Nursing Leadership, Nursing Education, and Patient Outcomes
Linda H. Aiken
www.nursing.upenn.edu/chopr

IOM Report: Future of Nursing
IOM Report legitimizes many of nursing’s long-standing action priorities. The challenge is how to exploit the Report to gain the most for the health of the public and for the advancement of nursing, 2 inter-related goals.

IOM Future of Nursing Recommendations
- Remove scope-of-practice barriers
- Expand opportunities for nurses to lead and diffuse collaborative improvement efforts
- Implement nurse residency programs
- Increase proportion of nurses with BSN degree to 80% by 2020
- Double the number of nurses with a doctorate by 2020
- Prepare and enable nurses to lead change to advance health
- Build an infrastructure to collect and analyze health care workforce data

Focus Today is on Nurse Education Recommendations
- “80 by 20” (80% nurse workforce with BSN by 2020)
- Prepare nurses to lead change to advance health
- Double the number of nurses with doctoral degrees by 2020
- (Avert the future shortage of faculty that will cripple nurse supply in the future)
IOM # 4: “80 by 20”

- IOM recommendation for “80 by 20” is based upon what is in the public interest
- BSN nurses & better patient outcomes: every 10% increase in % of BSN hospital staff nurses associated with 5% decline in mortality
- Mathematically improbable that impending shortage of faculty can be solved without having most nurses graduate with BSN or higher in their first RN program; faculty shortage is one of greatest threats to future shortage of nurses

Outcomes of Nursing Education: Penn Multi-State Nursing and Patient Safety Study, 2006-08

- Population study of all hospitals in 4 large states: Pennsylvania, California, New Jersey, Florida which account for 25% of all U.S. hospital admissions
  - 850 hospitals
  - 100,000 nurses surveyed
  - Millions of patients’ outcomes

  Funded by National Institute of Nursing Research

BSN Associated with Better Outcomes

- Each 10% increase hospital staff nurses with BSN & 5% lower mortality & failure to rescue, JAMA 2003
- Penn has new & larger study with same result: Medical Care 2011
- Nursing is the single most important factor in explaining variation in patient satisfaction Health Affairs 2009
- Result has been replicated in Canada, Europe, China showing more BSN staff is associated with lower mortality and higher patient satisfaction BMJ 2012
- Penn paper in J Nurs Scholarship Jan 2011 shows that nurse specialization is associated with lower mortality but only among BSN nurses
- Forthcoming Penn paper shows that hospital specific increases in employment of BSNs over time are associated with decreased mortality, strengthening warrant for causality

Employer Business Case for BSN Workforce (1)

- Better patient outcomes have a favorable impact on hospital bottom lines
  - Pay for performance incentives and penalties re patient outcomes (readmission rates, never events, meeting quality targets such as patient satisfaction)
  - Press Ganey study: hospitals with patient satisfaction in the 90th percentile experience an increase in patient volume and those in 10th percentile experience a loss of volume
  - Rush Chicago study: Each 1 point decrease in patient satisfaction scores is associated with 5% increase in malpractice claims
Employer Business Case for BSNs (2)

- Currently there is not a significant premium wage differential for BSN nurses
- “Moneyball” analogy: BSN nurses are rewarding their employers with better outcomes with positive financial implications but they are undervalued financially in the marketplace (or non-BSNs are overvalued)

Employer BSN Business Case (3)

- Magnet recognition is a selection criteria for US News and World Report and Leapfrog hospital rankings
- Magnet status positively affects community reputation and enhance patient volume
- Magnet requires nurses in management positions with direct reports to have BSNs;
- Soon percent BSN staff nurses will be a required statistic for Magnet applications and in the future is likely to be a selection consideration

Employer Response

- 50% AONE hospital nurse executives report their hospitals preferentially hire BSNs
- Some major urban markets limit employment to BSNs in hospitals
- Preferential employment of BSN nurses will increase demand for BSNs and decrease demand for ADNs
- Challenge: Applicant pool is not well informed about these employer changes

Implications based on patient outcomes

- Research suggests that it is in the public’s interest and the interest of employers to have a BSN workforce on the basis of better patient outcomes and a good business case
- There is another major policy argument in favor of BSN nurse workforce that is related to averting future shortages of nurses
Two-thirds of New Nurses Graduate from Associate Degree Programs

Highest Degree Attained by Nurses According to Initial Type of Education, per 1000 Graduates, 1974-2004

Initial education has important impact on faculty and APN shortages

- Over 40,000 qualified applicants to nursing schools turned away because of capacity limitations including faculty shortage
- Close to 1600 nursing schools with total enrollment of close to 300,000 which takes a large number of faculty
- The stream of students into graduate education is not great enough to produce enough faculty, APRNs, and nurse executives/leaders
- Graduations from APN master’s programs not keeping pace with demand
- If from 1970-1994, 66% of nurses had graduated from BSN initial programs instead of 33%, we would have 50,000 more nurses today with graduate degrees.

“It is a mathematical improbability that the shortage of faculty, APRNs, and leaders will be solved without changing the distribution of nurses by type of initial education.”

