Workforce Considerations for Multidisciplinary and Multispecialty Patient Care

Deborah K. Mayer, PhD, RN, AOCN, FAAN
Francis Hill Fox Distinguished Professor
Emeritus
University of North Carolina School of Nursing
Member, UNC Lineberger Comprehensive Cancer Center
Chapel Hill, NC

COI Statement

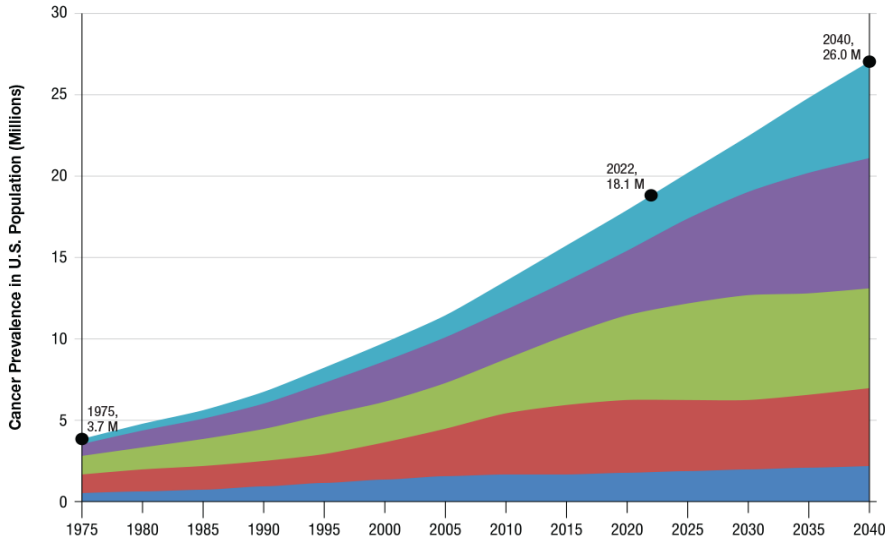
- Employment: Villanova University
- Stockholder: Carevive

Key Points

- **Growing number of survivors + follow-up care is major volume of visits → need to reevaluate purpose and if/when/where/who does *follow-up visits***

- **Mismatched workforce (#, type of clinicians, geographic and racial/ethnic distribution) → national and professional association strategies to close the gap**

Cancer Prevalence and Projections in U.S. Population from 1975-2040

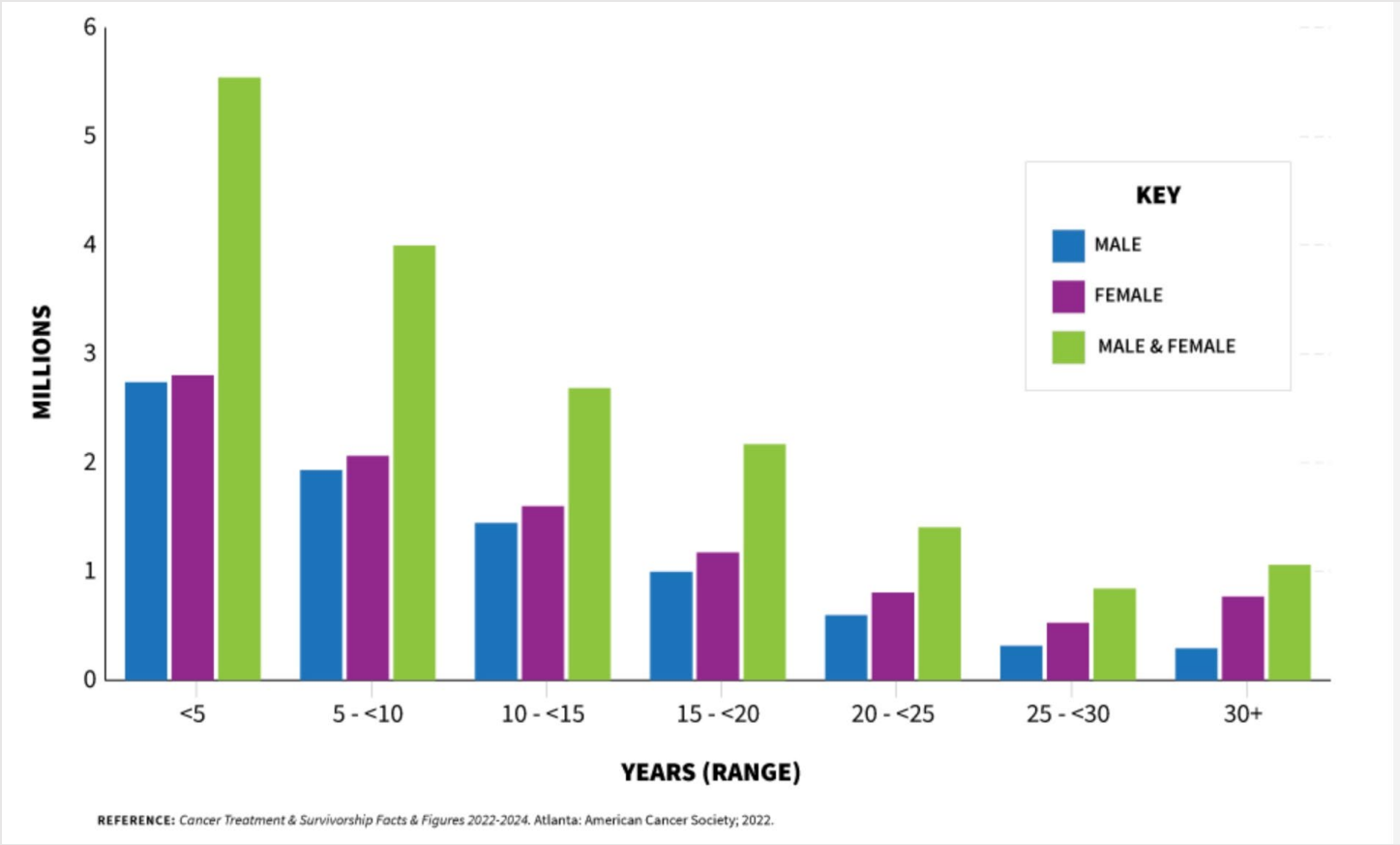


REFERENCES

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.

