

✓ Exam Master®

Helping Health Sciences  
Programs Better Prepare Our  
Health Care Professionals



# ADDRESSING THE ADN GRADUATION CHALLENGE

**FIVE STRATEGIES** FOR IMPROVING ATTRITION, RETENTION, AND  
GRADUATION RATES IN ASSOCIATES DEGREE NURSING PROGRAMS

## About Exam Master®

At Exam Master, we strive to help health science institutions achieve measurable success in assessing and managing student competency and medical subject matter expertise.

For more than 20 years, Exam Master has been providing health sciences programs with advanced study, online testing, and board certification preparation resources, paired with fully customizable question banks prepared by expert medical professionals.

Learn how Exam Master can help your program prepare students for successful medical careers. Visit us online at [www.exammaster.org](http://www.exammaster.org), call 800-572-3627, or email us at [info@exammaster.org](mailto:info@exammaster.org).

## Executive Summary

The nursing shortage in the U.S. means that associates degree nursing programs (ADNs) are under tremendous pressure to prepare and graduate successful nursing students. Yet, nearly every ADN program confronts challenges with student attrition and retention and also with first-time success on the NCLEX®-RN exam.

These challenges are complex with multiple causes and far-reaching impact on students, families, schools, medical facilities, and even society at-large. There are no simple solutions.

At Exam Master, we have been hearing more about these concerns lately from ADN administrators and educators, so we set out to identify several real-world strategies that schools could adopt to help improve student outcomes. We conducted a review of literature, gathered input from ADN staff and educators, and incorporated insights from our own 20+ years in the field of health sciences education.

The result is five practical strategies, outlined in this paper with rationale and implementation suggestions. ADN program leaders should examine and consider integrating these strategies into their comprehensive student support programs.

### The five strategies are:

1. Pre-admission readiness assessments with detailed scoring
2. One-on-one pre-admission interviewing
3. Early remediation planning and implementation
4. Periodic student benchmarking
5. Customizable test preparation throughout the education experience

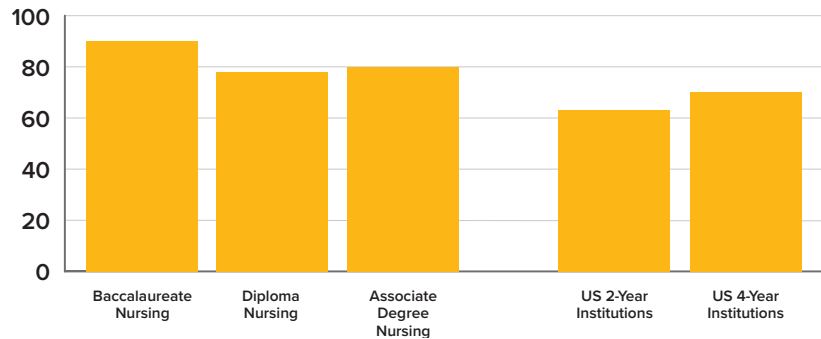
# Introduction

Student attrition, retention, and graduation rates are challenges that every post-secondary education program confronts. For associate degree nursing programs (ADNs), however, these challenges are especially acute. **According to data from the National League for Nursing, ADN programs lose 20% of students in the first year of a 2-year program.**

Looking beyond the first year, other research has found that, “On average, attrition rates have been reported to be 50% for students enrolled in baccalaureate nursing programs and 47% for students enrolled in associate degree nursing programs (Newton & Moore, 2009; Peter, 2005).”<sup>1</sup>

Unlike most other courses of study, post-secondary health sciences programs must also measure success in terms of the percentage of students who are able to pass their board certification exams on the first attempt. Here again, ADNs face challenges. **In 2016, 17.3% of ADN students did not pass the NCLEX®-RN exam on their first attempt.**<sup>2</sup>

## One-Year Retention Status\* of Full-Time Nursing Students



<sup>1</sup>“Addressing the Challenges of Nursing Student Attrition”, Journal of Nursing Education • Vol. 52, No. X, 2013, Robin C. Harris, DNP, RN; Lisa Rosenberg, PhD, RN; and Marilyn E. Grace O’Rourke, DNP, APHN

<sup>2</sup> “2016 Number of Candidates Taking NCLEX Examination and Percent Passing, by Type of Candidate”, National Council of State Boards of Nursing

\* Percentage of students who are still enrolled or have graduated one year after initial enrollment.

