

**North Carolina Agricultural & Technical State University
Nursing Program Review**

Report to University of North Carolina President Tom Ross

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INTRODUCTION

In its April 2014 meeting, the University of North Carolina (UNC) Board of Governors completed its annual review of the National Council Licensure Examination for Registered Nurses (NCLEX-RN) first-time writers' pass rates for graduates of the nursing programs across the University system. Subsequent to that review and in keeping with UNC Board of Governors policy 400.1.7, the Board suspended new admissions to the BSN program at North Carolina Agricultural & Technical State University (NC A&T) after 2014 and called for a full review of the program. Specifically, the motion approved by the Board was as follows: "The 2013 Nursing Report is for informational purposes only and does not require a motion to accept. However, in 2012 North Carolina A&T State University received a waiver from the Board of Governors' policy which would have required the initiation of program termination procedures. This waiver was granted under the condition that North Carolina A&T State University 2013 test takers would meet Board of Governors' NCLEX-RN passing rate standards. I move that new admissions to the nursing program be suspended for all students admitted after 2014 and a panel convened within sixty days to review possible program elimination at North Carolina A&T State University."

In his May 2014 charge to the review team, UNC President Tom Ross requested "a full and comprehensive review of program strengths and weaknesses, student demand and employer need for additional baccalaureate nurses, the full costs of program delivery, and potential net savings (or losses) to the institution, the system, the state, and employers of full or partial program closure."

The review team was composed of experts in nursing education, health-professions education, health-systems workforce issues, and higher-education finance. This team met five times between May and October of 2014 to review relevant information regarding UNC Board policy, North Carolina Board of Nursing policy, data on the NC A&T School of Nursing's performance and educational programs and policies, information about nursing workforce needs in North Carolina, and financial data regarding both NC A&T and the School of Nursing. Additionally, the review team conducted a site visit to NC A&T School of Nursing in September 2014 to meet with university leaders, School of Nursing leaders, and nursing faculty and staff to review policies, practices, and plans within the School.

In his charge to the review team, President Ross noted that UNC Board Policy 400.1.7 states that reviews initiated under the policy could result in termination of a program and requested that the review team provide him "with as specific and actionable [a set of recommendations] as possible . . . [r]egardless of where on the 'discontinuation to no additional changes needed' continuum your recommendations fall." In this report, the team presents a review of nursing workforce issues in North Carolina, relevant policies regarding NCLEX-RN pass rates for nursing education programs, previous performance of NC A&T graduates, a summary of the NC A&T Nursing program and the changes that the program has implemented since 2011, financial implications of possible changes to the nursing program, and a set of recommendations to the President.

THE NURSING WORKFORCE IN THE U.S. AND IN NORTH CAROLINA

National projections. Demand for registered nurses has varied over the years but generally has been strong, with shifts in demand related to the economic health of the country and specific regions, changes in healthcare policy, and the aging of the U.S. population. The most recent shortage of RNs peaked in 2001 but has eased over the last several years.¹ However, shortages are predicted to re-

¹ Buerhaus, PI, Auerbach, DI, & Staiger, DO. (2009). The recent surge in nurse employment: causes and implications. *Health Affairs*, 28(4), w657-w668. Available at: <http://content.healthaffairs.org/content/28/4/w657.abstract>

emerge over the next decade. Indeed, some estimates suggest that the U.S. nursing shortage will continue to grow through 2025, with shortages that are as severe as or more severe than those seen in the mid-1960s.² Furthermore, national surveys of employers, particularly hospitals, indicate an increasing preference for nurses who hold at least a baccalaureate degree³, with research suggesting a link between baccalaureate education of nurses and surgical patient outcomes.⁴

The projected shortage is due to two factors, according to the Bureau of Labor Statistics' Employment Projections 2012-2022, released in December, 2013. First, as demand for healthcare services increases in the U.S., the RN workforce (including RNs with both two- and four-year degrees) is expected to grow from 2.71 million in 2012 to 3.24 million in 2022, or an increase of 526,800 new nursing jobs. During that time frame, the Bureau also projects the need for 525,000 replacement nurses in the workforce as currently practicing nurses reach retirement age. Thus, the Bureau predicts the total number of job openings for RNs due to growth and replacements will be about 1.05 million by 2022.⁵

