

Survivorship in Oncology: Importance and Impact in Patient Care

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Disclosures

Relevant financial relationships in the past twelve months by presenter or spouse/partner.

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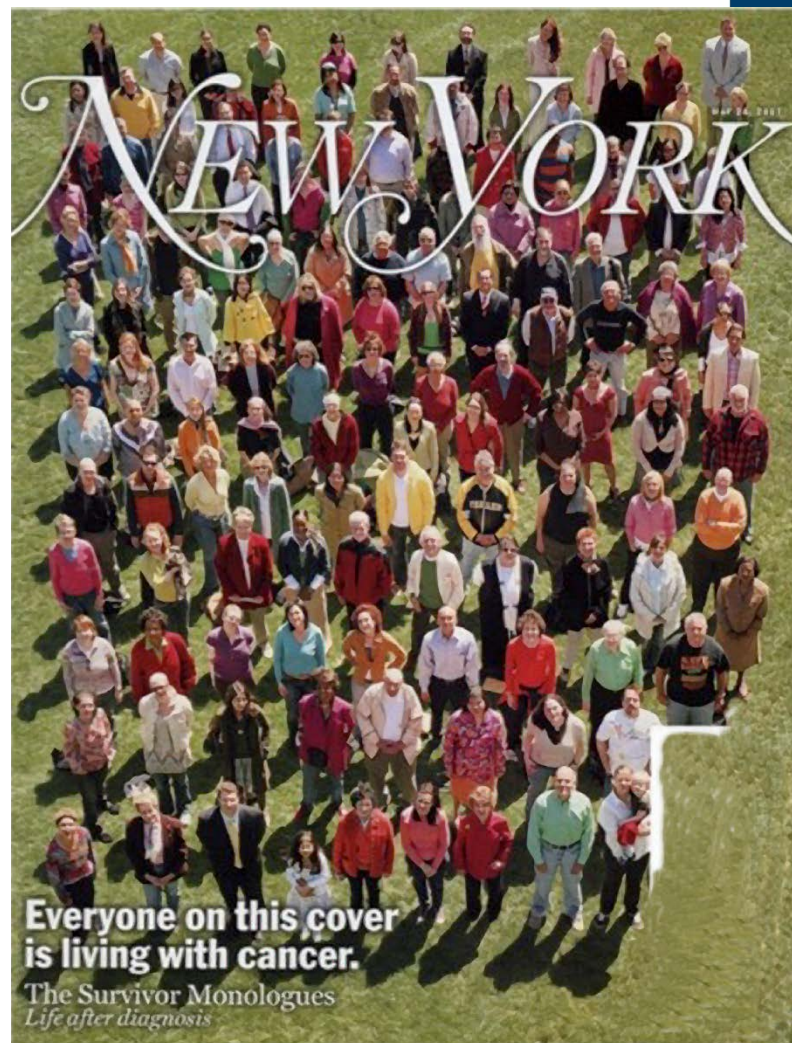
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Objectives

- Describe the growing burden of Cancer Survivorship
- Identify Major Late Effects
 - Example: Therapy Induced Cardiovascular Disease
- Discuss the opportunities and barriers of delivering survivorship care
 - Cancer screening
 - Role delineation of care
 - Shared care

Updates in Survivorship Care

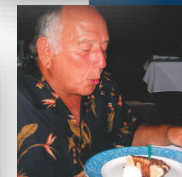
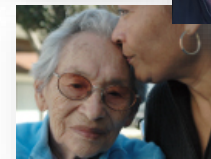


NCCN Guidelines: Definition of Survivorship

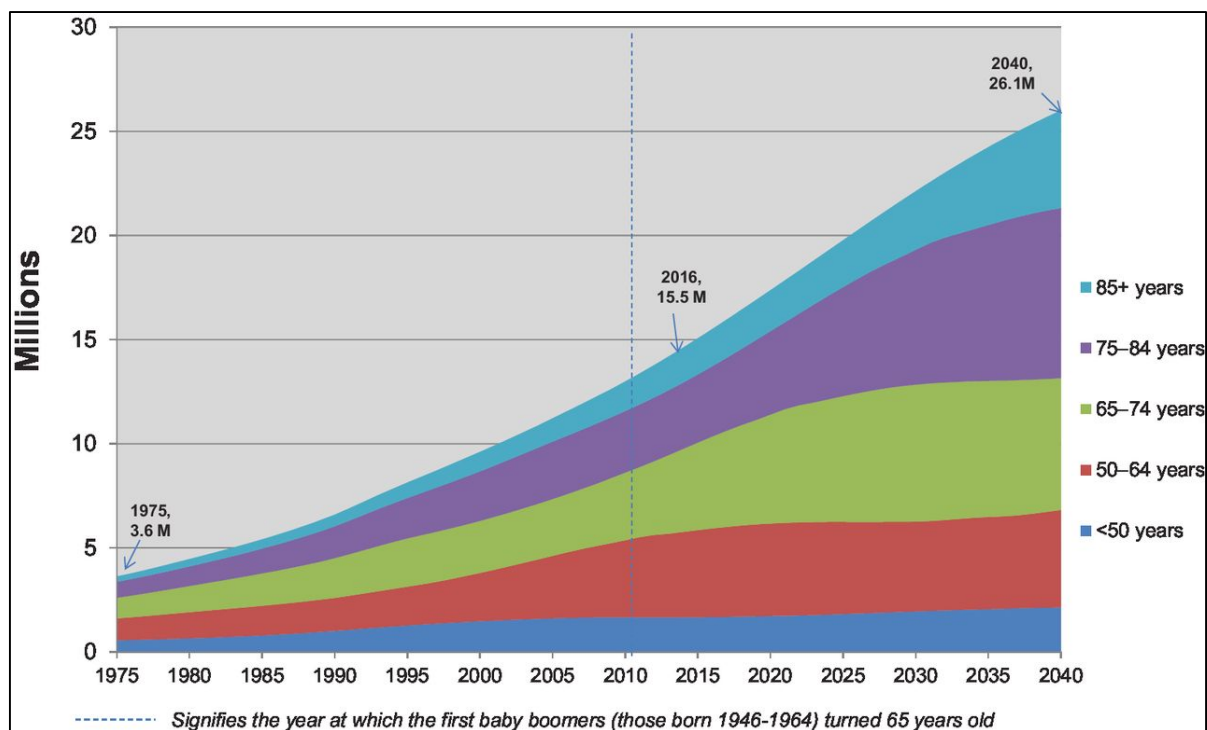
- An individual is considered a cancer survivor from the time of diagnosis, through the balance of his or her life. Family members, friends, and caregivers are also affected by cancer.
- These guidelines focus on the vast and persistent impact both the diagnosis and treatment of cancer have on the adult survivor. This includes the potential impact on health, physical and mental states, health behaviors, professional and personal identity, sexuality, and financial standing.

