is little schools can do under these circumstance, other than to have a waiting list of qualified applicants that might be able to move into the vacated seats.

Information about the number of unfilled spaces for new enrollees allows a rough calculation of capacity in Virginia's RN education pipeline. The footnotes to Table 20 explain how this was computed. The results show that,

overall, all entry-level RN education programs in Virginia were operating at or near their capacity in the 2007-08 academic year. From a policy perspective, this is an important finding because it makes clear that further expansion of RN production can not take place within current capacity limits. A lack of faculty resources, classroom space, and clinical site placements are the primary reasons for turning away qualified applicants (see Table 21). These are the factors that will have to be addressed if additional expansions in RN production are required to meet future needs.

Table 20. Admissions, Enrollments and Capacity in Prelicense RN Programs

	ļ	RN Program Type	<u> </u>	
During the 2007-08 academic year:	Associate Degree	Baccalaureate Degree ^a	Diploma Programs	Totals
Enrollments				
# generic RN students admitted for 1st time	2174	1769	536	4479
# LPN-RN students admitted for 1st time	507	40	20	567
# returning students	1715	2197	791	4703
Total enrollments b	4309	4006	1347	9662
# of qualified applicants denied admission	371	878	36	1285
% of qualified applicants denied admission ^c	12.2%	32.7%	6.1%	20.3%
# of qualified applicants placed on a wait list	182	258	0	440
Capacity				
# of unfilled slots for prelicense students	48	55	0	103
Capacity for new enrollee prelicense students ^d	2729	1864	556	5149
% of new enrollee capacity filled in 2007-08 e	98.2%	97.0%	100%	98.0%

a Only prelicense students are included in these counts.

Table 21. Reasons for Turning Away Qualified Applicants to Prelicense RN Programs in 2007-08

Program Type	# of programs that turned away qualified students	# of applicants turned away in 2007-08
Associate Degree	13	371
Reasons:	Lack of classroom and clinical spa students for the job market in ou	ace. Desire to graduate appropriate number of ur service area.
	Lack of clinical space	
	We reached our maximum enro availability and instructor capac	Ilment based on classroom size, clinical site ity.
	Lack of qualified faculty and lack of	clinical space

b The number of students admitted plus the number returning may not equal the total number enrolled during the year due to the fact that not all admitted students actually enroll.

c This percentage = # applicants denied admission / (# generic RNs admitted + # LPN-RNs admitted + # qualified students denied admission)

d New Enrollee Capacity = (# generic RNs admitted + # LPN-RNs admitted + unfilled slots for prelicense students)

e This percentage = (# generic RNs admitted + # LPN-RNs admitted)/capacity

	Lack of clinical sites and qualified					
	The program is capped at 100 new admits each Fall, due to limited clinical sites laboratory space, and clinical faculty availability.					
	Lack of classroom/clinical space, difficulty finding qualified adjuncts.					
	Lack of faculty and clinical space					
	Inadequate number of faculty positions and class/clinical space.					
	Students were not admitted because on student/faculty ratio, classro	use we reached our admission cap that is based oom and clinical space.				
	Lack of classroom, lab and clinical	space.				
	Seats limited by VBON and limitat	ions on classroom, lab and clinical space.				
	lack of classroom space					
Baccalaureate Degree	9	878				
Reasons:	Inadequate classroom/clinical spa	ce and full and part time faculty.				
	Lack of classroom/clinical space, lack of qualified faculty					
	Lack of faculty and classrooms sp	ace				
	There were not enough spaces for on faculty numbers, classroom	them. The program admission is capped based space and clinical sites.				
	Mostly not enough faculty or clinic	al spaces.				
	We currently lack faculty lines.					
	Insufficient number of clinical facul	lty and clinical placements				
	Lack of qualified faculty, lack of cla	assroom/clinical space.				
Diploma Programs	2	36				
Reasons:	Lack of classroom/clinical space					
	Lack of qualified faculty, classroon	n & clinical space				
	Programs that turned away qualified students:	Total number of qualified students denied admission:				
Grand Totals -	24 of 53 - 45.3%	1285				

