

**Incidence of Cancers Associated with Modifiable Risk Factors and  
Late Stage Diagnoses for Cancers Amenable to Screening**

**Idaho 2009-2012**

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**A Publication of the**



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## **BACKGROUND AND INTRODUCTION**

Idaho's comprehensive cancer strategic plan includes overarching goals to reduce health disparities that may exist by race, ethnicity, socioeconomic status, geographic location and other characteristics. This report illustrates cancer incidence by local area in Idaho for several cancers associated with modifiable risk factors and/or with effective population-based screening tests and effective treatment regimens supporting decreased morbidity and mortality with early detection. The purpose of this report is to provide information to the Comprehensive Cancer Alliance for Idaho, the Idaho Department of Health and Welfare, the Centers for Disease Control and Prevention, and other partners in order to drive cancer prevention and early detection improvement efforts at both the local and state level.

The U.S. Preventive Services Task Force (USPSTF) is "an independent panel of experts in primary care and prevention that systematically reviews the evidence of effectiveness and develops recommendations for clinical preventive services."<sup>1</sup> In November 2009, the USPSTF released recommendations on screening for breast cancer, including biennial screening mammography for women ages 50 to 74 years.<sup>2</sup> The American Cancer Society recommends yearly mammograms starting at age 40 and continuing as long as a woman is in good health.<sup>3</sup> Based on these recommendations, CDRI selected the measure of late stage breast cancer incidence rate among women ages 40 years and older as the indicator for inadequate breast cancer screening.

In March 2012, the USPSTF released recommendations on screening for cervical cancer, recommending general population screening for cervical cancer in women ages 21 to 65 years with cytology (Pap smear) every 3 years or, for women ages 30 to 65 years who want to lengthen the screening interval, screening with a combination of cytology and human papillomavirus (HPV) testing every 5 years.<sup>4</sup> The American Cancer

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<sup>1</sup> <http://www.ahrq.gov/clinic/uspstfix.htm>

<sup>2</sup> <http://www.uspreventiveservicestaskforce.org/uspstf/uspsbrca.htm>

<sup>3</sup> <http://www.cancer.org/Healthy/FindCancerEarly/CancerScreeningGuidelines/american-cancer-society-guidelines-for-the-early-detection-of-cancer>

<sup>4</sup> <http://www.uspreventiveservicestaskforce.org/uspstf/uspscerv.htm>

Society has similar recommendations.<sup>3</sup> Based on these recommendations, the availability of population estimates by age group, and Idaho's historically low cervical cancer screening rates,<sup>5</sup> CDRI selected the measure of late stage cervical cancer incidence rate among women ages 20 years and older as the indicator for inadequate cervical cancer screening and prevention.

In October 2008, the USPSTF released recommendations on screening for colon & rectum cancers, including using fecal occult blood testing, sigmoidoscopy, or colonoscopy, in adults beginning at age 50 years and continuing until age 75 years.<sup>6</sup> The American Cancer Society recommends that, beginning at age 50, men and women should follow a testing schedule depending on the type of test.<sup>3</sup> Based on these recommendations, CDRI selected the measure of late stage colon & rectum cancer incidence rate among adults ages 50 years and older as the indicator for inadequate colon & rectum cancer screening and prevention.

Many cancers have modifiable risk factors, such as tobacco use, excess body weight, certain HPV infections, and sun exposure. CDRI selected several cancer primary sites as indicators for cancers associated with modifiable risk factors, including endometrium, esophagus, kidney & renal pelvis, lung & bronchus, and melanoma of the skin.

Lung cancer is the most preventable form of cancer death in the United States.<sup>7</sup> Tobacco use accounts for at least 30% of all cancer deaths and 87% of lung cancer deaths. Besides lung cancer, tobacco use also increases the risk for cancers of the mouth, lips, nasal cavity and sinuses, larynx, pharynx, esophagus, stomach, pancreas, kidney & renal pelvis, bladder, uterus, cervix, colon & rectum, ovary, and acute myeloid leukemia.

Excess body weight contributes to as many as 1 out of 5 cancer-related deaths.<sup>8</sup> Overweight (body mass index [BMI] 25 to 29.9) and obesity (BMI 30 or more) are clearly linked with an increased risk of many cancers, including: breast (in women past menopause), colon & rectum, endometrium, esophagus, kidney & renal pelvis, and pancreas.

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<sup>5</sup> <http://www.cdc.gov/brfss/>

<sup>6</sup> <http://www.uspreventiveservicestaskforce.org/uspstf/uspcolo.htm>

<sup>7</sup> <http://www.cancer.org/cancer/cancercauses/tobaccocancer/tobacco-related-cancer-fact-sheet>

<sup>8</sup> <http://www.cancer.org/cancer/cancercauses/dietandphysicalactivity/bodyweightandcancerrisk/body-weight-and-cancer-risk-effects>

HPV has been found to be associated with cancers of the cervix, vulva, vagina, penis, anus, and oropharynx.<sup>9</sup> The most common HPV-associated cancers are cervix among women and oropharynx among men.

Ultraviolet (UV) radiation exposure from the sun and man-made sources such as tanning beds is associated with an increased risk of squamous and basal cell carcinomas, and intermittent acute sun exposure leading to sunburn is associated with an increased risk of melanoma.<sup>10</sup>

## **GEOGRAPHIC AREAS USED IN ANALYSIS**

This report presents cancer incidence statistics for Idaho's public health districts and the eleven most populous counties in Idaho. The primary outlets for delivering public health services in Idaho are the seven independent public health districts. Each district has a board of health appointed by county commissioners within that region. The districts are not part of any state agency, but work closely with the Idaho Department of Health and Welfare and other state and local agencies. Each district responds to local needs to provide services that may vary from district to district. Many services, including some cancer prevention and control activities, are provided through contracts with the Idaho Department of Health and Welfare.

Statistics are also reported for the eleven most populous counties in Idaho. Each public health district contains at least one such county. Combined, these eleven of Idaho's forty-four counties comprise 76% of the state population. The populations (2012 estimates) in these counties range from 408,853 persons in Ada County to 37,650 persons in Madison County.<sup>11</sup> The eleven counties typically have sufficient numbers of cases to provide statistically reliable rates. Counties with smaller populations often have fewer cases by primary site, and statistically unreliable rates. Nonetheless, even among the most populous counties, there are instances when rates are based on small numbers of cases. Rates and percentages based upon 10 or fewer cases (numerator) should be interpreted with caution. Table 1 shows 2012 population estimates for Idaho's public health districts and the eleven most populous counties in Idaho (see also map on page 6).

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<sup>9</sup> <http://www.cdc.gov/cancer/hpv/>

<sup>10</sup> <http://www.cancer.gov/cancertopics/pdq/prevention/skin/HealthProfessional>

Table 1. Idaho Resident Population, 2012, by Public Health District and Eleven Most Populous Counties.<sup>11</sup>

| Geographic Area   | All Ages      | 20+     | 40+     | 50+     |         |
|-------------------|---------------|---------|---------|---------|---------|
|                   | Male & Female | Female  | Female  | Female  | Male    |
| State of Idaho    | 1,595,590     | 567,312 | 361,275 | 264,318 | 246,424 |
| District 1        | 215,416       | 81,996  | 57,695  | 43,900  | 40,945  |
| Bonner County     | 40,456        | 15,729  | 11,940  | 9,454   | 9,186   |
| Kootenai County   | 142,278       | 53,957  | 36,534  | 27,196  | 24,555  |
| District 2        | 106,439       | 39,961  | 26,311  | 20,440  | 19,589  |
| Latah County      | 38,055        | 13,726  | 7,203   | 5,368   | 5,052   |
| Nez Perce County  | 39,580        | 15,512  | 10,644  | 8,206   | 7,339   |
| District 3        | 258,575       | 89,936  | 57,393  | 41,403  | 37,926  |
| Canyon County     | 193,788       | 66,278  | 40,341  | 28,394  | 25,509  |
| District 4        | 451,494       | 163,376 | 101,967 | 71,496  | 65,798  |
| Ada County        | 408,853       | 148,155 | 91,942  | 64,007  | 58,149  |
| District 5        | 187,019       | 64,979  | 42,218  | 31,451  | 29,367  |
| Twin Falls County | 78,515        | 28,365  | 17,951  | 13,524  | 11,892  |
| District 6        | 169,409       | 58,181  | 36,009  | 26,744  | 25,351  |
| Bannock County    | 83,683        | 29,781  | 17,363  | 12,812  | 11,807  |
| Bingham County    | 45,466        | 14,937  | 9,453   | 6,896   | 6,575   |
| District 7        | 207,238       | 68,883  | 39,682  | 28,884  | 27,448  |
| Bonneville County | 106,864       | 36,150  | 21,813  | 15,902  | 14,462  |
| Madison County    | 37,650        | 11,892  | 4,179   | 2,942   | 2,670   |

