EU4Nutrition LIVE

CONTINUITY OF NUTRITION CARE

optimal nutritional care for all

THE POWER OF CONCERTED EFFORTS AGAINST MALNUTRITION

The European Nutrition for Health Alliance

NESPEN clinical nutrition and metabolism

kenniscentrum ondervoeding

Nederlandse Vereniging van Diëtisten

Nutrition & Healthcare Alliance

Europe's Beating Cancer Plan - Integrated Nutrition Cancer Care: drivers for successful local implementations

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My disclosures

- Honoraria for independent lectures at industry-sponsored events.
- Member Nutricia Oncology advisory board.
- Member DSM advisory board.
- Member Smartfish advisory board.
- Consultant for Abbott, BBraun, Nestlé Health Science.

Unmet needs in patients with cancer

Han River, Seoul, June 2023

Table. Changes in Age-Standardized Mortality Rates for All Cancer and Individual Cancer Sites, 1971-2019

Cancer in all sexes[a]	Rate in 1971	Rate in peak year (year)	Rate in 2019	Rate difference from 1971	Rate difference from peak year	Rate ratio (95% CI)[b]	
						2019:1971	2019:peak year
All sites	198.9	215.1 (1991)	146.0	−52.9	−69.1	0.73 (0.73-0.74)	0.68 (0.68-0.68)
Lung and bronchus	38.2	59.1 (1993)	33.4	−4.8	−25.7	0.87 (0.87-0.88)	0.56 (0.56-0.57)
Female breast	31.7	33.2 (1989)	19.4	−12.3	−13.8	0.61 (0.60-0.62)	0.58 (0.58-0.59)
Prostate	30.3	39.3 (1993)	18.4	−11.9	−20.9	0.61 (0.60-0.62)	0.47 (0.46-0.48)
Colon and rectum	28.8	NA	12.8	−16.0	NA	0.44 (0.44-0.45)	NA
Pancreas	10.7	NA	11.0	0.3	NA	1.03 (1.01-1.05)	NA
Ovary	10.1	NA	6.0	−4.1	NA	0.59 (0.58-0.61)	NA
Stomach	9.7	NA	2.8	−6.9	NA	0.28 (0.28-0.29)	NA
Leukemia	8.4	NA	5.9	−2.5	NA	0.69 (0.68-0.71)	NA
Cervix	7.1	NA	2.2	−4.9	NA	0.31 (0.29-0.32)	NA
Non-Hodgkin lymphoma	5.7	8.9 (1997)	5.0	−0.7	−3.9	0.89 (0.86-0.91)	0.56 (0.55-0.58)
Urinary/bladder	5.6	NA	4.1	−1.5	NA	0.73 (0.71-0.75)	NA
Oral cavity and pharynx	4.4	NA	2.5	−1.9	NA	0.57 (0.55-0.58)	NA
Brain and other nervous system	4.0	4.9 (1991)	4.3	0.3	−0.6	1.08 (1.05-1.10)	0.87 (0.85-0.90)
Kidney and renal pelvis	3.5	4.3 (1991)	3.4	−0.1	−0.9	0.96 (0.93-0.99)	0.79 (0.77-0.81)
Esophagus	3.5	4.4 (2005)	3.8	0.3	−0.6	1.08 (1.05-1.11)	0.86 (0.84-0.88)

Abbreviation: NA, not applicable.