Regional and state demand. Demand for nurses will not be evenly distributed throughout the country over the coming decades. At least one prediction suggests that the nursing shortages forecast by the 2020s may be most intense in the South and West, where the population's mean age is expected to be higher than in other regions, and where there will be concomitant losses in nursing supply due to an aging workforce. In this state-by-state analysis, the authors predict that North Carolina may experience a shortage of around 20,850 RNs by 2030.⁶ This is consistent with the North Carolina Institute of Medicine's 2004 report from the Task Force on the North Carolina Nursing Workforce, which concluded that "there are good reasons to believe that without some intervention, North Carolina will experience a shortage of registered nurses and other nursing assistive personnel over the next two decades." And that "[w]hile the nursing workforce situation in North Carolina has not yet reached 'crisis' proportions, the projected loss of our most experienced nurses due to aging and retirement, at a time when demand for nurses will be increasing, will undoubtedly lead to a severe shortage of nursing personnel by the end of the decade unless remedial steps are taken."⁷

The number of RNs has increased annually across North Carolina, with annual growth rates ranging from 1.82% to over 3.5% per year in the past decade. However, nursing supply is not evenly distributed across the state. The nurse-to-population ratio tends to be lower in rural counties. For example, Gates, Camden, Warren, Perquimans, Caswell, Hoke, and Yadkin counties all have fewer than 25 nurses/10,000 population.⁸

² *Ibid.*

³ http://www.aacn.nche.edu/leading_initiatives_news/news/2013/employment13

⁴ Aiken LH, Clarke SP, Cheung RB, Sloane DM, & Silber JH. (2003). Educational levels of hospital nurses and surgical patient mortality. *JAMA*, 290(12), 1617-1623. Available at: <http://jama.jamanetwork.com/article.aspx?articleid=197345>.

⁵ Bureau of Labor Statistics. (2013). Economic and employment projections: 2012-2022. Available at: <http://www.bls.gov/news.release/ecopro.toc.htm>

⁶ <http://digitalcommons.unl.edu/cgi/viewcontent.cgi?article=1148&context=publichealthresources>

⁷ North Carolina Institute of Medicine. Task Force on the North Carolina Nursing Workforce Report: 2004. Durham, NC. Updated in 2007. Available at <http://www.nciom.org/wp-content/uploads/2010/10/fullreport.pdf> and http://www.nciom.org/wp-content/uploads/2004/05/NCIOM_Nursing_Workforce_Update_2007.pdf

⁸ Data provided by the Program on Health Workforce Research & Policy at The Cecil B. Sheps Center for Health Services Research, UNC-Chapel Hill. <http://www.shepscenter.unc.edu/hp/>

The North Carolina Triad Region. The North Carolina Triad region includes the cities of High Point, Greensboro, and Winston-Salem, as well as their metropolitan surrounding areas. This includes Alamance, Caswell, Davidson, Davie, Forsyth, Guilford, Montgomery, Randolph, Rockingham, Stokes, Surry, and Yadkin Counties. The nursing workforce in this region averages approximately 100.3 RNs per 10,000 population, a ratio not significantly different from the state average of 99.6 per 10,000. However, the county-specific ratios vary widely, from a high of 187.7 nurses/10,000 population in Forsyth County to a low of 22.1/10,000 in Caswell County.⁹ Approximately 44% of the nursing workforce in the Triad holds a baccalaureate degree or higher in nursing, compared to 40% overall in North Carolina, though both of these rates fall well below the national average of 55%.¹⁰

Demographic Characteristics of the North Carolina Nursing Workforce. Given concerns regarding the aging of the nursing workforce and the implications for demand over the coming decades, it is noteworthy that approximately 39% of the practicing nurses in North Carolina are age 51 or over, with 14% over 60; in the Triad region, these proportions are 33% and 8.4%, respectively.¹¹ The North Carolina Institute of Medicine's report on the nursing workforce suggests a sharp drop-off by age in the proportion of nurses who are actively employed; about 70% of nurses aged 46-55 are employed in nursing, while about 50% of nurses aged 56-65 are employed in nursing.¹²

Other demographic factors may also be relevant to nursing workforce concerns. The North Carolina Institute of Medicine notes that one approach to addressing potential nursing shortages is the increased recruitment of individuals who have historically been under-represented in nursing education programs, including men and racial or ethnic minority populations.¹³ Only 7.6% of the RN workforce in North Carolina is made up of men, while 10.7% of licensed RNs are African American and 1.1% are Hispanic or Latino (the proportion of racial and ethnic minorities in North Carolina's overall population is about 28%). In the Triad, 12.8% of licensed RNs are African American and 0.9% are Hispanic/Latino.¹⁴ Since there is strong evidence that minority healthcare workers are somewhat more likely than their non-minority counterparts to work in community-based settings and settings that serve low-income populations, attention to the diversity of the nursing workforce is warranted.¹⁵

