

# Genetics/Genomics Competency Center for Education (G2C2)

Physician Resources, ISCC  
Education Product Working Group

April 23, 2014

# Goal of G2C2 (<http://www.g-2-c-2.org>)

- Health professional educators identified a need for a centralized web resource to :
  - facilitate communication, development, and dissemination of educational resources
  - demonstrate different approaches to achieving genomic competency
  - share resources across disciplines
  - **Target of audience educators AND practicing clinicians**

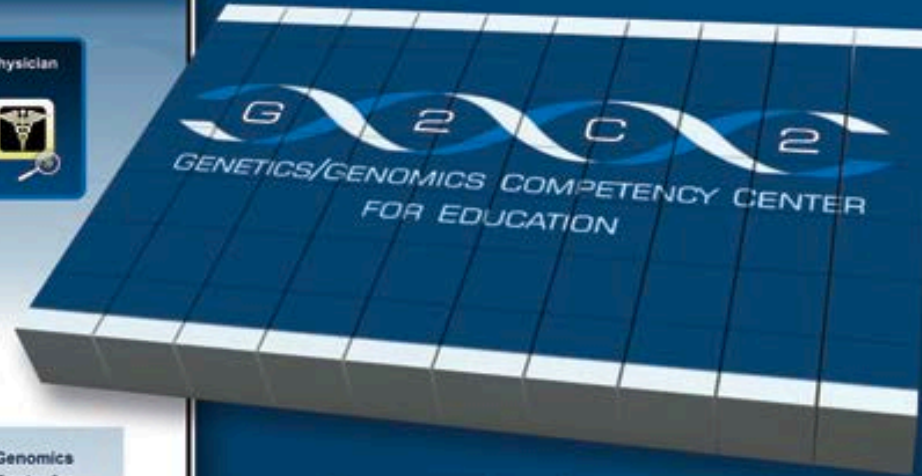


Free Resource!

Discipline-specific genetic/genomic competencies



The screenshot shows the homepage of the Genetics/Genomics Competency Center for Education. At the top, there is a navigation bar with the G2C2 logo and links for Home, About the Project, Curriculum Map / Guidelines, Feedback, and Help. Below the navigation bar, there are five discipline-specific buttons: Genetic Counselor, Nurse, Physician Assistant, Pharmacist, and Physician, each with a corresponding icon. A search bar is located on the left side. Below the search bar, there is a section titled "What you can do on this site:" with four main features: 1. Search by Discipline for Genetics/Genomics Resources to Use in Your Classroom, 2. View My Resources Found on This Site, 3. Submit Resources to be Included on This Site, and 4. Review the Competency Guidelines and Curriculum Map.



The Genetics/Genomics Competency Center for Education provides links to curricular materials and resources for educators of Genetic Counselors, Nurses, and Physician Assistants.

A web-based repository of peer reviewed genetic/genomic curricular materials



[www.G-2-C-2.org/](http://www.G-2-C-2.org/)

# Physician



## ● What you can do on this site:



### **Search by Discipline for Genetics/Genomics Resources to Use in Your Classroom**

Find websites, download PDFs, locate courses — enhance your class content with peer reviewed genetic/genomic resources. **Search** resources within these disciplines:

**Genetic Counselors, Nurses, Physician Assistants.**



### **View My Resources Found on This Site**

As you find educator resources for your discipline(s) during a site visit, you can mark and collect them in **My Resources**. There you can access your marked resources and send them to yourself or others via email.



### **Submit Resources to be Included on This Site**

Do you have activities, resources or assessments you would like to share? **Submit Resources** including websites and PDFs to include in the curricular materials.



### **Review the Competency Guidelines and Curriculum Map**

Need to match your classroom genomics teaching to competencies? View the **Curriculum Map** to find the right resources to download.

### Freshest Resource

**Pharmacogenomics: Applications to Patient Care, second edition**

*"Lorem Ipsum is simply dummy text of the printing and typesetting industry. Lorem Ipsum has been the industr..."*

– Sally Reidy



**LEARN MORE**



**Watch the Intro Video**

A quick overview of how you can get the most out of G2C2.



