

Radical Transformation of Health Care: *Implications for Graduate Education and Practice*

Eileen Breslin, PhD, RN, FAAN
Patty L. Hawken Nursing Endowed Professor
& Dean of the School of Nursing, UT Health San Antonio



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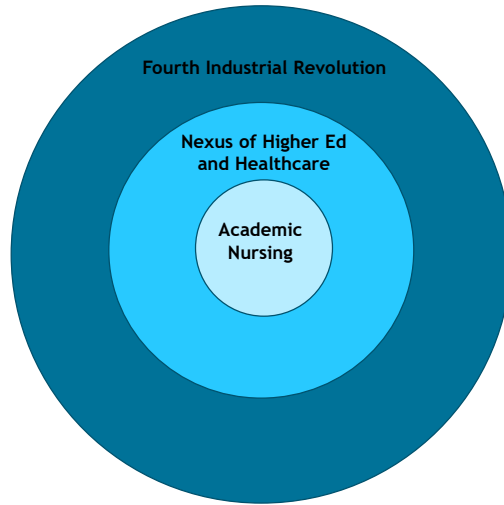
Objectives

- Describe emerging trends and challenges facing higher education and health care systems
- Explore opportunities for innovation and transformation at the nexus of health care and higher education
- Analyze implications for the evolving faculty role and masters education and practice



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Transformation Context



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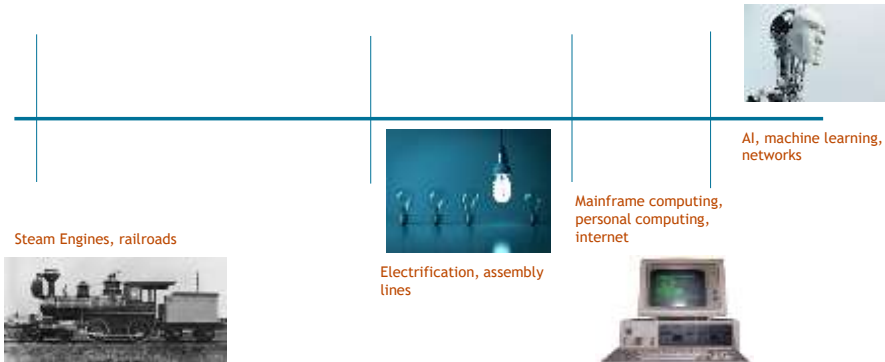
Industrial Revolutions

1st Industrial
Revolution
1760-1840

2nd Industrial
Revolution
1830s-1915

3rd Industrial
Revolution
1969-2010s

4th Industrial
Revolution 2010-
present



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The Fourth Industrial Revolution



<https://www.youtube.com/watch?v=SCGV1tNBoeU>



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Fundamental Drivers of Revolution

Technology and digitalization will revolutionize change.

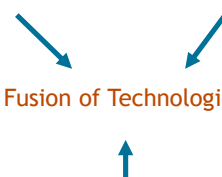
- Physical**
- 3D printing
 - Advanced robotics
 - Autonomous vehicles



- Biological**
- Synthetic biology
 - Genetic engineering



Fusion of Technologies



Digital

- "Internet of Things"
- Blockchain
- On Demand economy (Uber)



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Impact of Fourth Industrial Revolution

Economy



Business



Individual



National & Global



Community



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What does it mean to be human?

What data and information about our bodies and health should be shared?

What rights and responsibilities do we have in changing genetic code?

What role should leadership play?



