Utah Department of Health
Chronic Disease Genomics Program

Success Stories

2003-2008

Success Story
Table of Contents

Page

Introduction ii

Success Stories

Partnerships 1
Integrating Genomics into Chronic Disease Programs 2
Communicating to Health Professionals and the Public 3
Surveillance 4-5
Public Health Workforce Education 6
Chronic Disease Genomics Standing Committee 7
Family Health History Task Force. 8
Family High Risk Program Assessment 9
Electronic Health Family Tree 10
Making Family Health History a Tradition 11
High School Family Health History Curriculum 12
Hispanic Translation of 5th Grade and High School Curriculum 13
Community Mini-grants 14-15
Hispanic Adaptation of the Family Health History Toolkit 16
Family Health History and the Pacific Islander Community 17
Asthma and Genomics Conferences 18

Success Story
Introduction

Recognizing the potential impact advancements in genetics would have on public health, the Utah Department of Health (UDOH) applied for funding from the Centers for Disease Control and Prevention. The funding was to develop infrastructure and leadership capacity to integrate genomics into public health, with a focus on chronic disease. Utah received funding in July 2003 and created the UDOH Chronic Disease Genomics Program. The program is one of only four similar programs in the nation.

While Utah has enjoyed international leadership in genetics for many years, little had been done to integrate genomics – or the study of all the genes including their interaction with the environment – into Utah's public health system. In addition, few efforts had focused on helping the public understand how genomic tools like family health history could be used to improve their health. Over the past five years, the Chronic Disease Genomics Program has met both of these needs, reaching thousands of individuals and health professionals across the country. It is only through the enthusiasm, tenacity, and dedication of program staff and partners that the following success stories are possible.

Contact Information:

Rebecca Giles, MPH, CHES

UDOH, Chronic Disease Genomics Program

Program Manager

801-538-6529

rgiles@utah.gov

www.health.utah.gov/genomics

Success Story
Partnerships

Issue:

In 2003, the Utah Department of Health (UDOH) was funded to form the Chronic Disease Genomics Program (CDGP). The CDGP helps fill the gap between genetics research and public health practice. The primary goal of the program is to build infrastructure and leadership capacity in public health with regard to genomics. The program influences many programs and health issues.

Intervention:

The CDGP relies on a variety of diverse partners in the private and public sectors to move genomics forward into public health practice.

- The UDOH has partnered with the University of Utah Cardiovascular Genetic Research Clinic (UCVG) since the early 1980s with the implementation of the Health Family Tree program. The CDGP continues to work closely with the UCVG.

- In 2003, the CDGP established a partnership with the Genetics Science Learning Center (GSLC) at the University of Utah. The GSLC is internationally recognized for excellence in science and genetics education.

- The CDGP has partnered with consumers, genealogists, genetic researchers, community-based organizations, academia, public health professionals, genetic counselors, private business owners, scouting, clinicians, and health plans.

- The CDGP has partnered with many UDOH programs including the Asthma, Comprehensive Cancer Control, Diabetes Prevention and Control, Heart Disease and Stroke Prevention, Baby Your Baby, Healthy Utah, Check Your Health, and Reproductive Health programs.

Impact:

The CDGP in collaboration with partners has successfully:

- Developed questions for inclusion on the Behavioral Risk Factor Surveillance System and Pregnancy Risk Assessment Monitoring System surveys;

- Converted the paper based Health Family Tree tool to a web-based tool;

- Submitted grants for continued genomics funding in Utah;

- Increased knowledge and awareness of family health history through community presentations, professional conferences, media campaigns, peer-reviewed journal articles, and educational materials;

- Developed high school and 5th grade curriculum materials on family health history and genetics for the Hispanic/Latino and Pacific Islander communities;

- Held the first in the nation Asthma and Genomics Conference and developed a plan for integrating genetics into asthma programs; and

- Developed the Utah Genomics Plan, which outlines strategies for integrating genomics into public health throughout the state.

Success Story

Integrating Genomics Into Chronic Disease Programs

Issue:

A major goal of the CDGP is to create infrastructure and leadership in genomics and public health. Integration of genomics-related strategies into a variety of public health programs was essential for sustainability and continued growth of genomics within the Utah Department of Health (UDOH).

Intervention:

- Eight chronic disease programs within the UDOH Bureau of Health Promotion were identified as targets for inclusion of genomics.