Aiken, New England Journal of Medicine, 2010
Opportune Time to Reform Prelicensure Nursing Education

- Largest and most qualified applicant pool in history
- No national nurse shortage so no need to train nurses as quickly as possible
- Plenty of jobs in nursing in an economy without enough good jobs: almost 600,000 new jobs for nurses expected to be created between 2006 and 2016
- Biggest challenge regarding timing is austerity measures affecting higher education

New Options Needed: Here is Mine

- Provide financial incentives in the forms of student aid and grants to nursing schools tied to graduating BSNs or above in basic (first) professional nursing educational programs
- Hold nursing students harmless on cost and time of education
- Time: No longer a significant difference in time to graduation for ADN and BSN
- Cost: Public subsidies for nursing education could retain the lower cost structure of community college education for students entering through that pathway
- Type of college: Any that could meet state higher education accreditation standards for BSN and RN licensure requirements; new technologies can enable safe and effective distance learning

BSN in 10

- Does not solve the problem of feeder streams to graduate education being too small to produce enough faculty and APNs
- Will not achieve 80% BSNs by 2020
- Places a high burden on individual nurses to obtain another degree rather placing the burden on nursing education programs to create viable BSN endpoints within basic nursing education
- Legislation is a time-consuming and expensive path to reforming nursing education
- Places high burden for financing BSN education on employers

Articulation Programs

- Does not solve the problem of insufficient stream of applicants for graduate degrees because the vast majority of nurses will advance only to the BSN
- Places a significant and ongoing financial burden for nursing education on employers
- Needed but the door to articulation programs must be closed and targeted only to RNs currently in the workforce
- Continuing articulation programs undermines motivation to change entry level educational attainment by offering schools and students a pathway to opt out at the ADN level
Will Better Articulation Between Programs Solve the Problem?

- My answer is not by much if opportunity door is not closed for new cohorts. Articulation programs still take longer and cost more than getting a BSN in basic program causing the majority of students opt out at the ADN
- Even Oregon with perhaps the best articulation program in the country, gets only 40% of ADN nurses to go on for BSN, twice the national rate but not high enough

Expedit BSNs or higher for second degree students

- Fasting growing applicant pool
- Highly qualified and motivated
- More diverse pool
- Quickest pathway to educate a BSN

IOM Recommendation 5

Double the number of nurses with a doctorate by 2020

The number of nurses with doctorates is affected by number of nurses graduating from basic programs that provide the BSN or Masters as entry.
Educational pathway to PhD is too long and needs to be expedited. BSN to PhD programs should be expanded. Examples: Hillman Scholars in Nursing Innovation & new emphasis in NIH T32 doctoral training programs
Changing academic salaries will be difficult. Need creative options to combine clinical care, teaching, & research revenue for academia to compete with clinical nursing compensation

BSN to PhD

- Requires interesting students in research careers very early
- Pathway that will create fundamental change in doctoral curricula
- Clinical learning needs to continue in doctoral study (different from advanced practice)
- Research immersion needed early with learning by doing research rather than didactic classes
Recommendation 7
Prepare and enable nurses to lead change to advance health
- BSN and graduate degrees are the building blocks for leadership
- Intraprofessional education is required
- Knowledge of health system design, principles of business, and health policy will be necessary to advance nursing’s influence in health reform

Recommendation 2
Expand opportunities for nurses to lead and diffuse collaborative improvement efforts
- Develop payment mechanisms to incentivize diffusion of care models in which nurses lead care, such as transitional care models, and specify provisions for nurses to lead new models such as health care homes and comprehensive coordination programs
- Socialize and educate nurses for leadership roles in health care redesign and innovative programs in health care settings
- Use the full array of regulatory, legal, and political instruments to keep leadership options open for nurses; IOM Report improves possibilities for action

# 5: Implement Nurse Residency Programs
- New nurses and clinical residencies for APNs
- New nurses:
  - Benefit may be mainly in improved retention a cost savings to employers who thus probably have the most reason to support them
  - Residencies for 130,000 new RN grads a year would be prohibitively expensive for govt
- APNs:
  - Medicare and state governments pay a large share of physician residencies; isn’t the policy rationale the same for APNs? CMS GNE demonstration is a positive step

Nurses have a record of success in priority areas for health reform
- APNs are estimated to provide 600 million visits annually, important in view of doctor shortage
- APNs have facilitated the largest expansion of community health centers since LBJ; CHCs see more than 16 million people in over 7300 sites
- More than 1000 newly established retail clinics provide 3 million visits a year
- APNs and nurses in hospitals made possible the 80 hour resident work week
- Transitional care is a nurse-led innovation
A Tale of Health Reform in Two States: Massachusetts and Pennsylvania

- MA passed a version of federal Affordable Care Act before Obama was elected
  - Millions new patients got health insurance
  - Shortage of primary care causing high use of ER
  - RAND estimated MA could save over $8 Billion in 10 years by expanding nurse scope of practice
- PA removed barriers to practice for all occupations before extending coverage (including dentistry)
  - 50 retail clinics staffed by NPs opened in first two years
  - State Health Care Home Demonstration includes nurses as providers and leaders

Healthcare: Powered By Nurses

- The IOM Report has positioned nursing for influential roles in health care reform.
- Let’s don’t miss the opportunity—be smart, strategic, lean, forward