# Thanks to the ISCC Members

- Physician Society members and others who submitted resources for review
- Education Product Working Group: Robert Roberts & Jean Jenkins (Co-chairs) & Alice Bailey
- Reviewers-Ann Grupe, Katrina Gwinn, Katie Johansen Taber, Christina Lockwood, Nonniekaye Shelburne, Kristin Weitzel
- D’Vinci Interactive Staff – Sally Reidy
- [http://g-2-c-2.org/i\\_play\\_one\\_on\\_tv.php](http://g-2-c-2.org/i_play_one_on_tv.php)

# Data of Interest

- Items received from 12 organizations
- Items selected for review  
82 - 70 items uploaded
- Types
  - Annual Meeting Info
  - Articles
  - Books
  - Curriculum guidelines
  - Fact sheets
  - Policy documents
  - Resource guides
  - Videos
  - Websites
  - Webinars

# Physician

Find professionally curated resources, classroom materials, and real-world examples every Physician should know.

Change Disciplines



Genetic Counselor



Nurse



Physician Assistant



Pharmacist

## 1 Select a Curricular Area below

### Learning Activities & Resources

Exercises designed to develop professional ability and resources that facilitate competency.

### Competencies & Core Knowledge

A high level educational goal for learners. Specific areas of knowledge learners need to achieve a competency.

### Performance Indicators

A measurable knowledge, skill or ability of a professional that demonstrates competency.

### Assessments

Exercises designed to measure the outcome of a Learning Activity.

## 2 Enter Search Term(s)

Search

or Select a Topic:

### Associated Topics

 All Topics Competency DNA Economics Family History Genetic Counseling Genetic Screening Pediatrics Pedigree Pharmacogenetics/  
Pharmacogenomics Referrals Reimbursement Screening

Search Topic





## Physician

Find professionally curated resources, classroom materials, and real-world examples every Physician should know.

Change Disciplines



Genetic  
Counselor



Nurse



Physician  
Assistant



Pharmacist



Results for

*"all topics"*

Filter By (Show All)

Curricular Area : Learning Activities & Resources



[American College of Obstetricians and Gynecologists Committee Opinion: Ethical Issues in Genetic Testing](#)

Free

ABSTRACT: Genetic testing is poised to play an increasing role in the practice of obstetrics and gynecology. To assure patients of the highest quality of care, physicians should become familiar with the currently availab...



[American College of Obstetricians and Gynecologists Committee Opinion: Personalized Genomic Testing for Disease Risk](#)

Free

ABSTRACT: Advances in genetic technologies have led to the identification of hundreds of single nucleotide polymorphisms that are associated with a variety of complex diseases, including cancer, diabetes, cardiovascular ...



[American College of Obstetricians and Gynecologists WEBTREATS: Genetics, Genomics, and the Human Genome Project](#)

Free

This list, prepared by the College Resource Center Librarians from other sources, is provided for information only.



[American Society of Clinical Oncology: e-Learning Course: Cancer Genetics Review](#)

\$34

Questions help to identify the practical considerations for using genetic testing in oncology, as well as the molecular basis of hereditary susceptibility to cancer.



« Search Results

## Physician

*Learning Activities & Resources*

▶ **American Society of Clinical Oncology: e-Learning Course: Cancer Genetics Review**

[Rate Resource](#)

[Add to My Resources +](#)



### Resource Links

[Resource 1](#)

*Angela G. Arnold, MS, CGC*

*Angela Bradbury, MD*

*Susan Domchek, MD*

*Noah Kauff, MD*

*Henry Lynch, MD*

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Questions help to identify the practical considerations for using genetic testing in oncology, as well as the molecular basis of hereditary susceptibility to cancer.

### Goals & Learning Objectives

Learning Objectives: Identify the practical considerations for using genetic testing in oncology, describe the molecular basis of hereditary susceptibility to cancer, and enhance awareness regarding the various methods used to identify mutations in genes associated with cancer.

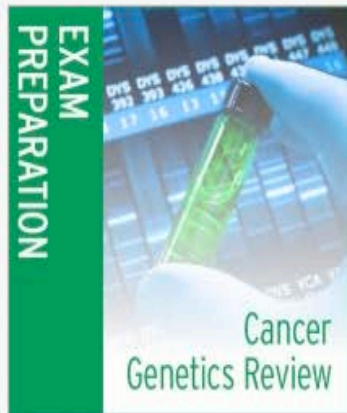
### Resource Evaluation

ISCC Education Working Group

# Resource Details

Suggested Audience	Target Audience	Format	Note	CME Available	Cost	Members Only	Activity Type	Keywords
Physicians, nurse practitioners, and physician assistants.	Specialist (oncology)	Online Course		Yes	\$34	No	Self Study Web Learning Module	<a href="#">Cancer Genetics</a> <a href="#">Genetic Testing</a>

# Cancer Genetics Review



This self-assessment is for all oncology professionals, nurse practitioners, and physician assistants that need to assess their knowledge in the area of cancer genetics. These questions help to identify the practical considerations for using genetic testing in oncology, as well as the molecular basis of hereditary susceptibility to cancer for the Med/Hem Oncology Certification, ABIM recertification, and MOC recertification.