## METHODS

### Cancer Cases

A “cancer case” is defined as a primary cancer site (where the cancer started), not a metastatic cancer site (where the cancer spread to). Since an individual can have more than one primary cancer during their lifetime, the number of incident cancer cases is greater than the number of persons who are diagnosed with cancer. CDRI queried our Registry Plus database for Idaho resident incident cancer cases and exported the case data for analysis in SEER\*Stat.<sup>12</sup>

### Population Estimates

Annual county population estimates by age group and sex were obtained from the National Center for Health Statistics (NCHS).<sup>11</sup>

<sup>11</sup> Source: National Center for Health Statistics, 2013.

[http://www.cdc.gov/nchs/nvss/bridged\\_race/data\\_documentation.htm#vintage2012](http://www.cdc.gov/nchs/nvss/bridged_race/data_documentation.htm#vintage2012)

<sup>12</sup> Surveillance Research Program, National Cancer Institute SEER\*Stat software ([www.seer.cancer.gov/seerstat](http://www.seer.cancer.gov/seerstat)) version 8.2.1.

### Stage at Time of Diagnosis

Staging measures the extent of disease at the time of initial diagnosis. Summary staging attempts to group cases with similar prognoses into categories of:

- in-situ (non-invasive),
- localized (cancer confined to the primary site),
- regional (direct extension of tumor to adjacent organs, and/or lymph nodes),
- distant (metastasis to tissues or lymph nodes remote from the primary site), or
- unstaged.

Stage at diagnosis was collected and coded using Collaborative Stage<sup>13</sup> and the Collaborative Stage algorithm was used to derive SEER Summary Stage 2000.<sup>14</sup> For stage-specific incidence rate calculations, late stage was considered to mean regional and distant stages combined.

### Age-Adjusted Incidence Rates

Age-adjusted incidence rates published within this report were adjusted using the direct method and standardized to the age distribution of the 2000 U.S. population.<sup>15</sup>

Incidence rates represent the average number of new cases diagnosed annually per 100,000 persons. Age adjustment allows rates from one geographic area or time period to be compared with rates from other geographic areas or time periods that may have differences in age distributions. Any observed differences in age-adjusted incidence rates between populations are not due to differing age structures. Age-adjusted incidence rates, rate ratios, and 95% confidence intervals were calculated using SEER\*Stat software.<sup>12</sup> The state of Idaho served as the reference group for rate ratio calculations.

### Limitations to Data Interpretation and Comparisons

Rates based on population estimates: In non-census years, state and county population figures are estimates. Errors in the estimates will impact the rates.

Rate comparisons: Age-adjusted incidence rates based on small numbers of cases (fewer than 10 cases) may be unstable. In comparing rates among public health districts or counties, factors such as the absolute numbers of cases and differences in demographics should be considered. Interpretations without consideration of these factors may be misleading or inaccurate.

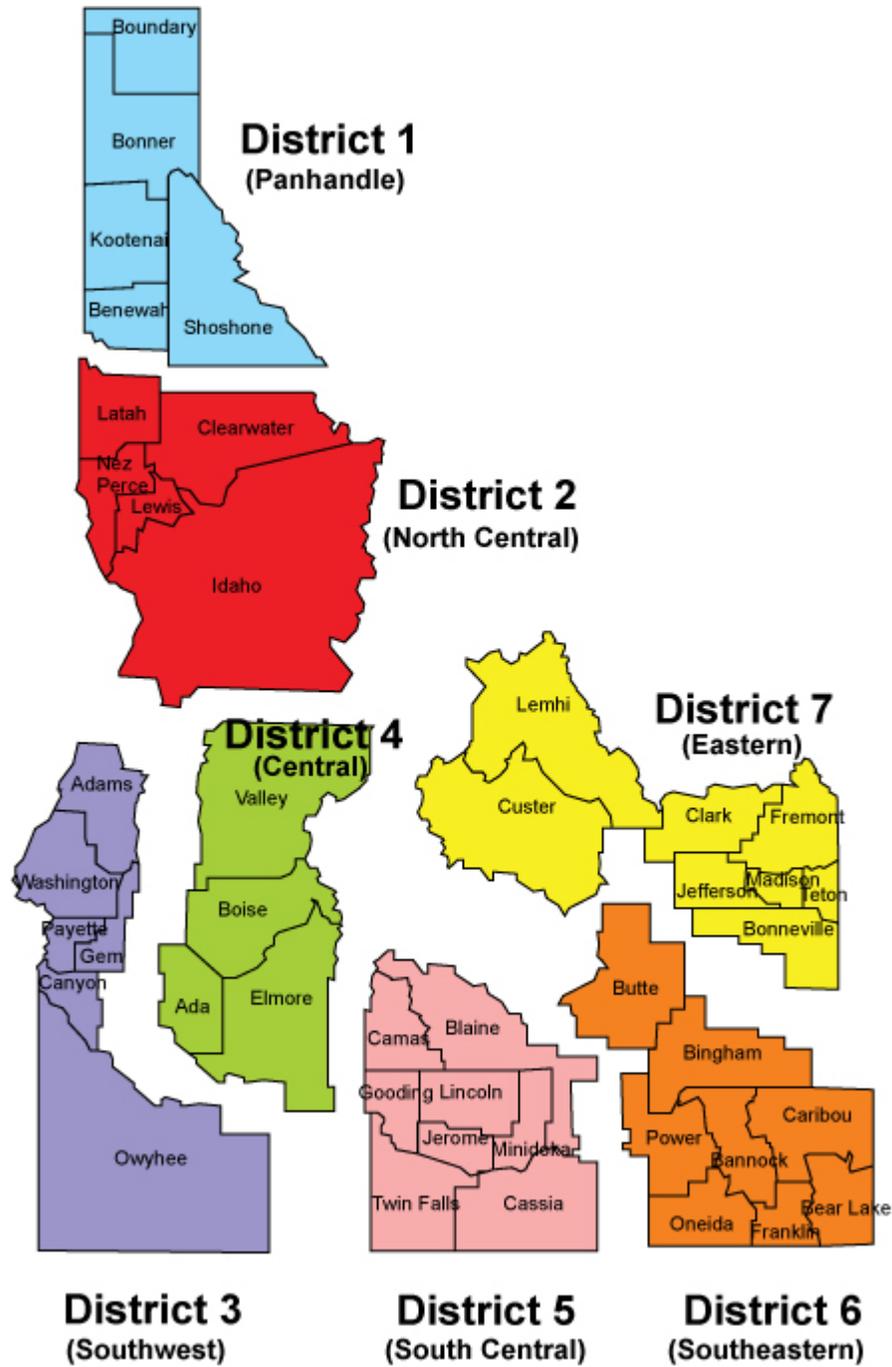
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<sup>13</sup> Collaborative Stage Work Group of the American Joint Committee on Cancer. Collaborative Stage Data Collection System Coding Instructions, version 02.04, published December 2011. Available at: <https://cancerstaging.org/cstage/coding/Pages/version0204.aspx>.

<sup>14</sup> Young JL Jr., Roffers SD, Reis LAG, Fritz AG, Hurlbut AA (eds). SEER Summary Staging Manual – 2000: Codes and Coding Instructions. National Cancer Institute, NIH Pub. No. 01-4969, Bethesda, MD, 2001.

