

# Chapter 8: Cancer Screening

## Pap Smears, Mammograms, and Colorectal Screening

### Introduction

Checking for cancer (or for conditions that may lead to cancer) in people who have no symptoms is called screening.<sup>1</sup> Screening can help doctors find and treat some types of cancer early. Generally, cancer treatment is more effective when the disease is found early.<sup>1</sup>

This chapter will explore the prevalence of cancer screening in Maine, particularly Pap tests, mammograms, and colorectal screenings. Data from Maine’s Behavioral Risk Factor Surveillance Survey (BRFSS)<sup>2</sup> were used to examine various health measures in these areas.

### Mammograms

In 2007 breast cancer was the most commonly diagnosed cancer among women in the U.S.<sup>3</sup> Mammograms take an x-ray of the breast, which is used to check for signs of breast cancer. Studies have shown that mammography screening reduces breast cancer mortality among women.<sup>3,4</sup> The recommendation for regular screening varies for women by age group. The U.S. Preventive Services Task Force (USPSTF) December 2009 recommendations state that women between the ages of 50 and 74 should have mammograms every 2 years.<sup>5</sup> Studies have shown that this recommendation results in a 16.5% median reduction in breast cancer deaths versus those who are not screened.<sup>6</sup> For women aged 40-49, the USPSTF does not recommend routine mammograms, but instead suggests that the decision for screening in this age group be on an individual basis.<sup>5</sup> Compared to the 50-69 age group, beginning screening at 40 years reduced mortality by 3%.<sup>6</sup>

The percentage of Maine women aged 40 or older who had mammograms within the past 2 years was over 80% in 2006 and 2008. For those same years, the percentage of Maine women who had mammograms was higher than U.S. women (Table 8.1).<sup>2</sup>

Table 8.1. Prevalence of mammogram testing in females aged 40+ years in past 2 years, Maine and U.S., 2006 and 2008.

Year	Maine		US
	%	(95% CI)	Median % *
2006	81.8	(79.8 - 83.8)	76.5
2008	83.3	(81.8 - 84.8)	76.0

Source: BRFSS<sup>2</sup> \*Based on 51 states

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### Age

Maine women under age 45 were less likely to have mammograms than the other age groups (Table 8.2). Over 80% of women aged 45 years and older reported having a mammogram in the past two years.<sup>2</sup>

Table 8.2. Prevalence of mammogram testing in females aged 40+ years in past two years by age, Maine, 2006 and 2008.

Age	Maine Females	
	%	(95% CI)
40-44	73.1	(68.9 - 77.3)
45-54	85.0	(82.9 - 87.1)
55-64	83.1	(81.0 - 85.6)
65-74	88.4	(86.0 - 90.7)
75+	80.8	(77.7 - 83.8)

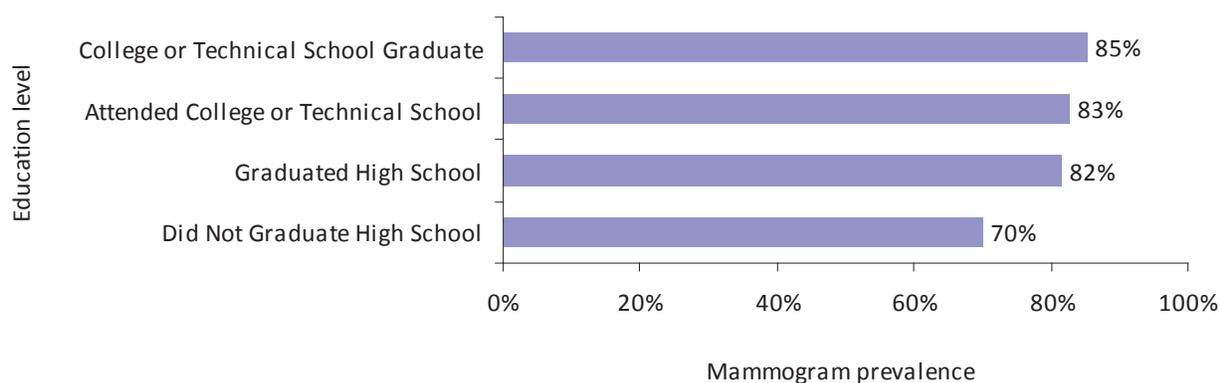
Source: BRFSS<sup>2</sup>

### Education Level

Maine women who did not graduate from high school were significantly less likely than those with at least a high school degree to have had a mammogram in the previous two years. Only 70% of women aged 40+ who did not graduate from high school had a mammogram in the past two years, compared to over 80% of those with a high school degree (Figure 8.1).<sup>2</sup>

Figure 8.1.

