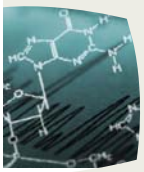

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ISSUE8 | VOLUME 1 | YEAR 2014

Competency focus

UPDATING THE NURSING COMMUNITY ON THE IMPLEMENTATION OF THE ESSENTIAL NURSING COMPETENCIES AND CURRICULA GUIDELINES IN GENETICS AND GENOMICS.

Healthcare Provider Genomic Competency The Interprofessional Community Responds

Advancing technology and new knowledge about genomics influences the entire wellness to illness healthcare continuum and therefore impacts the total nursing profession. While many discoveries are not ready for clinical application, many are already available for use. Furthermore, the rapidity in which these discoveries are transitioning to the clinical arena continues to accelerate. There remain a number of barriers to realizing the benefits of genomic information that has established clinical utility. One of the most significant is a competent healthcare workforce with a sufficient genomic underpinning to appropriately utilize this information in their practice. No one healthcare profession has evidence of sufficient genomic competency and studies indicate many competency deficits are similar in all disciplines.

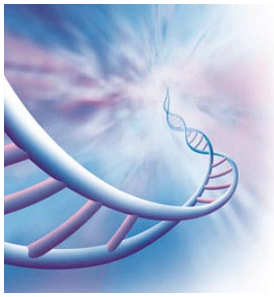
This is especially challenging as the majority of practicing healthcare providers have little to no genomic science foundation upon which to build. This lack of scientific foundation has resulted in many healthcare providers not having sufficient knowledge to understand the literature and many not recognizing the relevance of this information to their own practice.

One of the first steps in addressing this issue is for each healthcare discipline to define what constitutes genomic competency for the non-genetic specialist. Nursing has lead the way with establishing the first genetic and genomic competencies for all nurses regardless of academic preparation, clinical role, or specialty which have now been leveled for advanced practice. The remainder of the interprofessional has also continued to respond to this issue with most major healthcare professions having discipline specific genomic competencies. These include:

- Nursing
  - Core
  - Graduate Degree
- Physician Assistants
- Pharmacists
- Physicians

Having competencies for all disciplines in place provides a platform for designing genomic interprofessional education initiatives. Most importantly these provide clear guidance as to what competencies are similar for all disciplines. While each discipline has structured their competencies specific to their profession, the information provides the necessary information to identify the common core competencies readily amenable to interprofessional approaches. Despite the differing structures, all genomic competencies address include core knowledge needed for competent practice, common practice elements such as family history assessments and genetic testing, as well as ethical, legal, social implications of the use of genomics in practice.

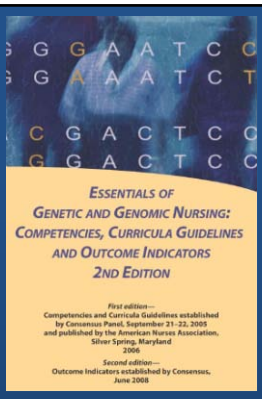
To aide in interprofessional and/discipline specific continuing or academic education in genomics, all professions are participating in the Genetics/Genomics Competency Center for Education (G2C2) http://www.g-2-c-2.org/index.php . Currently, nurses, physician assistants, and pharmacists all have peer reviewed resources mapped to specific competencies in G2C2. Physician resources are also now online. Additionally, genetic counselors are participating in G2C2 which provides users with ready access to specialist



competencies and mapped to their associated peer reviewed education resources. Table 1 provides a summary of where all competencies can be uploaded.

Table 1: Discipline Specific Competencies

Discipline	Competency Access
Nursing	http://www.genome.gov/Pages/Careers/HealthProfessionalEducation/geneticscompetency.pdf
Graduate Nursing	http://www.g-2-c-2.org/attachments/pdf/GradGenCompfinal6x9.pdf
Physician Assistant	http://www.paeaonline.org/index.php?ht=action/GetDocumentAction/i/25416
Pharmacist	http://www.g-2-c-2.org/attachments/pdf/Pharmacist-Comp.pdf
Physician	Korf, B.R. et al. (2014). PMID: 24763287* http://www.g-2-c-2.org/attachments/pdf/competencies-framework-medicine.pdf
Genetic Counselor	http://www.gceducation.org/Documents/ACGC%20Core%20Competencies%20Brochure_13-Web-Revised-FINAL.pdf



DO YOU NEED A COPY OF THE 2ND EDITION OF THE COMPETENCIES?