### Learning Objectives:

- Identify the practical considerations for using genetic testing in oncology.
- Describe the molecular basis of hereditary susceptibility to cancer.
- Enhance awareness regarding the various methods used to identify mutations in genes associated with cancer.

*CME credit is available for this course.*

**ACGME Competencies addressed: Medical Knowledge; Practice-based Learning & Improvement**

**Create an ASCO Guest ID.**

Access Course >

Purchase >

### Cancer Topics:

Cancer Prevention/Epidemiology

### Series:

ASCO-SEP

### PRESENTERS:



**Noah Kauff, MD**  
Memorial Sloan-Kettering  
Cancer Center



**Angela Bradbury, MD**  
Fox Chase Cancer Center



**Angela G. Arnold, MS, CGC**  
Memorial Sloan-Kettering  
Cancer Center

# Discussion Items

- Articles have two resource links (i.e., pubmed abstract; article)-do we need/want both?
- Some resources include video link and link to general registration page (i.e., AACCC resources)
- Multiple webinars-diverse competencies-blank
- Items like Coursera opportunities
- Identification of topics for searching
- Listing of all ISCC organizations with links to home page?

# More Resources!!



## **Recommendations of the American Academy of Ophthalmology Task Force on Genetic Testing**

Edwin M. Stone, M.D., Ph.D. (Chair), Anthony J. Aldave, M.D., Arlene V. Drack, M.D.,  
Mathew W. MacCumber, M.D., Ph.D., Val C. Sheffield, M.D., Ph.D.,  
Elias Traboulsi, M.D., Richard G. Weleber, M.D.

### **Preamble**

Genetic testing can make a very positive impact on individuals and families affected with inherited eye disease in a number of ways. When properly performed, interpreted, and acted upon, genetic tests can improve the accuracy of diagnoses and prognoses, can improve the accuracy of genetic counseling, can reduce the risk of disease occurrence or recurrence in families at risk, and can facilitate the development and delivery of mechanism-specific care.



# Resource Rating

## Rating

★

★★

★★★

★★★★

★★★★★

## Title

## Details

**Post Review**

● What you can do on this site:



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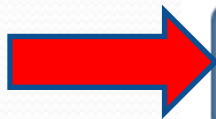
**[Submit Resources](#) to be Included on This Site**

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**Review the [Competency Guidelines and Curriculum Map](#)**

Need to match your classroom genomics teaching to competencies? View the **Curriculum Map** to find the right resources to download.



## Competency Guidelines and Curriculum Map

Select a Discipline to view the associated **Curriculum Map**:



View the **Competencies Guidelines** for these disciplines:

- [Genetic Counselors](#)
- [Nurses](#) – (Competencies to which resources are currently mapped)
- [Nurses](#) – Essential Genetic and Genomic Competencies for Nurses with Graduate Degrees (document provided for your information–resources not yet mapped to these competencies)
- [Physician Assistants](#)
- [Pharmacists](#)

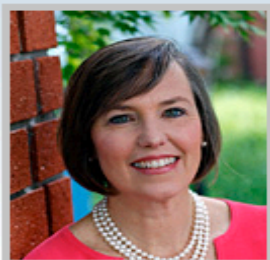
# Competency Resource Gaps

- Most resources identified teach to Competency #2 Genomic testing
- Least number of resources identified to teach to Competency # 5 Microbial genomic information
- Individual main competency sub-items will need to be the focus of new education resources. For example:
  - Family History & Professionalism: respect privacy of patient and family members in assembling and documenting family history
  - Genomic testing & Patient care: discuss the possibility of incidental findings and how they will be handled

# ISCC Members Next Steps

- Make any suggested changes to resources
- Approve moving forward with the launch of G2C2 Physician Resources and Competencies
- When approved, determine the launch date
- Create marketing plans-Need to know it exists!
  - Formal announcement from NHGRI
  - Customize announcement to organizations
  - Include announcement in member newsletters, email blast, social media, publications, presentations
  - Link from organization's websites to G2C2
  - Develop resource materials for use by ISCC members

## Meet the Editorial Board



Patricia Brennan, PhD, MS, RN

Nursing

Dr. Patricia Brennan is an Assistant Professor at Samuel Merritt University in Oakland, California. She received her bachelor's degrees from Emory University (psychology, 1981) and (nursing, 1983), and both her master's degree (critical care/trauma/education, 1993) and PhD in nursing (health policy, 2008) from the University of California, San Francisco.