In effect,  
up to  
50% of  
projected  
tuition  
funds may  
be lost  
during a  
2-year  
nursing  
program.

## Widespread Impact

The impact of these challenges is significant and touches numerous people and institutions. Nursing students are likely to experience frustration and disappointment if they leave a program early or are unsuccessful on their first NCLEX-RN attempt. They and their families may also suffer financial setback if the student is unable to find a career path with income potential similar to nursing.

Additionally, nursing schools lose tuition dollars from students who leave their program, and cannot admit new students into a cohort that is already enrolled and progressing. In effect, up to 50% of projected tuition funds may be lost during a 2-year nursing program.

Finally, the need for more nurses in the U.S. is well documented. As baby boomers age, their need for care grows; yet, nurses in the baby boomer generation are reaching retirement age and exiting the profession, leaving behind a significant nursing shortage. **The result is that ADN programs are under mounting pressure to graduate high volumes of well-qualified nurses, which in turn requires program staff and faculty to improve attrition, retention, graduation, and NCLEX-RN pass rates.**

## Complex Causes

The causes of these problems are complex. A review of the literature and conversations with ADN program administrators both point to myriad concerns. Some of these include:

- **Student preparedness** prior to entering a program, especially in math and science<sup>3</sup>
- **Student understanding of the rigors** of the nursing course and the nursing profession
- **Admission policies** that limit the ability of admissions staff to select students with the highest probability of success

<sup>3</sup> "Many who pass state high school graduation tests show up to college unprepared," Hechinger Report, Luba Ostashevsky, February 18, 2016.

We have  
identified  
5 strategies  
that nursing  
schools  
could adopt  
to help  
improve  
student  
outcomes.

- **Inflexible assessment and remediation strategies** – not all approaches are effective for all students, situations, or programs; moreover, budgets limit the range of options that a school can implement.

Entire journals focus on these challenges in ADN and other nursing programs. The problems are much too complex to address completely in a single paper. Instead, this paper focuses specifically on a selection of student assessment and remediation strategies.

At Exam Master®, we have been hearing more about these concerns lately from ADN administrators and educators. This paper reflects our effort to identify a small set of strategies that nursing schools could adopt to help improve student outcomes. We reviewed literature, spoke with ADN staff and educators, and applied insights from our own 20+ years in the field of health sciences education.

The result is five strategies that appear to meet with success and favorable feedback from ADN program administrators and faculty, which include:

- 1. Pre-admission readiness assessments with detailed scoring**
- 2. One-on-one pre-admission interviewing**
- 3. Early remediation planning and implementation**
- 4. Periodic student benchmarking**
- 5. Customizable test preparation throughout the education experience**

This paper will take a look at each of these strategies and offer suggestions for its successful implementation as part of a comprehensive support program for ADN students.

# 1

The first  
step to  
improving  
student  
success rates  
is assessing  
students  
accurately,  
in detail,  
before  
they enroll.

## **Perform detailed student readiness assessments before admission**

Nursing is a demanding field. In addition to numerous medical skills, it requires proficiency in verbal and written communications, mathematics, and a wide range of science topics. Not all students are prepared for the rigors of nursing coursework when they apply for admission, and many may not develop the skills or aptitude to be successful, even with remediation programs.

### **Assess Students Early and Accurately**

Because data suggest that pre-admission testing can help institutions more accurately assess future NCLEX-RN readiness,<sup>4</sup> and given the rigors of nurse training and the nursing profession, the first step to improving student success rates is assessing students accurately, in detail, before they enroll. Such assessments provide a means to identify the applicants who are most likely to attrite, and enable institutions to take immediate action.

For example, test results afford admissions teams an opportunity to communicate frankly, one-on-one, with at-risk prospective students about the rigors of the course and the nursing profession.

