



Wellness Interventions for Cancer Survivors

11.2018

Prepared by



Public Sector Consultants
Lansing, Michigan

TABLE OF CONTENTS

- Introduction 3**
- Who Are Cancer Survivors? 3**
- The Impacts of Cancer and its Treatment 5**
- The Importance of Wellness Interventions..... 6**
 - Physical Activity6
 - Nutrition.....7
 - Smoking Cessation7
 - Vaccinations8
 - Mental and Emotional Well-Being.....9
- Connecting Cancer Survivors to Wellness Programs..... 9**
- Michigan Evidence-Based Programs 12**
- National Programs and Evidence-Based Interventions 19**
- References 24**

This report was supported by the Grant or Cooperative Agreement Number, DP15-1501, funded by the Centers for Disease Control and Prevention. Its contents are solely the responsibility of the authors and do not necessarily represent the official views of the Centers for Disease Control and Prevention or the Michigan Department of Health and Human Services.

Introduction

Advances in cancer treatment have led to a significant increase in the number of people surviving five years or more after diagnosis (NIH 2018). According to the American Cancer Society (ACS) (2016), cancer and its treatment affect survivors both physically and emotionally, taking a substantial toll on their quality of life. Cancer survivors, particularly those outside of the initial diagnosis and treatment phases, are in need of interventions that can help them achieve optimal health and improve their overall well-being.

While ongoing medical treatment is part of the solution, evidence-based interventions available in survivors' communities are a great resource for healthcare providers seeking to promote their patients' long-term physical and emotional well-being. The Michigan Department of Health and Human Services (MDHHS) Cancer Prevention and Control Section aims to support healthcare providers and survivors access to and awareness of evidence-based wellness interventions that address survivors' needs, especially in the areas of physical activity, nutrition, smoking cessation, vaccinations, and mental and emotional well-being.

This paper describes the cancer survivor population, the immediate and long-term effects of cancer and its treatment, and the importance of wellness interventions in promoting survivors' long-term well-being. Information about evidence-based wellness interventions that health systems, community-based organizations, and public health providers can use to support the physical and emotional health needs of Michigan's survivors is provided at the end of the paper.

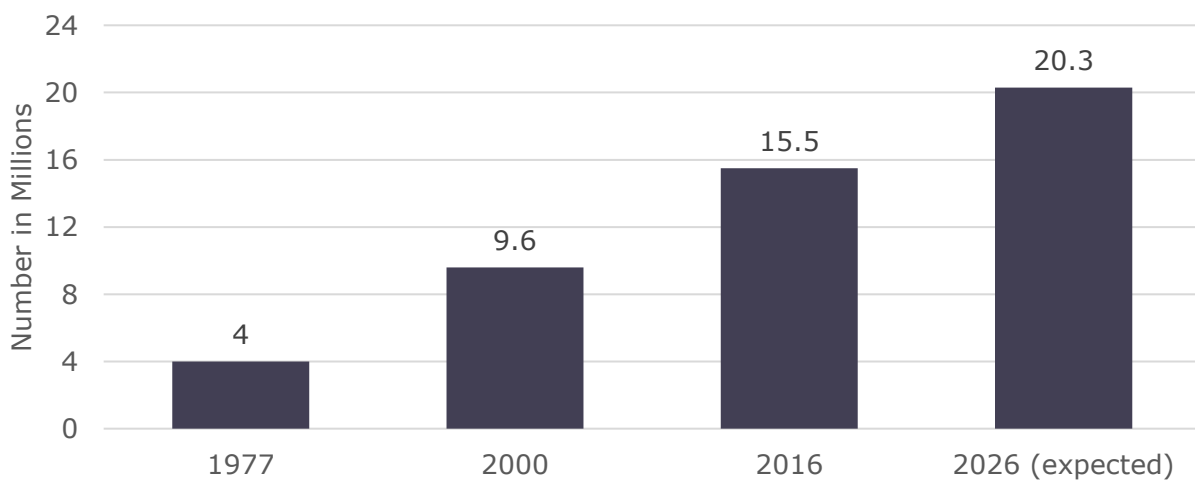
Who Are Cancer Survivors?

A cancer survivor is widely defined as anyone with a history of the disease from the time of diagnosis for the remainder of his or her life (ACS 2016). Cancer survivorship is often considered in three phases—the period from diagnosis to the end of the initial treatment, the period of transition from treatment to long-term survival, and long-term survival (ACS 2016). Survivors have different needs in each of these three stages. The first stage focuses on efforts to eliminate the cancer; the second phase centers on the survivor learning to live with the effects of cancer and its treatment; and the final phase concentrates on ensuring survivors are healthy and maintaining a

good quality of life (ACS 2016). This paper focuses primarily on those in the second and third phases.

The number of survivors in the U.S. has been steadily increasing over the past 40 years—this trend is expected to continue (see Exhibit 1). In 1977, there were fewer than 4 million survivors in the U.S. (Ryerson et al. 2015). As of January 2016, that number had almost quadrupled to more than 15.5 million, with more than half a million of those survivors living in Michigan (ACS 2016). With 67 percent of survivors living five or more years past diagnosis in 2016, the number of U.S. survivors is expected to reach 20.3 million by 2026 (ACS 2016).

