Ovarian Cancer Knowledge, Attitudes, and Screening Practices of Women in Michigan, 2008

September 2010

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Introduction

This report presents information about the knowledge, attitudes and behaviors of Michigan women related to ovarian cancer. This report draws upon self-reported information from three large Michigan surveys. The surveys include: 1) the 2008 Special Cancer Behavioral Risk Factor Survey (SCBRFS) which targeted men and women 40 years of age and older, 2) the 5 City Supplemental Survey which targeted African-American men and women 18 years of age and older from five Michigan cities (Detroit, Flint, Lansing, Pontiac, and Saginaw), and 3) the 2008 Michigan Behavioral Risk Factor Survey (MiBRFS) which targeted men and women 18 years of age from across the state. Results from each survey are presented in a separate section.

Background

Ovarian cancer accounts for approximately 3 percent of all cancers in women and is the fifth leading cause of cancer-related death among women in the United States. The incidence rate for ovarian cancer has been declining since the early 1990s. Ovarian cancer has the highest mortality of all cancers of the female reproductive system. This reflects, in part, a lack of early symptoms and proven ovarian cancer screening tests. Thus, ovarian cancer is often diagnosed at an advanced stage, after the cancer has spread beyond the ovary. White women have higher incidence and mortality rates than other racial and ethnic groups.[1]

The incidence of ovarian cancer in Michigan has declined from 15.1 per 100,000 women in 1994 to 12.9 per 100,000 women in 2006. Michigan incidence rates are similar to National rates. Of those diagnosed with ovarian cancer at a local stage, 93.8% of women will survive at least five years. However, most cases of ovarian cancer are diagnosed after it has spread beyond the ovaries. The five-year survival rate decreases to 72.8% when detected at the regional stage (spread outside of the ovaries to nearby organs, such as the bladder or uterus) and to 28.2% when detected at the distant stage (spread outside of the ovaries to the lungs or liver).[2] During 2006, 13.6% of ovarian cancer cases in Michigan were diagnosed at a local stage, 16.2% of cases were diagnosed at the regional stage, and 57.7% of cases were diagnosed at the distant stage.[3]

The majority of ovarian cancer cases seem to be sporadic. Currently, there are no effective screening tests to assist with the early detection of ovarian cancer, and the United States Preventive Task Force Guidelines for Primary Care Providers state that family history is the single greatest risk for ovarian cancer. Even though only 10% of women diagnosed with ovarian cancer have one of the genetic mutations associated with ovarian cancer, there is also documented evidence of a familial risk relationship between ovarian and breast (as well as colorectal and prostate) cancer.[4]

[1] Surveillance, Epidemiology, and End Results (SEER) Program and the National Center for Health Statistics. Additional statistics and charts are available at http://seer.cancer.gov/.
[2] SEER Cancer Statistics Review, 1975-2006 National Cancer Institute, Bethesda, MD
[3] MDCH Vital Records & Health Data Development Section, 1985-2006 Michigan Cancer Incidence File
[4] National Cancer Institute. SEER Cancer Statistics Review, 1975-2005. Available online at http://seer.cancer.gov/csr/1975_2005/.

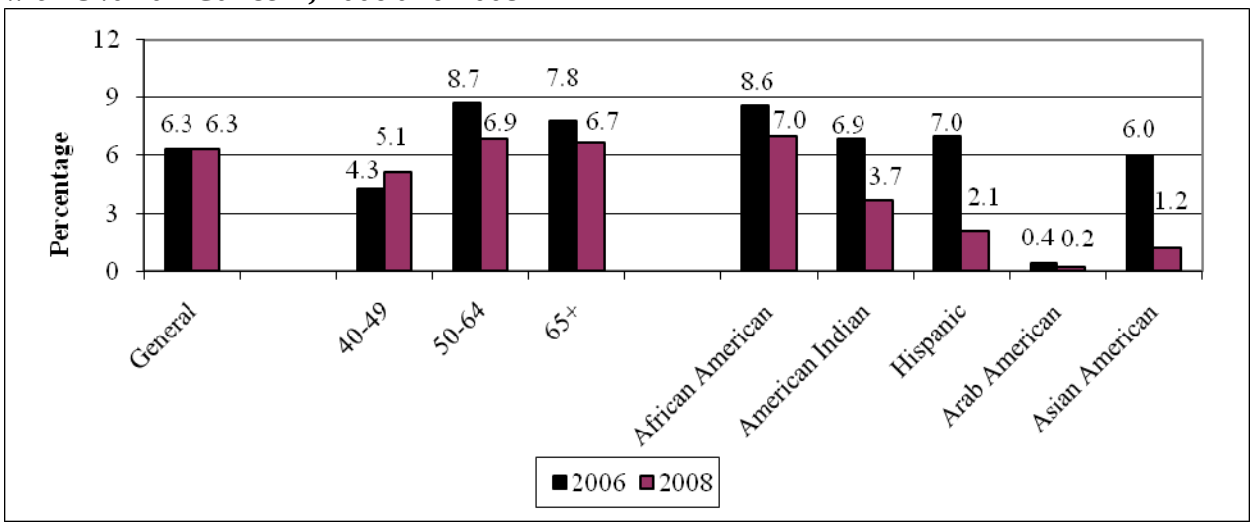
Special Cancer Behavioral Risk Factor Survey

Information related to ovarian cancer presented in this section was drawn from the 2008 Special Cancer Behavioral Risk Factor Survey (SCBRFS). Information is also presented from the 2006 SCBRFS where available. The SCBRFS targeted men and women aged 40 years and older living in Michgian with a specific focus on collecting knowledge, attitudes, and behaviors related to various types of cancer. However, the information presented in this section relates only to women 40 years of age and older. For more information about the purpose and data collection methods used within the SCBRFS, refer to the full report at http://www.michigancancer.org/PDFs/MCCReports/SCBRFS_2008-042910.pdf.