<sup>15</sup> Source: SEER Program, National Cancer Institute, 2012.  
<http://seer.cancer.gov/stdpopulations/stdpop.19ages.html>

Figure 1. Map of Idaho Counties and Public Health Districts.<sup>16</sup>



<sup>16</sup> <http://www.healthandwelfare.idaho.gov/?TabId=97>

## RESULTS

### Breast Cancer – Females Ages 40+

There were 3,901 invasive and 822 in situ cases of breast cancer diagnosed among Idaho resident females ages 40 years and older from 2009-2012. Late stage cases comprised 34.8% of invasive cases. Breast cancer case counts by public health district and county are shown in Table 2. Table 3 shows counts of late stage breast cancer cases among Idaho resident females ages 40+, age-adjusted rates of late stage breast cancer incidence, 95% confidence intervals (CIs) for the rates, and rate ratios comparing the rates in the public health districts and counties to the state of Idaho. No public health district or county had a significantly higher or lower rate of late stage breast cancer incidence among females ages 40+.

### Cervical Cancer – Ages 20+

There were 191 invasive cases of cervical cancer diagnosed among Idaho resident females ages 20 years and older from 2009-2012.<sup>17</sup> Late stage cases comprised 50.3% of invasive cases. Cervical cancer case counts by public health district and county are shown in Table 4. Table 5 shows counts of late stage cervical cancer cases among Idaho resident females ages 20+, age-adjusted rates of late stage cervical cancer incidence, 95% confidence intervals (CIs) for the rates, and rate ratios comparing the rates in the public health districts and counties to the state of Idaho. No public health district or county had a significantly higher or lower rate of late stage cervical cancer incidence among females ages 20+.

### Colon & Rectum Cancer – Ages 50+

There were 2,208 invasive and 66 in situ cases of colon & rectum cancers diagnosed among Idaho residents ages 50 years and older from 2009-2012. Late stage cases comprised 55.7% of invasive cases. Colon & rectum cancer case counts by public health district and county are shown in Table 6. Table 7 shows counts of late stage colon & rectum cancer cases among Idaho residents ages 50+, age-adjusted rates of late stage colon & rectum cancer incidence, 95% confidence intervals (CIs) for the rates, and rate ratios comparing the rates in the public health districts and counties to the state of Idaho. Twin Falls County had a significantly higher rate of late stage colon & rectum cancer incidence among Idahoans ages 50+. Public Health District 2 (North Central) and Nez Perce County had significantly lower rates.

### Endometrium Cancer – All Ages

There were 799 invasive and 6 in situ cases of endometrium cancer diagnosed among Idaho resident females from 2009-2012. Late stage cases comprised 26.5% of invasive cases. Endometrium cancer case counts by public health district and county are shown in Table 8. Table 9 shows counts of invasive endometrium cancer cases among Idaho

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<sup>17</sup> In situ cervix cases are not reportable according to national cancer statistics governing bodies and under Idaho Code 57-1703.

resident females, age-adjusted rates of invasive endometrium cancer incidence, 95% confidence intervals (CIs) for the rates, and rate ratios comparing the rates in the public health districts and counties to the state of Idaho. No public health district or county had a significantly higher or lower rate of invasive endometrium cancer incidence.

#### Esophagus Cancer – All Ages

There were 302 invasive and 3 in situ cases of esophagus cancer diagnosed among Idaho residents from 2009-2012. Late stage cases comprised 63.6% of invasive cases. Esophagus cancer case counts by public health district and county are shown in Table 10. Table 11 shows counts of invasive esophagus cancer cases among Idaho residents, age-adjusted rates of invasive esophagus cancer incidence, 95% confidence intervals (CIs) for the rates, and rate ratios comparing the rates in the public health districts and counties to the state of Idaho. Public Health District 1 (Panhandle) and Bonner County had a significantly higher rates of invasive esophagus cancer incidence.

#### Kidney & Renal Pelvis Cancer – All Ages

There were 990 invasive and 19 in situ cases of kidney & renal pelvis cancer diagnosed among Idaho residents from 2009-2012. Late stage cases comprised 28.4% of invasive cases. Kidney & renal pelvis cancer case counts by public health district and county are shown in Table 12. Table 13 shows counts of invasive kidney & renal pelvis cancer cases among Idaho residents, age-adjusted rates of invasive kidney & renal pelvis cancer incidence, 95% confidence intervals (CIs) for the rates, and rate ratios comparing the rates in the public health districts and counties to the state of Idaho. Public Health District 3 (Southwest) and Canyon and Nez Perce Counties had significantly higher rates of invasive kidney & renal pelvis cancer incidence, and Public Health Districts 6 and 7 (Southeastern and Eastern) and Bannock and Madison Counties had significantly lower rates.

#### Lung & Bronchus Cancer – All Ages

There were 3,371 invasive and 3 in situ cases of lung & bronchus cancer diagnosed among Idaho residents from 2009-2012. Late stage cases comprised 75.0% of invasive cases. Lung & bronchus cancer case counts by public health district and county are shown in Table 14. Table 15 shows counts of invasive lung & bronchus cancer cases among Idaho residents, age-adjusted rates of invasive lung & bronchus cancer incidence, 95% confidence intervals (CIs) for the rates, and rate ratios comparing the rates in the public health districts and counties to the state of Idaho. Public Health Districts 1, 2, and 3 (Panhandle, North Central, and Southwest) and Bonner, Kootenai, Nez Perce, and Twin Falls Counties had significantly higher rates of invasive lung & bronchus cancer incidence, and Public Health Districts 4, 6, and 7 (Southeastern, Central, and Eastern) and Ada, Bannock, Bingham, Bonneville, and Madison Counties had significantly lower rates.

### Melanoma of the Skin – All Ages

There were 1,699 invasive and 1,457 in situ cases of melanoma of the skin diagnosed among Idaho residents from 2009-2012. Late stage cases comprised 14.0% of invasive cases. Melanoma of the skin case counts by public health district and county are shown in Table 16. Table 17 shows counts of invasive melanoma of the skin cases among Idaho residents, age-adjusted rates of invasive melanoma of the skin incidence, 95% confidence intervals (CIs) for the rates, and rate ratios comparing the rates in the public health districts and counties to the state of Idaho. Public Health District 4 (Central) and Ada County had significantly higher rates of invasive melanoma of the skin incidence and Public Health District 6 (Southeastern) had a significantly lower rate.

### Oral Cavity & Pharynx Cancer – All Ages

There were 854 invasive and 26 in situ cases of oral cavity & pharynx cancer diagnosed among Idaho residents from 2009-2012. Late stage cases comprised 50.6% of invasive cases. Oral cavity & pharynx cancer case counts by public health district and county are shown in Table 18. Table 19 shows counts of invasive oral cavity & pharynx cancer cases among Idaho residents, age-adjusted rates of invasive oral cavity & pharynx cancer incidence, 95% confidence intervals (CIs) for the rates, and rate ratios comparing the rates in the public health districts and counties to the state of Idaho. Public Health Districts 1 and 5 (Panhandle and South Central) and Twin Falls County had significantly higher rates of invasive oral cavity & pharynx cancer incidence, and Public Health District 3 (Southwest) and Latah, Canyon, and Madison Counties had significantly lower rates.

## **DISCUSSION**

This report describes geographic patterns in cancer sites that are amenable to interventions including cancer screening, diet and physical activity modifications, avoidance of excessive UV light exposure, and tobacco cessation. Based on late stage incidence rates for cancer sites with effective population-based screening tests and effective treatment regimens (breast, cervix, and colon & rectum), there is some evidence of disparities by public health district or among the eleven most populous counties in Idaho. For smoking-related cancers (in particular, lung & bronchus), there are significant geographic differences within Idaho.

