

## **ENVIRONMENTAL HEALTH Group (Draft 1) GENETICS COMPETENCIES in PUBLIC HEALTH**

*Notation: (#) = Essential Service*

### **Analysis & Assessment**

Understand (know/aware) the basic human genetic terminology

Recognize availability of information sources

Demonstrate willingness to update genetic knowledge  
(flipchart)

Know that there are methods to evaluate genetic susceptibilities in a population and that this information can be used to direct environmental sampling activities, biological testing programs and other public health activities

Understand that it may not always be ethically/medically appropriate to conduct testing even if it is technically available. To determine if it should be done requires more research

### **Communication (Community Relations)**

Understand preventive efforts can be taken for individuals and communities to minimize risk

Appreciate limitation genetics and genomics technologies and potential for misuse

Share information sensitively in a culturally competent way involving good dialogue in communication

Understand may not be medically/ethically appropriate way to conduct genetic tests even when such is available

Understand perception of interpretation of test results may be subject to cultural and individual differences

Understand ref? perceptions & fears from receiving genetics and genomics information  
(flipchart)

Appreciate the limitations of genetic/genomic technology and the potential for misuse

Share genetic/genomic information sensitively, in a culturally-competent manner, involving good dialogue with individuals and communities

Understand that the perception of test results may be subjective, affected by an individual cultural beliefs and values

Appreciate the negative perceptions and fears from receiving results of genomic testing

### **Policy Development, Program Planning**

Know methods available to evaluate susceptibility in a population and that information can be used to direct environmental sampling.

Understand genetic information may affect public policy and zoning, environmental ref?, development, . planning

Maintain strict confidentiality - be cognitive about

Understand preventive efforts can be taken to minimize risk and influence individuals and communities  
(flipchart)

Know that genetic/genomic information can be used to discriminate and can cause harm

Maintain strict confidentiality and be cognizant of legal issues that can arise if confidentiality is breached

Understand that public health preventive efforts can be taken for individuals and communities to minimize risk

Understand the implication of genetic/genomic information regarding policy affecting zoning and environmental regulatory activities

### **Cultural (Professional) Capabilities**

Understand genetic testing has implication on family-cultural-ethical background  
(flipchart)

Understand genomic testing has implications on family and cultural/ethnic background

### **Basic Public Health Science**

Know genetic basis of individual variability and susceptibility

Understand relationship between disease and certain genes

Appreciate environmental factors can interact with gene in developing disease

Appreciate individual behaviors/personal lifestyles (factors) can interact with genes and influence disease development

Aware/know methods available to evaluate/assess susceptibilities  
(flipchart)

Know the genetic basis of individual variability and susceptibility

Understand the terminology of genetics/genomics

Understand the relationship between a disease and certain genes

Appreciate that environmental factors can interact with genes to influence the development of disease

Appreciate that individual behavior/personal lifestyle factors can interact with genes to influence the development of disease

### **Leadership & Systems Thinking**

#### **Management & Information Systems (Finance)**

Appreciate interdisciplinary nature of genetic/genomic issues and need to integrate public health and environmental programs

(flipchart)

Recognize the availability of sources of genetic/genomic information and a willingness to update knowledge regularly

Appreciate the interdisciplinary nature of genetic/genomic issues and the need to integrate public health and environmental programs.

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