MDCH received supplemental funding in 2010 from the Centers for Disease Control and Prevention (CDC) Division of Cancer Prevention and Control (DCPC) as well as a newly awarded 3-year cooperative agreement with DCPC for 2011-2014. Both funding opportunities are part of a broader effort by CDC to support the Education and Awareness Requires Learning Young (EARLY) Act, section 10413 of the Patient Protection and Affordable Care Act (Public Law 111-148).

**MDCH Cancer Genomics Cooperative Agreements with CDC:**

As part of a new award from CDC DCPC, the MDCH Genomics Program will enhance and expand a state public health cancer genomics program by utilizing health plan policies and partnerships to maximize health benefits of appropriate BRCA-related services and minimize potential harms from inappropriate use. The program focuses on the Healthy People 2020 Objectives to: 1) increase the proportion of women with a family history of breast and/or ovarian cancer who receive genetic counseling; 2) reduce the overall cancer death rate; 3) reduce the breast cancer death rate; and, 4) reduce late-stage female breast cancer. As depicted in Figure 1, our proposed project aims to create a system that will ensure appropriate translation of cancer genomics according to national guidelines.

**Ultimate Goal:** Reduce breast cancer deaths at a young age and ovarian cancer deaths in Michigan

From 2008-2011 the MDCH Cancer Genomics Program focused on promoting cancer genomics best practices through surveillance, provider education, and health plan policy work surrounding inherited breast and ovarian cancer syndrome (HBOC) and the BRCA1/2 genes; a condition often affecting young women with breast cancer. In 2010, MDCH received additional supplemental funding from DCPC to focus on issues specific to young women with breast cancer (diagnosed under age 45). The goals and accomplishments from this cooperative agreement and supplemental funding are outlined below.

**Policy Accomplishments:**
- Disseminated the US Preventive Services Task Force (USPSTF) Grade B recommendation on BRCA genetic counseling and testing to all Michigan health insurers at key health plan events.
- Provided technical assistance to health plans adapting or creating new written policies for BRCA1/2 genetic counseling and testing.
- As of 2011, 12 health plans in Michigan had written policies for BRCA1/2 testing coverage aligned with the USPSTF recommendation (increased from the 2008 project baseline of 4 health plans).
- Implemented a health plan surveillance process that served as a model for CDC’s DCPC to conduct similar health plan policy surveillance in 20 additional states.

**Ongoing Policy Activities:**

- Investigate Michigan health plan policies to identify BRCA-related clinical coverage gaps before and after genetic counseling and BRCA testing; and provide technical assistance to address identified gaps.
- Honor Michigan health plans that have policies aligned with the USPSTF recommendation; begin recognizing plans that provide coverage for BRCA-related services and comply with national guidelines.
- Educate payers through the Michigan Association of Health Plans (MAHP) newsletter articles, online educational module, and health plan-specific reports with health plan specific data about members’ access to BRCA-related clinical services.

**Education Accomplishments:**

- Developed handheld decision tool to assist providers in identifying high risk patients for referral to a genetics specialist. Distributed nearly over 7000 tools to date throughout the state and nationally.
- Provided on-site or web-based provider education trainings utilizing an interactive audience response system as requested by Michigan health institutions.
- Held an educational conference for primary care providers on family history, risk assessment, and BRCA genetic counseling, testing and management.

**Ongoing Education Activities:**

- Partner with two Michigan health plans to disseminate handheld tools and resources
- Investigate the use of provider incentive programs for BRCA best practices with two major health plans
- Provide targeted BRCA educational materials to the physicians of patients with early breast and/or ovarian cancer reported to the Michigan Cancer Surveillance Program (MCSP)

**Surveillance Accomplishments:**

- Developed a clinical network of all board-certified genetic counseling clinics throughout Michigan to contribute to a 6,000 patient database capturing BRCA genetic counseling and testing information from 2007 - 2011. Expanded from 4 clinical sites to 11 clinical sites with DCPC supplemental funding.
- Utilized the Michigan Cancer Surveillance Program (MCSP) to highlight the number of patients at increased risk for HBOC; sent hospital-specific reports to all reporting health systems in the state.
- MCSP staff conducted over 1600 hospital chart reviews to collect data on provider practices regarding the use of family history, genetic counseling, and testing.
- Conducted a mail survey to 500 young breast cancer survivors to assess their knowledge, attitudes, access to care issues, and barriers and facilitators regarding family health history, genetic counseling and genetic testing (response rate of 57.6%).

