Goal 1 Education

Educate providers, policymakers, insurance providers, medical/health career students, the public, affected families, and university and high school students regarding genomics, local genetic resources, genetic services (availability, access, indications, and benefit) and the process of referring for genetic services.

Advances in genetics are occurring at a pace that promises to revolutionize medicine. As penicillin changed the face of medical practice in the prevention of morbidity and mortality from infectious diseases, scientists predict genomics will change the practice of medicine to focus on prevention versus illness, improve medical interventions, and increase the human lifespan to 150 years by the middle of this century. For Oklahomans to benefit from advances in genetics, an informed public, and a competent Oklahoma workforce, and access to local genetic services must be assured. The *State Genetics Plan* outlines a comprehensive action plan for statewide genetics education at every level from high school to health care providers.

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Since most health care providers have received training prior to the advances in the genetics seen today, continuing education will be a critical component to ensure new genomic health technologies and services are appropriately integrated into the clinical and public health settings. On May 13, 2002, Dr. Eve Slater, Assistant Secretary for Health, stressed the importance of educating U.S. health care workers during her opening remarks at the Secretary Advisory Committee on Genetic Testing educational conference:

> Innovative strategies for educating today's health professionals will be important in ensuring that professionals are equipped to properly use and interpret genetic information. Understanding the science of genetics and the medical benefits of testing are only part of ensuring the appropriate use of genetic tests. Providers must also be sensitive to the ethical, legal, and social implication of genetics, including concerns about the misuse of genetic information (Slater 4).[50]

Education is essential in preparing providers to incorporate genetics into their practice and to recognize that genetic testing is potentially harmful. The Secretary's Advisory Committee on Genetic Testing reports education as an essential step to ensure citizens benefit from advances in genetics:

> "Since genetic education and counseling are critical to the appropriate use, interpretation, and understanding of genetic test results, efforts to ensure the education of the public as well as health providers about genetics is necessary" (*Enhancing* 14).[15]

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[50] *Genetic Testing…*

[15] *Enhancing the Oversight…*

The following segment for goal 1 will provide a brief overview of the importance of public health's role in education, national guidelines on genetic education for health care providers, and the current educational strengths of the genetics program. The action steps for Education, Goal 1, begin on page 31.

A competent health care workforce is essential for the successful integration of genetics into health care practice. "Genomics-based clinical medicine will require primary care physicians to be competent in the interpretation of gene screens and in advising appropriate health measures" (McKusick 2294).[37] As the public becomes better informed about genetic testing and risk assessment, they will seek advice from primary care providers, physician assistants, nurses, and advanced practice nurses. This will result in a greater responsibility for information, use and interpretation of genetic tests by health care providers who have often had limited training in genetics (*National Coalition* n. pag.).[41] At the 1999 Second National Conference on Genetics and Disease Prevention, representatives from the Health Resources and Services Administration and the Centers for Disease Control and Prevention (CDC) discussed the need to prepare the workforce and charged public health to develop and implement genetic educational programs to prepare the workforce to understand the effects of genetics on health and disease and utilize this information to improve health and prevent disease. A national survey of public health leaders also indicated future endeavors of public health genetic programs would largely be educational (Piper et al. n. pag.).[46] In Oklahoma, a genetic needs assessment conducted by the Oklahoma State Department of Health (OSDH) Genetics Program in June 2001 included interviews with key informants who reported education as the primary role for the OSDH genetics program. In January 2002, the Oklahoma Genetics Advisory Council (OGAC) agreed that educating health care providers, policymakers, insurance providers, educators, and the public regarding genetics is an essential step towards assuring Oklahomans have access to genetic advances in medicine. National and local experts agree that an effective genetics education program for health care providers and the public is an essential component of a public health genetics program. Preparing the health care workforce to answer patients' questions about genetic testing and disease risk will be an essential role of public health.

To assist state public health agencies to implement effective education programs, the CDC and the National Coalition for Health Professional Education in Genetics (NCHPEG) developed guidelines for educating the nation's health care providers. NCHPEG is an organization sponsored by the American Medical Association, the American Nurses Association, and the National Human Genome Research Institute. NCHPEG guidelines focus on the following three educational objectives for health care professionals: (1) appreciate limitations of his or her genetic expertise, (2) understand the social and psychological implications of genetic services, and (3) know how and when to make a referral to a genetics professional (*Core* 2).[9] The CDC document, "Genomics Workforce Competencies" are guidelines developed for the public health workforce. The NCHPEG and CDC guidelines will be utilized to develop effective education programs for health care providers. Both guidelines are available on the Web.

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[37] *The Anatomy of Human Genome...*

[41] *NCHPEG…*

[46] *The Role of State…*

[9] *Core Competencies...*

The key focus of the Genetics Program of the Oklahoma State Department of Health (OSDH) will be to facilitate the development of a well-prepared health care workforce and improving the genetic literacy of the public. The OSDH and its community partners have already taken many steps to meet this education challenge by: (1) establishing a full-time OSDH Genetics Coordinator in November 2000, (2) establishing an advisory council for the Commissioner of Health in 1999 (Oklahoma Genetics Advisory Council), (3) providing an outreach educational program, *The New Genetic Issues for Health Professionals and the General Public,* to rural communities sponsored by the Genetics Educational Committee of Oklahoma (GECO), a committee of OGAC, (4) providing the *Genetics in Primary Care,* and the *Genetics in Your Practice* seminars sponsored by the HA Chapman Institute of Medical Genetics, (5) developing and distributing a genetics health care provider directory for genetic clinical and laboratory resources with a guide on who should be referred, (6) administering the successful educational program of the OSDH newborn screening program, (7) the OSDH folic acid educational program, (8) the Oklahoma University of Health Sciences Center (OUHSC) organized ongoing health care provider education programs, such as Center for Interdisciplinary Learning and Leadership, (9) the efforts of the OUHSC to establish a masters program for genetic counselors, and (10) the Oklahoma telecommunication infrastructure. The weakness of the current public health genetics program is the lack of personnel to coordinate a statewide education campaign.

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Goal 1

Summary

With 73,096 health care providers in Oklahoma, it will be important for public health to actively engage all providers, from social work to physicians, to participate in genetic education programs that will be a benefit to their patients. Increasing awareness and knowledge of genetic conditions, genetic testing (availability, access, indications and benefits, risks, and limitations), genomics, referral, ethical, legal, and social issues, and the availability of local genetic services will be essential components of the education program. Public education on genetics will also be equally important. The *State Genetics Plan's* four objectives for goal 1 include: (1) the development of an OSDH genetic resource center, (2) establishing a statewide genetics education campaign, (3) developing a collaborative program to ensure target populations for education are reached, and (4) developing a statewide preconception/prenatal public health education program. The Genetics Education Committee of Oklahoma, a committee of OGAC, identified five action steps as priority for implementation.