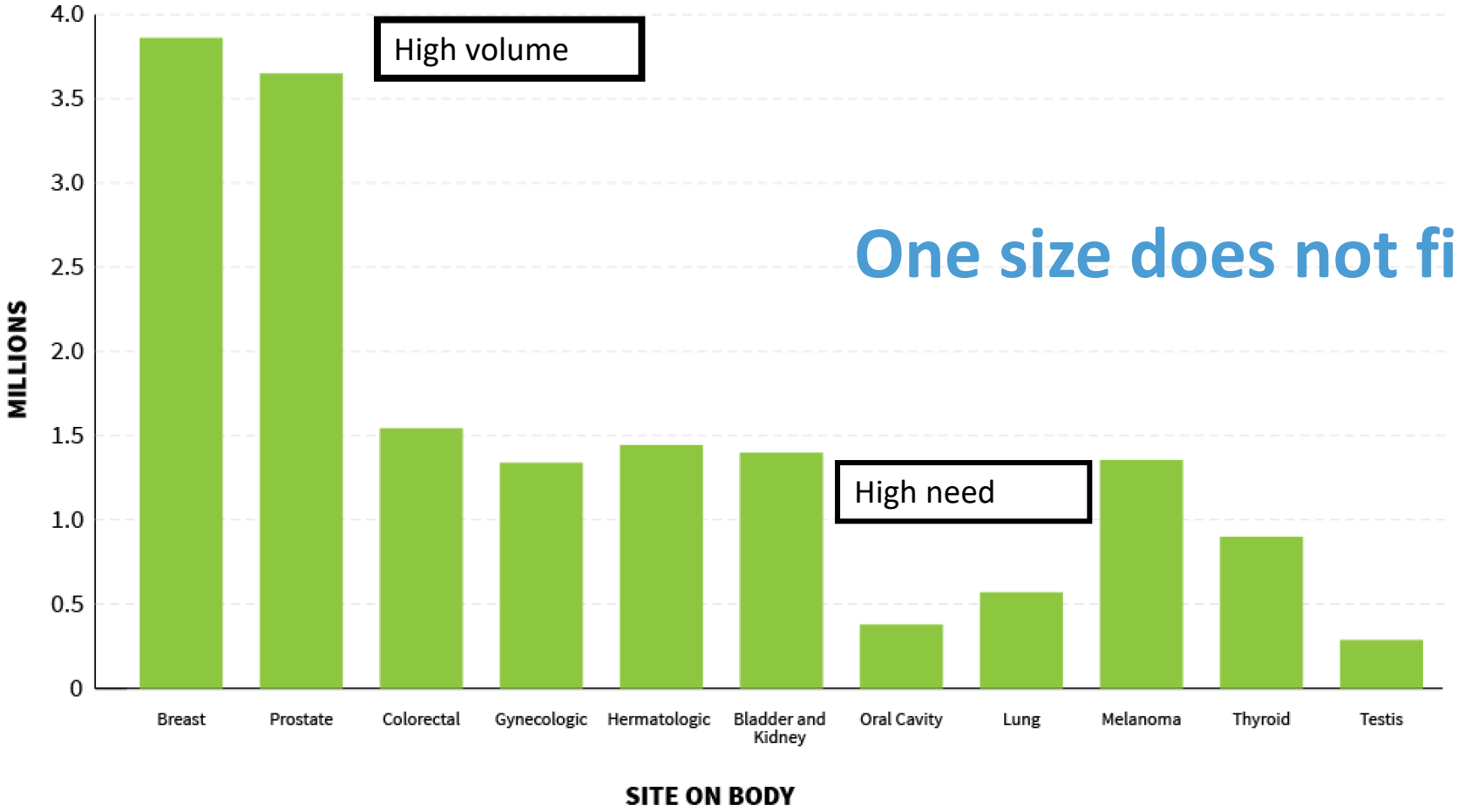
Miller KD, Nogueira L, Devasia T, Mariotto AB, Yabroff KR, Jemal A, Kramer J and Siegel RL. Cancer Treatment and Survivorship Statistics. CA A Cancer J Clin. 2022.

Cancer survivors by years since diagnosis

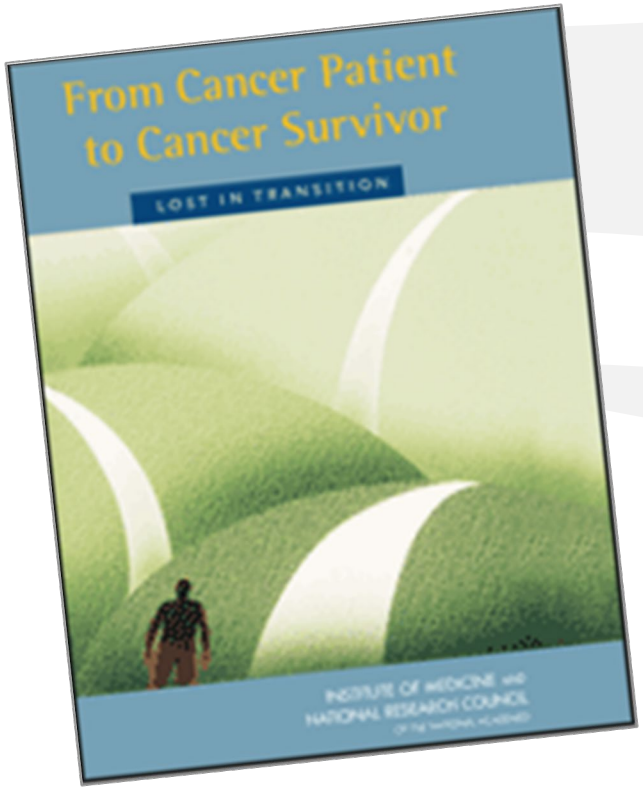


REFERENCE: *Cancer Treatment & Survivorship Facts & Figures 2022-2024.* Atlanta: American Cancer Society; 2022.