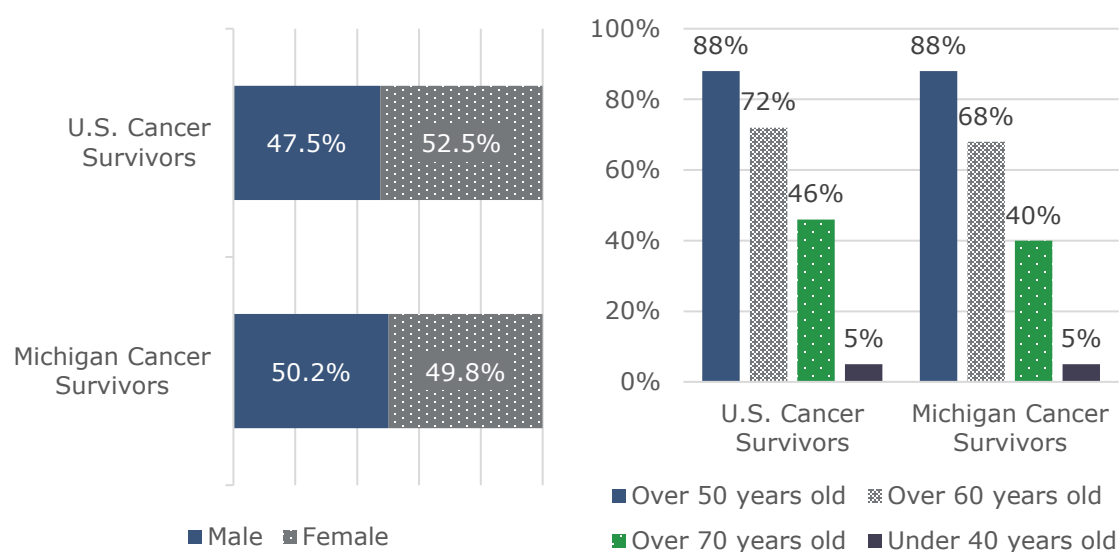
Exhibit 1. Growing Number of U.S. Cancer Survivors



Source: American Cancer Society. 2016. *Cancer Treatment & Survivorship Facts & Figures 2016–2017*. Atlanta: American Cancer Society.

In Michigan, about half of cancer survivors are male (50.2 percent) and most are 50 years old or older (88 percent). Only around 5 percent are younger than 40 years of age (MDHHS 2016). National data shows a similar sex and age breakdown for all U.S. survivors (see Exhibit 2) (ACS 2014).

Exhibit 2. Percentage of Cancer Survivors in the U.S. and Michigan, by Sex and Age



Source: Michigan Department of Health and Human Services, Division for Vital Records and Health Statistics. November 30, 2016. *Michigan Resident Cancer Incidence File: 2013–2014*. and American Cancer Society. 2014. *Cancer Treatment and Survivorship Facts & Figures 2014–2015*.

The Impacts of Cancer and its Treatment

Cancer and its treatment affect patients in a variety of ways, with many experiencing physical and emotional effects long after treatment. One in four survivors report decreased quality of life due to physical problems, while one in ten report a decrease due to emotional problems (ACS 2016). Physical symptoms may include chronic pain, neuropathy (a dysfunction of peripheral nerves that can cause numbness or weakness), lymphedema (a condition of localized fluid retention and tissue swelling), fatigue, sleep disturbance, cognitive problems, and impaired sexual functioning (ACS 2018; ASCO 2018; IOM and NRC 2006; Aiuppa et al. 2018; Naughton and Weaver 2014). Data from the 2016 Michigan Behavioral Risk Factor Survey (MiBRFS) show that nearly one in ten survivors in Michigan (9.7 percent) said they currently had physical pain caused by their cancer or treatment, and 40.3 percent of those said that their pain was not currently under control (MDHHS 2016).

The Centers for Disease Control and Prevention (CDC) (2004) and ACS (2018) note the following emotional issues common among survivors: anxiety, depression, stress, anger, and fear of cancer recurrence. They can also experience cognitive impairment, heightened feelings of vulnerability, difficulty readjusting to normal life and to physical changes caused by cancer

or its treatment, and fear of secondary cancers (Mehta and Roth 2015). Survivors also report feeling greater levels of stress than the general population due in part to the side effects of treatment and the resulting financial difficulties from treatment costs and or the loss of ability to return to work (Parelkar et al. 2013). Data from the 2016 MiBRFS show that almost a third of responding survivors (31.2 percent) reported that their mental health was not good at least one day during the past 30 days, with 13.2 percent saying it was not good for 14 or more (MDHHS 2016).

The Importance of Wellness Interventions

Engaging in healthy behaviors—including physical activity, proper nutrition, tobacco cessation, and routine vaccinations—is important for everyone. However, it may be particularly important for cancer survivors because they can decrease the risk of cancer recurrence or of developing a secondary cancer, increase overall survival, and improve mental and physical health (ACS 2016; CDC 2018).

Physical Activity

There is a growing amount of evidence that cancer survivors benefit from physical activity. For example, physical activity among breast cancer survivors improved physical functioning (Speck et al. 2010; McNeely et al. 2006) and reduced the risk of cancer recurrence, cancer-related mortality, and overall mortality (Ballard-Barbash et al. 2012; Ibrahim and Al-Homaidh 2011; Kim et al. 2013). Exercise also supports mental health by reducing fatigue, anxiety, and depression, as well as increasing self-esteem and happiness (ACS 2016). Another study showed patients who participated in exercise interventions reported a higher quality of life (defined as physical, emotional, and social well-being), and the effects of the intervention were sustained on follow-up assessments (Ferrer et al. 2011). And most survivors handled exercise well both during and after treatment without adverse events (Speck et al. 2010; Schmitz et al. 2005). Survivors may be more likely to engage in physical activity if their oncologist recommends it and/or if the recommendation includes motivational supports such as a pedometer or exercise videos (Park et al. 2015; Jones et al. 2004).

Given the proven benefits of physical activity, ACS (March 2014) recommends survivors take part in the same amount of regular physical activity recommended for the general population, aiming for at least 150

minutes of exercise per week, including strength training at least twice a week. They also recommend avoiding inactivity and returning to normal daily activities as soon as possible after diagnosis. MiBRFS data show nearly three-quarters (72.1 percent) of survivors said they did some form of physical activity in the past month outside of their job (MDHHS 2016).

Healthcare providers should identify exercise interventions appropriate to each survivor's abilities, because the effects of cancer treatment may increase the risk of exercise-related injuries and adverse effects (Schmitz et al. 2010; Rock et al. 2012). For example, those with compromised immune systems should avoid public exercise facilities, and those experiencing severe fatigue may not be able to complete 150 minutes of exercise per week (Schmitz et al. 2010; Rock et al. 2012).