DOWNLOAD AT:

http://www.genome.gov/27527634

OR EMAIL

CALZONEK@MAIL.NIH.GOV

A Genomics Tale
How One Hospital Implemented the Method for Introducing New Competencies (MINC) Study

Patricia A. Kelly, DNP, APRN, CNS, AOCN®
Cole Edmonson, DNP, RN, FACHE, NEA-BC

The American Nurses Association published ***essential*** genomic competencies for all nurses in 2006[1], second edition in 2009[2]. However, in 2013-2014 many nurses still are not familiar with "genomics" and fail to connect genomics to clinical practice. Our hospital, Texas Health Presbyterian Hospital Dallas, and our sister hospital, Texas Health Harris Methodist Hospital Ft. Worth, were two of the 21 Magnet hospitals selected for the National Council of State Boards of Nursing funded genomics study, "The Method for Introducing New Competencies" (MINC). The overall MINC study aims were to increase genomic competencies and literacy and to evaluate a dyad approach (nurse administrator and educator) working together to integrate genomics in the hospital setting. The time frame for the study was short, one year from the baseline survey, *Genomics in Nursing Practice*, to developing and implementing action plans, and doing the post- project survey.

We, the hospital chief nursing officer (CE) and the genomics consultant/educator (PK) were a dyad team. We were both graduates of Doctorate of Nursing Practice (DNP) programs, and our curriculum included genomics with the emphasis on personalized healthcare. We were excited about integrating "new knowledge" and "innovation" for the clinical nurse.

After attending a MINC orientation meeting in Washington DC, we wrote a hospital-specific genomics action plan and formed a core leadership team within the Center for Advancing Professional Practice department. We chose a "genomic unit champion model" to reach the clinical direct-care nurse. Twenty-six direct-care nurses volunteered to be unit genomic champions, and in turn, received clinical ladder credits.

We started with the basics and introduced genomics using humor and non-threatening activities such as spin-the-wheel and a genomics crossword puzzle. For convenience and visibility, we located the booths in the hospital cafeteria and in hallways near parking garages. We selected a "Genetics to Health" icon to identify all study materials and communications and created a designated genomics SharePoint site. We moved to targeted genomic messaging using the Center for Disease Control Public Health Genomics monthly messaging themes as a frame work. Our focus was family history assessment emphasizing personalized screening, treatment, and red flags for genetics referrals. Examples of monthly theme messaging include: September, newborn screening; March, colorectal cancer; May, stroke awareness; June prostate cancer. Our most popular themes were the Genetic Information Non-Discrimination Act (GINA) and pharmacogenomics. Most nurses, regardless of specialty area, could identify with these two topics on a personal or professional basis. We communicated monthly themes with flyers and resource materials posted on the SharePoint site. We formed work-groups of clinical nurses, educators, pharmacists, physicians, and other experts to create the content and format for the monthly theme and any special activities. Workgroup members learned from each other and modeled inter-professional collaboration. The process for creating the flyers was as important as the flyers themselves. We developed the flyers with hyperlinks so nurses and others could easily access national guidelines and genomic resources such as the National Human Genome Research Institute Talking Glossary of Genetic Terms. Flyers were sent via hospital e-mail, and genomic champions posted hard copies for their unit bulletin boards. The genomic champions met monthly and shared ideas and resources. At the monthly meetings, content experts reviewed theme topics and their clinical applications. The genomic champions made bulletin boards, reviewed relevant genomics journal articles, introduced new genomics words, and reported on the monthly themes at staff meetings.