No public health district or county had a significantly higher late stage incidence rate for breast cancer among women ages 40 and older or cervix cancer among women ages 20 and older. Higher rates of cervix cancer incidence have previously been observed among residents of Canyon County,<sup>18</sup> the most populous county in Public Health District

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<sup>18</sup> <http://www.idcancer.org/special/CountyProfiles/CANYON.pdf>

3, and Hispanic women.<sup>19,20</sup> For colon & rectum cancer among Idahoans ages 50 and older, Twin Falls County had a higher rate of late stage incidence, and Public Health District 2 and Nez Perce County had lower rates of late stage incidence. No other geographic areas had late stage incidence rates significantly higher or lower than the state of Idaho for these screening-amenable cancer sites. A previous CDRI report found significant disparities in cancer incidence patterns in Idaho by race and ethnicity and area-based contextual variables.<sup>19</sup> The current report did not investigate race, ethnicity, or contextual differences.

Although there is little evidence in this report for geographic disparities *within* Idaho in late stage incidence for cancers amenable to screening, overall Idaho continues to have among the lowest rates of cancer screening among all states and the District of Columbia. In 2012, Idaho ranked lowest in the U.S. for Pap test screening, next to lowest for mammography utilization, and 38<sup>th</sup> for colorectal cancer screening. These statistics suggest that strategies are needed to improve cancer screening statewide.

Idaho ranks in the middle of states for overweight and obesity prevalence, with 65.0% of adults overweight or obese.<sup>21</sup> For cancer sites associated with obesity in this report (postmenopausal breast cancer, colon & rectum, endometrium, esophagus, and kidney & renal pelvis), there were not consistent geographic patterns. No public health districts or counties had significantly higher or lower rates of breast (late stage) or endometrium cancers. No geographic area had rates significantly higher or lower than the state of Idaho across more than one of the other obesity-associated sites. Other factors besides obesity impact the rates of these cancers and may make interpreting the geographic patterns difficult. In particular, trends in the use of hormone replacement therapy among women have impacted the incidence rates of hormone-dependent cancers.

Idaho ranks 15<sup>th</sup> lowest among states for tobacco use, with 17.2% of adults current smokers.<sup>22</sup> Nonetheless, lung cancer is the leading cause of cancer deaths in both men and women in Idaho. For cancer sites associated with tobacco use in this report (cervix, colon, esophagus, kidney & renal pelvis, lung & bronchus, oral cavity & pharynx), there were some consistent patterns. Public Health District 1 had significantly higher incidence rates than the state of Idaho for esophagus, lung & bronchus, and oral cavity

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<sup>19</sup> Johnson CJ, Carson SL. Cancer Disparities in Idaho, Phase I – Incidence: Understanding Disparities in Cancer Incidence Using Individual and Area-Based Measures. Boise, ID: Cancer Data Registry of Idaho; May 2007.

<sup>20</sup> <http://www.idcancer.org/annual%20reports/Cancer%20in%20Idaho%202010.pdf>

<sup>21</sup> Centers for Disease Control and Prevention, Behavioral Risk Factor Surveillance System, Overweight and Obesity (BMI), 2013. <http://apps.nccd.cdc.gov/brfss/list.asp?cat=OB&yr=2013&qkey=8261&state=All>

<sup>22</sup> Centers for Disease Control and Prevention, Behavioral Risk Factor Surveillance System, Tobacco Use, 2013. <http://apps.nccd.cdc.gov/brfss/list.asp?cat=TU&yr=2013&qkey=8161&state=All>

& pharynx cancers. Twin Falls County had significantly higher incidence rates for colon & rectum, lung & bronchus, and oral cavity & pharynx cancers. These patterns lend support for targeted, coordinated cancer prevention and control strategies.

HPV causes nearly all cervix cancers and 70-80% of oropharynx cancers (subset of oral cavity & pharynx). In 2013, Idaho had the twelfth lowest estimated HPV vaccination coverage (3+ doses) among states for adolescent females ages 13-17.<sup>23</sup> For cancer sites associated with HPV in this report (cervix, oral cavity & pharynx) there were not consistent geographic patterns.

Idaho regularly has among the highest melanoma mortality rates in the U.S. There was a lower rate of invasive melanoma incidence in Public Health District 6 (Southeastern) that was likely related to incomplete reporting from non-hospital sources. Incomplete reporting of melanoma cases to cancer registries by U.S. dermatologists results in underestimates of the true incidence.<sup>24</sup> CDRI is working with laboratories and dermatology offices in partnership with the Centers for Disease Control and Prevention to improve the reporting of melanoma cases statewide.

Cancer is multifactorial. Several of the cancer sites included in this report are related to more than one modifiable risk factor, and the incidence rates of some late stage cancers are also related to screening practices. In addition, the population-attributable fractions of certain risk factors are not well-established for all of the cancer sites studied. Nonetheless, there are geographic differences in incidence rates and patterns for many of the cancers studied. It is hoped that this report will aid in targeting specific geographic areas for cancer prevention and control activities.

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<sup>23</sup> National Immunization Survey-Teen, United States, 2013. <http://www.cdc.gov/vaccines/imz-managers/coverage/nis/teen/data/tables-2013.html>

<sup>24</sup> Melanoma reporting to central cancer registries by US dermatologists: an analysis of the persistent knowledge and practice gap. <http://www.ncbi.nlm.nih.gov/pubmed/22018061>

Table 2. Idaho resident female breast cancer cases, ages 40+, by public health district and county, and stage at diagnosis, 2009-2012.

| Geographic Area   | Cancer Stage at Diagnosis |           |          |         |          |
|-------------------|---------------------------|-----------|----------|---------|----------|
|                   | In situ                   | Localized | Regional | Distant | Unstaged |
| State of Idaho    | 822                       | 2,473     | 1,162    | 197     | 69       |
| District 1        | 129                       | 436       | 191      | 48      | 22       |
| Bonner County     | 32                        | 94        | 34       | 7       | 4        |
| Kootenai County   | 87                        | 279       | 126      | 32      | 15       |
| District 2        | 75                        | 194       | 92       | 12      | 4        |
| Latah County      | 21                        | 51        | 24       | 0       | 1        |
| Nez Perce County  | 36                        | 98        | 33       | 9       | 1        |
| District 3        | 146                       | 389       | 173      | 32      | 8        |
| Canyon County     | 95                        | 251       | 107      | 24      | 5        |
| District 4        | 276                       | 765       | 304      | 43      | 13       |
| Ada County        | 252                       | 699       | 280      | 39      | 12       |
| District 5        | 78                        | 288       | 159      | 30      | 9        |
| Twin Falls County | 35                        | 136       | 68       | 13      | 4        |
| District 6        | 49                        | 200       | 119      | 13      | 3        |
| Bannock County    | 22                        | 103       | 58       | 6       | 0        |
| Bingham County    | 12                        | 49        | 34       | 4       | 2        |
| District 7        | 69                        | 201       | 124      | 19      | 10       |
| Bonneville County | 34                        | 117       | 65       | 12      | 1        |
| Madison County    | 7                         | 13        | 17       | 1       | 4        |

Table 3. Late stage breast cancer statistics, Idaho resident females ages 40+, by public health district and county, 2009-2012.

| Geographic Area   | Late Stage (Regional + Distant) Statistics |          |          |       |            |
|-------------------|--|----------|----------|-------|------------|
|                   | Rate                                       | Lower CI | Upper CI | Cases | Rate Ratio |
| State of Idaho    | 93.0                                       | 88.0     | 98.2     | 1,359 | -          |
| District 1        | 98.2                                       | 85.7     | 111.9    | 239   | 1.06       |
| Bonner County     | 76.7                                       | 53.5     | 106.6    | 41    | 0.82       |
| Kootenai County   | 104.8                                      | 88.8     | 122.9    | 158   | 1.13       |
| District 2        | 88.3                                       | 71.8     | 107.6    | 104   | 0.95       |
| Latah County      | 75.7                                       | 48.0     | 114.0    | 24    | 0.81       |
| Nez Perce County  | 88.3                                       | 63.2     | 120.2    | 42    | 0.95       |
| District 3        | 88.4                                       | 76.5     | 101.6    | 205   | 0.95       |
| Canyon County     | 81.4                                       | 67.9     | 96.9     | 131   | 0.88       |
| District 4        | 87.9                                       | 78.7     | 97.8     | 347   | 0.95       |
| Ada County        | 90.2                                       | 80.4     | 100.8    | 319   | 0.97       |
| District 5        | 107.9                                      | 92.8     | 124.8    | 189   | 1.16       |
| Twin Falls County | 106.6                                      | 84.3     | 133.1    | 81    | 1.15       |
| District 6        | 91.4                                       | 76.1     | 108.8    | 132   | 0.98       |
| Bannock County    | 93.1                                       | 71.2     | 119.6    | 64    | 1.00       |
| Bingham County    | 100.4                                      | 70.7     | 138.4    | 38    | 1.08       |
| District 7        | 87.7                                       | 73.8     | 103.6    | 143   | 0.94       |
| Bonneville County | 85.4                                       | 67.2     | 107.1    | 77    | 0.92       |
| Madison County    | 107.4                                      | 63.3     | 170.7    | 18    | 1.16       |

\* The rate ratio indicates that the rate is significantly different than the rate for Idaho ( $p < 0.05$ ).

