IAMSE Webinar

"Curriculum Integration and Student-centered Learning at Oakland University William Beaumont School of Medicine"

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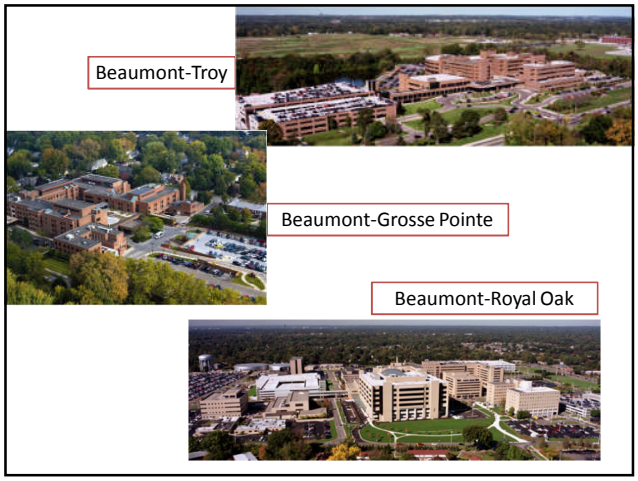
$1.9 million renovation of existing space at Oakland University

Outstanding clinical experiences in a single healthcare system

Beaumont Hospitals system with high volume and broad patient mix

- **Royal Oak** (1061 beds) - 1st in the nation in admissions and 2nd in the nation in # of surgeries
- **Troy** – (394 beds) 2nd in the nation for outpatient surgeries and 5th in total surgeries
- **Grosse Pointe** – (289 beds) former Bon Secours Hospital
- **Alternate Sites of Care** – numerous sites providing care with more than 800,000 outpatient visits and surgeries in 2009
- More than 3,700 physicians and 14,000 full time employees



Previous experience in medical education

Beaumont Hospitals system:

- Close to 50 years of medical education experience
- 38 accredited residency and fellowship programs
- UGME experience with providing instruction in physical diagnosis, clerkships and electives
- 91 medical and surgical specialties

OUWB School of Medicine leadership team:

- Over 200 years of medical education experience

The task before us

- Develop a comprehensive curriculum that emphasizes identified graduation competencies
- Create an effective learning environment
- Assess student learning and provide meaningful feedback that helps students achieve desired competencies
- Help students to identify their career passion and mentor their development into caring professionals
- Foster an environment where the greater social good is valued

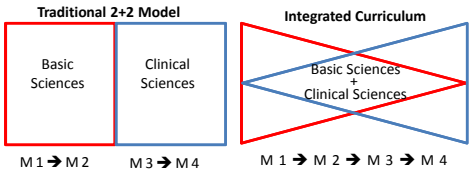
Integrated Curriculum

- Integrate basic and clinical sciences across all four years
  - Bring clinical sciences into the M1 and M2 years
  - Bring basic sciences into the M3 and M4 years
- Integrate curricular activities within disciplines
  - Facilitate collaborative instructional activities
  - Utilize collaborative assessment activities
- Integrate basic science disciplines using a 3-semester organ system approach
- Coordinate content of longitudinal courses with basic science organ system courses

Student-Centered Approach

- **Master educators** focus on teaching excellence
- Emphasis on active learning and small group activities (***participatory instruction***)
- **Small class size** (50 in 2011, increasing by 25 each year up to 125)
- **Dedicated unscheduled time** for student-initiated activities and events
- Mentoring groups (**PRISM**)
- Dedicated medical **student support services** provided in a one-stop center

Moving from the Flexner model to an integrated curriculum



- **M1/M2 Organ system-based curriculum**
- **M3/M4 Clerkships**

M1

FALL SEMESTER		SPRING SEMESTER			
Integrated Basic Sciences I (8 weeks)	Integrated Basic Sciences II (8 weeks)	Organ System Courses			
		Neuroscience (6 weeks)	Cardiovascular (6 weeks)	Respiratory (5 weeks)	Synthesis Cumulative Exam (3 weeks)
Art and Practice of Medicine I		Art and Practice of Medicine II			
Medical Humanities and Clinical Bioethics I		Medical Humanities and Clinical Bioethics II			
Promotion and Maintenance of Health I		Promotion and Maintenance of Health II			
Capstone		Capstone			

M2

FALL SEMESTER				SPRING SEMESTER			
Organ System Courses				Organ System Courses			
Renal and Urinary (4 weeks)	Gastroenterology and Hepatology (5 weeks)	Endocrine (3 weeks)	Reproductive (5 weeks)	Musculoskeletal, Connective Tissue and Skin (5 weeks)	Hematopoietic and Lymphoid (3 weeks)	Psycho-pathology (2 weeks)	Integrative Evidence-Based Medicine (2 weeks)
Art and Practice of Medicine III				Art and Practice of Medicine IV			
Medical Humanities III				Medical Humanities IV			
Promotion and Maintenance of Health III				Promotion and Maintenance of Health IV			
Capstone				Capstone			