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Transformation

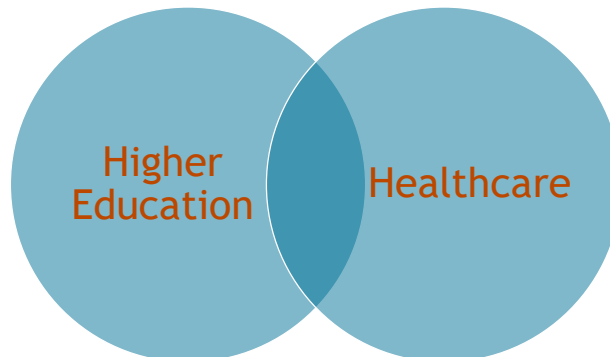
- As academic leaders we must pursue opportunities to lead change in both health care and higher education.
- Transformation calls are coming in from leading authorities, including the IOM, RWJF, the Joint Commission, Josiah Macy Foundation, and others
- Transform: change or alter form, appearance, or substance
 - Synonyms: alterations, change, conversion, renovation, revolution



“There is nothing in a caterpillar that tells you it is going to be a butterfly” -Richard Buckminster Fuller



Nexus of Transformation



Higher Education

Trend: Changing Demographics of Students

Students of today

- 27 average age of a college student
- 38% students that are part time
- 64% students working while in college
- 33% students that transfer credits between institutions
- 28% have children or care for a dependent
- 32% come from low income families



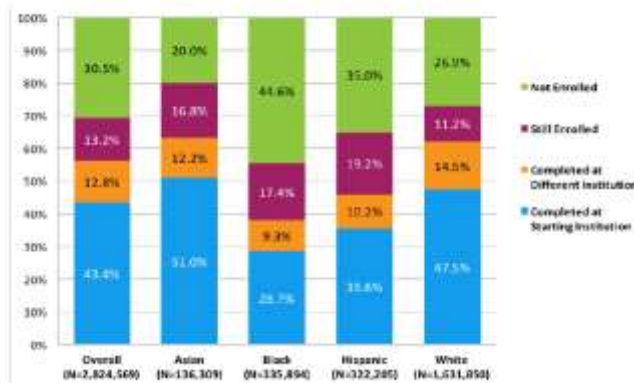
(Mitchell, 2019)



Higher Education

Trend: Attention focused on disparities in enrollment and graduation

Figure 6. Six-Year Outcomes by Race and Ethnicity (N=2,824,569)*



National Student Clearinghouse Research Center, 2017



Higher Education

Trend: Changing Demographics and Care Needs



Selingo, J.P. (2016).
2026 The Decade Ahead:
The Seismic Shifts
Transforming the Future

- A smaller proportion of college students will be traditional age. The number of high school graduates is decreasing, particularly in the Midwest and Northeast.
- Colleges and universities will continue to expand their population of diverse students.
- Most students attend a college within 100 miles from home. This could pose a supply-demand mismatch in some areas.



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Higher Education

Trend: Increasing Regulatory Barriers

Faculty must understand the impact of regulation, licensure, and accreditation on higher education.

- Schools must meet state-specific requirements to offer distance ed programs across state lines.
- Accreditation requirements are changing with a greater focus on reporting gainful employment.
- Federal student loan programs are not expanding loan limits in response to the increasing cost of education (i.e. Stafford loans, Grad PLUS loans.)



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Higher Education

Trend: Maintaining Personal Safety

According to the Association of Governing Boards of Universities and Colleges:

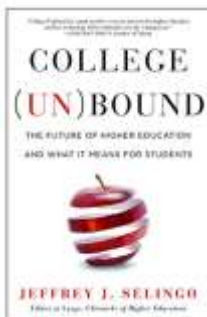
Tensions over campus climate, civility, and free speech continue to be hot-button issues this year. Many bills on free speech, sexual harassment and assault, guns on campus, and other issues related to campus climate are moving forward across the nation.



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Higher Education

Trend: Technology-Enhanced Education



As education delivery systems adapt, so must faculty expertise.

According to Jeffrey Slingso's book *College (Un)Bound* (2013):

“Free massive online open courses and hybrid classes, adaptive learning software, and the unbundling of traditional degree credits will increase access to high quality education.”