The first ovarian cancer-related question in the SCBRFS asked women if they had ever been diagnosed with ovarian cancer. In 2008, the percentage of Michigan women aged 40 years and older who had ever been diagnosed with ovarian cancer was 1.8% (± 1.5%), which is less than the percentage found in 2006 of 2.3% (± 1.8%) (Figure 1). When stratifying by age, women 50 to 64 years had the highest rate of ovarian cancer diagnosis during 2008 at 3.4%. In 2006, the highest ovarian cancer rate by age was found among women 65 years and older at 4.2%. Within the minority population groups, each group in 2008 fell below the overall percentage for the general population.

Women were asked to report the number of first degree relatives who had ever been diagnosed with ovarian cancer. Among Michigan women aged 40 years and older, 6.3% (± 1.9%) had one or more first degree relatives who had been diagnosed with ovarian cancer, which is the same rate found in 2006 (Figure 1). In 2008, similar rates of postive family history were found among women 50 to 64 years of age (6.9%) and women 65 years of age or older (6.7%) which was slightly higher than the rate found for women 40 to 49 years of age (5.1%). In both 2006 and 2008, African American women reported having at least one first degree relative who was diagnosed with ovarian cancer at rates higher than other population groups within the same year.

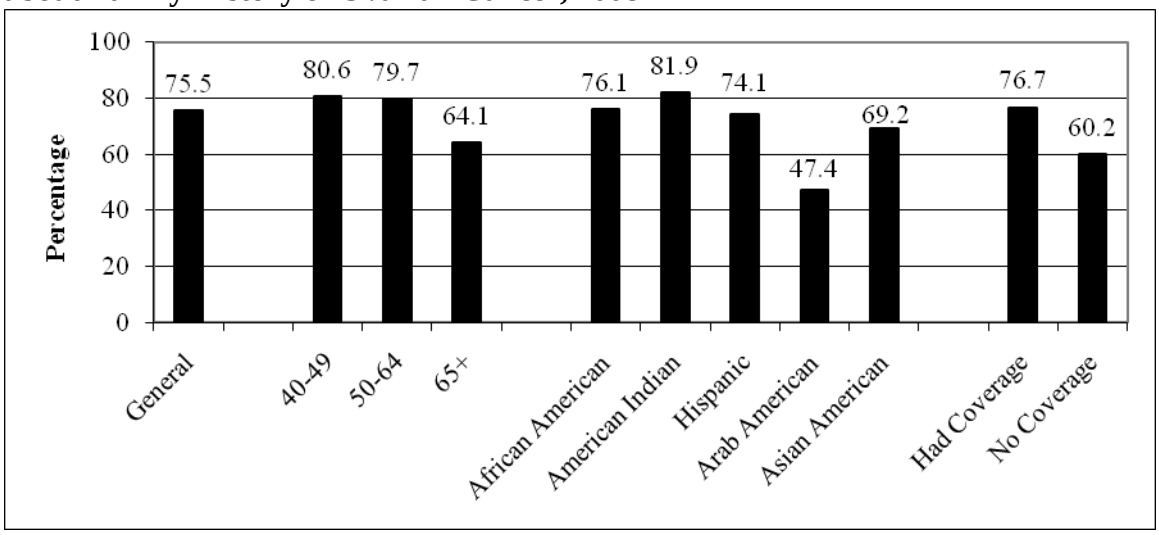
Figure 1: Women Age 40+ Years Who Had One or More First Degree Relatives Diagnosed with Ovarian Cancer*, 2006 and 2008



*Proportion of all respondents who reported one or more to the question, "How many of your biological children, parents, brothers, or sisters were diagnosed with cancer of the ovaries? For brothers and sisters, please only include those who share your same mother and father."

In 2008, the percentage of Michigan women 40 years of age or older who had ever been asked by a doctor about their family history of ovarian cancer was 75.5% (± 4.1%) (Figure 2). Of the various age groups, women 65 years of age and older reported being asked about family history of ovarian cancer at a rate of 64.1% (± 7.4%), which was well below the overall statewide rate. Arab American women were also asked about family history of ovarian cancer far less often than the statewide average and each of the other minority population groups. Women who had health care coverage had shared family history information with a health care provider 27% more often than women without health care coverage.

Figure 2: Women Aged 40+ Years Who Had Ever Been Asked By a Health Care Provider about Family History of Ovarian Cancer, 2008



Women were asked if they had ever received genetic counseling for breast or ovarian cancer, including a conversation with an expert about family risk of breast and ovarian cancer. In 2008, the percentage of Michigan women 40 years of age and older who ever received genetic counseling for breast or ovarian cancer as defined was 11.3% (± 3.1%) (Figure 3). Genetic counseling rates showed a downward trend with increasing age, ranging from 14.4% (± 7.2%) among women 40 to 49 years of age to 8.9% (± 3.2%) among women aged 65 years and older. African American women (14.8%) and American Indian women (13.2%) reported the highest genetic counseling rates among the minority population groups while Arab American women (6.0%) and Asian American women (2.5%) had rates below the overall statewide average.

