

# Cancer Genetic Testing in Oregon: Preliminary Findings from Genetics Services Provider Clinical Data

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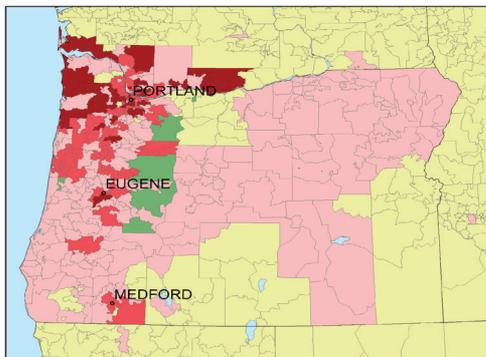
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## Background:

In 2007 and 2008, seven Oregon genetics clinics saw patients for cancer related reasons. Of these seven clinics, five were located in the Portland metropolitan area, one in Eugene, and one in Medford. In 2008, approximately 85% of the 3.79 million Oregonians (and 2.7 million Oregonians > age 18 years) lived within 80 miles of those three metropolitan areas.

## Methods:

De-identified genetic services data included: ICD-9 codes, age, ZIP code, and BRCA and MMR genetic testing for patients seen for breast, ovarian, colorectal, and endometrial cancer related reasons. Five clinics released patient-level data based on 5-digit ZIP codes, one clinic released 3-digit ZIP code data, and one clinic released 5-digit ZIP code data for ZIP codes with populations > 20,000 people; for ZIP codes with populations ≤ 20,000 people, that clinic released 3-digit ZIP code data.



# of Patients by 3-digit and 5-digit ZIP codes  
 0  
 1-4  
 5-15  
 16-33  
 34 and National Parks  
 Patients seen for Breast, Ovarian, Colorectal, Endometrial, and Other Cancer Indications by ZIP code Oregon Genetic Services Providers, 2007-2008

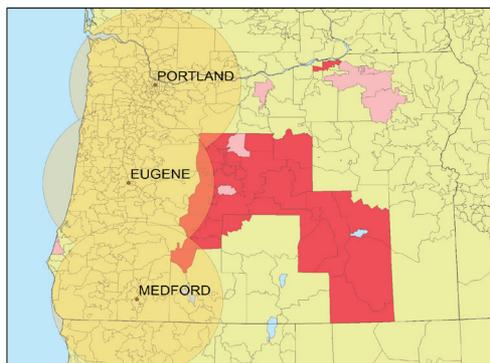
# of Cancer Patients	1,716
5 digit & 3 digit ZIP code data available	1,681
Oregon	1,407 (84%)
WA	266 (16%)
Other states	8 (0.5%)

Portland Metropolitan Area



## Results:

During 2007 and 2008, 1,716 patients were seen in Oregon genetics clinics for cancer-related reasons. Eighty-four percent (1,407 patients) whose ZIP codes could be matched to a 3 or 5-digit ZIP code resided in Oregon. Eighty-three percent of all patients (1,421) were seen for breast or ovarian cancer, 13% (228 patients) were seen for colorectal cancer or endometrial cancer, and 4% (69 patients) were seen for other cancers, such as prostate cancer. One percent of patients traveled more than 80 miles for cancer genetic services; however, based on the geographic distribution of the population within the state, we would expect 15 times as many. Six of the seven clinics were able to abstract genetic testing information (for 892 patients). In these six clinics, sixty percent of breast and ovarian cancer patients had BRCA testing, and 47% of colorectal and endometrial cancer patients had MMR testing.



Number of Patients by 3-digit & 5 digit ZIP codes  
 0  
 1  
 2  
 Oregon Patients Traveling 80+ Miles for Cancer Genetics Services 2007-2008 by ZIP code

### Outside of Portland, Eugene & Medford

Population 2008

568,500

Percent of Population

15%

# of Oregon Cancer Genetics Patients

16 (expected

= ~ 240)

% of Oregon Cancer Genetics Patients

1% (expected

= ~ 15%)

Number and % of the Oregon adult population\* seen by Genetic Services Providers for cancer reasons (per year)

Oregon Patients seen for Breast and Ovarian Cancer

663 (0.025%)

Oregon Patients seen for Colorectal and Endometrial Cancer

89 (0.0003%)

\*% Based on 2.7 million Oregon adults, 2008

## Discussion

Compared to the estimated carriers in the population, only a small proportion of Oregonians who may benefit from cancer genetic services are being seen in Oregon cancer genetics clinics. Access to genetic services is challenging for populations living in central and eastern Oregon, and these populations appear to be under-served by genetic services providers. These results will inform policy aimed at increasing the availability of appropriate genetic testing and counseling in Oregon. On a national level more work is needed to promote electronic medical records as a useable source of genetic testing information.