POLICIES GOVERNING NURSING EDUCATION IN NORTH CAROLINA

In North Carolina, there are two governing bodies setting expectations for institutional-level first-time writers' pass rates on the National Council Licensure Examination for Registered Nurses (NCLEX-RN). The North Carolina Board of Nursing's Administrative Code Rules include requirements for nursing education programs, including the number and qualifications of faculty, curricular specifications, and NCLEX-RN pass rates. These expectations apply to graduates of all North Carolina institutions that offer initial-licensure nursing programs, including institutions that prepare RNs with associates' degrees and

⁹ *Ibid.*

¹⁰ Data provided on request from the North Carolina Health Professions Data System by the Program on Health Workforce Research & Policy at The Cecil B. Sheps Center for Health Services Research, UNC-Chapel Hill. "RN: Demographic and Practice Information, Piedmont Triad Region, North Carolina, 2012."

¹¹ *Ibid.*

¹² North Carolina Institute of Medicine. Task Force on the North Carolina Nursing Workforce Report: 2004. Durham, NC. Updated in 2007.

¹³ *Ibid.*

¹⁴ *Ibid.*

¹⁵ Institute of Medicine of the National Academies. (2004). *In the Nation's Compelling Interest: Ensuring Diversity in the Health Care Workforce*. Committee on Institutional and Policy-Level Strategies for Increasing the Diversity of the U.S. Healthcare Workforce. The National Academies Press, Washington, DC.

those that prepare RNs with bachelors' degrees. The University of North Carolina's policy on Nursing Education addresses transfer of students from associates' degree programs in nursing into baccalaureate programs as well as NCLEX-RN pass rates of graduates from nursing programs within the UNC system.

North Carolina Board of Nursing Policy. The North Carolina Board of Nursing, founded in 1903, is responsible for the regulation of nursing in the state. The Board's Administrative Code Rules¹⁶ includes a section focused on standards for nursing education. Faculty requirements for programs leading to RN licensure, set forth in section 21 NCAC 36 .0318, include expectations that all faculty members hold at least a baccalaureate degree in nursing and that 50% or more of the faculty hold at least a master's degree. Faculty members must also have clinical experience as a registered nurse and training in teaching and learning principles. Nursing programs are required by this regulation to have a faculty-to-student clinical ratio of 1:10 or less.

Student requirements are delineated in section 21 NCAC 36 .0320, and include expectations for admissions to programs leading to RN licensure. The standards for pass rates on the NCLEX-RN were revised in January 2006 to state that programs are expected to "maintain a three-year average at or above 95 percent of the national pass rate for licensure level pass rate on first writing of the licensure examination for calendar years ending December 31." The Board of Nursing standard for calendar year 2013 was a three-year average pass rate of 83%.

Programs that fall below the Board of Nursing standards on the pass rates are asked to submit a written improvement plan aimed at increasing the program's overall performance. If the program does not improve after three consecutive years, the Board of Nursing places the program on Public Warning and conducts a focused review of the program. The Public Warning status is lifted when the program demonstrates significant improvement, defined as a current year's pass rate meeting or exceeding 95% of the current-year, national passing rate (in 2013, this was 79%) or a three-year average passing rate that is at or above 90% of the national, three-year passing rate average (in 2013, this was 78%).

University of North Carolina Policy. The Board of Governors of UNC monitors the NCLEX-RN pass rates of graduates from its nursing programs; nursing is the only professional degree program with a minimum licensure exam pass rate requirement in UNC policy. The UNC Policy on Nursing Education (Policy 400.1.7)¹⁷ was adopted by the UNC Board of Governors in May 1990 and addresses several issues related to nursing education within the University, including facilitating the transfer of RNs who hold an associates' degree into baccalaureate nursing programs, initiating studies of nursing education at specific institutions within the University system, and reviewing the NCLEX-RN pass rates of graduates from the UNC system. With regard to this last item, the policy requires, ". . . that the board affirm the President's proposed policy with respect to passing rates on the licensing examination; (1) a requirement that the President will consider, jointly with the chancellor, an evaluation of the leadership, faculty, admissions policies and the curriculum of any program whose graduates do not achieve for two consecutive years an annual passing rate of 85 percent for first-time writers; and (2) a requirement that the President will ask the board to initiate program termination procedures for any program having a first-time passing rate of less than 75 percent for two consecutive years."¹⁸

