Medical Students Preclerkship Research Experiential Training in an Urban Setting: MSUCOM’s Experience in Downtown Detroit

The Detroit Medical Center (DMC) site faculty, College of Osteopathic Medicine, Michigan State University
Goals and Objectives
Following the completion of the presentation, the participant should be able to:
1) be familiar with the building blocks necessary for establishing a preclerkship biomedical research program

2) identify factors that will lead to a successful preclerkship biomedical experience for the student

3) recognize emerging challenges in the way of sustaining a viable preclerkship biomedical research program
Outline

- Introduction
- Once upon a time...
- Results
- The next step
- A look back
- A student’s account
Introduction

“We believe that whether or not students actively pursue a career in academic medicine, the skills developed and research conducted during this program will be critical to their success as a physician and a leader.”

https://medschool.vanderbilt.edu/student-research/research-within-curriculum
Introduction

- Biomedical research is important to the clinical enterprise

- A possible return-on-investment is a better research “consumer”...and research “producer”

- Research curriculum is integrated in medical school curriculum (Vanderbilt, U of Tennessee, Mount Sinai, Duke, Stanford, etc.,)

JAMAEvidence curriculum

Introduction: Student Research Curriculum Permutations

- Mount Sinai, 23% of medical students not pursuing a PhD participated in an additional scholarly year

- Duke: all medical students spend their third year immersed in a mentored research experience

- Stanford: longitudinal research over the 4 years of medical school

Introduction: Student Research Curriculum Permutations - MSUCOM

- DO-PhD

- Non-combined degree:
  - Pre-clerkship (OST 599)
  - In-clerkship (OST 615)
Introduction

- Although the combined-degree track is a respectable route for the motivated student, it should not be envisioned as the only pathway to medical research.

- The schools recognize that many students will ultimately pursue primarily clinical careers, but believe that the skills students acquire in statistics, evidence-based medicine, and the scientific basis for clinical decision-making merit the continued investment in medical student research.

Small AC, Levy LL. Academic Medicine 2013;88(11):1592
Once upon a time…

- At the Detroit Medical Center site (opened summer 2009)

- Two students – from the second entering class – expressed interest in research in the Fall of 2011

- One was assigned (2012); the other withdrew

- Pre-clerkship (OST 599)
Results: the following year (2013)

14 students expressed interest

Based on:
- Academic standings
- Availabilities

4 students were assigned

Research activities began in late spring/early summer for most students, i.e., the transition between OMS-I to OMS-II
“GEOTAGS”: 2010-2013

Karmanos Cancer Institute

Orthopedics and Rehab. Institute

MSUCOM DMC

Henry Ford Hospital: Hematology/Oncology Infectious Diseases
The next step: 2014

26 students expressed interest

11 students applied

Based on:
- Academic standings
- Prior Research experience
- Availabilities

9-10 students will be allocated
“GEOTAGS”: 2014

- Children Hospital of Michigan
- Karmanos Cancer Institute
- Orthopedics and Rehab. Institute
- Wayne State Medical School
- MSUCOM DMC
- Institute of Gerontology
- Henry Ford Hospital: Hematology/Oncology Infectious Diseases
Quick Recap

2011-2012 1 OMS-I student

2013 4 OMS-I students

2014 9-10 OMS-I students
A look back

Why has it been working so far?

Looking back... and moving forward
Location, Location, Location

Michigan State
Research sites with actively enrolled students
Potential research sites
Location, Location, Location

Michigan State

Research sites with actively enrolled students

Potential research sites
Faculty

- Extensive biomedical research experience:
  - Contribution to the biomedical literature
  - Refereeing in biomedical journal
  - Involvement in research-related committees (Institutional Review Board, etc.,)

Mentoring

Networking
Students

- Readiness (motivation, prior knowledge, skills or attitudes)

- Interest in research is seen in select student demographics (Canadian students, etc.,)

- Overlapping factors: student and location (?)
“Look back” Summary

Why has it been working so far?
A student’s perspective

My name is... Dr. Ibrahim told me to come and present before you... otherwise I won’t be graduating
Core 1. Cardiovascular Imaging

Session Title: Echocardiography in Valvular Heart Disease and Stroke

Abstract 15744: Simplified Criteria to Risk Stratify for the Mode of Echocardiography in Patients with Mrsa Bacteremia at Low Risk of Infectious Endocarditis

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Emphasizing Research in Osteopathic Medical Education

To the Editor:

During my rotations as a third-year medical student, I always asked the interns, residents, and staff physicians what it would take to match into their postgraduate programs. Time and time again they answered, without hesitation: research experience and published medical articles.

During my first 2 years as an osteopathic medical student, my professors did not emphasize the value of research and did not particularly encourage students to take advantage of the few research opportunities available. When I read the article by Alfred M. Pheley, PhD, and coauthors (2006;106:667-670) in a past issue of JAOA—The Journal of the American Osteopathic Association, I was grateful to learn that this void in osteopathic medical education is being addressed. I hope the electives described in the article by Pheley and colleagues will be used to enhance and further osteopathic medicine and not merely to “keep up with the Jones’,” our allopathic counterparts.
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Questions?