Overarching Challenges of Multidisciplinary and Multispecialty Expert Care for Patients Living With and Beyond Cancer

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Conflicts of Interest

Employment: National Comprehensive Cancer Network

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Current and Projected Cancer Survivors in the US

1,958,310
New cancer cases in **US in 2023**

16,920,370
Individuals alive with a history of cancer in **US in 2019**

22,100,000
Individuals estimated alive with a history of cancer in **US in 2030**

ACS Cancer Facts & Figures, 2023; ACS Cancer Treatment & Survivorship Facts & Figures 2019-2021;

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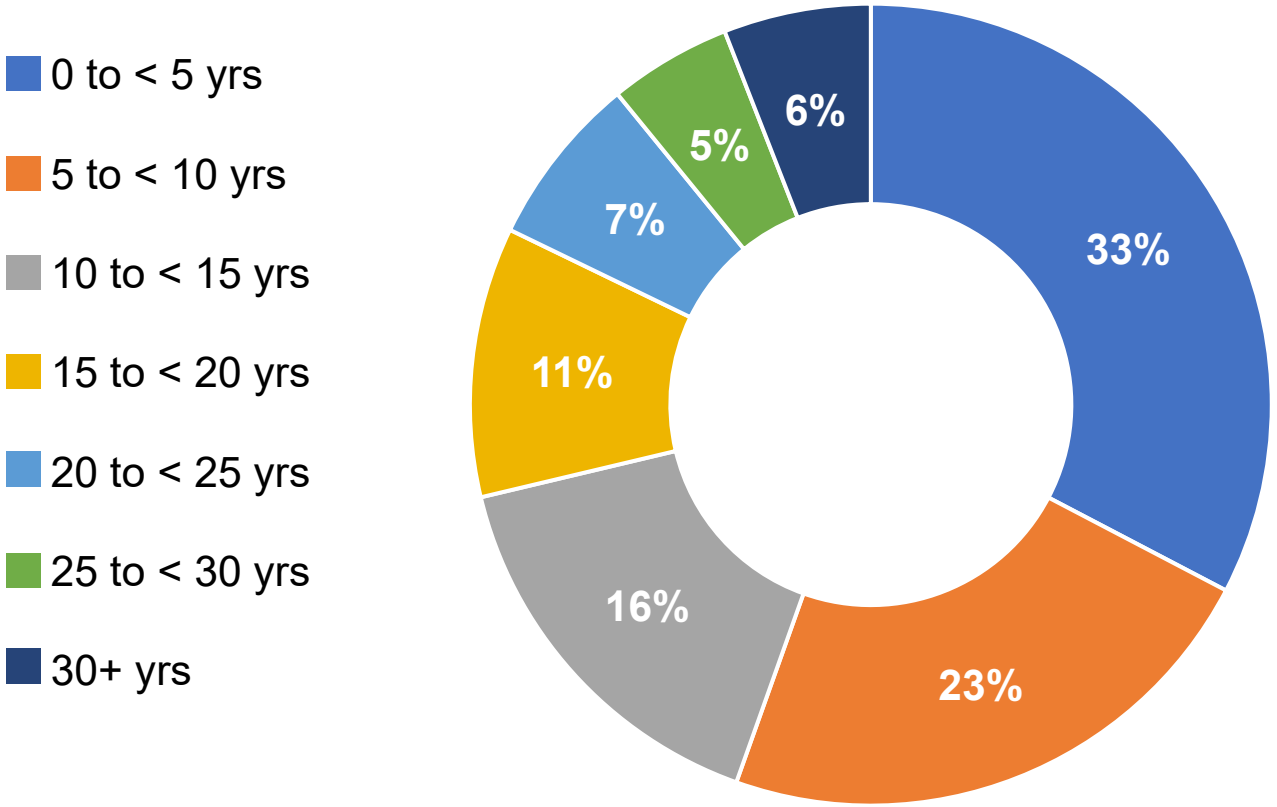
US Cancer Survivors: Years From Diagnosis