¹⁶ <http://www.ncbon.com/myfiles/downloads/administrative-code-rules.pdf>

¹⁷ <http://www.northcarolina.edu/apps/policy/index.php?pg=vs&id=366&added=1>

¹⁸ *Ibid.*

NCLEX-RN PASS RATES: NC A&T, NORTH CAROLINA, AND UNITED STATES

The NCLEX-RN pass rates for first-time writers who were graduates of the NC A&T nursing program over the past five years are detailed below in Table 1. In Table 2, recent pass rates for first-time writers at NC A&T are compared to the pass rates for first-time writers in North Carolina and the United States overall. Finally, Table 3 shows first-time writers' pass rates at NC A&T as compared to UNC's policy thresholds and the North Carolina Board of Nursing's policy thresholds.

Table 1. Number of first-time writers and pass rates for the NCLEX-RN at the NC A&T Nursing program, 2009-2013.¹⁹

	2009	2010	2011	2012	2013
# writers	57	54	47	55	57
# passed	50	33	35	45	46
% pass rate	88%	61%	74%	82%	81%

Table 2. Pass rates (%) for first-time writers of the NCLEX-RN at NC A&T, all North Carolina, and all US, 2011-2013.

	2011	2012	2013
NC A&T	74	82	81
North Carolina²⁰	84	86	79
United States^{21,22,23}	84.5	87.7	80.5

Table 3. Pass rates (%) for first-time writers of the NCLEX-RN at NC A&T compared to policy thresholds for UNC and the NC Board of Nursing.²⁴

	2009	2010	2011	2012	2013
NC A&T, single year pass rate	88	61	74	82	81
UNC Policy standard	85	85	85	85	85
95% of U.S. single year pass rate	84	83	84	86	79
NC A&T, 3-year average pass rate	88	80	74	72	79
NC Board of Nursing standard (95% of U.S. 3-year average pass rate)	83	83	83	84	83
90% of U.S. 3-year average pass rate	78	79	79	80	78

In 2011, when NC A&T had experienced pass rates below 75% for two years, the school submitted a detailed self-assessment and improvement plan to the UNC Board of Governors. It was also placed on Warning status with the NC Board of Nursing, since its three-year average pass rates fell below that body's standard of 95% of the national, three-year average pass rate. Since that time, the school's pass rates for first-time writers have increased by 20% and in 2013 its pass rate exceeded the state and national rates; this is notable given that state and national pass rates for first-time writers dropped in

¹⁹ The University of North Carolina Nursing Report, 2013. http://northcarolina.edu/sites/default/files/item_12_-_2013_nursing_report_final-4_1.pdf

²⁰ <http://www.ncbon.com/myfiles/downloads/3-year-rn-pass-rate-2011-2013.pdf>

²¹ https://www.ncsbn.org/NCLEX_Stats_2011.pdf

²² https://www.ncsbn.org/NCLEX_Stats_2012.pdf

²³ https://www.ncsbn.org/NCLEX_Stats_2013.pdf

²⁴ The University of North Carolina Nursing Report, 2013. http://northcarolina.edu/sites/default/files/item_12_-_2013_nursing_report_final-4_1.pdf

2013 due to a raising of the national passing standards set by the National Council of State Boards of Nursing²⁵. Additional improvements have been undertaken at NC A&T as described in the section below.

Because the pass rates at NC A&T in 2013 were greater than 95% of the national single-year pass rate and greater than 90% of the national, three-year average, the North Carolina Board of Nursing moved the NC A&T nursing program from Warning status to Full Approval status in early 2014. Nonetheless, NC A&T's first-time writers' pass rate did not reach the UNC Board of Governor's standard of 85% in 2012 or 2013, triggering the Board's and President's request in spring of 2014 for an additional review.

Although the UNC Board of Governors' action in spring 2014 suspended new enrollments in the NC A&T nursing program after 2014, first-time writer pass rates for students who were enrolled in the nursing program at the time of the Board's action will continue to be available for additional monitoring. Pass rates for the graduates of the class of 2014, as well as those of existing rising juniors and seniors in the nursing program (classes of 2015 and 2016) will be available over the next three years.

