Medical School Global Engagement Initiatives

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Senior Associate Dean for Medical Education and Global Initiatives
February 17, 2011
Overview

- Todays presentation:
  - Structure and current operations
  - Medical School Platforms

- Defer to discussion (as desired):
  - interest and opportunities to coordinate with main campus
  - Activities of our 1900+ faculty
  - Our global health programming at UMMS
Medical School: Global REACH

Research
Education
And
Collaboration
for
Health
UMMS Mission:

“To educate students, physicians and biomedical scholars and to provide a spectrum of comprehensive knowledge, research, patient care and service of the highest quality to the people of the state of Michigan AND BEYOND.”
Sujal Parikh, CGH IAC member, in Uganda
A Fogarty International Clinical Research Scholar in Kampala

CGH Student Associate, Will Story, in Bangladesh

Science in service of global health equity

Announcements
The Center has been working closely with a group of students across campus as they develop a for-students/by-students handbook on global engagement called the Student
Support we provide to students

- **Student Educational Experiences**
  - **Resources**
    - MOU Program Flyers
    - M4 International Rotation Binder
  - **Signature Documents**
    - Terms and Conditions
    - Acknowledgement of risk
  - **Funding**
    - Travel Registry & HTH insurance
    - M4 Clinical Elective Grant
    - New 2011 Faculty Led Trips
373 medical students participated in international rotations, 2003-11
373 M4 Students traveled to 58 countries for clinical rotations, 2003-2011

<table>
<thead>
<tr>
<th>Countries</th>
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<tbody>
<tr>
<td>Argentina</td>
<td>Estonia</td>
<td>Micronesia</td>
<td>South Korea</td>
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<td>Armenia</td>
<td>Ethiopia</td>
<td>Lesotho</td>
<td>Spain</td>
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<tr>
<td>Australia</td>
<td>France</td>
<td>Nepal</td>
<td>Sweden</td>
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<tr>
<td>Belize</td>
<td><strong>Ghana (40)</strong></td>
<td>New Zealand (16)</td>
<td>Switzerland</td>
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<tr>
<td>Bolivia</td>
<td>Greece</td>
<td>Nicaragua</td>
<td>Taiwan (17)</td>
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<tr>
<td>Brazil</td>
<td>Guatemala</td>
<td>Nigeria</td>
<td>Tanzania</td>
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<td>Cameroon</td>
<td>Honduras</td>
<td>Paraguay</td>
<td>Thailand</td>
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<tr>
<td>Canada</td>
<td><strong>India (31)</strong></td>
<td>Peru</td>
<td>Tibet</td>
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<tr>
<td>China</td>
<td>Ireland</td>
<td>Qatar</td>
<td>Togo</td>
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<td>Croatia</td>
<td>Israel</td>
<td>Romania</td>
<td>Trinidad</td>
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<tr>
<td>Dominican Republic</td>
<td>Jamaica</td>
<td>Rwanda</td>
<td>Uganda</td>
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<tr>
<td>Ecuador</td>
<td><strong>Japan (27)</strong></td>
<td>Singapore</td>
<td>United Arab Emirates</td>
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<tr>
<td>Egypt</td>
<td>Jordan</td>
<td>Slovakia</td>
<td>United Kingdom (32)</td>
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<tr>
<td>Eritrea</td>
<td>Kenya</td>
<td>South Africa</td>
<td>Zambia</td>
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<tr>
<td>Acupuncture</td>
<td>Health Management</td>
<td>Otolaryngology</td>
<td></td>
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<tr>
<td>Adolescent Mental Health</td>
<td>Hematology</td>
<td>Pathology</td>
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<tr>
<td>Alternative Medicine</td>
<td>HIV/AIDS</td>
<td>Pediatrics</td>
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<tr>
<td>Anesthesia</td>
<td>Hygiene &amp; Tropical Medicine</td>
<td>Pediatric Cardiology</td>
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<tr>
<td>Cardiovascular Surgery</td>
<td>Gastroenterology</td>
<td>Pediatric Rehabilitation</td>
<td></td>
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<tr>
<td>Cervical Cancer &amp; HIV Clinic</td>
<td>Infectious Disease</td>
<td>Pediatric Urgent Care</td>
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<tr>
<td>Child Family Health</td>
<td>Internal Medicine</td>
<td>Plastic Surgery</td>
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<tr>
<td>Clinical Pharmacology &amp; Therapeutics</td>
<td>Maternal &amp; Child Health</td>
<td>Pulmonary</td>
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<tr>
<td>Community Health Education</td>
<td>Medical Spanish/Holistic Care</td>
<td>Primary Care</td>
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<tr>
<td>Dermatology</td>
<td>Mental Health</td>
<td>Radiology</td>
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<tr>
<td>Emergency Medicine</td>
<td>Neonatal Intensive Care</td>
<td>Rheumatology</td>
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<tr>
<td>Endocrinology</td>
<td>Neurosurgery</td>
<td>Thoracic Surgery</td>
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<tr>
<td>Epidemiology</td>
<td>Neurology</td>
<td>Traditional Chinese Medicine</td>
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<tr>
<td>Family Medicine</td>
<td>Obstetrics and Gynecology</td>
<td>Tropical Medicine</td>
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<tr>
<td>Geriatric Medicine</td>
<td>Oncology</td>
<td></td>
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<tr>
<td>Health Systems</td>
<td>Ophthalmology</td>
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M1/M2 Service Learning Trips