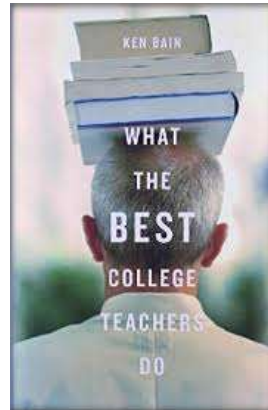


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Higher Education

Trend: Science guiding best teaching practices

- Comprehend subject
- Value human learning
- Create learning environment with objectives in mind
- Trust students
- Expect the best
- Assess self



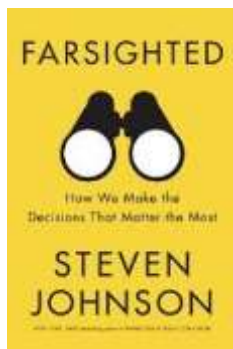
Bain, Ken (2004). What the Best College Teachers Do



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Higher Education

Trend: New Insights on Decision Making



Johnson, S. (2016). Farsighted: How We Make the Decisions That Matter the Most

Mapping

- Models
- Diverse source of evidence
- Uncertainty calculation

Predicting

- Scenarios/pre mortem
- Simulations
- Games

Decisions

- Values model
- Risk magnitude
- Mitigate uncertainty

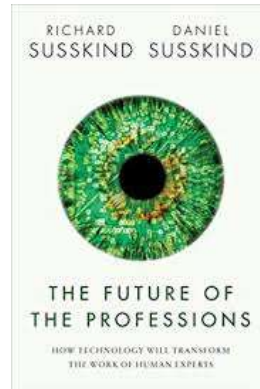


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Higher Education

Trend: How Information technology will transform the work of human experts

- Reconsideration of what it means to be a professional
- Emphasis on high performing systems with less expert people
- Creating more access and reducing costs
- Best and brightest professionals will endure who do work that cannot be replaced by machines
- Focus will be on experiential learning
- Faculty will provide value by integration and reflection, not knowledge provision



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Higher Education

Trend: Competency-Based Education (CBE)



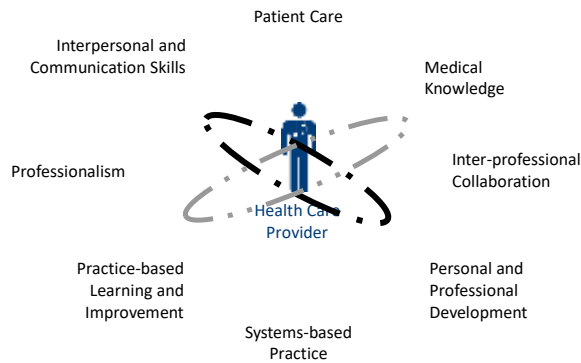
- CBE provides flexibility in how credits can be earned and gives students personalized learning opportunities.
- According to the U.S. Dept. of Education, transitioning away from seat time, allows students to progress as they demonstrate mastery of academic content.
- By enabling students to advance at their own pace, CBE may help to save both time and money.
- Best practices related to CBE and student learning assessment are beginning to emerge.



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Higher Education

Trend: Competency-Based Education

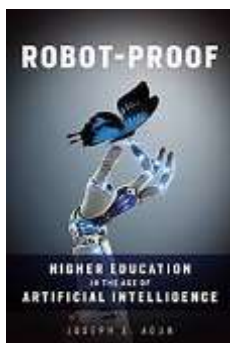


Source: Englander R, Cameron T, Ballard AJ, Dodge J, Bull J, Aschenbrenner CA. 2013. "Toward a Common Taxonomy of Competency Domains for the Health Professions and Competencies for Physicians." *Acad Med* 88(8): 1088-1094.