Nutrition

Proper nutrition is also important for survivors. Research shows that a healthy diet may slow the progression of cancer, decrease the risk of recurrence, and increase overall survival (Dieli-Conwright et al. 2016; Rock et al. 2012). A healthy diet can also help avoid obesity and weight gain, both of which may increase the risk of some treatment-related side effects and lead to greater risk of recurrence and death (Demark-Wahnefried et al. 2012; ACS 2016).

The National Comprehensive Cancer Network (NCCN) (2018) recommends that cancer survivors consume a minimum of five servings of fruits and vegetables a day, opt for high-fiber whole grains, choose lean protein, and limit the amount of dairy fat consumed. MiBRFS data show that only 15.9 percent of Michigan cancer survivors consumed at least five fruits and vegetables a day (MDHHS 2015). This may indicate a need for healthcare providers to emphasize the importance of produce consumption based on potential beneficial effects and connect survivors with diet- and nutrition-related resources.

Smoking Cessation

Continuing to smoke after a cancer diagnosis can have several adverse effects. According to a 2014 report of the Surgeon General, this behavior increases overall mortality and cancer-related mortality as well as the risk for a secondary cancer. It may also increase the risk of cancer recurrence, poor response to treatment, and treatment-related toxicity. The report also

found quitting smoking can improve the prognosis of cancer patients (USDHHS 2017).

A cancer diagnosis can provide an opportunity to promote smoking cessation; cessation efforts are most successful when initiated soon after diagnosis (McBride and Ostroff 2003; Viswanath et al. 2010; ACS 2016). Therefore, it is important to screen patients for tobacco use right after diagnosis and provide treatment for smoking cessation as early as possible. In recent years, progress has been made in screening cancer patients for tobacco use, but the provision of cessation treatment is still not widely available (Karam-Hage et al. 2014). For example, in a 2013 survey of over 1,000 oncology providers, most respondents (90 percent) reported routinely asking cancer patients about tobacco use, but only 39 percent said they provided eligible patients with cessation support (Warren et al. 2013).

MiBRFS data show that around 16 percent of cancer survivors are current smokers. Of that 16 percent, nearly 80 percent reported that a healthcare provider had advised them of, or referred them to, a program or resource to help them stop smoking (MDHHS 2016). Michigan providers' strength in this area has likely been boosted by a partnership between MDHHS, the Michigan Oncology Quality Consortium, and the Michigan Cancer Consortium (MCC), which assists oncology offices in implementing system-wide changes to support tobacco cessation referrals to the Michigan Tobacco Quitline and other evidence-based cessation services (MCC 2018).

Vaccinations

Some cancer treatments, such as chemotherapy, radiation, corticosteroids, certain surgeries, and stem cell transplantation, can leave survivors with a suppressed immune system, elevating the risk for infection and complications from vaccine-preventable diseases (Ariza-Heredia and Chemaly 2015; Arrowood and Hayney 2002; Denlinger et al. 2014). Certain vaccinations can reduce the probability of these complications during and after treatment, increasing the importance of getting recommended vaccinations (Ward et al. 2017).

Cancer survivors should consult with their physician about what vaccinations to receive, as these should be tailored to the type of cancer, type of treatment, and length of time after treatment (Baden et al. July 2016; Denlinger et al. 2014). In general, the inactive or recombinant influenza

vaccine and the pneumococcal vaccine are recommended for all survivors, and the zoster (shingles) vaccine is recommended for survivors aged 60 or older (CDC September 2017; Ward et al. 2017). MiBRFS data showed that half (49.9 percent) of cancer survivors reported having a flu shot during the past 12 months, while 78 percent had a pneumonia shot (MDHHS 2016).

Mental and Emotional Well-Being

Since many survivors experience negative psychological effects from cancer and its treatment, screening for mental health issues among cancer survivors is as important as addressing their physical needs. Distress tools are available to aid providers in assessing patients' emotional needs and well-being (ACS 2015). The Institute of Medicine's 2008 report, *Cancer Care for the Whole Patient: Meeting Psychological Health Needs*, found evidence that many psychosocial health services, including peer support programs, cognitive behavioral therapy, supportive psychotherapy, and psychotropic medications were effective at "relieving the emotional distress that accompanies many chronic illnesses, including cancer, even in the case of debilitating depression and anxiety" (IOM 2008, 81). Interventions that help cancer survivors with their mental and emotional well-being could also lead to better physical, psychosocial, and preventive health behavior choices (Parelkar et al. 2013). In a study that examined how coping with stress affected changes in health behaviors, those identified as making an active effort to control stress post-diagnosis were twice as likely to adopt positive health behaviors as those who used passive stress-coping approaches (Parelkar et al. 2013).

Connecting Cancer Survivors to Wellness Programs

Given the physical and psychological needs of cancer survivors, healthcare providers need to focus not only on treating cancer, but also determining what can be done to make and keep survivors physically and mentally healthy. It is important for health systems, public health agencies, and community-based organizations to connect survivors with evidence-based interventions for physical activity, proper nutrition, smoking cessation, immunizations, and mental health support. One way to accomplish this is through the distribution of survivorship care plans. Research suggests every cancer survivor should receive a survivorship care plan from their principal

provider(s) and that this care plan should include recommendations for a healthy lifestyle as well as a list of support resources (IOM and NRC 2006).

In fact, cancer survivors are looking to healthcare providers to help them make the best decisions for their long-term health and wellness. Through several focus groups with survivors, MDHHS learned these individuals want more information from providers on what they should be doing to stay healthy, including help with finding reputable information sources and referrals to dietitians and other nutrition resources tailored to their needs (George, et al. 2018).

The resources providers need to support patients' physical and mental health needs through physical activity, nutrition, smoking cessation, and vaccinations are readily available. Several evidence-based intervention programs have been established in Michigan and many more are available nationally. Some are specific to survivors, while others serve a wider audience but still have applicable information for survivors. These interventions draw on the current best evidence in providing care. The following attachment details programs available in Michigan and provides brief descriptions of programs available across the country for providers who would like to explore additional options.