ACS Cancer Treatment & Survivorship Facts & Figures 2019-2021

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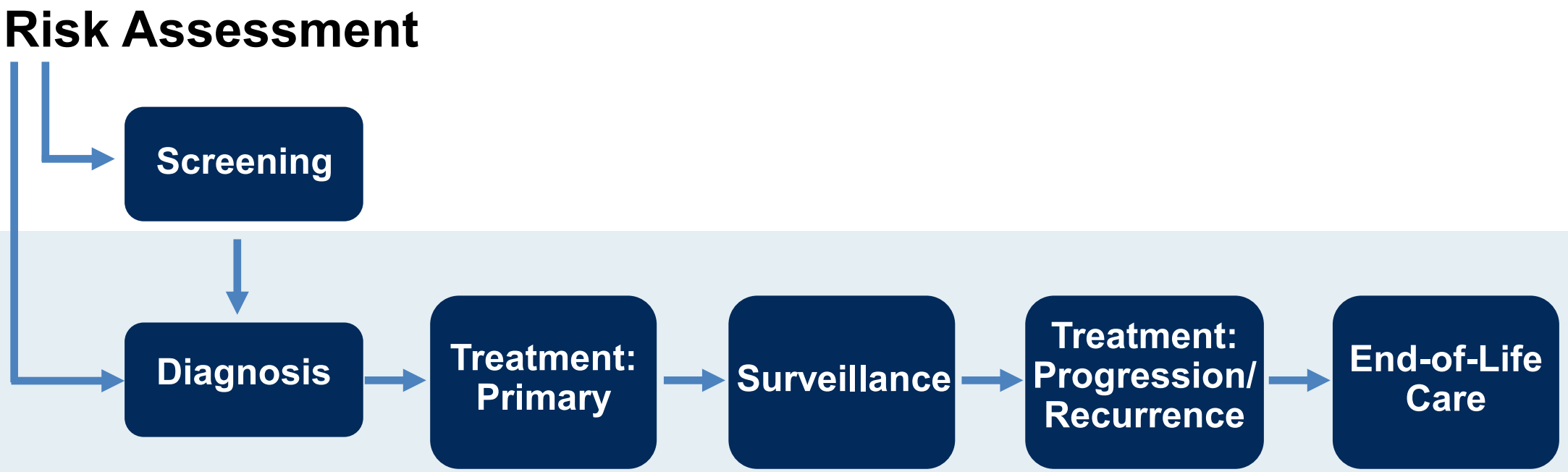
Continuum of Cancer Experience/Care



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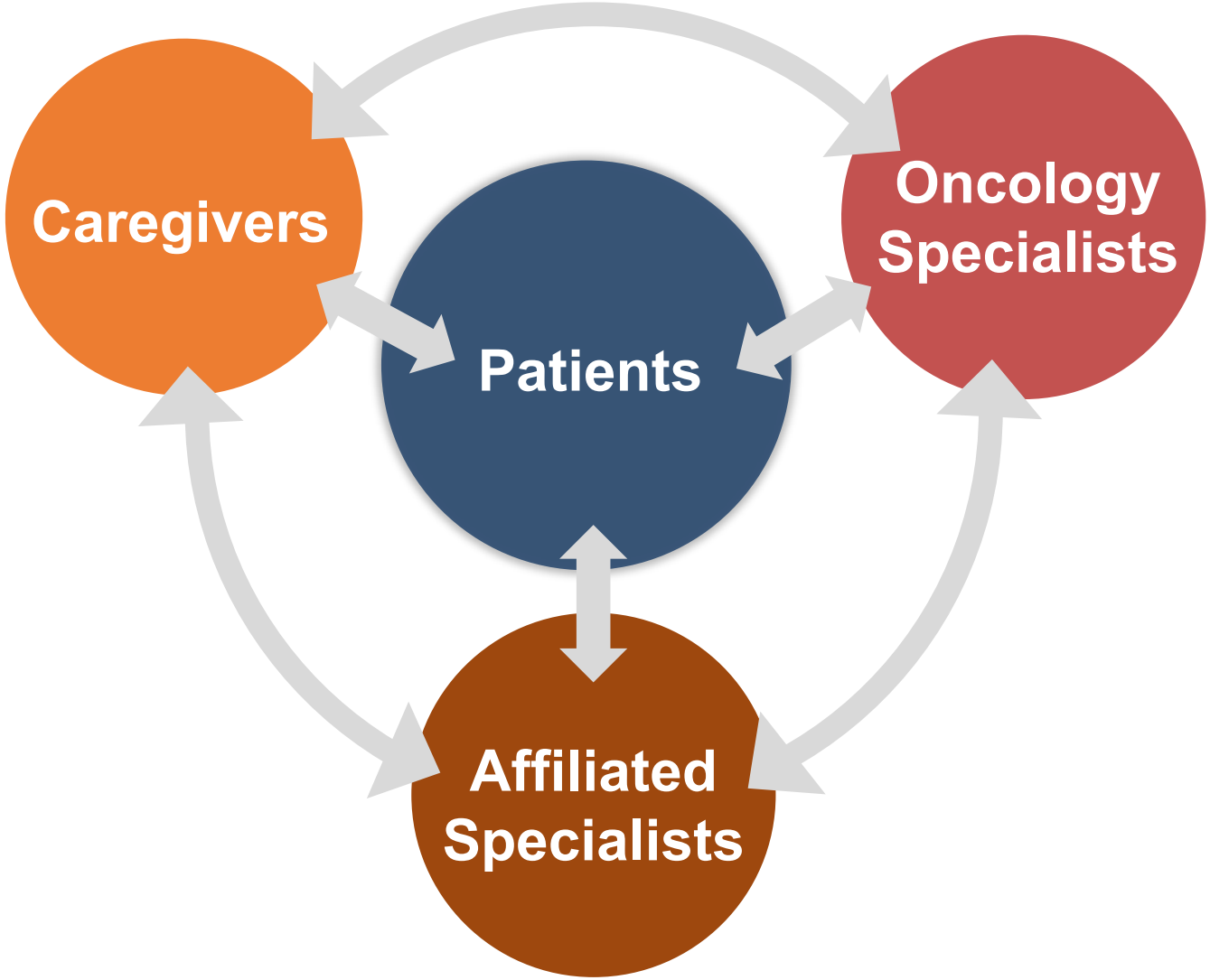
Dynamic Relationships