[Read More](#)

Sandra Daack-Hirsch PhD, RN

Nursing

Dr. Sandra Daack-Hirsch is an Assistant Professor in the University of Iowa College of Nursing. Her BSN, MSN and PhD are from the University of Iowa College of Nursing. Dr. Daack-Hirsch focused her master's study on genetic counseling and care of children and families. She completed her PhD in the Parent Child & Family Area of study with an emphasis in public health and genetics.



[Read More](#)



Ed Michaud, Ph.D.

Physicians Assistant Studies

Dr. Ed Michaud is a Professor and the Director of Genetic Sciences for the School of Physician Assistant Studies at South College in Knoxville, Tennessee. He received his B.S. from the University of Central Florida (1979), his M.S. from Texas A&M University (1984), and his Ph.D. from the University of Tennessee (1990).

[Read More](#)



# Editorial Board Responsibilities

- Assure quality of site
  - Plan for keeping resources up to date-solicit more!
    - \*Other discipline resources on G2C2 usefulness?
  - Periodic review of all discipline specific resources
  - Recommend new materials to fill gaps
- Evaluation plan
  - 2013 reviewed the overall G2C2 site and made recommendations for change
  - Reviewed contractor proposals for suggested changes
  - Assess quarterly analytics review

# Site Enhancements in Process

- Developing a new model for searching & filtering resources
- Market research to determine ways to reach out to the targeted audiences for use of G2C2
- Determine value for other healthcare professions
- Re-design and implement a more dynamic Home page



Getting Started Overview

## Search for Genetics & Genomics Resources to Use in Your Classroom or in Your Practice

Find websites, books, articles and more – enhance your class content with peer-reviewed resources.

### What you can do on this site...

#### Search Resources



Choose a Discipline or Topic Below

#### Review Competency Map & Guidelines



Match your classroom genetics/genomics teaching to competencies.

#### View My Resources



As you find educator resources, you can save them and send to yourself or others by email.

#### Submit Resources



Do you have activities, resources or assessments you would like to share?

☰ All Disciplines

Select a Discipline ▼

#### OR SEARCH BY TOPIC

- |   |  |  |   |
|---|--|--|---|
| <input type="checkbox"/> Basic Genetic Concepts                 | <input type="checkbox"/> Genomic-Based Therapeutics                                  | <input type="checkbox"/> Microbial Genomic Information         | <input type="checkbox"/> Professional Responsibilities            |
| <input type="checkbox"/> Communication Skills                   | <input type="checkbox"/> Identification  | <input type="checkbox"/> Nursing Assessment                    | <input type="checkbox"/> Professionalism                          |
| <input type="checkbox"/> Critical Thinking Skills               | <input type="checkbox"/> Interpersonal & Communication Skills                        | <input type="checkbox"/> Patient Care                          | <input type="checkbox"/> Provision of Education, Care and Support |
| <input type="checkbox"/> Ethical, Legal and Social Implications | <input type="checkbox"/> Interpersonal, Counseling, & Psychosocial Assessment Skills | <input type="checkbox"/> Pharmacogenetics/Pharmacogenomics     | <input type="checkbox"/> Referral Activities                      |
| <input type="checkbox"/> Family History                         | <input type="checkbox"/> Medical Knowledge   | <input type="checkbox"/> Practice-Based Learning & Improvement | <input type="checkbox"/> Somatic Genomics                         |
| <input type="checkbox"/> Genetics & Disease                     |  | <input type="checkbox"/> Professional Ethics and Values        | <input type="checkbox"/> Systems Based Practice                   |
| <input type="checkbox"/> Genomic Testing                        |  |  |   |

# Sustainability of G2C2 & Physician Resources

- Working Group Member opportunities and responsibilities
- Soliciting new resources for review and/or development
- Reviewing newly submitted resources
- Maintenance of resource accuracy and access (i.e., review every 12-18 months)
- G2C2 Editorial Board membership

# ISCC Working Group Next Steps

- Design and implement an evaluation plan to assess site usability & make modifications based on the evaluation
- Explore models for interprofessional genomics competency
  - Generalist and specialist
  - Competency clearinghouse
  - Individual discipline or core set
  - Work collaboratively with other NHGRI funded groups (i.e., IGNITE)

# Questions/Comments

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- 301-547-1897