Cole Edmondson, Suzanne Feetham-MINC Advisor. and Pat Kelly at MINC

Texas Health Presbyterian Hospital Dallas Genomic Champions

Our hospital action plan included other special projects. For example, we partnered with the Quality Improvement department and our hospital Cancer Committee on a family history assessment study in the endoscopy unit. Endoscopy nurses used a family history checklist to do a targeted family history assessment and recorded the information in the health record. As a result of the project, family history documentation rates increased from 33% to 88%, and we identified opportunities for genetics referrals and personalized screening according to family history risk factors.

The year flew by. A realistic short-term goal was to increase genomic awareness. However, we noted several practice applications. We knew we had made an impact, when a nurse e-mailed and said she wanted easier access to racial and ethnic information within the hospital electronic health record. When asked why, she replied, "I need this information to assess how my patient responds to medications." We smiled. This nurse had made the pharmacogenomics connection and was using genomics in her clinical practice.

Implementing the MINC project had its challenges. Over the 12 month time-frame, there was turn-over within the leadership groups, and there were competing hospital quality and safety projects. Formatting the monthly flyers was sometimes beyond our publishing skills.

Continued Page 3

A Genomics Tale, Continued

In spite of the challenges, the MINC study provided the framework and resources for our hospital to introduce genomic information and competencies. Although genomic competencies were initially daunting for many clinical nurses, we noted improvement on the *Genomics in Nursing Practice* post-survey scores in competency awareness and family history assessment practices. We worked as a team, learned from other MINC hospitals, and now we are sharing our journey with others. Participating in the MINC project helped us move genomics from a "nice to know" category to "need to know". Genomics can no longer be optional for clinical nurses.

References:

[1]Consensus Panel on Genetic/Genomic Competencies (2006). *Essentials of Genetic and Genomic Nursing: Competencies, Curricula Guidelines, and Outcome Indicators, 1st Edition*. Silver Spring, MD: American Nurses Association.

[2]Consensus Panel on Genetic/Genomic Nursing Competencies (2009). *Essentials of Genetic and Genomic Nursing: Competencies, Curricula Guidelines, and Outcome Indicators, 2nd Edition*. Silver Spring, MD: American Nurses Association.

Educational Highlight

The Genetic/Genomic Competency Center for Education (G2C2)

http://www.g-2-c-2.org/

The mission of G2C2 is to provide high quality educational resources for group instruction or self-directed learning in genetics/genomics by health care educators and practitioners. Find websites, download PDFs, locate courses, or enhance your class content with peer reviewed genetic/genomic resources.

Within this website you can:

1-search for resources from nursing as well as other disciplines including physicians, pharmacists, and genetic counselors;

2-submit resources to be included on the site;

3-access competency guidelines; and

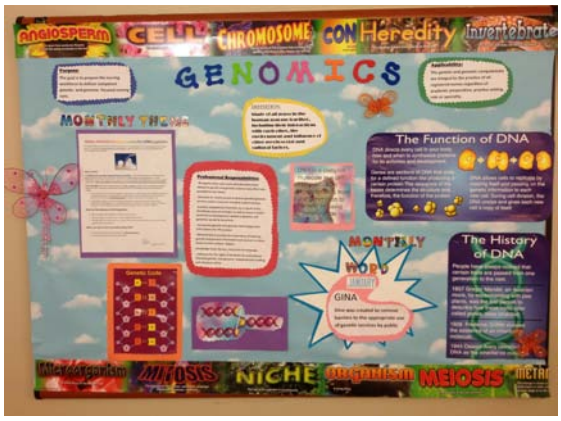
4-provide feedback on the site to improve its value to you

International Society of Nurses in Genetics
World Congress on Nursing and Genomics

November 7-9, 2014
DoubleTree by Hilton
Scottsdale, AZ USA

For more information: http://www.isong.org

Bulletin Board 6 West



Bulletin Board 4 East

The Genomics Landscape is a monthly email message that aims to disseminate information directly from the National Human Genome Research Institute Director to the broader genomics community and other interested recipients. Each month, Dr. Green will endeavor to highlight two to four topics, typically featuring one in greater detail. To receive The Genomics Landscape each month sign up via the following ListServ: https://list.nih.gov/cgi-bin/wa.exe?A0=NHGRILANDSCAPE