NORTH CAROLINA A&T STATE UNIVERSITY'S NURSING PROGRAM

The North Carolina Agricultural and Technical State University's School of Nursing was established in 1953. The school offers a traditional Bachelor of Science in Nursing (BSN) degree, consisting of 124 semester credit hours (including 77 credits in the nursing major); an Accelerated Bachelor of Science in Nursing (ABSN) for second degree bachelor's students, consisting of 64 credits in the nursing major, in addition to any unmet general education or prerequisite requirements; and a Bachelor of Science in Nursing Completion (BSNC), which enrolls licensed RNs with associate degrees and requires 39 credits in the major in addition to any unmet general education or prerequisite requirements. The BSNC is also known as the RN-to-BSN degree program. Because students in the BSNC or RN-to-BSN program have already passed the NCLEX-RN and hold licensure, NC A&T's NCLEX-RN first-time writer pass rates include only those students in the traditional and accelerated BSN programs. The ABSN program is smaller than the traditional BSN, but its pass rates have been higher than those of the traditional program, with 23 of 24 test takers from the accelerated program passing the NCLEX-RN at first writing in the past four years.

The NC A&T School of Nursing was initially accredited by the National League for Nursing in 1971 and has maintained continuous accreditation since. In the fall of 2011, NC A&T's current nursing accreditor, the Accreditation Commission for Education in Nursing (ACEN), placed the institution on warning status due to students' performance on the NCLEX-RN. At that time, the school was also placed on warning status by the NC Board of Nursing, and an improvement report was required by the UNC Board of Governors because of these pass-rate concerns. Since that time, several significant changes have occurred in the administration, faculty composition, curriculum, and student body at the school. A subsequent visit from an ACEN site visit team in Spring 2014 resulted in a recommendation that the warning status be removed in response to improvements in licensure examination pass rates and improvements in the nursing curriculum; that decision is pending review by the full, national accrediting board.

Administrative Changes. Dean Inez Tuck was appointed by Chancellor Harold Martin in July 2011. Prior to Dean Tuck's arrival, the School of Nursing had been without a permanent Dean for four years. Upon her arrival, Dean Tuck began implementing significant changes throughout the school almost immediately. These included the consolidation of the Office of Student Services in the school and the addition of a pre-nursing advisor, along with the hiring of the school's first Associate Dean for Academic

²⁵ See "NCLEX-RN Passing Standard" at <https://www.ncsbn.org/2630.htm>.

Affairs in 2013 and the refinement of the role of the school's Assistant Dean to focus on student and faculty development. Program coordinators for each of the school's three programs focus on student recruitment and support. These coordinators also contribute to leadership decisions through the school's Administrative Advisory Council, which meets with the dean, associate dean, and assistant dean twice monthly.

Changes in Faculty. NC A&T reports that in Academic Year 2013-2014, there were 20 full-time faculty members in the nursing program, 65% of whom hold doctorates and another 20% of whom are pursuing doctoral degrees. One of the new dean's areas of emphasis has been a shift in the School of Nursing's expectations of faculty members, particularly with regard to an increased focus on classroom outcomes, student monitoring and assessments to identify points of weakness, and student mentoring (described more fully in the sections below). This shift has resulted in five faculty retirements, four faculty relocations to other positions outside NC A&T, and one non-reappointment. Six new, tenure-track faculty members and three clinical faculty members have been hired, all with significant academic and clinical preparation as well as teaching experience. Faculty development activities within the school have been focused on aligning curriculum with required learning outcomes for licensure, teaching strategies, and academic coaching skills.

Changes in Curriculum. The leadership and faculty of the school began a comprehensive revision of the school's BSN program curricula in academic year 2011-2012 in response to the downward trend in licensure exam pass rates for first-time writers. This included mapping the curriculum to the American Association of Colleges of Nursing's Essentials of Baccalaureate Education for Professional Nursing Practice²⁶, that organization's Quality and Safety Education for Nurses competencies²⁷, and other standards in interdisciplinary collaboration and informatics. After the revised curriculum went through school and University committee review processes, a transitional curriculum was implemented in academic year 2012-2013 and the fully revised curriculum was implemented in the summer and fall of 2013. An Academic Programs Committee reviews each course syllabus and an end-of-course report (including student-outcome data on exams, including practice licensure exams) to identify any needed changes to the courses.