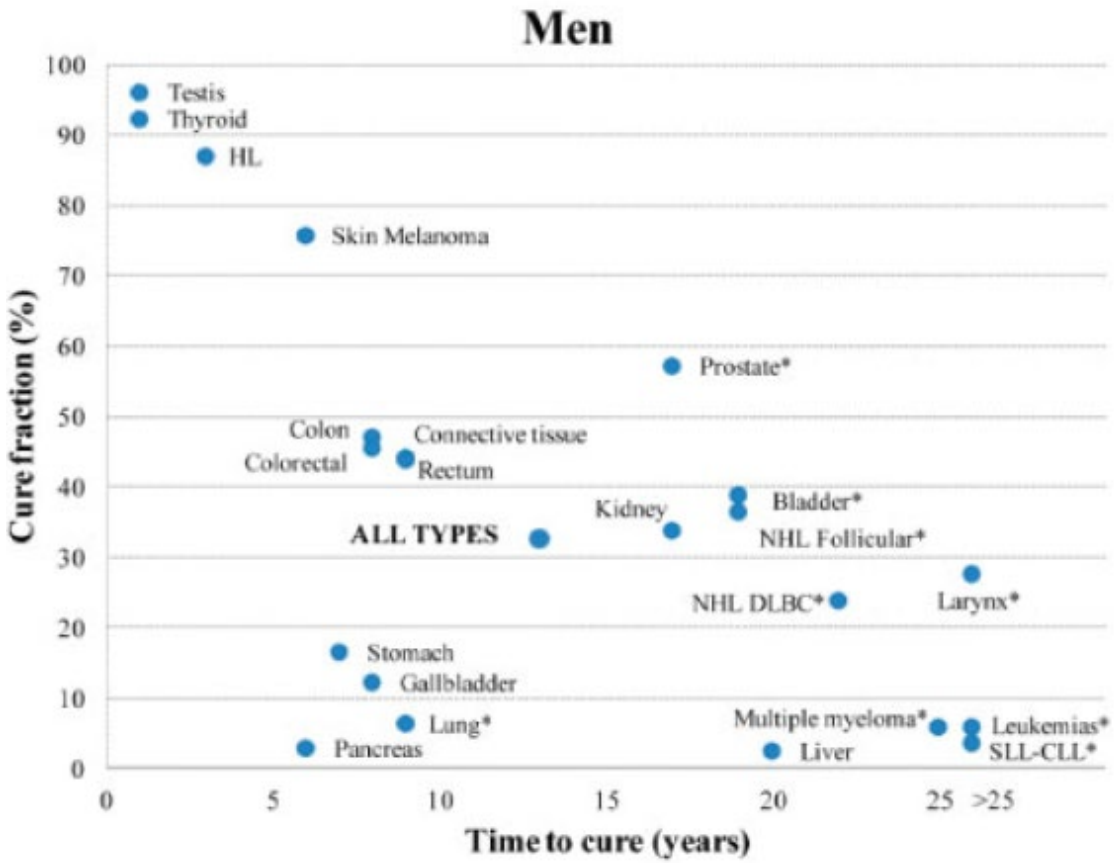
[a] Rates for prostate, ovary, and cervix cancers are sex specific.

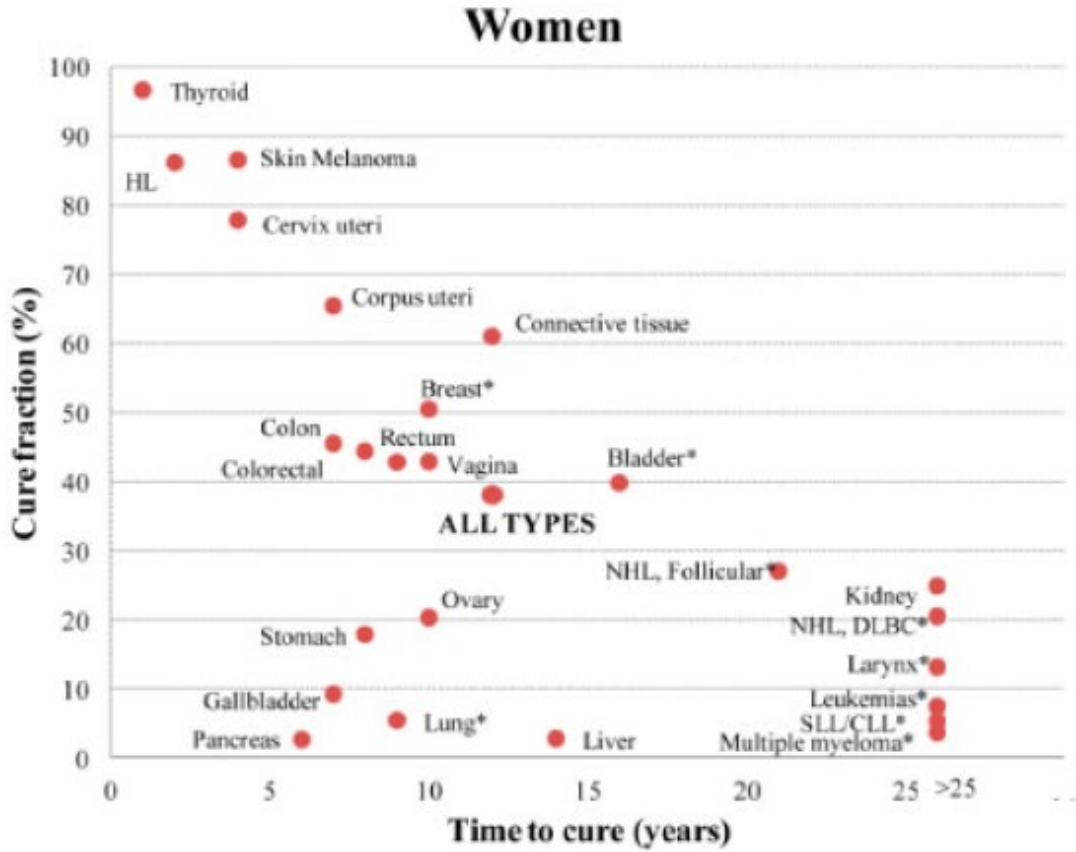
[b] Rate ratios and 95% CIs are calculated using unrounded rates to 9 decimal places.