58 Students participated in service learning trips in 2009-10.
8 students participated in more than one trip

Cuba, 12
Dominican Republic, 17
Peru, 11
Jamaica, 5
Guatemala, 7
Ecuador, 9

8 students participated in more than one trip.
## Faculty Led Student Trips FY 2011

<table>
<thead>
<tr>
<th>Country</th>
<th>Faculty</th>
<th>Department</th>
<th>Research Proposal</th>
<th>Students</th>
<th>Award $</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ecuador</td>
<td>David C. Serlin, MD&lt;br&gt;Michele E. Heisler, MD, MPA</td>
<td>Family Medicine&lt;br&gt;Internal Medicine</td>
<td>Development &amp; Evaluation of Chronic Disease Management Programs</td>
<td>4</td>
<td>$14,110</td>
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<tr>
<td>Uganda</td>
<td>Bruno J. Giordani, PhD&lt;br&gt;Michael J. Boivin, PhD, MPH</td>
<td>Psychology&lt;br&gt;Psychiatry</td>
<td>Cognitive rehabilitation with HIV-affected Ugandan Children: Summer UM Medical Student Research Internship</td>
<td>3</td>
<td>$20,000</td>
</tr>
<tr>
<td>Mexico</td>
<td>John D. Piette, PhD</td>
<td>Internal Medicine</td>
<td>Developing Effective Diabetes Management Programs for Low Income Patients @ Their Clinics</td>
<td>3</td>
<td>$19,657</td>
</tr>
<tr>
<td>Ghana</td>
<td>Katherine J. Gold, MD, MSW, MS</td>
<td>Family Medicine&lt;br&gt;Obstetrics &amp; Gynecology</td>
<td>Perinatal Mental Health Prevalence &amp; Needs Assessment</td>
<td>3</td>
<td>$20,000</td>
</tr>
</tbody>
</table>
Total International Visitors 2010 – 220 visitors

- 31 students from MOU Schools
- 25 students from non-MOU schools
- 34 international scholar visits
- 13 dignitary visits - 103 attendees
- 5 medical campus tour only
  - 27 attendees

31 students from MOU Schools
25 students from non-MOU schools
34 international scholar visits
13 dignitary visits - 103 attendees
5 medical campus tour only
  - 27 attendees
Signed Agreements (MOU’s) with Partner Institutions

Africa
1. University of Ghana

China
2. Fudan University
3. Peking University Health Science Center
4. Peking Union Medical College Hospital
5. Shanghai Jiao Tong University

Croatia
6. Zagreb University

India
7. All India Institute

Ireland
8. Trinity University

Israel
9. Technion – Israel Institute of Technology
10. Weill Cornell Medical College in Qatar

Korea
11. Catholic University of Korea

Japan
12. Tokyo University

Macedonia
13. SS. Cyril and Methodius University

Slovakia
14. Comenius University

Sweden
15. Goteborg University

In Development
16. Germany – Eberhard Karis University
17. Mongolia – Health Sciences University
18. Spain – University of Barcelona
19. Italy – University of Florence
NIH Priorities for Director Francis Collins