**Ongoing Surveillance Activities:**

- Expand network of clinical sites contributing to the BRCA counseling and testing database
- Monitor BRCA-related cancers using MCSP and vital records data; examine usefulness of cancer stage in surveillance
- Analyze health plan claims data to evaluate the impact of BRCA testing on the use of related clinical services (i.e. mammograms, MRI, etc) and identify gaps in services for young survivors
- Analyze population-based survey data (i.e. behavioral risk factor survey) to measure progress toward Healthy People 2020 BRCA objectives in Michigan
MDCH was awarded breast cancer genomics supplemental funding in 2010-2011 and a 3-year cooperative agreement in 2011 from the Centers for Disease Control and Prevention (CDC) Division of Cancer Prevention and Control (DCPC). The cooperative agreement and supplemental funding are part of a broader effort by CDC to support the Education and Awareness Requires Learning Young (EARLY) Act, section 10413 of the Patient Protection and Affordable Care Act (Public Law 111-148).

As part of this new award from DCPC, the MDCH Cancer Genomics Program is enhancing and expanding its existing public health program utilizing health plan policies and current partnerships to maximize the health benefits of appropriate BRCA-related clinical services and minimize potential harms from inappropriate use. The program focuses on the Healthy People 2020 Objectives to: 1) increase the proportion of women with a family history of breast and/or ovarian cancer that receive genetic counseling; 2) reduce the overall cancer death rate; 3) reduce the breast cancer death rate; and, 4) reduce late-stage female breast cancer. As depicted in Figure 1, our proposed project aims to create a system that will ensure appropriate translation of BRCA counseling and testing into clinical and public health practice, according to national guidelines.

Ultimate Goal: Reduce breast cancer deaths at a young age and ovarian cancer deaths in Michigan

1. Record Family and/or Personal History of Cancer
2. Cancer Genetic Risk Evaluation Referral and Counseling
3. BRCA Testing & Interpretation of Results
4. BRCA related clinical services

Figure 1: BRCA Counseling, Testing and Clinical Services

Policy Accomplishments in 2010-2012:

- As of March 2012, 26 Michigan health plans have been identified (increase from 24 in 2009); 12 health plans in Michigan have been recognized by MDCH for their written policies for BRCA1/2 testing coverage aligned with the 2005 USPSTF recommendation (increase from 4 health plans in 2009). This work was recently published by Duquette et al in Public Health Genomics (http://www.ncbi.nlm.nih.gov/pubmed/22189434) and highlighted in the Michigan Cancer Consortium (MCC) Update (http://www.michigancancer.org/PDFs/MCCUpdate/NovDec11-update.pdf), and by the Association of State and Territorial Health Officials (ASTHO) (http://www.astho.org/Programs/Access/Genomics/).
- In 2012, 9 health plans’ written policies on BRCA-related clinical services for women with a known deleterious BRCA mutation have been reviewed, and all are consistent with 2011 NCCN guidelines.
- In 2012, MDCH began working with the Cancer Resource Foundation, Inc. to pilot a novel co-pay program for appropriate cancer genetic testing as deemed by NCCN guidelines for underinsured Michigan residents (http://cancer1source.org/).
- In 2011-2012, four articles were authored and published in the Michigan Association of Health Plans (MAHP) Insight newsletters on breast cancer genomics best practices (http://www.mahp.org/insights.html).
- In 2012, the 2012 MAHP Pinnacle Award Criteria for Cancer Genomics Best Practices were drafted; in 2011, Priority Health received the MAHP Pinnacle Award for Cancer Genomics Best Practices, and Priority Health’s BRCA counseling & testing policy was highlighted at 2011 MAHP CME Best Practice Forum (http://www.mahp.org/awards.html).
Education Goal: Increase health care provider knowledge and use of BRCA clinical practices according to national best-practice guidelines