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Higher Education

Trend: How a new discipline "humanics" may nurture human unique traits of creativity and flexibility



Aoun, Joseph (2017). *Robot-Proof*

New Literacies

- Data literacy
- Technological
- Human

Cognitive capacities

- Systems thinking
- Entrepreneurship
- Cultural agility
- Critical thinking

Global/Local Focus



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“Intelligent machines may liberate millions from routine labor, but there will remain a great deal of work for us to accomplish. Great undertakings like curing disease, healing the environment, and ending poverty will demand all the human talent the work can muster. Human beings will still undertake ethical acts of selflessness or courage and choose to act for the betterment of our work and our species.”

Aoun, 2017



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How will the discipline of *Humanics* evolve?

How will we ensure a diverse student population creating access and equity?

How might we inspire innovation?

How do we ensure higher education has impact for the greater good?



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Healthcare

Trend: Changing Demographics and Care Needs

- By 2030, there will be about 72.1 million older persons in the U.S. representing 19% of the population.
- Today, 54% of citizens under the age of 1 come from racial/ethnic minority groups.
- Increasing chronicity is being reported in both pediatric and adult populations.



Healthcare

Trend: Transformation of Health Care Legislation

- Affordable Care Act (ACA) 2010
- Medicare Access and CHIP Reauthorization Act (MACRA) 2015



Healthcare

Trend: New Care Models

Faculty leaders much understand how to prepare RNs and APRNs to thrive in new care models, many of which were advanced through the Affordable Care Act (ACA.)

- Accountable Care Organizations
- Patient-Centered Medical (Health) Homes
- Nurse-Managed Health Centers
- Community Health Centers



Healthcare

Trend: Tiering of Transformational Practices



Emanuel, Ezekiel J. (2017)
Prescription for the Future

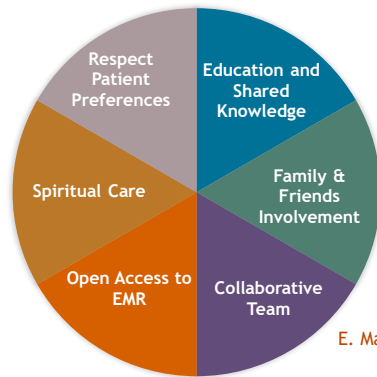
	Tier 1	Tier 2	Tier 3
	Scheduling	Registration & Rooming	Shared Decision Making
	Performance Measurement/ Reporting	Standardization of Care	Palliative Care
	Chronic Care Coordination	Deinstitutionalization	Community Interventions
	State of Service	Behavioral Health Interventions	Lifestyle Interventions



Healthcare

Trend: Patient Centric Care

Focuses on wants, needs, preferences, and educational requirements



E. Manuel, 2017



Healthcare

Trend: Population Health Management

Definition: the aggregation of patient data across multiple health information technology resources, the analysis of that data into a single, actionable patient record, and the actions through which care providers can improve both clinical and financial outcomes.

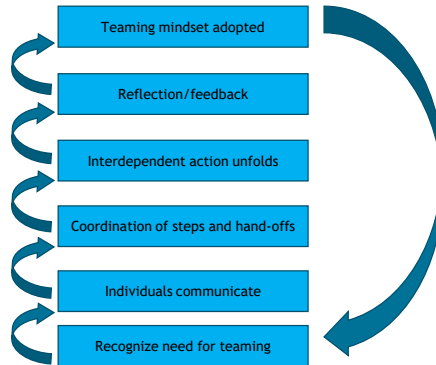
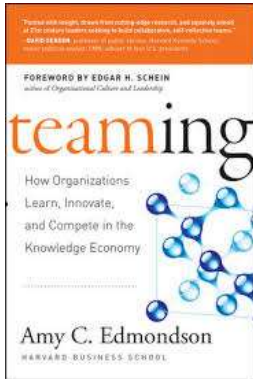


<https://www.usa.philips.com/healthcare/medical-specialties/population-health/what-is-population-health-management>



Healthcare

Trend: Teaming- a learning process which occurs when people apply and combine their expertise to perform complex tasks or develop solutions to novel problems.