Figure 3: Women Age 40+ Years Who Ever Received Genetic Counseling for Breast or Ovarian Cancer by Selected Demographic Characteristics, 2008

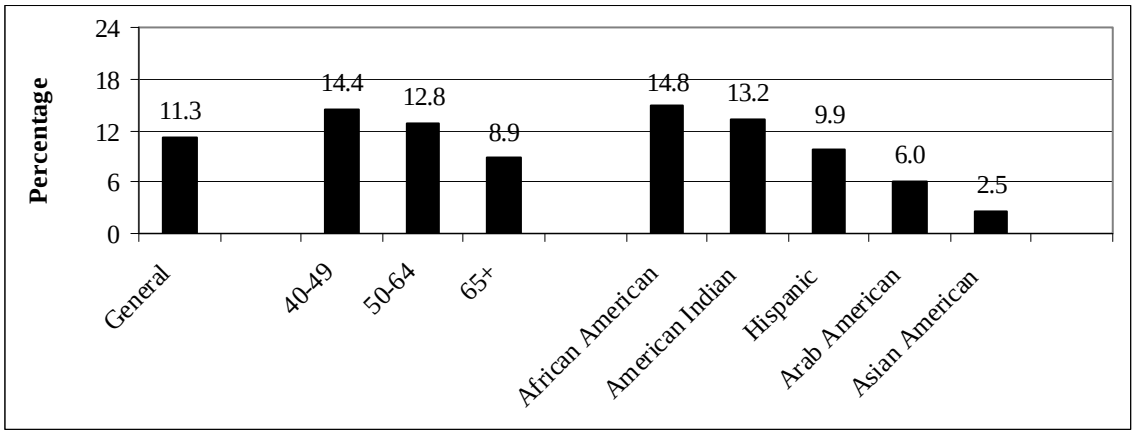
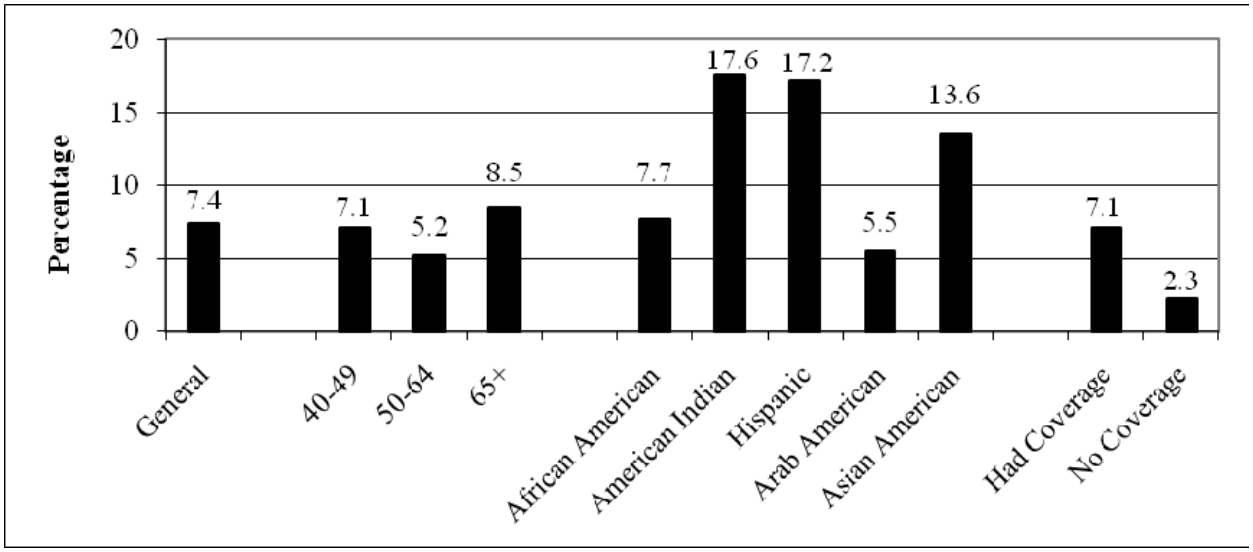


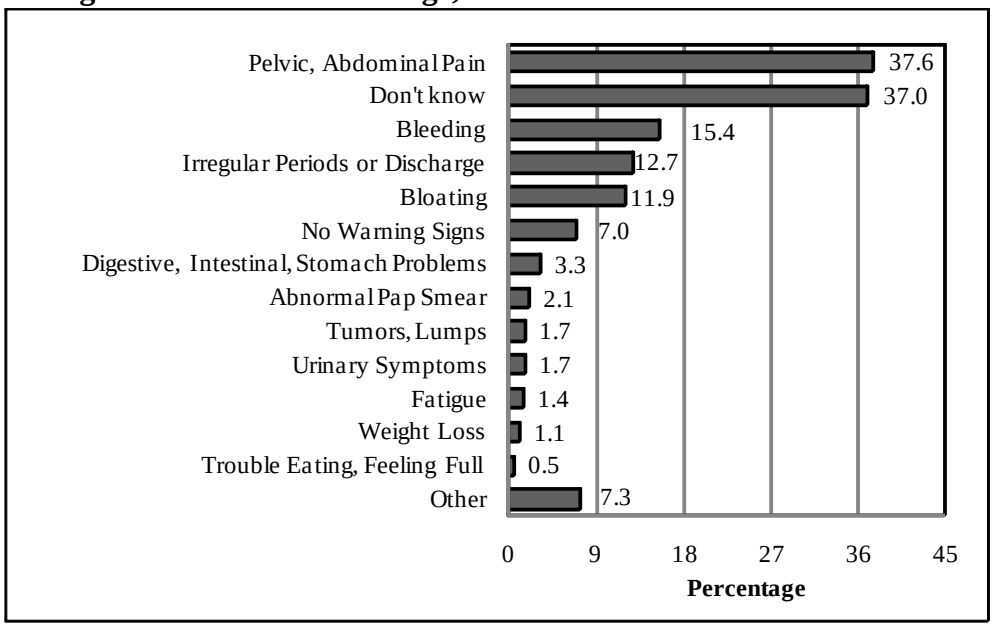
Figure 4 shows the percentage of women 40 years of age and older who ever received a blood test to determine their family risk of developing breast or ovarian cancer. In 2008, 7.4% (± 2.1%) of Michigan women 40 years of age and older reported ever receiving a blood test for breast or ovarian cancer. Women 65 years of age and older had the highest blood testing rates among the various age groups at 8.5% (± 5.2%) while the lowest rates were found among women 50 and 64 years of age (5.2%, ± 2.1%). With the exception of Arab American women, women in each of the other minority population groups reported having a blood test for breast or ovarian cancer above the statewide average. American Indian and Hispanic women had especially high rates (17.6% and 17.2%, respectively). Women with health care coverage (7.1%) received breast or ovarian cancer blood testing at levels similar to the statewide average while women without health care coverage (2.3%) were much less likely to have received the same testing.