Prevalence of mammogram testing in past 2 years by education, females 40+ years, Maine, 2006 and 2008



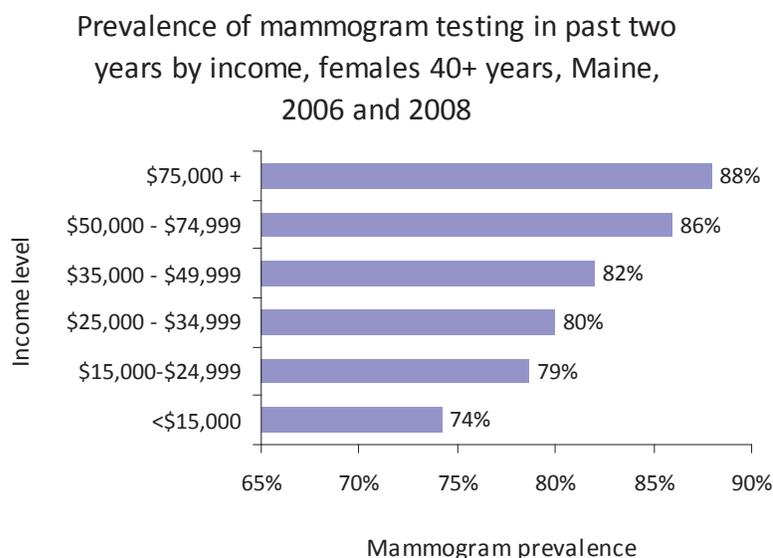
Source: BRFSS<sup>2</sup>

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### Income

The percentage of Maine women aged 40+ who had a mammogram in the past two years increased with annual household income (Figure 8.2). Women over age 40 with a household income of less than \$15,000 were significantly less likely than women in other income groups to have had a recent mammogram.<sup>2</sup>

Figure 8.2.



Source: BRFSS<sup>2</sup>

### Public Health District

The proportion of women over age 40 who reported having a mammogram in the past two years did not vary substantially by public health district. However, Cumberland district's prevalence of 84.7% was statistically higher than the prevalence in the Downeast district (76.6%), the district with the lowest mammography rate. Other differences were not statistically significant (Table 8.3).<sup>2</sup>

Table 8.3. Prevalence of mammogram testing in females aged 40+ years in past two years by public health district, Maine, 2006 and 2008.

PH District	Maine Females	
	%	(95% CI)
Aroostook	85.1	(80.5 - 89.7)
Cumberland	84.7	(81.9 - 87.4)
Central	83.6	(80.1 - 87.1)
Downeast	76.6	(71.2 - 81.5)
Midcoast	79.9	(76.9 - 82.9)
Penquis	82.5	(78.9 - 86.1)
Western	83.1	(79.9 - 86.3)
York	83.3	(79.8 - 86.9)

Source: BRFSS<sup>2</sup>

### Pap Tests

In 2010 an estimated 12,200 women in the U.S. will be diagnosed with cervical cancer and 4,210 women will die of cervical cancer.<sup>7</sup> Cervical cancer is treatable if caught early enough, and preventable when women are screened using a Pap test.<sup>8</sup>

The 2009 American College of Obstetricians and Gynecologists recommends that women aged 21-29 years be screened every two years and women 30 or older with a history of 3 negative Pap test should be screened every 3 years.<sup>9</sup> The U.S. Preventive Services Task Force (USPSTF) 2003 recommendations state that screening should begin within 3 years of onset of sexual activity, or age 21 (whichever comes first) and screening at least every 3 years.<sup>10</sup>

Over 80% of women in Maine have had a Pap test in the past three years. The percentage did not change significantly between 2006 and 2008 (89% and 86%, respectively) and was higher than the U.S. (Table 8.4).<sup>2</sup>

Table 8.4. Prevalence of Pap testing in females aged 18+ years in past 3 years, U.S. and Maine, 2006 and 2008.

