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Editorial Comments ■

Defining the Medical Subspecialty of Clinical Informatics

Don E. Detmer, MD, MA, John R. Lumpkin, MD, MPH, Jeffrey J. Williamson

A b s t r a c t   As the professional home for biomedical and health informaticians, AMIA is actively working to support high quality relevant professional education and research opportunities. This issue of JAMIA presents two key documents that provide tangible evidence of progress on this front. In this editorial, we describe the context and specific purpose of the two documents, how they were developed, and AMIA's plans to build upon the documents.

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As the professional home for biomedical and health informaticians, AMIA works actively to support high quality relevant professional education and research opportunities. This issue of JAMIA presents two key AMIA-sponsored documents that provide tangible evidence of progress on this front. This editorial describes the context and specific purpose of the two documents, including how they were developed and AMIA's plans to build upon the documents.

A Town Hall discussion at the AMIA 2005 annual meeting reached three important conclusions. First, informatics as a discipline is broader than clinical informatics. Second, clinical informatics is an inter-professional domain that helps to integrate the health professions. Third, sufficient social value in clinical informatics exists to ensure benefit from formal training and certification. The AMIA Board adopted these perspectives as formal policy and approved an effort to obtain funding to undertake formal development of clinical informatics certification for clinical professions, beginning with Medicine (as opposed to, for example, Pharmacy or Dentistry).

In March 2007, the Robert Wood Johnson Foundation awarded a grant to the American Medical Informatics Association (AMIA) to support the development of the two documents that the American Board of Medical Specialties (ABMS) would require to create the medical subspecialty of clinical informatics. Two interdisciplinary teams commissioned by the AMIA Board created the two documents, the Core Content and Program Training Requirements for clinical informatics, which were endorsed by the AMIA Board. The documents are presented in this issue. While the grant focused on the development of the medical subspecialty of clinical informatics, it also provided AMIA with valuable insight in delineating core content and training requirements for clinical informatics in general. The nature of these

documents also forced AMIA to clearly state the boundaries of clinical informatics, and to establish expectations for how clinical informaticians should be trained.

Each of the two teams that AMIA established met three times. A consultant with extensive experience in developing similar documents for other medical subspecialties advised the teams' work. A professional editor prepared the documents based on the teams' deliberations. AMIA invited review of draft documents by its members, health-related federal agency personnel, and representatives of other clinical and informatics-focused organizations. They examined drafts of the Core Content and Training Program Requirements during separate review periods (Jan 2008 and Aug 2008, respectively). More than 80 individuals from a wide variety of institutions provided comments during the review periods. These individuals represented the perspectives of a broad range of health care disciplines and organizations. The teams reviewed each comment received. The feedback informed and sharpened the teams' deliberations and helped to shape the final version of the two documents. This open process served AMIA well.

The Core Content Team conducted its work between Aug 2007 and Jan 2008. The team began by identifying key tasks that clinical informaticians perform and grouping them into major categories of activity. The Team expanded each category to capture all of the tasks performed by clinical informaticians. The activity categories and corresponding tasks provided the basis for describing the field of clinical informatics and defining the role of clinical informaticians. The Core Content Team clustered the tasks performed by clinical informaticians into four major knowledge and skills groupings that informaticians must master: (1) fundamentals, (2) clinical decision making and care process improvement, (3) health information systems, and (4) leadership and management of change. These categories emphasize the role of clinical informatics as a strategic tool for transforming care that supplements the traditional tactical view of clinical informatics.

The Training Requirements Team worked from February to October of 2008. Using the Core Content as a starting point, the team modified the standard template used by all specialties and subspecialties to specify their training program requirements to specify the requirements of clinical infor-

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matics. Notably, the team did not limit itself to what current informatics training programs offer and focused instead on what training programs should offer. In addition to identifying the kinds of resources offered by clinical informatics training programs during the course of the study, the team sought to establish requirements that would accommodate creative approaches to providing quality training (e.g., partnering with a business school to offer courses in leadership). While the training requirements provide guidance about the kinds of experiences that fellows should have, they allow flexibility in how programs structure those experiences.

In Nov 2008, the AMIA Board of Directors approved the Core Content and Training Program Requirements for clinical informatics. AMIA has actively contacted member boards of the ABMS to formally establish the subspecialty of clinical informatics. In the meantime, an active dialogue within AMIA's Academic Forum focuses on the adjustments that training programs will need to have ready for the anticipated future of certification in clinical informatics.

Certification is often followed by accreditation. AMIA will be discussing accreditation issues in the months ahead.

With completion of these two documents, AMIA turned to the issue of clinical informatics certification for other members of the clinical team through the *Advanced Inter-professional Informatics Certification* initiative. These two documents will provide a starting point for discussion for two new committees that will develop the core content and common training requirements for the inter-professional practice of clinical informatics

Those engaged in the process of elucidating the core content and outlining the training requirements for clinical informatics as a subspecialty felt that they were making history. This fostered a high level of enthusiasm and deep commitment to producing excellent work. We believe that the public will be well served by their successful efforts. Time will tell if our collective endeavours meet our own and others' expectations.