Healthcare

Trend: Healthcare Without Walls

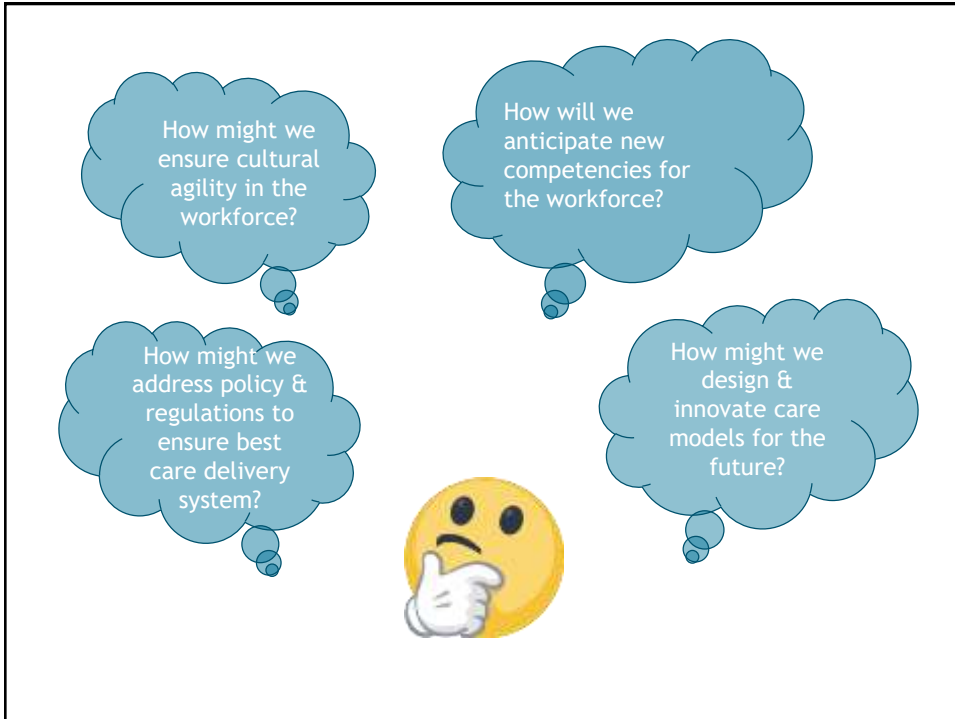
Patients will receive more care in nonconventional settings; in their homes, schools and other community based venues

- Proactive
- Convenient, accessible
- Technology based, reliant on informatics, smart devices
- Team and multidisciplinary based, collaborative
- Will require new type of workforce, new certifications and degree programs (medical 'virtualist')



Health Care Without Walls, S.Dentzer, editor (2019)





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Academic Nursing

Academic Nursing encompasses the integration of clinical practice, education, and research within baccalaureate and graduate schools of nursing. Faculty engaged in academic nursing demonstrate a commitment to inquiry, generate new knowledge for the discipline, connect practice with education, and lead scholarly pursuits that improve health and health care.



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Academic Nursing

Trend: Academic Practice Partnerships



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Academic Nursing

Trend: Interprofessional Education

As health care becomes more team-based, faculty must educate nurses to thrive in a variety of models

- IPEC is calling for all health disciplines to re-envision how future providers are educated to leverage the unique roles and responsibilities of interprofessional partners to appropriately assess and address the healthcare needs of patients and populations served.



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Academic Nursing

Trend: Preparing Educators to Lead

In keeping with the IOM report's core recommendations, faculty should work to embed leadership-related competencies in all levels of nursing education programs.

- Leadership development must be promoted to ensure that nurses are full partners in redesigning health care.
- Nurses should be encouraged to serve on boards and be “at the table” for key policy discussions.