- CDGP staff obtained, reviewed, and made recommendations for program activities and funding proposals to the CDC. Genomics-related strategies were drafted according to funding requirements and program goals. The CDGP created a document listing how genomics-related strategies would fit into existing program goals, thus enhancing interventions provided to targeted populations.

- Meetings were conducted between the CDGP and program staff to discuss methods for implementation and overcoming barriers.

Impact:

- Genomics-related strategies were added to four program workplans and/or funding proposals. Strategies included conducting training workshops, analyzing cancer enrollment form data, adding family history data to the youth diabetes registry, developing TV and radio segments to promote family health history, pilot testing an electronic family health history tool, and developing educational materials.

- Partnerships formed allowed inclusion of genomics into several state chronic disease plans and reports including the 2006-2011 Utah Cancer Plan, 2006-2012 Utah Asthma Plan, Heart Disease and Stroke Strategic Plan, and Obesity in Utah Report.

- Joint abstracts were accepted at the 2006 World Cancer Congress Conference and 2006 National Diabetes Conference.

- CDGP has completed projects with the Center for Multicultural Health, Reproductive Health, and Baby Your Baby Programs.

- CDGP has been able to form strong partnerships with chronic disease program staff and integrate genomics into programs on an ongoing basis.

Success Story
Communicating to Health Professionals and the Public

Issue:

Genomics is the study of all the genes and their interaction with each other and the environment. Many health problems are the result of an interaction between our genes and our environment. With the completion of the Human Genome Project in 2003, an explosion of genomic information and technology that are predicted to revolutionize public health have been seen. However, few professionals are ready to translate this knowledge into practical applications that can improve public health.

Intervention:

- Presentations at state and national conferences included: Utah Public Health Association (2005), Directors of Health Promotion and Education (2005), Federation of Genealogical Societies (2005), Use of Family History in Pediatric Primary Care and Public Health Workshop (2006), Utah Genealogical Society (2006), Utah Library Association (2007), American Public Health Association (2007), Utah Association of Physical Health Education, Recreation and Dance (2007), National Wellness and Prevention (2007), Health Education Association of Utah (2005 and 2008), and Genetic Alliance (2008).

- Poster sessions at national conferences included: 2nd National CDC Prevention Conference on Heart Disease and Stroke (2004), International Society of Nurses in Genetics (2005), Behavioral Risk Factor Surveillance System (2006), CDC Diabetes and Obesity (2006), CDC National Health Promotion (2006), Society for Public Health Education (2007), and CDC 10-Year Celebration of Public Health Genomics (2008).

- Publications included: Family Health History Toolkit (FHHT), "Gaps in Current Genomics Resources for Public Health Professionals, Health Care Providers, and the Public" report, and "Utah's Family High Risk Program: Bridging the gap between genomics and public health."

- The CDGP website (http://health.utah.gov/genomics) was launched in August 2004.

Impact:

- Presented at 10 national and state public health and genealogy conferences.

- Presented 12 poster sessions at national and state public health conferences.

- Trained more than 2,500 people, including more than 600 teachers.

- Distributed more than 33,500 FHHTs and 1,500 senior-friendly FHHTs.

- Published a peer reviewed journal article.

- The CDGP website has received over 26,170 visits and 42,239 downloads.

- Media promotion included: 9 TV segments, 7 radio segments, 21 newspaper articles, 1 magazine article, and 5 news releases.

Success Story
Surveillance

Issue:

Assessment is one of the three core public health functions and an important activity for state health departments. As genetic advances continue to grow, it is essential that population-based surveys are utilized to measure the impact of genomics on the population. However, genomics is an emerging public health issue and few surveillance systems are currently in place that measure the public's awareness, knowledge, use, and impact of genomic applications on their health.

Intervention:

- The Utah Department of Health Chronic Disease Genomics Program (CDGP) was one of the first programs to establish a model surveillance system to measure the health impact of genomic applications like family health history.

- The CDGP identified data collection sources available for use in a public health genomics surveillance system as well as integrated genomics-related questions into existing data collection systems.

- The CDGP worked closely with several other UDOH programs, state health departments in Oregon, Michigan, and Minnesota, and other national partners in these efforts.