Evidence-Based Health and Wellness Programs and Interventions

- Michigan Evidence-Based Programs 12**
- Cooking Matters 12
- Diabetes Prevention Program 13
- Enhance Fitness 14
- LIVESTRONG® at the YMCA..... 15
- Michigan Tobacco Quitline..... 16
- Personal Action Toward Health—Cancer: Thriving and Surviving 17
- WISEWOMAN 18
- National Programs and Evidence-Based Interventions 19**
- Physical Activity 19
- Nutrition..... 20
- Smoking Cessation 21
- Vaccinations 22
- Mental and Emotional Well-Being..... 23
- References 24**

Michigan Evidence-Based Programs

Cooking Matters

Program Description

Cooking Matters is a free hands-on cooking and nutrition program for adults that provides individuals with instruction on how to make healthy food choices and shop for groceries on a budget. The recipes used throughout the program include ingredients that would cost 10 dollars or less in total but are still healthy and contain low amounts of sodium, fat, and sugar. Sessions are taught at different community locations.

Program Audience

- Adults who are 18 years of age and older
- Some locations also offer a curriculum for teens

Program Focus

- Nutrition

Program Benefits

- Cooking and shopping with confidence
- Take-home food each week and an opportunity to socialize
- Free recipe book and cooking tools (e.g., scrub brush, cutting board)
- Tips and guidance from a trained nutritionist

Program Components

Classes for Cooking Matters meet for two-hour sessions over six-weeks. Participants can join through self- or provider referral. Chefs and nutrition educators lead classes and provide guidance and information on:

- Menu planning, food budgeting, preparation, and safety

Each week, participants make a different recipe and are then provided ingredients to make it again at home.

Enrollment Information

To refer a patient to Cooking Matters, providers can review the following websites for class locations and additional information:

- [MSU Extension Cooking Matters](http://www.canr.msu.edu/cooking_matters/events)
(http://www.canr.msu.edu/cooking_matters/events)

CDC-Recognized Diabetes Prevention Program (DPP)

Program Description

The DPP provides support through lifestyle change to delay or prevent the onset of type 2 diabetes. Participants work with lifestyle coaches and session participants to gain important skills in managing healthy lifestyle choices.

Program Audience

- Adults who are 18 years of age and older
- Those who are overweight with a body mass index greater than or equal to 25; greater than or equal to 23 if of Asian descent
- Those who do not have type 1 or type 2 diabetes
- Additional requirements include one of the following:
 - A blood test in the last year with results in the prediabetes range
 - Previous gestational diabetes diagnosis
 - A positive screen for prediabetes based on CDC screening guidelines

Program Focus

- Physical activity, nutrition, mental and emotional well-being

Program Benefits

- Tips on stress management and problem-solving skills
- Increased physical activity and nutrition education

Program Components

Participants meet with lifestyle coaches weekly for six months. In the six months that follow, they meet monthly to discuss skills for becoming more physically active and for losing weight. The program is designed to support a collaborative group setting that includes CDC-approved curriculum.

Enrollment Information

To refer a patient to DPP, providers can review the following website for class locations and additional information:

- [Living Healthy in Michigan: Diabetes Prevention Program](http://www.mihealthyprograms.org/diabetes-prevention-program.aspx)
(<http://www.mihealthyprograms.org/diabetes-prevention-program.aspx>)

Additional Resources

- [MDHHS Diabetes Prevention](https://www.michigan.gov/mdhhs/0,5885,7-339-71550_2955_2980_3168-136877--,00.html) (https://www.michigan.gov/mdhhs/0,5885,7-339-71550_2955_2980_3168-136877--,00.html)

Enhance Fitness

Program Description

Enhance Fitness is designed to help primarily older adults at varying levels of fitness to live as independently as possible. The class focuses on functional fitness and supporting healthy aging through low-impact aerobics, flexibility, balance, and strength training. A nationally certified fitness instructor leads classes three times a week, providing social stimulation and physical benefits.

Program Audience

- Older adults at all levels of fitness

Program Focus

- Physical activity and mental and emotional well-being

Program Benefits

- Stress relief, lower blood pressure, and weight management
- Improved sleep and increased energy

Program Components

The program meets for one hour, three times a week. Each class consists of:

- Balance exercises throughout the course
- Five minutes of warm-up exercises and five minutes cool-down activities
- Twenty minutes of aerobic cardiovascular exercises
- Twenty minutes of strength training exercises
- Ten minutes of stretching

Enrollment Information

To refer patients to Enhance Fitness in Michigan, providers can review the following websites for class locations and additional information:

- [National Kidney Foundation of Michigan](https://www.nkfm.org/enhance-fitness) (https://www.nkfm.org/enhance-fitness)
- [Living Healthy in Michigan: Healthy Fitness](http://mihealthyprograms.org/enhance-fitness.aspx) (http://mihealthyprograms.org/enhance-fitness.aspx)

Additional Resources

- [MDHHS Enhance Fitness Program](http://www.michigan.gov/mdhhs/0,5885,7-339-71550_2955_21222_53526-214759--,00.html) (http://www.michigan.gov/mdhhs/0,5885,7-339-71550_2955_21222_53526-214759--,00.html)

LIVESTRONG® at the YMCA

Program Description

LIVESTRONG and the YMCA began collaborating in 2007 to develop a program that focuses on increasing physical activity in cancer survivors following treatment and supporting the body, mind, and spiritual needs of these individuals. Classes are generally offered for free or at little cost to participants.

Program Audience

- Cancer survivors 18 years of age and older

Program Focus

- Physical activity and mental and emotional well-being

Program Benefits

- Increased physical activity
- Improved quality of life
- Decreased cancer-related fatigue

Program Components

LIVESTRONG at the YMCA is a 12-week group program. Classes meet twice a week for 75–90 minutes and are led by trained/certified fitness instructors who have knowledge of survivorship, post-rehabilitation exercise, and supportive cancer care. The program can be customized to the needs of the survivor and includes a focus on cardiovascular conditioning, strength training, balance, and flexibility exercises. Participants must receive a referral from a medical provider and have medical clearance to participate.