A Cancer Survivor is Anyone Diagnosed with Cancer and

- Living cancer-free for the remainder of life
- Living cancer-free for many years but experiencing one or more serious, late complications of treatment
- Living cancer-free for many years, but dying after a late recurrence
- Living cancer-free after the first cancer is treated, but developing a second cancer
- Living with intermittent periods of active disease requiring treatment
- Living with cancer continuously without a disease-free period

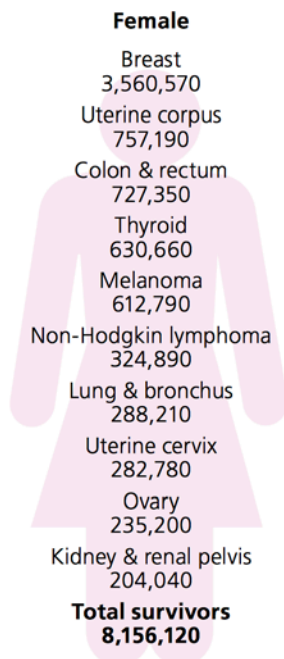
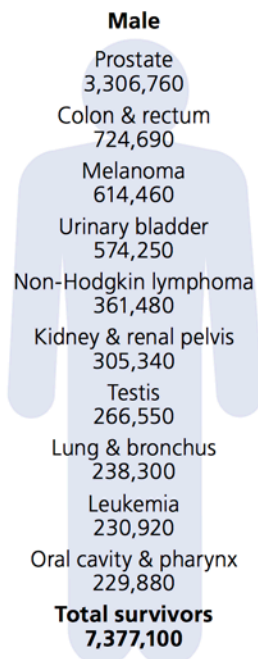


Growing Survivorship Population

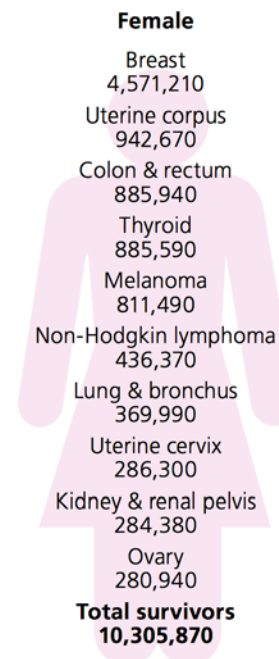
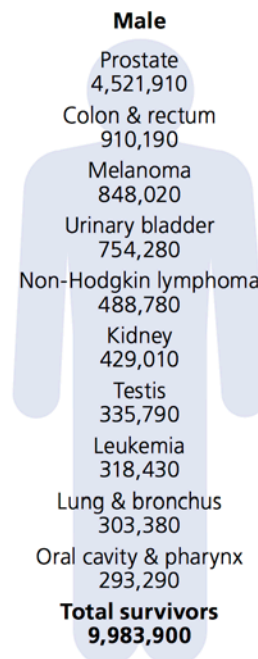


Estimated Number of Cancer Survivors By Site

As of January 1, 2016

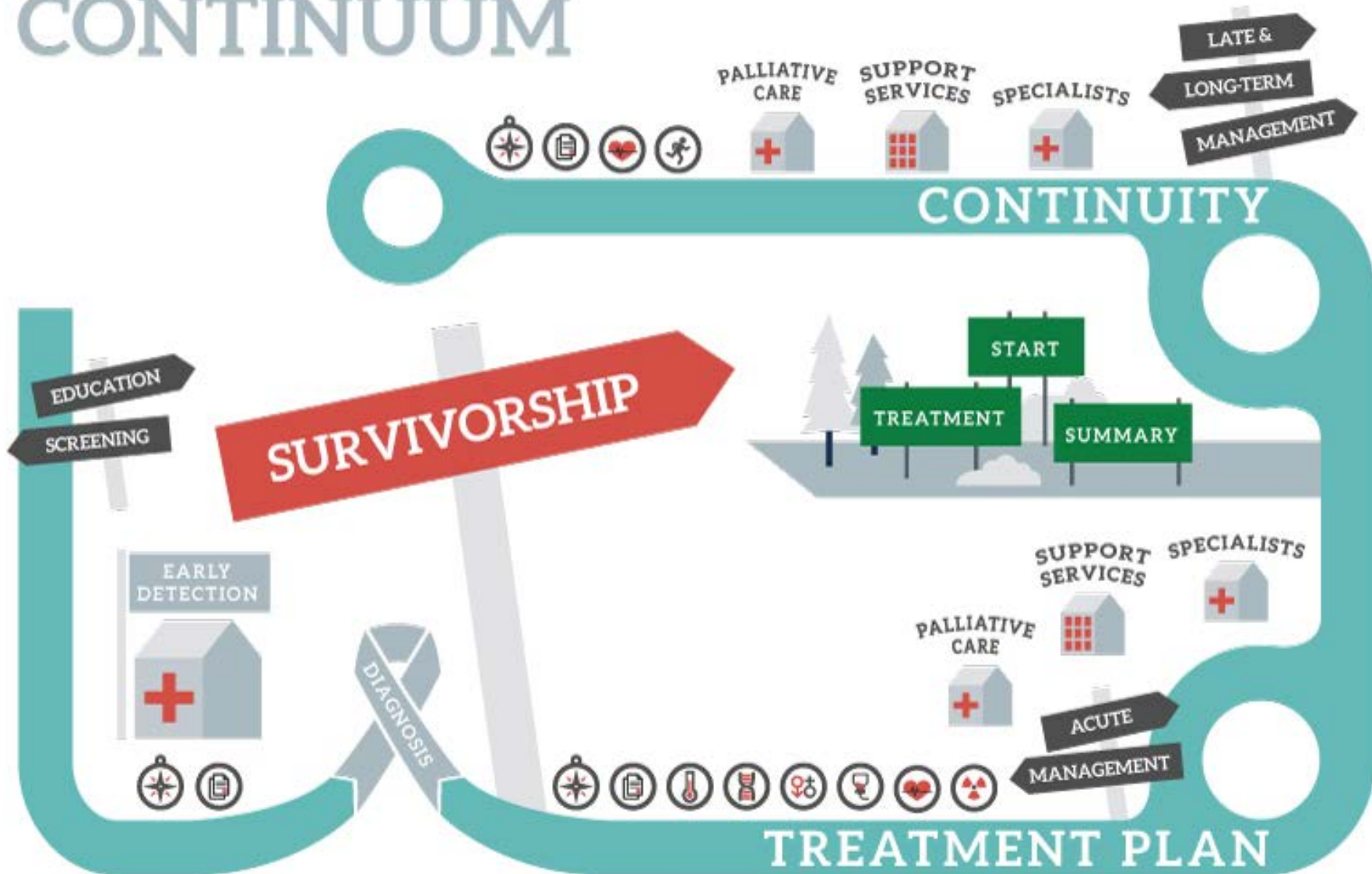


As of January 1, 2026



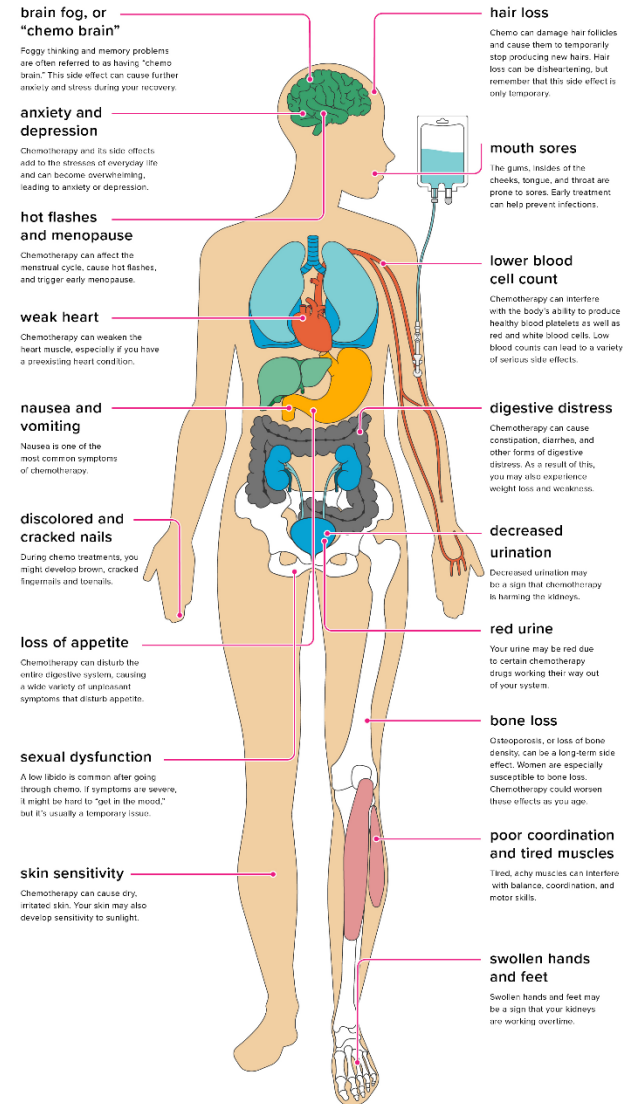
Surveillance Research Program, Division of Cancer Control and Population Sciences, National Cancer Institute.
American Cancer Society, Surveillance and Health Services Research, 2016-2017.

