

Reimagining Medical School

The Innovative Medical School Curriculum at Penn State COM -University Park Regional Campus

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Penn State COM Campuses



Abraham Flexner (1866-1959)

- Important role in reform of medical and higher education in USA
- *Flexner Report* 1910 sparked the reform of medical education in USA and Canada



Carnegie Foundation Bulletin No. 4 - Recommendations



- Reduce the number of medical schools (from 155 to 31) and poorly trained physicians
- Increase the prerequisites to enter medical training
- Train physicians to practice in a scientific manner and engage medical faculty in research
- Give medical schools control of clinical instruction in hospitals
- Strengthen state regulation of medical licensure

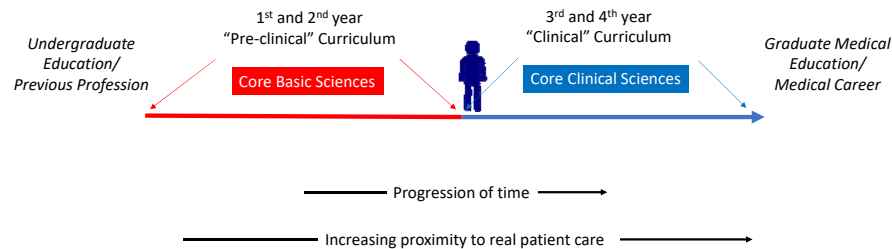


Consequences of the Flexner Report

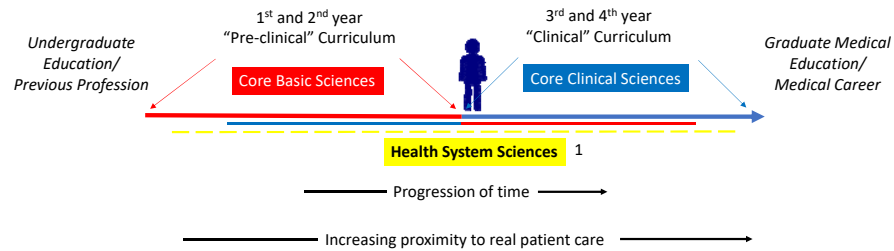
- A physician receives at least six, and preferably eight, years of post-secondary formal instruction, nearly always in a university setting
- Medical training adheres closely to the scientific method and is thoroughly grounded in human physiology and biochemistry. Medical research adheres fully to the protocols of scientific research
- Average physician quality has increased significantly
- No medical school can be created without the permission of the state government. Likewise, the size of existing medical schools is subject to state regulation
- Each state branch of the American Medical Association has oversight over the conventional medical schools located within the state
- Medicine in the US and Canada has become a highly paid and well-respected profession



A Traditional "Flexnerian" Medical School Curriculum



Present Day Medical School Curriculum



¹ Gonzolo, Dekhtyar, Starr, et al. Academic Medicine 2017; 92:123-131.



Educational Summit – AAMC Headquarters



- October 2015 Tri-sponsored by Penn State, AAMC and AMA
- Gathered over 40 educational thought leaders from all over North America
- Design-Thinking
- “If there were no limitations, how should we redesign medical education for the 21st Century”

Medical Education Thought-leader Participants

- Elizabeth Armstrong, PhD
- Richard DeMillo, MD
- Leslie Fall, MD
- Jeffrey Gold, MD
- Louis Gomez, PhD
- David Hirsh, MD
- Catherine Lucey, MD
- Richard Miller, PhD
- Genevieve Moineau, MD, FRCPC
- Thomas Nasca, MD MACP
- Paula Milone-Nizzu, RN Ph
- Kenneth Shine, MD
- George Thibault, MD
- James L. Madara, MD
- Richard Hawkins, MD
- Susan Skochelak, MD, MPH
- Darrell Kirch, MD
- John Prescott, MD

Medical Education needs an update

- Traditional Medical Education is sub-optimally suited for training 21st Century physicians
 - Training is still primarily performed in Academic Medical Centers despite:
 1. A tiny percentage of graduates practice there
 2. A tiny percentage of patient receive care there
 - Patient care is performed in inter-professional teams
 - Extensive knowledge about health systems science is critical for maintaining health

