

The AMIA 10×10 (“Ten by Ten”) Program: An International Approach to Building Informatics Capacity

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Outline

- History
- Enrollment
- Evaluation
- Teaching modalities
- International expansion – i10x10
- Future directions

- (These slides adapted and updated from my presentation on panel about i10x10 at MEDINFO 2013 meeting)



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History, circa 2005

- Charlie Safran (AMIA President):
 - We need more people trained in informatics, at least one physician and nurse in each of the 6000 US hospitals
 - Informatics program directors, How many can you train?
- Most program directors:
 - Can increase capacity 2-3 fold
- Bill Hersh:
 - All of them!
 - Could adapt existing introductory graduate course to train one physician and nurse in each hospital (~10,000) by 2010
 - Thus 10x10 (“ten by ten”) was born

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History (cont.)

- OHSU already had distance learning capacity
 - Initial online course, BMI 510 – Introduction to Biomedical Informatics, launched in 1999
 - Graduate Certificate (8 courses) started in 2000
 - Online master’s degree launched in 2002
- How much can online learning scale?
 - Nearly infinitely with proper lead time and enough faculty and staff
- Adaptation of introductory course
 - Mostly intact, with addition of concluding in-person session at AMIA meeting

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History (cont.)

- Quick launch in 2005
 - February – idea conceptualized
 - May – Memorandum of Understanding (MOU) established non-mutual exclusivity between AMIA and OHSU
 - OHSU maintained its course for other purposes; AMIA could partner with other universities to create other 10x10 courses
 - June – Program formally launched and registration opened
 - July – First 51 participants enrolled
 - November – 44 people completed course; many attended first in-person session
 - One of whom was Dr. Paula Otero, who translated course into Spanish for Latin American audience in 2006
- AMIA subsequently developed process for other institutions to apply to offer 10x10 courses



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Some offerings have been with partners

- Partners (and >1 offerings) include
 - California Health Care Foundation – 2006
 - Hospital Italiano de Buenos Aires – 2006 to present (many)
 - Scottsdale Institute – 2007
 - American College of Physicians – 2007
 - Society for Technology in Anesthesiology – 2008
 - Gateway Consulting (Singapore) – 2009 to present (10)
 - American College of Emergency Physicians – 2009 to present (5)
 - Academy for Nutrition and Dietetics – 2010 to present (4)
 - King Saud University (Saudi Arabia) – 2013 to present (1 so far)
- Curriculum with partners generally the same
 - In some instances, add co-faculty and/or additional content
 - US-centric nature challenging in international settings
- In general, in-person session held at partner's meeting or facility



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Course has been highly successful – OHSU enrollment

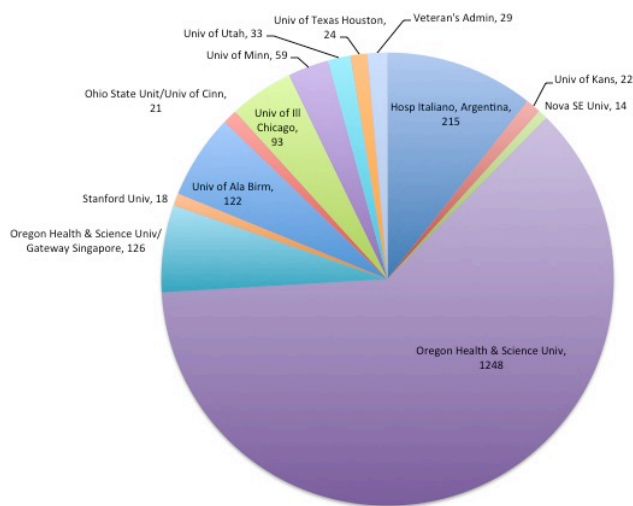


Total OHSU completions, as of January, 2014: 1593



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Overall enrollment – through 2012



HIBA numbers actually higher; these represent start of AMIA i10x10 program

Evaluations

- Hersh and Williamson, IJMI, 2007 – evaluation of first offering
- Feldman and Hersh, AMIA, 2008 – evaluation through end of 2006
- Otero, ..., Hersh, MIM, 2010 – description and evaluation of Spanish course
- Williamson, University of Virginia master's thesis, 2011
- Shaffer, Gartner CMIO survey, 2012 – most common training of CMIO (19%) after “none” (29%)

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Teaching modalities

- Course has always been offered in two parts
 - 10-unit Web-based component, provided through on-line lectures, readings, interactive discussion, and self-assessment tests
 - Intensive one-day in-person session held in conjunction with an AMIA meeting, bringing participants together to integrate the material, allow presentation of course projects, and meet the instructor as well as other students in person
- OHSU 10x10 participants have option of attending the in-person session associated with any AMIA meeting within one year of their taking the class
- Session usually full day with exception of AMIA Annual Symposium where 1-2 tutorials may be taken for free

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Teaching modalities (cont.)