Estimated Number of Cancer Survivors in the U.S., by Site



REFERENCE: American Cancer Society. *Cancer Treatment & Survivorship Facts & Figures 2016-2017*. Atlanta: American Cancer Society; 2016.
Miller, K. D., Siegel, R. L., Lin, C. C., Mariotto, A. B., Kramer, J. L., Rowland, J. H., Stein, K. D., Alteri, R. and Jemal, A. (2016), Cancer treatment and survivorship statistics, 2016. CA: A Cancer Journal for Clinicians.

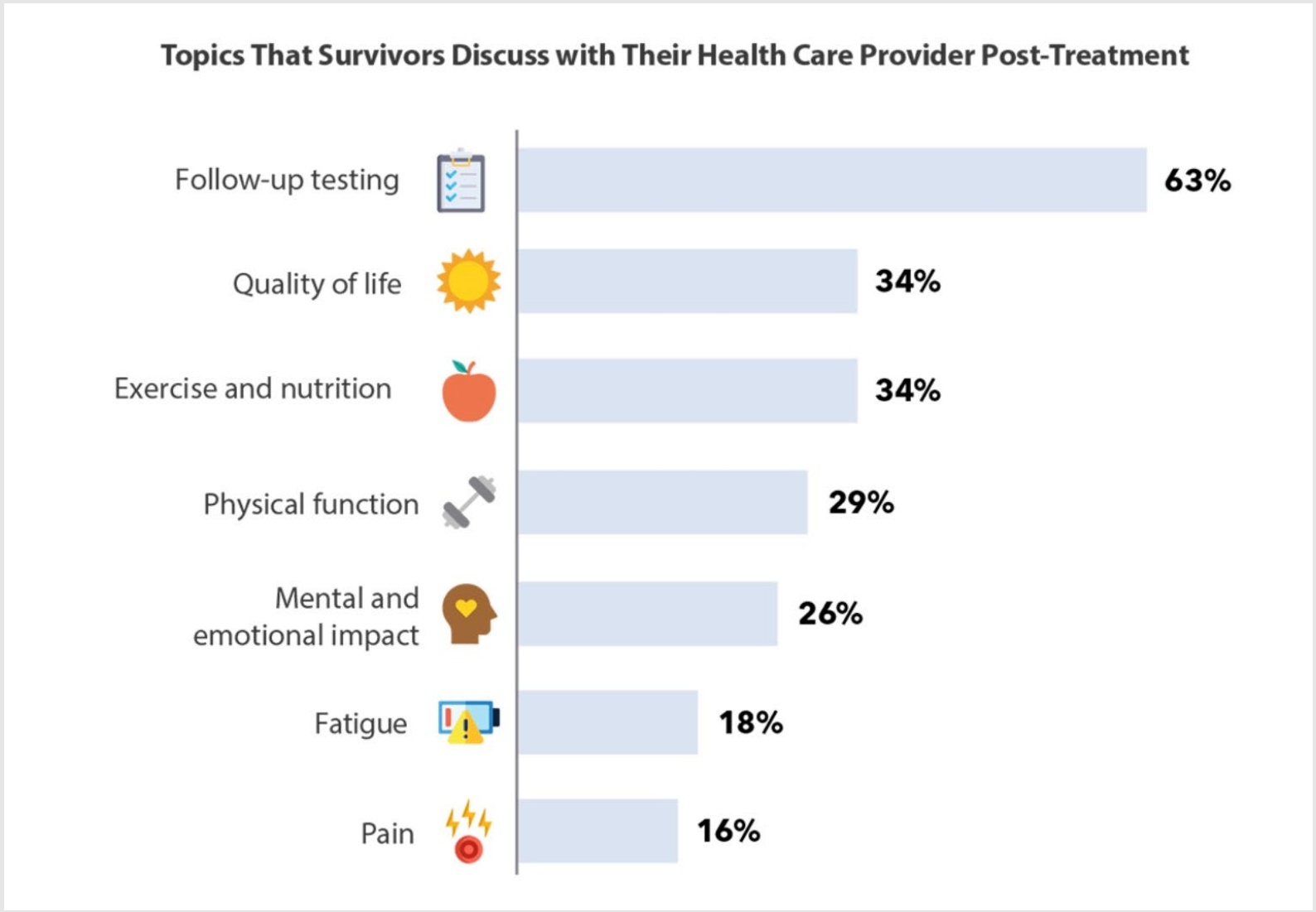


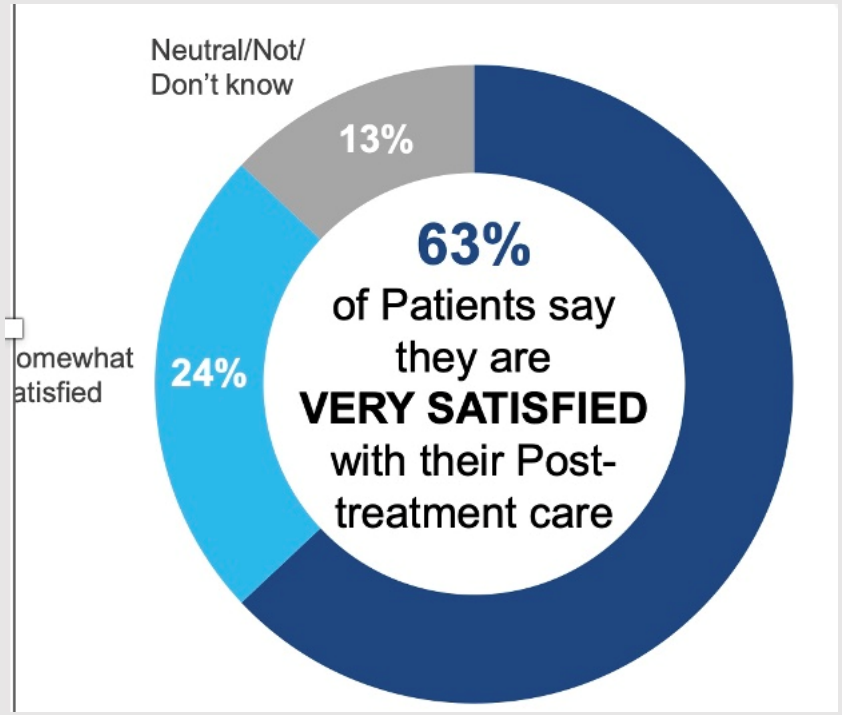
Components of Cancer Survivorship Care

Follow-up visits:

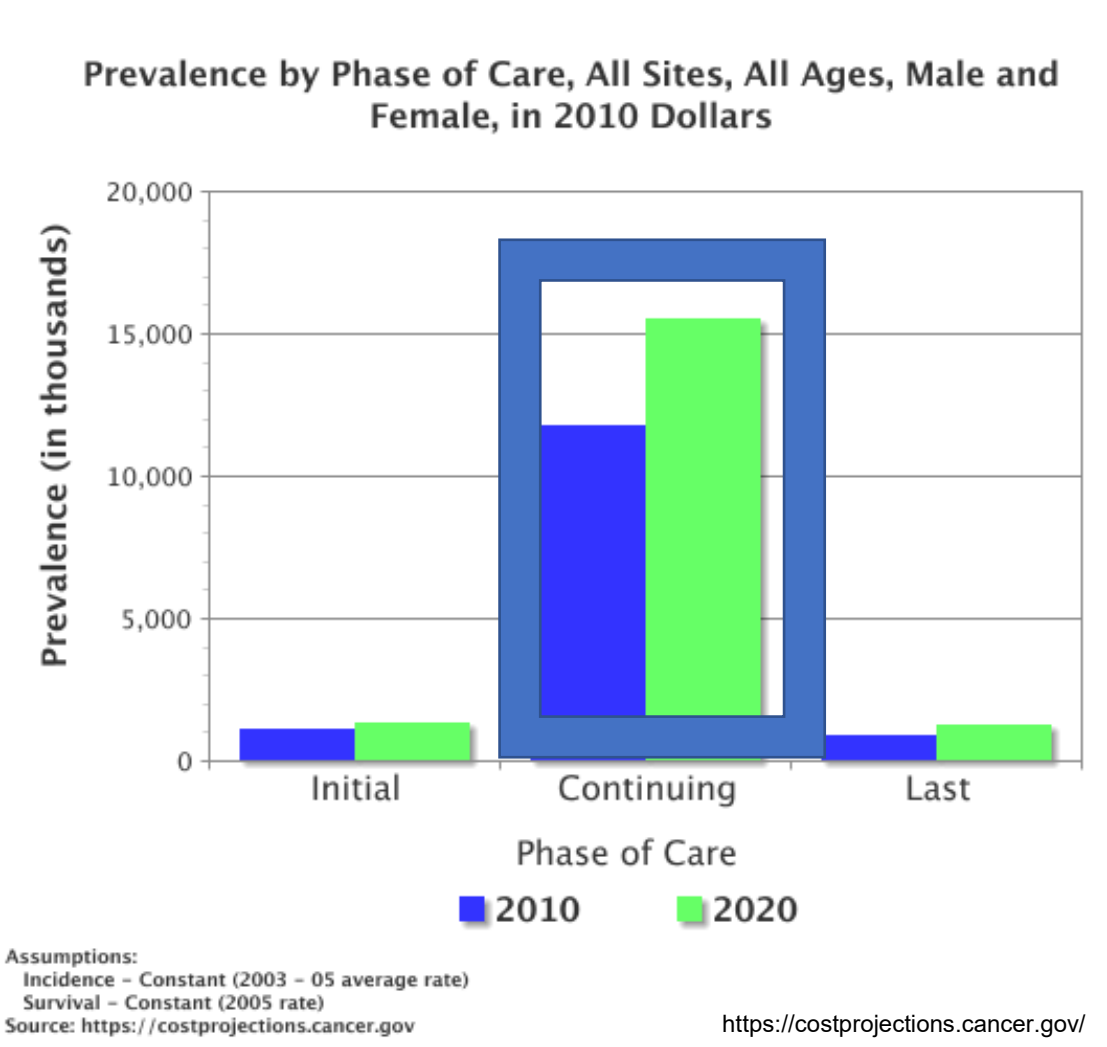
- Prevention and Surveillance: Recurrences and New Cancers
- Mitigation of Long-Term and Late Effects: Physical and Psychosocial
- Health Promotion
- Care Coordination

