



March 17, 2011

Patricia A. Grady, PhD, RN, FAAN
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National Institute of Nursing Research
National Institutes of Health
31 Center Drive, Room 5B10
Bethesda, Maryland 20892-2178
Sent Via email to: NINRstrategicplan@mail.nih.gov

Re: Feedback on the NINR Draft Strategic Plan 2011

Dear Dr. Grady,

On behalf of AMIA (the American Medical Informatics Association), we are pleased to submit these comments to help inform your important discussions. AMIA is an unbiased, authoritative source within the informatics community and the healthcare industry. AMIA and its members are transforming health care through trusted science, education, and practice in biomedical and health informatics. AMIA members – 4,000 informatics professionals from more than 65 countries – belong to a world-class informatics community where they actively share best practices and research for the advancement of the field. Members are subject matter experts dedicated to expanding the role that informaticians play in patient care, public health, teaching, research, administration, and related policy. As the voice of the nation’s top biomedical and health informatics professionals, AMIA plays a leading role in moving basic research findings from bench to bedside, evaluating interventions across communities, assessing the effects of health innovations on public policy, and advancing the field of informatics.

AMIA’s Nursing Informatics Working Group (NIWG) promotes the advancement of nursing informatics within the larger interdisciplinary context of health informatics. The Working Group and its members pursue this goal in many areas including professional practice, education, research, governmental and other service, professional organizations, and industry.

AMIA thanks the National Institute of Nursing Research (NINR) for your attention to an important public policy issue: the future of nursing research. As a source of informed 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 discussions. In providing input, we will present general comments related to the overall role of informaticians as NINR considers its future strategies, followed with comments on the individual sections of the draft plan.

General Comments

The health sector is on the brink of wide-scale implementation of robust health and communications technology and information 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 health information technology (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 (bioinformatics); 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 (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 health care and basic biological and clinical research, as well as for 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, in commercial and public research institutions, and in more clinical environments.

We are pleased to see that NINR has recognized the increasingly important role that technology and informatics tools are playing in nursing research, education, and practice by including goals related to these areas at multiple points in the plan. Effective advancement of nursing science and health care will require sound research into the design, implementation, and effectiveness of technological and informatics tools and their ability to affect the quality of care delivery to prevent disease, to manage chronic illness, to improve end-of-life care, and to enhance nurse scientists' training.

Specific Comments on the Draft NINR Strategic Plan

NINR Mission

The mission statement succinctly and clearly addresses the three areas of need for nursing research: conducting of clinical research, basic research, and research on health and illness across the life span. We are pleased that the mission includes a statement that recognizes the need to apply new technologies to address research questions. Now and in the future all nurse scientists will require knowledge of information technology for the collection and analysis of data.

Additional Suggestion:

- The use of technology and information systems can contribute greatly to nursing research and patient care. However, the design, use, and study of these technologies is in itself an area of research that has been shown to affect the health of individuals, families, and communities for health promotion and disease prevention, management of chronic illness, and end-of-life care as well as the quality of life for nurses at the bedside. A statement acknowledging the importance of studying how technology and information systems can be designed for these purposes would enhance the mission statement by including an important area of nursing research for the future. For example, nurse scientists are uniquely positioned by their perspectives and roles to lead in the design and testing of interactive voice technologies (IVR) and applications within personal health records (PHR) and to inform the growing applied sciences of consumer health informatics and public health informatics.

NINR Research-The Science of Health

This section provides an excellent overview of the science of health and the role of the NINR.

Additional Suggestions:

- We suggest that the item that reads “enhance innovation in nursing research” be revised to read “enhance innovation in nursing research and practice”. While it may be implicit in the statement that innovation in research will lead to innovation in practice, clearly stating this strengthens the statement. Without this, the statement could be interpreted as meaning innovation only in research methods.
- We also suggest that NINR consider stating explicitly an interest in investing in the development of collaborative relationships between nurse scientists and industry to design, develop and test innovative technology. Not only would the involvement of

nursing in this process enhance the development of technology that integrates with nurses' work flow and patient needs, and decrease the incidence of unintended consequences of implementation, but such involvement would also provide funding partners for NINR during a period of economic uncertainty.

