Tale of Two Professions: Health Information Management and Biomedical/Health Informatics Converge at OHSU

By William R. Hersh, MD and Joanne D. Valerius, MPH, RHIA

The disciplines of health information management (HIM) and biomedical and health informatics (informatics) have many historical differences, from the focus of their work to their academic roots. HIM has most often been seen as an operational profession, typically grouped among "allied health" disciplines. Informatics, on the other hand, started mostly as a research endeavor with a much broader focus on the use of information technology to improve health, healthcare, public health, and research.[1,2]

These historical differences are also seen in academic programs, with HIM often part of allied health programs while informatics programs are usually housed in schools of medicine or nursing—although they may also sometimes be located within engineering or other disciplines. The educational programs of HIM have tended to reside in community colleges and undergraduate institutions, whereas the study of informatics has mostly been at the graduate or postgraduate level. HIM education programs have been heavily focused on students obtaining professional certifications, pursued through formally accredited programs, whereas informatics programs have been more varied in their student mix and curricula.

As the adoption of the electronic health record (EHR) and other types of health information technology (health IT) has grown, however, the two fields have begun to increasingly share similar professional focus as well as competencies and content of their educational programs. HIM operations in healthcare organizations are increasingly merged with those of informatics.[3] Academically, the main accreditation body for HIM programs, the Commission on Accreditation for Health Informatics and Information Management Education (CAHIIM), has also started accrediting programs in health informatics.[4]

History of OHSU's Biomedical Informatics Program

The biomedical informatics educational program at OHSU started in 1992 with the awarding of a training grant from the National Library of Medicine. In 1996, the program launched its first degree program, a master's of science. Since then, however, the program has grown in a number of ways:[5]

- Began offering courses via distance learning in 1999
- Launched a graduate certificate program in 2000 as the first credential for online students
- Added a professional master's degree in biomedical informatics in 2002
- Developed two tracks within the program in clinical informatics and in bioinformatics and computational biology
- Launched a doctor of philosophy (PhD) degree in 2004, with its first graduate in 2007

History of OHSU's Biomedical Informatics Program

In 2005, the biomedical informatics educational program at the Oregon Health and Science University (OHSU) started to recognize the growing overlap across the HIM and informatics fields. In addition to its educational tracks in clinical informatics and in bioinformatics and computational biology, the university undertook an analysis of adding a third track in HIM that would pursue accreditation and allow graduates to obtain the Registered Health Information Administrator (RHIA) credential. While the university's clinical informatics and HIM tracks had considerable overlap, each would maintain its unique focus. The program always had a number of RHIAs seeking broader informatics training, and the HIM track typically focused on the education of individuals seeking new careers in HIM and the RHIA credential.

An initial analysis of the overlap was performed by a consultant who was a HIM educator and determined that about two-thirds of the required competency domains and knowledge clusters were covered by the existing curriculum, with the other third requiring new course development. The program hired its first HIM faculty to join its existing dozen core teaching faculty to develop and launch the new program and seek CAHIIM accreditation.

Spinning Off HIM from Informatics Curriculum

The HIM degree entry-level competencies of AHIMA are grouped into five domains, as shown in Table 1 on page 40. To determine the school's ability to use existing courses, as well as determine the need to create new ones, the competencies and knowledge clusters were reviewed against 22 existing courses in the clinical informatics track of the OHSU program. Course syllabi were initially reviewed by the HIM program director and then verified by core teaching faculty. It was found that six of the existing courses in the clinical informatics track addressed the competencies and knowledge clusters, and these were selected for inclusion in the HIM track. Table 1 also shows the number of competency statements under each domain that were covered by existing courses.

Seven new courses specifically addressing HIM content and a required professional practice experience were developed to meet the accreditation standards of CAHIIM. An external advisory committee made up of clinical practitioners, health information educators, health information consultants, and former and current students in the clinical informatics track was formed and met with the program faculty and staff to analyze and approve the curriculum framework.

A self-assessment document and a request for candidacy for accreditation was prepared and sent to CAHIIM in May 2008, with approval following in 2009. The entire program was designed for distance learning. Voice-over PowerPoint presentations, video streaming, student discussion forums, written assignments, and examinations were developed for students and delivered on OHSU's learning management system. In addition to the online courses, students are required to complete a professional practice experience (PPE) within a healthcare organization. This PPE takes place in the student's geographical area. A prescribed set of experiences based on the domains and knowledge clusters frame the practical experience. The department's internship coordinator, in collaboration with the HIM program director and each student, find a healthcare facility for the PPE. A written contract between the facility and OHSU is required, as mandated by the Health Insurance Portability and Accountability Act (HIPAA).

The first graduate completed the HIM program and successfully passed the RHIA exam shortly following the program's accreditation in 2009. Since that time, all graduates who have taken the RHIA exam have passed it. Table 2 lists the current enrollment and number of graduates for all tracks of the program. Of the HIM track graduates, 15 have taken the RHIA certification exam, with all students passing on their first attempt.

