Utilizing Surveillance Data to Identify the Needs of Cancer Survivors

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Background

Cancer is the second leading cause of death in the United States. As methods to treat cancer continue to improve, survival rates for many cancers continue to rise. It is estimated that there are 516,100 cancer survivors in Michigan as of 2016.[1] Public health typically focuses on prevention and early detection of cancer, the medical community focuses on treatment, and the needs of survivors are often overlooked. Cancer survivors who are post-treatment face a unique array of issues, and therefore it is important to learn about the needs of this growing population and identify areas that could benefit from a public health intervention.

Methods

The Michigan Behavioral Risk Factor Survey (MiBRFS) is an annual statewide phone survey of Michigan adults aged 18 years and older coordinated with the Centers for Disease Control and Prevention (CDC). It includes a standard questionnaire, which states can customize to target and collect data from specific populations. In 2015, the Michigan Department of Health and Human Services (MDHHS) Cancer Prevention and Control Section's Cancer Survivorship Program added a cancer survivorship module to the MiBRFS that consisted of 13 questions. This module was included for the survey years 2015 to 2018 and included questions about treatment, post-cancer care, participation in clinical trials, and pain. This analysis uses survey data from 2016 to determine the prevalence of cancer survivors and analyze relevant characteristics of this population.

Results

Table 1. Distribution of Characteristics among those with a History of Cancer and those with no History of Cancer, 2016 Michigan Behavioral Risk Factor Survey

		Ever Had Cancer % (95% CI)	Never Had Cancer % (95% CI)
Gender	Female [a]	63.1 (56.1-69.5)	51.0 (49.7-52.3)
	Male [a]	36.9 (30.5-43.9)	49.0 (47.7-50.3)
Race	Non-Hispanic White [a]	85.4 (79.0-90.1)	75.6 (74.4-76.8)
	Non-Hispanic Black [a]	6.5 (4.4-9.6)	14.2 (13.3-15.2)
	Hispanic	4.9 (1.9-12.4)	4.7 (4.1-5.4)
	Other	3.2 (2.0-5.0)	5.5 (4.9-6.1)
Employment	Employed [a]	47.4 (41.7-53.2)	58.6 (57.4-59.7)
	Unemployed	5.7 (3.0-10.8)	5.6 (5.0-6.2)
	Non-Working [a]	46.8 (40.7-53.0)	35.9 (34.8-37.0)
Disability	Yes [a]	36.7 (29.7-44.2)	24.0 (22.9-25.1)

[a] Indicates a significant difference (p value < 0.05) between people who report a history of cancer and those who report never having cancer.

From the 2016 MiBRFS 12.8% of respondents identified as a cancer survivor with 67% being aged 60 or older. There were some statistical differences between cancer survivors and non-cancer survivors. These differences were found in gender, race, employment status, and disability status Table 1).
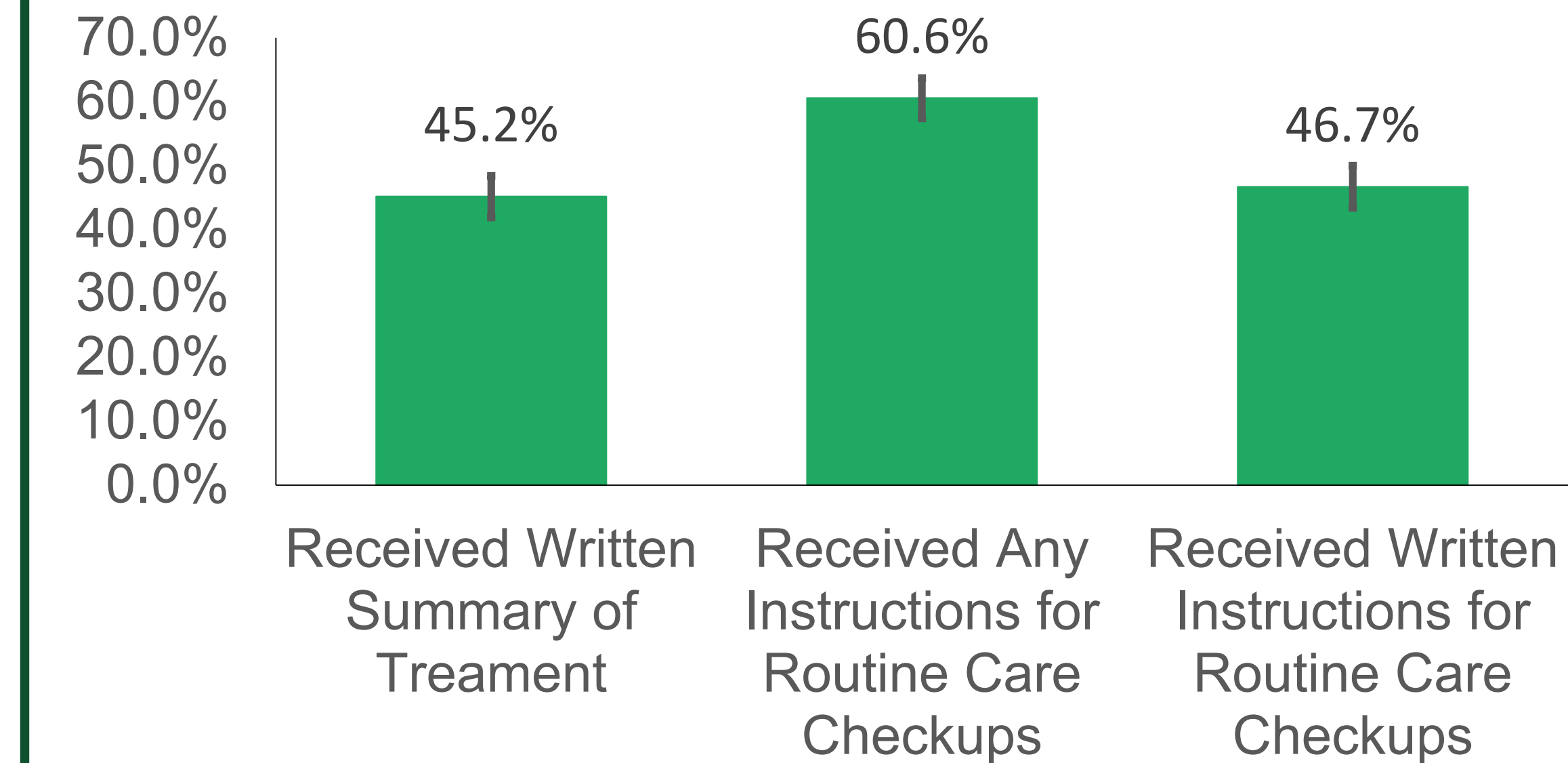
References & Acknowledgements