Impact:

- Questions were added to the Utah Behavioral Risk Factor Surveillance System in 2005, 2006, and 2007. These questions measured the prevalence of chronic diseases based on family history, the public's perceived risk of disease based on family history, the public's willingness to modify behaviors based on genetic knowledge, health care provider practices regarding family health history collection and use, and awareness of direct-to-consumer marketing of genetic tests. Results have been shared at national public health conferences and used by other state health departments.

- The CDGP added four questions on family health history to the 2005 and 2007 Youth Risk Behavior Surveys. Results were used to develop a curriculum module for high school students on the importance of family health history and genetic risk in the development of disease.

- The CDGP conducted an analysis of the Utah Cancer Control Program's (UCCP) database. UCCP had collected family history information on breast and colorectal cancer from women who enroll in UCCP services throughout the state but never analyzed the data. Nearly 50% of the breast cancer cases reported by UCCP indicated a positive family history.

- The Youth Diabetes Registry was used to assess the number of youth with diabetes who reported a family history of diabetes. Data collected showed that nearly three-fourths of pediatric patients had a family history of diabetes.

Success Story
Surveillance (continued)

- The CDGP and the University of Utah Genetic Epidemiology Department explored the potential applications of the Utah Population Database (UPDB) in determining population relative risk estimates of colorectal cancer based on family history. The UPDB contains an extensive set of genealogy records, birth and death certificates, cancer registry data, and inpatient hospital discharge records for more than 6.5 million individuals. Results will be published shortly.

- Working with several national partners, the CDGP coordinated development of a set of new questions on family health history of depression, preterm birth, and maternal complications for the national Pregnancy Risk Assessment Monitoring System (PRAMS). Three questions were also added to the 2009 Utah PRAMS.

Success Story
Public Health Workforce Education

Issue:

With the completion of the Human Genome Project, genomics promises to profoundly impact public health. Public health professionals will be required to capitalize on opportunities for genomic integration into current activities. Leadership is essential to drive this crosscutting field and integrate genomics into health promotion and disease prevention. Through appropriate evaluation, training, and leadership, genomics will be utilized in public health.

Intervention:

- The Chronic Disease Genomics Program (CDGP) conducted assessments and trainings with staff from the Utah Department of Health Bureaus of Health Promotion, Maternal and Child Health, Children with Special Health Care Needs, and Division of Epidemiology and Laboratory Services. The primary goal was to prepare Utah's public health workforce for the genomics era. Face-to-face interviews and written surveys were conducted to determine staff knowledge of genomics and avenues for delivering genomics-related education.

- CDGP developed a "Genomics 101" presentation to educate public health professionals on genomics, its role in disease development, and how it can be incorporated into public health practice.

- CDGP developed a report for public health professionals that documents current web-based educational genomics resources and current gaps in those resources.

Impact:

- Survey results indicated that the workforce currently views genomics as a low priority and doesn't understand its applicability to public health. However, most predict genomics will become increasingly important to public health in the next 5-10 years.

- After receiving training, survey results indicated that staff from the Bureau of Health Promotion felt their knowledge of genomics had increased.

- As of March 2008, more than 1,500 public health professionals have been trained in genomics.

- Individual UDOH programs and their partners have received modified "Genomics 101" presentations. They include the Utah Asthma Program and Utah Asthma Task Force, Healthy Utah, Utah Comprehensive Cancer Control Program, Diabetes Prevention and Control Program, Diabetes Advisory Committee, Tobacco Prevention and Control Program, and Violence and Injury Prevention Program.

- CDGP developed a website (www.health.utah.gov/genomics) to educate public health professionals about genomics.

Success Story
Chronic Disease Genomics Standing Committee

Issue:

In May 2002, the Utah State Genetics Plan was written under the direction of the Utah Genetics Advisory Committee (GAC). One of the major outcomes from the Plan was the identification of a need to educate public health professionals about the genetic component of chronic disease. To address this need, an objective was written that called for the establishment of a Chronic Disease Genomics Standing Committee that would serve as an expert panel under the direction of GAC. The Committee's mission would be to "Provide recommendations to assure that public health systems are in place to reduce the burden of chronic disease caused by genetic conditions." The UDOH Chronic Disease Genomics Program was charged with the task of establishing the Chronic Disease Genomics Standing Committee.