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Academic Nursing

Trend: Creation of new Essentials Documents

- Baccalaureate, Masters and Doctoral Essential Documents



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Academic Nursing

Trend: Nursing Faculty Shortage

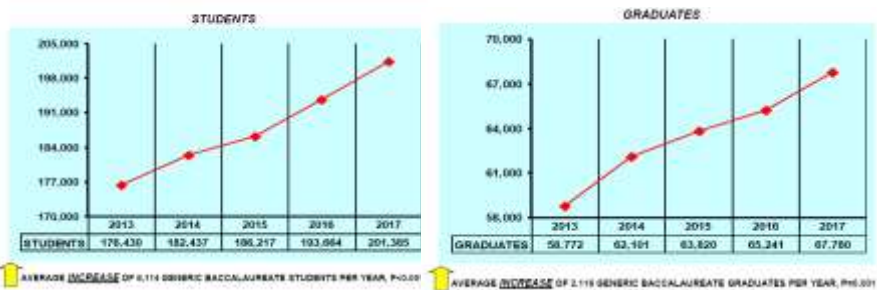
- National nurse faculty vacancy rate of 7.9%
- Average age of doctorally-prepared professor is 62.2, associate professor is 57.6 and assistant professor is 51.1 years
- Average age of nurse faculty at retirement is 62.5 years
- Higher compensation in clinical and private sector settings
- Cycle of faculty shortage-- shortage of new faculty due to qualified candidates being turned away due to lack of faculty to teach them
- Hardest hit areas include North Atlantic and the South



Academic Nursing

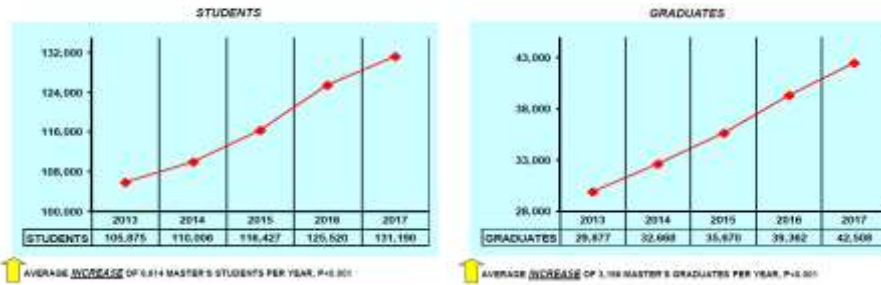
Trend: Enrollment and Graduation Trends

Figure 1. Five-Year Generic (Entry-Level) Baccalaureate Enrollment and Graduation Changes in the Same 689 Schools, 2013–2017.



Academic Nursing Continued...

Figure 3. Five-Year Master's Enrollment and Graduation Changes in the Same 548 Schools, 2013-2017.

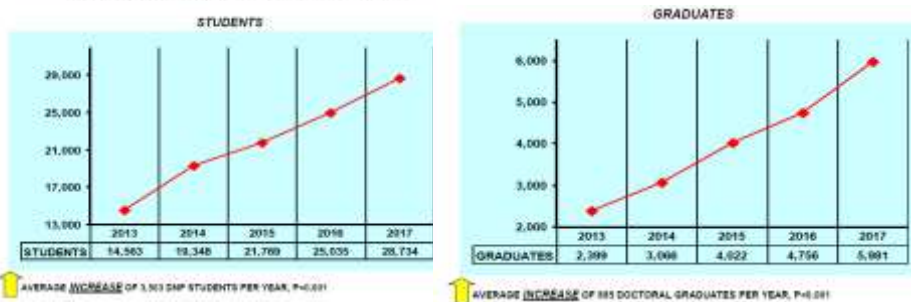


AACN 2017-2018 Standard Data Report:
Enrollment and Graduations



Academic Nursing Continued...

Figure 5. Five-Year Doctor of Nursing Practice (DNP) Enrollment and Graduation Changes in the Same 334 Schools, 2013-2017.