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Types of Health Care Workers Across the Cancer Care Continuum

- Medical oncology
- Surgery/surgical oncology
- Radiation oncology
- Hematology
- Stem cell transplantation
- Pediatric hematology/oncology
- Pediatrics
- Urology
- Neurology/neuro-oncology
- Gynecologic oncology
- Otolaryngology
- Orthopedics/ orthopedic oncology
- Pathology
- Dermatology
- Internal medicine/ family practice
- Obstetrics, gynecology
- Gastroenterology
- Endocrinology
- Diagnostic radiology
- Interventional radiology
- Nursing
- Cancer genetics
- Psychiatry, psychology
- Pulmonary medicine
- Pharmacology/pharmacy
- Infectious diseases
- Allergy/immunology
- Anesthesiology
- Cardiology
- Nephrology
- Geriatric medicine
- Epidemiology
- Patient advocates
- Palliative care
- Pain management
- Pastoral Care
- Social work
- Physical therapy
- Occupational therapy
- Dentistry
- Navigators
- Research assistants
- Fertility specialists
- **AND MORE!**

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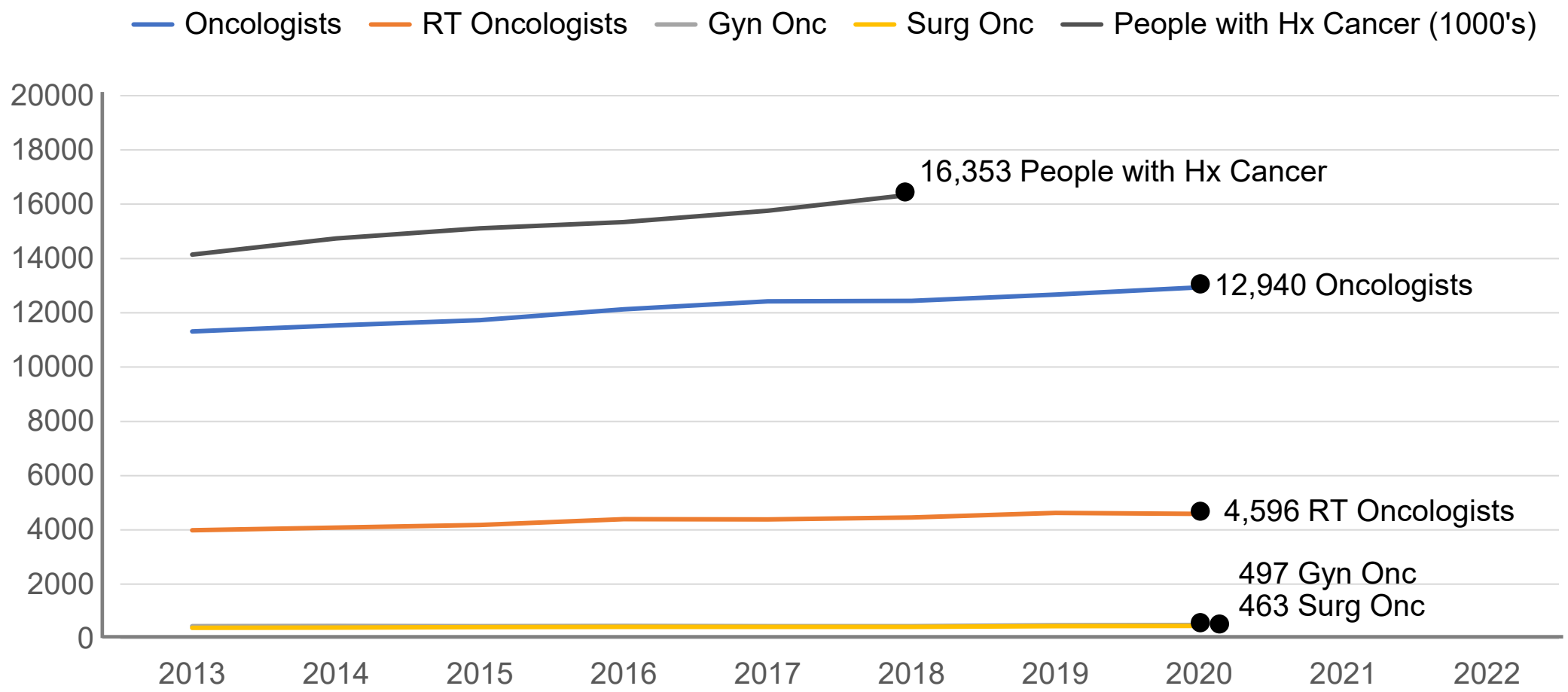
Oncology Specialists and Cancer Survivors



ASCO Key Trends in Tracking Supply of and Demand for Oncologists, August 2020

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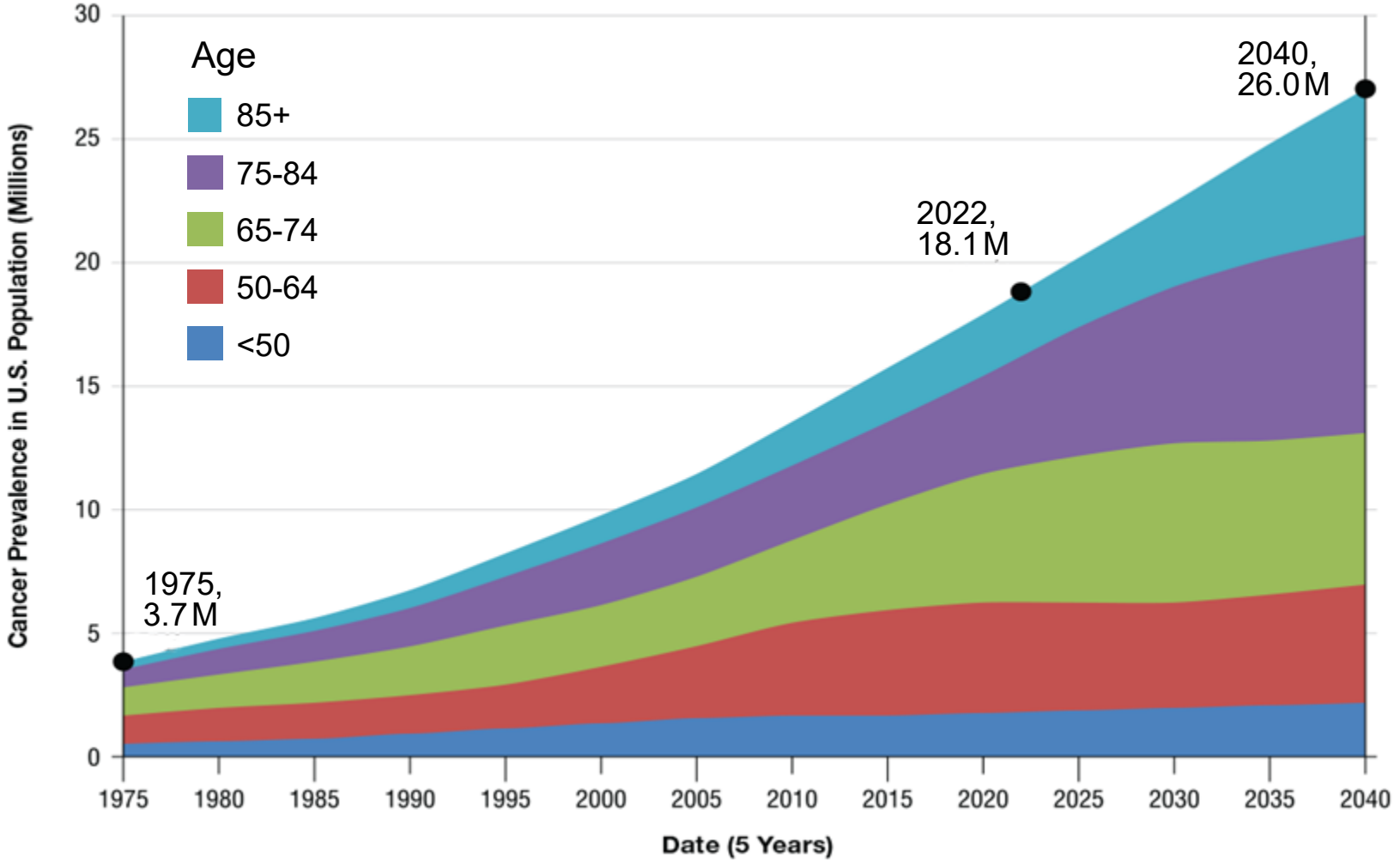
Cancer Prevalence and Projections in US from 1975-2040



