

EPIDEMIOLOGY Group (Draft 1) **GENETICS COMPETENCIES in PUBLIC HEALTH**

Notation: (#) = Essential Service

Analysis & Assessment

Ability to apply clinical epidemiologic principles of diagnostic testing to interpreting genetic testing (individually and population-wide, sensitivity, specificity, predictive value, importance of prevalence, ROC curves, etc.) (1)

Ability to interpret and apply decision analysis type of methods/thinking to evaluate the economic and other costs and benefits of using genetic testing in populations as screening tests. (1)

Understand principles of population genetics and distribution of genetic disease (1)

Apply all the competencies delineated in essential services #1 (1)

Use basic epi skills to genetic situations (1)

Identify and understand uses and abuses of genetic testing (1)

Recognize the limitations of their own genetic competencies (2)

Can provide appropriate baseline data to develop and support policies and plans (5)

Can take appropriate measures to protect confidentiality through data systems (6)

Evaluate effectiveness, accessibility, and quality of personal and population-based genetic services (9)

Demonstrates competencies delineated in ES10 as related to genetic disorders (10)

Communication (Community Relations)

Effectively apply information systems and coordinating information from multiple sources (1)

Evaluate the utility of when to set up screening programs and use diagnostic testing - includes structure, function, transmission of genes and gene/environmental interactions (2)

Can inform public of issues related to informed consent and confidentiality (3)

Can provide and encourage use of culturally appropriate materials and genetic concepts (3)

Can inform public and professionals of risk-benefit of genetic tests (3)

Be able to work well with existing genetic partnerships (4)

Be able to utilize community support services appropriately (4)

Can help identify and partner with scientists, health care professionals and health educators (4)

Can present all available options fairly, based on data (5)

Can (under limitations of training and experience) provide expert opinion (6, 8)

Can perform and explain cost benefit and cost effectiveness of genetics in public health (9)

Understand and/or perform population-based genetic applied research (10)

Policy Development, Program Planning

Can read genetic epidemiology literature and help with policy development (2,9)

Can lead applied research in genetic epidemiology (10)

Can understand IRB need and how to get approval (10)

Cultural (Professional) Capabilities

Understand and promote the importance of baseline surveillance for genetic diseases (1)

Design and implement a surveillance systems for specified genetic diseases (1)

Know the sensitivity and specificity of genetic tests (1)

Be able to estimate and convey appropriate risk to individuals and populations (2)

Promote the education of the public health workforce in genetics (3)

Have competencies delineated in ES 9 as applied to genetics (9)

Basic Public Health Science

Interpret genetic tests (1)

Can demonstrate proficiency in services delineated in essential services #2 as applied to genetic components of diseases and disease risk (2)

Have competencies delineated in ES 3 as applied to genetics (3)

Understand the role of cultural, social, behavioral, environmental and genetic factors in determining disease, disease prevention, health promoting behaviors, and medical service organization and delivery (5)

Leadership & Systems Thinking

Appreciate and convey the importance of genetics to public health (1)

Helps determine when genetic tests are ready to be incorporated into the standard of care.

Foster collaborations with universities and others performing genetics research, genetic epidemiology, public health genetic research (10)

Management & Information Systems (Finance)

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