- Voice-over-PowerPoint lectures – key material is delivered using Flash
 - HTML5/mobile coming soon
- Interactive threaded discussion – Students engage in discussion on important issues using the on-line threaded discussion forums
- Reading assignments – Course uses variety of readings made available to students
- Homework quizzes – Each of units accompanied by 10-question multiple-choice self-assessment that aims to have the student apply the knowledge from unit

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On-line part of course accessed via Sakai learning management system

 The screenshot shows a Sakai learning management system interface. At the top left is the OHSU logo. Below it is a profile for William Hersh, MD, Professor and Chair, with a "Send an email" link. A "Menu" sidebar on the left lists 23 items, with item 13, "13. Many 'idiosyncrasies' of...", highlighted. The main content area displays a video player with a slide titled "Many 'idiosyncrasies' of clinical data (Hersh, 2013)". The slide contains a bulleted list:

- "Left censoring" – First instance of disease in record may not be when first manifested
- "Right censoring" – Data source may not cover long enough time interval
- Data might not be captured from other clinical (other hospitals or health systems) or non-clinical (OTC drugs) settings
- Bias in testing or treatment
- Institutional or personal variation in practice or documentation styles
- Inconsistent use of coding or standards

 The video player includes a progress bar, volume control, and navigation buttons for "PREV" and "NEXT". The OHSU logo is also visible in the bottom right corner of the video player frame.

Topics – then and now

2005

1. Overview of Field; Biomedical Data
2. Biomedical Computing
3. Electronic Health Records
4. Decision Support Systems: Evolution and Current Approaches
5. Standards; Privacy, Confidentiality, and Security
6. Evidence-Based Medicine and Medical Decision Making
7. Information Retrieval and Digital Libraries
8. Bioinformatics
9. Imaging Informatics and Telemedicine
10. Other Informatics: Nursing, Public Health, and Consumer Health
11. Organizational and Management Issues in Informatics

2013

1. Overview of Field and Problems Motivating It
2. Biomedical Computing
3. Electronic and Personal Health Records (EHR, PHR)
4. Standards and Interoperability
5. Meaningful Use of the EHR
6. EHR Implementation and Evaluation
7. Protection and Analytical Use of Data
8. Information Retrieval (Search)
9. Imaging Informatics and Telemedicine
10. Translational Bioinformatics and Personalized Medicine

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Expanding 10x10 internationally: i10x10

- All courses from beginning have had international enrollment from around the world
- First specific international effort started with Argentina in 2006 (Otero, 2012)
 - Hospital Italiano de Buenos Aires (HIBA) translated content into Spanish and has offered to over 1000 people across Latin America
 - OHSU and HIBA awarded grant from NIH Fogarty International Center to expand collaboration in 2009
- Success led AMIA to develop plan for international offerings, the i10x10 program
- Next effort came with Singapore
 - Gateway Consulting obtained partial government subsidy for Singapore students, with 10th offering to start this week
- Saudi Arabia
 - We are at culmination of first offering, with hopefully more to come!

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HIBA translation of course slide

Visión de la informática

- Es la intersección de lo que las personas hacen con la información y tecnologías para su mejor utilización (Kukafka, 2001)
- Es mas (y menos) que las ciencias de la computación
- Requiere una fuerte comprensión del dominio subyacente, como la medicina

AMIA 10x10 10,000 Trained by 2010

OHSU

HOSPITAL ITALIANO

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Future directions for OHSU 10x10

- Continues to attract enrollment
- Expansion to other partners
 - Including international i10x10 partners
- A viable approach for *introducing* informatics
 - Not a full course of study

AMIA 10x10™ → **10x10™**
10,000 Trained by 2010 Training Next-Generation Informatics Leaders

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