CANCER SURVIVORSHIP CONTINUUM



Possible Late Effects of Treatment

- Single or Multi-Modality Treatment
- Baseline Co-Morbid Conditions
- Treatment Related Effects
- Clinical Challenges: Which issues is the patient at greatest risk for?



Prioritization of Risk: Example US Women and Breast Ca

Heart Disease

- ~47.8M women living with some form of CVD
- >289,000 women die each year from heart disease— 5X as many as breast ca
- Leading cause of death – 1 in 4 female deaths

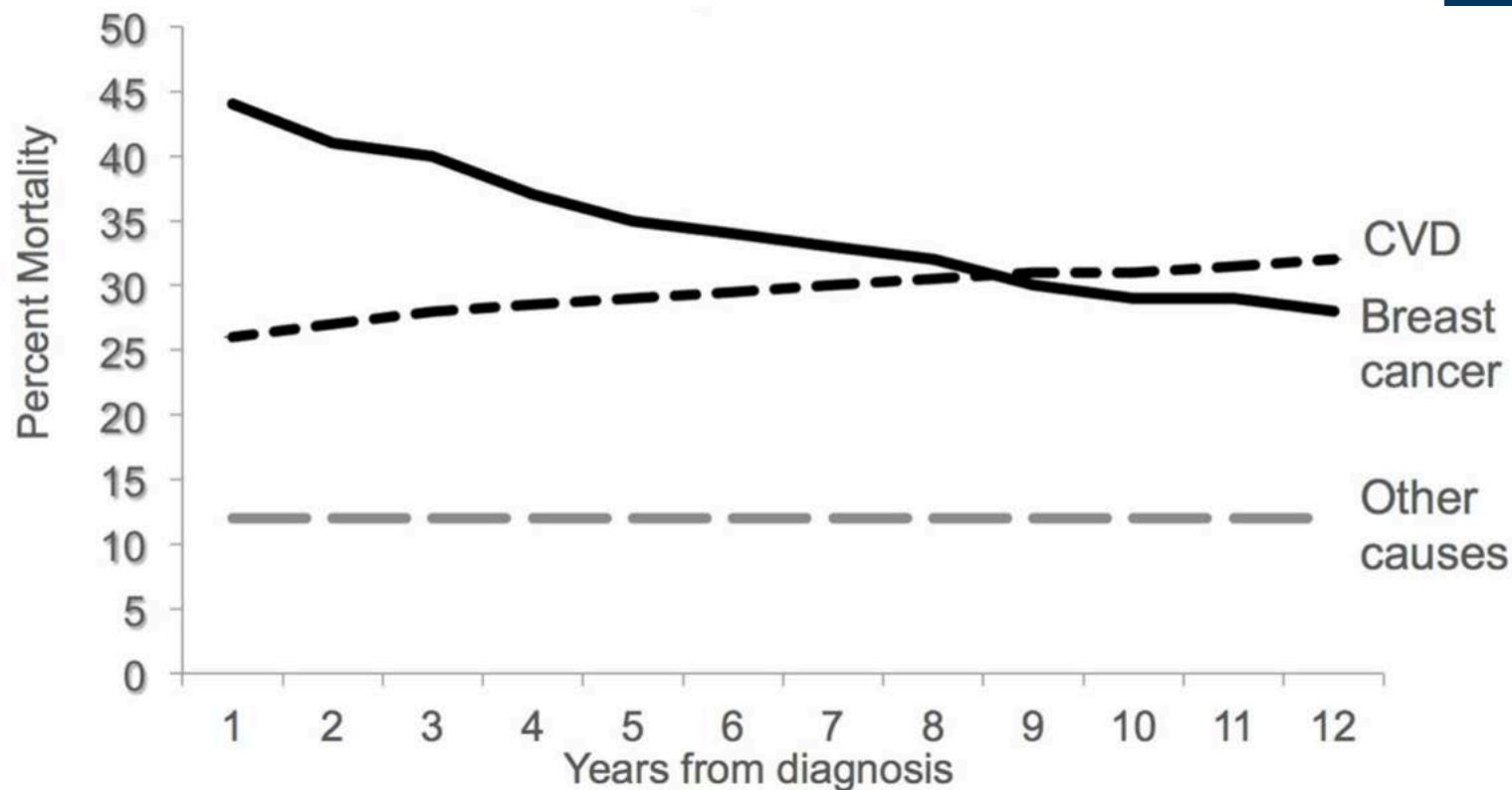
Breast Cancer

- ~3.3M women are living with or through a diagnosis of breast ca
- ~41, 000 women die each year from breast ca
- Early stage breast ca survivors ≥ 65 yrs: CVD is the leading cause of death followed by breast ca