### **Identify Students Needing Remediation or Support**

Another benefit of a pre-admission assessment is that it enables programs to segment students who need help into appropriate remediation programs. For example, while students who assess well across all topics may need no remediation, those who under-perform in specific topic areas—math, biology, anatomy, English, etc.—may be assigned appropriate remediation coursework and/or directed to other support services.

<sup>4</sup> Crow, C.S., Handley, M., Morrison, R.S. and Shelton, M.M. (2004) Requirements and interventions used by bsn programs to promote and predict NCLEX-RN success: A national study. *Journal of Professional Nursing*, 20, 174-186. doi:10.1016/j.profnurs.2004.04.004

Open  
enrollment  
institutions  
often admit  
a larger  
percentage of  
non-traditional  
and high-risk  
students  
in need of  
remediation.

This is where assessing “in detail” is critically important. Many ADN programs employ pre-admission assessments to screen out applicants who do not have the aptitude for nursing and to identify those who are qualified but need pre-remediation. But many of the “off-the-shelf” tests provide insufficient scoring detail on student competencies in specific subject matters, leaving school administrators unclear on where, specifically, any given student needs remediation. When implementing or improving a pre-admission assessment strategy, it is invaluable to ensure that testing provides the level of performance reporting necessary to enable accurate remediation planning and placement.

The need for detailed pre-admission assessments is perhaps even greater in open-enrollment programs, where entrance is open to any student with a high school diploma or GED. An article in the Journal of Nursing Education noted that, “Open enrollment institutions often admit a larger percentage of nontraditional and high-risk students in need of remediation, compared with colleges that have more selective admission criteria (Rudel, 2006).”

For that reason, the article’s authors go on to say, “It is recommended that at-risk students be proactively identified and remediation implemented or attrition will continue at unacceptably high rates (Gilmore, 2008; Jeffreys, 2007; Ramsburg, 2007; Symes et al., 2002).”<sup>5</sup>

**Key Point: A pre-admission assessment with detailed score reporting enables ADN programs to screen applicants and to begin the remediation process BEFORE students have started any classes where they have little chance of passing.**

While students may experience frustration at the need for remediation, those who are dedicated to a nursing career will likely be less frustrated with remediation than if they perform poorly in required courses.

<sup>5</sup> “Addressing the Challenges of Nursing Student Attrition”, Journal of Nursing Education • Vol. 52, No. X, 2013, Robin C. Harris, DNP, RN; Lisa Rosenberg, PhD, RN; and Marilyn E. Grace O’Rourke, DNP, APHN

# 2

The  
personal  
interview  
format  
was found  
to be  
the most  
differentiating  
in student  
retention.

## Interview applicants personally before enrollment

Pre-admission testing helps to uncover a student's potential challenges with nursing course content and, ultimately, the NCLEX-RN exam. But a review of available literature on the topic and conversations with ADN admissions professionals show that personal factors also play a significant role in predicting a nursing student's success. A one-on-one interview helps the school and the student to begin to address those personal factors that may otherwise lead to future problems.

In short, interviewing applicants prior to admission is a sound investment in the future of the student and in retaining tuition dollars from enrollment through to graduation.

One researcher on the topic noted that, "Attrition rate due to poor academic performance and personal factors increased from close to 30% to approximately 35% when the use of an interview admission process was omitted in a study by Ehrenfeld and Tabak (2000). The personal interview format was found to be the most differentiating in student retention, particularly in the screening for personal factors contributing to attrition, and may assist in the selection of students most likely to be retained in programs of nursing."<sup>6</sup>

### Benefits of One-on-One Interview

The one-on-one interview provides several benefits. For example, it enables admissions staff to:

- Assess student commitment to the program
- Identify personal factors such as employment, family life, and program preparedness that may impact future performance
- Connect qualified students with staff, resources, social opportunities, etc. that support and enhance the education experience

<sup>6</sup> "A Study of Program Completion and Attrition in One Baccalaureate Nursing Program in the Southeastern United States", p. 20, Lori J. Shrock, Gardner-Webb University



The interview also enables nursing students to build a more personal connection to the institution and program by sharing personal details with another person, rather than completing a form or conversing via phone or email. Further, it provides them an opportunity to learn more about the real-world requirements of the program and of the nursing profession prior to committing to enrollment.