Enrollment Information

To refer a patient to LIVESTRONG at the YMCA, providers can review the following websites for class locations and additional information:

- [YMCA](http://www.ymca.net/livestrong-at-the-ymca) (<http://www.ymca.net/livestrong-at-the-ymca>)
- [LIVESTRONG](https://www.livestrong.org/what-we-do/program/livestrong-at-the-ymca) (<https://www.livestrong.org/what-we-do/program/livestrong-at-the-ymca>)

Michigan Tobacco Quitline

Program Description

The Michigan Tobacco Quitline provides support to tobacco users through the tobacco quit process, including developing a quit plan, setting a quit date, understanding tobacco triggers, managing cravings, and getting back on track after a relapse.

Program Audience

- Michigan tobacco users
 - Michigan cancer survivors may qualify for free services

Program Focus

- Tobacco cessation

Program Benefits

- Chemotherapy is more effective for those who quit smoking
- Fewer side effects from surgery and radiation therapy
- Decreased chance of the cancer returning or getting a second cancer
- Decreased risk of other serious illnesses, such as heart and lung disease

Program Components

The Quitline offers:

- Planning and educational materials
- Coaching (done by phone with additional support by email or text)
- Nicotine quit medications (which can double or triple the chances of quitting for good)
- An online community of others working to become tobacco-free

There are three different Quitline programs to meet the needs of different tobacco users including: Phone + Online, Phone Only, or Online Only

Additional Resources

- [MDHHS Tobacco Tools and Resources](https://www.michigan.gov/mdhhs/0,5885,7-339-71550_2955_2973_53244---,00.html)
(https://www.michigan.gov/mdhhs/0,5885,7-339-71550_2955_2973_53244---,00.html)
- [Tobacco Use Factsheet](https://www.thecommunityguide.org/sites/default/files/assets/What-Works-Factsheet-Tobacco.pdf)
(<https://www.thecommunityguide.org/sites/default/files/assets/What-Works-Factsheet-Tobacco.pdf>)

Cancer: Thriving and Surviving

Program Description

Cancer: Thriving and Surviving is a workshop focused specifically on cancer to provide survivors with self-management skills that promote an active role in managing their disease and living a healthier life.

Program Audience

Any survivor in treatment or remission is encouraged to attend. Family members, caregivers, and friends are also eligible to participate.

Program Focus

- Physical activity, nutrition, mental and emotional well-being

Program Benefits

- Feelings of self-efficacy and better symptom management
- Tips for communicating with providers, family, and friends
- Socialization with individuals who have similar experiences

Program Components

The program is a six-week workshop led by two facilitators (at least one of whom is a cancer survivor). Classes are delivered in a small group setting to promote sharing and discussion among participants. Topics covered throughout the workshop include:

- Managing fatigue, the effects of treatment, pain, stress, and medication
- Setting weekly goals
- Discussing nutrition and physical activity
- Living with uncertainty as well as managing emotions and relationships
- Discussing cancer and changes to the body

Enrollment Information

To refer patients, providers can review these websites for class locations and additional information:

- [National Kidney Foundation of Michigan](https://www.nkfm.org/path) (<https://www.nkfm.org/path>)
- [Living Healthy in Michigan: PATH](http://mihealthyprograms.org/programs-path.aspx)
(<http://mihealthyprograms.org/programs-path.aspx>)

Additional Resources

- [MDHHS Personal Action Toward Health \(PATH\) Program](https://www.michigan.gov/mdhhs/0,5885,7-339-71550_2955_21222_53526-259210--,00.html)
(https://www.michigan.gov/mdhhs/0,5885,7-339-71550_2955_21222_53526-259210--,00.html)

WISEWOMAN

Program Description

WISEWOMAN (Well-Integrated Screening and Evaluation for Women Across the Nation) provides opportunities that empower Michigan women to make healthy lifestyle choices. The program focuses on:

- Identifying and communicating risk factors for heart disease, stroke, and other chronic diseases
- Encouraging healthy lifestyle choices through healthy eating, physical activity, and smoking cessation

Program Audience

- Women aged 40–64
- Women in the Michigan Breast and Cervical Cancer Control Navigation Program (BCCCNP) who received a breast or cervical cancer screening

Program Focus

- Physical activity, nutrition and smoking cessation

Program Benefits

- Increased physical activity and self-efficacy
- Nutrition education and health coaching

Program Components

Participants work with clinical staff and a health coach to discuss healthy behaviors. Clinical staff collect a medical history from the participant and conduct a clinical screening. A health coach talks with the participant regarding chronic disease risk factors and determines if she is ready to make lifestyle changes. If ready, the coach works with her to take small, manageable steps toward improving health by providing:

- Referrals to free weight loss and diabetes prevention programs
- Referrals to community-based lifestyle programs and resources
- Free Market Fresh coupons to spend at farmer's markets

Additional Resources

To refer women, providers can review the following websites for additional information:

- [Michigan WISEWOMAN](http://www.miwisewoman.org/) (<http://www.miwisewoman.org/>)
- [Breast and Cervical Cancer Control Navigation Program](https://www.michigancancer.org/bcccp/) (<https://www.michigancancer.org/bcccp/>)

National Programs and Evidence-Based Interventions

These programs and interventions are not specifically in Michigan but provide good information for health systems, community-based organizations, or public health agencies interested in addressing these wellness intervention areas.

