

North Carolina Center for Nursing - Quick Facts

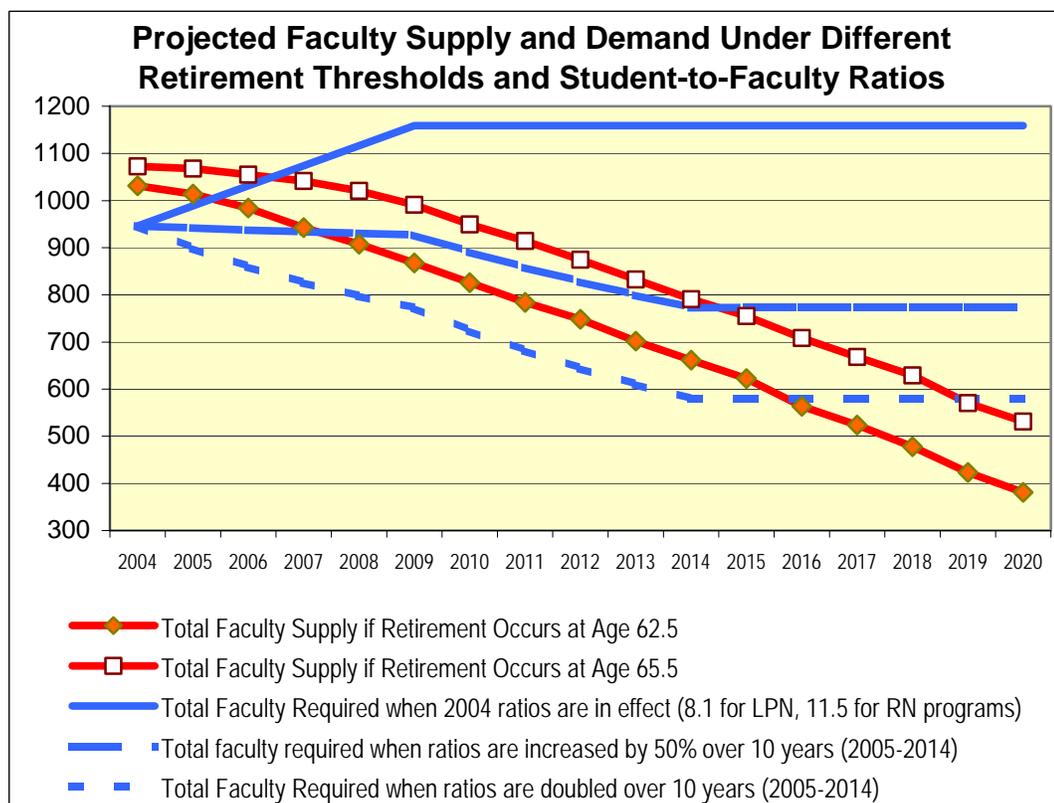
Linda M. Lacey and Jennifer G. Nooney

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Forecasting the Supply and Demand of Nursing Faculty in North Carolina: 2004 – 2020

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Based on historical trends in nursing education patterns, and the aging of our current nursing faculty, it appears almost inevitable that a severe shortage of faculty in our nursing education programs will sharply curtail our ability to address, much less avoid, a very serious nursing shortage expected to occur over the next 20 years.



Demand Estimates:

Future demand for nursing faculty was estimated under the assumption that nursing education programs in North Carolina are implementing the recommendations of the 2004 Task Force on the North Carolina Nursing Workforce Reportⁱ which called for an increase in enrollments for all nursing education programs in order to address the looming shortage: 8% for LPN education programs, and 25% for RN education programs. The demand estimates in this chart assume those increases

will take place over a 5 year period from 2004 – 2009 and then enrollments will remain steady through 2020.

