A Consultative Process:
Asthma Genomics & Implications for Public Health

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Centers for Genomics & Public Health

• Goals
  – Integrate advances in genetic technology into public health practice.
  – Offer research & educational opportunities for public health students and professionals.

• Three Centers:
  – University of Washington
  – University of Michigan
  – North Carolina

• 3 yr cooperative agreement with ASPH/CDC/ATSDR

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• Diabetes
• Familial Hypercholesterolemia
• Asthma

http://www.uwcgph.org

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Goals of Consultation

• Seek information about current and potential uses of genomics in asthma research and care.

• Assess how this information could potentially impact public health activities.
Asthma Working Group

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Opportunities to Improve Outcomes

Population-Based Prevention  Risk-Based Prevention  Diagnosis  Management

Framework

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Framework, cont

Involvement

Patient/Family/Community
Researcher
Healthcare Practitioner
Public Health Professional

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From Bench to Trench

Improved Health Outcomes

Genetic Contribution to Disease

Identification of Genetic Component
- Family history studies
- Gene discovery
- Gene function
- Gene-disease associations

Characterization of Risk
- Gene-gene
- Gene environment
- Biologic pathways
- Multi-causal pathways

Intervention Design
- Clinical trials
- Clinical management
- Environmental change
- Drug development

Implementation & Assessment
- Education
- Behavioral change
- Systems change

Public & Private Policy
- Assess health care delivery
- Evaluation of harms/benefits of genetic information

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Rationale for Consultations

- Large body of literature
- Approach the question efficiently
- Ensure current information
- Gauge interest of participants
- Overcome the language/information barriers
• Regional Expertise
• Centers for Genomics & Public Health
  – Michigan
  – North Carolina
• National Meetings
  – American Thoracic Society Meeting, Seattle
  – National Conference on Asthma, Washington DC

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Consultation Probes

- How would you define genomics?
- Does the framework provide a useful way of framing the discussion?
- Is genomics currently a factor in asthma care?
- Is genomics likely to impact asthma care in the future?
- What research is most important in asthma genomics and why?
- Are there potential harms and are there mechanisms to prevent or control these harms?
- Does your work involve genomics?
- Do the CDC & state agencies have a role in the application of genomics?

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Consultant Affiliations

• 46 Groups/Individuals Consulted

- Allies Against Asthma
- American Lung Association
- Arizona Respiratory Center
- Association of State & Territorial Health Officials
- Henry Ford Health System
- Instituto Nacional de Salud Publica
- Michigan Asthma Coalitions
- Michigan CGPH
- Michigan Dept of Community Health
- Michigan State University
- National Institutes of Health
- Oregon Department of Health
- University of Colorado
- University of Michigan
- University of North Carolina
- University of Washington
- Wake Forest University

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Lessons Learned

• High level of interest
• Language barriers exist
• Community consultations
• Strong partnerships needed

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Benefits

• Gather information efficiently
• Identify unanticipated issues
• Promote dialogue & thought
• Participate in interdisciplinary conversations
• Understand roles & responsibilities of diverse groups

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Added Value

- Develop collaborations
- Identify key individuals
- Exposure to diverse perspectives
- Infrastructure in place for continuing process
- Development of additional products

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Consultant Views

- Pharmacogenomic applications are coming soon
- Genetic testing for diagnosis and risk prediction will follow
- Public health perspective is needed in research process
- Public health could promote needed dialogue and consensus-building

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Public Health Role

- Critical eye
- Assurance of needed research
- Convening power of public health
- Evaluation
- Developing an informed workforce
- Public Health voice

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