

February 10, 2010

Susan Hassmiller, PhD, RN, FAAN
Study Director
Robert Wood Johnson Foundation Initiative on the Future of Nursing at the
Institute of Medicine
500 Fifth St. NW
Washington, DC 20001

Re: Statement to the Robert Wood Johnson Foundation Initiative, Future of Nursing Education,
February 22, 2010 Meeting (IOM-EO-08-01)

Dear Dr. Hassmiller,

On behalf of the American Medical Informatics Association (AMIA), we are pleased to submit these comments to help inform your important discussions regarding the future of nursing education. AMIA is the professional home for biomedical and health informatics and is dedicated to the development and application of informatics in support of patient care, public health, teaching, research, administration, and related policy. Our organization seeks to enhance health and healthcare delivery through the transformative use of information technology.

AMIA's 4,000 multidisciplinary members advance the use of health information technology (HIT) in clinical care and research, personal health management, public and population health, and translational science with the ultimate objective of improving health. They work throughout the health system in various clinical care, research, academic, government, and commercial organizations. AMIA's Nursing Informatics Working Group (NIWG) promotes the advancement of nursing informatics within the larger interdisciplinary context of health informatics. This Working Group and its members pursue this goal in many arenas: professional practice, education, research, governmental and other service, professional organizations, and industry.

AMIA thanks the Institute of Medicine (IOM) and the Robert Wood Johnson Foundation (RWJF) for your attention to an important public policy issue, the future of nursing. As a source of informed, unbiased opinions on policy issues relating to the national health information infrastructure, the uses and protection of clinical and personal health information, and a variety of public health considerations, AMIA appreciates the opportunity to contribute to your deliberations.

General Comments

The health sector is on the brink of wide-scale implementation of robust health information technology and clinical systems to support patient care. There is a pressing need to increase and broaden the pool of workers who can help healthcare organizations maximize the effectiveness of their investments in technology, thus enabling them to take full advantage of the benefits this investment can bring to improving the safety, quality, effectiveness, and efficiency of care. Strengthening the breadth and depth of the biomedical and health informatics workforce is a critical component of the transformation of the American healthcare system through the deployment and use of HIT.

AMIA is committed to the education and training of a new generation of informaticians to lead this transformation. Biomedical and health informaticians are experts in the use of information that is derived from basic biomedical research (biomedical informatics); they also apply their skills to the clinical care of patients (clinical informatics) and help protect the public through a wide range of public health activities (population and public health informatics). Informaticians' knowledge base spans a wide range of disciplines including the health sciences, organizational behavior, and cognitive science, as well as computer and communications technology. The goal of informaticians is to integrate multidisciplinary knowledge into systems that can assure safe, timely, efficient, equitable, patient-centered, and effective care for individuals and populations. This includes knowledge and skills relating to effective implementation and evaluation of HIT.

Formal training helps prepare individuals for careers that emphasize the application of information technology to healthcare and basic biological and clinical research, as well as research and scholarly careers that focus on the application of information technology to health systems. Biomedical and health informaticians may be health professionals with training in informational and computational methods, or other professionals whose work involves biomedical applications of information technology. Demand is high and growing for individuals with training and skills in biomedical and health informatics who can become independent investigators working on faculties in informatics, health services management, medicine, nursing, and other health professions, and in commercial and public research institutions.

Nursing Education

The use of informatics principles, tools and practices enables nurses to make healthcare safer, more effective, efficient, patient-centered, timely and equitable. This goal can only be achieved if such technologies are fully integrated into nursing practice and education. Recognizing the demands of an increasingly electronic healthcare environment, nursing education must be redesigned to keep up with the rapidly changing technology environment.

A comprehensive approach to education reform is necessary to reach the current workforce of nearly 3 million practicing nurses. To this end, AMIA supports the recommendations developed by the TIGER Initiative, (Technology Informatics Guiding Education Reform). TIGER is a national collaborative of nurses from various specialties including administration, practice, education, informatics, technology organizations, government agencies, vendors, and over 100 other specialties. Additional information about TIGER activities can be found at <http://www.tigersummit.com/>.

Now, and in the future, informatics education embraces enabling technologies such as patient simulators and task trainers, simulated information systems, computer-based instruction, virtual simulation, interactive simulated case studies, advanced 3D graphics, and e-learning technologies. In addition to the substantial investment in capital, technology and resources, the successful implementation of an electronic platform to improve healthcare delivery will require an investment in people—to build an informatics-aware healthcare workforce. This has accelerated the need to ensure that healthcare providers obtain competencies required to work with electronic records, including basic computer skills, information literacy, and an understanding of informatics and information management capabilities.

As federal initiatives such as the American Recovery and Reinvestment Act (ARRA) and HITECH propel the adoption of electronic health records (EHRs) and related tools within healthcare organizations and clinical practices, it is imperative that nursing graduates become fluent in their use to gain the benefits for their organizations and their patients that these tools promise. Many nursing practices require the effective use of HIT, e.g., CPOE, BCMA, nursing assessment and documentation, all of which one day will be very HIT-centric. In addition, there is a vital, growing role for nurses in many areas of care delivery (e.g., chronic care management, case management, home healthcare), that in the future will also rely heavily on HIT. The industry has a unique opportunity to integrate informatics within nursing education, practice, and research so nurses are armed with the necessary tools to fully participate in 21st-century clinical practice, in an effective, efficient, and safe manner.

Top Priority

We (AMIA NIWG) support a comprehensive approach to education reform, and we believe that the ongoing expansion of nursing practice, education and science to embrace informatics fully is essential to achieving any real advances in informatics and healthcare. Further, we believe that nursing education is an absolutely critical component of a comprehensive strategy/approach to overall education reform) We therefore recommend that RWJF make the funding of programs for nursing informatics practitioners, educators, and scientists a top priority. Towards that end, we embrace the following educational recommendations made by TIGER:

- Develop strategies to recruit, retain, and educate current and future nurses in the areas of nursing informatics education, practice, and research;
- Improve and expand existing Nursing/Clinical/Health Informatics education programs to include doctoral and post doctoral programs;
- Encourage the Health Services Resources Administration (HRSA) Division of Nursing to continue and expand their support for informatics specialty programs and faculty development;
- Place an emphasis on preparing informatics leaders by expanding graduate doctoral informatics education programs to include leadership skills;
- Encourage foundations to fund nursing informatics doctoral programs and nursing informatics research;
- Collaborate with industry and service partners to engage in nursing informatics research

- Align nursing informatics doctoral curricula and research with healthcare policies related to informatics.

There are a number of research questions related to nursing informatics whose consideration will bolster the scientific dimension of the TIGER recommendations. What are the terminology standards for nursing observations and clinical interventions? How does HIT support the nursing care role and key tasks in the context of a care team? How does nursing decision support fit into a broader context of clinical decision support (CDS) for the care team? How can nurses access and use information resources and CDS across the continuum of care. How can nurses use HIT to communicate effectively with the patient at the bedside, and with members of patients' social support systems?

Finally, AMIA again wishes to thank the IOM and the RWJF for convening this meeting and for inviting public comments and testimony. Please feel free to contact us at any time for further discussion of the issues we have raised.

Sincerely,



Edward H. Shortliffe, MD, PhD
President and CEO



Charlotte Weaver, RN, PhD
Chair, AMIA NIWG