Physical Activity

Program	Description	Audience	Resources
<u>Cancer Fit</u>	Cancer Fit is a nonprofit organization that offers free community programs to child and adult cancer survivors that address fitness and wellness goals throughout the course of cancer survivorship.	Adolescent and adult cancer survivors	<ul style="list-style-type: none"> • <u>http://cancer.fit/</u>
<u>Fit & Strong</u>	An eight-week evidence-based program that provides support and education to older adults suffering from osteoarthritis. This program provides education on how physical activity can be tailored to meet the needs of individuals.	Older adults with osteoarthritis	<ul style="list-style-type: none"> • <u>https://www.fitandstrong.org/</u>
<u>Walking for Wellbeing in the West</u>	A 12-week walking intervention that uses pedometers to support those struggling to meet minimum physical activity recommendations. Physical activity consultations are included as part of this program.	Adults able to walk independently for five to ten minutes, but not involved in regular physical activity	<ul style="list-style-type: none"> • <u>https://rtips.cancer.gov/rtips/programDetails.do?programId=16990213</u>

Nutrition

Program	Description	Audience	Resources
<u>Building Healthy Families</u>	This six-week program promotes healthy eating habits and dietary choices to reduce obesity. Classes include videos and interactive activities that provide education on nutrition, food preparation, and budgeting.	Adults between 19 and 39 years of age	<ul style="list-style-type: none"> • https://rtips.cancer.gov/rtips/programDetails.do?programId=2646469 • https://www.bcm.edu/cnrc-apps/buildinghealthyfamilies/
<u>Complete Health Improvement Program (CHIP)</u>	CHIP is a three-month program that encourages healthy dietary choices and physical activity among participants in a group setting through lifestyle modification to decrease chronic disease risk factors.	Adults 40 years of age and older	<ul style="list-style-type: none"> • https://rtips.cancer.gov/rtips/programDetails.do?programId=1194633 • https://www.chiphealth.com/

Smoking Cessation

Program	Description	Audience	Resources
<u>A Self-Help Intervention for African American Smokers</u>	<p>This program introduces strategies to quit smoking through a culturally appropriate self-help guide with personalized counseling. Participants receive a smoking cessation guide, along with tailored, guide-based telephone counseling to establish a personal quitting and maintenance plan.</p> <p>A free implementation guide, participant and counselor’s manuals, and tailored counseling checklist are also available.</p>	<p>African-American smokers</p>	<ul style="list-style-type: none"> • <u>https://rtips.cancer.gov/rtips/programDetails.do?programId=312567</u>
<u>Clear Horizons</u>	<p>A 48-page self-help guide and telephone counseling protocol tailored for the smoking habits, quitting needs, and lifestyles of older smokers.</p> <p>A free self-help guide and telephone counseling protocol for older smokers is also available.</p>	<p>People 50 years of age and over</p>	<ul style="list-style-type: none"> • <u>https://rtips.cancer.gov/rtips/programDetails.do?programId=186990</u>

Vaccinations

Intervention	Description	Audience	Resources
<p><u>Client reminder and recall systems</u></p>	<p>Client reminder and recall interventions remind members of a specific population that vaccinations are due (reminders) or late (recall). Reminders and recalls differ in content and are delivered by various methods (e.g., telephone, letter, postcard, text message). Most reminder and recall notices are tailored for individual clients, and many include educational messages about the importance of vaccination.</p>	<p>Children, adolescents, adults, and seniors</p>	<ul style="list-style-type: none"> • https://www.thecommunityguide.org/findings/vaccination-programs-client-reminder-and-recall-systems
<p><u>Educate survivors about the importance of receiving flu and pneumonia vaccinations</u></p>	<p>Everyone six months of age and older should get a flu vaccine every season. Living with cancer increases the risk of complications from influenza. Those who have cancer now or have had cancer in the past are at higher risk for complications from the seasonal flu, including hospitalization or death.</p>	<p>Cancer patients and survivors</p>	<ul style="list-style-type: none"> • https://www.cdc.gov/cancer/flu/index.htm • https://www.cdc.gov/vaccines/adults/rec-vac/health-conditions/weakened-immune.html

Mental and Emotional Well-Being

Program	Description	Audience	Resources
<u>Alleviating Depression Among Patients with Cancer (ADAPt-C)</u>	ADAPt-C utilizes problem-solving therapy in a hospital-based oncology clinic setting to address symptoms of depression in low-income, minority cancer patients. Goals involve supporting cancer survivor quality of life and psychosocial functioning.	Adult cancer survivors with depression or dysthymia symptoms receiving care in an oncology clinic	<ul style="list-style-type: none"> • https://rtips.cancer.gov/rtips/programDetails.do?programId=3551008
<u>Managing Uncertainty Day-to-Day</u>	This program offers older breast cancer survivors educational materials and support via four weekly phone calls from nurses. Participants discuss the stress and uncertainty that accompanies cancer recurrence and long-term effects from treatment.	Female breast cancer survivors 40 years of age and older	<ul style="list-style-type: none"> • https://rtips.cancer.gov/rtips/programDetails.do?programId=286781
<u>Sleep Healthy Using the Internet (SHUTi)</u>	SHUTi is a seven-week interactive online program that provides guidance and support through cognitive behavioral therapy for those with insomnia on how to best reach their sleep goals.	Adults with insomnia	<ul style="list-style-type: none"> • http://www.myshuti.com/
<u>Surviving Cancer Competently Intervention Program (SCCIP)</u>	SCCIP is a one-day intervention for adolescent cancer survivors and their families conducted with a cognitive behavioral therapy and family therapy approach. Program goals involve reducing distress related to cancer diagnosis and experience.	Adolescent cancer survivors and their families	<ul style="list-style-type: none"> • https://rtips.cancer.gov/rtips/programDetails.do?programId=102875

References

- Aiuppa, Laura, Maria Hewitt, and Sharyl Nass. 2018. *Long-term Survivorship Care After Cancer Treatment: Proceeding of a Workgroup*. Washington DC: The National Academies Press.
- American Cancer Society. 2014. *Cancer Treatment and Survivorship Facts & Figures 2014–2015*. Accessed July 2, 2018. Atlanta: American Cancer Society. <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-2014-2015.pdf>
- American Cancer Society. March 24, 2014. *Physical Activity and the Cancer Patient*. Accessed July 7, 2018. <https://www.cancer.org/treatment/survivorship-during-and-after-treatment/staying-active/physical-activity-and-the-cancer-patient.html>
- American Cancer Society. Revised June 8, 2015. "Distress in People with Cancer." *Tools to Help Measure Distress*. American Cancer Society. Accessed August 29, 2018 at www.cancer.org/treatment/treatments-and-side-effects/emotional-side-effects/distress/tools-to-measure-distress.html
- American Cancer Society. 2016. *Cancer Treatment & Survivorship Facts & Figures 2016–2017*. Atlanta: American Cancer Society. Accessed July 2, 2018. <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>
- American Cancer Society. 2018. *Managing Cancer-related Side Effects*. Accessed August 28, 2018. <https://www.cancer.org/treatment/treatments-and-side-effects/physical-side-effects.html>

American Society of Clinical Oncology (ASCO). 2018. *Long-term Side Effects of Cancer Treatment*. Accessed August 28, 2018.