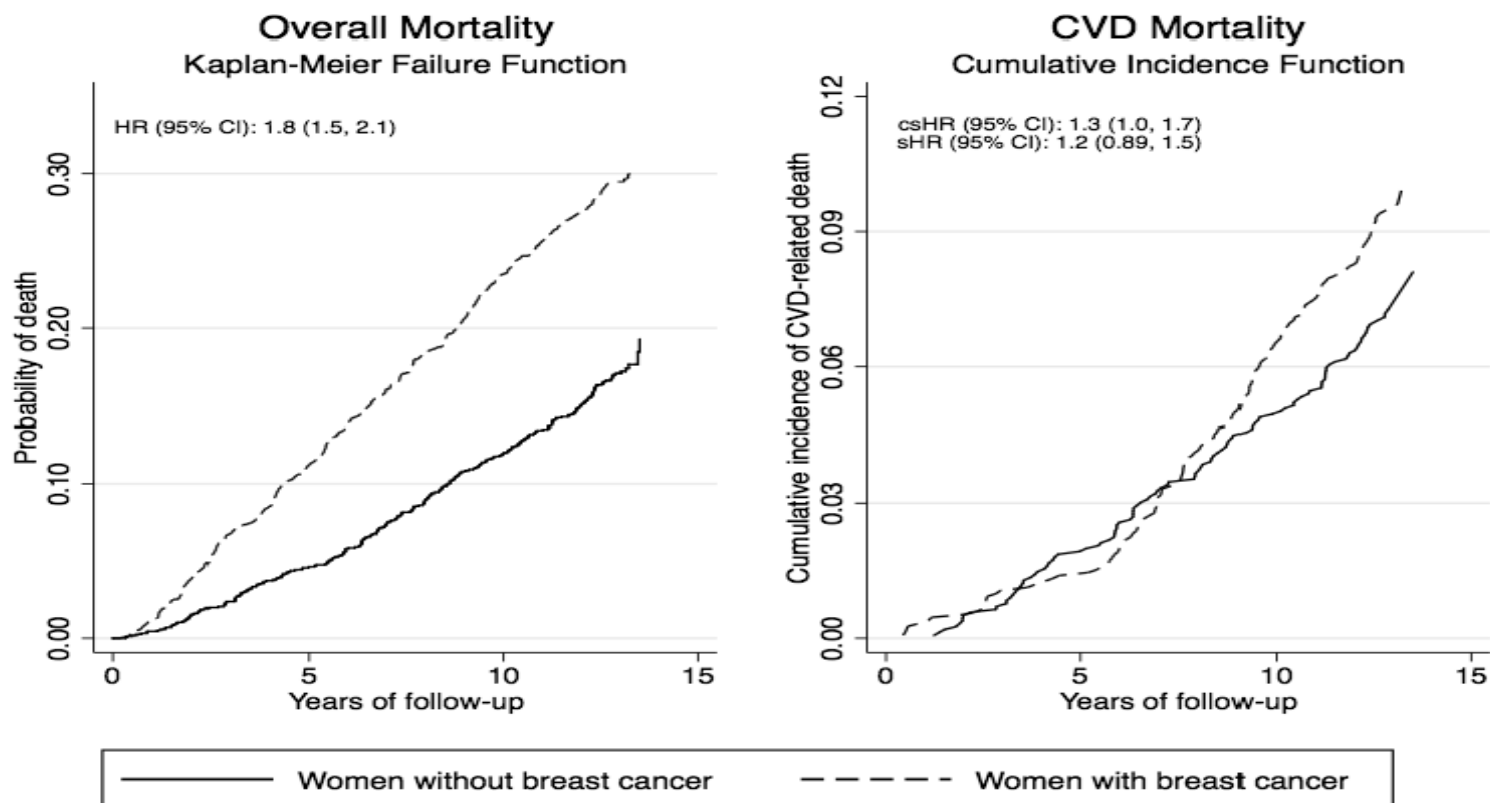
www.cdc.gov

www.cancer.org

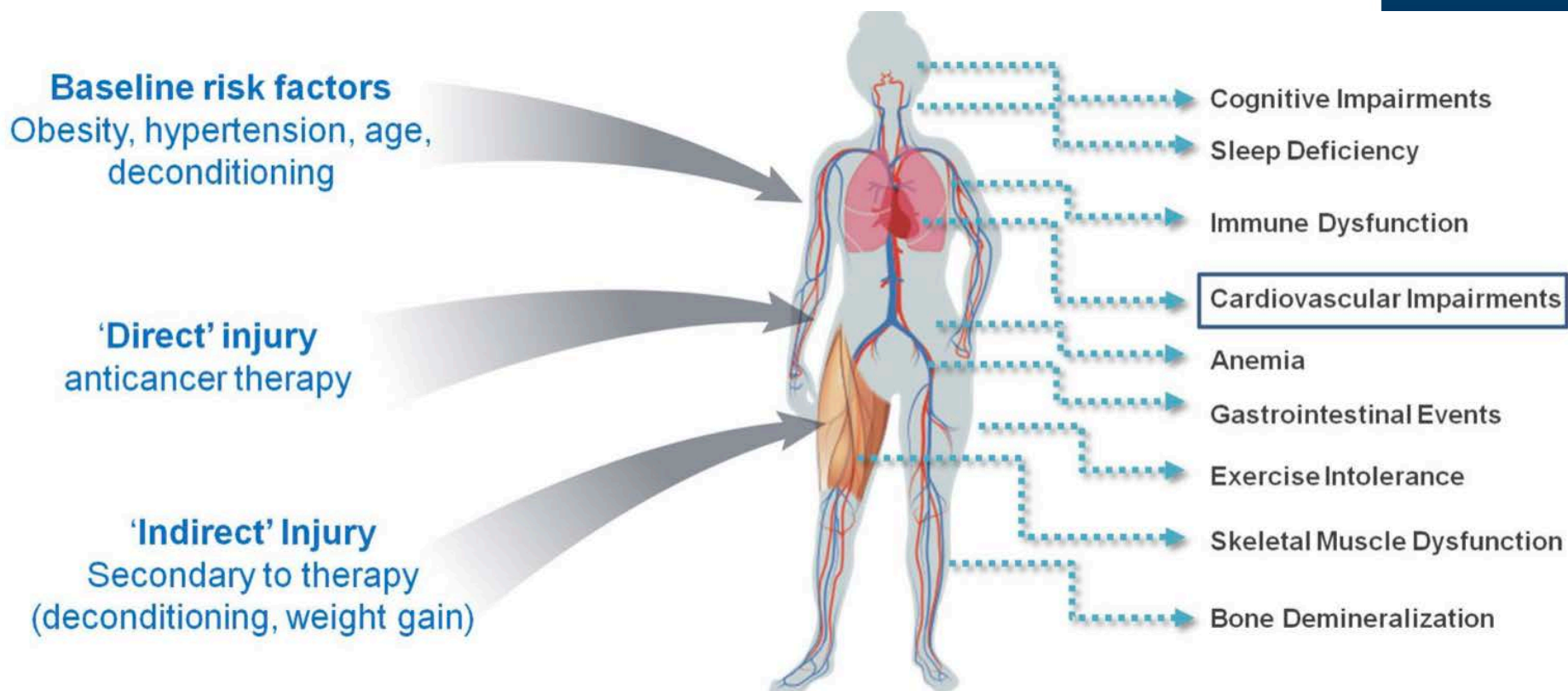
Long-Term Cardiovascular Consequences in Breast Cancer Survivors



Overall & CVD Mortality in Women with and without Breast Cancer



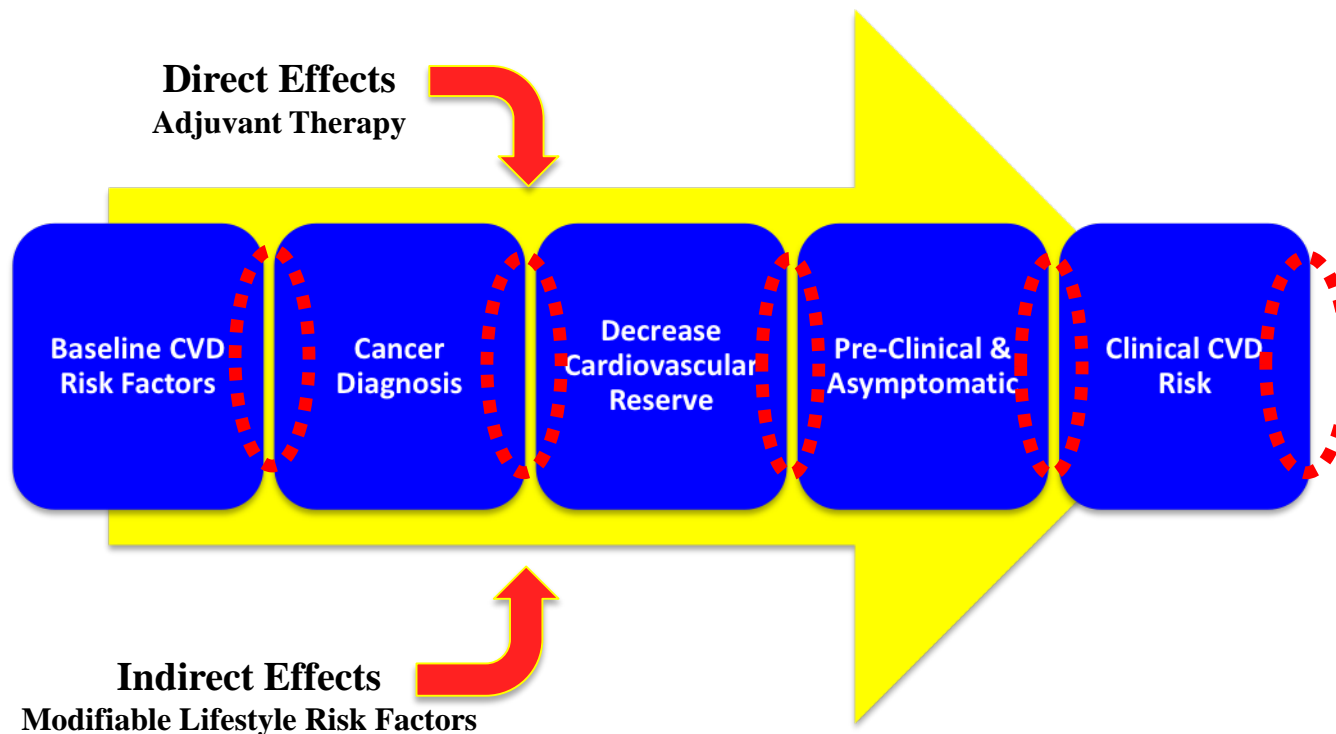
Cancer Treatment: A “Multiple-Hit”