Intervention:

- In fall 2003, program staff began recruiting genetics and chronic disease experts to serve on the Committee and develop a plan that outlined goals and objectives to accomplish its mission.
- The Committee met quarterly until the completion of the Utah Genomics Plan in early 2006.
- Currently, the Committee meets twice a year to review progress and provide recommendations to the Family Health History Task Force on implementation of the Utah Genomics Plan.
- The Committee consists of family members of those with chronic diseases caused by heritable risk factors, physicians in oncology and cardiovascular disease genetics, genetics counselors, health promotion specialists from hospitals and local health departments, non-profit agencies, epidemiologists, and representatives of the Utah Public Health Association.

Impact:

The Committee has successfully helped the CDGP:

- Develop the Utah Genomics Plan, which outlines goals and strategies for increasing public health capacity in chronic disease genetics;
- Oversee the Utah Family Health History Task Force;
- Develop questions for the Behavioral Factor Surveillance System and Youth Risk Behavior Survey;
- Adapt the paper-based Health Family Tree to an online tool;
- Develop a public awareness campaign on the importance of family health history;
- Assist in grants and continued funding opportunities to ensure long-term support for genomics at the Utah Department of Health;
- Provide educational trainings to public health and medical professionals at major public health conferences across the country; and
- Provide assistance to recipients of the CDGP mini-grants.

Success Story
Family Health History Task Force

Issue:

Building upon Utah's rich history in genetics research and genealogical resources, the Utah Department of Health (UDOH) Chronic Disease Genomics Program convened a Task Force representing a wide variety of nontraditional partners to help develop the Utah Genomics Plan. The plan will be used to guide the advancement of family health history and genomics in public health and health care settings throughout the state. The Family Health History Task Force serves under the Utah Genetics Advisory Committee, Chronic Disease Genomics Standing Committee.

Intervention:

- The vision of the Family Health History Task Force is "Family health history – Utah's way!" The Task Force's mission is to "Utilize family health history to improve the health of all Utahns, through partnership development, clinical and community applications, public awareness, developing appropriate methodology, and incorporating policy and ethical considerations."

- Members of the Task Force include consumers, genealogists, genetic researchers, academia, public health professionals, genetic counselors, private business owners, aging services, schools, scouting, bioinformatics, clinicians, community-based organizations, librarians, and health plans.

- The Task Force is responsible for implementation of the Utah Genomics Plan. Members of the Chronic Disease Genomics Standing Committee provide leadership support and oversee their activities.

- The Task Force meets quarterly and has formed committees to work on specific projects as needed.

Impact:

- Developed the Utah Genomics Plan, which outlines strategies for utilizing family health history and genomics across the state.

- Awarded $22,000 to community agencies from 2006-2008 to implement strategies from the Utah Genomics Plan.

- Launched the "Make Family Health History a Tradition" public awareness campaign in November 2005. The campaign won the 2006 Silver Award for Excellence in Public Health Communication from the National Public Health Information Coalition.

- Launched a "Tell Us Your Story" contest in November 2006 to encourage the public to collect their family health histories.

- Developed the Family Health History Toolkit (available in English, Spanish, and for seniors), Family Reunion Packet, and Senior Center Packet to promote the importance of family health history.

Success Story
Family High Risk Program Assessment

Issue:

Family health history is a simple and cost-effective tool for assessing an individual's or population's risk for disease and guiding tailored interventions that may increase behavior change. However, the perceived difficulty and expense in obtaining a family history, analyzing the information to stratify risk, and using this risk information to influence health behavior has left family health history underutilized in public health programs, despite its proven accuracy and enormous potential to positively impact health.

Intervention:

- From 1983-1999, the Utah Department of Health (UDOH) partnered with the University of Utah Cardiovascular Genetics Research Clinic, local health departments, school districts, and the Baylor College of Medicine to implement the Family High Risk Program (FHRP). The FHRP was a school-based program that used family health history to identify and intervene with families at risk for chronic diseases that could be prevented, delayed, or treated.

- The Health Family Tree (HFT) tool was used to collect medical family history information on students' grandparents, parents, aunts/uncles, and siblings. Researchers analyzed the HFTs and a computerized report was sent to consenting families. The report described the families' potential risk for specific disease(s) and gave recommendations regarding positive lifestyle and health behaviors that could reduce this risk. A medical pedigree of the families' reported health histories was also included.

- Families identified as being "at risk" for a specific disease were offered tailored, in-home interventions by the UDOH and local health departments to help lower their risk of developing chronic diseases that ran in their family.