Figure 4: Women Age 40+ Years Who Ever Received a Blood Test for Breast or Ovarian Cancer, 2008



Women were asked to identify the most important warning signs and symptoms associated with ovarian cancer. As shown in Figure 5, pelvic or abdominal pain was the most common response at 37.6% (± 4.7%), followed by bleeding (15.4%, ± 3.5%), and irregular periods or discharge (12.7%, ± 3.1%). Thirty-seven percent (± 4.5%) of women 40 years of age or older were unable to identify any warning signs or symptoms associated with ovarian cancer.

Figure 5: Knowledge about Warning Signs & Symptoms Associated with Ovarian Cancer among Women 40+ Years of Age, 2008



5-City Supplemental Survey

The 5 Cities Survey was conducted as a supplement to the 2008 Special Cancer Behavioral Risk Factor Survey (SCBRFS). This survey targeted African American females 18 years of age and older living in one of the five target cities (Detroit, Flint, Lansing, Pontiac, and Saginaw). The ovarian cancer-related questions asked within the 5 City survey were exactly the same as those asked within the 2008 SCBRFS. For more details about the survey methodology used within the 5 City survey, refer to the full 2008 5 City Supplemental Report at http://www.michigancancer.org/PDFs/MCCReports/FiveCitySupplementalSurvey-2008-042910.pdf.

Table 1 presents the percentage of African American women 18 years of age and older who had ever been diagnosed with ovarian cancer. When comparing each of the five targeted cities, African American women who lived in Saginaw reported the highest rate of ovarian cancer history at 5.0%.

Table 1: African American Women 18+ Years of Age Who Had Ever Been Diagnosed with Ovarian Cancer, 2008

Age Group	Detroit %	Flint %	Saginaw %	Lansing %	Pontiac %
Total	0.3	2.1	5.0	2.4	1.0
18 to 34 Years		4.8	4.5	7.6	
35 to 49 Years	0.8	0.8	4.7		1.2
50 to 64 Years		1.0			0.6
65+ Years		2.1	10.0	2.2	2.7

Women were asked to provide the number of first degree relatives who had ever been diagnosed with ovarian cancer. Table 2 summarized the percentage of African American women 18 years of age and older who reported having at least 1 first degree relative who was diagnosed with ovarian cancer. Overall, the cities with the highest percentages were Lansing (7.9%) and Saginaw (7.2%).

Table 2: African American Women 18+ Years of Age Who Had One or More First Degree Relatives Diagnosed with Ovarian Cancer*, 2008

Age Group	Detroit %	Flint %	Saginaw %	Lansing %	Pontiac %
Total	4.2	5.1	7.2	7.9	5.6
18 to 34 Years		1.6	5.3	18.3	9.3
35 to 49 Years	3.4	2.1	10.1	0.8	2.4
50 to 64 Years	5.3	8.0	1.7	1.2	3.9
65+ Years	13.9	12.1	11.0	2.5	3.7

*Proportion of all respondents who reported one or more to the question, "How many of your biological children, parents, brothers, or sisters were diagnosed with cancer of the ovaries? For brothers and sisters, please only include those who share your same mother and father."

Table 3 shows the percentage of African American women 18 years of age and older who had ever been asked by a doctor or other health care professional about their family history of ovarian cancer, including filling out forms. Overall percentages for each city ranged from a low of 62.4% among African American women living in Detroit to a high of 72.4% among those living in Pontiac.

Table 3: African American Women 18+ Years of Age Who Were Ever Asked by a Health Care Provider about Family History of Ovarian Cancer, 2008

Age Group	Detroit %	Flint %	Saginaw %	Lansing %	Pontiac %
Total	62.4	64.3	64.2	67.1	72.4
18 to 34 Years	38.2	56.1	52.0	66.4	66.6
35 to 49 Years	71.9	58.3	75.6	77.9	94.3
50 to 64 Years	75.4	81.3	69.2	64.5	67.9
65+ Years	81.2	68.2	63.1	57.9	52.1

Women were asked if they had ever received genetic counseling for breast or ovarian cancer, including a conversation with an expert about family risk of breast and ovarian cancer. As shown in Table 4, the percentage of African American women aged 18 years and older who had ever received genetic counseling for breast or ovarian cancer varied from a low of 6.9% in Detroit to 10.0% in Pontiac.