Table 1

Below is a list of the HIM competency domains and number of competencies within each that are covered by existing courses in the OHSU informatics curriculum.

Domain	Covered by Existing Courses
I. Health Data Management	9/18
II. Health Statistics, Biomedical Research and Quality Management	7/7
III. Health Services Organizations and Delivery	7/11

IV. Information Technology and Systems	12/18
V. Organization and Management	18/19

Table 2

Current enrollment and graduates by OSHU HIM and Health Informatics certificate/degree and track.

	Current Enrollment by Track (2013)				**Graduates to Date by Track (2013)**			
	Bioinformatics	**Clinical Informatics**	**HIM**	**Total**	**Bioinformatics**	**Clinical Informatics**	**HIM**	**Total**
Graduate Certificate	0	67	23	90	0	297	33	330
Master's of Biomedical Informatics	3	49	7	59	4	118	0	122
Master's of Science	12	5	0	17	6	65	0	71
PhD	5	10	0	15	5	9	0	14
Total	20	131	30	181	15	489	33	537

ONC Grant Boosts Program

An important development for the program occurred when it was awarded funding from the Office of the National Coordinator for Health IT's (ONC) University-Based Training Program, which allowed the school to train health IT professionals in six of 12 designated workforce roles (the others were trained in community college programs).[6] In its successful grant proposal, OHSU proposed to tailor its graduate certificate and master of biomedical informatics programs for all six university-based workforce roles and interpret the Health Information Management and Exchange Workforce Role as a role requiring training in the HIM track. The funding substantially increased the number of enrolled students in the HIM graduate certificate program.

With the success of the HIM graduate certificate program, OHSU chose to expand the HIM CAHIIM-accredited track to the master's degree level. In addition, it has also obtained CAHIIM accreditation in health informatics for the clinical informatics master's degree track. Current courses in the HIM track of the OHSU graduate certificate program include three credit, one

quarter courses, with the exception of biostatistics, which is four credits. The courses of the current core graduate certificate program are:

- BMI 510 Introduction to Biomedical Informatics
- BMI 512 Clinical Information Systems
- BMI 517 Organizational Behavior and Management
- BMI 537 Healthcare Quality
- BMI 544 Databases
- BMI 582 Managing Information Governance
- BMI 584 Managing Clinical Classification and Reimbursement Systems
- BMI 586 Ethics in Privacy and Security Management
- BMI 588 Managing Professional Practice and Practicum
- PHPM 524 Introduction to Biostatistics

The most recent undertaking of the program has been a revamping of the HIM portion of the curriculum to meet current domains and to further enhance the inter-relationship with clinical informatics courses. OHSU also hopes to see more PhD candidates with an interest in HIM. While there are no plans to develop a track specific to the PhD program, those with an interest in HIM can focus the elective portion of the PhD program in HIM studies.[7] The program shares the goal of Linda Kloss, former AHIMA CEO, who advocates that HIM needs more researchers and leaders with advanced degrees.[8]

The future of health IT is difficult to predict. With the "meaningful use" EHR Incentive Program driving an increasing number of providers to health IT, more and more healthcare organizations have begun to use their systems and their data to improve healthcare quality, safety, and efficiency. For those reasons, individuals with HIM and informatics skills are likely to continue to be in demand.

Notes

[1] Collen, M.F. *A History of Medical Informatics in the United States 1950-1990.* Bethesda, MD: American Medical Informatics Association, 1995.

[2] Hersh, W. "A stimulus to define informatics and health information technology." *BMC Medical Informatics & Decision Making* 9:24 (May 15, 2009). http://www.biomedcentral.com/1472-6947/9/24/.

[3] Dimick, C. "Health Information Management 2025." *Journal of AHIMA* 83, no. 8 (August 2012): 24-31.

[4] Dixon-Lee, C. and L. Tesch. "Keeping Education Honest." *Journal of AHIMA* 83, no. 8 (August 2012): 38-40.

[5] Hersh, W.R. "The full spectrum of biomedical informatics education at Oregon Health & Science University." *Methods of Information in Medicine* 46, no. 1 (2007): 80-83.

[6] Hersh, W. "Informatics for the Health Information Technology Workforce." *Informatics Education in Healthcare: Lessons Learned.* New York: Springer, 2013.

[7] Brodnik, M.S., Valerius, J. D. and V. Watzlaf. "Taking the Doctoral Challenge." *Journal of AHIMA* 84, no. 8 (August 2013): 24-27.

[8] Kloss, L. "Health Information Management in 2016." Precyse Solutions, 2012. http://www.precyse.com/resources/HIM in 2016 White Paper_042412.pdf.

FOR MORE INFORMATION on advanced degrees in HIM and informatics, read "Taking the Doctoral Challenge: Educators Push HIM Professionals to Add PhD to Credentials" in the August 2013 *Journal of AHIMA*.

William R. Hersh (hersh@ohsu.edu) is chair of the department of medical informatics and clinical epidemiology, and Joanne D. Valerius (valerius@ohsu.edu) is program director of the HIM graduate certificate at Oregon Health and Science University, based in Portland, OR.

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