

HILLMAN SCHOLARS IN NURSING INNOVATION PROGRAM

Integrated BSN to PhD pathways: Lessons learned from existing innovative models

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Nursing Innovation is Key to Needed Transformation of Health Care

The U.S. spends over \$3.2 trillion annually on health care, an astronomical level of spending that makes the U.S. health system the 5th largest economy in world.

Consensus is we don't get enough value:

- Medical errors are among top 5 leading causes of death
- One-third of patients would not recommend the hospital where they received care
- Unwanted invasive medical procedures common at end of life
- Millions lack access to needed healthcare
- Too much preventable premature death and chronic illness
- Public has high level of trust in nurses



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The Hillman Scholars Program in Nursing Innovation is designed to produce the next generation of nurse innovators who will help to design and promote a more effective, patient-centered, equitable, and affordable health care system.



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Why PhD-Prepared Nurses as Innovators?

- Research-intensive academic setting provides access to broad spectrum of ideas and mentorship opportunities from across all disciplines.
- PhD education establishes familiarity with leading-edge knowledge and best practices.
- Develops skill sets (research; leadership; innovation; translational science) that enable nurses to influence practice and policy on a large scale.
- Research is a key component in the development of scalable interventions.
- PhD added to clinical credentials can streamline pathway to top leadership opportunities.



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Advancing Nursing Science

- There is a compelling need for increased innovation in preparing nurse scientists earlier in their careers to create a sufficient cadre of researchers who are able to advance nursing science and provide evidence to drive practice and system change.
- This requires re-engineering current Nursing PhD programs in preparation for the future.
- One innovative approach, the Hillman Scholars in Nursing Innovation funded by the Rita and Alex Hillman Foundation, provides an important and replicable model that supports this development at 3 universities.



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Unique Elements of the Program

- Hillman Scholars start the Program as undergraduate students and earn credits that count toward PhD.
- Following BSN, they continue in PhD-intensive coursework and specialized programming that incorporates multiple streams of knowledge from a variety of disciplines.



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Program Milestones at Year 8

	#
Active Scholars	103
Graduated PhDs	26
Total	77

- Average Scholar age at PhD graduation: 29.5
- Publications: 110
- Posters: 64
- Presentations: 25

Data as of June 2019



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Lessons Learned

- Scholars better understand the complex health care environment and systems.
- Scholars are better prepared to enter the PhD Program.
- Scholars have clinical practice experiences that align with their research and in areas where new graduates don't often go.
- Scholars feel valued and gain legitimacy as they embark on a research career and are exposed to diverse patient populations.
- Helps to dispel sacred "disciplinary" cows.
- Facilitates recruitment of future Hillman Scholars.
- Strengthens our schools' academic-service partnership.
- Service partners have embraced Hillman Scholars.
- Fosters inquiry in clinical practice.



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Core Program Components

- Undergraduate Research Immersion
- Structured Mentoring
- Clinical Fellowship
- An Integrated BSN-to-PhD Curriculum
- Building a Community of Scholars
 - Local Hillman Seminars
 - Annual Hillman Meeting for all current scholars and alumni



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Research Mentorship & immersion within an established program of research

- Undergrad level: 4-8 hours/week; exploratory – socialization – scope narrowing – experiential learning from engagement in research teams
- Grad level (generalized): Formalized: Primary Mentor = Chair, Diss Comm + Secondary Mentor = Discipline/Domain Expertise
 - Minimum of 8 hours/week (often with Mentor)
 - FT focus on coursework & research year round

Mentor/Mentee matches - flexibility required as Scholar grows and research topic matures



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Clinical Fellowship: A PhD Learning Experience

- Optional “immersion” experience
- After Scholars receive BSN and pass NCLEX, Scholars become employees of the healthcare organization and enroll in a concurrent PhD-level Clinical Fellowship seminar for ~6 mos.
- Our academic partners:
 - Employ Scholars so they earn a newly graduated RN wage (or wage negotiated with the site) via unit budgets or a central budget line.
 - Scholars employed in a “typical” newly graduated RN employment pathway (i.e., orientation, site residency program, etc.) or in an arrangement specific to the clinical site.



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Hillman Seminar

Multi-disciplinary seminars focus on innovation and feature lively, Scholar-led discussions, visits from thought leaders and scientists, and ongoing engagement with peers and faculty.



Results

- Leaders, independent researchers – capacity to work in team setting
- Application of multidisciplinary approaches and tools
- Communicate complex research findings and ideas with lay audiences
- Exceptional candidates for postdoctoral positions (UCLA, Yale, UPenn)



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<h2>Integrated Curriculum</h2> <p>UPenn curriculum example</p>	Primary BSN	
	Junior Year Fall Grad Course (1) (Health Policy) Hillman Seminar (2)	Junior Year Spring Grad Course (3) (Bioethics)
	Senior Year Fall Grad Course (4) (Research) Required Nurs PhD Core Course (5)	Senior Year Spring Research Residency/Honors Project (6) (BSN residency) Required Nurs PhD Core Course (7) <i>BSN degree conferred May</i> <i>Clinical Fellowship option summer/fall</i>
	Primary PhD	
	PhD Year 1 Fall Required Nurs PhD Core Course (8) Required Grad Statistics Course (9) Grad Course (10) Grad Course (11)	PhD Year 1 Spring Required Nurs PhD Course (12) Required Grad Statistics Course (13) Grad Course (14) <i>Summer General Exam</i>
	PhD Year 2 Fall Grad Course (15) Grad Concentration Course (16) Grad Concentration Course (17) Grad Concentration Course (18)	PhD Year 2 Spring Grad Concentration Course (19) Grad Concentration Course (20) Dissertation seminar (21) Teaching Residency (22) <i>Participate in research publications</i> <i>Write Dissertation Proposal</i> <i>Summer Defend Dissertation Proposal</i>
PhD Year 3 Fall and Spring Complete dissertation research Participate in research publications Defend dissertation Graduate in May or August		

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UPenn PhD Data are in...

Comparing graduating cohort from 2014 – 2019 (N=59):

	Age	TTD	Pubs - pre-PhD	Pubs - during PhD
Hillman (N=14)	29.5	3.24	1.3	2.4
BSN-to-PhD (N=10)	33.1	3.75	0.1	2.1
MSN-to-PhD (N=35)	38.6	4.26	1.2	2.8


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UPenn PhD Data are in...

Comparing graduating cohort from 2014 – 2019 (N=59):

	Grad jobs	Post-doc	Leader-ship	Prof	Research	Un-known
Hillman (N=14)	6	1	2	4	1	
BSN-to-PhD (N=10)	2	2	3	0	3	
MSN-to-PhD (N=35)	7	5	11	9	3	



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Replicating and Sustaining the Model

Adopt an Implementation Science Mindset:

- Assess readiness and tension for change
- Ensure buy-in across all levels
- Capitalize on faculty who are at the leading edge
- Assess organizational resources
- Adapt core Hillman components to “fit” the local context



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Hillman Community of Scholars: An Alumni Perspective

- Hillman Scholars join a vibrant community of peers and faculty committed to their collective development. Scholars at different sites connect, locally and nationally, in-person at annual meetings and virtually, through cross-site webinars and other digital platforms. An alumni network helps sustain these professional and personal connections, even after graduation.

