



## Mammography Among Utah Women

### Setting the Stage

Breast cancer is one of the most commonly occurring cancers among U.S. women and the primary cause of cancer death among women in Utah.<sup>1</sup> Yet, research has found that deaths from breast cancer can be substantially reduced if the tumor is discovered early, and mammography screening is the most effective method for the early detection. However, despite the advantages of mammography screening for reducing mortality, not all women receive screening according to recommended guidelines, and screening rates remain low among certain subpopulations of women.<sup>2</sup> This is also true in Utah; in fact, a recent study showed Utah to be among the five lowest states in the nation for mammography screening rates,<sup>3</sup> and in 2014, only 64.5% of Utah women aged 40 and older had received a mammogram within the two previous years, compared with 72.3% of U.S. women.<sup>4</sup> Because of the discrepancy, local organizations are working to increase mammography rates among Utah women.

This research snapshot focuses on three key areas:

- 1) An overview of breast cancer and mammography rates for women in Utah, including various demographic factors,
- 2) An analysis of some of the issues contributing to lower breast cancer screening rates in Utah, and
- 3) A discussion of current efforts being made in the state to improve the prevalence of mammography, with links to relevant resources.

### Mammography by the Numbers

Although the state incidence rate for female breast cancer in 2013 was below the national average (111.0 vs. 123.7 per 100,000),<sup>5</sup> Utah's relatively low level of early screening remains a concern. The current recommendation made by the U.S. Preventive Services Task Force in 2016 calls for the use of screening mammography for breast cancer every two years in women aged 50–74 years, with additional guidance for certain women (those aged 40–49 years who have a higher potential benefit from early screening) to choose biennial screening.<sup>6</sup>

The Office of Disease Prevention and Health Promotion Healthy People 2020 initiative aims to increase the proportion of women who receive breast cancer screening based on the most recent guidelines. The targets for the U.S. and individual states are 81.1% and 76%, respectively.<sup>7</sup> As of 2010, five Mountain West states were well below these target rankings for mammography, where screening rates were at 64% in Idaho, and 67% in Utah, Nevada, Wyoming, and Montana.<sup>8</sup>

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Since 1994, the percentage of Utah women aged 40 or older who reported receiving a mammogram has been below the U.S. rate. One report noted that Utahns' adherence to mammography screening recommendations varies according to various factors, including age, race, income, level of education, and location of residence.<sup>9</sup> The Utah Department of Health's Public Health Indicator Based Information System (IBIS) provides the following statistics on breast cancer screening rates among subgroups of women for 2014 (all data are for women aged 40 and older unless specified):

**Age:** Utah women 40–49 years of age were significantly less likely to have received a mammogram within the past two years (52.7%) than older women (71.7% among women 50–64 and 71.4% among women 65 and over).<sup>10</sup>

**Race:** From 2012–2014 the racial group of Utah women most likely to receive mammograms was Asian (74.3%), followed by Black (70.4%), Pacific Islander (69.2%), White (66.4%), and American Indian/Native Alaskan (53.7%).<sup>11</sup>

**Income:** Women in households with an annual income of less than \$25,000 were significantly less likely to have had a mammogram within the past two years (52.3%) compared to those in households earning \$50,000–\$75,000 (66.7%) or for incomes of \$75,000 or more (71.5%).

**Education:** In the category of the highest level of education completed, college graduates were significantly more likely to have had a mammogram (69.4%) than

women with a high school degree or less (high school graduate, 63.4%; below high school, 54.6%).<sup>12</sup>

*Location:* Mammography rates vary by geographical location. For the combined years of 2013–2014, Summit County Local Health District reported the highest screening rates (75.7%), and the Tri-County District was the lowest (52.5%).<sup>13</sup> When considering more specific locales within Utah, the prevalence of mammograms for the combined years of 2012–2014 ranged from a high of 78.4% in Riverdale to a low of 39.1% in the Grand/San Juan county area.<sup>14</sup>

## Factors Contributing to Nonadherence

Numerous factors come into play regarding whether or not women are likely to follow recommended guidelines for mammography, including disagreements among varying agencies about the guidelines themselves, as well as educational, financial, and other concerns. Recommendations for breast cancer screening rely on a combination of factors, including evidence about the risk of the condition, the benefits and harms of screening, and the cost of care.<sup>15</sup> Screening guidelines have changed over time and depend upon the recommending organization. As mentioned previously, the U.S. Preventive Services Task Force recommends screening every two years starting at age 50, with additional guidelines for those aged 40–49 years. The American Cancer Society, on the other hand, recommends that women with an average risk of breast cancer should undergo regular screening mammography starting at age 45 (annually until age 54, and biannually thereafter).<sup>16</sup>

Utah women aged 40–49 years were more likely to be non-adherent to mammography screening guidelines than women aged 50–74 years.<sup>17</sup> The discrepancy may be explained, in part, by conflicting breast cancer screening guidelines. For example, a recent study found that providers face competing influences on screening recommendations for younger patients (those aged 40–49), including institutional policy, national guidelines, and patient preference, some of which may be at odds with physicians' beliefs.<sup>18</sup> Additionally, the incidence of breast cancer is low in women under 40, and there are no randomized trials of breast cancer screening at that age.<sup>19</sup> Hence, younger women may not feel the urgency to seek regular screenings.