NCCS
NATIONAL COALITION
FOR CANCER SURVIVORSHIP

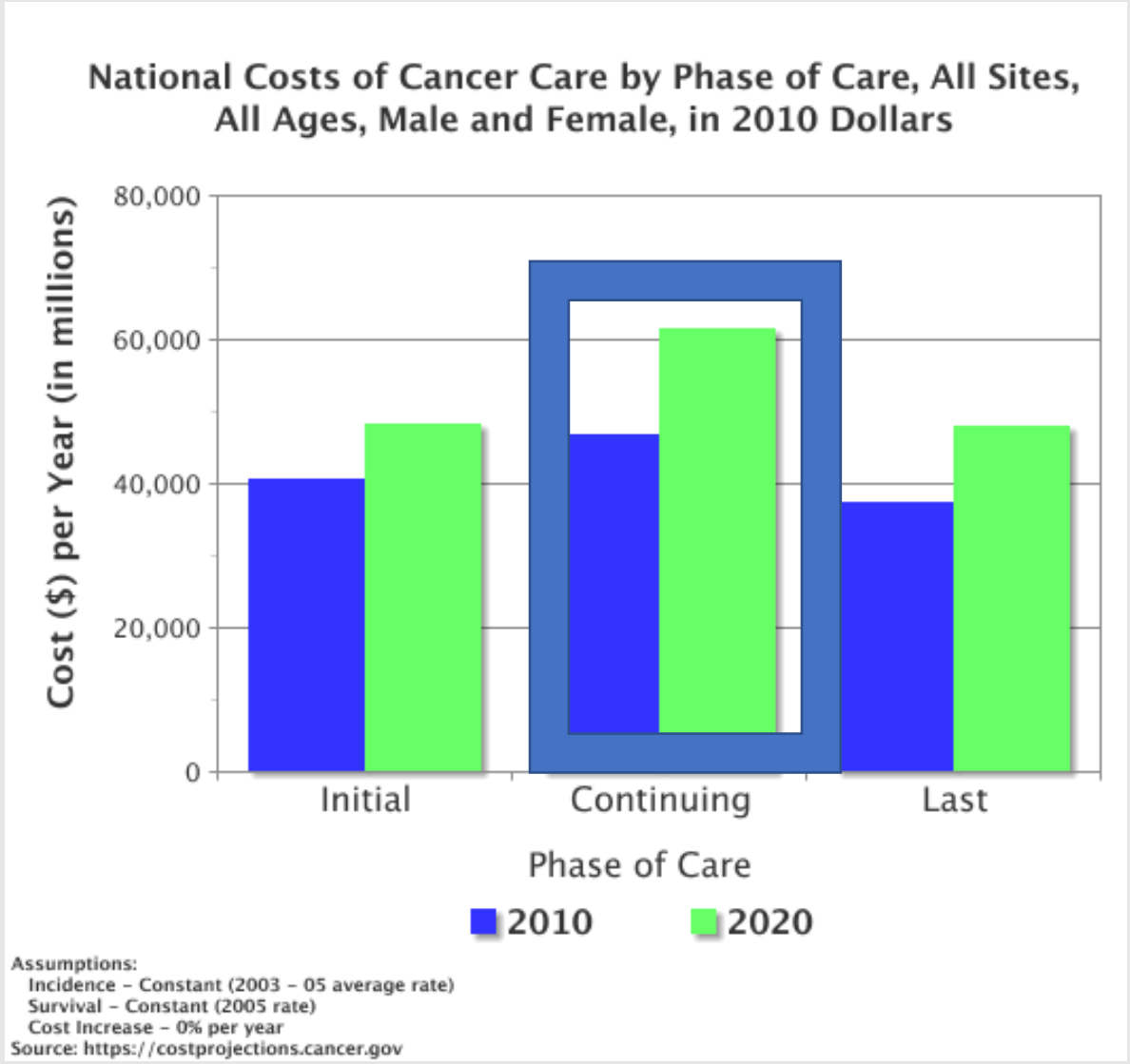




Continuing Care for Cancer Survivors



https://costprojections.cancer.gov/



OXFORD

JNCI J Natl Cancer Inst (2022) 114(6): djac036

https://doi.org/10.1093/jnci/djac036
First published online February 16, 2022
Article

Workforce Caring for Cancer Survivors in the United States: Estimates and Projections of Use

Angela B. Mariotto, PhD [1,*] Lindsey Enewold, PhD, MPH [1] Helen Parsons, PhD, MPH,[2]
Christopher A. Zeruto, BS,[3] K. Robin Yabroff, PhD, MBA [4] Deborah K. Mayer, PhD, RN[1,5,6]

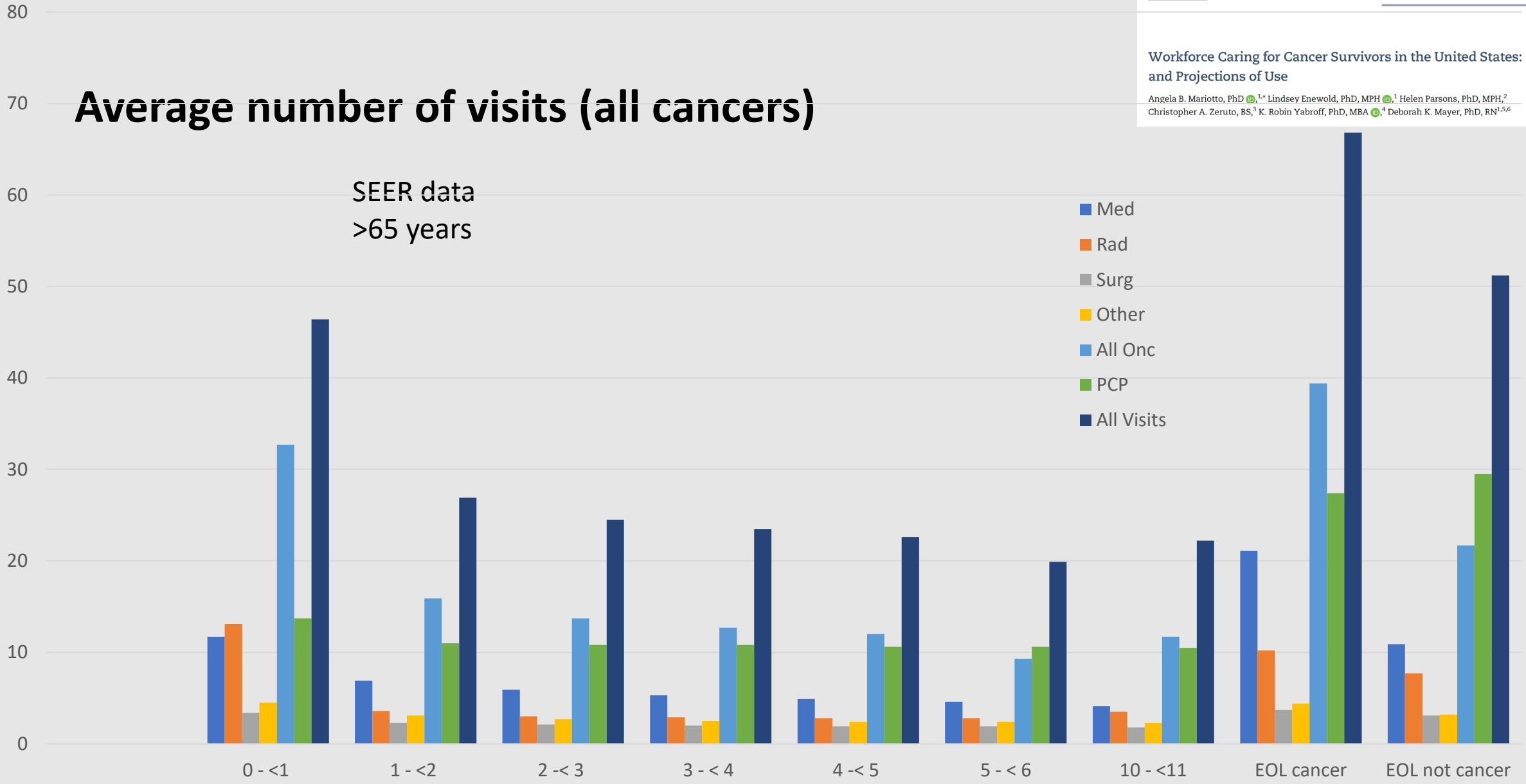
Average number of visits (all cancers)