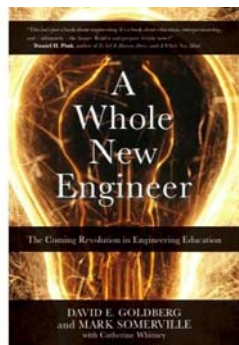


Foundational Principles – University Park

- Learning is most effective when performed actively and within context
- Traditional training does not prepare students for effective 21st century medical practice
 - Effective use of cutting edge technology
 - Inter-professional teams
 - Knowledge of health systems
- Competency-based evaluation
- Asynchronous learning
- Longitudinal Integrated experiences build relationships and promote humanistic care

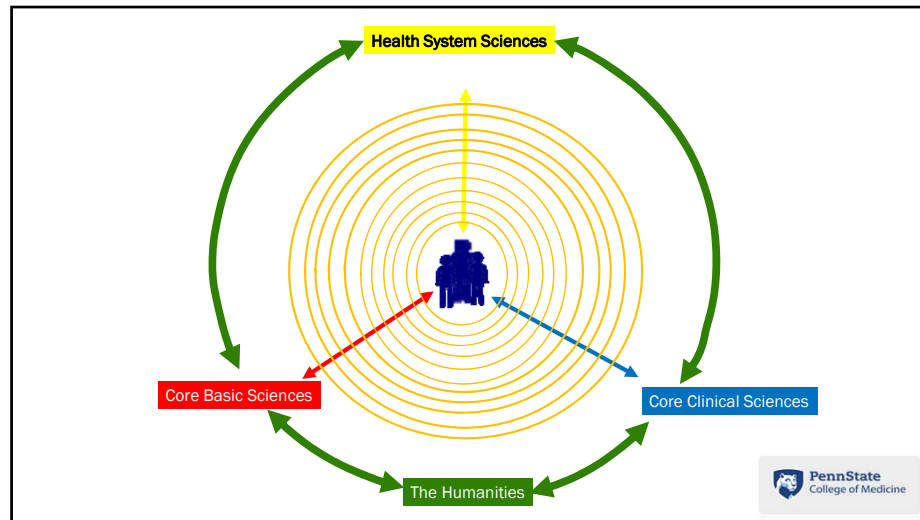
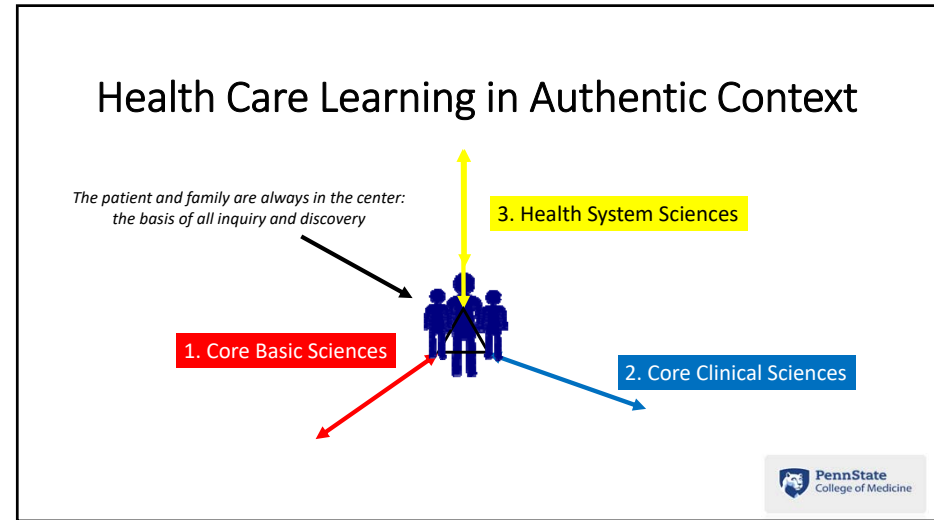
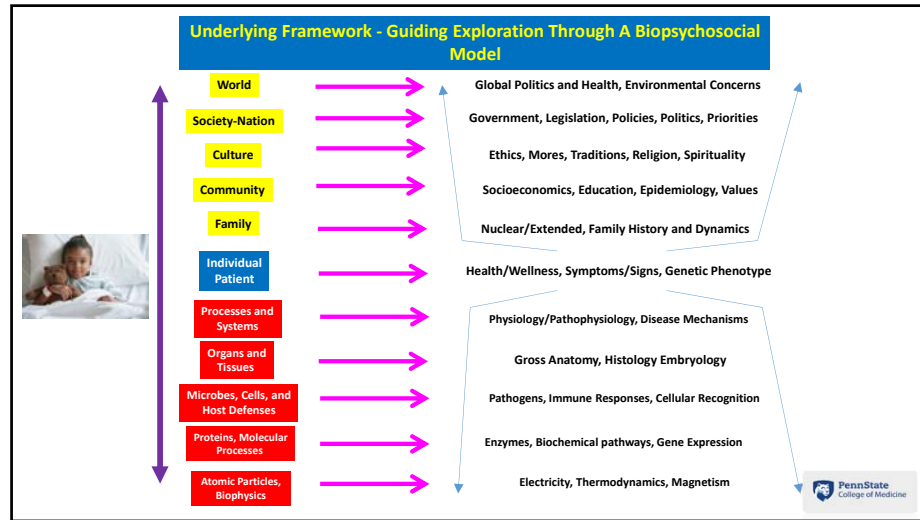