Year	Maine		US
	%	(95% CI)	Median % *
2006	89.1	(87.4 - 90.8)	84.0
2008	86.3	(84.6 - 88.1)	82.9

Source: BRFSS<sup>2</sup> \*Based on 51 states

### Age

Older Maine women were less likely than younger women to meet the recommendations for Pap test. The prevalence of recent Pap test was lower for women over 55 years of age compared to women less than 55 years. Women over age 75 were the least likely to have had a recent Pap test compared to other age groups (Table 8.5).<sup>2</sup>

Table 8.5. Prevalence of Pap testing in females aged 18+ years in past 3 years by age, Maine, 2006 and 2008.

Age	Maine Females	
	%	(95% CI)
18-24	83.0	(77.2 - 88.9)
25-34	93.4	(91.1 - 95.7)
35-44	94.4	(92.8 - 96.0)
45-54	92.4	(90.6 - 94.2)
55-64	87.6	(84.9 - 90.2)
65-74	81.9	(78.4 - 85.5)
75+	58.9	(53.8 - 64.0)

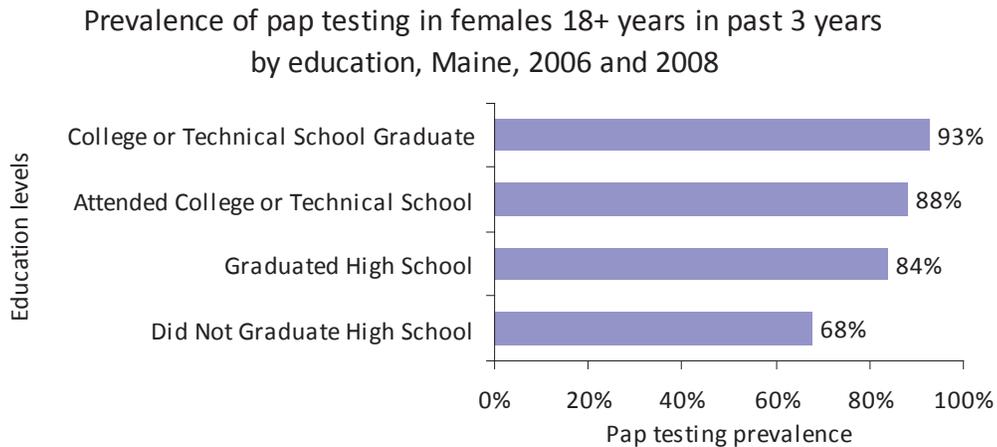
Source: BRFSS<sup>2</sup>

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### Education Level

Maine women who did not graduate high school were less likely (68%) to have met the recommendations for Pap test than women who graduated high school (84%) and had higher education (88-93%; Figure 8.3).<sup>2</sup>

Figure 8.3.