Impact:

- 151,188 Utah families participated in the FHRP and 80,611 usable HFTs were collected.

- More than 444,900 individuals were identified as high risk for developing at least one major chronic disease who might otherwise have remained undiagnosed.

- Personalized interventions were provided to 8,546 Utah families at a cost of approximately $25 per family. Preliminary analysis of a 10-year follow-up showed the FHRP motivated behavior changes in high risk families who participated in these interventions.

- More than half of Utah high schools and 284 teachers participated in the FHRP.

- The UDOH Chronic Disease Genomics Program (CDGP) conducted an assessment of the FHRP in 2004 and identified 8 essential components for new family history interventions.

- The CDGP and partners published "Utah's Family High Risk Program: Bridging the Gap Between Genomics and Public Health" in the *Preventing Chronic Disease* online journal.

Success Story
Electronic Health Family Tree

Issue:

Family history is a simple and powerful genomic tool that identifies individuals and populations at greatest risk for disease. Despite its usefulness, it has been underutilized in public health and clinical settings. From 1983-2002, the Utah Department of Health (UDOH) partnered with local health departments, school districts, and the University of Utah to implement the Family High Risk Program (FHRP) in Utah high schools. The FHRP was a family history project that used the Health Family Tree tool (HFT) to identify families at risk for common, chronic diseases that could be prevented, delayed or treated effectively with early interventions.

Intervention:

- Students used the HFT to collect health and lifestyle information on their parents, siblings, grandparents, and aunts and uncles. The information was analyzed by the University of Utah and a report describing the families' risk for diseases was sent to consenting families. "High-risk" families were offered tailored medical care from public health nurses. Results from a 10-year follow-up survey showed high-risk families were motivated to change behavior in areas including preventive screenings and lifestyle modifications. The FHRP was terminated in 1999 due to lack of funding.

- The Utah Department of Health (UDOH) Chronic Disease Genomics Program conducted an assessment of the FHRP in 2004 to identify essential components for new family history interventions. The assessment addressed budget and personnel costs, effectiveness of intervention strategies, perceived successes of the FHRP, barriers and challenges, and feasibility of continuing similar family history interventions.

- Key informant interviews were conducted with stakeholders and former FHRP staff from the UDOH, University of Utah, University of Texas M.D. Anderson Cancer Center, local health departments, and high schools.

- A report was developed and critically evaluated during a meeting with key stakeholders and representatives from the U.S. Centers for Disease Control and Prevention in 2005. Eight recommendations were made as a result, including conversion of the paper-based HFT into an electronic (web-based) application.

- The electronic HFT tool (eHFT) was pilot-tested by the State of Utah Employee Wellness Program in November 2005 and July 2006.

Impact:

- Pilot-test results of the eHFT were favorable for the use of an electronic tool to collect one's family health history and the capability to analyze the information based on validated algorithms. To date, no other web-based tool is publicly available to collect and analyze a user's family health history.

- The eHFT provides users with a personalized report describing their risk for diseases in their family and recommendations for appropriate screenings and lifestyle modifications to help lower that risk. The report also contains a drawing of a medical pedigree chart.

- A new high school curriculum has been developed and classroom field-tested to accompany the eHFT by the University of Utah Genetic Science Learning Center.

Success Story
Making Family Health History a Tradition

Issue:

Family health history is a practical, cost-effective, and engaging tool that can be used to teach people how genetics, environment, and behaviors interact to affect health. By knowing their family health history, individuals and families can make targeted lifestyle and screening choices to lower their risk of developing health problems that run in their family. In 2004, U.S. Surgeon General Dr. Richard H. Carmona launched a Family History Initiative in which he encouraged all Americans to collect their family health history during the holiday season. Thanksgiving Day was declared National Family History Day. But few utilized this to promote family health history at state and local levels. Results from a recent survey showed that 96% of Americans felt knowing their family health history was important but only 33% had actually collected information from their relatives to develop a family health history.

Intervention:

The Utah Department of Health Chronic Disease Genomics Program (CDGP) and partners adapted the Family History initiative for Utah communities. A free, six-page toolkit was developed to help families collect their family health history and thus increase awareness of the importance of family health history in Utah. The toolkit was based on the National Kidney Disease Education Program "Your Family's Health: Make a difference at your family reunion" project. The toolkit provided tips for talking about and sharing family health history information and was divided into three sections: 1) Talk about it; 2) Write it down; and 3) Share it. The toolkits were available on the CDGP website, through classes offered at the Family History Library (FHL) and senior centers, the FHL main floor service desk, and by calling the UDOH Health Resource Line (HRL). Several additional strategies were used to promote the availability of the toolkits including a display at the FHL, Public Pioneer/Utah's Online Library website, listserv emails, and media placements.

