National Human Genome Research Institute

Development of a competency-based genomic education resource for physicians

K. Weitzel[1], E. Edelman[2], R. Roberts[3], B. Korf[4], M. Murray[5], D. Messersmith[6], J. Jenkins[6]*

[1]UF Health Personalized Medicine Program, University of Florida College of Pharmacy, Gainesville, Florida [2]The Jackson Laboratory, Bar Harbor, Maine [3]University of Ottawa Heart Institute, Ottawa, Ontario [4]Department of Genetics, University of Alabama, Birmingham, Alabama [5]Genomic Medicine Institute, Geisinger Health System, Wilkes Barre, Pennsylvania [6]Genomic Healthcare Branch, National Human Genome Research Institute, Bethesda, Maryland

OBJECTIVE

To describe the development and initial assessment of a novel repository of peer-reviewed genetic and genomic educational resources for physicians.

METHODS

- Resources were solicited from member organizations of the Inter-Society Coordinating Committee for Practitioner Education in Genomics (ISCC)
- The ISCC Educational Products Working Group evaluated submitted resources for G2C2 inclusion based on ISCC-developed physician competencies in genomic medicine (Figure 2).
- Accepted resources were mapped to these competencies
- Resources became available on G2C2 in June 2014
- Usage data and web analytics for physician resources was collected for a 9-month period post-launch (January – September 2015).

RESULTS

G2C2 Physician Resources

- 89 resources were submitted from ISCC member organizations
- 77 (87%) were accepted and mapped to physician competencies (Figure 3)
- Accepted resources cover all physician competencies
- Resources are available in a range of delivery mechanisms (Figure 4)
- Reasons for declining a resource
    - limited applicability to patient care
    - limited scope

User Data

- From January to September 2015, 290 users accessed physician resources on G2C2
- 391 sessions
- Viewed average of 10 pages/session
- Users viewing physician resources represented 4% of total G2C2 visitors

THE GENETICS/GENOMICS COMPETENCY CENTER (G2C2) EDUCATION RESOURCE

Background

- Online repository launched in 2008 to facilitate development, access, and dissemination of competency-based educational resources for healthcare providers and educators.
- Supported by NHGRI and a freely available resource.
- Available at: http://g-2-c-2.org/

Interdisciplinary Resources

- G2C2 was initially created for nursing and physician assistant training programs.
- It was later expanded to include pharmacy and genetic counseling audiences.
- Most recently, G2C2 was expanded to include physician resources.

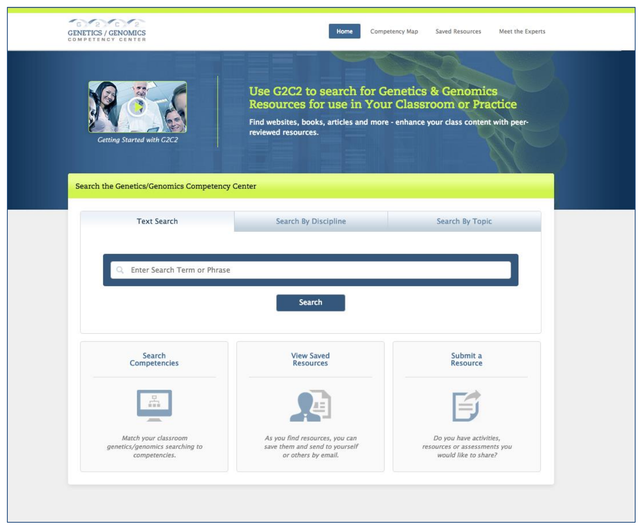

Figure 1: G2C2 allows clinicians and educators to find resources by disciplines, topics, and competencies.

INTER-SOCIETY COORDINATING COMMITTEE FOR PRACTITIONER EDUCATION IN GENOMICS (ISCC)

ISCC Genomic Medicine Competency Areas

1. **Family History**
    - Elicit, document, and act on relevant family history pertinent to the patient's clinical status
2. **Genomic Testing**
    - Use genomic testing appropriately to guide patient management
3. **Patient Treatment Based on Genetic Results**
    - Use genomic information to make treatment decisions
4. **Somatic Genomics**
    - Use genomic information to guide diagnosis and management of cancer and other disorders involving somatic genetic changes
5. **Microbial Genomic Information**
    - Use genomic tests that identify microbial contributors to human health and disease, as well as genomic tests that guide therapeutics in infectious diseases

Figure 2. ISCC Genomic Medicine Competencies (adapted from Korf B, et al. *Genet Med*. 2014;16(11):804-9.)

Background

- Formed in 2013 from NIH's Genomic Medicine IV meeting
- Purpose: improve genomic practitioner literacy and enhance genomic medicine practice by sharing educational approaches and identifying educational needs.