1. American Cancer Society. (2016) *Cancer Treatment & Survivorship Facts & Figures 2016-2017*. (ACS Publication No. 865016) [Data Sets] Retrieved from https://www.cancer.org/content/dam/cancer-org/research/cancer-facts-and-statistics/cancer-treatment-and-survivorship-facts-and-figures/cancer-treatment-and-survivorship-facts-and-figures-2016-2017.pdf

Results

Figure 1: Percent of Cancer Survivors Receiving Information, 2016 Michigan Behavior Risk Factor Survey

- Received Written Summary of Treament: 45.2%
- Received Any Instructions for Routine Care Checkups: 60.6%
- Received Written Instructions for Routine Care Checkups: 46.7%

The majority of cancer survivors report having at least one other chronic condition (69.1%) (data not shown). Cancer survivors reported higher rates of arthritis, CVD, COPD, depression, and difficulty concentrating compared to those who never had cancer (**Table 2**). Arthritis was the most common chronic condition among cancer survivors (41.1%) followed by depression (37.7%).

Figure 2: Percent of Cancer Survivors Reporting Pain by Demographic, 2016 Michigan Behavior Risk Factor Survey

- White: 8.5%
- Black: 30.1%
- Male: 6.2%
- Female: 12.4%
- 40-49: 24.1%
- 50-59: 13.8%
- 60-69: 9.3%
- 70+: 5.5%

Among cancer survivors, 45.2% reported receiving a written summary of their treatment from their physician. After completion of treatment, 60.6% of patients received instructions about where to return or who to see for routine cancer check-ups; however, only 46.7% of cancer patients report having these instructions written down for them (**Figure 1**). The majority of cancer survivors reported seeing at least one healthcare provider (94.7%) and having a routine checkup in the past year (85.1%) (data not shown).

