

# iSchools and Health Informatics: Developing Innovative and Interdisciplinary Curricula

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## Abstract

Health Informatics is an emergent discipline with increasing demand for information professionals who can address complex problems at the intersection of technological, human, organizational, and societal issues. There has been a strong interest in Health Informatics within the iSchool community. Still, the community has not engaged in the discussion of what Health Informatics curricula for iSchools should look like and what would make them unique and distinguished from programs located in other schools. In this SIE we will engage the audience in designing or redesigning Health Informatics curricula for an iSchool as an activity. Through this activity, participants will think strategically about issues such as the role of iSchools in Health Informatics, market needs, and building on the strengths and mission of the ischools.

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## 1 Purpose and Intended Audience

Health Informatics is a rapidly growing and evolving scientific discipline that deals with the collection, storage, retrieval, communication, and use of health information. Both healthcare professionals and healthcare consumers must increasingly rely on information professionals to address complex issues such as unintended consequences of digitizing medical records, integrating information generated in clinical practice with patients' experience data (i.e. illness management), overcoming barriers to sharing information between care providers and receivers, addressing privacy concerns of electronic medical records, managing fast growing online health communities, and developing mobile health applications. Consequently, there will be a need for professionals with the skills that bridge different disciplines including information sciences, human-computer interaction, healthcare, behavioral sciences, and computer sciences among others.

The intended audience of this Session for Interaction and Engagement (SIE) are iSchool faculty who wish to prepare their students for potential employment as information professionals in healthcare industry and doctoral students who are interested in conducting research in Health Informatics. The purpose of this session is to engage the audience in thinking about the role and unique characteristics of HI research and teaching in the iSchools and what might be the unique strengths that iSchools can offer in HI education.

## 2 Relevance to the Conference

There has been considerable interest in HI within the iSchool community. In a 2010 survey, only 1% of iSchool faculty had a doctoral degree in Medicine or Public Health. However a substantial number of research projects were funded by the US National Institute of Health (NIH) and National Library of Medicine (NLM) indicating strong interest in health-related research (Wu, He, Jiang, Dong, & Vo, 2012). Papers presented and roundtable discussions held at iConferences also attest to this interest.

One roundtable, held in 2009, presented educational initiatives in bioinformatics and HI from a number of iSchools (Mokros, Detlefsen, Plale, Oesterlund, & Reddy, 2009). In 2010, another roundtable

discussion explored the role of iSchools in HI with a focus on research. The discussion highlighted the growing importance of understanding human, organizational, and social issues in HI from an interdisciplinary perspective. It discussed research questions in HI that are of interest to the iSchool community, the potential impact of iSchools on the field, and the challenges involved in conducting HI research in an iSchool (Haque, Oesterlund, & Reddy, 2010). Since then, several iSchools have developed programs in HI, either independently or in collaboration with other schools (e.g. Public Health). For example, The University of Michigan iSchool started a Master in HI program, as well as a Graduate Certificate in HI in 2011. The degree program is a collaborative of the Schools of Information and Public Health at the University of Michigan. In the University of Toronto, the iSchool participates in a Master of Health Informatics program offered by the Institute of Health Policy, Management and Evaluation. The University of North Carolina, Chapel Hill offers an interdisciplinary program, sponsored by seven different academic units including health affairs and information technology units. Each of these approaches requires strategic thinking and careful design of the curriculum to differentiate it from other programs.

In this SIE, we build on these previous works as well as the organizers' personal experience to further enhance the discussion about HI in the iSchools by engaging participants in the preliminary design or redesign of HI curriculum for an iSchool as an activity.

### 3 Length of the Event

90 minutes including:

- Introduction to the organizers and purpose of the session (15 minutes)
- Group activity: (re)design of a preliminary HI curriculum (45 minutes)
- Presentation of the group activity outcomes (20 minutes)
- Summary and conclusion of the session (10 minutes)

### 4 Small Group Activity and Participants' Engagement

The small group activity involves the preliminary design of HI curricula for an iSchool. Through this activity, participants will get to think about HI at the iSchools strategically; for example: how we can build on strengths and mission of iSchools? what would make the curriculum unique and different from what one can find in other schools (e.g., Biomedical Informatics departments)?

Each group will design or redesign (depending on the participants' experience) a curriculum for a different degree program: undergraduate, Master, and PhD, which will require participants to think on the potential job market for that degree and its needs and constraints. For example, a doctoral program may need to prepare graduates to take on faculty positions not only in iSchools but also in other schools, or have cross-appointments to different units.

Finally, participants will need to discuss issues such as collaborating with other schools in building the program (e.g., medical, nursing, or public health schools).

### 5 SIE Faculty

- Aviv Shachak, PhD studies various interventions to improve use of ICT in health, with a focus on primary care. He has been involved in planning of and teaching on the Master of Health Informatics program at the University of Toronto since 2007.
- Catherine Arnott Smith, PhD has been engaged in HI research since 2002 and is interested in the application of HI technologies to the nonclinical and prediagnosed.
- Javed Mostafa, PhD is the Director of the Carolina Health Informatics Program (CHIP). CHIP offers certificates in public health, nursing, and clinical informatics and a master's degree in biomedical and health informatics. A PhD program is under development. Javed has led CHIP from its founding.
- Madhu Reddy, PhD Reddy has been involved in the Health Informatics field for more than a decade. He is interested in developing curriculum that emphasizes the unique perspectives that iSchools could bring to the Health Informatics field.
- Tiffany Veinot, PhD is a founding faculty member of the MHI degree and certificate programs at the University of Michigan. Her research focuses on community health informatics: the application of health information systems and services to reduce health disparities and improve the health of marginalized groups.

- Xiaomu Zhou, Ph.D studies fundamental issues pertaining to the use, sharing, and documentation of healthcare information. She has introduced Health Informatics curriculum and is developing Informatics and Design concentration on the new Master of Information program at Rutgers University.

## 6 References

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