Time (years)	Med Onc	Rad Onc	Surg Onc	Other Onc	Total Onc	PCP	Total visits
0 - <1	11.7	13.1	3.4	4.5	32.7	13.7	**46.4**
1 - <2	6.9	3.6	2.3	3.1	15.9	11	**26.9**
2 -< 3	5.9	3.0	2.1	2.7	13.7	10.8	**24.5**
3 - < 4	5.3	2.9	2.0	2.5	12.7	10.8	**23.5**
4 -< 5	4.9	2.8	1.9	2.4	12	10.6	**22.6**
5 - < 6	4.6	2.8	1.9	2.4	9.3	10.6	**19.9**
10 - <11	4.1	3.5	1.8	2.3	11.7	10.5	**22.2**
EOL cancer	21.1	10.2	3.7	4.4	39.4	27.4	**66.8**
EOL not cancer	10.9	7.7	3.1	3.2	21.7	29.5	**51.2**

SEER data >65 years

Average number of visits (all cancers)

SEER data
>65 years



OXFORD

JNCI J Natl Cancer Inst (2022) 114(6): djac036

https://doi.org/10.1093/jnci/djac036
First published online February 16, 2022
Article

Workforce Caring for Cancer Survivors in the United States: Estimates and Projections of Use

Angela B. Mariotto, PhD [1,*] Lindsey Enewold, PhD, MPH [1] Helen Parsons, PhD, MPH,[2]
Christopher A. Zeruto, BS,[3] K. Robin Yabroff, PhD, MBA [4] Deborah K. Mayer, PhD, RN[1,5,6]

Follow-up Strategies Evaluation

Høeg BL, et al (2019)

- 53 RCT with 20832 participants across 12 cancers in 15 countries
- Cochrane review for overall survival, time to recurrence, HRQOL, anxiety (FOR), depression and cost.
  - Non-specialist-led FU vs Specialist-led (n=17)
  - Less vs more intensive FU (n=24)
  - FU with additional care components vs usual care (n=12)

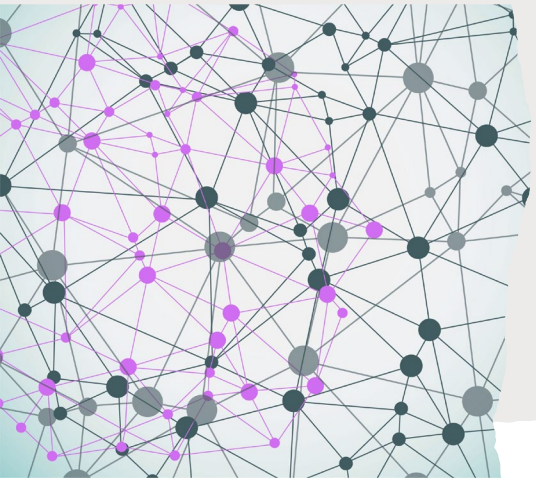
“Evidence regarding the effectiveness of the different follow-up strategies varies substantially.”

Chan RJ, et a; (2023).

- 12 Systematic reviews (53 studies) comparing ≥ 2 models of post-treatment care (nurse-led, PRC-led, shared care vs usual care)
  - No difference in physical or psychosocial outcomes
  - Barriers included limited resources, communication and care coordination
  - Facilitators included survivor engagement, planning, and flexible services.