JAMA Oncology Published online November 11, 2021

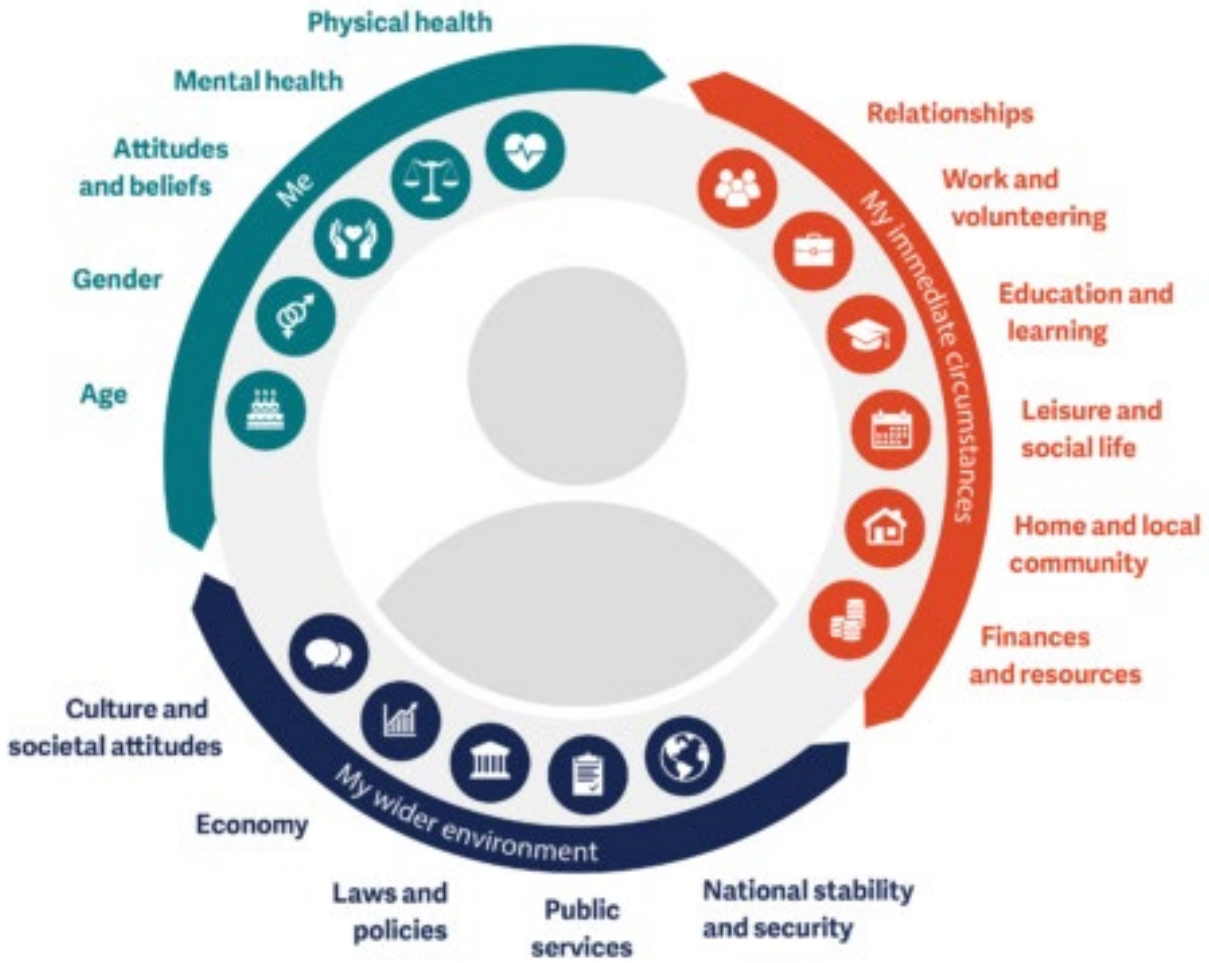
Cancer cure for 32 cancer types: results from the EUROCARE-5 study

International Journal of Epidemiology, 2020, Vol. 49, No. 5





Quality of life



Trends in the Prevalence of Functional Limitations Among US Cancer Survivors, 1999-2018