M2

SPRING SEMESTER (cont.)		
USMLE Review (4 weeks)	Capstone (2 weeks)	Art and Practice of Medicine V Intro. to Clerkships (3 weeks)

M3

FALL SEMESTER				SPRING SEMESTER				
Clerkships				Clerkships				
Internal Medicine	General Surgery	Capstone	Family Medicine I	Pediatrics	Psychiatry	OB-GYN	Anesthesiology	M3 Elective
Medical Humanities and Clinical Bioethics V				Medical Humanities and Clinical Bioethics VI				
Capstone Project				Capstone Project				

M4

FALL SEMESTER						SPRING SEMESTER			
Clerkships						Clerkships			
Family Medicine II	Emergency Medicine	Elective	Elective	Sub-Internship	Open	Open	Elective	Neurology/ Special Senses	Diagnostic Medicine
Capstone Project						Capstone Project			

From student to physician

Bloom's taxonomy

- **Knowledge** – ability to find and/or remember information, recall
- **Comprehension** – ability to understand information
- **Application** – ability to use information in new situations
- **Analysis** – critical thinking
- **Synthesis** – creative thinking
- **Evaluation** –judgment

OUWB curriculum initiatives

- Utilize weekly integrated exercises
  - team-based learning, small group, case-based learning, patients
- Integration of curriculum
  - minimize redundancy, while reinforcing important concepts that cross disciplines
- Provide opportunities for
  - self-assessment and reflection by students
  - clinical problem solving and diagnostic reasoning
  - developing communication skills (listening)
- Utilizing active learning exercises in didactic and small group settings

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Week 2

	MONDAY 8/20/12	TUESDAY 8/21/12	WEDNESDAY 8/22/12	THURSDAY 8/23/12	FRIDAY 8/24/12
				at Beaumont	
8:00-9:10	Physiology- Acid-Base General Concepts	Mixed Acid-Base Disorders TBL	Physiology- Glomerular Filtration	Clinical- Glom Dis Nephrodic Synd	Glomerular Disease TBL
9:10-10:20	Physiology- Acid-Base Primary Disorders I		Clinical- Urinalysis & Renal Function Measures	Clinical- Glom Lesions & Syst Dis	
10:30-11:30	Physiology- Acid-Base Primary Disorders II	Gross Anatomy Renal II	Clinical- Glom Dis Glomerulonephritis	ME	
11:30-12:30	LUNCH	LUNCH	LUNCH		LUNCH
12:30-1:30	Clinical- K Balance Disorders	Gross Lab A Renal II Path Lab B	Clinical- Glom Dis Nephritic Synd	Clinical- Glom Lesions & Syst Dis	Unscheduled
1:40-2:40	Pharmacology- Acid-Base	Gross Lab A Renal II Path Lab B	Pharmacology- Anti-inflammatory	APM	
2:50-3:50	Capstone	Gross Lab B Renal II Path Lab A	PMH	APM	
4:00-5:00	Capstone	Gross Lab B Renal II Path Lab A	PMH	APM	

APM = Art and Practice of Medicine
MH = Medical Humanities
TBL = Team Based Learning
PMH = Promotion and Maintenance of Health

Value of Team-Based Learning (TBL)

- Provides integrated activities weekly
- Active learning – moves the responsibility for learning from faculty to the student
- Promotes the development of effective team skills (leadership, listening, cooperation)
- Provides problem-based activities in a high student to faculty ratio setting
- Students learn and develop peer assessment and feedback skills

Establishing a paradigm for integrated group development of Team-Based Learning (TBL) modules

- Summer interdisciplinary 7-week 4-credit course in Diabetes for OU undergraduates
- 11 participating faculty including 2 physicians, basic science faculty, health sciences faculty and a Writing and Rhetoric professor
- Gained experience using our curriculum management system (MOODLE)
- Developed several TBL modules and assessment exercises
- Utilized reflective writing and peer assessment

Integrating clinical sciences into M1 and M2 courses

- Organ system-based curriculum emphasizes clinical correlation with the basic sciences
- Clinical faculty contribute significantly to pathophysiology teaching
- Integrative exercises (TBL, case based learning small group) encourage students to use basic science concepts while developing diagnostic reasoning skills
- Clinical vignettes developed for formative and summative assessment
- Correlate clinical skills training with organ systems courses

Integrating basic sciences into M3 and M4 clerkships

- Encourage basic science faculty to round with students and participate in clerkship didactic sessions

Case Western Reserve School of Medicine (CASE INQUIRY+)

  - Weekly (Friday afternoon) sessions at the medical school using content related to core clerkships
  - Case-based learning modules that highlight basic science concepts correlating with the content of the clerkship
  - Facilitated by basic science faculty

Four longitudinal courses span the curriculum

- Art and Practice of Medicine (M1-M2)
- Medical Humanities and Clinical Bioethics (M1-M3)
- Promotion and Maintenance of Health (M1-M2)
- Capstone Program
  - Capstone Instruction (M1)
  - Capstone Project (M1-M4)