Surveillance Goal: Expand surveillance of BRCA clinical practices

- Four health plan partners (Blue Cross Blue Shield, Medicaid, Priority Health & MAHP) serve on the 2011-2014 cooperative agreement steering committee
- In 2011, presentation at 1st Annual World Congress Leadership Summit on Medical Policy for Personalized Medicine; in 2012, Advisory Board of 2nd Annual Summit
- In 2011-2012, MAHP online CME educational module on BRCA Best Practice was created and disseminated (http://foundation.mahp.org/events.html)

Education Accomplishments in 2010-2012:

- Multiple articles authored for the MCC Update newsletter on family history, BRCA, and young women with breast cancer
- To date, over 13,000 MDCH Cancer Family History Guides distributed to assist providers in identifying high risk patients for referral to genetics specialist.
- In-service presentations on BRCA-related services provided at several Michigan hospitals
- In 2012, invited plenary presentation at the Michigan Academy of Family Physicians annual conference utilizing an interactive audience response system, case-based presentation; invited presentation at annual American Cancer Society-Great Lakes conference

Surveillance Accomplishments in 2010-2012:

- A unique BRCA clinical network database was created that includes all board-certified cancer genetic clinics throughout Michigan; currently includes over 6,000 patients and captures BRCA genetic counseling and testing information (from 4 clinics in 2009 to 14 clinics in 2012); BRCA clinical database transferred to an online platform with real-time reporting which includes a new section on surgical management in 2012
- Presented at 2011 and 2012 Michigan Epidemiology Conference and 4th National Public Health Genomics Conference (www.michigan.gov/genomics); submitted and accepted as a ‘user story’ on the BRCA database to the Public Health Reporting Initiative, organized under the Office of the National Coordinator for Health IT in 2011; shared with multiple states with requests from Ohio and Georgia to submit their cases
- In 2012, MCSP data requested including case definitions for multiple primaries that meet NCCN guidelines
- In 2011-2012, developed a pilot process to identify 200 cases appropriate for BRCA counseling through four local MSCP cancer registries; providers of these 200 cases will receive targeted educational information regarding these cases; identified four local cancer genetics providers who will serve as a resource for local providers
- In 2011, phone survey created and implemented by 8 cancer genetics clinics to their female patients who were identified with a BRCA known deleterious mutation and female patients who were found to be a BRCA true negative to determine impact of BRCA testing results on health decisions and other factors
- In 2011, linkage of BRCA clinical network database to MCSP data determined to be feasible through interviews with MDCH key administrators (including MCSP, legal affairs and IRB) and Michigan FORCE chapter members
- In 2012, five Michigan BRFS (MiBRFS) questions on family history of breast and ovarian cancer and BRCA counseling and testing being asked to Michigan female adult residents

Overall Project Accomplishments in 2012:

- First steering committee meeting for 2011-2014 cooperative agreement with all project partners held
- Multiple meetings held with other state grantee staff in Georgia and Oregon
- Meetings with Commission on Cancer regarding new genetic counseling standard for 2012
- Meetings with Sharsheret regarding surveillance activities for young breast cancer survivors of Ashkenazi Jewish ancestry; distributed Sharsheret surveys to Michigan partners
- Two orals and three posters submitted and accepted for presentation at the 2012 National Cancer Conference
- Invited workshop presentations on MDCH breast cancer genomics activities for 2012 CDC University, 2012 National Human Genome Research Institute course, 2012 FORCE annual meeting, Wayne State University Genetic Counseling Program and University of Michigan School of Public Health course