Impact:

Between October 24 and December 4, 2005:

- Approximately 946,000 Utahns were reached regarding the importance of family health history through television, radio, newspapers, and periodicals; and
- More than 6,700 toolkits were distributed.
- Results from a four question survey, given to more than 400 in-class participants, showed that:
  - 84% of participants would share their family health history;
  - 78% would collect their family health history; and
  - Seniors were as likely to report that they would collect and share their family health history as younger participants.
- The campaign won the 2006 Silver Award for Excellence in Public Health Communication from the National Public Health Information Coalition.

Success Story
High School Family Health History Curriculum

Issue:

Genomics is the study of a person's genes and their interactions with the environment. In order for families and individuals to take advantage of and understand advances in genomics, they need to increase their genetic literacy. Specifically, they need to have culturally appropriate educational materials regarding family health history (FHH) and chronic diseases that have a genetic component.

Intervention:

- The Chronic Disease Genomics Program (CDGP) partnered with the Genetic Science Learning Center (GSLC) to develop a high school curriculum module on FHH for Biology and Health students and their families.

- Masters Teachers attended a 3-day workshop to develop draft classroom activities. Hispanic/Latino community members adapted classroom activities and developed new take-home activities. Tongan materials are being developed and tested. The developed curriculum, Using Family History to Improve Your Health (UFHTIYH), consists of 4 classroom activities, a promotional video, a take-home activity, and teacher materials. The materials meet national and state-level Health Education and Biology Standards.

Impact:

- English and Spanish materials have been classroom tested and showed high levels of cultural appropriateness, student and family engagement, and achieving the intended learning objectives.

- Eight Salt Lake City high school Biology teachers and 536 students (7.5% Asian, 1.9% African American, 1.5% American Indian, 16.5% Hispanic, 4% Native Hawaiian/Pacific Islander, and 68% White non-Hispanic) participated in the evaluation of the curriculum.

- Teachers and students reported that students could easily understand the module information, the reading level was appropriate, and effective in teaching concepts. Teachers reported that the teacher guides for the activities were easy to understand.

- The curriculum has been presented at several state and national teacher training workshops.

- The curriculum is available at no cost at http://learn.genetics.utah.edu.

Success Story

Hispanic Translation of 5th Grade and High School Curriculum

Issue:

While the majority of the Utah population is white (93.5%), several ethnic minorities are growing rapidly including the Hispanic/Latino (11.2%) population. Utah has also experienced a 14.2% growth in the population since April 2000, with approximately 31% of Hispanic/Latino citizens 18 years of age and under. Hispanic/Latino students make up nearly 50% of all students in some school districts. Teacher requests for Spanish language materials are increasing as a result of the changing demographics. Wide achievement gaps in science on mandatory statewide tests also demonstrate a need for culturally appropriate health and genetics education materials for adults and children, particularly for chronic diseases that include a genetic component and for family health history.

Intervention:

- Curricula were developed for 5th grade and high school students by the University of Utah Genetic Science Learning Center, the Utah Department of Health, high school teachers, and members of the Hispanic/Latino community in Salt Lake City, Utah.

- A Hispanic/Latino Community Advisory Committee was formed to adapt existing classroom curricula and develop new take-home activities that were culturally and linguistically appropriate for Hispanic/Latino students and their families.

- The 5th grade curriculum module titled Introduction to Heredity (IH) consists of 5 classroom activities, 3 take-home family activities, and a teacher guide. The 10th grade curriculum module titled Using Family History to Improve Your Health (UFHTIYH) consists of 4 classroom activities, promotional video, 2 take-home activities, and associated teacher materials.

- Program staff adapted the curriculum materials and developed the take-home activities based on the Committee's recommendations. The materials were then reviewed by the Committee and revised again, if needed. Results of the classroom field tests were shared with Committee members upon completion of the project.

Impact:

- Both the 5th grade and high school curriculum modules meet national and state-level Health Education and Biology Standards and are available in English and Spanish.

