INSTITUTE OF MEDICINE
OF THE NATIONAL ACADEMIES

Board on Health Sciences Policy *Roundtable on Translating Genomic-Based Research for Health*

Improving Genetics Education in Graduate and Continuing Health Professional Education: A Workshop

August 18, 2014

The Keck Center of the National Academies, Room 100
500 Fifth Street, NW
Washington, DC 20001

MEETING OBJECTIVES

- Examine context for the challenges involved in educating health care providers in genetics
- Review promising approaches for providing genetics education in various settings
- Identify opportunities and next steps for improving genetics education for health professionals

1. A 52 y.o. woman presents to her FM NP with new onset labile HTN.
   A detailed FH reveals only an uncle with a kidney tumor.
   The pt. fails to respond to standard protocol therapy.

2. An internist is consulted.
   Catechols are elevated.
   A diagnosis of paraganglioma is ultimately established.

3. The Endocrinologist/Oncologist/Surgeon orders DNA.
   Two mutations in SDHB are identified. One is previously published as pathogenic; one is a VUS.

4. A Genetic Counselor orders a targeted DNA study on the 27 y.o. daughter. The mother's pathogenic mutation is absent. The daughter is reassured.

5. 1 year later, the daughter presents with a neck mass that is ultimately identified as a malignant paraganglioma.
   Follow up DNA study identifies the mother's VUS.

6. The Geneticist reviews the literature and questions the literature basis of the assignment of pathogenicity to the mother's mutation.

7. Before starting chemotherapy, the daughter asks the Geneticist to interpret her self-ordered Methylation Analysis to determine its implications for her therapy.

Gene & Variation	rsID	Alleles	Result
COMT V158M	rs4680	AG	+/-
COMT H62H	rs4633	CT	+/-
COMT P199P	rs769224	GG	-/-
VDR Bsm	rs1544410	CT	+/-
VDR Taq	rs731236	AG	+/-
MAO A R297R	rs6323	TT	+/+
ACAT1-02	rs3741049	AG	+/-
MTHFR C677T	rs1801133	GG	-/-
MTHFR 03 P39P	rs2066470	AG	+/-
MTHFR A1298C	rs1801131	GT	+/-
MTR A2756G	rs1805087	AA	-/-
MTRR A66G	rs1801394	AG	+/-

geneticgenie

Methylation and detox analysis from 23andMe results

Methylation Analysis Results

If you find this info helpful, please donate. Donations are needed to pay for the domain and server. I would like to say that anything extra will go to starving children in Africa, but in reality anything extra will probably be used for healthcare costs and overpriced vitamins. ;)

Your Donation Amount:

10.00

Your total amount is : 10.00 (Currency: USD)

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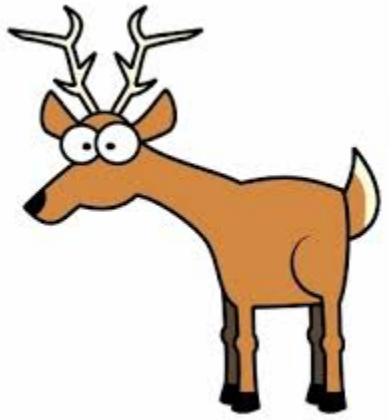
What Do We Hope to Achieve Today?

- **What are the provider educational goal(s) we should be working towards?**
  - i.e. what needle(s) are we are trying to move?



- **How do we do it?**
  - i.e. what are the top three ‘To Dos’?

Workshop Scope – What's In and What's Out?

- We are not discussing (today) the need for evidence
- We are not discussing educational content
- We **are** considering processes, resources, stakeholders
- We are not addressing undergraduate professional education
- We are not addressing Genetics professionals
- We **are** focusing on front-line practitioners who will be interacting with genetic information:
  - physicians, NP's, PA's, pharmacists, advanced practice RN's, etc.
  - generalists; non-Genetics specialists

An Overview of the Workshop

Session I : Educational Approaches

Session II : Graduate Health Professional Education

Session III: Continuing Professional Development