Treatment Associated Cardio-Toxicity

Chemotherapy	Class of the drug and their anticancer mechanisms	Effect on myocardium	Cardiovascular toxicities
Anthracyclines	Red aromatic polyketides, multiple mechanism of action reported [Figure 2]	Reversible and irreversible, long-term effects common	CHF
Trastuzumab	Humanized monoclonal antibody, interferes with the HER2/neu receptor	Reversible and irreversible, long-term effect rare	CHF, hypertension
Bevacizumab	Humanized monoclonal antibody, an angiogenesis inhibitor	Reversible and irreversible, no long-term effect unless MI	CHF, hypertension, MI, arterial thromboses
Sunitinib and sorafenib	Tyrosine kinase targets are VEGFR 1-3, RET, PDGFR-a and b, c-kit, FLT3, CSF1R	Reversible, no long-term effect unless MI	Hypertension, LVEF reduction, CHF, MI, arterial thromboses
Imatinib	Tyrosine kinase inhibitor, inhibits Bcr-Abl, c-kit, PDGFR-a and b	Reversible, no long-term effect	CHF, LVEF depression
Dasatinib	Tyrosine kinase targets are Bcr-Abl, c-kit, PDGFR-a and b, Src family	Reversible, no long-term effect	Pulmonary hypertension, QT prolongation, peripheral edema, pericardial effusion
Nilotinib	Tyrosine kinase targets are Bcr-Abl, c-kit, PDGFR-a and b	Reversible, no long-term effect	QT prolongation, arterial and venous thrombosis, MI
Cyclophosphamide	Alkylating agent adds an alkyl group to DNA and inhibits the replication	Irreversible, no long-term effect	CHF, hemorrhagic myocarditis (at high doses)
Cisplatin	Platinum-containing anticancer drugs, inhibit DNA metabolism	Irreversible when via infarction	Ischemia, venous thrombosis, hypertension
Fluorouracil	Pyrimidine analogs	Irreversible when via infarction	Ischemia, MI
Capecitabine	Deoxycytidine derivative of fluorouracil	Irreversible when via infarction	Ischemia, MI
Busulfan	Alkylating agent, selective immunosuppressive effect on bone marrow	Reversible, no long-term effect	Tamponade and endomyocardial fibrosis
Paclitaxel	Anti-microtubule agent, targets the tubulin cytoskeleton	Reversible, no long-term effect	CHF, bradyarrhythmias
Vinblastine	Vinca alkaloid, binds to tubulin and inhibits microtubule formation	Reversible, no long-term effect	Raynaud's phenomenon
Bleomycin	Glycopeptide antibiotics, inhibit DNA metabolism	Reversible, no long-term effect	Raynaud's phenomenon
Arsenic trioxide	Amphoteric oxide, induced apoptosis in cancer cells	Reversible, no long-term effect	QT prolongation or Torsades de pointes
Thalidomide	Piperidinyl isoindole, nonbarbiturate hypnotic, inhibits the release of TNF- α from monocytes	Reversible, no long-term effect	Venous thrombosis

Opportunities for Assessment & Intervention Across the Continuum



Assessment and Referral to Cardio-Oncology

Types of Referral:

Acute

- During treatment
- Symptomatic
- Complex case

Screening

- Risk factors identified
- Ongoing therapy
 - Hormonal therapy
 - Metastatic disease
- Along the cancer continuum
- Survivors interest

CARDIAC RISK FACTORS

<input type="checkbox"/> Anthracyclines	<input type="checkbox"/> Hypertension: Current BP _____
<input type="checkbox"/> Herceptin	<input type="checkbox"/> Obesity (BMI >30)
<input type="checkbox"/> Left Chest XRT	<input type="checkbox"/> Overweight (BMI > 25)
<input type="checkbox"/> Brachy Therapy	Hyperlipidemia: Chol _____ TRI _____ HDL _____ LDL _____
<input type="checkbox"/> Whole Breast/Chest wall	Date of FLP: _____
<input type="checkbox"/> Diabetes	
<input type="checkbox"/> Smoking History: <input type="checkbox"/> present <input type="checkbox"/> past	Total pack years: _____
<input type="checkbox"/> stopped >5 years ago <input type="checkbox"/> stopped < 5 years ago	
<input type="checkbox"/> Family History of MI < 60	
<input type="checkbox"/> Minutes of exercise per week: _____	<input type="checkbox"/> Refer to Cardio/Onc

CARD-ONCO RISK FACTOR

Elevated cholesterol-Controlled: {YES (DEF) N/NA:91411}: ***

Family history: ***

Hypertension-Controlled: {YES (DEF) N/NA:91411}: ***

Smoking: {CIGARETTES:64165}: ***

Diabetes-Controlled: {YES (DEF) N/NA:91411}: ***

Coronary Artery Disease: {CAD LIST:91502}: ***

History of Heart Failure: ***

LV dysfunction/Cardiomyopathy: ***

Post Menopausal

Overlapping Cancer & CVD Risk Factors

- Age
- Sex
- Obesity
- Diabetes
- Hypertension
- Hyperlipidemia
- Tobacco Use
- Diet
- Physical Activity

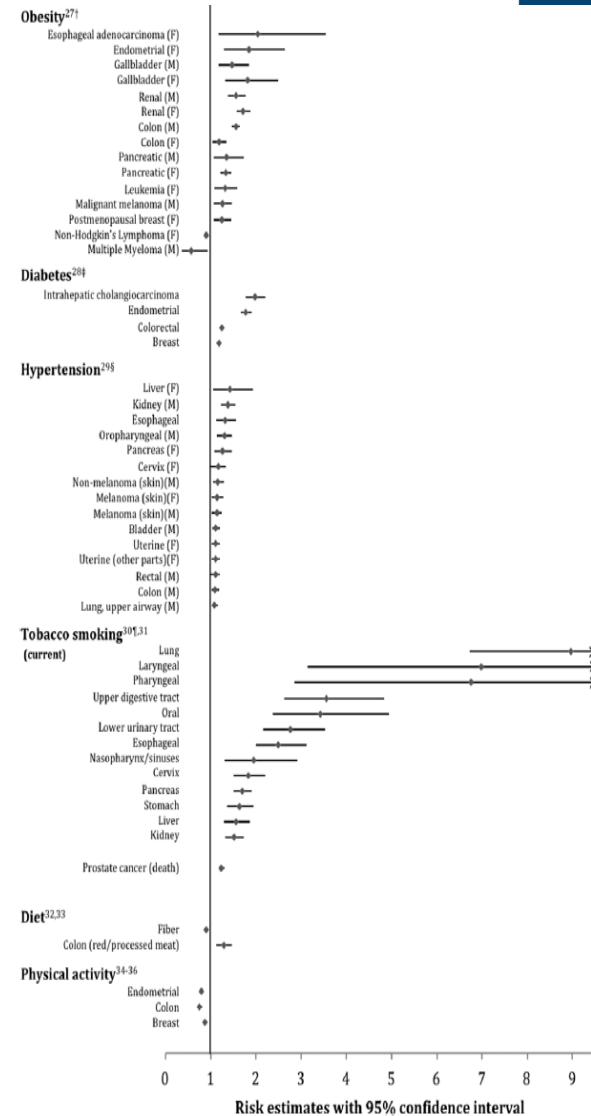


Figure. Modifiable cardiac risk factors with their estimated cancer risk. Figure limited to only the positive and negative associations using

Essential Components of a Survivorship Care Plan

- ✓ Prevention of new and recurrent cancers and late effects
- ✓ Surveillance for cancer spread, recurrence, or second cancers
- ✓ Assessment of late psychosocial and physical effects
- ✓ Intervention for consequences of cancer and treatment
- ✓ Coordination of care between primary care providers and specialists to ensure that all of the survivor's health needs are met



COC Standard 3.3

Survivorship Care Plan

- ✓ Qualified Providers: MD, RN, ARPN, PA, Credentialed RN Navigator
- ✓ If 2 facilities are involved in care, both facilities should work together to develop a plan
- ✓ Given and discussed within one year of diagnosis & within 6-months upon completion of active, curative treatment (extended to 18 months if receiving hormonal therapy)

Important information regarding CoC Survivorship Care Plan Standard

Online December 13, 2017

The [Commission on Cancer](#) (CoC) announced that effective December 11, 2017, the percentage of delivered survivorship care plans to eligible patients required for CoC-compliance with Standard 3.3 has been lowered to 50% for 2018. All CoC-accredited programs will be expected to meet or exceed the delivery of survivorship care plans to 50% of eligible patients by the end of 2018. This announcement replaces the current language on page 59 of the [Cancer Program Standards: Ensuring Patient-Centered Care \(2016 edition\)](#) that required the delivery of survivorship care plans to 75% of eligible patients for 2018.