Bluethmann SM, Mariotto AB, Rowland JH. Anticipating the "Silver Tsunami": Prevalence Trajectories and Comorbidity Burden among Older Cancer Survivors in the United States. Cancer Epidemiol Biomarkers Prev. 2016 Jul;25(7):1029-36.

Miller KD, Nogueira L, Devasia T, Mariotto AB, Yabroff KR, Jemal A, Kramer J and Siegel RL. Cancer Treatment and Survivorship Statistics. CA A Cancer J Clin. 2022.

Cancercontrol.cancer.gov/ocs/statistics#graphs

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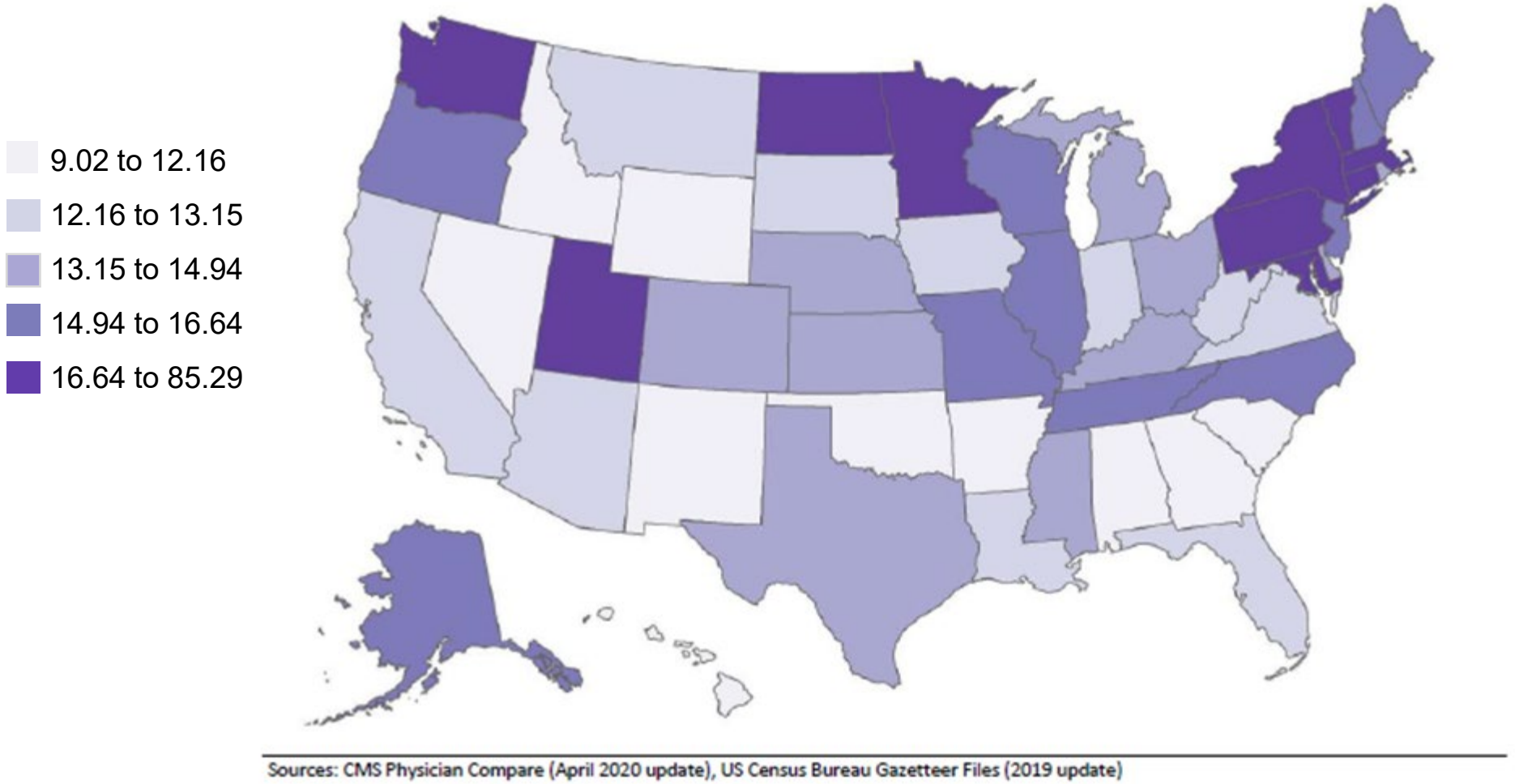
Oncologists per 100,000 Residents Aged 55 years or Older by State