1. applying new technologies to the understanding of basic biology and the causes of specific diseases
2. translational research
3. putting science to work for health care reform; comparative-effectiveness research

4. *global health*

5. “reinvigorating and empowering” the research community through such means as supporting young investigators, focusing the peer review system on innovation, and seeking to achieve a “stable and predictable funding trajectory for biomedical research.”
Platforms

- multidimensional
- cross departments, schools
- attract others who are interested in synergistic partnerships

- Ghana
- China
- Brazil
Ghana Platform

- 20-year history with Tim Johnson and the Post-Graduate Training Program in OB-GYN
- Involved in the genesis of the GM-CHARTER grant – Gates Foundation HRH grant
- UM support for new Emergency Medicine residency training program at KNUST
- Ongoing exchange of students, residents, fellows, and faculty
Ghana: Main Partners

- University of Ghana College of Health Sciences
- Kwame Nkrumah University of Science and Technology (KNUST)
- Komfo Anokye Teaching Hospital (KATH)
- Ghana College of Physicians and Surgeons
- Ministry of Health / Ghana Health Service
- University of Michigan
Ghana: EDUCATION

- Training
  - OB/GYN
  - Emergency Med

- Student Exchanges
  - Since 2007:
    - 37 4\textsuperscript{th} year UMMS students to Ghana;
    - 87 Ghana students to UM
Ghana: Research

• $3M grant to explore issues around Human Resources for Health (Gates Foundation)
• $400K grant to train post-doctoral fellows in global health research (Fogarty / NIH)
• $500K award for Emergency Medicine (MEPI/NIH)
• Smaller grants to study:
  – Reproductive justice, reproductive health services, stillbirth, early neonatal mortality, facility resources, simulation-based training
  – Collaborative Open Educational Resources Grant (Hewlett Foundation)
CHINA
International Collaborations: Joint papers from UM Med School Faculty and Faculty at Foreign Medical Schools
(# of papers last 5 years, based on location of first author)
University of MI Health System & China

- 1080 UMHS employees holding China citizenship
- 19 UM Medical School Departments collaborating with 31 Chinese Universities
- 30+ students from China currently enrolled in our Medical School
- Joint Lab – Peking University
- Popular location for M4 electives
China Strategic Platform = Institution-Institution Initiative

- New translational research initiatives resulting in major impact studies
- A ‘brokerage’ for those wishing to partner around education and research
- A mechanism to provide seed funding and to facilitate competitive funding
- Outcome based education initiatives that support above
What is the state of Science in China?

- great Basic Science emerging
- skills and sophistication in Clinical Research are lacking
THE SEQUENCE FACTORY

The bold ambitions of one institute could make China the world leader in genome sequencing. **David Cyranoski** asks if its science will survive the industrial ramp-up.

In 2006, Li Yingrui left Peking University for the BGI, China’s premier genome-sequencing institute. Now, freckled and fresh-faced at 23 years old, he baulks at the way a senior BGI colleague characterized his college career — saying Li was wasting time playing video games and sleeping during class. “I didn’t sleep in lectures,” Li says. “I just didn’t go.”

He runs a team of 130 bioinformaticians, most no older than himself. His love of games has served him well when deciphering the flood of data spilling out of the BGI’s sequencers every day. But “science is more satisfying” than video games, he says. “There’s more passion.”

The people at the BGI — which stopped offi...
August 2009 Deans Visit to the Four Top Chinese Medical Schools

- Fudan Shanghai Medical Center
- Shanghai Jiao Tong (SHJT)
- Peking Union Medical Center (PUMC) – Beijing
- Peking University (PKU) - Beijing
Clinical Activity: UM vs. Top Four Chinese Medical Schools