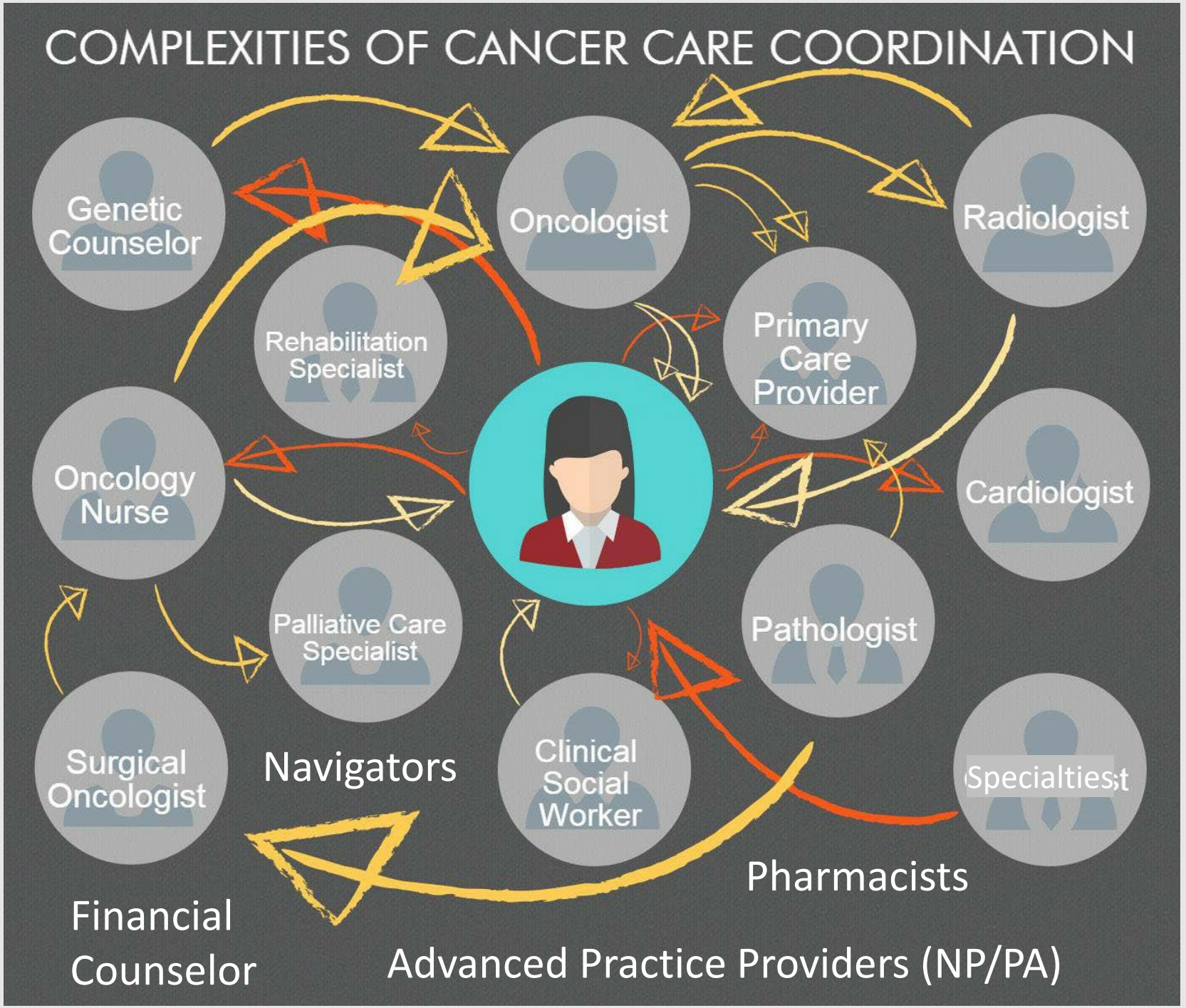
“Despite evidence regarding the equivalent effectiveness of nurse-led, primary care-led, or shared care models, these models are not widely adopted… Further research is needed to address effectiveness in understudied domains of care and outcomes and across different population groups."

Høeg BL, et al (2019). Follow-up strategies following completion of primary cancer treatment in adult cancer survivors. *Cochrane Database Syst Rev.;* 2019 (11):CD012425.
Chan RJ, et a; (2023). Effectiveness and implementation of models of cancer survivorship care: an overview of systematic reviews. *J Cancer Surviv*;17(1):197-221.



Recommendations

- Follow-up visits → redesign to be patient-centered *and* to relieve oncology clinic volumes
  - Studies to test different models of care for different populations
  - Include self-management in strategies
  - NCCN guidelines need to reflect transitions in care



Growing number of clinicians caring for people with cancer along the continuum

How do we calculate workforce and other needs based on numbers of patients?

Adapted from NCCS adaption Press MJ (2014). Instant replay--a quarterback's view of care coordination. *N Engl J Med*. ;371(6):489-91.

https://www.nejm.org/doi/full/10.1056/NEJMp1406033

Workforce Issues

Well documented gaps in number, type, geographic and racial/ethnic distribution of needed clinicians to care for people with cancer as demand increases --> contributes to disparities in quality of care and outcomes

2020, 2021, 2022 ASCO snapshots: State of the Oncology Workforce in America

Shih YT, Kim B, Halpern MT. (2020). State of Physician and Pharmacist Oncology Workforce in the United States in 2019. *JCO Oncol Pract*.;17(1):e1-e10.

Mathew A. (2018). Global Survey of Clinical Oncology Workforce. *J Glob Oncol*.;4:1-12.

Oncology Nursing Society

Perlmutter EY, et al (2022). Oncology social work practice behaviors: a national survey of AOSW members. *J Psychosoc Onc*ol.;40(2):137-151.

Stitzenberg KB, et al (2014). Improving our understanding of the surgical oncology workforce. *Ann Surg*.;259(3):556-62.

https://data.hrsa.gov/topics/health-workforce/data-research

Workforce (approximate)