Table 4: African American Women 18+ Years of Age Who Had Ever Received Genetic Counseling for Breast or Ovarian Cancer, 2008

Age Group	Detroit %	Flint %	Saginaw %	Lansing %	Pontiac %
Total	6.9	7.3	8.7	9.5	10.0
18 to 34 Years	1.6	3.6	5.8	2.9	10.5
35 to 49 Years	4.4	6.4	14.5	27.4	9.6
50 to 64 Years	24.4	14.5	10.4	7.9	12.5
65+ Years	3.2	6.4	2.5	3.0	4.8

Table 5 shows the percentage of African American women 18 years of age and older who ever received a blood test to determine their family risk of developing breast or ovarian cancer. African American women living in Saginaw (5.3%) and Lansing (2.1%) were found to have lower blood testing rates compared to Detroit, Flint, and Pontiac where rates were 8.0% or higher.

Table 5: African American Women 18+ Years of Age Who Had Ever Received a Blood Test for Breast or Ovarian Cancer, 2008

Age Group	Detroit %	Flint %	Saginaw %	Lansing %	Pontiac %
Total	8.0	8.5	5.3	2.1	8.2
18 to 34 Years	1.0	0.7	0.3		8.7
35 to 49 Years	11.9	4.9	4.7	0.1	4.8
50 to 64 Years	20.6	25.9	7.0	5.8	6.6
65+ Years	1.6	5.0	14.2	4.0	15.8

Women were asked to identify the most important warning signs and symptoms associated with ovarian cancer. As Figure 6 shows, some of the most common warning signs or symptoms identified by African American women 18 years of age and older were pelvic or abdominal pain and bleeding. The percentage of women who indicated that they did not know of any warning signs or symptoms was rather high for all five cities ranging from 36.9% in Pontiac to 58.7% in Flint.

Table 6: Knowledge about Warning Signs & Symptoms Associated with Ovarian Cancer among African American Women 18+ Years of Age, 2008

Warning Signs	Detroit %	Flint %	Saginaw %	Lansing %	Pontiac %
Pelvic, Abdominal Pain	30.0	28.7	28.5	30.4	37.5
Bleeding*	21.9	34.4	33.3	25.5	43.9
Bloating	7.7	0.8	1.7	4.7	1.2
Trouble Eating, Feeling Full			0.3		0.4
Digestive, Intestinal, Stomach Problems	0.8	1.1	0.9	1.7	0.8
Urinary Symptoms	3.3	0.7	1.6	0.6	1.5
weight loss	0.1		1.1	0.2	0.7
Fatigue		0.6	3.5	0.2	4.0
Irregular Periods or Discharge	9.4	13.9	21.8	17.2	7.1
Abnormal Pap Smear	1.3	2.4	0.3	1.3	1.4
No Warning Signs or Symptoms	2.8	0.8	1.9	3.3	8.3
Other	16.2	8.5	11.0	17.6	33.0
Don't Know	48.9	58.7	57.8	45.2	36.9

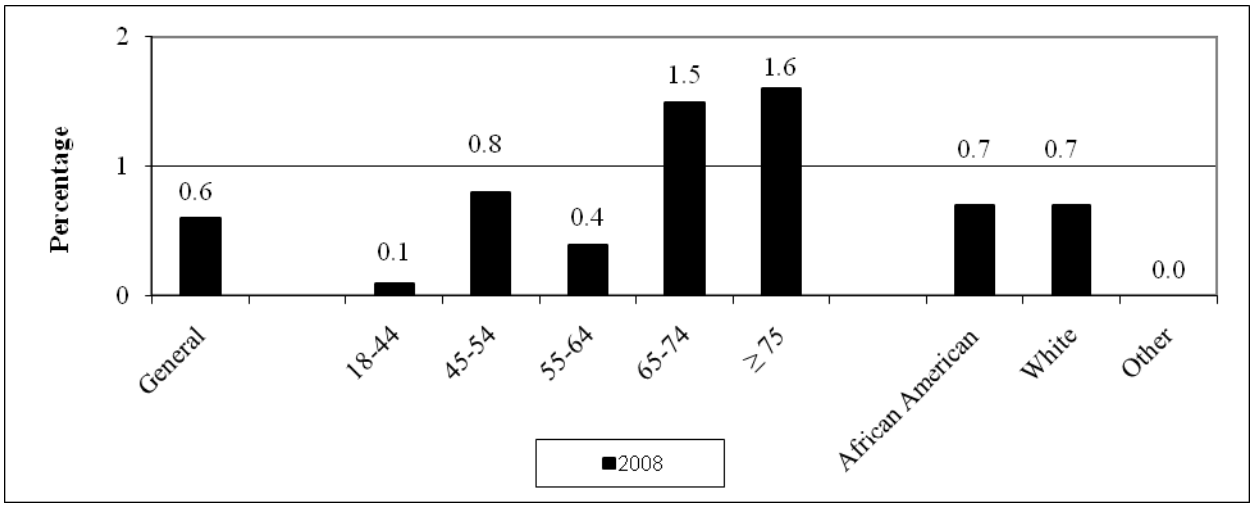
*Bleeding includes all references to irregular vaginal bleeding as well as any unspecified mention of bleeding.

Michigan Behavioral Risk Factor Survey

The Michigan Behavioral Risk Factor Survey (MiBRFS) is a statewide telephone survey that targets Michigan residents aged 18 years and older. It is a primary source of state-specific, population-based estimates of the prevalence of various behaviors, medical conditions, and preventive health care practices among Michigan adults. This section presents the results from a series of ovarian cancer-related questions that were added to the MiBRFS in 2008. For more information about the MiBRFS, refer to www.michigan.gov\brfs.