ASCO Key Trends in Tracking Supply of and Demand for Oncologists, August 2020

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Implications of Healthcare Setting

	ACADEMIC CENTER	COMMUNITY HOSPITAL	PRIVATE PRACTICE	GOVERNMENTAL
Workforce	Extensive and diverse	Limited and variably diverse	Limited	Variable
Systems integration	Extensive	Variable	Limited	Variable
Demand on affiliated specialties	Moderate	Low to Moderate	Low	Moderate
Access to affiliated specialties	Easy	Variable	Challenging	Variable

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Challenges of Integrating Multiple Specialists

- Training the workforce
- Establishing the team, including many who will spend limited time in the game
- Assuring availability
- Coordinating referrals and follow-up
- Geographical and site of care diversity
- Financial viability, especially for high-demand, low (or no) 3rd party reimbursable services

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Linda A. Jacobs, PhD, CRNP
Conflicts of Interest

Nothing to Disclose

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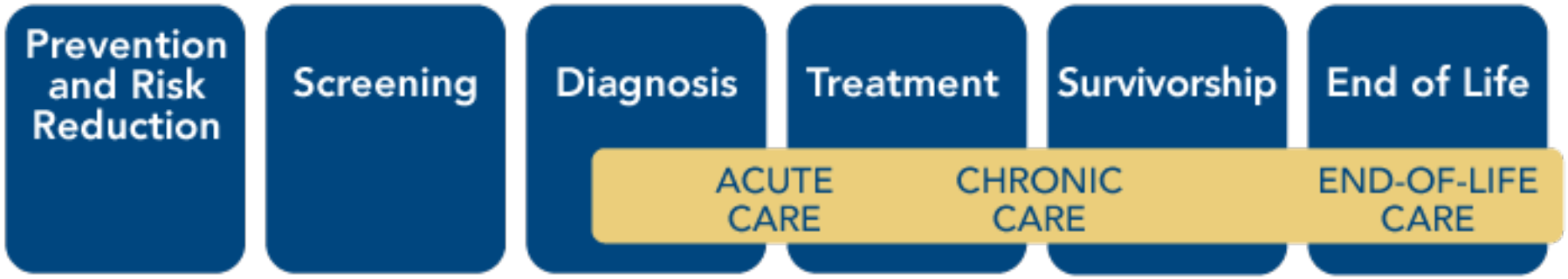
Progress in Cancer Care

- Rapidly changing evidence
- People living longer
- More survivors
- New treatment options

- Better supportive care
- Post treatment follow-up/ survivorship care
- End-of-life care/hospice



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The Cancer Care Continuum: Need for Multidisciplinary & Multispecialty Care

What is the Cancer Care Continuum?