The combination of the interview and the pre-admission test should provide admissions professionals and students with a more complete picture of the individual student's strengths and weaknesses, enabling admission and remediation decisions that improve the likelihood of graduation and first-time NCLEX-RN success.



# 3

Remediation  
appears to  
be most  
effective  
when it  
begins  
early in  
the at-risk  
student's  
program.

## Plan and implement personalized remediation early

Among nursing education professionals, there is some debate as to the value of remediation coursework as a pre-requisite to participating in some or all of a nursing program's classes. While it is not within the purview of this paper to attempt to settle the argument, there is research to support the value of remedial education in this context. For example:

- In a study of 1,678 ADN nursing students in a state-wide community college system between 2004 and 2007, research discerned that the “Number and type of remedial courses showed no statistically significant, predictive relationships with pass/fail rates on the NCLEX-RN examination.”<sup>7</sup> In other words, students with one or several remedial courses were just as likely to pass the NCLEX-RN exam as students who required no remedial courses.

A number of studies have found skill building in reading, writing, mathematics, communication, and even stress management, to correlate with nursing student success (Gardner et al., 2007; Jimenez, Navia-Osorio, & Diaz, 2010; Rogers, 2010).

A common theme among the research, as well as from the feedback from industry professionals, is that remediation appears to be most effective when it begins early in the at-risk student's program and follows a plan that is customized to that student's specific areas of weakness.

### When it comes to remediation a targeted approach works best

For the admissions professional and the educator in an ADN program, it is important to recognize that a “one size fits all” approach to remediation testing and education may actually INCREASE student frustration and attrition rather than aid in student success. There is a risk of requiring students to complete remedial coursework that, in fact, they do not need.

<sup>7</sup> “The Impact of Remedial Education on Nursing Student Success,” Laurie F. Peters, May, 2010

To the extent possible, schools can avoid this risk by focusing remediation only on the skills and knowledge that the at-risk student truly lacks. To accomplish this, ADN admissions staff should avoid “off-the-shelf” tests that may include content not covered in the program. Instead, it is important to work with faculty to customize pre-remediation tests to match the required pre-requisite course content and specific program content being offered. Then, assess students against that content and provide support in the areas where they demonstrate weakness.

For example, if the pre-admission and interview process identifies a student who is weak in algebra and biology, but is otherwise promising, then have that student complete pre-remediation tests in just algebra and biology to identify the specific content areas where they need support. Then, provide access to additional learning materials and opportunities specific to that content.



# 4

Inflexible  
question banks  
often limit  
how well  
faculty can  
construct  
benchmark  
tests to  
reflect a  
nursing  
program's  
actual  
curriculum.

## Benchmark students throughout the program

**Grade point average (GPA) may be a predictor of success, but it is incomplete** because each grade reflects a nursing student's performance in a specific, single class. GPA largely ignores the student's ability to synthesize and apply information across multiple fields of discipline, as the NCLEX-RN exam requires.

To gauge and guide student performance more accurately over time, consider implementing student benchmark competency testing at key program intervals. These tests help faculty and students to recognize strengths and weaknesses in the student's preparedness, and address any gaps in their progress toward graduation. Also, as with the pre-admission assessment, they open the door to a conversation about remediation where necessary.

This is another point where off-the-shelf tests and testing systems may prove problematic. Inflexible question banks often limit how well faculty can construct benchmark tests to reflect a nursing program's actual curriculum. Instead, it is best to customize these exams to fit a nursing program's curriculum specifically, ensuring that test questions cover material the students have learned.

Conduct multi-subject benchmark examinations at key intervals, such as at the end of each semester and midway through the course; additionally, consider conducting subject-specific tests prior to students taking a challenging course that has pre-requisite classes. For example, *Care of Mental Health Patients* or *Integrated Concepts for Nursing Practice* are classes offered in many ADN programs, and they require students to achieve passing grades first in Foundations of Nursing. To improve student success in the more advanced classes, consider having students who marginally passed the pre-requisite course(s) first take a benchmark test, and provide appropriate support (tutoring, mentorship, remediation assignments, etc.) to those who need it.