In addition to the curricular revision, a new academic coaching model was implemented by the school in 2012-2013 after a review of the previous advising model suggested that advising had previously focused more on course registration requirements than on mentoring for student success. In the current model, each faculty member is assigned four to six junior and senior students. Students are tracked using an academic scorecard that includes performance in all courses and meet frequently throughout the semester with their assigned mentor. Mentoring sessions build upon student-success skills taught in both the University's general-education program and in student-success courses added to the nursing curriculum during the program's internal review; these sessions emphasize student accountability, self-regulation, time management, and self-analysis of test results. In addition, the school has instituted a new preparation program focusing specifically on the NCLEX-RN, as well as a one-week NCLEX-RN "boot camp" at the end of each academic year that supports students prior to their sitting for the examination.

²⁶ AACN. (2008). Essentials of Baccalaureate Education for Professional Nursing Practice. Available at <http://www.aacn.nche.edu/education-resources/baccessentials08.pdf>.

²⁷ Cronenwett, L., et al. (2007). Quality and safety education for nurses. *Nursing Outlook: The Official Journal of the American Academy of Nursing*, 55(3), 122-131. Available at <http://dx.doi.org/10.1016/j.outlook.2007.02.006>.

The timing of these curricular changes may have an impact on future licensure-exam pass rates for NC A&T graduates. Since first-time writer pass rates are reported by calendar year, many graduates who took the exam in 2013 would have graduated prior to the implementation of these curricular changes. Furthermore, students who were rising juniors when the transitional curriculum was implemented would not have been graduating until the spring of 2014, at the earliest. Thus, most of those graduates would sit for the NCLEX-RN exam in calendar year 2014 and be included in the 2015 edition of NC Board of Nursing and UNC reports of annual pass rates. Similarly, students who were rising juniors when the fully revised curriculum was implemented in the summer and fall of 2013 will not graduate until spring 2015 at the earliest, and thus will be included in NC Board of Nursing and UNC reports of pass rates in early 2016.

Changes in Student Body. With the arrival of the new dean in 2011 and a subsequent review of admissions practices, as well as an analysis of student factors associated with eventual performance on the NCLEX-RN, several changes were made to student-admissions policies. These changes included an increase in the minimum SAT score required for admission to the nursing program, changes in required grades in pre-requisite courses, and changes in transcript-review procedures. Specifically, minimum SAT scores required for admission to the pre-nursing program have increased from 800 in 2010 to 930 today. Policies that previously stated that students must have earned grades of C or better in all pre-requisite courses to be admitted to the upper division nursing program have been clarified to require that students must earn grades of C or better on first attempting the pre-requisite courses and that no more than three to five C's may be earned by the applicant in pre-requisite courses overall. Finally, transcript reviews during the admissions process for the upper-division nursing program have been changed so that all transcripts from all institutions attended by the applicant are reviewed to verify that grades across all institutions are in compliance with the new "C or better on first attempt" policy. These changes have resulted in decreases in the total number of students admitted to the upper-division program in nursing, although an increased emphasis on student recruitment may result in overall increases in enrollment in subsequent years.

In addition to these changes in admissions policies, the school developed an Intensive Structured Intervention for high-risk students. Students identified as high-risk included any student who demonstrated marginal academic performance by GPA, a course failure in an upper-division nursing course, or a course grade of between 80 and 83 in an upper-division nursing course (a criterion that was identified after analysis of the relationship between students' course performance and subsequent performance on diagnostic exams for NCLEX-RN as well as the NCLEX-RN itself). The Intensive Structured Intervention program currently includes 33 students and meets every other week to focus on critical problem solving, test-taking strategies, study strategies, and stress management.

As with the curricular changes, many of these admissions and other student-related changes may have effects on program outcomes over the next several years. The admissions changes, for example, were implemented in the past year; thus, students who were affected by those changes will not graduate from the nursing program until the spring of 2015.