Table 4. Idaho resident cervical cancer cases, ages 20+, by public health district and county, and stage at diagnosis, 2009-2012.

| Geographic Area   | Cancer Stage at Diagnosis |           |          |         |          |
|-------------------|---------------------------|-----------|----------|---------|----------|
|                   | In situ                   | Localized | Regional | Distant | Unstaged |
| State of Idaho    | -                         | 90        | 67       | 29      | 5        |
| District 1        | -                         | 16        | 5        | 8       | 1        |
| Bonner County     | -                         | 4         | 2        | 1       | 0        |
| Kootenai County   | -                         | 10        | 3        | 7       | 1        |
| District 2        | -                         | 4         | 4        | 5       | 1        |
| Latah County      | -                         | 2         | 0        | 0       | 0        |
| Nez Perce County  | -                         | 2         | 3        | 3       | 1        |
| District 3        | -                         | 18        | 16       | 2       | 0        |
| Canyon County     | -                         | 13        | 8        | 2       | 0        |
| District 4        | -                         | 23        | 19       | 5       | 1        |
| Ada County        | -                         | 22        | 18       | 5       | 1        |
| District 5        | -                         | 14        | 13       | 1       | 1        |
| Twin Falls County | -                         | 5         | 8        | 0       | 1        |
| District 6        | -                         | 7         | 5        | 5       | 1        |
| Bannock County    | -                         | 4         | 4        | 2       | 0        |
| Bingham County    | -                         | 2         | 0        | 2       | 1        |
| District 7        | -                         | 8         | 5        | 3       | 0        |
| Bonneville County | -                         | 6         | 1        | 3       | 0        |
| Madison County    | -                         | 0         | 0        | 0       | 0        |

Table 5. Late stage cervical cancer statistics, Idaho resident females ages 20+, by public health district and county, 2009-2012.

| Geographic Area   | Late Stage (Regional + Distant) Statistics |          |          |       |            |
|-------------------|--|----------|----------|-------|------------|
|                   | Rate                                       | Lower CI | Upper CI | Cases | Rate Ratio |
| State of Idaho    | 4.2  | 3.4      | 5.1      | 96    | -          |
| District 1        | 3.2  | 1.6      | 5.6      | 13    | 0.76       |
| Bonner County     | 3.5  | 0.7      | 11.9     | 3     | 0.85       |
| Kootenai County   | 3.9  | 1.8      | 7.4      | 10    | 0.93       |
| District 2        | 6.5  | 2.8      | 12.4     | 9     | 1.54       |
| Latah County      | 0.0  | 0.0      | 8.2      | 0     | 0.00       |
| Nez Perce County  | 10.8                                       | 3.7      | 23.7     | 6     | 2.58       |
| District 3        | 5.4  | 3.2      | 8.6      | 18    | 1.29       |
| Canyon County     | 4.4  | 2.1      | 8.1      | 10    | 1.05       |
| District 4        | 3.9  | 2.5      | 5.8      | 24    | 0.92       |
| Ada County        | 4.1  | 2.6      | 6.2      | 23    | 0.98       |
| District 5        | 4.7  | 2.5      | 8.0      | 14    | 1.11       |
| Twin Falls County | 6.3  | 2.7      | 12.6     | 8     | 1.49       |
| District 6        | 3.9  | 1.8      | 7.3      | 10    | 0.93       |
| Bannock County    | 4.7  | 1.7      | 10.6     | 6     | 1.13       |
| Bingham County    | 3.2  | 0.4      | 11.8     | 2     | 0.77       |
| District 7        | 3.0  | 1.3      | 5.9      | 8     | 0.71       |
| Bonneville County | 2.7  | 0.7      | 7.1      | 4     | 0.65       |
| Madison County    | 0.0  | 0.0      | 12.9     | 0     | 0.00       |

\* The rate ratio indicates that the rate is significantly different than the rate for Idaho ( $p < 0.05$ ).

Table 6. Idaho resident colon & rectum cancer cases, ages 50+, by public health district and county, and stage at diagnosis, 2009-2012.

| Geographic Area   | Cancer Stage at Diagnosis |           |          |         |          |
|-------------------|---------------------------|-----------|----------|---------|----------|
|                   | In situ                   | Localized | Regional | Distant | Unstaged |
| State of Idaho    | 66                        | 827       | 756      | 474     | 151      |
| District 1        | 3                         | 139       | 144      | 88      | 31       |
| Bonner County     | 0                         | 29        | 35       | 18      | 10       |
| Kootenai County   | 3                         | 85        | 82       | 56      | 16       |
| District 2        | 8                         | 78        | 36       | 33      | 10       |
| Latah County      | 0                         | 21        | 7        | 8       | 1        |
| Nez Perce County  | 4                         | 31        | 15       | 12      | 5        |
| District 3        | 10                        | 129       | 108      | 81      | 21       |
| Canyon County     | 7                         | 93        | 66       | 58      | 12       |
| District 4        | 13                        | 202       | 176      | 120     | 32       |
| Ada County        | 11                        | 177       | 144      | 109     | 29       |
| District 5        | 2                         | 94        | 115      | 52      | 19       |
| Twin Falls County | 2                         | 47        | 62       | 26      | 9        |
| District 6        | 14                        | 93        | 88       | 58      | 22       |
| Bannock County    | 5                         | 38        | 43       | 23      | 12       |
| Bingham County    | 3                         | 31        | 17       | 18      | 4        |
| District 7        | 16                        | 92        | 89       | 42      | 16       |
| Bonneville County | 13                        | 47        | 54       | 24      | 7        |
| Madison County    | 1                         | 11        | 4        | 3       | 4        |

Table 7. Late stage colon & rectum cancer statistics, Idaho residents ages 50+, by public health district and county, 2009-2012.

| Geographic Area   | Late Stage (Regional + Distant) Statistics |          |          |       |            |
|-------------------|--|----------|----------|-------|------------|
|                   | Rate                                       | Lower CI | Upper CI | Cases | Rate Ratio |
| State of Idaho    | 66.5                                       | 62.8     | 70.4     | 1,230 | -          |
| District 1        | 74.6                                       | 65.2     | 85.0     | 232   | 1.12       |
| Bonner County     | 79.1                                       | 58.6     | 104.3    | 53    | 1.19       |
| Kootenai County   | 72.0                                       | 60.3     | 85.2     | 138   | 1.08       |
| District 2        | 46.1                                       | 35.8     | 58.4     | 69    | 0.69 *     |
| Latah County      | 43.5                                       | 24.2     | 71.9     | 15    | 0.65       |
| Nez Perce County  | 43.3                                       | 28.4     | 63.3     | 27    | 0.65 *     |
| District 3        | 65.1                                       | 56.0     | 75.2     | 189   | 0.98       |
| Canyon County     | 63.9                                       | 53.0     | 76.4     | 124   | 0.96       |
| District 4        | 64.0                                       | 56.7     | 71.9     | 296   | 0.96       |
| Ada County        | 61.4                                       | 53.9     | 69.7     | 253   | 0.92       |
| District 5        | 72.3                                       | 61.6     | 84.2     | 167   | 1.09       |
| Twin Falls County | 90.2                                       | 72.2     | 111.3    | 88    | 1.36 *     |
| District 6        | 75.6                                       | 63.7     | 89.0     | 146   | 1.14       |
| Bannock County    | 73.6                                       | 56.7     | 94.1     | 66    | 1.11       |
| Bingham County    | 70.6                                       | 48.9     | 98.6     | 35    | 1.06       |
| District 7        | 64.0                                       | 53.3     | 76.1     | 131   | 0.96       |
| Bonneville County | 71.5                                       | 56.3     | 89.5     | 78    | 1.07       |
| Madison County    | 37.3                                       | 14.8     | 76.8     | 7     | 0.56       |

\* The rate ratio indicates that the rate is significantly different than the rate for Idaho ( $p < 0.05$ ).