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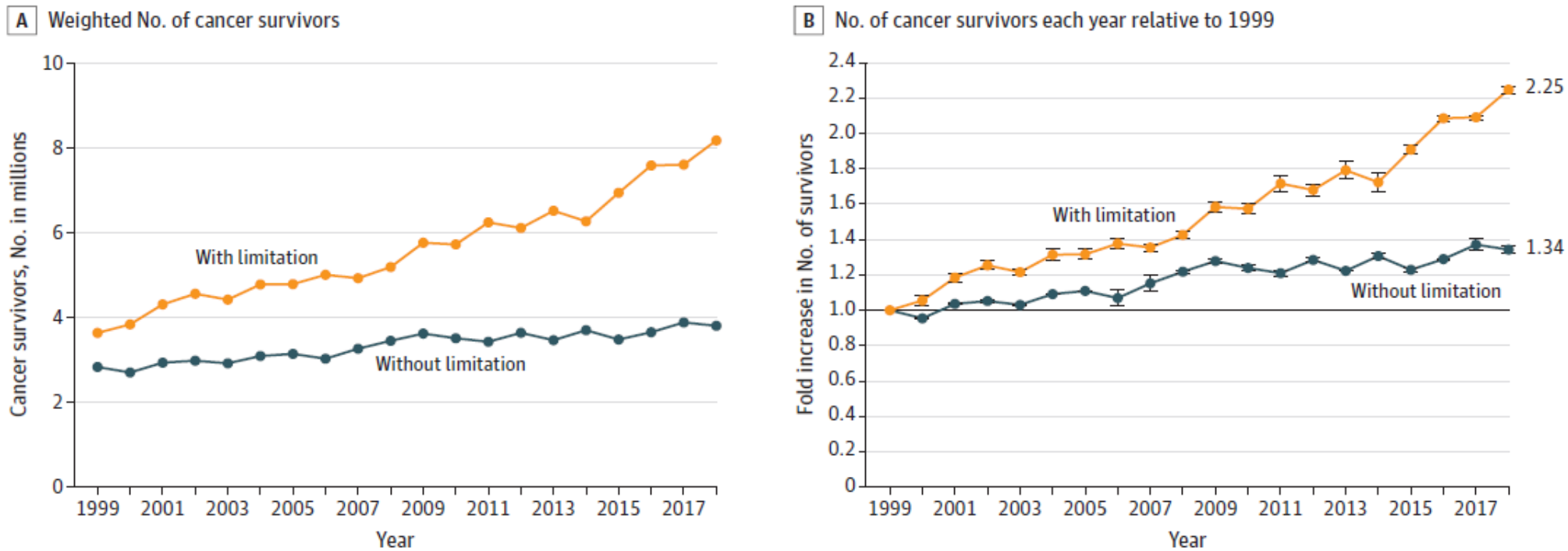
JAMA Oncology Published online May 11, 2023

Figure. Trends in the Number of Cancer Survivors Reporting Functional Limitation in the US, 1999 to 2018



