



Implementing the IOM Future of Nursing Report Recommendation 4: A Predictive Model to Monitor Educational Progression

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Background

The Institute of Medicine (IOM) Future of Nursing Report calls for a workforce that is 80% BSN prepared by 2020. This recommendation is based on evidence that suggests better patient outcomes result when a higher proportion of baccalaureate prepared registered nurses provide care in hospitals. Moreover, increasingly complex patient care needs, clinical therapeutics, and interprofessional teamwork require sophisticated nursing judgment.

The Department of Nursing at Penn State Hershey developed a statistical model to predict and monitor the educational progression of registered nurses. This model is intended to guide strategic and operational actions to ensure educational progression congruent with an 80% baccalaureate or graduate degree in the nursing workforce by 2020.

The Department of Nursing implemented the expectation that all registered nurses hired after June 30, 2011 obtain a baccalaureate in nursing within six years of their hire date.

Objectives

1. Review strategic and operational approaches designed to ensure educational progression of BSN registered nurses within an organization.
2. Summarize key points of a predictive model to assess the educational progression of BSN registered nurses.

Model Development: Assumptions and Components

We developed a predictive model to create incremental goals for the department. The model serves as a checkpoint to systematically monitor progression. Observing trends over time enables tracking of particular nursing groups in meeting the overall goal of 80% BSN by 2020.

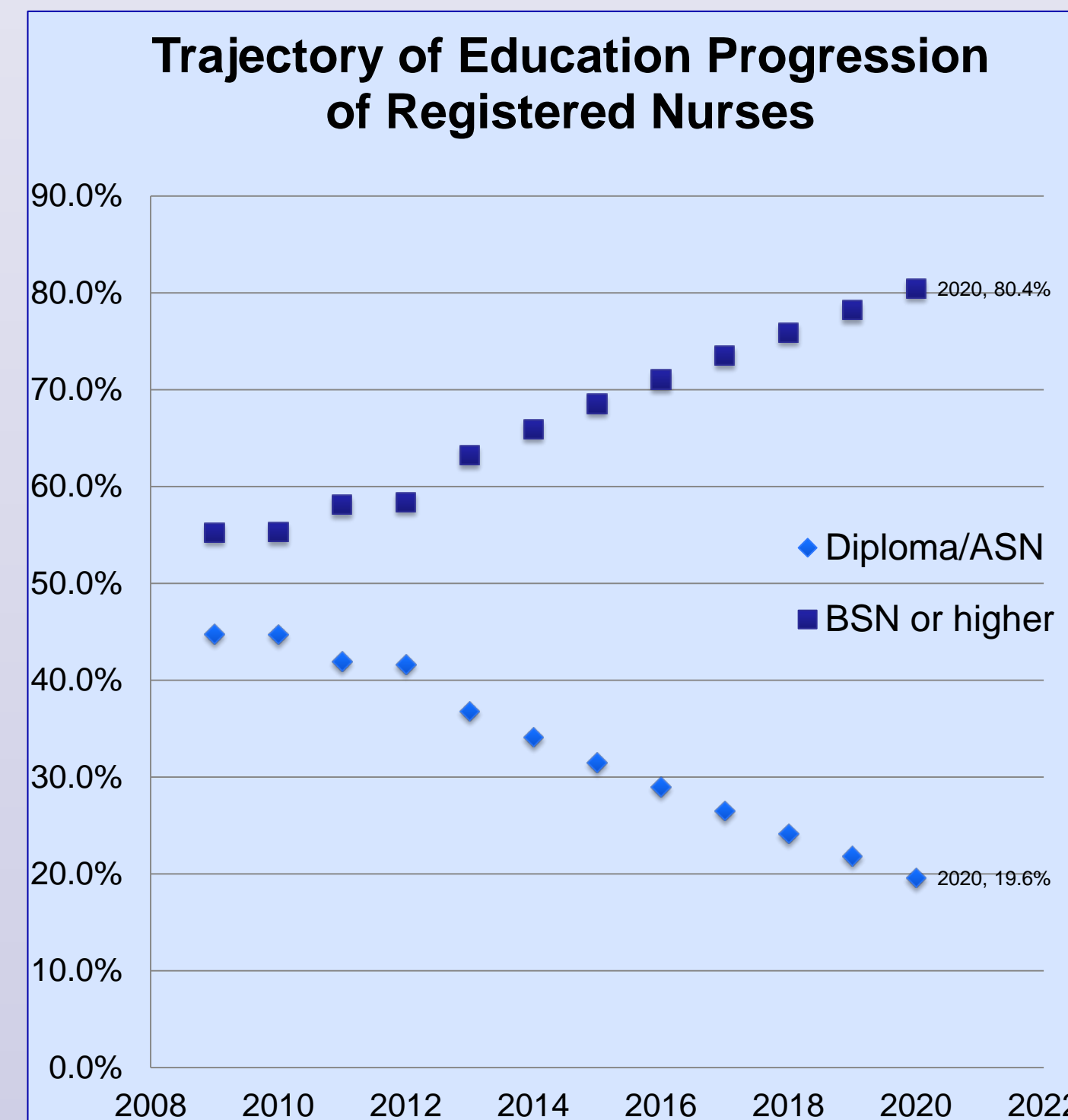
Model Assumptions

- Constant attrition rate from 2007 to 2020 for registered nurses.
 - Attrition rate includes retirement or leaving the organization.
- Hire rate of Registered Nurses remains constant.
- Rate of FTE growth of Registered Nurses increases with organizational growth
- Control Graduate Nurse and Registered Nurse hire rate at 90% baccalaureate education 2014-2020
- Conversion rate adjustments for ASN Registered Nurses (hired beginning August 2011) progressing to higher education.

Penn State Hershey Nursing Workforce (July 2013)

| Degree | Count | Percent |
|---------|-------|---------|
| ASN | 507 | 22.63% |
| Diploma | 292 | 13.04% |
| BSN | 1210 | 54.02% |
| MSN | 226 | 10.09% |
| PhD | 5 | 0.22% |
| Total | 2240 | 100% |

Historical data were used from 2008 to 2013 to predict education progression for 2014 through 2020. The trajectory projects a Penn State Hershey Nursing workforce of 80% of BSN or higher by 2020.



Recommendations

- Conduct assessment of level of education of nursing workforce;
- Develop strategic actions to impact progression;
- Hire Nurse Extern candidates enrolled in BSN program;
- Consider limiting ASN admission to Graduate Nurse Residency Program;
- Monitor progression annually to ensure progress toward target;
- Partner with Schools of Nursing;
- Partner with Nursing Recruitment.



References

- Aiken, L.H., Clarke, S., Cheung, R. B., Sloane, D. M., & Silber, J. H. (2003). Education levels of hospital nurses and surgical patient mortality. *Journal of the American Medical Association*, 290, 1617-1623.
- Institute of Medicine. (2010). *The future of nursing: Leading change, advancing health*. Washington, D.C.: National Academy of Sciences.