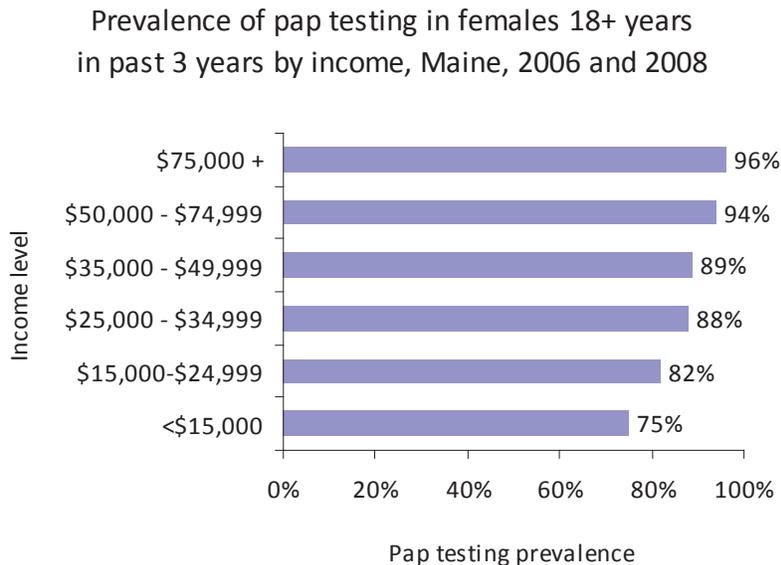


Source: BRFSS<sup>2</sup>

### Income

The percentage of Maine women who had a recent Pap test increased with income (Figure 8.4). Women with a household income of \$50,000 or more were more likely than women at other income levels to have had a Pap test in the past 3 years. Less than 4% of women with household incomes of \$75,000 or more reported not having a recent Pap test in the last three years compared to 25% of women with a household income less than \$15,000.<sup>2</sup>

Figure 8.4.



Source: BRFSS<sup>2</sup>

### Colorectal Cancer Screening (Sigmoidoscopy/Colonoscopy)

In 2007, colorectal cancer was the third most common cancer among women, and the third leading cause of cancer death among women in the U.S.<sup>11</sup> Screening for colorectal cancer by colonoscopy or sigmoidoscopy may reduce colorectal mortality in adults 50-75 years of age.<sup>12</sup> The decision to perform colorectal screening should be made on an individual basis for those over age 75. Some studies have shown that the effectiveness of screening after age 75 does not produce the benefits that earlier detection and treatment does.<sup>12</sup> The U.S. Preventive Services Task Force (USPTF) 2008 recommendations state that a sigmoidoscopy should be done every 5 years and a colonoscopy be done every 10 years.<sup>12</sup>

Based on data from the Maine's 2008 BRFSS survey, over 70% of Maine women aged 50+ years reported having had sigmoidoscopy or colonoscopy in their lifetime.<sup>2</sup>

#### Sex

More Maine men and women had colonoscopies or sigmoidoscopies in 2008 compared with 2006. There were no sex differences in the prevalence of screenings for colorectal cancer. In 2006 and 2008 the percentage of Maine women who had colorectal screening was higher than the U.S. (Table 8.6).<sup>2</sup>

Table 8.6. Prevalence of lifetime sigmoidoscopy or colonoscopy in adults aged 50+ years by sex, Maine and U.S., 2006 and 2008.

Year	Maine Females		US Females	Maine Males	
	%	(95% CI)	Median % *	%	(95% CI)
2006	64.2	(61.9 - 66.5)	57.8	64.4	(60.7 - 68.1)
2008	72.1	(70.2 - 74.1)	61.9	73.1	(70.7 - 75.5)

Source: BRFSS<sup>2</sup> \*Based on 51 states

#### Age

Maine men and women aged 50-54 were less likely than those in older age categories to have had colorectal cancer screening in their lifetime (Table 8.7).<sup>2</sup>

Table 8.7. Prevalence of lifetime sigmoidoscopy or colonoscopy in adults aged 50+ years by age and sex, Maine, 2006 and 2008.

Age	Females		Males	
	%	(95% CI)	%	(95% CI)
50-54	52.9	(48.9 - 56.8)	55.7	(50.6 - 60.8)
55-64	72.3	(69.5 - 75.1)	68.7	(65.2 - 72.1)
65-74	74.4	(71.2 - 77.6)	78.7	(75.0 - 82.3)
75+	72.2	(68.6 - 75.8)	75.0	(69.6 - 80.4)