FINANCIAL ASPECTS OF THE NC A&T NURSING PROGRAM

In fiscal year 2013-14 the NC A&T School of Nursing's expenditures totaled \$2,847,719, more than 95 percent of which paid for personnel. It employed several part-time faculty and staff members, as well as 28 full-time faculty members, including the dean and other employees primarily assigned to administration. The School of Nursing's estimated receipts from students do not cover its teaching and administrative costs mainly because its faculty is large relative to its student body. In 2013-14, the NC

A&T nursing school had fewer than five students for every teaching FTE, whereas UNC-Greensboro (UNCG) and Winston-Salem State University's (WSSU) nursing schools had roughly 18 and 19 students per estimated teaching FTE.²⁸

A&T's cost structure differs from nearby UNC-system nursing schools because of several factors:

1. **Use of graduate students and temporary teaching positions.** N.C. A&T relies primarily on full-time faculty for teaching work. WSSU and UNCG employ a greater proportion of low-cost teaching staff – temporary lecturers, instructors and graduate students – who are paid less and usually receive no benefits.²⁹ In 2013-14, N.C. A&T exclusively employed EPA-class teaching staff. Approximately one third of WSSU and UNCG's teaching staff was composed of temporary employees or graduate students.
2. **Economies of scale.** Accreditation standards require faculty members to maintain expertise in the subjects they teach, and Board of Nursing standards require adherence to strict faculty-to-student ratios in clinical courses. This might create a certain level of fixed costs, for example a minimum number of faculty needed to teach a complete nursing-baccalaureate curriculum. Fixed costs can be more economically spread across a larger school. NC A&T's nursing program has 93 bachelor's-seeking students in 2014-15, while WSSU had 919 students and UNCG had 294 students.³⁰
3. **Reduced enrollment.** NC A&T's nursing school enrollment has fallen recently, since the school adjusted its admission standards to improve graduation and NCLEX-RN pass rates. The school has not reduced its faculty or decreased overhead expenses in relation to its falling enrollment.
4. **Additional Student Services.** The School of Nursing is receiving additional, Title 13 funding from the NC A&T administration to boost student services that are expected to improve graduation and NCLEX-RN pass rates for first-time writers.

Cost-Benefit Analysis. The net economic impacts of two scenarios were examined: (1) closing the entire School of Nursing and (2) closing just the traditional BSN program. Savings to the UNC system would come from reducing the number of staff members and decreasing expenditures at NC A&T. Additional costs would come from educating the nursing students who would have attended NC A&T at nearby UNC-system schools. In addition, appropriations and other revenues would follow the students from NC A&T to the other schools.³¹ It is estimated that the UNC System and the State would save about \$1.9 million³² a year if the entire School of Nursing were closed and about \$1.7 million³³ a year if just the traditional BSN program were closed.

There is a possible cost to students and employers in either scenario if the closings were to reduce access to nursing and reduce the number of nurses available for hire. Those costs are, nonetheless, estimated to be small, in this case. This is chiefly because additional nursing-education options are available nearby at a similar cost. Some students who would have attended A&T's program might not be able or might not choose to attend other nursing programs nearby. However, those are possibly the same students who are less likely to attend NC A&T's program, now that it has tougher admission

²⁸ Estimated teaching faculty numbers do not include employees whose primary duties were administrative. These figures are estimates based on available data.

²⁹ N.C. A&T does not have a graduate program as the other nearby programs do.

³⁰ Figures include upper-level undergraduates and RN-to-BSN program enrollments.

³¹ The two closest schools, Winston Salem State University (25 miles away) and UNC Greensboro (2 miles away) were assumed to absorb the additional students.

³² This is a twenty-year average of the net discounted cash-flow.

³³ Same as above.

standards, and the same students who have struggled to pass the NCLEX-RN. Another factor to consider is the possibility that nearby schools with higher first-time pass rates may be more successful at graduating high-risk students. If that is the case, students may be better off attending the nearby schools.

An additional source of possible costs to either closure scenario are the synergies among the NCA&T School of Nursing's different degree programs, as well as between the School of Nursing and other academic programs on campus. Losing part or all of the school would eliminate those synergies. Such costs were not examined as part of our analysis and could be significant.

RECOMMENDATIONS

The review team supports both the North Carolina Board of Nursing and the UNC Board of Governors in their efforts to assure a high quality nursing workforce by monitoring the performance of nursing education programs. The review team also supports NC A&T's efforts to address concerns about its graduates' performance on the NCLEX-RN through systematic improvements of the faculty, curriculum and student body in the School of Nursing. Early evidence of the impact of such changes, as seen in NCLEX-RN pass rates for first time writers, is promising, though the timing of these changes means that their full impact will not be seen until students currently enrolled in the nursing program sit for the NCLEX-RN in 2014, 2015, and 2016. Cost-benefit analyses suggest that the nursing program at NC A&T State University must realize these anticipated improvements in licensure pass rates and increase enrollment in its nursing programs overall if it is to be an economically strong contributor to the University. Thus, the review team recommends that first-time writers' pass rates for the NCLEX-RN be monitored over the coming years and that lifting the enrollment suspension or terminating the program be considered on the basis of those rates, as described below. The review team also recommends that the accelerated BSN and BSN-completion programs at NC A&T, which are performing well, be expanded to better utilize the School of Nursing's resources and decrease the cost per student within the school. Finally, the review team recommends that President Ross and the UNC Board of Governors (BOG) examine approaches to improve coordination of NCBON and BOG policies regarding NCLEX-RN pass rate standards for UNC nursing programs and consider inconsistencies in BOG policies for licensure performance standards across professional degree programs.