[Medical] Student Design Partners

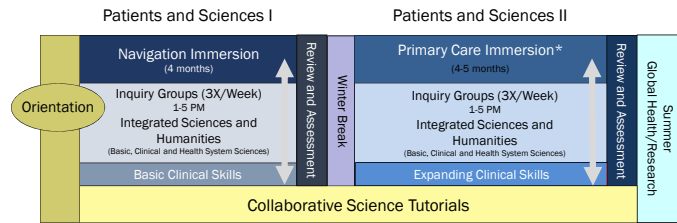


- Based on Student Design Partner experience at Olin College of Engineering – the inaugural class of the new engineering school helped to design curriculum
- Modified for academic year 2016-2017 – recruited Medical Student Design Partners
 - Paid employees
 - Deferred admission to medical school for 1-year to help design curriculum





University Park Program: Year One

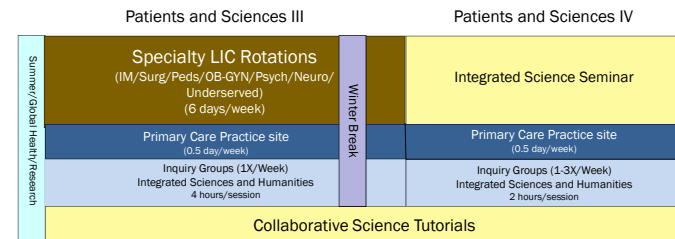


- Review and Assessment**
- Continuous: Qstream + Daily logs (formative)
 - Weekly: Challenges (formative)
 - Monthly: OSCEs and Triple Jumps (formative)
 - Summative Assessments at end of P/S courses
 - Competency-based Portfolio
 - Primary Care Immersion feedback and evaluation



*Hybrid LIC begins

University Park Program: Year Two

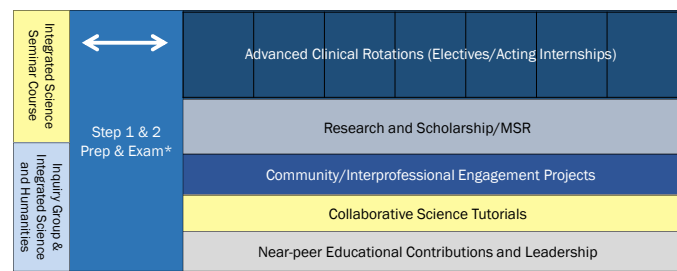


- Review and Assessment**
- Continuous: Qstream + Daily logs (formative)
 - Q2 Months: OSCEs and Orals (formative)
 - Intervals TBD: Shelf exams
 - Competency-based Portfolio assessment and feedback
 - Rotation-based feedback and evaluation



- Review and Assessment**
- Continuous: Qstream + Daily logs (formative)
 - Weekly: Challenges (formative)
 - Monthly: Integrated Science triple jumps, case-creation sessions
 - Intervals TBD: Hershey Basic Science course exams
 - Competency based Portfolio assessment and feedback

University Park Program: Years Three & Four



- Review and Assessment**
- Rotation feedback and evaluation
 - Competency-based Portfolio assessment and feedback