Table 8. Idaho resident endometrium cancer cases by public health district and county, and stage at diagnosis, 2009-2012.

| Geographic Area   | Cancer Stage at Diagnosis |           |          |         |          |
|-------------------|---------------------------|-----------|----------|---------|----------|
|                   | In situ                   | Localized | Regional | Distant | Unstaged |
| State of Idaho    | 6                         | 554       | 166      | 46      | 33       |
| District 1        | 2                         | 91        | 25       | 9       | 11       |
| Bonner County     | 0                         | 15        | 3        | 2       | 3        |
| Kootenai County   | 1                         | 65        | 19       | 5       | 8        |
| District 2        | 1                         | 37        | 18       | 3       | 3        |
| Latah County      | 0                         | 9         | 4        | 1       | 0        |
| Nez Perce County  | 1                         | 11        | 8        | 1       | 0        |
| District 3        | 1                         | 91        | 35       | 11      | 7        |
| Canyon County     | 1                         | 62        | 20       | 6       | 6        |
| District 4        | 0                         | 146       | 40       | 7       | 3        |
| Ada County        | 0                         | 129       | 35       | 6       | 3        |
| District 5        | 2                         | 68        | 25       | 7       | 2        |
| Twin Falls County | 2                         | 32        | 9        | 3       | 1        |
| District 6        | 0                         | 56        | 13       | 2       | 4        |
| Bannock County    | 0                         | 31        | 5        | 2       | 3        |
| Bingham County    | 0                         | 11        | 5        | 0       | 0        |
| District 7        | 0                         | 65        | 10       | 7       | 3        |
| Bonneville County | 0                         | 38        | 7        | 6       | 1        |
| Madison County    | 0                         | 12        | 0        | 0       | 2        |

Table 9. Invasive endometrium cancer statistics by public health district and county, Idaho 2009-2012.

| Geographic Area   | Invasive Incidence Statistics |          |          |       |            |
|-------------------|-------------------------------|----------|----------|-------|------------|
|                   | Rate                          | Lower CI | Upper CI | Cases | Rate Ratio |
| State of Idaho    | 22.5                          | 20.9     | 24.1     | 799   | -          |
| District 1        | 22.7                          | 18.9     | 27.0     | 136   | 1.01       |
| Bonner County     | 15.0                          | 9.5      | 23.8     | 23    | 0.67       |
| Kootenai County   | 26.9                          | 21.7     | 33.0     | 97    | 1.20       |
| District 2        | 22.1                          | 16.8     | 28.8     | 61    | 0.98       |
| Latah County      | 18.4                          | 9.9      | 31.6     | 14    | 0.82       |
| Nez Perce County  | 18.7                          | 11.3     | 29.6     | 20    | 0.83       |
| District 3        | 26.3                          | 22.1     | 31.0     | 144   | 1.17       |
| Canyon County     | 24.5                          | 19.8     | 30.1     | 94    | 1.09       |
| District 4        | 20.1                          | 17.3     | 23.2     | 196   | 0.89       |
| Ada County        | 19.9                          | 17.0     | 23.2     | 173   | 0.89       |
| District 5        | 24.3                          | 19.7     | 29.7     | 102   | 1.08       |
| Twin Falls County | 25.6                          | 18.5     | 34.6     | 45    | 1.14       |
| District 6        | 21.1                          | 16.5     | 26.6     | 75    | 0.94       |
| Bannock County    | 24.7                          | 17.6     | 33.6     | 41    | 1.10       |
| Bingham County    | 17.0                          | 9.6      | 27.9     | 16    | 0.76       |
| District 7        | 21.8                          | 17.3     | 27.0     | 85    | 0.97       |
| Bonneville County | 24.0                          | 17.8     | 31.6     | 52    | 1.07       |
| Madison County    | 33.8                          | 18.4     | 56.5     | 14    | 1.51       |

\* The rate ratio indicates that the rate is significantly different than the rate for Idaho ( $p < 0.05$ ).

Table 10. Idaho resident esophagus cancer cases by public health district and county, and stage at diagnosis, 2009-2012.

| Geographic Area   | Cancer Stage at Diagnosis |           |          |         |          |
|-------------------|---------------------------|-----------|----------|---------|----------|
|                   | In situ                   | Localized | Regional | Distant | Unstaged |
| State of Idaho    | 3                         | 57        | 78       | 114     | 53       |
| District 1        | 0                         | 16        | 15       | 20      | 14       |
| Bonner County     | 0                         | 4         | 4        | 4       | 5        |
| Kootenai County   | 0                         | 9         | 9        | 13      | 6        |
| District 2        | 0                         | 5         | 2        | 6       | 1        |
| Latah County      | 0                         | 2         | 0        | 1       | 0        |
| Nez Perce County  | 0                         | 2         | 1        | 3       | 1        |
| District 3        | 0                         | 6         | 12       | 29      | 5        |
| Canyon County     | 0                         | 3         | 10       | 21      | 2        |
| District 4        | 2                         | 16        | 16       | 25      | 12       |
| Ada County        | 2                         | 14        | 13       | 22      | 12       |
| District 5        | 0                         | 6         | 13       | 15      | 8        |
| Twin Falls County | 0                         | 3         | 5        | 7       | 4        |
| District 6        | 1                         | 4         | 8        | 6       | 5        |
| Bannock County    | 0                         | 1         | 3        | 3       | 2        |
| Bingham County    | 1                         | 2         | 4        | 3       | 1        |
| District 7        | 0                         | 4         | 12       | 13      | 8        |
| Bonneville County | 0                         | 3         | 6        | 7       | 4        |
| Madison County    | 0                         | 0         | 1        | 0       | 1        |

Table 11. Invasive esophagus cancer statistics by public health district and county, Idaho 2009-2012.

| Geographic Area   | Invasive Incidence Statistics |          |          |       |            |
|-------------------|-------------------------------|----------|----------|-------|------------|
|                   | Rate                          | Lower CI | Upper CI | Cases | Rate Ratio |
| State of Idaho    | 4.8                           | 4.3      | 5.4      | 302   | -          |
| District 1        | 7.6                           | 5.9      | 9.7      | 65    | 1.59 *     |
| Bonner County     | 10.4                          | 6.1      | 16.7     | 17    | 2.18 *     |
| Kootenai County   | 6.6                           | 4.7      | 9.1      | 37    | 1.38       |
| District 2        | 3.3                           | 1.8      | 5.6      | 14    | 0.69       |
| Latah County      | 2.0                           | 0.4      | 5.8      | 3     | 0.42       |
| Nez Perce County  | 4.4                           | 1.8      | 9.2      | 7     | 0.93       |
| District 3        | 5.1                           | 3.8      | 6.7      | 52    | 1.06       |
| Canyon County     | 4.7                           | 3.3      | 6.5      | 36    | 0.99       |
| District 4        | 3.9                           | 3.0      | 4.9      | 69    | 0.82       |
| Ada County        | 3.8                           | 2.9      | 4.9      | 61    | 0.80       |
| District 5        | 5.6                           | 4.1      | 7.6      | 42    | 1.18       |
| Twin Falls County | 6.1                           | 3.7      | 9.6      | 19    | 1.28       |
| District 6        | 3.4                           | 2.2      | 5.1      | 23    | 0.71       |
| Bannock County    | 2.7                           | 1.2      | 5.1      | 9     | 0.57       |
| Bingham County    | 5.5                           | 2.6      | 10.1     | 10    | 1.15       |
| District 7        | 4.5                           | 3.2      | 6.2      | 37    | 0.94       |
| Bonneville County | 4.8                           | 2.9      | 7.3      | 20    | 0.99       |
| Madison County    | 1.3                           | 0.2      | 4.8      | 2     | 0.28       |

\* The rate ratio indicates that the rate is significantly different than the rate for Idaho ( $p < 0.05$ ).