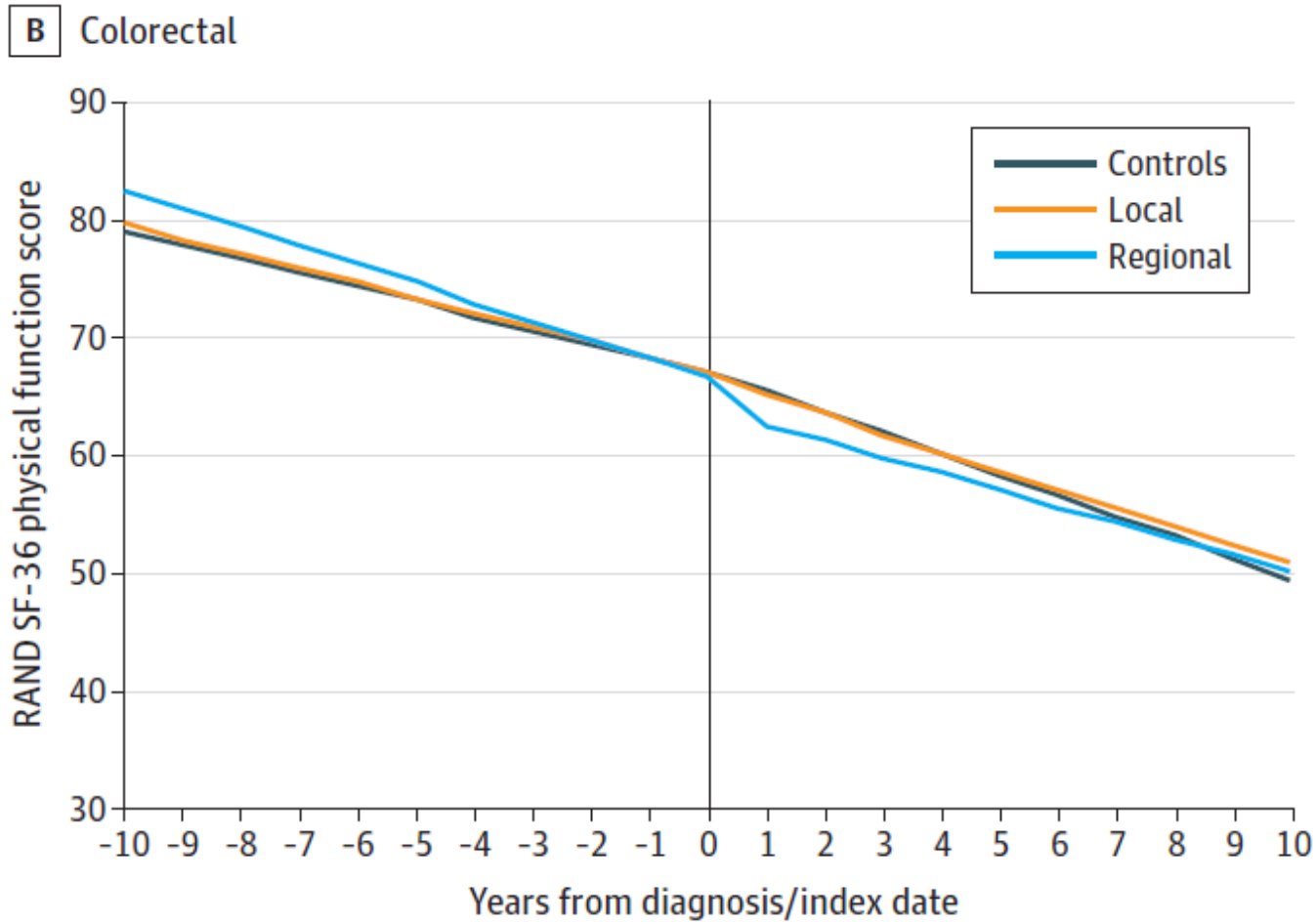
THE POWER OF CONCERTED EFFORTS AGAINST MALNUTRITION

CONTINUITY OF NUTRITION CARE

Long-term Trajectories of Physical Function Decline in Women With and Without Cancer

Elizabeth M. Cespedes Feliciano, ScD, SM; Sowmya Vasan, MS; Juhua Luo, PhD; Alexandra M. Binder, ScD; Rowan T. Chlebowski, MD, PhD; Charles Quesenberry, PhD; Hailey R. Banack, Phd; Bette J. Caan, DrPH; Electra D. Paskett, PhD; Grant R. Williams, MD, MSPH; Ana Barac, MD, PhD; Andrea Z. LaCroix, PhD; Ulrike Peters, PhD; Kerryn W. Reding, PhD, MPH; Kathy Pan, MD; Aladdin H. Shadyab, PhD, MS, MPH; Lihong Qi, PhD; Garnet L. Anderson, PhD

JAMA Oncology Published online January 19, 2023



Long-term Trajectories of Physical Function Decline in Women With and Without Cancer