Used since the mid-1970s to describe

- Cancer prevention
- Early detection
- Diagnosis
- Treatment
- End-of-life

Evolved over time

- Survivorship added
- Rehabilitation as part of treatment and survivorship care

Oversimplified/crosscutting

Institute of Medicine [IOM] (2006) In: Hewitt M, Greenfield S, Stovall E (eds) From cancer patient to cancer survivor: Lost in transition. The National Academies Press, Washington DC

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Cancer Care

FOCUS

Etiology
- Environmental factors
- Genetic factors
- Gene-environment interactions
- Medication (or pharmaceutical exposure)
- Infectious agents
- Health behaviors

Prevention
- Tobacco control
- Diet
- Physical activity
- Sun protection
- HPV vaccine
- Limited alcohol use
- Chemoprevention

Detection
- Pap/HPV testing
- Mammography
- Fecal occult blood test
- Colonoscopy
- Lung cancer screening

Diagnosis
- Shared and informed decision making

Treatment
- Curative treatment
- Non-curative treatment
- Adherence
- Symptom management

Survivorship
- Coping
- Disease surveillance
- Symptom management
- Health promotion for survivors

CROSSCUTTING AREAS

- Implementation Science
- Health Care Delivery
- Epidemiology
- Measurement
- Communications
- Surveillance
- Health Disparities
- Decision Making

Adapted from National Cancer Institute figure “Cancer Control Continuum” NCI 2005; Updated 2020

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Follow-up/Survivorship Care 2001-present Penn Medicine: Abramson Cancer Center

Advanced practice provider-led/oncologist collaborative practices

- Disease-based clinics
- General survivorship/follow-up care clinic
- Long term survivors presenting with complex problems, late effects
- Follow-up care within the practices
- Referrals for primary and specialty care as needed

Multidisciplinary/ multispecialty care barriers and solutions

- Determine resource availability
- Determine interest among providers
- Establish relationships

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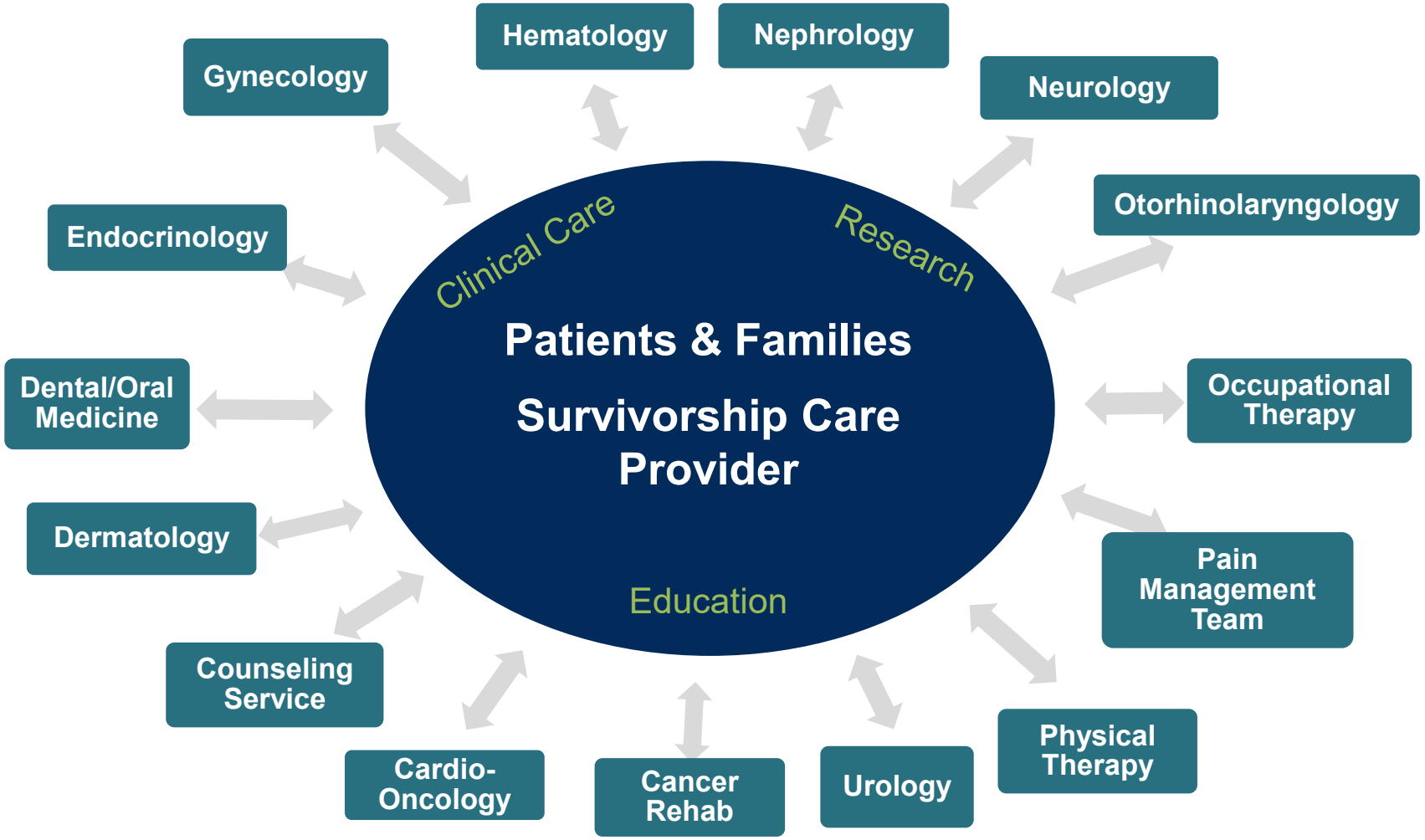
Cancer Follow-up / Survivorship Care