Table 12. Idaho resident kidney & renal pelvis cancer cases by public health district and county, and stage at diagnosis, 2009-2012.

| Geographic Area   | Cancer Stage at Diagnosis |           |          |         |          |
|-------------------|---------------------------|-----------|----------|---------|----------|
|                   | In situ                   | Localized | Regional | Distant | Unstaged |
| State of Idaho    | 19                        | 657       | 141      | 140     | 52       |
| District 1        | 5                         | 103       | 14       | 27      | 13       |
| Bonner County     | 2                         | 17        | 4        | 4       | 3        |
| Kootenai County   | 3                         | 70        | 9        | 20      | 6        |
| District 2        | 0                         | 47        | 14       | 16      | 4        |
| Latah County      | 0                         | 11        | 6        | 3       | 0        |
| Nez Perce County  | 0                         | 21        | 4        | 10      | 2        |
| District 3        | 3                         | 146       | 30       | 18      | 7        |
| Canyon County     | 2                         | 114       | 16       | 13      | 6        |
| District 4        | 7                         | 199       | 36       | 37      | 9        |
| Ada County        | 5                         | 174       | 31       | 29      | 8        |
| District 5        | 4                         | 62        | 14       | 18      | 5        |
| Twin Falls County | 1                         | 27        | 8        | 10      | 2        |
| District 6        | 0                         | 47        | 16       | 13      | 7        |
| Bannock County    | 0                         | 18        | 5        | 5       | 4        |
| Bingham County    | 0                         | 12        | 8        | 2       | 2        |
| District 7        | 0                         | 53        | 17       | 11      | 7        |
| Bonneville County | 0                         | 30        | 12       | 8       | 6        |
| Madison County    | 0                         | 6         | 1        | 1       | 0        |

Table 13. Invasive kidney & renal pelvis cancer statistics by public health district and county, Idaho 2009-2012.

| Geographic Area   | Invasive Incidence Statistics |          |          |       |            |
|-------------------|-------------------------------|----------|----------|-------|------------|
|                   | Rate                          | Lower CI | Upper CI | Cases | Rate Ratio |
| State of Idaho    | 15.7                          | 14.7     | 16.7     | 990   | -          |
| District 1        | 18.4                          | 15.6     | 21.5     | 157   | 1.17       |
| Bonner County     | 17.2                          | 11.4     | 24.8     | 28    | 1.09       |
| Kootenai County   | 18.8                          | 15.3     | 22.7     | 105   | 1.19       |
| District 2        | 19.2                          | 15.2     | 23.8     | 81    | 1.22       |
| Latah County      | 13.3                          | 8.1      | 20.6     | 20    | 0.85       |
| Nez Perce County  | 23.5                          | 16.6     | 32.4     | 37    | 1.50 *     |
| District 3        | 19.7                          | 17.0     | 22.6     | 201   | 1.25 *     |
| Canyon County     | 19.6                          | 16.5     | 23.0     | 149   | 1.25 *     |
| District 4        | 15.9                          | 14.1     | 17.9     | 281   | 1.01       |
| Ada County        | 15.2                          | 13.3     | 17.2     | 242   | 0.97       |
| District 5        | 13.3                          | 10.8     | 16.2     | 99    | 0.85       |
| Twin Falls County | 15.1                          | 11.1     | 20.1     | 47    | 0.96       |
| District 6        | 12.3                          | 9.8      | 15.2     | 83    | 0.78 *     |
| Bannock County    | 9.6                           | 6.6      | 13.6     | 32    | 0.61 *     |
| Bingham County    | 13.2                          | 8.4      | 19.6     | 24    | 0.84       |
| District 7        | 10.7                          | 8.6      | 13.2     | 88    | 0.68 *     |
| Bonneville County | 13.3                          | 10.1     | 17.3     | 56    | 0.85       |
| Madison County    | 5.3                           | 2.3      | 10.5     | 8     | 0.34 *     |

\* The rate ratio indicates that the rate is significantly different than the rate for Idaho ( $p < 0.05$ ).

Table 14. Idaho resident lung & bronchus cancer cases by public health district and county, and stage at diagnosis, 2009-2012.

| Geographic Area   | Cancer Stage at Diagnosis |           |          |         |          |
|-------------------|---------------------------|-----------|----------|---------|----------|
|                   | In situ                   | Localized | Regional | Distant | Unstaged |
| State of Idaho    | 3                         | 602       | 688      | 1,840   | 241      |
| District 1        | 0                         | 109       | 129      | 374     | 38       |
| Bonner County     | 0                         | 21        | 20       | 72      | 12       |
| Kootenai County   | 0                         | 66        | 77       | 210     | 20       |
| District 2        | 1                         | 67        | 61       | 179     | 21       |
| Latah County      | 0                         | 12        | 12       | 35      | 6        |
| Nez Perce County  | 1                         | 35        | 36       | 84      | 5        |
| District 3        | 1                         | 122       | 146      | 313     | 54       |
| Canyon County     | 1                         | 77        | 89       | 199     | 35       |
| District 4        | 1                         | 185       | 185      | 470     | 35       |
| Ada County        | 1                         | 165       | 161      | 401     | 32       |
| District 5        | 0                         | 61        | 79       | 217     | 36       |
| Twin Falls County | 0                         | 33        | 41       | 110     | 15       |
| District 6        | 0                         | 30        | 43       | 136     | 34       |
| Bannock County    | 0                         | 17        | 19       | 71      | 15       |
| Bingham County    | 0                         | 6         | 19       | 34      | 10       |
| District 7        | 0                         | 28        | 45       | 151     | 23       |
| Bonneville County | 0                         | 15        | 27       | 81      | 11       |
| Madison County    | 0                         | 1         | 1        | 6       | 0        |

Table 15. Invasive lung & bronchus cancer statistics by public health district and county, Idaho 2009-2012.

| Geographic Area   | Invasive Incidence Statistics |          |          |       |            |
|-------------------|-------------------------------|----------|----------|-------|------------|
|                   | Rate                          | Lower CI | Upper CI | Cases | Rate Ratio |
| State of Idaho    | 53.5                          | 51.7     | 55.3     | 3,371 | -          |
| District 1        | 76.1                          | 70.4     | 82.2     | 650   | 1.42 *     |
| Bonner County     | 76.7                          | 63.8     | 91.4     | 125   | 1.43 *     |
| Kootenai County   | 66.6                          | 60.1     | 73.8     | 373   | 1.25 *     |
| District 2        | 77.6                          | 69.4     | 86.5     | 328   | 1.45 *     |
| Latah County      | 43.3                          | 33.4     | 55.2     | 65    | 0.81       |
| Nez Perce County  | 101.7                         | 86.5     | 118.7    | 160   | 1.90 *     |
| District 3        | 62.2                          | 57.4     | 67.2     | 635   | 1.16 *     |
| Canyon County     | 52.5                          | 47.5     | 57.9     | 400   | 0.98       |
| District 4        | 49.6                          | 46.3     | 53.0     | 875   | 0.93 *     |
| Ada County        | 47.7                          | 44.3     | 51.2     | 759   | 0.89 *     |
| District 5        | 52.8                          | 47.8     | 58.3     | 393   | 0.99       |
| Twin Falls County | 64.1                          | 55.5     | 73.7     | 199   | 1.20 *     |
| District 6        | 35.9                          | 31.6     | 40.7     | 243   | 0.67 *     |
| Bannock County    | 36.7                          | 30.5     | 43.8     | 122   | 0.69 *     |
| Bingham County    | 37.9                          | 29.5     | 47.9     | 69    | 0.71 *     |
| District 7        | 30.1                          | 26.4     | 34.1     | 247   | 0.56 *     |
| Bonneville County | 31.9                          | 26.7     | 37.8     | 134   | 0.60 *     |
| Madison County    | 5.3                           | 2.3      | 10.5     | 8     | 0.10 *     |

\* The rate ratio indicates that the rate is significantly different than the rate for Idaho (p<0.05).