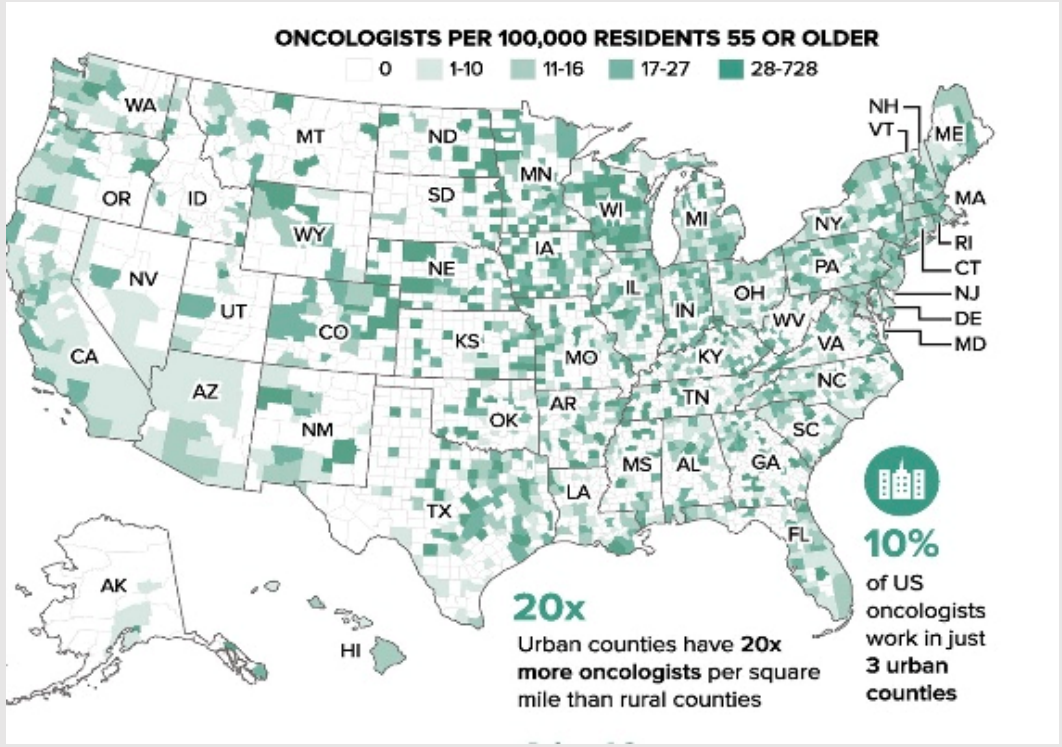
Newly diagnosed (~2m); all (~18 m)

13500 Med Oncologists (1:148; 1: 1,333)
8,000 Oncology APP (1:250; 1: 2250)
5500 Rad Oncologists (1:363; 1: 3,272)
4100 Oncology Pharmacists (1:487; 1: 4390)
1300 AOSW (1:1,538; 1:13846)
290,000 PCP (1:6.9; 1:62)

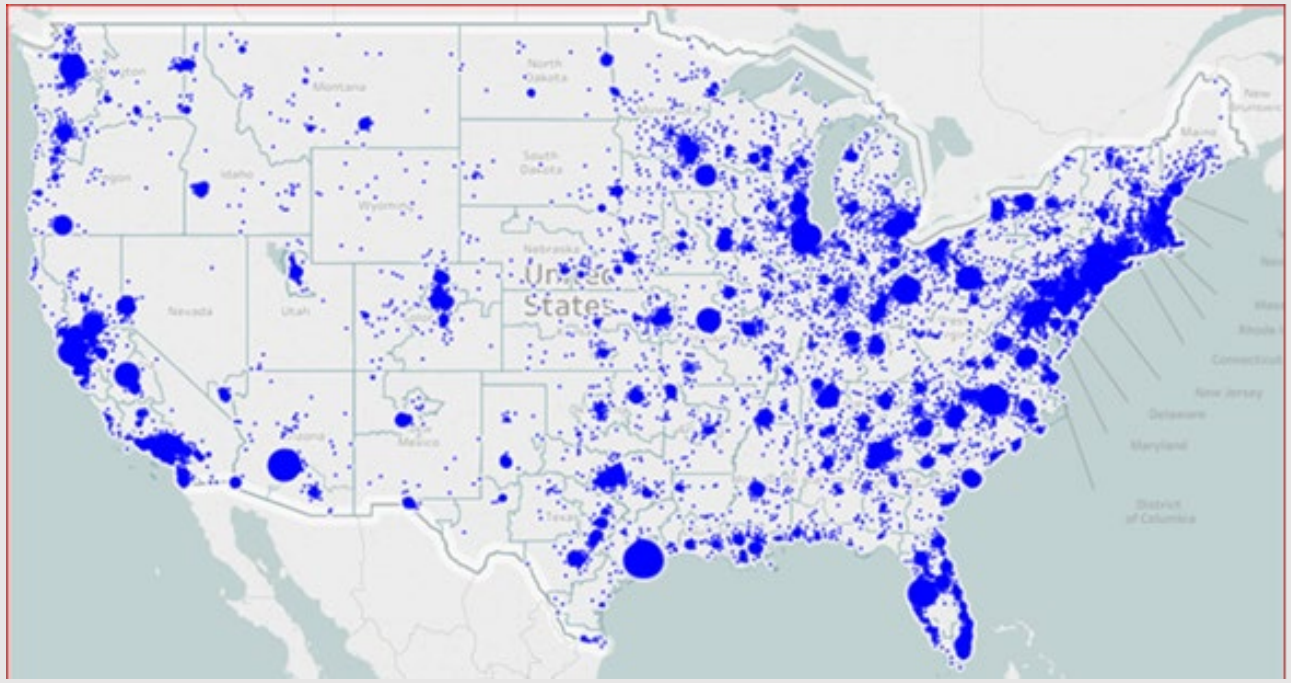
Data sources: Professional organizations, HRSA

Geographic Distribution

ASCO 2020



ONS Members (n ~34,000)



Potential universe of oncology nurses based on HRSA data is ~100-110K

Recommendations

- HRSA and NIH Training opportunities → systematic evaluation of current opportunities for all team members, address gaps, incentives to ‘right size’, and expand at all levels (pre and post licensure)
- Professional associations → pre and post licensure curriculum evaluation and development, resource development and distribution, interprofessional partnerships to extend and enhance efforts to specialty and generalist clinicians
- Professional Associations + Health systems → recruitment and retention
- Advocacy partnerships→ develop and incorporate self-management tools for appropriate populations

Deliver Optimal Care: The health care system delivers evidence-based, patient-centered care to all people that prioritizes prevention, reduces cancer morbidity and mortality, and improves the lives of cancer survivors, including people living with cancer.

https://nationalcancerplan.cancer.gov