Abramson Cancer Center Survivorship Program, Established 2001

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Challenges to Providing Care: Identifying Issues/Implementing Solutions

- Education of providers – MDs, APPs
- Cancer screening, disease surveillance
- Specialty preparation and availability
- Academic medical center
- Community center
- Demographics
- Shortage of providers
- Care not available to everyone

- Critical multispecialty/ multidisciplinary care
- Follow-up care
  - Exposure driven
    - Surgery
    - Radiation (areas of body)
    - Chemo (types of drugs)

Now we'll take a 30-year journey with one of many like patients' post-treatment

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AM: Female Hodgkin Lymphoma Survivor, Survivorship Clinic 2008

1994

Age 28

Stage IIA mixed cellularity Hodgkin Lymphoma

- Splenectomy
- 4000cGy mantle and 3600cGy pelvic pedicle radiation

Medical, surgical & radiation oncology

2012

Age 46

Thyroid failure

- Hormone replacement

Gallbladder polyps/adenomas

- Surgery - removal of gallbladder

Endocrine, general surgery

2013

Age 47

Breast right subareolar mass, extra-nodal marginal zone lymphoma of mucosa-associated lymphoid tissues (MALT lymphoma-breast)

- Partial mastectomy

Parotid tumor/ mucoepidermoid carcinoma, salivary gland neoplasm

- Excision

Surgical & medical oncology (lymphoma service), ENT

2014

Age 48

Sinus tachycardia, coronary artery disease

- Medical management

Community cardiology

2015

Age 49

Gastro-esophageal junction biopsy, intestinal metaplasia/ negative for dysplasia

GI – endoscopy, medical oncology

2017

Age 51

Sinus tachycardia, hyperlipidemia, aortic insufficiency, moderate coronary artery disease

- Medical management

Community cardiology

2023

Age 57

Moderately differentiated adenocarcinoma gastroesophageal junction, atrial fib, pulmonary embolus

- Atrial esophagectomy (open chest/abd surgery)
- Discharged to home – follow-up with med onc/survivorship care, cardio-oncology, PCP

GI & thoracic surgery, cardio-oncology, pulmonary, home care, PCP, endocrine, PT, nutrition (lost 25+ lbs)

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What Next? Solutions? …Implementation

Are there guidelines for following AM's numerous issues?

- Needs changing over time
- Who should care for AM?
- Coordinating multidisciplinary and multispecialty care
- Multidisciplinary/multispecialty workforce issues?
- Availability
- Level of expertise

What did/do we know then and now? The future?

- Immune therapy?
- Oral chemotherapy?
- Proton therapy?