Table 22. Reasons for Unfilled Spaces for New Enrollees in Prelicense RN Programs

Program Type	# of programs with unfilled spots for entry-level students	# of unfilled spots			
Associate Degree	7	48			
Reasons:	Students declined and informed the program at the last minute. Qualified applicants made other plans				
	Students decided not to attend the	e last minute			
	Students were admitted but declin				
	Some students declined for personal admission.	al reasons and others did not qualify for			
	Some of the students who were acc	cepted went to other nursing programs.			
	Not enough qualified applicants				
	Unable to fill positions after deadli	ne			
Baccalaureate Degree	6	55			
Reasons:	Students did not qualify based on C grades.	GPA and science/nursing pre-requisite course			
	Not enough qualified applicants				
	Students did not enroll				
	Admitted all qualified applicants				
	Lack of qualified applicants				
	Originally, all spaces were filled bu	ut one student did not meet prerequisites.			
Diploma Programs	0	0			
	Programs with unfilled slots:	Total number of unfilled slots:			
Grand Totals -	13 of 53 - 24.5%	103			

Many baccalaureate nursing programs also accept students who are already licensed as RNs wanting to extend their nursing education. These students are referred to here as RN-BSN students. Since they are already a part of the nursing labor force, their numbers are considered separately from prelicense BSN students. Table 23 summarizes the RN-BSN numbers for 2007-08, which show unused capacity in this aspect of the nursing education pipeline.

Table 23. 2007-08 Admissions, and Capacity in Baccalaureate RN-BSN Programs

	Program Type = Baccalaureate
Number of RN-BSN students admitted for the first time in the 2007-2008 academic year	701
Additional unfilled spaces for RN-BSN students	198
Capacity for RN-BSN new enrollees	899
% of new enrollee RN-BSN capacity filled in 2007-08	78.0%

RN Student Graduates

A total of 3,311 students graduated from Virginia's prelicensure RN programs in the 2007-08 academic year. Diploma programs contributed 14.9% of those graduates; 46.5% were from associate degree programs; and 38.6% came from baccalaureate degree programs in the state. Table 24 presents the figures by program type. Associate degree programs graduated the highest proportion of students holding an LPN license prior to becoming an RN, and a slightly higher proportion of men.

Table 24. RN Program Graduates in 2007-08 Academic Year by Program Type

Students graduating			<u> </u>	
in the 2007-08 academic year	Associate Degree	Baccalaureate Degree	Diploma	Totals
Prelicense RN Graduates N=	30	16	7	53
Total graduates in 2007-08	1539	1278	494	3311
# of graduates who held an LPN license	303	38	28	369
% of graduates who held an LPN license	19.7%	3.0%	5.7%	11.1%
# of graduates who were male	142	94	42	278
% of graduates who were male	9.2%	7.4%	8.5%	8.4%
Maximum # of prelicense graduates expected between January - December, 2009	2282	1475	534	4291
RN-BSN Graduates		N = 13		
Total RN-BSN graduates in 2007-08	na	347	na	347

Prelicense RN Student Attrition

Nursing education programs were asked the following question:

"Based on your experience with admissions and graduates: For those prelicense students admitted for 2007-08, how many students left the program?"

Then they were asked to report how many of those students left within the 1st semester, 2nd semester, etc. The results are reported in Table 25. The way in which this question was phrased (is this the cohort admitted for <u>graduation</u> in 2007-08, or those admitted to the program for the <u>first time</u> in 2007-08?) makes it difficult to interpret the results beyond the raw numbers, and may have led to inconsistencies in the way the data was reported. Note that when the number of students who left in each semester is summed, the totals are greater than the number reported for total students leaving in two out of the three program types. In addition, because we do not know the size of the student cohorts admitted for 2007-08 it is not possible to calculate a retention or attrition rate.