<https://www.cancer.net/survivorship/long-term-side-effects-cancer-treatment>

Ariza-Heredia, Ella and Roy Chemaly. November 2015. "Practical Review of Immunizations in Adult Patients with Cancer." *Human Vaccines and Immunotherapeutics* 11(11): 2606–2614.

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4685676/>

Arrowwood, Jodi and Mary Hayney. July-August 2002. "Immunization Recommendations for Adults with Cancer." *Annals of Pharmacotherapy* 36(7–8): 1219–1229. <https://www.ncbi.nlm.nih.gov/pubmed/12086557>

Baden, Lindsey Robert, Sankar Swaminathan, Michael Angarone, et al. July 2016. "Prevention and Treatment of Cancer-related Infections, Version 2.2016." *Journal of the National Comprehensive Cancer Network* 14(7): 882–913.

<http://www.jnccn.org/content/14/7/882.full.pdf+html>

Ballard-Barbash, Rachel, Christine Friedenreich, Kerry Courneya, et al. June 6, 2012. "Physical Activity, Biomarker, and Disease Outcomes in Cancer Survivors: A Systematic Review." *Journal of the National Cancer Institute* 104(11): 815–840.

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3465697/>

Centers for Disease Control and Prevention. April 2004. *A National Action Plan for Cancer Survivorship: Advancing Public Health Strategies*. Atlanta: Centers for Disease Control and Prevention. Accessed July 2, 2018. <https://www.cdc.gov/cancer/survivors/pdf/plan.pdf>

Centers for Disease Control and Prevention. September 26, 2017. "Cancer, the Flu, and You." *Centers for Disease Control and Prevention*. Accessed August 20, 2018. <https://www.cdc.gov/cancer/flu/>

Centers for Disease Control and Prevention. April 2018. "Staying Healthy after Cancer Treatment." *Centers for Disease Control and Prevention*. Accessed July 2, 2018. <https://www.cdc.gov/cancer/survivors/life-after-cancer/staying-healthy-after-cancer-treatment.htm>

Demark-Wahnefried, Wendy, Elizabeth Platz, Jennifer Ligibel, et al. August 2012. "The Role of Obesity in Cancer Survival and Recurrence." *Cancer Epidemiology, Biomarkers and Prevention* 21(8): 1244–1259. <http://cebp.aacrjournals.org/content/21/8/1244>

Denlinger, Crystal S., Jennifer A. Ligibel, Madhuri Ae, K. Scott Baker, et al. August 2014. "Survivorship: Immunizations and Prevention of Infections, Version 2.2014." *Journal of the National Comprehensive Cancer Network* 12(8): 1098–1111. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4465238/>

Dieli-Conwright, Christina, Kyuwan Lee, and Jacqueline Kiwata. 2016. "Reducing the Risk of Breast Cancer Recurrence: An Evaluation of the Effects and Mechanisms of Diet and Exercise." *Current Breast Cancer Reports* 8(3): 139–150. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5112289/>

Ferrer, Rebecca A., Tania B. Huedo-Medina, Blair T. Johnson, et.al. February 2011. "Exercise Interventions for Cancer Survivors: A Meta-analysis of Quality of Life Outcomes." *Annals of Behavioral Medicine* 41(1): 32–47. <https://doi.org/10.1007/s12160-010-9225-1>

George, M., Seaton, T., Haggerty, D., and Webster, D. (in press). "Evaluating the Needs of Cancer Survivors through Focus Groups and Surveillance Data" *Michigan Journal of Public Health*.

Ibrahim, Ezzeldin and Abdelaziz Al-Homaidh. September 2011. "Physical Activity and Survival after Breast Cancer Diagnosis: Meta-analysis of Published Studies." *Medical Oncology* 28(3): 753–765. <https://doi.org/10.1007/s12032-010-9536-x>

- Institute of Medicine and National Research Council (IOM and NRC). 2006. *From Cancer Patient to Cancer Survivor: Lost in Transition*. Accessed July 2, 2018. Washington, DC: The National Academies Press. <https://doi.org/10.17226/11468>
- Institute of Medicine (IOM). 2008. "Psychosocial Health Services." *Cancer Care for the Whole Patient: Meeting Psychosocial Health Needs*. Accessed August 29, 2018. Washington, DC: National Academies Press. <https://doi.org/10.17226/11993>
- Jones, Lee W., Kerry S. Courneya, Adrian S Fairey, and John R. Mackey. October 1, 2004. "Effects of an Oncologist's Recommendation to Exercise on Self-reported Exercise Behavior in Newly Diagnosed Breast Cancer Survivors: A Single-blind, Randomized Controlled Trial." *Annals of Behavioral Medicine* 28(2): 105–113. Doi: [10.1207/s15324796abm2802_5](https://doi.org/10.1207/s15324796abm2802_5)
- Karam-Hage, Maher, Paul M. Cinciripini, and Ellen R. Gritz. July/August 2014. "Tobacco Use and Cessation for Cancer Survivors: An Overview for Clinicians." *CA: A Cancer Journal for Clinicians* 64(4): 272–290. <https://doi.org/10.3322/caac.21231>
- Kim, Jeongseon, Wook Jin Choi, and Seung Hwa Jeong. September 2013. "The Effects of Physical Activity on Breast Cancer Survivors after Diagnosis." *Journal of Cancer Prevention* 18(3): 193–200. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4189463/>
- McBride, Colleen and Jamie Ostroff. July-August 2003. "Teachable Moments for Promoting Smoking Cessation: The Context of Cancer Care and Survivorship." *Cancer Control* 10(4): 325–333. <https://www.ncbi.nlm.nih.gov/pubmed/12915811>
- McNeely, Margaret, Kristin Campbell, Brian Rowe, et al. July 4, 2006. "Effects of Exercise on Breast Cancer Patients and Survivors: A Systematic Review and Meta-analysis." *Canadian Medical Association Journal* 175(1): 34–41. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1482759/>