Table 2. Age-Adjusted Comorbidities by Cancer Status, 2016 Michigan Behavioral Risk Factor Survey
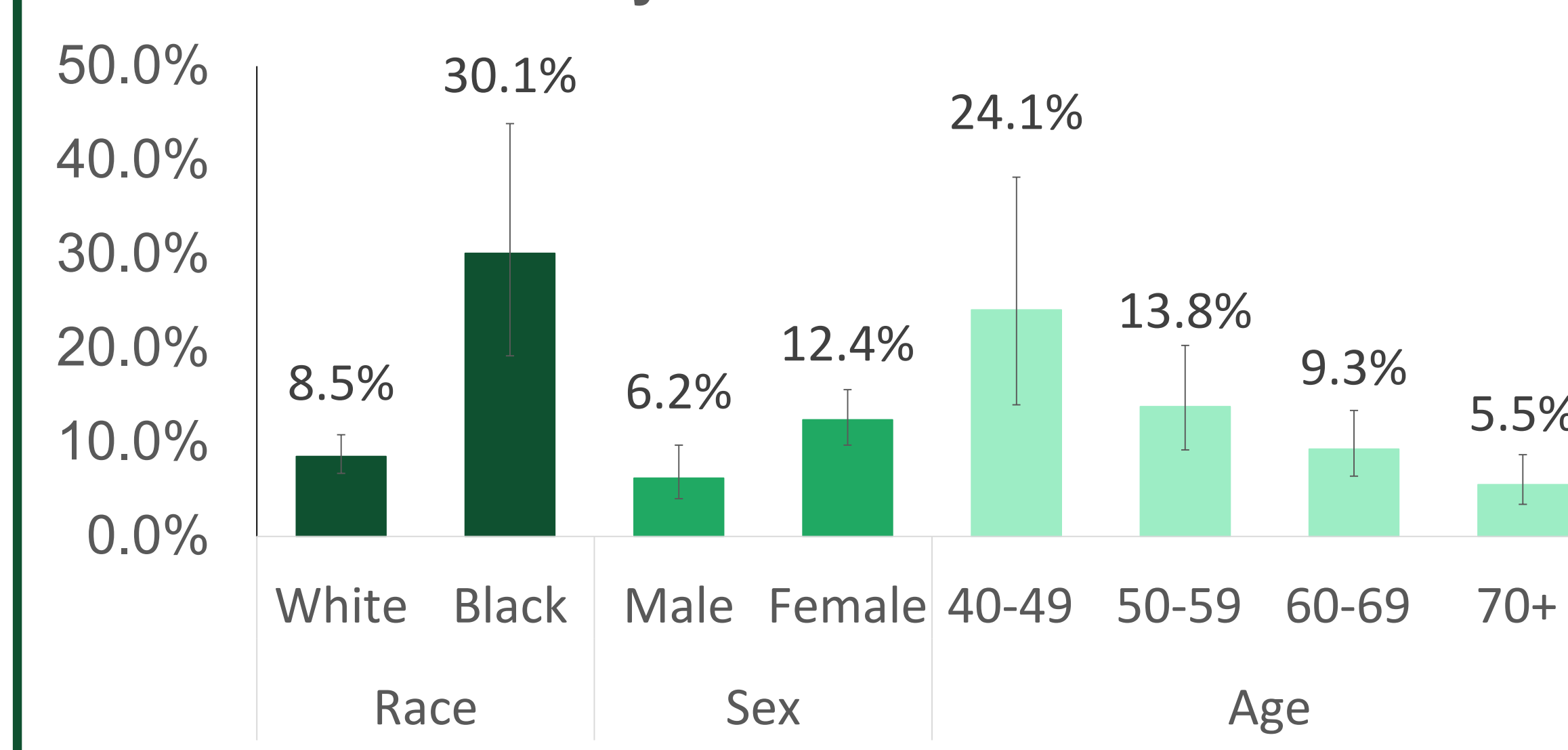
	Cancer Survivors % (95% CI)	Never Had Cancer % (95% CI)
Arthritis [a]	41.1 (35.3-47.2)	28.0 (27.0-29.1)
CVD [a, b]	14.7 (10.2-20.8)	8.0 (7.4-8.6)
COPD [a, c]	16.2 (11.6-22.1)	7.4 (6.8-8.1)
Obesity	33.8 (27.7-40.5)	32.7 (31.5-34.0)
Depression [a]	37.7 (31.2-44.6)	21.6 (20.5-22.7)
Difficulty Concentrating [a]	29.1 (23.3-35.7)	13.6 (12.7-14.6)
Diabetes	10.0 (8.5-11.7)	11.6 (10.6-12.6)

[a] Indicates a significant difference (p value < 0.05) between people reporting a history of cancer and those who report never having cancer.
[b] CVD= Cardiovascular disease
[c] COPD= Chronic obstructive pulmonary disease

In Michigan, 9.7% of cancer survivors report being in pain after treatment (data not shown). There were significant difference in reporting pain among various groups. Black cancer survivors reported significantly higher rates of pain (30.1%) compared to White cancer survivors (8.5%). Female survivors also reported higher rates of pain compared to males (6.2%). Cancer survivors who were age 40-49 at the time of the survey also reported higher rates of pain (24.1%) compared to older ages (**Figure 2**).

Conclusion

As the cancer survival rate increases, providers and public health personnel must implement and promote services that provide care to patients from diagnosis to post-treatment. By utilizing surveillance data we can start to better understand the unmet needs this unique population faces. Ensuring survivors are receiving information on healthcare post cancer treatment and managing pain after treatment are areas that need to be addressed in order to improve cancer survivor's quality of life. However there are limitations with using this data source. Due to small numbers, it is not possible at this time to look at the data by subgroups for many demographics and treatment statuses. There are also limitations in the types of question that can be asked. Through focus groups, we have learned that cancer survivors are concerned about sexual function but questions on this topic would not be asked in a population based survey. Despite these limitations these data can be used as a first step in informing providers and public health personnel on improvements that can be made to improve the quality of life among cancer survivors.