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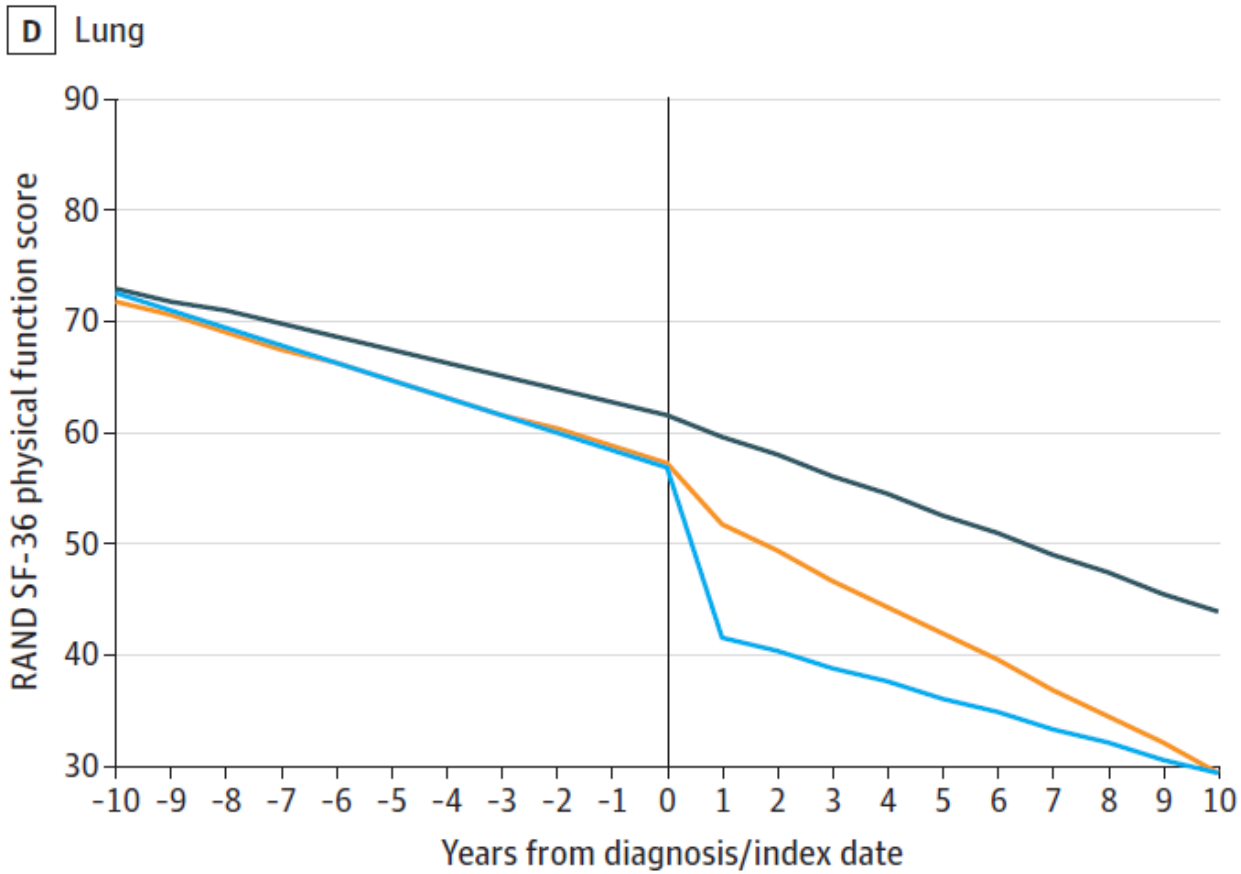


Association of Quality-of-Life Outcomes in Cancer Drug Trials With Survival Outcomes and Drug Class

Joseph N. Samuel, PharmD, MSc; Christopher M. Booth, MD; Elizabeth Eisenhauer, MD; Michael Brundage, MD, MSc; Scott R. Berry, MD; Bishal Gyawali, MD, PhD

JAMA Oncology Published online April 28, 2022

Table 2. Overall Survival and Progression-Free Survival in Trials Also Reporting Quality-of-Life Outcomes (n = 45)

	Quality-of-life outcome, No. of trials		
Outcome	Improved	No difference	Worsened
Overall survival			
Improved	7	10	0
No difference	3	16	4
No data	1	2	2
Progression-free survival			
Improved	6	17	4
No difference	3	9	2
Worse	0	1	0
No data	2	1	0

Informative censoring due to missing data in quality of life was inadequately assessed in most oncology randomized controlled trials

Timothée Olivier[a,*], Alyson Haslam[b], Vinay Prasad[b]

Journal of Clinical Epidemiology 139 (2021) 80–86

What is new?

Key findings

- missing data in quality of life (QoL) are adequately reported in 7.4% of oncology randomized controlled trials (RCTs).

What is the implication, what should change now

- first study with a 5-year period inclusion and with a focus on oncology RCTs. Informative censoring is an underreported bias in QoL.