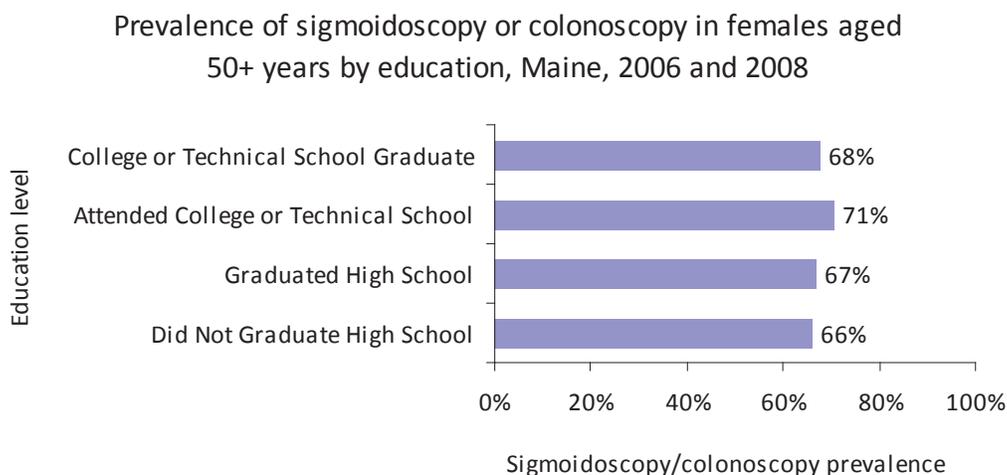
Source: BRFSS<sup>2</sup>

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### Education Level

Rates of colon cancer screening among Maine women did not vary by level of education (Figure 8.5).<sup>2</sup>

Figure 8.5.

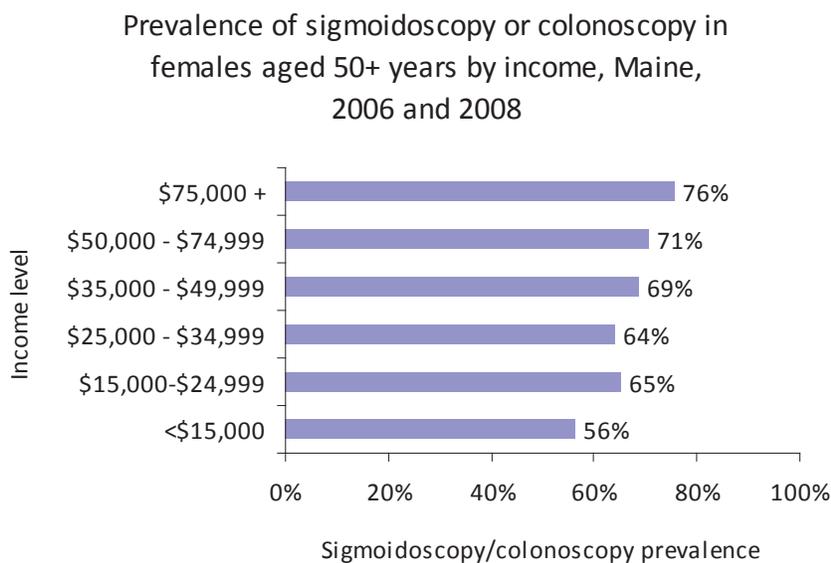


Source: BRFSS<sup>2</sup>

### Income

Women whose annual household income was less than \$15,000 were less likely to have had colorectal screening compared to women in higher income households (Figure 8.6).<sup>2</sup>

Figure 8.6.



Source: BRFSS<sup>2</sup>

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### Public Health District

Colon cancer screenings in Aroostook and Downeast districts, the districts with the lowest screening rates, were significantly lower than rates in Cumberland and Central districts, which had had the highest screening rates. Because of relatively small numbers in each county, caution should be used when interpreting results (Table 8.8).<sup>2</sup>

Table 8.8. Prevalence of lifetime sigmoidoscopy or colonoscopy in adults aged 50+ years by sex and public health district, Maine, 2006 and 2008.

PH District	Females		Males	
	%	(95% CI)	%	(95% CI)
Aroostook	59.5	(51.8 - 67.2)	60.9	(51.3 - 70.5)
Cumberland	73.4	(69.4 - 77.4)	78.5	(73.7 - 83.3)
Central	73.7	(68.9 - 78.4)	73.4	(67.5 - 79.2)
Downeast	62.9	(57.1 - 68.7)	54.7	(47.5 - 62.0)
Midcoast	64.5	(60.6 - 68.4)	68.3	(63.6 - 72.9)
Penquis	67.7	(62.7 - 72.7)	65.5	(59.0 - 72.0)
Western	69.1	(64.6 - 73.6)	63.5	(57.0 - 70.0)
York	68.1	(62.8 - 73.4)	72.1	(69.1 - 81.0)

Source: BRFSS<sup>2</sup>

### References

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