Additional revisions to CoC Standard 3.3 will be announced in the first quarter of 2018, but will not go into effect until January 1, 2019. All CoC-related questions should be submitted to the [CAnswer Forum](#).

All centers accredited by National Accreditation Program for Breast Centers (NAPBC), programs will also be expected to meet or exceed the delivery of survivorship care plans to 50% of eligible patients by the end of 2017 and beyond as stated in [Standard 2.20](#) of the [2018 National Accreditation Program for Breast Centers Standards Manual](#) that goes into effect April 2, 2018. Please forward all questions regarding the NAPBC standards to napbc@facs.org.

<https://www.facs.org/quality-programs/cancer/news/survivorship>

NCCN Guidelines for Survivorship

- Provide screening, evaluation, and treatment recommendations for common consequences of cancer treatment and include:
 - Anxiety, depression and distress
 - Chemo-related cardiac toxicity
 - Cognitive decline
 - Fatigue
 - Lymphedema
 - Menopause
 - Pain
 - Sexual dysfunction
 - Sleep disorders
 - Preventive health issues (healthy lifestyle behaviors)

*Additional concerns
include:*

Fear of recurrence
Employment
Financial Toxicity

www.nccn.org

NCCN Guidelines Version 3.2017– February 16, 2018

SCP Implementation in US Cancer Programs: a National Survey of Cancer Care Providers

Stages of SCP Implementation

- I. SCP Template Creation & Revision
- II. Identify Survivors who are Eligible for SCPs
- III. Referring Survivors for SCPs
- IV. Delivering SCPs to Survivors
- V. Updating SCPs

ASCO Template Includes Essential Elements

ASCO Treatment Summary and Survivorship Care Plan for Breast Cancer

ASCO Treatment Summary and Survivorship Care Plan for Breast Cancer

<input type="checkbox"/> Aromatase Inhibitors (anastrozole, exemestane, and letrozole)		Hot flashes, joint/muscle aches, vaginal dryness and bone loss (common); hair thinning (rare) Other rare side effects may occur.
<input type="checkbox"/> GnRH agonist (Zoladex, Lupron) for ovarian suppression		Hot flashes and vaginal dryness (common); other rare side effects may occur.
Other:		

ASCO Treatment Summary and Survivorship Care Plan for Breast Cancer

Breast cancer survivors may experience issues with the areas listed below. If you have any concerns in these or other areas, please speak with your doctors or nurses to find out how you can get help with them.

<input type="checkbox"/> Anxiety or depression	<input type="checkbox"/> Insurance	<input type="checkbox"/> Sexual Functioning
<input type="checkbox"/> Emotional and mental health	<input type="checkbox"/> Memory or concentration loss	<input type="checkbox"/> Stopping Smoking
<input type="checkbox"/> Fatigue	<input type="checkbox"/> Parenting	<input type="checkbox"/> Weight changes
<input type="checkbox"/> Fertility	<input type="checkbox"/> Physical functioning	<input type="checkbox"/> Other
<input type="checkbox"/> Financial advice or assistance	<input type="checkbox"/> School/work	

A number of lifestyle/behaviors can affect your ongoing health, including the risk for the cancer coming back or developing another cancer. Discuss these recommendations with your doctor or nurse:

<input type="checkbox"/> Alcohol use	<input type="checkbox"/> Physical activity	<input type="checkbox"/> Other
<input type="checkbox"/> Diet	<input type="checkbox"/> Sun screen use	
<input type="checkbox"/> Management of my medications	<input type="checkbox"/> Tobacco use/cessation	
<input type="checkbox"/> Management of my other illnesses	<input type="checkbox"/> Weight management (loss/gain)	

Resources you may be interested in:

- www.cancer.net
- Other:

Other comments:

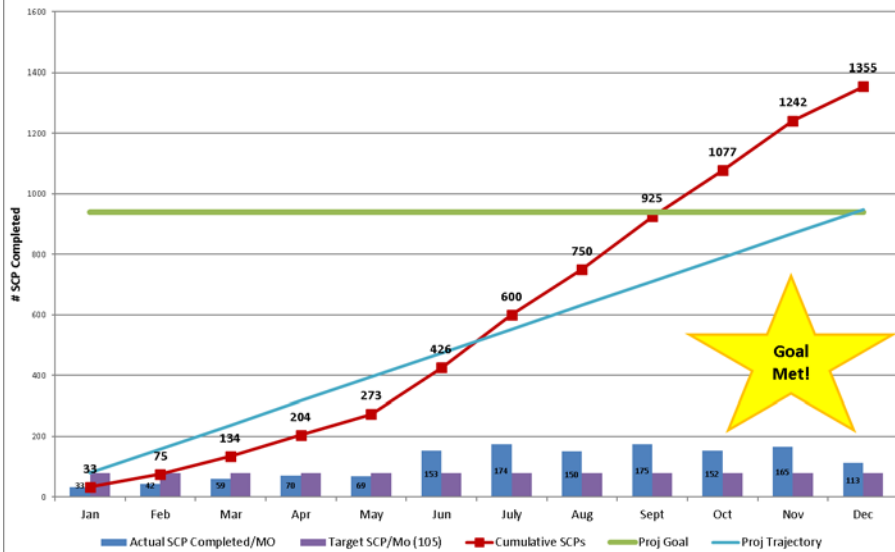
Prepared by: _____ Delivered on: _____

	Mammogram	Annually
	MRI breast	As indicated by provider
	Pap/pelvic exam	As indicated by provider
	Colonoscopy	As indicated by provider
	Bone Density	Every 2 years if on an aromatase inhibitor or as indicated by your provider

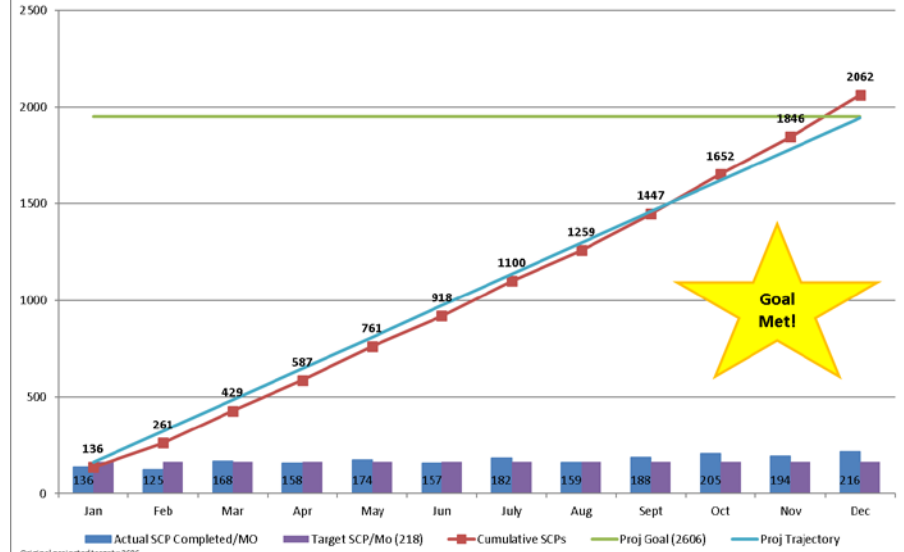
- This Survivorship Care Plan is a cancer treatment summary and follow-up plan and is provided to you to keep with your health care records and to share with your primary care provider or any of your doctors and nurses.
- This summary is a brief record of major aspects of your cancer treatment not a detailed or comprehensive record of your care. You should review this with your cancer provider.