The demand for nursing faculty is a product of the number of students enrolled in nursing education programs, and the ratio between students and faculty. In LPN programs in 2004 that ratio was 8.1 students for each faculty member, while in RN programs it varied by program type: 13.5:1 in associate degree programs, 8.9:1 in hospital diploma programs, and 9.1:1 in prelicensure baccalaureate programs.ⁱⁱ In this analysis we have pooled all RN students and faculty to arrive at an average student-to-faculty ratio of 11.54:1.ⁱⁱⁱ The three estimates of demand in the chart above differ due to changing assumption about those ratios: no change (2004 ratios are maintained); a 50% increase in the number of students for each faculty member above 2004 levels, implemented gradually over a 10 year period; and a 100% increase (or doubling) in the number of students per faculty, also implemented gradually over a 10 year period. As you can see, changes in the student-to-faculty ratio produce dramatic changes in the expected demand for nursing faculty over time. However, this projection makes no allowance for the other factors that would or could result from

such a change, such as increased compensation for faculty, increased burnout, or earlier/faster rates of retirement due to such a dramatic change in work load.

Supply Estimates:

The supply projections in this analysis are constructed from two elements: the number of current (2004) faculty that can be expected to retire, given their age and our assumptions about retirement age; and the number of RNs with Master's or doctoral degrees that can be expected to assume a faculty position.

The latter element in our supply projection comes from a historical analysis of RN education and work patterns in North Carolina from 1995 through 2004, based on information in the RN license renewal forms compiled by the NC Board of Nursing. These patterns show that, even though the number of licensed RNs holding a Master's or doctoral degree almost doubled between 1995 and 2004, proportionately fewer were employed in Schools of Nursing each year. In 1995 15% of all RNs with a Masters or doctorate were employed in nursing education, but by 2004 that proportion had dropped to 11%. Using that trend, and extrapolating out over time, that proportion is expected to be about 8.7% in 2020. We estimated the expected number of faculty likely to be added to the faculty workforce each year by identifying all RNs with an increase in their highest degree status to Master's level each year relative to the previous year, and then applied the annual percentage of all Master's and higher degree RNs employed in schools of nursing. Actual counts were used for the period 1995 – 2004. Future estimates were extrapolated from those historical trends.

An age profile of Master's and doctorally prepared RNs employed in a school of nursing in 2004 was created from the RN license file database, and this profile was 'aged out' by identifying how many passed the age of 62 or 65 in any given year. The number reaching these retirement thresholds were subtracted from the faculty supply count, and the number of RNs with new Master's degrees that could be expected to choose faculty roles were added in. The result is the two supply lines in the chart; one assuming that all faculty will leave the workforce between the age of 62 and 63, and another that assumes they will leave between the ages of 65 and 66. Both supply lines drop rapidly from 2004 levels, showing clearly that the number of new faculty coming in each year are not enough to replace those being lost to retirement.

Interpreting the Results:

The graph on the previous page makes it clear that, if the current student-to-faculty ratios are maintained, the demand for faculty is already exceeding the supply of faculty. If, on the other hand, the number of students per faculty member can be increased, then the point at which demand exceeds supply can be postponed for several years. The extent to which supply and demand can be kept in balance is contingent on how much and how quickly student-to-faculty ratios can be increased (through innovations such as webcast lectures, inter-institutional sharing of faculty resources, etc.) and the age at which faculty members leave the workforce.

These two contingent elements, faculty workload and the age of retirement, are not unconnected. This supply and demand projection does not address the difficult policy questions that will need to be resolved in order to keep nurse educators in the workforce longer at the same time that their work load may be increasing. Nor does it suggest what might be done to increase the number of Master's prepared RNs who choose to go into faculty roles. Those policy questions are beyond the scope of this analysis, but – hopefully – will be informed by these future projections.

ⁱ This report was published by the NC Institute of Medicine in May, 2004. It can be found at: www.nciom.org

ⁱⁱ These figures are based on student enrollment counts and faculty counts provided by all nursing education programs in the state in their annual report to the NC Board of Nursing, November, 2004.

ⁱⁱⁱ These ratios do not take into account the regulatory requirements that limit the number of students per faculty in a clinical setting, but rather aggregate all faculty – clinical, didactic, administrative and support – together.