- The IH module was classroom tested in Spring 2007 with six 5th grade teachers and 159 students (54.2% Hispanic/Latino, 20.5% White, 14.5% Asian/Pacific Islander, 4.2% African American, 3.7% American Indian/Alaska Native, 3.2% Other). The materials received high ratings for their cultural appropriateness, student engagement, and achieving the intended learning objectives. The family activities were effective in engaging parents in their students' education. Schools selected to participate in the classroom test had high enrollments of Hispanic/Latino students (46-64%).

- The UFHTIYH module was classroom tested in Spring 2008 with 6 high school Health Education teachers and approximately 499 students (49.5% Hispanic). Teachers reported that the videos and take-home guide were culturally appropriate and conveyed the importance of family health history, and the classroom activities were engaging and students could easily understand the information.

- The curriculum is available at no cost at http://learn.genetics.utah.edu.

Success Story
Community Mini-grants

Issue:

The Utah Genomics Plan guides genomics and family health history activities in the state of Utah and outlines priority areas of focus. Community-based organizations and other public health agencies are needed to help complete the strategies outlined in the Utah Genomics Plan. To encourage the participation of communities in these efforts, the Chronic Disease Genomics Program (CDGP) awards mini-grants to organizations that demonstrate a need for funding and the capacity to engage diverse community members in genomics activities. The purpose of the mini-grant program is to encourage organizations to act on family health history/genomics issues and give them opportunities to make meaningful changes in their communities.

Interventions:

The Chronic Disease Genomics Program awarded six mini-grants ranging from $3,000 to $5,000 each (three in FY07 and three in FY08) to community organizations for the purpose of accomplishing the goals and objectives outlined in the Utah Genomics Plan. In addition, the mini-grants provided funds that helped various communities act on family health history/genomics issues and make meaningful changes in their communities.

The funded organizations for FY07 included:

- Brigham Young University, Department of Health Sciences
- Salt Lake Community College, Nursing Program
- Salt Lake County Aging Services, Healthy Aging Program

The funded organizations for FY08 included:

- Brigham Young University, Department of Health Sciences
- National Tongan American Society
- University of Utah, Department of Biomedical Informatics

Impact:

During the FY07 grant funding period:

- The Family Health History Toolkit was adapted for seniors.
- 250 seniors attended five educational training sessions on genetics and family health history.
- 300 senior-friendly Family Health History Toolkits were distributed at senior centers.
- Genetics-related curriculum were incorporated into the Salt Lake Community College Nursing Program.
- 300 surveys measuring the extent to which seniors attribute their risk of various chronic diseases to family health history, personal behavior, and the environment were collected.

During the FY08 grant funding period, expected outcomes include:

- Adaptation of the Family Health History Toolkit for the Hispanic population.
- Development of a series of family health history presentations for the Hispanic population attending English as a Second Language classes.

Success Story
Community Mini-grants (continued)

- Two focus groups conducted with members of the Tongan community to assess knowledge, attitudes, and beliefs in relation to genetics and disease development.
- Development of a radio ad and classes on the importance of family health history developed for the Tongan community.
- Validation of risk scores for the Health Family Tree program.

Success Story

Hispanic Adaptation of the Family Health History Toolkit

Issue:

Hispanics represent the largest and fastest growing minority group in Utah. Hispanics also experience health disparities in several important chronic disease risk factors and health conditions. In order to help Hispanics understand their risk for chronic disease, family health history (FHH) resources like the Family Health History Toolkit (FHHT) need to be culturally adapted to minimize potential language and cultural barriers.

Intervention:

- The Chronic Disease Genomics Program (CDGP) awarded a mini-grant to Brigham Young University Department of Health Science to develop a culturally appropriate FHHT for Hispanics.

- The FHHT was translated into Spanish and revised to reflect data gathered during a formative evaluation of the adapted toolkit. The evaluation process included 10 interviews with key informants, four focus groups held with Utah County Hispanics, and a pilot test with English as a Second Language (ESL) students as well as with Hispanic participants at a Dia de Salud activity at Centro Hispano in Provo, Utah. The pilot test with the ESL classes consisted of a pre-test survey, five FHH educational modules (15 minutes each), distribution and integration of the adapted toolkit into the educational modules, and a post-test survey.

Impact:

- The adapted toolkit contains examples in Spanish of how to talk about FHH with family members, how to create a FHH record, and how to share the information collected with family members and medical professionals.

