EXECUTIVE SUMMARY

The Oregon Genetics Program (OGP) and our collaborators have worked to develop, implement, and evaluate a surveillance program to monitor the use of cancer-specific evidence-based genomic tests and family history in Oregon. These surveillance activities have targeted Oregon’s 2.9 million adults and Oregon healthcare providers (HCPs) working in a number of different clinical settings. Due to the paucity of information around healthcare provider’s use of family history and genetic testing, in August of 2010, the OGP conducted a quantitative statewide survey of Oregon HCPs. The survey assessed HCP use of family history in clinical practice; and knowledge, attitudes, and use of clinical genetic services and genetic testing related to breast, ovarian and colorectal cancers. We will use this information to develop breast, ovarian, and colorectal cancer HCP and public health strategies aimed at improving health outcomes.

Key Findings

− Very few Oregon HCPs reported ordering/recommending genetic tests in the past 12 months, suggesting that NCCN recommended tests such as breast cancer gene expression profile tests and KRAS testing are being underutilized. 2% of HCPs who screen for breast and/or ovarian cancer (BOC) had ordered/recommended OncoVue and 15% had ordered/recommended BRCA testing. 21% of HCPs who treat BOC had ordered/recommended BRCA testing, 25% had ordered/recommended a tumor gene expression profile and 8% had ordered/recommended CYP2D6 testing. 3% of HCPs who screen for colorectal cancer (CRC) had ordered/recommended Fecal DNA testing and 4% had ordered/recommended MMR testing. 10% of HCPs who treat CRC had ordered/recommended MMR testing, 3% had ordered/recommended UGT1A1 testing, and 17% had ordered/recommended KRAS testing.

− Specialists ordered/recommended genetic tests designed to target cancer treatment (tumor gene expression profile, CYP2D6, and KRAS) more often than any other provider type; however, the majority of Specialists did not order or recommend these tests. Among Specialists, only 49% had ever ordered/recommended breast cancer gene expression profile tests, 26% had ever ordered/recommended KRAS testing, 10% CYP2D6 testing, and 4% UGT1A1 testing. Meeting practice guidelines and guiding chemotherapy were the most common reasons for having ordered/recommended these tests, while the most common reason for not having ordered/recommended these tests was that they were not familiar with the test.

− Over 98% of HCPs in Oregon reported that when they collect family history to assess risk for hereditary cancer in patients without cancer, they determined the primary cancer site and the number of first-degree relatives with cancer. However, approximately 20% of providers did not collect information about maternal or paternal second-degree relatives, and 10% did not ask about the age of diagnosis for relatives with cancer.
Between 76% and 86% of all HCPs used family history for patients without cancer to inform their cancer screening recommendations, but less than 50% of HCPs used family history for patients without cancer to decide whether to refer their patients to a genetics specialist.

The use of family history was associated with a clinician having ever suspected a BRCA or MMR mutation.

Oregon HCPs used a variety of practice guidelines for cancer genetics. The specific practice guidelines that were used varied by HCP group and provider practice specialty. The practice guidelines most commonly used by Oregon HCPs were the American College of Obstetricians and Gynecologists (ACOG), followed by American Cancer Society (ACS) and US Preventative Services Task Force (USPSTF).

Use of two different practice guidelines were associated with having ordered/recommended genetic testing for patients without cancer; ACS guidelines for BRCA testing and American College of Gastroenterology (ACG) guidelines for MMR testing. National Comprehensive Cancer Network (NCCN) guidelines were associated with having ordered/recommended genetic testing for patients with cancer because patients met practice guidelines.

HCP group was associated with confidence in medical genetics; OB/GYNs were more confident of their breast and ovarian cancer (BOC) genetics knowledge than primary care providers (PCPs), Naturopaths, and Specialists. Clinicians who practiced family or internal medicine were the least confident of their genetics knowledge.

Whether a provider had ever suspected a BRCA or MMR mutation varied by provider type. PCPs and Naturopaths were the least likely to have suspected a BRCA and MMR mutation in a patient.

Confidence in cancer medical genetics was correlated with whether providers had ever suspected a BRCA and MMR mutation and whether genetic testing was ordered/recommended for patients who met practice guidelines. Providers who were the most confident in cancer genetics had the highest proportions who had both suspected a BRCA or MMR mutation and ordered/recommended genetic testing. This association was strongest when for confidence in colorectal cancer (CRC) genetics.

12 of all providers reported that the ZIP Code of their practice was > 80 miles from Portland or Eugene. Providers who practiced 80+ miles from Eugene or Portland had significantly higher proportions (63%) who indicated that they did not refer to a genetic specialist because there were no genetic specialists in their geographic area compared to providers who lived within 80 miles of Portland or Eugene (7%).