Table 25. Attrition Among Prelicense RN Students Admitted for 2007-08

		RN Program Type		_ Total
For those prelicensure students admitted for 2007-08 how many left the program:	Associate Degree	Baccalaureate Degree	Diploma Programs	students lost
N=	30	16	7	53
Total number of students who left the programs:	666	157	201	1024
in the 1 st Semester	423	99	39	561
in the 2 nd Semester	205	78	37	320
in the 3 rd Semester	78	13	11	102
in the 4 th Semester	40	0	14	54
or				
in the 1 st Trimester	na	na	24	24
in the 2 nd Trimester	na	na	40	40
in the 3 rd Trimester	na	na	36	36
Totals by Semester/Trimester:	746	190	201	1137

Note the difference between total count and the figure resulting from summing the counts lost in each semester.

RN Program Faculty

A total of 718 full-time faculty members, including those in administrative positions, were employed during the 2007-08 academic year in Virginia's RN programs. During that year 8.3% of all full-time RN faculty resigned their positions, and 16.3% of the full-time faculty were new appointments in their programs. This amount of "churn" within the full-time faculty in RN programs differed slightly by program type (see Table 26). The balance between resignations and new appointments suggests that the overall size of the full-time faculty was growing in ADN and BSN programs during the 2007-08 year.

Table 26. Full Time RN Faculty on June 30, 2008 and New Appointments/Resignations

		_		
for the 2007-08 Academic Year:	Associate Degree	Baccalaureate Degree	Diploma Programs	Totals
Total # of full-Time (FT) faculty	241	358	133	732
New full time faculty appointments	45	55	19	119
Resignations of full-time faculty	20	26	15	61
FT Resignation turnover rate: ^a	8.3%	7.3%	11.3%	8.3%
New FT appointments as a percentage of total FT faculty: ^b	18.7%	15.4%	14.3%	16.3%

a Faculty resignation rate = # of resignations / total # of faculty

b This is calculated as follows: new appointments / total faculty

The part-time faculty in RN programs totaled 741 for the 2007-08 academic year. The overall rate of resignations was 16.5%, about twice that in the full-time faculty. The proportion of resignations varied only slightly by program type (see Table 27). New appointments accounted for about 24% overall, but was much higher in ADN programs than in BSN or diploma programs. The balance of new appointments to resignations within the part-time faculty suggests that ADN programs were growing the size of their part-time faculty during the 2007-08 year. In BSN and diploma programs the balance of new appointments to resignations was about equal.

Table 27. Part Time RN Faculty on June 30, 2008 and New Appointments/Resignations

		_		
for the 2007-08 Academic Year:	Associate Degree	Baccalaureate Degree	Diploma Programs	Totals
Total # of part-time (PT) faculty	313	388	40	741
New part-time faculty appointments	103	70	7	180
Resignations of part-time faculty	55	60	7	122
PT Resignation turnover rate: ^a	17.6%	15.5%	17.5%	16.5%
New PT appointments as a percentage of total PT faculty: ^b	32.9%	18.0%	17.5%	24.3%

a Faculty resignation rate = # of resignations / total # of faculty

In the aggregate, the full-time and part-time faculty pools are approximately the same size in Virginia's RN programs. That is not true when the numbers are examined by program type, and certainly can vary widely when examined at the level of individual programs. Table 28 reports the number of full- and part-time faculty by program types. In ADN programs 56% of the total faculty was part-time in the 2007-08 academic year; in BSN programs 52% of the faculty was part-time; and in hospital-based diploma programs 23% of the faculty was part-time. Table 28 also presents the count of faculty members by their highest degree, allowing readers to see how faculty educational characteristics differ by program type. Table 29 reports on the highest degree level of the program director or dean in each RN program type.

b This is calculated as follows: new appointments / total faculty

Table 28. RN Faculty Counts by their Highest Degree by Program Type

	RN Program Type							
Number of Faculty by Highest Degree	Associate Degree		Baccalaureate Degree		Diploma Programs		Totals	
	FT	PT	FT	PT	FT	PT	FT	PT
Doctorate	17	10	176	45	8	0	201	55
Masters in Nursing	189	126	171	286	88	29	448	441
non-nursing Masters	13	10	9	24	16	1	38	35
Nursing Baccalaureate	22	162	0	34	18	8	40	204
non-nursing Baccalaureate	0	8	2	0	2	1	4	9
Nursing Associate Degree	0	4	0	0	1	0	1	4
Diploma	0	1	0	0	0	1	0	2
Totals	241	313	358	388	133	40	732	741
% of faculty full / part time	43.5	56.5	48.0	52.0	76.9	23.1	49.7	50.3

