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Introduction

In order to integrate genomics into a wider range of disease control and prevention programs, state and community health agencies are recognizing the need to expand existing genetics expertise in maternal and child health and newborn screening to agency-wide capacity. In July 2003, the National Center for Chronic Disease Prevention and Health Promotion (NCCDPHP), CDC, addressed this need by establishing cooperative agreements with state health departments in Michigan, Minnesota, Oregon and Utah to strengthen programs for genomics and chronic disease prevention. The purpose of this project is to assist states in developing or expanding capacity for genomics leadership and to promote coordination.

Michigan, Minnesota, Oregon and Utah Genomics and Chronic Disease Prevention Programs

The overall goals of this five-year project are to:

- integrate genomics and family history into ongoing and new population-based strategies for identifying and reducing the burden of specific chronic, infectious and other diseases,
- enhance planning and coordination for integrating genomics into core state public health specialties (such as epidemiology, laboratory activities, and environmental health), and
- facilitate use of family history and new knowledge about gene-environment interactions to enhance chronic disease prevention.

State Work Plans

The four states selected to participate in the Genomics and Chronic Disease Prevention Program identified the following common objectives in their work plans:

- *Capacity and Infrastructure:*
Develop state and local leadership capacity and infrastructure for integrating genomics into public health.

- *Training and Technical Assistance:*
Educate the public health workforce, policy makers and the general public about the role of genomics in public health.
- *Data Collection:*
Develop and implement population-based assessments using existing surveillance and data systems.
- *Assessment and Use of Genomics Tools:*
Coordinate the use and evaluation of targeted genomic risk assessment strategies and family history tools.

Progress to Date

In January 2004, the first Genomics Program Directors Meeting was held in Atlanta to bring together representatives from the four funded states, CDC program staff and directors of the three CDC-funded Centers for Genomics and Public Health to discuss progress, plans and potential collaboration. At that time, the states also described specific activities initiated in the first four months of the project that would build on each state's unique experiences and capacity. Specific year-one state activities reported at the meeting are highlighted below.

Michigan

The Michigan Department of Community Health (MDCH) has created a detailed work plan for integrating genomics capacity across the spectrum of public health practice. The MDCH has initiated an array of training activities, such as:

- partnering with the University of Michigan Center for Genomics and Public Health to plan and conduct an informational session for Michigan legislators, and to begin development of a "Cancer Genetics" training module,
- initiating collaboration with Michigan State University to develop sessions on genomics and chronic disease for "Frontiers in Science" teacher education series,
- developing and pre-testing family history questions for a behavioral risk factor survey, and studying the feasibility of adding family history information to the Cancer Registry, and
- participating in the MDCH Cardiovascular Health Task Force, Diabetes Primary Prevention Project, and Primary Care Systems/Barriers to Prevention Working Group.

Minnesota

The Minnesota Department of Health (MDH) is addressing the rapidly expanding need for genomics leadership in Minnesota's public health programs, especially in the areas of policy, planning and intervention. Minnesota's initial activities have focused on building relationships, communication and capacity, including:

- establishing relationships by participating in existing groups to provide genomics perspectives, such as:
 - Diabetes Program Steering Committee,
 - Cardiovascular Health Planning Committee, and
 - Comprehensive Cancer Control Planning;
- creating a Genomics Team by recruiting members from across the agency and establishing roles, procedures and a work plan; and
- developing a training agenda for the agency after evaluating the CDC and the National Coalition for Health Professional Education in Genetics (NCHPEG) genomic competencies.

Oregon

The Oregon Department of Human Services (ODHS) has proposed a program that will strengthen Oregon's public health capacity to address current and emerging genomics issues, ultimately improving the health and well being of individuals and families impacted by heritable conditions, including common chronic diseases. Project activities conducted by the ODHS Office of Family Health, in collaboration with the ODHS Office of Disease Prevention and Epidemiology, include:

- acquiring new agency expertise by hiring a genetic epidemiologist and genetic program coordinator,
- partnering with the University of Washington Center for Genomics and Public Health to develop a model assessment process for integrating genomics,
- completing a comprehensive literature review of diabetes and genetics,
- collecting existing program assessment materials and tools and initiating the development of a conceptual model of the Diabetes Program, and
- identifying the structure of and potential members for the Agency Genomic Coordinating Team, which will enhance cross-program communication and coordination between the Genetics program and Health Promotion and Disease Prevention Programs.

Utah

The Utah Department of Health (UDOH) is developing public health leadership capacity and infrastructure to better integrate genomics into public health practice, particularly in chronic diseases. Since becoming fully staffed, the UDOH has been engaged in several activities, such as:

- establishing an Internal Working Group of approximately 35 public health professionals that has met and established subcommittees for policy, data and surveillance, and education and training,
- convening the External Chronic Disease Standing Subcommittee of the State Genetics Advisory Committee,
- revising the portion of the state genetics plan relevant to chronic disease,
- meeting with chronic disease program managers to identify appropriate objectives for their state chronic disease funding applications, and
- documenting and reviewing experience of the Utah Health Family Tree Program, to gain a historical perspective and recommend a new family history-based approach.

Next Steps

Genomics Program Directors Meeting Report

The four states are collaborating with CDC in the development and publication of a report that will summarize the results of the first Genomics Program Directors Meeting, held in January 2004. This report will describe the logic model developed by the states to guide genomics program efforts in both funded and non-funded participating states; it will also identify short-, medium- and long-term goals, as well as a description of the shared vision for integrating genomics in chronic disease and other public health programs.

Forthcoming Year-One Activities

Indicators for milestones that demonstrate progress over the next three to five years for diseases with promising genomic public health applications (e.g., cardiovascular disease, breast cancer and diabetes) will be identified this year through a series of conference calls between the states and CDC. Each state will also continue to build capacity by developing, hiring and/or training full-time genomics positions and developing internal and external genomics work groups. As part of the training agenda, the states plan to conduct a training needs assessment and an evaluation of existing training programs within the next year.

Genomics sessions have also been scheduled at the 2004 statewide chronic disease conferences, as well as at other state and local public health meetings. Year-one data collection efforts will include feasibility studies of statewide registries, such as a statewide hereditary cancer registry, and pilot studies to test the usability of archived NBS dried blood spot cards.

Individual State Genomics Plans

The following table provides Web links to individual state genomics plans:

Table 1. State Genomics Plans

Michigan	http://www.migeneticsconnection.org/staticSP.html
Minnesota	In development
Oregon	http://www.dhs.state.or.us/publichealth/genetics/plan.cfm
Utah	http://genes-r-us.uthscsa.edu/resources/genetics/utah_geneticsplan.pdf