Recommendations to President Ross are made as follows:

1. Continue the suspension of the admissions into the traditional BSN program at NC A&T and teach-out the existing students unless the first time pass rate on the NCLEX-RN in 2014, 2015, or 2016 meets or exceeds the BOG standards. If that were to occur, the Board of Governors should lift the suspension and allow NC A&T to admit new students into the traditional BSN program. This is outlined in more detail in Appendix A.
2. Regardless of the performance of traditional BSN students, encourage NC A&T's School of Nursing to increase recruitment for its accelerated BSN program and admit at least 30 students per year to that program by academic year 2019-2020.
3. Regardless of the performance of traditional BSN students, encourage NCA&T's School of Nursing to increase recruitment and enrollment of BSN-completion (RN-to-BSN) students and support the school's plan to increase online offerings in that program.

4. With the revision of the North Carolina Board of Nursing's policy in 2006, the UNC Policy 400.1.7 and the Board of Nursing policy are now inconsistent with regard to the NCLEX-RN pass rates that trigger review by the two entities. The review team recommends that the President and Board of Governors consider bringing UNC policy in line with the North Carolina Board of Nursing for consistency and coordination of review actions to which education programs are subject.
5. Examine costs of the nursing program at NC A&T State University as enrollment and staff numbers change in the School of Nursing, encouraging NC A&T's School of Nursing to consider cost-per-student savings opportunities through enrollment increases, lower-cost teaching resources, and other strategies.

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Appendix A**Decision Tree for Monitoring NCLEX-RN pass rates at NC A&T for 2014-2016**

Monitor the NCLEX-RN first-time writer pass rates for graduates of the NC A&T School of Nursing and take action as outlined below:

For NC A&T graduates who take the exam in calendar year 2014 (i.e., the pass rate presented in the UNC Nursing Report in 2015):

- a. If the pass rate is equal to or greater than the UNC Board of Governors' policy standard (using the Board's standard as of the date of the 2015 UNC Nursing report; current standard is 85%), lift the enrollment suspension immediately and apply the relevant Board policy moving forward.
- b. If the pass rate is less than 75%, terminate the traditional BSN program and implement a teach-out plan for the remaining traditional BSN students.
- c. If the pass rate is less than the UNC Board of Governors policy standard but greater than or equal to 75%, maintain the enrollment suspension and re-evaluate the NCLEX-RN pass rate for calendar year 2015 (i.e., the pass rate presented in the UNC Nursing Report 2016).

If further monitoring is necessary, per item (c) above, then for NC A&T graduates who take the exam in calendar year 2015 (i.e., the pass rate presented in the UNC Nursing Report in 2016):

- d. If the pass rate is equal to or greater than the UNC Board of Governors' policy standard (using the Board's standard as of the date of the 2016 UNC Nursing report), lift the enrollment suspension immediately, and apply the relevant Board policy moving forward.
- e. If the pass rate is less than 75%, terminate the traditional BSN program and implement a teach-out plan for the remaining traditional BSN students.
- f. If the pass rate is less than the UNC Board of Governors policy standard but greater than or equal to 75%, maintain the enrollment suspension and re-evaluate the NCLEX-RN pass rate for calendar year 2016 (i.e., the pass rate presented in the UNC Nursing Report 2017).

If further monitoring is necessary, per item (f) above, then for the NC A&T graduates who take the exam in calendar year 2016 (i.e., the pass rate presented in the UNC Nursing Report in 2017):

- g. If the pass rate is equal to or greater than the UNC Board of Governors' policy standard (using the Board's standard as of the date of the 2017 UNC Nursing report), lift the enrollment suspension immediately, and apply the relevant Board policy moving forward.
- h. If the pass rate is less than the UNC Board of Governors policy standard, terminate the traditional BSN program (at this point, no additional students would remain in the traditional BSN program, because of the standing enrollment suspension).