# 5

ADN  
deans and  
admissions  
professionals  
report  
challenges  
with educator  
adoption  
and usage  
of testing  
technology.

## Deploy flexible testing solutions

Use of standardized testing plays a significant role in modern nursing education, most notably in the NCLEX-RN exam itself. Correspondingly, most nursing schools now incorporate electronic testing and test-preparation solutions into their curricula to support their remediation, retention, and test preparation efforts.

However, in one-on-one conversations, ADN deans and admissions professionals report challenges with educator adoption and usage of testing technology. The challenge, they indicate, is driven in large part by difficulties in tailoring the questions and question banks of most platforms to align accurately with their institution's specific course of study.

Not surprisingly, educators themselves also express frustration. High among their concerns are **“teaching to the test”** or, conversely, **“testing what was not taught.”** Faculty are also not necessarily expert in the difficult task of developing high-quality test items.

Ultimately, when adoption suffers, neither students, educators, nor staff benefit from the assistance that an effective assessment solution can offer.

Administrators shared that just as nurse educators should have the flexibility to design and teach content in the method that they find most effective for their students, they should also have the flexibility to test their students the same way.

There are many student assessment and test preparation platforms available today, as well as many question banks developed by nursing and health science professionals. When considering which of these tools to deploy, **the ability to customize at the question level, not just at the exam level**, should receive strong consideration.

Strategies  
to identify  
and address  
challenges  
early and  
consistently  
in each  
student's  
nursing  
education offer  
opportunities  
to improve  
student  
success.

## Conclusion

The challenges of attrition, retention, graduation, and first-time NCLEX-RN success are complex, and hardly new to ADN programs; moreover, they are not likely to go away soon.

Many factors contribute to these issues, including student preparedness before admission, personal factors in each student's home and work life, program admission policies, and limited or inflexible tools and systems for assessing and preparing nursing students for success.

While there is no magic wand to make these issues disappear, strategies to identify and address challenges early and consistently in each student's nursing education appear to offer significant opportunities to improve student success throughout the program. These strategies appear especially promising when educators combine greater personalized attention to students with flexible, customizable approaches for testing and remediation.

ADN program leaders, staff, and educators should consider integrating the following strategies into their comprehensive plans to improve attrition, retention, graduation, and first-time NCLEX-RN success within their programs:

1. **Conduct detailed pre-admission readiness assessments** to identify qualified applicants and their specific remediation needs
2. **Interview students one-on-one before admission** to assess commitment and personal factors that may impact success
3. **Begin remediation as soon as subject-matter weakness is discovered** to mitigate attrition risks, and assess detailed remediation needs at the course level to tailor support to the student
4. **Benchmark student competency across disciplines at key intervals** throughout the program to improve NCLEX-RN readiness
5. **Leverage customizable testing and test preparation solutions** to ensure all testing aligns with course curricula, the necessary competency assessments, and desired learning outcomes

## Contact Exam Master

For more than 20 years, Exam Master has focused exclusively on helping nursing, medical, dental, and pharmacy education programs improve student performance. To learn more about our fully customizable assessment and test-preparation solutions, call (800) 572-3627 or email [info@exammaster.org](mailto:info@exammaster.org).

## Additional Resources

The following resources offer insights and support that may benefit nursing program administrators and faculty striving to improve student success. As part of your efforts to understand and address the challenges of attrition, retention, and passing the NCLEX-RN exam, we encourage you to explore them further, and to share what you learn!

- [National Council of State Boards of Nursing](#)
- [National League for Nursing](#)
  - [Nursing education statistics](#)
- [Journal of Continuing Education in Nursing](#)
- [Journal of Nursing Education](#)
- [Journal of Nursing Regulation](#)
- [Journal of Professional Nursing](#)
- [The Hechinger Report](#)
- [“The Impact of Remedial Education on Nursing Student Success,”](#) Laurie F. Peters, May, 2010 (PDF)