Public Health Genomics: What does Public Health Expect from Medical Care?

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Intersectoral Public Health

The Public Health System

- Community
- Health care delivery system
- Governmental Public Health Infrastructure
- Employers and Business
- Academia
- The Media

Assuring the Conditions for Population Health

INSTITUTE OF MEDICINE
Public Health and the Medical Care System

• Trends favoring connections between public health and medical care
• Genomics providing further opportunities for these connections
Core Public Health Functions: Genomic Programs

• Assessment
  – Surveillance
  – Risk assessment

• Policy Development
  – Screening Programs
  – Patient and Provider Education
  – Interface with Medical Care

• Assurance
  – Availability of Services
Medical Care Interface

- Assessment
  - Health Data from medical care system
  - Risk data to medical care system
- Policy Development
  - Participation in education and policy formation and implementation
- Assurance
  - Provision of medical services
Opinions from Public Health Stakeholders

• GAPPNet
• Priorities for 2012-2017
• 2012 Conference on Evidence-Based Genomic Interventions
• CDC’s Office of Public Health Genomics
  – Muin Khoury, Director
Opinions from Public Health Stakeholders
Potential for Reducing Morbidity and Mortality

• Current Programs: Newborn Screening
• Potential Future Programs: Genomic component of all major public health prevention interventions
• Current Opportunities – “Low Hanging Fruit”:
  – Hereditary Breast and Ovarian Cancer
  – Lynch Syndrome
  – Familial Hypercholesterolemia
  – Total lives saved > newborn screening programs
CDC/OPHG Stratification

• Tier One – Evidenced Based Applications
  – e.g., Breast/Ovarian; LS; FH
• Tier Two – Promising Applications
  – Informed Decision-Making
  – e.g., gene expression profiles assessing breast cancer risk and targeting chemotherapy
• Tier Three – Little or no evidence
  – e.g., HFE population screening
Expectations from Medical Care: Categories (PEPP)

- Practice
- Education (Professional; Patient; Public)
- Policy
- Partnership
Expectations: Clinical Practice

- Hereditary Breast and Ovarian Cancer
  - Healthy People 2020
  - Understand and utilize Family Health History
- Lynch Syndrome
  - Healthy People 2020
  - EGAPP Recommendations
  - Cascade Testing
- Familial Hypercholesterolemia
  - Cascade Testing
Expectations: Provider, Patient and Consumer Education

• How genetics relates to other causal factors
• Background for informed decision-making
• When and how to access genetic counseling services
Expectations: Policy Development

- Support Accelerating and Streamlining translation (GAPPNet Goal)
- Support integration of genomics into medical education
- Support integration of genomics into electronic medical records and decision support tools
- Support public health programs utilizing genomic tools
Expectations: Policy Development

Support policies assuring that genomics will be applied in ways that narrow and do not widen health disparities.
Expectations: Partnerships

- This Working Group
- Genetics and Chronic Disease Leadership in State Health Departments
- Local Cancer and Heart Disease Coalitions
  - PH, Labs, Epid, Legal; MCH; Chronic Disease
- National Professional and Disease-Related Organizations
- Genetic Alliance