Table 29. Highest Degree Held by RN Program Directors by Program Type

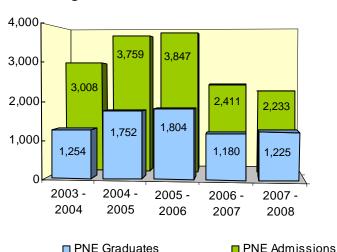
Degree Type	Associate Degree	Baccalaureate Degree	Diploma	Grand Total	
Nursing Masters	19	1	5	25	
Doctorate in Education	2	2	1	5	
PhD	7	12	1	20	
Doctor of Nursing Practice	1	1	0	2	
Doctorate in Nursing	1	0	0	1	
Total Program Count	30	16	7	54	

Trends Over Time

PN Programs

The Report of Statistics published each year by the Virginia Board of Nursing contains information on nursing education program admissions and graduations from previous years. The two charts below were created using information from those reports, dating back to the 2003-2004 academic year.

PNE Program Admissions and Graduations Trends

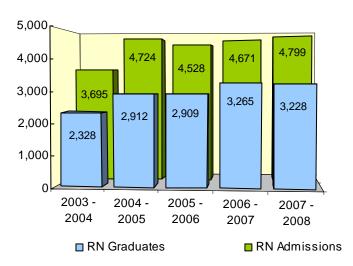


The first of these charts show that over the past five years admissions to PN programs increased strongly for three years beginning in 2003-04, but have fallen off sharply during the past two years. The biggest decrease occurred between the 2005-06 year and the 2006-07 year when total admissions decreased by 37%. The number of graduates from PN programs follows the same general trend pattern; the amount of decrease in graduates between 2005-06 and 2006-07 is 35%. The most striking feature of this chart is the large discrepancy between the number of students admitted each year and the number actually graduated. Because the PN curriculum tends to be 12 months in length it is not unreasonable to compare admissions and graduate numbers

within the same year, or at the most, lagged by one academic year. If a lagged approach is used, then approximately 58% of PN students admitted in 2003-04 graduated in the 2004-05 year (1753 graduates / 3008 admissions). Of the 2759 students admitted in 2004-05, 48% graduated in 2005-06. Of the 3847 students admitted in the 2005-06 year, 31% graduated in 2006-07. However, of the 2411 students admitted in 2006-07, 51% graduated in 2007-08. The sudden drop in admissions between the 2005-06 and 2006-07 academic years may be due to a recognition that over-expansion was hurting graduation rates.

Prelicense RN Programs

All RN Program Admissions and Graduations Trends



The second chart presents similar information for prelicensure Registered Nurse education programs in Virginia. The figures here are summed across all types of prelicense RN programs (hospital-based diploma, associate degree and baccalaureate degree). In RN programs, the general trend over the past five years has also been an increase in admissions, although in a more sustained fashion. The total number of students admitted to prelicense RN programs increased by slightly more than 1,000 in the 2004-05 academic year – an increase of 28% over the previous year. In the years since, the total number of students being admitted to prelicense RN programs in Virginia has been maintained at that higher level, with slight differences from year to year. The number of

graduates from RN programs has also increased over the past five years. Because the lag time from admission to graduation for RN students is generally 2 to 3 years, it is more difficult to measure the relationship between admission numbers and graduate numbers. However, looking at the chart, and assuming a 2 year lag for the majority of students, the graduating class of 3265 students in 2006-07 appears to reflect the increase in admissions that occurred in the 2004-05 academic year. Using those two time points, the graduation rate for students coming into an RN program in 2004-05 and graduating in 2006-07 was about 69%.