Current Genetic/Genomic Education
Priorities and Progress in Nursing

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Goal: Multi-phased National Effort

Prepare US nurses for:

- The genetic/genomic healthcare needs of today
- Utilization of genetic/genomic healthcare advances of tomorrow
Figure 1. Stages of innovation-decision process
Challenge-Knowledge

- 2.9 million practicing nurses as of 2004
- The average age of the US registered nurses has increased substantially
  - 1980-52.9% of RNs were <40
  - 2004-26.6% of RNs were <40
- Most faculty AND practicing nurses have had no genetics or genomic education or training
- Genetic and genomic content is inconsistently incorporated into entry level nursing programs and licensing exams
“All patients have genes.”
Genetics and Genomics in Nursing

NHGRI’s Dr. Jean Jenkins is currently editing 15 articles for the Journal of Nursing Scholarship as part of a two-year nursing series on genetics and genomics. An expert panel of NIH reviewers assisted in providing oversight and editing of this series, including Kathleen Calzone, Dr. Suzanne Feetham, Dr. Elizabeth Thomson, and Dr. Melinda Tinkle.

All articles are published by Blackwell Synergy [blackwell-synergy.com], a part of Blackwell Publishing, Inc.

Current articles include:

- **Genomics, Tsunamis, and Other Frontiers of Knowledge**

- **Nurses and the Genomic Revolution**

- **Nursing Leadership in Genomics for Health and Society**

- **The Interface of Genomic Technologies and Nursing**

- **Genomics in Nursing Education**

- **Promoting Children's Health Through Understanding of Genetics and Genomics**

- **Genomics and Cardiovascular Disease**

- **Genomic Influences on Schizophrenia-Related Neurotransmitter Systems**
Genetic and Genomic Nursing Competency Initiative

- Limited Nursing Competency in Genetics/Genomics
- No Nursing Specific Competencies
- Multidisciplinary NCHPEG Competencies

UK Competency Initiative Successful

Established The Essential Nursing Competencies and Curricula Guidelines in Genetics and Genomics

Established a Strategic Implementation Plan

Implementation
GGNCI Advisory Group

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National Human Genome Research Institute  
National Cancer Institute  
American Nurses Association  
Health Resources and Service Administration  
American Academy of Nursing  
American Nurses Credentialing Center  
National Nurse Staff Development Organization  
Oncology Nursing Society  
National Coalition of Ethnic Minority Nurses Association  
American Association of Colleges of Nursing  
National League for Nursing  
National Association of Neonatal Nurses, and Council of International Neonatal Nurses  
National Human Genome Research Institute  
Cincinnati Children’s Hospital Medical Center  
American Nurses Association  
American Academy of Nursing  
University of Iowa
Organizational Partnerships

- Established partnership with key organizations
  - Health Resources and Services Administration
  - American Nurses Association
  - Centers for Disease Control
  - National Institute of Nursing Research
  - Office of Rare Diseases, NIH
Competency Development

- Identified, analyzed, reviewed and compared published practice-based genetic and genomic competencies, guidelines, and recommendations.

- Nursing competencies drafted, reviewed, modified, and approved by nurse representatives to NCHPEG and Steering Committee 2005.

- Public comment was solicited with revisions incorporated.
Consensus Meeting
September 21-22, 2005

http://www.nursingworld.org/ethics/genetics
The Essential Nursing Competencies and Curricula Guidelines in Genetics and Genomics

- Define essential genetic and genomic competencies for **ALL** nurses regardless of level of academic preparation, practice setting or specialty.
  - Guide curriculum content
  - Provide the basis for evaluating nurse competence in genetics and genomics
  - [http://www.genome.gov/17517146](http://www.genome.gov/17517146)
Endorsement Status

- **49 organizations have endorsed including**
  - American Academy of Nursing
  - American Association of Colleges of Nursing
  - American Nursing Association
  - American Nurses Credentialing Center
  - National League for Nursing
  - National League for Nursing Accrediting Commission
  - Oncology Nursing Society
  - Sigma Theta Tau

- **Unsolicited, endorsements have been received from schools of nursing**
Education Priorities

- **Strategic Implementation Plan**
  - Meeting October 22-24, 2006
    - Stakeholders from educational institutions, professional associations, certifying bodies and regulatory agencies developed a 5 year strategic plan

- **Strategic Plan Activities Focus**
  1. Infrastructure
  2. Practicing Nurses
  3. Academics
  4. Regulation/Quality Control
Outcomes-Infrastructure

- Developed a framework for a US Center of Genetic/Genomic Nursing Education
- Established a Competency Activity Matrix to track all activities
- Established and maintain a Competency Initiative Listserve
- Developed a Newsletter titled *Competency Focus* with updates on this initiative
Outcomes-Practicing Nurse

- Established a Core Slide Set for dissemination of the Competency information
- National Nursing Survey (pilot done)
  - To determine the current state of the nursing workforce competency in genetic and genomics
  - Pre and post competency endorsement assessments with the collaboration of the American Nurses Association and other potential target organizations
Nursing School Curriculum Content

- Two surveys 15 years apart show no increase in curriculum content
- In 2005, 29% of schools reported no genetic or genomic curriculum content
- Barriers
  - Insufficient knowledge of most nursing faculty
  - Limited number of faculty who view genetics and genomic as relevant to nursing practice
  - Perceived inability to add more content to an already dense nursing curriculum

Academics

- Prepare faculty to teach genetics and genomics
  - Faculty Champions
- Integrate genetics and genomic into all levels of nursing educational curriculum
  - Establish Clearinghouse of Educational Resources and tools
- Establish requirement to include genetic/genomic principles as a component of accreditation
- Develop genetic and genomic publications targeted for nursing faculty
Outcomes-Academics

- Distributed the Competencies to all 1,626 Schools of Nursing in the U.S. and Territories
- Spoken at the national meetings about genetics and the Competencies including the American Association of Colleges of Nursing (AACN) Faculty conferences
- Participated and presented at a meeting of held by AACN to revise the Baccalaureate Nursing Essentials
- Have partnered with the Human Resources and Services Administration Bureau of Nursing to identify funding options
Faculty Tool Kit

Invitational Meeting held September 14, 2007 in collaboration with AACN

➢ Aim is to achieve consensus on:
  ▪ Learning outcomes and practice indicators.
  ▪ Develop recommendations for content, format, and method of dissemination of materials to be included in a Genomics competency tool kit for nursing faculty utilization in the classroom and clinical setting.
  ▪ Recommendation - centralized education site.

NEW June 23-24, 2008
Regulatory Strategies

- Distributed the Competencies to all 59 US State Boards of Nursing

  - Advocate for policy that reimburses nurses for delivery of genetic/genomic services

  - Identify genetic/genomic experts to apply as item writers for licensing exams
Outcomes-Persuasion

- Developed a State of the Science meeting proposal to establish research priorities that will serve as the underpinning for the development of research that produces the essential outcome data needed to incorporate genetics and genomics into licensing and accreditation.
Questions

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