ABSTRACT: 2016 ELAM Institutional Action Project Symposium

Project Title: Linking 3-Year Accelerated Program with Longitudinal Integrated Clerkship to Build Primary Care Workforce Capacity

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Collaborators: A. Craig Hillemeier, MD (Dean, CEO and Senior Vice President for Health Affairs); Terry Wolpaw, MD, MHPE (Vice Dean for Educational Affairs); James Herman, MD, MSPH (former Chair); William Bird, DO (Interim Chair); Daniel Schlegel, MD (Residency Director) in the Department of Family and Community Medicine

Background, Challenge or Opportunity:
For more than a decade, prominent organizations have called for educational reform to better align medical training with national healthcare needs.

Rationale for change:
- Education should be competency-based rather than solely time-based
- Education should be individualized, including length of medical school
- Debt due to the high cost of medical education is a major hardship for many graduates
- The national shortage of physicians, especially in primary care, needs to be addressed
- Longitudinal integrated clerkships (LIC) foster empathy and patient-centeredness

Purpose/Objectives: Develop an accelerated program with LIC as the clinical core to nurture interest in primary care and prepare future physicians to practice in the changing healthcare environment.

Methods/Approach:
Multiple meetings were held with key leadership including the Dean, CEO of the medical school, Vice Dean of Educational Affairs, and the Chair and Residency Director in Family Medicine. After agreement to develop a 3-year accelerated program, approval was obtained from other leaders including the Dean of Admissions, Chief Financial Officer, legal counsel and the Liaison Committee on Medical Education (LCME). A team worked on curriculum design through an iterative process, with consultation from national experts on medical education including David Hirsh (Harvard) and Ann Poncelet (UCSF) on longitudinal integrated clerkships, and Betsy Jones (Texas Tech) and Joan Cangiarella (NYU) on accelerated programs.

Outcomes and Evaluation:
In December 2014, Penn State College of Medicine launched a pilot 3+3 accelerated program in Family Medicine (FM-APPS) that allows students to complete medical school and Family Medicine Residency (3 years each) at Penn State Hershey. Currently, 3 students are enrolled in the program. Student feedback has been very positive.

Penn State is a member of the Consortium of Accelerated Medical Pathway Programs (CAMPP) of eight medical schools funded by the Josiah Macy Jr. Foundation. The goals of CAMPP are to share best practices from member schools and to generate new knowledge regarding scalable, replicable and portable models that can be adopted by other medical schools developing accelerated programs.

Research topics: Selection process (student characteristics) to best ensure success and avoid student burnout; mentoring over 6 years of medical school and residency to enhance learner development; how best to monitor competency and confirm residency readiness; whether LIC in 3 year programs can foster empathy and patient centeredness shown in 4 year curriculum.
## Background and Opportunity:

For more than a decade, prominent organizations including the IOM, AAMC, AAFP and Josiah Macy Jr. Foundation, have called for educational reform to better align medical training with national healthcare needs.

### Rationale for change:
- Development should be competency-based rather than solely time-based.
- Education should be individualized, including length of medical school.
- Debt due to the high cost of medical education is a major hardship for many graduates.
- The national shortage of physicians, especially in primary care, needs to be addressed.
- Medical education is too long; the average age of medical graduates is 8 years old.
- Longitudinal integrated clerkships (LIC) foster empathy and patient-centeredness.
- Three year accelerated program is not a new concept. In the 1970s, 25% of U.S. medical schools offered 3-year programs. With rising student debts and calls for individualized education, there is renewed interest in 3-year programs. In a 2014 survey of medical school deans, 39% of schools are considering the development of accelerated pathways.

### Purpose/Objectives:

Develop a 3-year accelerated program with curricular innovation to nurture interest in primary care and prepare future physicians to practice in the changing healthcare environment. The overall goals are:

1. Accelerate training to allow completion of medical school in three years, followed by 3 year of Family Medicine Residency training at Penn State Hershey.
2. Increase the efficiency and integration of the learning environment for clinical core training by replacing traditional block clerkships with longitudinal integrated clerkships (LIC).
3. Nurture and support students to prevent erosion of patient-centeredness and empathy.
4. Develop crucial primary care skills team-based care, care coordination, medication safety, and population health by offering the Patient Centered Medical Home (PCMH) as a longitudinal course.