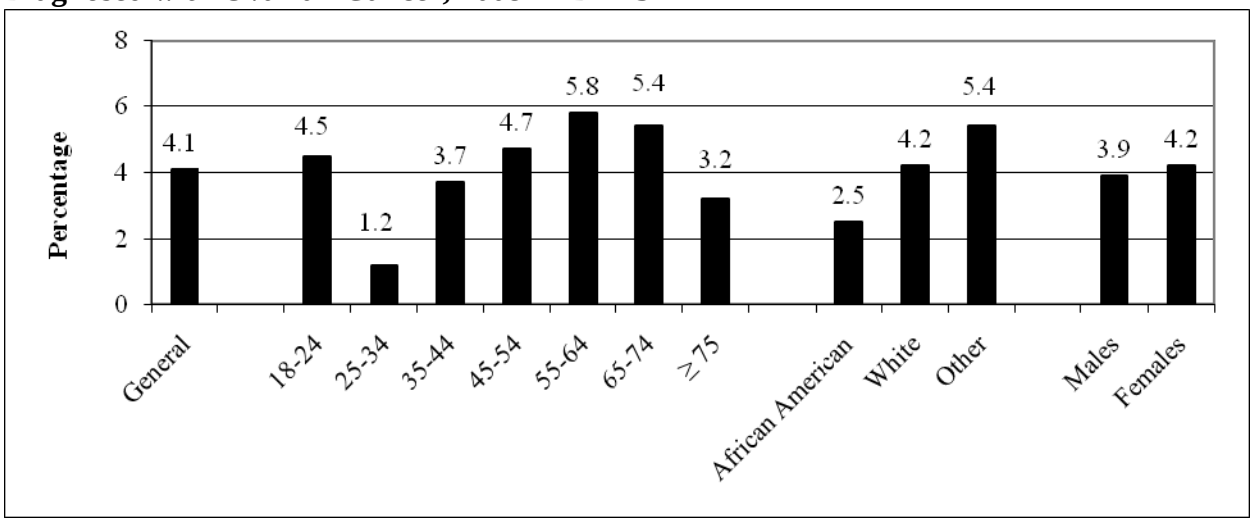
According to the 2008 MiBRFS, the percentage of Michigan women aged 18 years and older who had ever been diagnosed with ovarian cancer was 0.6% (0.4% to 1.1%) (Figure 1). With the exception of women 45 to 54 years of age, ovarian cancer diagnoses rates increased with age, reaching a high of 1.6% (0.5% to 4.5%) among women 75 years of age and older. The rates for African American and White women were the same at 0.7% while the percentage associated with women in the other race category was too low to report.

Figure 1. Women 18+ Years of Age Who Had Ever Been Diagnosed with Ovarian Cancer, 2008 MiBRFS



Men and women were asked to report the number of first degree relatives who had ever been diagnosed with ovarian cancer. Among Michigan men and women aged 18 years and older, 4.1% (3.3% to 5.1%) had one or more first degree relatives who had been diagnosed with ovarian cancer (Figure 2). When stratifying by age, males and females between 55 and 64 years of age had the highest prevalance of any first degree family members diagnosed with ovarian cancer at 5.8% (3.9% to 8.4%), while the lowest prevenlence was found among those 25 to 34 years at 1.2% (0.3% to 4.3%). Females (4.2%, 3.2% to 5.5%) reported having first degree family members diagnosed with ovarian cancer slightly more often when compared to males (3.9%, 2.7% to 5.6%). While White men and women reported having had a first degree family member who was diagnosed with ovarian cancer 68% more often than African American men and women (4.2% and 2.5%, respectively), the highest percentage was reported among men and women within the other race category (5.4%).

Figure 2. Men & Women Aged 18+ Years Who Had One or More First Degree Relatives Diagnosed with Ovarian Cancer, 2008 MiBRFS



*Proportion of all respondents who reported one or more to the question, "How many of your biological children, parents, brothers, or sisters were diagnosed with cancer of the ovaries? For brothers and sisters, please only include those who share your same mother and father."

In 2008, the MiBRFS found that the percentage of Michigan women 18 years of age or older who had ever been asked by a doctor or other health care professional about their family history of ovarian cancer was 74.4% (71.4% to 77.1%) (Figure 3). Women aged 18 to 24 years (54.4%) and 75 years and older (57.2%) reported being asked about family history of ovarian cancer far less frequently compared to adult women outside of these age ranges. African American women (66.2%) were also asked about family history of ovarian cancer less often than women who were White (75.3%) or classified within the other race category (78.7%).