Clinical Skills Training during M1/M2

Art & Practice of Medicine (APM)

- Innovative curriculum integrated with organ system courses
- Utilizes Beaumont-based OUWB faculty for training
- Early skills development to encourage service activities
- OSCE-style assessment of skills

Clinical skills training resources

- Director of Clinical Skills Training
- Developing a training facility at BH-Royal Oak
- Establishing a standardized patient program
- Identifying necessary simulation resources for UGME needs

Curriculum Leadership

- ***Discipline directors*** – coordinate discipline content throughout the curriculum
- ***Course directors*** – coordinate course content
  - Basic Science Foundation course
  - Organ system courses (2-6 weeks)
  - Longitudinal courses (span the curriculum 1-3 years)
- ***Clerkship directors*** – coordinate required M3 and M4 courses
- ***Elective directors*** – coordinate elective M3 and M4 courses

What is a Medical Educator?
What is a Master Educator

- Essentially all OUWB faculty are medical educators
- ***Master educator*** is a job description for some faculty employed by Oakland University and the School of Medicine
- ***Master educators*** are salaried medical educators whose career emphasis is education of undergraduate medical students ***and*** whose scholarly activities focus on education projects

Curriculum Committee oversees the curriculum

- Curriculum Committee has four subcommittees
  - Course directors (M1/M2)
  - Clerkship directors (M3/M4)
  - Curriculum evaluation (annual evaluation)
  - Curriculum integration

How do we encourage our students to become creative, thoughtful and independent thinkers?

Abraham Flexner *"The medical curriculum ... was becoming far too rigid and standardized, giving students too little freedom to follow their own interests."*

The Deficit Model – Education based on Competencies
The Generative Model – Fosters creativity, insight and Independent Thinking

Reference

Steven L. Kanter - 2010 Robert G. Petersdorf Lecture at the AAMC annual meeting, "Flexner, Freedom and the Way Forward in Medical Education" https://www.aamc.org/meetings/2010_annualmtg/161396/thought_petersdorf_kanter.html

Capstone Program

Instructional phase (M1)

- Information technology
- Use of databases
- Compliance training
- Statistics
- Writing proposals

Project phase (M2-M4)

- Mentored student-initiated scholarly activities
  - Research
  - Service
  - Education
- Capstone symposium in the M4 year
- Scholarship support in M4 year for exceptional capstone performance

Tenets of the Capstone program

- Foster creativity, insight and independent thinking
- Offer breadth of opportunity
- Provide strong mentoring
- Support student initiatives
- Track student progress
- Encourage scholarly activity
- Reward performance

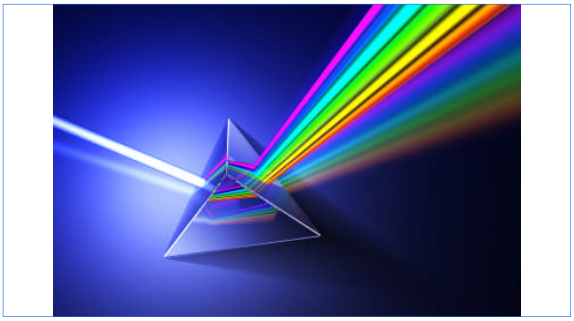
Capstone

Breadth of opportunity

- Full spectrum of biomedical research; basic science, clinical trial, translational
- Health systems management and patient safety
- Health disparities
- Global medicine
- Physician as teacher
- Healthcare advocacy

PRISM

Promoting **R**eflection and **I**ndividual growth through **S**upport and **M**entoring



Goals of the PRISM program

- Create an environment that fosters personal reflection
- Promote self-care and wellness
- Guide professional development
- Provide a resource for student seeking guidance
- Enhance team building and problem solving skills
- Assist in career exploration

PRISM format

- Mentoring Teams of 10-12 students with one faculty advisor
- Same team for all 4 years with vertical integration
- Mandatory monthly group meetings and individual meetings 3X/year
- Faculty advisor has no role in evaluation of students and has access to student grades including peer evaluations
- Faculty advisor will assist in career advising (in addition to formal career advising program)
- Wellness program will be delivered as part of mentoring team

PRISM topics

- Adjustment to medical school
- Healthy habits
- Wellness: What does it mean for me?
- Dealing with stress
- Career development
- Recognizing depression and anxiety
- Conflict resolution
- Asking for and giving feedback
- Helping the helper

Multi-layered system of mentoring/advising

- Faculty mentor in the PRISM program
- Mentoring opportunities through groups i.e. AMWA, SNMA
- Discipline specific advisor
- Peer mentoring
- Informal mentoring

What are we looking for in an OUWB student?

- Ethical
- Compassionate
- Love of lifelong learning
- Educational excellence
- Intellectual curiosity
- Team skills
- Leadership qualities

Thank you for participating.

Questions?

Beaumont Hospitals

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OU WB School of MEDICINE

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