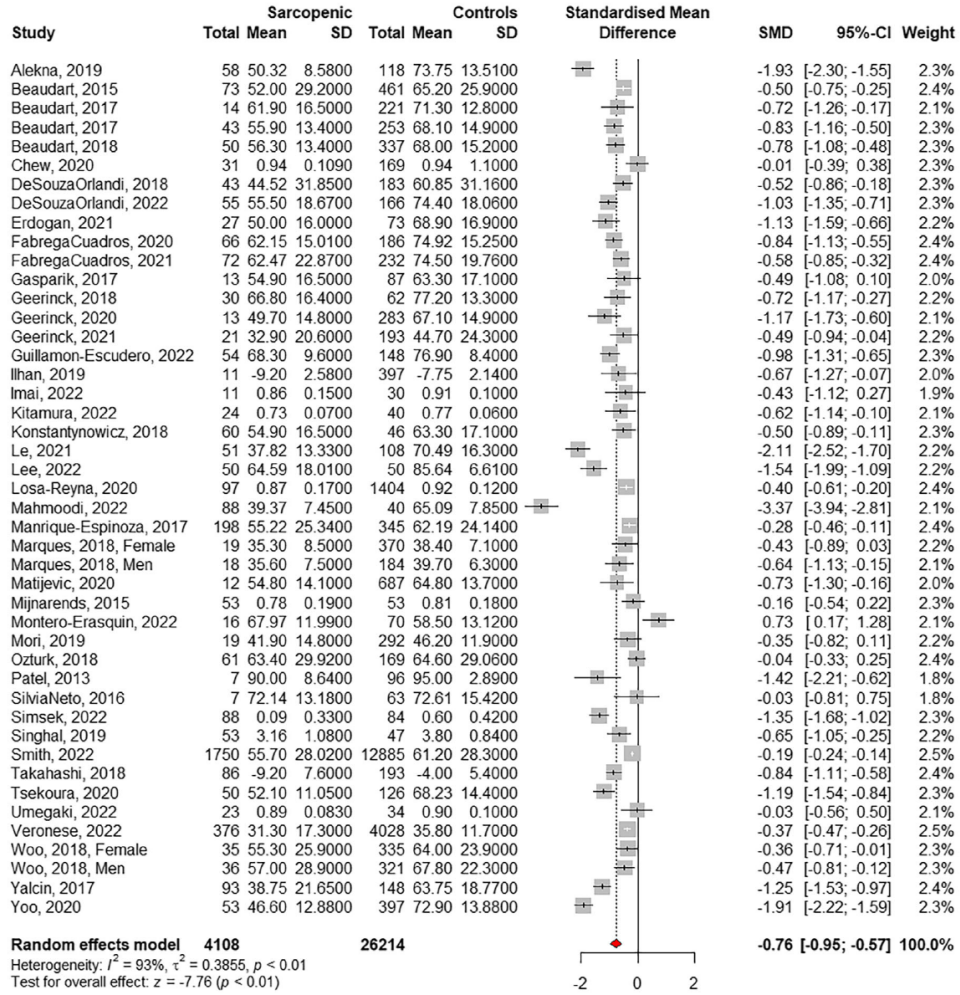
What is the implication and what should change now?

- investigators, authors, and journal's editors should enforce higher requirements regarding the reporting of missing QoL data.

optimal nutritional care for all

Sarcopenia and health-related quality of life: A systematic review and meta-analysis

Journal of Cachexia, Sarcopenia and Muscle (2023)