Residency Applications and Interviews*

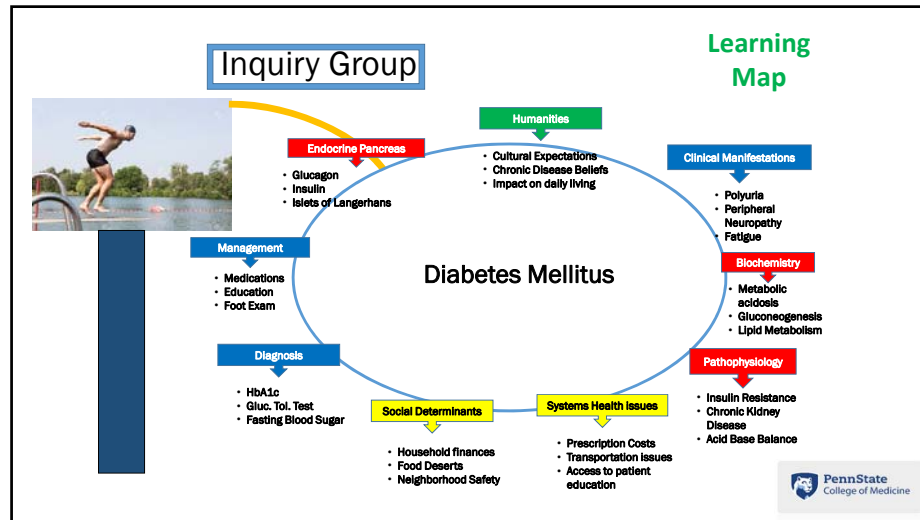


*Readiness ~ Hershey

University Park Program: Week at a Glance

	Monday	Tuesday	Wednesday	Thursday	Friday
Morning Session 8:00-12:00	Clinical Immersion (~4x a week, student determines schedule)	Clinical Immersion	Independent Self Study	Community Thread Involvement (1x a week)	Clinical Immersion
Afternoon Session 1:00-5:00	Inquiry Group (3x a week first year, flexible in later years)	Independent Self Study	Inquiry Group	Independent Self Study	Inquiry Group





PENN STATE COLLEGE OF MEDICINE – UNIVERSITY PARK

REIMAGINING Medical School

PennState College of Medicine

“I’d really like to be a doctor but I don’t know if I could survive medical school.”

What if all of the years of medical school were designed to allow you to thrive rather than just survive?

PennState College of Medicine

“Sometimes medical schools and hospitals can feel large and impersonal.”

What if you could learn at a more personal and community-engaged part of an academic medical center with all of the resources of a major University surrounding you?



“I hear that medical school is all about memorizing a lot of facts.”

What if the facts were continuously connected to “real-life” care of patients from the moment you walk through the door of medical school?



“As a medical student, I really want to get to know my teachers and the other students well but worry I might get lost in the crowd.”

What if you were part of a “Student-Centered Educational Home” devoted specifically to your professional growth and development?



“What would it look like?”

It would look a lot like the Penn State College of Medicine program at the University Park Regional Campus (UPRC)



Imagine . . .



Learning medical sciences in a real-life context

Students who are engaged with patients, clinicians, and health service agencies in the community from the very early stages of their medical training



Asynchronous learning allows for a tailored experience



Individual human interactions, rather than classroom lesson plans, drive the discovery of basic science, clinical science and health systems sciences concepts



Learning medicine well and at your own pace

Full competency-based assessments through self-directed and self-paced learning modules allow students to investigate what interests them when it interests them -- not based on the time frame of a "rotation"



Learning from educators invested in your growth



The “student-centered educational home” is a small group of inter-professional educators dedicated toward making you the very best physician you can become



Forming collegial relationships to last a lifetime

Small class sizes in the intimate setting of a picturesque and vibrant college town promote tight-knit friendships made for life



Becoming a valued member in the community



Longitudinal experiences with teachers, community practices and patients create value through long-term relationships



Join us in changing Medical Education

Beginning in July 2017



So – what has happened since we started?



Successfully recruited 12 students – July 2017

- Presently in the Course “Patients and Sciences – 1”
- Students spend 12 hours weekly in primary care immersion sites as “health system navigators”
 - Learn from clinic staff, nurse managers, social workers, primary care physicians
 - Develop questions from their experience with patients
- Inquiry Group – 12 hours/week (6 students in each group)
 - Monday – all six students present a single patient, 2 are selected for a “deeper dive” and learning objectives (LOs) are created
 - Wednesday and Friday - LOs from each selected case are discussed



INQUIRY GROUPS



Evaluation methodology

- FORMATIVE
 - Q-STREAM multiple-choice questions for spaced and interleaved learning
 - Physical Examination tutorials
 - IQ group “role-plays” and standardize patient interviews
- SUMMATIVE
 - Essay examination October 13, 2017
 - 4 questions – 4 parts each question
 - Standardized patients OSCEs examinations later in the semester



University Park Curricular Track – Class of 2021