KUCC 2016 and 2017 COC SCP Totals

SCP YTD Totals: 2016
Final Target (25%) = 939; updated 1/3/2018



SCP YTD Totals: 2017
Projected Target (50%) = 1952; updated 1/3/2018



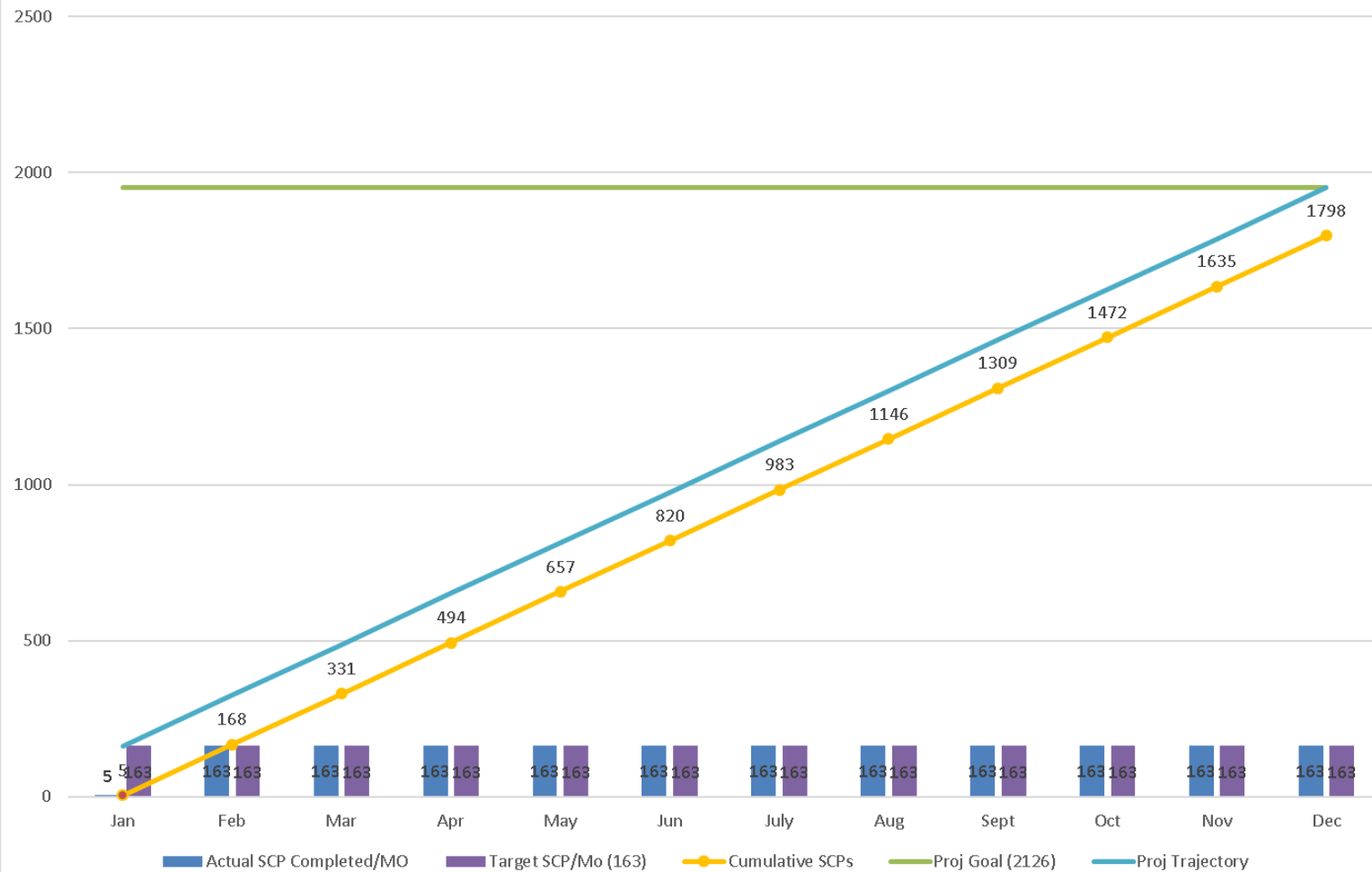
Metric	Value
Final Analytic Case Load	5842
# Eligible Cases	3757
2016 CoC Goal = 25%	939
Actual # SCPs Delivered	1355

Metric	Value
Projected Analytic Case Load	6381
# Eligible Cases	3904
2017 CoC Goal = 50%	1952
Actual # SCPs Delivered	2062

KUCC 2018 COC SCP Projections

SCP YTD Totals: 2018

Projected Target (50%) = 1952; updated 1/3/2018



Major Barriers to Shared Care of Cancer Survivors: Role Delineation

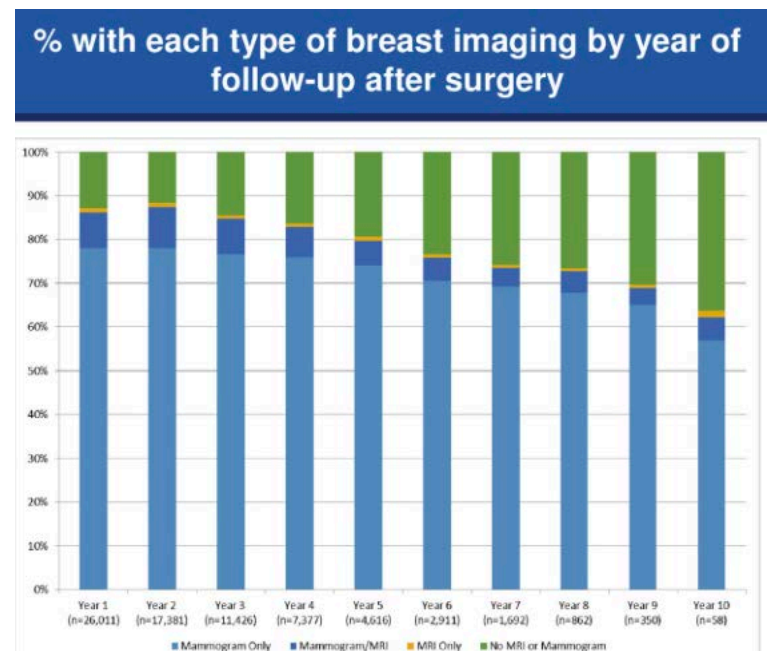
- Cancer Care Team
 - Develop personalized care plan and disseminate to survivors & shared care partners
- Specialists
 - Targeted area of risk or identified problem
- Primary Care
 - Competing priorities
- Survivor
 - Engagement and responsibility

Delivery of Survivorship Care in Primary Care Setting

Cross-Cutting Themes	Specific Barriers	
	Oncology	Primary Care
Provider & Patient engagement, communication	<ul style="list-style-type: none"> · collaboration with community and providers 	<ul style="list-style-type: none"> · lack of documented history, results, treatment summary, & guidelines
Knowledge Gaps	<ul style="list-style-type: none"> · role delineation among primary care and oncology · education across all disciplines · community & survivor understanding of survivorship 	<ul style="list-style-type: none"> · role delineation & responsibilities among patients and providers · knowledge around guidelines · awareness of available resources
Access to Survivorship Care & Resources	<ul style="list-style-type: none"> · accreditation standards · support from administration · inconsistent SCP delivery · poor access to specialists 	<ul style="list-style-type: none"> · transportation & financial · SCP as chronic disease plan · inconsistent oncology recommendations
Organizational structure	<ul style="list-style-type: none"> · workflow issues impacting care delivery · inadequate care coordination · lack of EHR generated SCP 	<ul style="list-style-type: none"> · lack of EHR integration · inconsistent reimbursement · inadequate social services care coordination

Adherence to NCCN Guideline to Breast Cancer Screening Recommendations

- BrCa survivors who underwent surgery between 2005-2015
- US Commercial Claims Data
- N=26,011 a median of 2.9yrs from diagnosis.