Table 16. Idaho resident melanoma of the skin cases by public health district and county, and stage at diagnosis, 2009-2012.

| Geographic Area   | Cancer Stage at Diagnosis |           |          |         |          |
|-------------------|---------------------------|-----------|----------|---------|----------|
|                   | In situ                   | Localized | Regional | Distant | Unstaged |
| State of Idaho    | 1,457                     | 1,362     | 150      | 88      | 99       |
| District 1        | 339                       | 219       | 19       | 14      | 9        |
| Bonner County     | 63                        | 44        | 5        | 3       | 1        |
| Kootenai County   | 245                       | 153       | 11       | 9       | 6        |
| District 2        | 60                        | 98        | 12       | 3       | 11       |
| Latah County      | 23                        | 26        | 5        | 0       | 4        |
| Nez Perce County  | 25                        | 52        | 4        | 1       | 5        |
| District 3        | 174                       | 208       | 21       | 20      | 19       |
| Canyon County     | 132                       | 142       | 14       | 12      | 11       |
| District 4        | 427                       | 419       | 39       | 28      | 24       |
| Ada County        | 396                       | 379       | 35       | 24      | 24       |
| District 5        | 111                       | 150       | 26       | 11      | 7        |
| Twin Falls County | 34                        | 71        | 9        | 5       | 3        |
| District 6        | 114                       | 98        | 18       | 6       | 17       |
| Bannock County    | 72                        | 48        | 8        | 3       | 8        |
| Bingham County    | 25                        | 20        | 3        | 3       | 4        |
| District 7        | 231                       | 170       | 15       | 6       | 12       |
| Bonneville County | 148                       | 93        | 7        | 3       | 7        |
| Madison County    | 23                        | 18        | 0        | 0       | 2        |

Table 17. Invasive melanoma of the skin statistics by public health district and county, Idaho 2009-2012.

| Geographic Area   | Invasive Incidence Statistics |          |          |       |            |
|-------------------|-------------------------------|----------|----------|-------|------------|
|                   | Rate                          | Lower CI | Upper CI | Cases | Rate Ratio |
| State of Idaho    | 26.2                          | 25.0     | 27.5     | 1,699 | -          |
| District 1        | 24.7                          | 21.7     | 28.0     | 261   | 0.94       |
| Bonner County     | 23.2                          | 17.0     | 31.2     | 53    | 0.89       |
| Kootenai County   | 27.4                          | 23.4     | 31.9     | 179   | 1.04       |
| District 2        | 23.9                          | 19.8     | 28.7     | 124   | 0.91       |
| Latah County      | 25.1                          | 17.3     | 35.3     | 35    | 0.96       |
| Nez Perce County  | 29.2                          | 22.2     | 37.9     | 62    | 1.12       |
| District 3        | 26.5                          | 23.4     | 30.0     | 268   | 1.01       |
| Canyon County     | 26.1                          | 22.4     | 30.3     | 179   | 1.00       |
| District 4        | 29.1                          | 26.6     | 31.8     | 510   | 1.11 *     |
| Ada County        | 29.5                          | 26.8     | 32.4     | 462   | 1.13 *     |
| District 5        | 24.9                          | 21.5     | 28.7     | 194   | 0.95       |
| Twin Falls County | 27.0                          | 21.5     | 33.4     | 88    | 1.03       |
| District 6        | 21.4                          | 18.0     | 25.4     | 139   | 0.82 *     |
| Bannock County    | 21.5                          | 16.6     | 27.5     | 67    | 0.82       |
| Bingham County    | 18.9                          | 12.6     | 27.0     | 30    | 0.72       |
| District 7        | 27.5                          | 23.8     | 31.6     | 203   | 1.05       |
| Bonneville County | 27.9                          | 22.9     | 33.8     | 110   | 1.07       |
| Madison County    | 22.7                          | 13.2     | 36.0     | 20    | 0.87       |

\* The rate ratio indicates that the rate is significantly different than the rate for Idaho ( $p < 0.05$ ).

Table 18. Idaho resident oral cavity & pharynx cancer cases by public health district and county, and stage at diagnosis, 2009-2012.

| Geographic Area   | Cancer Stage at Diagnosis |           |          |         |          |
|-------------------|---------------------------|-----------|----------|---------|----------|
|                   | In situ                   | Localized | Regional | Distant | Unstaged |
| State of Idaho    | 26                        | 355       | 320      | 112     | 67       |
| District 1        | 2                         | 45        | 67       | 21      | 11       |
| Bonner County     | 1                         | 10        | 15       | 4       | 2        |
| Kootenai County   | 1                         | 31        | 44       | 10      | 7        |
| District 2        | 3                         | 14        | 26       | 11      | 4        |
| Latah County      | 0                         | 2         | 5        | 2       | 1        |
| Nez Perce County  | 2                         | 6         | 13       | 6       | 3        |
| District 3        | 2                         | 44        | 44       | 15      | 9        |
| Canyon County     | 2                         | 35        | 31       | 9       | 5        |
| District 4        | 8                         | 91        | 105      | 21      | 15       |
| Ada County        | 7                         | 85        | 92       | 18      | 14       |
| District 5        | 5                         | 81        | 33       | 20      | 6        |
| Twin Falls County | 3                         | 39        | 20       | 12      | 2        |
| District 6        | 2                         | 38        | 17       | 12      | 7        |
| Bannock County    | 1                         | 13        | 9        | 8       | 2        |
| Bingham County    | 1                         | 13        | 4        | 1       | 5        |
| District 7        | 4                         | 42        | 28       | 12      | 15       |
| Bonneville County | 2                         | 16        | 15       | 8       | 8        |
| Madison County    | 2                         | 7         | 0        | 0       | 1        |

Table 19. Invasive oral cavity & pharynx cancer statistics by public health district and county, Idaho 2009-2012.

| Geographic Area   | Invasive Incidence Statistics |          |          |       |            |
|-------------------|-------------------------------|----------|----------|-------|------------|
|                   | Rate                          | Lower CI | Upper CI | Cases | Rate Ratio |
| State of Idaho    | 13.5                          | 12.7     | 14.5     | 854   | -          |
| District 1        | 16.9                          | 14.2     | 19.9     | 144   | 1.24 *     |
| Bonner County     | 19.0                          | 12.9     | 27.0     | 31    | 1.40       |
| Kootenai County   | 16.4                          | 13.3     | 20.2     | 92    | 1.21       |
| District 2        | 13.0                          | 9.8      | 16.9     | 55    | 0.96       |
| Latah County      | 6.7                           | 3.2      | 12.3     | 10    | 0.49 *     |
| Nez Perce County  | 17.8                          | 11.8     | 25.7     | 28    | 1.31       |
| District 3        | 11.0                          | 9.0      | 13.2     | 112   | 0.81 *     |
| Canyon County     | 10.5                          | 8.3      | 13.1     | 80    | 0.78 *     |
| District 4        | 13.1                          | 11.5     | 14.9     | 232   | 0.97       |
| Ada County        | 13.1                          | 11.4     | 15.0     | 209   | 0.97       |
| District 5        | 18.8                          | 15.8     | 22.2     | 140   | 1.39 *     |
| Twin Falls County | 23.5                          | 18.4     | 29.6     | 73    | 1.74 *     |
| District 6        | 10.9                          | 8.6      | 13.7     | 74    | 0.81       |
| Bannock County    | 9.6                           | 6.6      | 13.6     | 32    | 0.71       |
| Bingham County    | 12.6                          | 8.0      | 18.9     | 23    | 0.93       |
| District 7        | 11.8                          | 9.6      | 14.4     | 97    | 0.87       |
| Bonneville County | 11.2                          | 8.2      | 14.9     | 47    | 0.83       |
| Madison County    | 5.3                           | 2.3      | 10.5     | 8     | 0.39 *     |

\* The rate ratio indicates that the rate is significantly different than the rate for Idaho ( $p < 0.05$ ).