- ESL students and focus group participants reported that the adapted toolkit was simple and easy to understand.

- Survey results suggest that the majority of ESL students were motivated to learn more, make lifestyle changes, and share FHH information with family members following the pilot test.

- About one-fourth (23%) of the students surveyed reported visiting a medical professional as a result of the educational modules. Most students (94%) agreed the toolkit helped them feel more prepared to share their FHH with a medical professional.

- The adapted toolkit is available at no cost at http://health.utah.gov/genomics.

Success Story

Family Health History and the Pacific Islander Community

Issue:

Utah ranks second in the proportion of the population who are Native Hawaiian/Pacific Islander, exceeded only by the state of Hawaii. Two Utah cities, West Valley City and Salt Lake City, ranked among the top five cities in the U.S. with the greatest percentages of Native Hawaiian/Pacific Islander populations. Diabetes is increasing at alarming rates among the 25,000 Native Hawaiian/Pacific Islanders living in Utah. Family health history is a risk factor for diabetes and a novel approach for addressing this health concern among this population. Culturally appropriate genetics education materials are needed to ensure family health history is used effectively to address this health problem.

Intervention:

- The National Tongan American Society (NTAS) received a mini-grant from the Chronic Disease Genomics Program to improve understanding of the influence of genetics on the development of chronic diseases among the Tongan community. NTAS partnered with community leaders to ensure completion of the project was done in a culturally sensitive manner.

- Two focus groups with Tongan community members and church leaders were conducted to assess the community's understanding of genomics and family health history, cultural and religious beliefs of inheritance and learned behaviors, and how to best reach the community with educational interventions.

- The NTAS also partnered with the University of Utah Genetic Science Learning Center to form a Pacific Islander Advisory Committee to further assess the best ways to help Pacific Islander families learn about genetics and the importance of family health history.

Impact:

- Two classes on genetics and health were taught to 64 Tongan community members. Classes were held at the Tongan United Methodist Church and the Anderson Senior Citizen Center. All participants said their awareness of family health history had increased as a result of the class and 82% were highly interested in learning more.

- A radio spot to advertise the classes and the importance of family health history was developed and aired on KRCL community public radio shows between January and March 2008. In both the focus groups and educational classes, 45% of participants said they had heard the ad on the radio.

- Two educational materials were developed based on community feedback. The materials are interactive ways for Pacific Islander families to learn how genetic traits are passed down in families. The materials will be available at no cost at http://learn.genetics.utah.edu in the near future.

Success Story
Asthma and Genomics Conferences

Issue:

Genomics is the study of genes and their interaction with each other and the environment. Many health problems, including asthma, are the result of an interaction between genes and environment. Genomics is predicted to revolutionize public health and medicine as we know it today. The Utah Department of Health Asthma and Chronic Disease Genomics Programs have recognized the importance of preparing for the genomics era and have begun to explore how genomics can be used to better understand and treat asthma. In September 2003 when the Utah Asthma Plan was unveiled, genomics was included as an objective, but stakeholders were unsure of how to proceed with its implementation.

Intervention:

On April 12, 2006, the first Asthma and Genomics workshop was held with goals to:

- Bring together asthma and genomics stakeholders in Utah;
- Provide education on how genomics may impact public health in the future (specifically as it relates to asthma care); and
- Develop an asthma genomics work plan to include in the Utah Asthma Plan that would provide direction for future activities.

The workshop was designed to increase participants' knowledge of genomics and it's application to public health as well as to facilitate interaction and communication of genomics strategies with stakeholders.

Impact:

- An asthma genomics work plan was developed and the priorities identified were added to the Utah Asthma Plan. The broad topics addressed in the work plan include pharmacogenomics, family health history, and ethical, legal, and social issues. The full work plan can be found at: http://health.utah.gov/asthma/professionals/genomics.html.
- The majority of participants (55%) strongly agreed that their knowledge of genomics increased and 60% found value in attending the conference.
- Most participants (72%) would like to help integrate genomics into asthma activities.
- A second Asthma and Genomics Conference was held in June 2007. Presentations included:
  - The Healthy Homes University Project being conducted in Washington. This project uses family health history to identify and intervene in the home environment with at-risk asthma families in a low-income community;
  - Predisposition to asthma among the Utah population; and
  - Genomics in the Clinic - A Panel's Perspective.