<table>
<thead>
<tr>
<th></th>
<th>UMHS</th>
<th>FUDAN</th>
<th>SJTU</th>
<th>PUMC</th>
<th>PKU</th>
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<tbody>
<tr>
<td>Affiliated Hospitals/Centers</td>
<td>8</td>
<td>10</td>
<td>12</td>
<td>6</td>
<td>8</td>
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<tr>
<td>Total Beds</td>
<td>930</td>
<td>7,000</td>
<td>12,000</td>
<td>4,713</td>
<td>6,688</td>
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<tr>
<td><strong>Daily:</strong></td>
<td></td>
<td></td>
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<tr>
<td>Outpatient Visits</td>
<td>~6,411</td>
<td>32,000</td>
<td>45,390</td>
<td>12,984</td>
<td>32,431</td>
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<tr>
<td>Emergency Room Visits</td>
<td>~ 319</td>
<td>1,620</td>
<td>N/A</td>
<td>N/A</td>
<td>1,810</td>
</tr>
<tr>
<td>Discharges</td>
<td>~ 171</td>
<td>730</td>
<td>1,112</td>
<td>489</td>
<td>762</td>
</tr>
<tr>
<td>Operations</td>
<td>~ 177</td>
<td>380</td>
<td>556</td>
<td>222</td>
<td>389</td>
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</tbody>
</table>
Key Findings

Mutual interest in developing shared translational research and education programs with a focus on:

- Liver Disease
- Lung Disease
- Cardiovascular Disease
- Core Technologies (e.g. tissue biorepository, drug development, bioinformatics)
Key Value Proposition – U of M

- To enhance translational research capacity and productivity
- To enhance a qualified workforce for basic science and clinical research
- A robust set of learning opportunities for our students
- To attract excellent students through the establishment of a MD/PhD joint degree program
- To compete successfully for grants/endowments requiring international partnership
Key Value Proposition – Peking University

- To provide expertise on study design, data interpretation, publication review, etc.
- To establish training programs focused on specific diseases
- To build infrastructures for translational and clinical research
Metrics of success

- Numbers of collaborative projects
- Numbers of external grants for collaborative projects
- Numbers of joint publications
- Numbers of faculty, researchers, and students in the exchange programs
$7 million investment from Peking University Health Science Center and $7 million investment from University of Michigan Medical School to form a Joint Institute

Goal: By 2015….

- A research trajectory resulting in high impact, transformative, collaborative studies, on prevalent diseases
- ‘self sufficient’ funding from:
  - Chinese Government
  - U.S. extramural sources
  - Industry, Foundations, Philanthropy
UM-PUHSC Joint Institute for Translational and Clinical Research

biorepository-biomedical informatics

Pulmonary  Cardiovascular  Liver

institutional review board/human protection

collaboration

cores

programs
UM-PUHSC Joint Institute for Translational and Clinical Research Governance Structure

Executive Board
Co-chaired by PUHSC & UM

Executive Committee
Co-directed by PUHSC & UM

Cardiovascular Program
Co-lead by PUHSC & UM

Pulmonary Program
Co-lead by PUHSC & UM

Liver Program
Co-lead by PUHSC & UM

Biorepository/Bioinformatics Core
Co-lead by PUHSC & UM

IRB/Human Subject Protections Core
Co-lead by PUHSC & UM

Collaboration Core
Co-lead by PUHSC & UM

UM
Ora Pescovitz
Steve Forrest
Jim Woolliscroft
Steve Kunkel
Joe Kolars

Co-directors
Joe Kolars
Weigang Fang
1. Focus on the genomics and metabolomics of prevalent diseases that will lead to new prevention strategies, treatments, and cures.

2. Education programs will be established to support the JI research strategies.

3. Structures and processes will be established to provide a sustainable foundation for collaborative research.

4. The JI will become internationally recognized as an exemplar of a new way of doing collaborative research.
Brazil Platform – Sao Paulo

• Health Services Research – Chronic Disease (Michele Heisler)

• Adrenal Cancer (Gary Hammer)
  – High rates in Brazil, linked to mining
  – Only endowed adrenal cancer professorship is at UM

• Assisted Reproductive Technology (Gary Smith)
  – High rates of utilization, huge # of procedures
  – Access to frozen (otherwise discarded) embryos for research

• Combination of high-tech research (ART) with health-disparities research (adrenal cancer)
Global REACH – Future Directions

• Greater faculty engagement; multi-disciplinary ‘team’ approaches

• More defined pathways for students, trainees
  - global health & disparities track

• Focus on a few select platforms
  China
  Ghana
  Brazil