Other significant factors are likely to decrease mammography rates in women of all ages. One study of Utah women found that income and education were inversely associated with mammography screening adherence.<sup>20</sup> Low rates of screening among Utah women with less than a high school education could be due, in part, to lower literacy rates; literacy levels affect communication between physician and patient and can inhibit the understanding of cancer screening concepts provided in informational ma-

terials.<sup>21</sup> Women without a regular physician or without health insurance coverage also had larger proportions of nonadherence.<sup>22</sup> In 2014, IBIS found that 14.3% of Utah adults aged 18 years and older reported they were unable to receive needed health care in the previous year because of cost. Moreover, those without health insurance had a higher rate of reporting cost as a barrier to healthcare than the insured.<sup>23</sup>

Finally, family size and make-up also influence the likelihood of women receiving mammograms. A recent study reported that single women are less likely to be in compliance with recommendations, as are women with children in the home (children at home are associated with up to a three-fold increase in non-adherence when combined with other factors). Women who had three or more children at home showed the highest level of non-compliance,<sup>24</sup> which is significant because Utah has a larger family size and higher birth rate than the rest of the nation.<sup>25</sup> This larger family size may contribute to women feeling they do not have time to seek out mammograms, and indeed women often cited “lack of time” as a significant factor in their failure to get a mammogram (18% of women gave this reason, second only to “cost/not covered by insurance,” given by 20% of the women surveyed).<sup>26</sup>

## Efforts to Address Mammography in Utah

The Utah Cancer Action Network (UCAN) has identified a number of strategies to help meet the Utah 2020 target for breast cancer screenings:

- Encourage the public to receive recommended cancer screenings by providing education using evidence-based communication methods,
- Decrease the structural and financial barriers to cancer screenings,
- Increase the number of patients who receive recommended cancer screenings in health care settings through evidence-based strategies and policy change, and
- Encourage employers to implement policies that increase recommended cancer screenings among employees.

UCAN has also recommended adaptations within health-care organizations (e.g., establishing screening reminder systems for providers and patients) and in the workplace (e.g., providing incentives for employees to be screened, including paid time off, monetary rewards, or credit for workplace wellness programs).

Access to healthcare through insurance coverage is a primary point of intervention for increasing mammography screening. Working to expand insurance coverage for all women may be a critical step toward increasing mammography screening in Utah.<sup>27</sup> Also crucial is helping

women secure a primary physician, particularly among the insured. Efforts could also be made to communicate vital information more effectively to lower-educated, low-income women so that they can make better-informed health decisions. Finally, policies could support women with competing time demands, which is a persistent challenge for those with young children who may also work outside the home and have difficult schedules.<sup>28</sup>

The Utah Cancer Control Program (UCCP) in the state's Department of Health has already implemented certain procedures to address some of the most critical needs. This program provides free breast cancer screening and diagnostics to uninsured or under-insured women 40–64 years old at or below the 250% federal poverty level. Women in need of cancer treatment are enrolled into Medicaid as per the Breast and Cervical Cancer Treatment Act. All concerned parties can work to ensure women who qualify for these benefits are informed and able to access them. In addition to providing care to under-served women, the UCCP works with healthcare systems to implement evidence-based practices to improve cancer screening rates.<sup>29</sup> These and other efforts by various stakeholders will be key to improving mammography rates among all Utah women.