Collaboration

- G2C2 and ISCC collaborated to develop competency-based criteria and a peer-review process.
- This process was used to identify and evaluate educational resources aligned with physician needs.

G2C2 PHYSICIAN RESOURCES

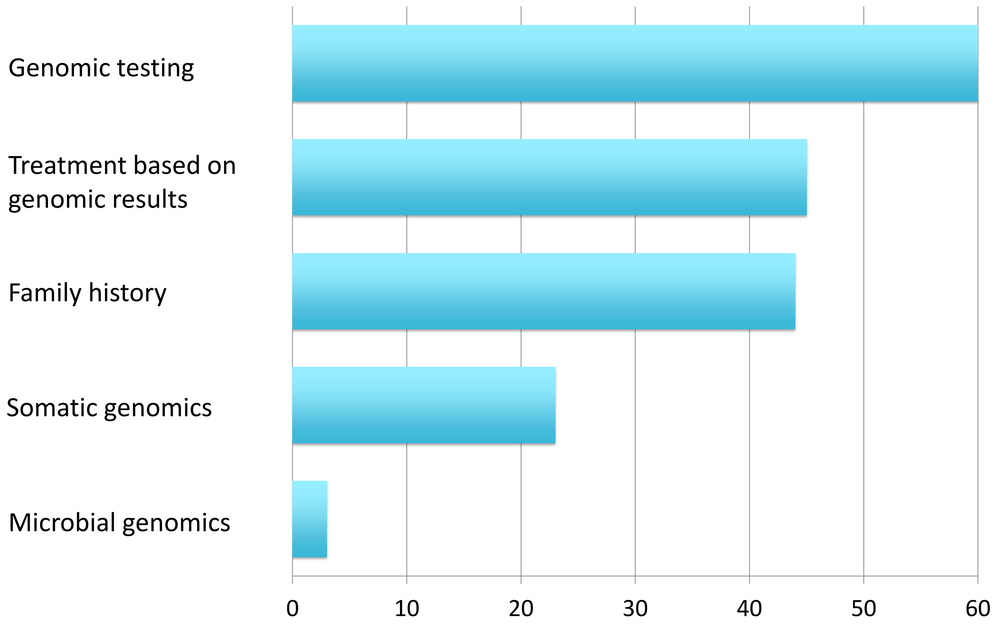

Figure 3: Resources mapped to competency domains (n = 77)

EDUCATIONAL RESOURCE DELIVERY

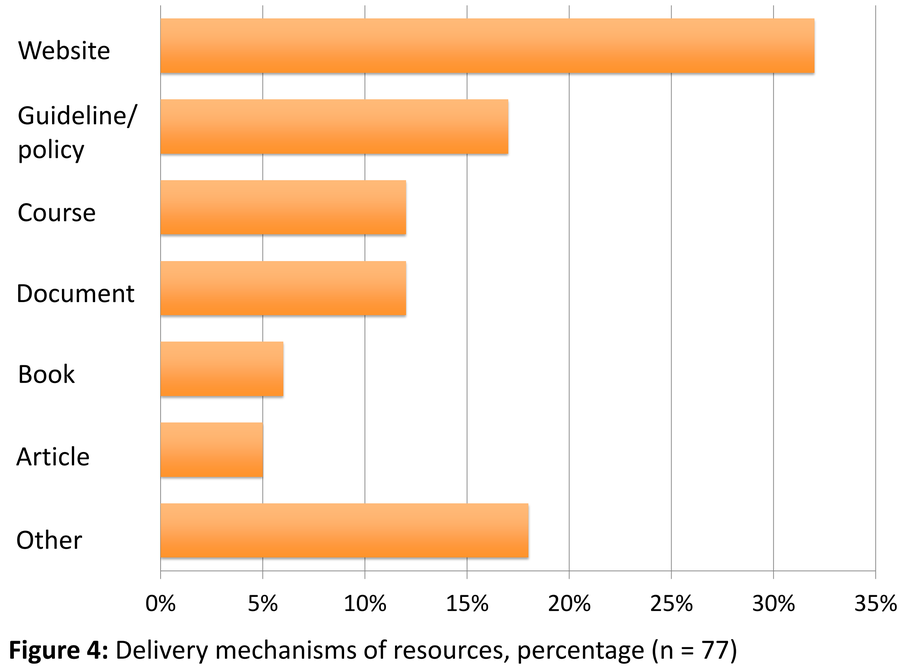

Figure 4: Delivery mechanisms of resources, percentage (n = 77)

CONCLUSIONS

- Using a robust quality assessment process, we developed a peer-reviewed, competency-based repository for curating physician genomic educational resources.
- We identified needs for additional materials, such as in microbial genomics.
- Future efforts will seek to grow the available resources and expand the number of clinicians and educators who use G2C2 to access genetic/genomic education.

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