Investing in Health Promotion and Disease Prevention

This section provides an excellent synopsis of the areas of research related to health promotion and disease prevention. Particularly relevant to nurse informatics scientists are the capture and reuse of data to support innovative interventions tailored to individual genetic, cultural, and environmental factors. This area aligns closely with NINR intent to support research that “creates innovative communication strategies for individuals, families, clinicians, and communities that promote health and improve health literacy”. With the explosion of information from multiple sources in multiple formats, it will be increasingly important to tailor information interventions for patient and provider decision making to ensure each has rapid access to high-quality information in a form needed for clinical decision making.

Additional Suggestions:

- Research related to the use of technology and databases to identify, track, and understand the patterns of disease in public health and nursing interventions to promote health and syndromic surveillance.
- Linking clinical data, genomic data, and synchronous and asynchronous communication technology for providers to counsel patients and their families to promote both clinical decision making and personalized nursing interventions for health promotion.
- Research into the appropriate configuration and content required in electronic personal health records to promote health and prevent disease by providing the tools necessary for engaging patients as partners in their healthcare management.

Investing in Advancing the Quality of Life

AMIA is pleased to see NINR investing in research related to the implementation of technology that leverages the development and use of taxonomies and databases. Without this type of research, nursing practice documentation, which constitutes a significant percentage of patient-care data, will not be included in regional and national healthcare databases, which are now a priority of the federal government for the exchange of patient information. A key provision of the American Recovery and Reinvestment Act (ARRA) is that patient data be recorded in a manner that allows for seamless sharing of data for tracking emerging healthcare trends and the provision of patient care. Without nursing data in a format that promotes this data exchange, data will not be available for clinical decision-making or policy development.

Additional Suggestions:

- Recognition of the importance of technologies to promote “aging in place”, such as electronic medication reminders and dispensing, remote sensing and monitoring of patient conditions, and communication tools for the support and management of chronic conditions for patients and their caregivers.
- Development of standardized clinical documentation and data structures that facilitate comprehensive data inclusion in warehouses. This will help assure that such resources can be used to identify interventions that can be derived secondarily from an examination of practice (patient-based evidence).
- Expanding nursing terminologies to include concepts specific to geriatric care and patient outcomes.

Investing in End-of-Life and Palliative Care Research

We are in agreement with what is stated in this section. Additional areas for research are those outlined in the previous section for supporting care given in the home.

Additional Suggestion:

- Support for research into the science of decision-making and the development of electronic tools and information resources to help caregivers, patients, and families make decisions regarding end-of-life care.

Investing in Innovation

The NINR is to be applauded for their inclusion of many research opportunities regarding innovation that take advantage of emerging technologies to enhance the health and safety of patients, families, and communities. Many of these research opportunities listed are of interest to AMIA and its members and include areas that AMIA members are already studying actively.

Additional Suggestions:

- Support research that enhances the development of electronic solutions to ensure complete and accurate clinical patient hand-offs and transitions of care across settings.
- Support research into the appropriate design and content of clinical decision system alerts within nursing practice workflow.
- Support research into methods to integrate evidence-based practice guidelines and protocols seamlessly in electronic information systems to enhance patient care and decrease practice variation.

Investing in Nurse Scientists

We find that this section provides a comprehensive synopsis of the training needs of future nurse scientists. We suggest changing the bulleted item “support the education and development of a diverse array of scientists through innovative models such as transinstitutional learning” to “support the education and development of a diverse array of scientists through innovative models such as transinstitutional and interprofessional learning”. The NIH has invested heavily in clinical and translational science and, for example, a mandatory component of all Clinical and Translation Science Awards (CTSAs) is a biomedical informatics core.

Additional Suggestions:

- Support information literacy by partnering with the National Library of Medicine to train all nurse scientists with the informatics competencies related to the collection, use, and analysis of data and information in the generation of new knowledge.
- Jointly sponsor and publicize educational offerings with other NIH institutes. Many nurses are not aware of educational opportunities that may be offered by other institutes. Publicizing offerings of interest to nurses may increase opportunities for nurses to enhance skills in areas that are not a primary focus of the NINR, while building bridges and identifying shared interests between NINR and other institutes.
- Support scientific training for nursing informatics scientists to be full partners in CTSAs by providing knowledge about the information infrastructure for the biomedical aspects of these awards.

Finally, AMIA again wishes to thank the NINR for inviting public comments. Please feel free to contact us at any time for further discussion of the issues raised here.

Sincerely,



Edward H. Shortliffe, MD, PhD, FACMI
President and CEO, AMIA



Rosemary Kennedy, RN, MBA, FAAN
Chair, AMIA Nursing Informatics Working Group