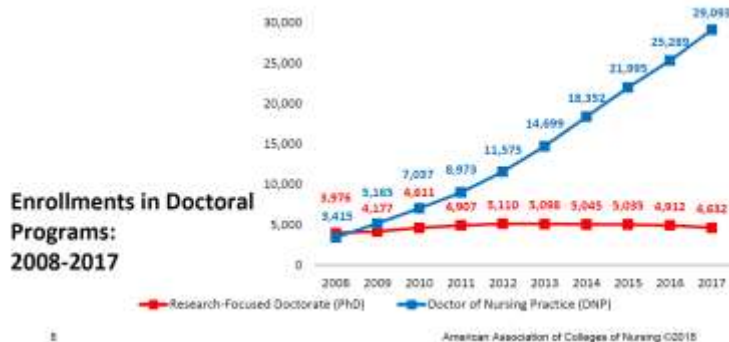
AACN 2017-2018 Standard Data Report:
Enrollment and Graduations



Academic Nursing

Trend: Decline in PhD Pipeline

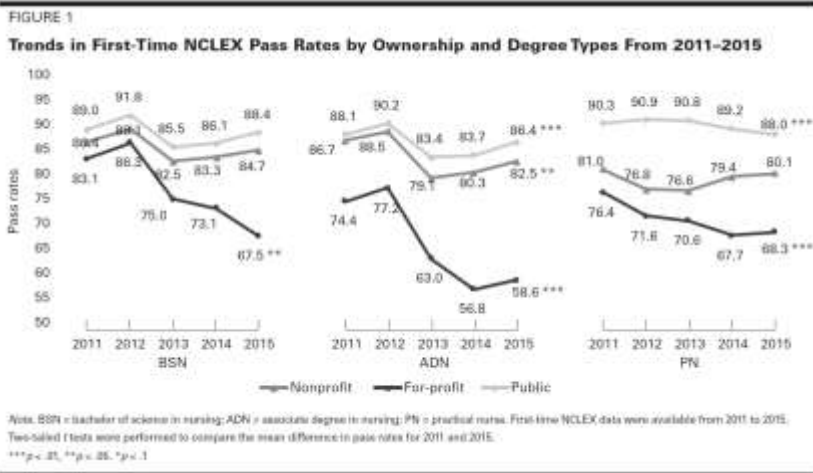
Following a six-year increase in PhD enrollments, a downward trend began in 2014, marking a 9.6% decline



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Academic Nursing

Trend: Increased Scrutiny of Programmatic Outcomes



Pittman, P. Journal of Nursing Regulation, Vol. 9, Issue 4 (Jan. 2019)



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Academic Nursing

Trend: Focus on Translational Science Spectrum

The Translational Science Spectrum represents each stage of research along the path from the biological basis of health and disease to interventions that improve the health of individuals and the public. The spectrum is not linear or unidirectional; each stage builds upon and informs the others. Patient involvement is a critical feature of all stages of translation.



<https://ncats.nih.gov/translation/spectrum>



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Academic Nursing

Trend: Changing Faculty Expectations

- Generate, synthesis, translate, apply and disseminate knowledge
- Lead change
- Spur innovation
- Improve health and health care

Four Domains of the Professoriate and their accompanying concepts



<https://www.aacnursing.org/News-Information/Position-Statements-White-Papers/Professoriate>



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Academic Nursing

Trend: Competency Areas for the Future

- Philosophy
- Complexity science
- Leadership
- Policy
- Design thinking
- Creativity
- Innovation
- Change management
- Decision making
- Teaming
- Foresight
- Organization and systems thinking
- Quality improvement and safety
- Care coordination
- Interprofessional education team based care



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What will Academic Nursing's contribution be to the Fourth Industrial Revolution?

System design? Cultural Agility?
? Leadership and Advocacy?
Knowledge development?
? Technology Application?
Ethical comporment?



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“Her world was in a state of convulsive change; the only thing she could say distinctly to herself was, that she must wait and think anew”

George Eliot-Middlemarch