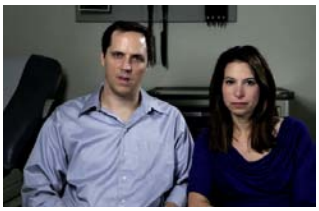
Global Genetics and Genomics Community (G3C) Launches New Website

G3C provides open access to high fidelity simulated online unfolding case studies in genomics. Cases are interactive, self-paced, self-directed, ethnically diverse, and focus on common public health issues where genomics is relevant to practice. All cases include corresponding educator support consisting of case objectives, case key points, supplemental classroom activities, and additional supporting literature.

There are several new features available now available on G3C. These include:
-Interprofessional cases
-Case searching capability based on degree of difficulty and/or topic
-Tracking case progress including stopping a case and returning where you left off
-Outcome evaluation based on question path selected
-Knowledge outcome assessment
-Case commentary by experts in the topic.

The new G3C platform also includes a learning management system which is the foundation for awarding continuing medical and nursing education units. Applications for continuing education credits have been submitted and we expect to be able to award credits later in 2014. There will be no charge for continuing education units.

Six new cases have been added to G3C bringing the total number of cases to 15. Additional cases are planned for 2014. Current cases cover topics such as:
-Family history assessment
-Direct to consumer marketing/testing
-Inherited predisposition genetic testing
-Genetics/Genomics of common diseases including diabetes, cardiovascular disease, pharmacogenomics, and prenatal testing.



For access to G3C, visit:
http://www.g-3-c.org/en

Smithsonian Genome Exhibit
GENOME Unlocking Life's Code

On June 14, 2013, the Smithsonian Institution in Washington, D.C. opened the high-tech, high-intensity exhibition *Genome: Unlocking Life's Code* to celebrate the 10th anniversary of researchers producing the first complete human genome sequence - the genetic blueprint of the human body - in April 2003. The exhibition is a collaboration between the Smithsonian's National Museum of Natural History (NMNH) and the National Human Genome Research Institute (NHGRI) of the National Institutes of Health.

The approximately 2,500-square-foot exhibition occupies NMNH's Hall 23, the exhibition hall that typically houses temporary exhibitions, but an appropriate venue since humans have 23 pairs of chromosomes. After at least a year at the museum, the exhibition will travel to venues around the nation and the world. The exhibition will be accompanied by free educational resources and programs on genetics and genomics.

In celebration of National DNA Day April 2014, NHGRI presented the online premiere of

"The Animated Genome."

http://unlockinglifescode.org/learn/the-animated-genome Want to explain genetics and genomics to your class in five minutes? Show them "The Animated Genome." Look for the exhibit coming to a location near you. In the Fall of 2014, GENOME Unlocking Life's Code will begin traveling throughout North America. **For more information visit: http://unlockinglifescode.org/**

Publication Update

Andrews, V., Tonkin, E., Lancastle, D., Kirk, M. (2014). Identifying the characteristics of nurse opinion leaders to aid the integration of genetics in nursing practice. Journal of Advanced Nursing. [Epub ahead of print] http://www.ncbi.nlm.nih.gov/pubmed/24773467

Calzone, K., Jenkins, J., Culp, S., Caskey, S., Badzek, L. (2014). Introducing a new competency into nursing practice. Journal of Nursing Regulation, 5, 40-47.

Korf, B. et al. (2014). Framework for development of physician competencies in genomic medicine: report of the Competencies Working Group of the Inter-Society Coordinating Committee for Physician Education in Genomics. Genetics in Medicine, doi:10.1038/gim.2014.35

Maradiegue AH, Edwards QT, Seibert D. (2013). 5-years later - have faculty integrated medical genetics into nurse practitioner curriculum? International Journal of Nursing Education Scholarship, 10, 245-254.