Figure 3: Women Aged 18+ Years Who Had Ever Been Asked By a Health Care Provider about Family History of Ovarian Cancer, 2008

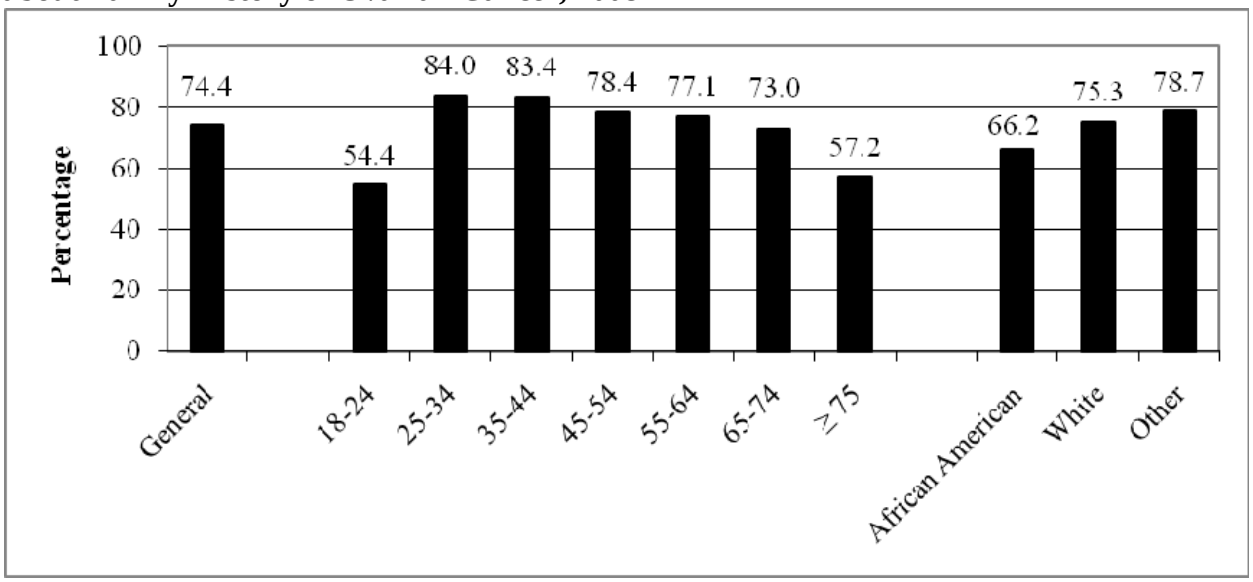
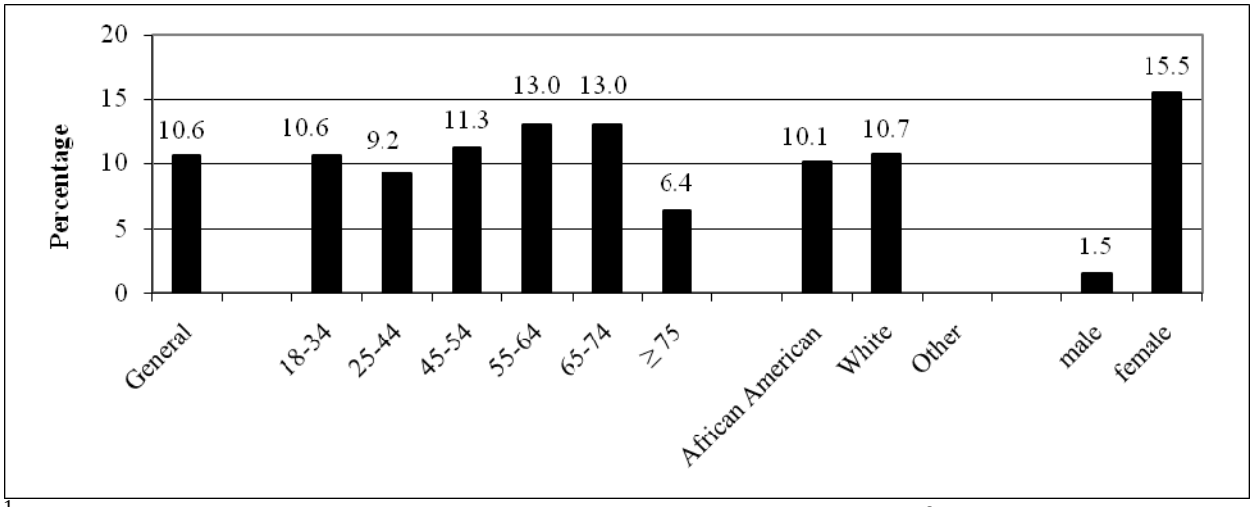


Figure 4 shows the percentage of men and women who had ever received genetic counseling for breast or ovarian cancer among those who had a biological family member who was diagnosed with breast or ovarian cancer. Overall, 10.6% (8.3% to 13.5%) of Michigan men and women aged 18 years or older with a family member who was diagnosed with breast or ovarian cancer received genetic counseling. The highest genetic counseling rate by age were found among men and women 55 to 74 years of age (13.0%) while the lowest rate was found among adults aged 75 years and older (6.4%). Women had genetic counseling rates approximately ten times higher than males (15.5% and 1.5%, respectively). While men and women who were classified as White (10.7%) had slightly higher genetic counseling rates compared to African American adults (10.1%), the genetic counseling rates for men and women classified in the other race category could not be reported due to a small number of adults who were included in this category.

Figure 4. Men & Women Aged 18+ Years Who Have Received Genetic Counseling[1] among Adults with a Family History, but No Personal History, of Breast or Ovarian Cancer[2], 2008 MiBRFS