### Methods/Approach:

Multiple meetings were held with key leadership including the Dean, CEO of the medical school, Vice Dean of Educational Affairs, and the Chair and Residency Director in Family Medicine. After agreement to develop a 3-year accelerated program, approval was obtained from other leaders including the Dean of Admissions, Chief Financial Officer, legal counsel and the Liaison Committee on Medical Education (LCME). A team worked on curriculum design through an iterative process, with consultation from national experts on medical education including David Hirt (Harvard) and Ann Poncelet (UCSF) on longitudinal integrated clerkships, and Betty Jones (Texas Tech) and Joan Cangiano (NYU) on accelerated programs.

Presented at the 2016 ELAM® Leaders Forum

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### CURRICULUM

#### PHASE I - “Foundations” (20 months)

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<th>Scientific Principles of Medicine</th>
<th>Organ Blocks</th>
<th>Science of Health Systems</th>
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<td>Humanities</td>
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<td>Foundations of Patient Centered Care</td>
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#### PHASE II - Longitudinal Integrated Clerkship (11.5 months)

**ACCELERATION**

- Medical Home Longitudinal Course
- [Summer] Underserved Medicine Clerkship Elective
- Family Medicine Clerkship Elective

**PHASE III - Residency Preparation (3 months)**

- Board Prep
- USMLE Step I & II
- Acting Internship
- Complete Elective Requirements
- Complete Medical Home Research

### Status of Medical Schools (n=127)

In terms of 3-Year Pathways

#### CLERKSHIP MODELS

Family Medicine Accelerated Program @ Penn State

FM-APPS Student Signing Ceremony, March 25, 2016

### Key features of the accelerated program:

- Customized to Family Medicine specialty to ensure educational continuity over 6 years.
- Course work during summer between years 1 and 2.
- Start clinical training in March of year 2.
- Postpone Step I board exam until after the clerkships.
- Up to 4 students selected each year.

### Outcomes and Evaluation:

- In December 2014, Penn State College of Medicine launched a pilot 3+3 accelerated program in Family Medicine (FM-APPS). Currently, 3 students are enrolled in the program. Student feedback has been very positive.
- Penn State is a member of the Consortium of Accelerated Medical Pathway Programs (CAMPMP) of eight medical schools funded by the Josiah Macy Jr. Foundation. The goals of CAMPMP are to share best practices from member schools and to generate new knowledge regarding scalable, replicable and portable models that can be adopted by other medical schools developing accelerated programs.
- Research topics: Selection process (student characteristics) to best ensure success and avoid student burnout; monitoring over 6 years of medical school and residency to enhance learner development; how best to monitor competency and confirm residency readiness; whether LIC in 3 year programs foster empathy and patient centeredness shown in 4 year curriculum; factors that would support scalable and replicable models.

### Student Testimony:

"...three year program is not a "shortcut" to finishing medical school, all the requirements for the traditional fourth year curriculum are being met. It is not merely about saving money, it is not about foregoing extra learning in favor of earlier advancement to residency. What it does allow is earlier than-earlier exposure to clinical education and a "big picture" perspective on why we are really here that can get lost in the conventional two first years. During my electives, I am able to tailor my learning to those things that I most likely be able to use. This type of program is not simply about a shorter education, but a better education, therein a step learning curve that allows for an integrated and multidimensional educational process.”

### Next Steps:

- Expand and develop accelerated programs in General Internal Medicine, Orthopedics and Neurosurgery.
- Develop LICs in 2-3 community hospital sites as part of 4-year curriculum.
- Steering committee will monitor the progress and modify the curriculum as needed.
- Conduct studies on the research topics in collaboration with schools in CAMPMP.