Clinical Implications: Many BrCa survivors do not undergo annual recommended mammography- especially as more time passes after initial treatment.

Follow-up and Survivorship Care Plan

Preventive Screening Guidelines for Breast Cancer Survivors

Getting preventive care is one of the most important steps you can take to manage your health. That's because when a condition is diagnosed early, it is usually easier to treat. And regular checkups can help you and your doctor identify lifestyle changes you can make to avoid certain conditions.

FOLLOW-UP CARE TEST	RECOMMENDATION	PROVIDER TO CONTACT
Medical history and physical (H&P) examination (see below)	Visit your doctor every three to six months for the first three years after the first treatment, every six to 12 months for years four and five, and every year thereafter.	Dr. O'Dea
Post-treatment mammography (see below)	Schedule a mammogram one year after your first mammogram that led to diagnosis, but no earlier than six months after radiation therapy. Obtain a mammogram every six to 12 months thereafter.	Dr. O'Dea
Bone Density	Undergo a bone density analysis every 12 months.	Dr. Schmidt
Pelvic examination	Continue to have a gynecologic examination regularly. Frequency of examination will be determined by your gynecologist or primary care physician. If you use tamoxifen, you have a greater risk for developing endometrial cancer (cancer of the lining of the uterus). Women taking tamoxifen should report any vaginal bleeding to their doctor.	Dr. Schmidt
Coordination of care	Your oncologist will determine how frequent and for how long you will continue to be seen by your cancer care team. In addition, coordination with your primary care physician and other specialists may also be part of your ongoing care. Women receiving hormone therapy should talk with their oncologist about how often to schedule follow-up visits for re-evaluation of their treatment.	Dr. O'Dea
Genetic counseling/testing	Tell your doctor if there is a history of cancer or a change in your family history of cancer. The following risk factors may indicate that breast cancer could run in the family: <ul style="list-style-type: none"> Ashkenazi Jewish heritage Personal history of breast cancer at a young age or when pre-menopausal Personal or family history of ovarian cancer Any first-degree relative (mother, sister, daughter) diagnosed with breast cancer before age 50 Two or more first-degree or second-degree relatives (grandparent, aunt, uncle) diagnosed with breast cancer Personal or family history of breast cancer in both breasts History of breast cancer in a male relative 	If indicated, Dr. O'Dea in the future, but does not meet criteria at this time.

KUCC SCP
Follow-Up
Guidelines
Includes
Provider Role
Delineation

KUCC SCP Inclusion of Cardio-Oncology Referral and Risk Communication

Cardio-Oncology	Based on your personal and family history along with the treatment you were given, a screening visit with the Cardio-Oncologist (who specializes in cardiac risks in individuals with cancer) is recommended. This visit will map out your risk and any next steps to prevent cardio-vascular events.	Appointment scheduled with Dr. Charlie Porter
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REVIEW:

**BETA
TEST**

Possible Post Treatment Side Effects	Symptoms	Your Risk Level
Cardiotoxicity	Chest pain, palpitations, irregular heartbeat, tiring easily, swelling in legs and ankles, difficulty breathing	Increased Risk
Dyspnea	Breathing problems	Normal
Chemotherapy induced peripheral neuropathy (CIPN)	Numbness, tingling, pins and needles feeling in fingers and toes	Increased Risk
Arthralgia, Myalgia	Muscle or joint pain	Increased Risk
Pain	In one area or wide spread	Increased Risk
Lymphedema	Arm swelling	Slight Risk

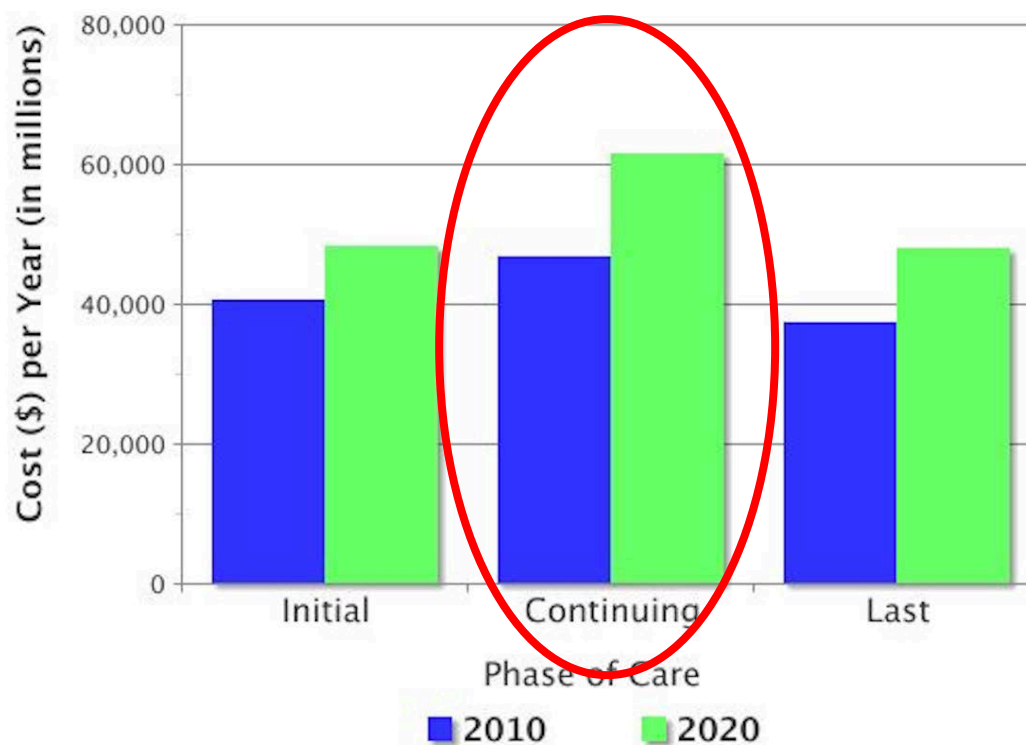
Other Recommendations



- **Diet and Exercise:** Current recommendations include the following for maintaining a healthy lifestyle-
 - Maintain a healthy weight, increase fruits and vegetables, limit high fat and high sugar foods
 - Exercise at least 225 minutes per week of moderate intensity or 150 minutes of high intensity cardiovascular exercise per week and include strength training 2-3 times per week
 - Try and eat whole foods and limit vitamins and supplements until you have discussed with your doctor
- **Risk:** There is always a risk for a cancer to come back or for developing a new cancer. Your physician will provide you with an estimate of your risk and follow-up instructions to lower your risk and for ongoing surveillance.
- **Symptoms of Recurrence:** Report these symptoms to your doctor: new lump under your arm or in the groove of your collar bone, pain in your arm, shoulder, chest or bones, chest pain, shortness of breath or difficulty breathing, persistent dry cough, swelling in the abdominal, nausea, vomiting, loss of appetite, or unintentional weight loss, or persistent headaches. These symptoms may also be due to other health issues, but it is a good idea to inform your doctors.
- **Not Recommended:** The following tests are not recommended for **routine** breast cancer follow-up, but may be used as indicated by your doctor: breast MRI, FDG-PET scans, complete blood cell counts, automated chemistry studies, chest x-rays, bone scans, liver ultrasound, and tumor markers (CA 15-3, CA 27.29, CEA). Talk with your doctor about reliable testing options. Some of these tests may

Cost of Care

Cost of Cancer Care by Phase of Care, All Sites, All Ages,
Male and Female, in 2010 Dollars



Assumptions:
Incidence - Constant (2003 - 05 average rate)
Survival - Constant (2005 rate)
Cost Increase - 0% per year

Summary

- Cancer Survivors are a growing population with complex issues requiring coordination of care.
- There is an ongoing need to prioritize the greatest risk factors and issues for cancer survivors.
- Survivorship care plans remain complicated to implement and lack evidence to support their impact.
- Delineation of roles between primary care and specialists is crucial for care coordination of cancer related follow-up and management of co-morbid conditions.

Discussion & Questions



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