- Mehta, Reema D. and Andrew J. Roth. July/August 2105. "Psychiatric Considerations in the Oncology Setting." *CA: A Cancer Journal for Clinicians* 65(4): 300–314. <https://doi.org/10.3322/caac.21285>
- Michigan Cancer Consortium. 2018. Michigan Tobacco Quitline Partnership with the MCC. Accessed September 6, 2018. <https://www.michigancancer.org/PDFs/AboutTheMCC/MCCMeetings/BoDMtg/MCCMtgMinutes/2018/032818/MichiganSurvivorshipCollaborativeUpdate.pdf>
- Michigan Department of Health and Human Services, Division for Vital Records and Health Statistics. November 30, 2016. *Michigan Resident Cancer Incidence File: 2013–2014*. Provided by the Michigan Department of Health and Human Services on May 3, 2018.
- Michigan Department of Health and Human Services, Michigan Behavioral Risk Factor Surveillance System. 2015. *Michigan BRFSS Annual Data*. Provided by the Michigan Department of Health and Human Services on April 18, 2018.
- Michigan Department of Health and Human Services. 2016. *Michigan BRFSS Annual Data*. Provided by the Michigan Department of Health and Human Services on April 18, 2018.
- National Comprehensive Cancer Network. 2018. *Nutrition for Cancer Survivors*. Accessed July 25, 2018. https://www.nccn.org/patients/resources/life_after_cancer/nutrition.aspx
- National Institute of Health (NIH). 2018. *Cancer*. Accessed August 3, 2018. <https://report.nih.gov/nihfactsheets/viewfactsheet.aspx?csid=75>
- Naughton, Michelle J. and Kathryn Weaver. July/August 2014. "Physical and Mental Health Among Cancer Survivors: Considerations for Long-term Care and Quality of Life." *North Carolina Medical Journal* 75(4): 283–286. <http://www.ncmedicaljournal.com/content/75/4/283.long>

- Parelkar, Pratibha, Nancy J. Thompson, Chiew Kwei Kaw, Kathleen R. Miner, and Kevin D. Stein. March 16, 2013. "Stress Coping and Changes in Health Behavior Among Cancer Survivors: A Report from the American Cancer Society's Study of Cancer Survivors-II." *Journal of Psychosocial Oncology* 31(2): 136–152. Doi: [10.1080/07347332.2012.761322](https://doi.org/10.1080/07347332.2012.761322)
- Park, Ji-Hye, Junga Lee, Minsuk Oh, Hyuna Park, Jisuk Chae, et al. August 15, 2015. "The Effect of Oncologists' Exercise Recommendation on the Level of Exercise and Quality of Life in Breast and Colorectal Cancer Survivors: Randomized Controlled Trial." *Cancer* 121(16): 2740-2748. Doi: [10.1002/cncr.29400](https://doi.org/10.1002/cncr.29400)
- Rock, Cheryl L., Colleen Doyle, Wendy Demark-Wahnefried, Jeffrey Meyerhardt, et al. July/August 2012. "Nutrition and Physical Activity Guidelines for Cancer Survivors." *CA: A Cancer Journal for Clinicians* 62(4): 243–274.
<https://onlinelibrary.wiley.com/doi/pdf/10.3322/caac.21142>
- Ryerson, A. Blythe, Christie Ehemann, Timothy Styles, Randi Rycroft, and Claire Snyder. December 2015. "Connecting the Dots: Linking the National Program of Cancer Registries and the Needs of Survivors and Clinicians." *American Journal of Preventive Medicine* 49(6): s528–s535. Doi: [10.1016/j.amepre.2015.08.026](https://doi.org/10.1016/j.amepre.2015.08.026)
- Schmitz, Kathryn, Kerry Courneya, Charles Matthews, et al. July 2010. "American College of Sports Medicine Roundtable on Exercise Guidelines for Cancer Survivors." *Medicine and Science in Sports and Exercise* 42(7): 1409–1426. https://journals.lww.com/acsm-msse/fulltext/2010/07000/American_College_of_Sports_Medicine_Roundtable_on.23.aspx
- Schmitz, Kathryn, Jeremy Holtzman, Kerry Courneya, et al. July 2005. "Controlled Physical Activity Trials in Cancer Survivors: A Systematic Review and Meta-analysis." *Cancer Epidemiology, Biomarkers & Prevention* 14(7): 1588–1595.
<http://cebp.aacrjournals.org/content/14/7/1588>

Speck, Rebecca, Kerry Courneya, Louise Masse, et al. June 2010. "An Update of Controlled Physical Activity Trials in Cancer Survivors: A Systematic Review and Meta-analysis." *Journal of Cancer Survivorship* 4(2): 87–100. [Doi: 10.1007/s11764-009-0110-5](https://doi.org/10.1007/s11764-009-0110-5)

United States Department of Health and Human Services (USDHHS). 2014. *The Health Consequences of Smoking: 50 Years of Progress. A Report of the Surgeon General*. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health. Accessed September 6, 2018. <https://www.surgeongeneral.gov/library/reports/50-years-of-progress/full-report.pdf>

Viswanath, Kasisomayajula, Roy Herbst, Stephanie Land, et al. May 2010. "Tobacco and Cancer: An American Association for Cancer Research Policy Statement." *Cancer Research* 70(9): 3419–3430. <http://cancerres.aacrjournals.org/content/70/9/3419>

Ward, Elizabeth, Christopher Flower, Ted Gansler, et al. September/October 2017. "The Importance of Immunization in Cancer Prevention, Treatment, and Survivorship." *CA: A Cancer Journal for Clinicians* 67(5): 399–410. <https://doi.org/10.3322/caac.21407>

Warren, Graham, James Marshall, K. Michael Cummings, et al. September 2013. "Addressing Tobacco Use in Patients with Cancer: A Survey of American Society of Clinical Oncology Members." *Journal of Oncology Practice* 9(5): 258–262. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3770508/>