## Conclusion

Although mammography is widely recognized as an important tool in the fight against breast cancer, Utah remains one of the lowest-ranking states for mammography screening. Education and advocacy from community groups can help all Utah women receive this valuable test at higher rates. Improved access to mammography and other key healthcare resources will strengthen the positive impact of women in communities and the state as a whole. The following organizations have additional resources on this topic:

- [Huntsman Cancer Institute](#)
- [Utah Cancer Action Network](#)
- [Utah Cancer Control Program](#)

<sup>1</sup> Public Health Indicator Based Information System (IBIS). (n.d.-a). Complete health indicator report of breast cancer screening (Mammography). Retrieved from

[https://ibis.health.utah.gov/indicator/complete\\_profile/BreCAMam.html](https://ibis.health.utah.gov/indicator/complete_profile/BreCAMam.html)

<sup>2</sup> Hendrick, R. E., & Helvie, M. A. (2011). United States preventive services task force screening mammography recommendations: Science ignored. *American Journal of Roentgenology*, 196, W112–W116. Retrieved from [Mammography Recommendations](#)

<sup>3</sup> Henry, K. A., McDonald, K., Sherman, R., Kinney, A. Y., & Stroup, A. M. (2014). Association between individual and geographic factors and nonadherence to mammography screening guidelines. *Journal of Women's Health*, 23(8), 664–674. doi:10.1089/jwh.2013.4668

<sup>4</sup> IBIS. (n.d.-a)

<sup>5</sup> U.S. Cancer Statistics Working Group. (2016). *United States Cancer Statistics: 1999–2013 Incidence and Mortality Web-based Report*. Atlanta: U.S. Department of Health and Human Services, Centers for

Disease Control and Prevention and National Cancer Institute. Available at: [www.cdc.gov/uscs](http://www.cdc.gov/uscs).

<sup>6</sup> U.S. Preventive Services Task Force. (2016). Breast cancer: Screening. Retrieved from <https://www.uspreventiveservicestaskforce.org/Page/Document/UpdateSummaryFinal/breast-cancer-screening1?ds=1&s=breastcancer>

<sup>7</sup> Office of Disease Prevention and Health Promotion. (n.d.). 2020 topics and objectives: Cancer. Retrieved from <https://www.healthypeople.gov/2020/topics-objectives/topic/cancer/objectives>

<sup>8</sup> Henry, K. A. et al. (2014).

<sup>9</sup> Henry, K. A. et al. (2014).

<sup>10</sup> IBIS. (n.d.-a).

<sup>11</sup> IBIS. (n.d.-a).

<sup>12</sup> IBIS. (n.d.-a).

<sup>13</sup> IBIS. (n.d.-a).

<sup>14</sup> IBIS. (n.d.-a).

<sup>15</sup> Elmore, J. G., Aronson, M. D., & Sathna, R.V. (2016, August). Screening for breast cancer: Strategies and recommendations. Retrieved from [https://www.uptodate.com/contents/screening-for-breast-cancer-strategies-and-recommendations?source=search\\_result&search=breast%20cancer%20screening&selectedTitle=1~104](https://www.uptodate.com/contents/screening-for-breast-cancer-strategies-and-recommendations?source=search_result&search=breast%20cancer%20screening&selectedTitle=1~104)

<sup>16</sup> Oeffinger, K. C., Fontham, E. T. H., Etzioni, R. et al. (2015). Breast cancer screening for women at average risk: 2015 guideline update from the American Cancer Society. *JAMA*, 314(15), 1599–1614. Retrieved from

<http://jamanetwork.com/journals/jama/fullarticle/2463262?resultClick=1>

<sup>17</sup> Henry, K. A. et al. (2014).

<sup>18</sup> Martinez, K. A., Deshpande, A., Ruff, A. L., Bolen, S. D., Teng, K., & Rothberg, M. B. (2017). Factors associated with routine recommendation of mammography for women aged 40–49: Provider characteristics and screening influences. *Southern Medical Journal*, 110(2), 129–135.

<sup>19</sup> Elmore, J. G., Aronson, M. D., & Sathna, R. V. (2016, August).

<sup>20</sup> Henry, K. A. et al. (2014).

<sup>21</sup> Henry, K. A. et al. (2014).

<sup>22</sup> Henry, K. A. et al. (2014).

<sup>23</sup> Public Health Indicator Based Information System (IBIS). (n.d.-b). Complete health indicator report of cost as a barrier to health care. Retrieved from

[https://ibis.health.utah.gov/indicator/complete\\_profile/CosBarHtlhCar.html](https://ibis.health.utah.gov/indicator/complete_profile/CosBarHtlhCar.html)

<sup>24</sup> Henry, K. A. et al. (2014).

<sup>25</sup> Davidson, L. (2013, September 19). Census snapshot: Utahns again a 'peculiar people.' *Salt Lake Tribune*. Retrieved from <http://archive.sltrib.com/story.php?ref=/sltrib/politics/56888040-90/average-utah-percent-national.html.csp>

<sup>26</sup> Henry, K. A. et al. (2014).

<sup>27</sup> Henry, K. A. et al. (2014).

<sup>28</sup> Henry, K. A. et al. (2014).

<sup>29</sup> IBIS. (n.d.-a).

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