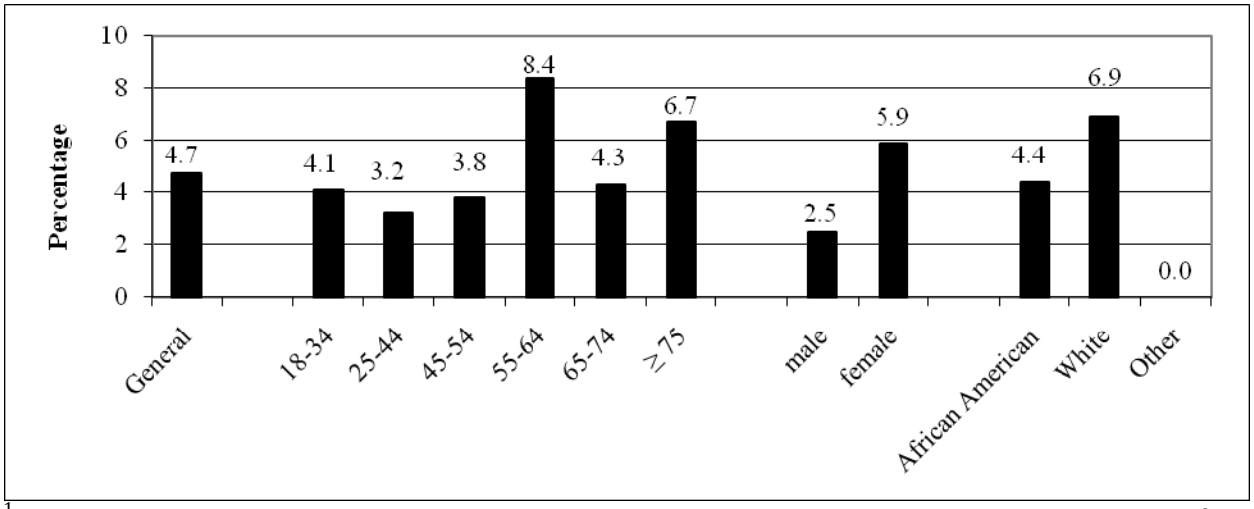


[1]Response to the question, "Have you ever received genetic counseling for breast or ovarian cancer? This would include a conversation with an expert about your hereditary risk of breast and ovarian cancer."

[2]Based on response to the question, "Have any of your biological family members, including yourself, ever been diagnosed with either breast cancer or cancer of the ovaries?" and excluding those who have ever been diagnosed with breast or ovarian cancer themselves

Figure 5 shows the percentage of men and women who had ever received genetic testing (blood test) for breast or ovarian cancer among those who had a biological family member who was diagnosed with breast or ovarian cancer. Overall, 4.7% (3.2% to 6.9%) of Michigan men and women aged 18 years or older with a family member who was diagnosed with breast or ovarian cancer received genetic testing. The highest genetic testing rate by age was found among men and women between 55 and 64 years of age while adults 35 to 54 years of age had genetic testing rates at 3.8% or lower. Women (5.9%) were more than twice as likely to have received genetic testing compared to men (2.5%). African American men and women (6.9%) were 57% more likely to have received genetic testing compared to White adults, while too few adults in the other race category responded to this question to be included in the calculation.

Figure 5. Men & Women Aged 18+ Years Who Have Received Genetic Testing[1] among Adults with a Family History, but No Personal History, of Breast or Ovarian Cancer[2], 2008 MiBRFS

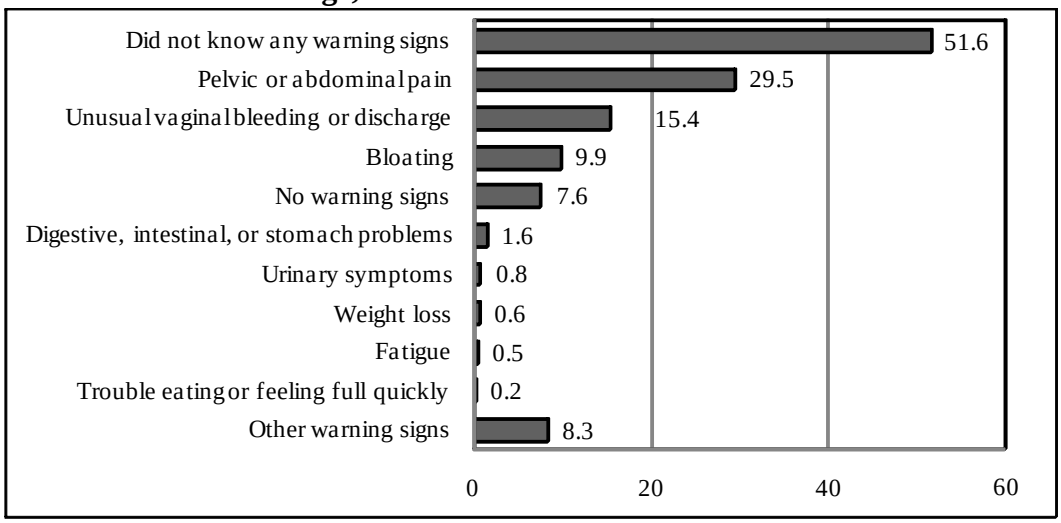


[1]Response to the question, "Have you ever had a blood test to determine your hereditary risk for breast or ovarian cancer? A doctor would have ordered this test and you would have received the results."

[2]Based on response to the question, "Have any of your biological family members, including yourself, ever been diagnosed with either breast cancer or cancer of the ovaries?" and excluding those who have ever been diagnosed with breast or ovarian cancer themselves

Michigan women were asked to identify the warning signs and symptoms associated with ovarian cancer. As shown in Figure 6, 51.6% of women were unable to identify any warning signs or symptoms of ovarian cancer. Pelvic or abdominal pain was the second most common response at 29.5%, followed by unusual vaginal bleeding (15.4%) and bloating (9.9%).

Figure 6. Warning Signs and Symptoms Associated With Ovarian Cancer,[1] Reported By Women 18+ Years of Age, 2008 MiBRFS



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Data are not to be used for publications, presentations or other report production without approval from the Principal Investigator. Please direct all data inquiries to:

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