Study	Sarcopenic Total	Mean	SD	Controls Total	Mean	SD	SMD	95%-CI	Weight
Alekna, 2019	58	50.32	8.5800	118	73.75	13.5100	-1.93	[-2.30; -1.55]	2.3%
Beaudart, 2015	73	52.00	29.2000	461	65.20	25.9000	-0.50	[-0.75; -0.25]	2.4%
Beaudart, 2017	14	61.90	16.5000	221	71.30	12.8000	-0.72	[-1.26; -0.17]	2.1%
Beaudart, 2017	43	55.90	13.4000	253	68.10	14.9000	-0.83	[-1.16; -0.50]	2.3%
Beaudart, 2018	50	56.30	13.4000	337	68.00	15.2000	-0.78	[-1.08; -0.48]	2.3%
Chew, 2020	31	0.94	0.1090	169	0.94	1.1000	-0.01	[-0.39; 0.38]	2.3%
DeSouzaOrlandi, 2018	43	44.52	31.8500	183	60.85	31.1600	-0.52	[-0.86; -0.18]	2.3%
DeSouzaOrlandi, 2022	55	55.50	18.6700	166	74.40	18.0600	-1.03	[-1.35; -0.71]	2.3%
Erdogan, 2021	27	50.00	16.0000	73	68.90	16.9000	-1.13	[-1.59; -0.66]	2.2%
FabregaCuadros, 2020	66	62.15	15.0100	186	74.92	15.2500	-0.84	[-1.13; -0.55]	2.4%
FabregaCuadros, 2021	72	62.47	22.8700	232	74.50	19.7600	-0.58	[-0.85; -0.32]	2.4%
Gasparik, 2017	13	54.90	16.5000	87	63.30	17.1000	-0.49	[-1.08; 0.10]	2.0%
Geerinck, 2018	30	66.80	16.4000	62	77.20	13.3000	-0.72	[-1.17; -0.27]	2.2%
Geerinck, 2020	13	49.70	14.8000	283	67.10	14.9000	-1.17	[-1.73; -0.60]	2.1%
Geerinck, 2021	21	32.90	20.6000	193	44.70	24.3000	-0.49	[-0.94; -0.04]	2.2%
Guillamon-Escudero, 2022	54	68.30	9.6000	148	76.90	8.4000	-0.98	[-1.31; -0.65]	2.3%
Ilhan, 2019	11	-9.20	2.5800	397	-7.75	2.1400	-0.67	[-1.27; -0.07]	2.0%
Imai, 2022	11	0.86	0.1500	30	0.91	0.1000	-0.43	[-1.12; 0.27]	1.9%
Kitamura, 2022	24	0.73	0.0700	40	0.77	0.0600	-0.62	[-1.14; -0.10]	2.1%
Konstantynowicz, 2018	60	54.90	16.5000	46	63.30	17.1000	-0.50	[-0.89; -0.11]	2.3%
Le, 2021	51	37.82	13.3300	108	70.49	16.3000	-2.11	[-2.52; -1.70]	2.2%
Lee, 2022	50	64.59	18.0100	50	85.64	6.6100	-1.54	[-1.99; -1.09]	2.2%
Losa-Reyna, 2020	97	0.87	0.1700	1404	0.92	0.1200	-0.40	[-0.61; -0.20]	2.4%
Mahmoodi, 2022	88	39.37	7.4500	40	65.09	7.8500	-3.37	[-3.94; -2.81]	2.1%
Manrique-Espinoza, 2017	198	55.22	25.3400	345	62.19	24.1400	-0.28	[-0.46; -0.11]	2.4%
Marques, 2018, Female	19	35.30	8.5000	370	38.40	7.1000	-0.43	[-0.89; 0.03]	2.2%
Marques, 2018, Men	18	35.60	7.5000	184	39.70	6.3000	-0.64	[-1.13; -0.15]	2.1%
Matijevic, 2020	12	54.80	14.1000	687	64.80	13.7000	-0.73	[-1.30; -0.16]	2.0%
Mijnarends, 2015	53	0.78	0.1900	53	0.81	0.1800	-0.16	[-0.54; 0.22]	2.3%
Montero-Erasquin, 2022	16	67.97	11.9900	70	58.50	13.1200	0.73	[0.17; 1.28]	2.1%
Mori, 2019	19	41.90	14.8000	292	46.20	11.9000	-0.35	[-0.82; 0.11]	2.2%
Ozturk, 2018	61	63.40	29.9200	169	64.60	29.0600	-0.04	[-0.33; 0.25]	2.4%
Patel, 2013	7	90.00	8.6400	96	95.00	2.8900	-1.42	[-2.21; -0.62]	1.8%
SilviaNeto, 2016	7	72.14	13.1800	63	72.61	15.4200	-0.03	[-0.81; 0.75]	1.8%
Simsek, 2022	88	0.09	0.3300	84	0.60	0.4200	-1.35	[-1.68; -1.02]	2.3%
Singhal, 2019	53	3.16	1.0800	47	3.80	0.8400	-0.65	[-1.05; -0.25]	2.2%
Smith, 2022	1750	55.70	28.0200	12885	61.20	28.3000	-0.19	[-0.24; -0.14]	2.5%
Takahashi, 2018	86	-9.20	7.6000	193	-4.00	5.4000	-0.84	[-1.11; -0.58]	2.4%
Tsekoura, 2020	50	52.10	11.0500	126	68.23	14.4000	-1.19	[-1.54; -0.84]	2.3%
Umegaki, 2022	23	0.89	0.0830	34	0.90	0.1000	-0.03	[-0.56; 0.50]	2.1%
Veronese, 2022	376	31.30	17.3000	4028	35.80	11.7000	-0.37	[-0.47; -0.26]	2.5%
Woo, 2018, Female	35	55.30	25.9000	335	64.00	23.9000	-0.36	[-0.71; -0.01]	2.3%
Woo, 2018, Men	36	57.00	28.9000	321	67.80	22.3000	-0.47	[-0.81; -0.12]	2.3%
Yalcin, 2017	93	38.75	21.6500	148	63.75	18.7700	-1.25	[-1.53; -0.97]	2.4%
Yoo, 2020	53	46.60	12.8800	397	72.90	13.8800	-1.91	[-2.22; -1.59]	2.3%
Random effects model	**4108**			**26214**			**-0.76**	**[-0.95; -0.57]**	**100.0%**

Heterogeneity: I^2 = 93%, τ^2 = 0.3855, p < 0.01
Test for overall effect: z = -7.76 (p < 0.01)

Low muscle mass, malnutrition, sarcopenia, and associations with survival in adults with cancer in the UK Biobank cohort

N. Kiss *et al.*

Journal of Cachexia, Sarcopenia and Muscle (2023)

Table 5 Association between low muscle mass (using ALST), malnutrition, probable sarcopenia, and sarcopenia with all-cause and cancer-specific mortality (N = 4122)

	All-cause mortality[a]			Cancer-specific mortality[a]		
Condition	Death (n/N)	Hazard ratio (95% CI)	P-value	Death (n/N)	Hazard ratio (95% CI)	P-value
ALST/height^2						
Low	35/68	1.9 (1.3, 2.8)	0.001	29/68	2.0 (1.3, 3.2)	0.001
Normal	859/4054	1.0 (reference)		711/4054	1.0 (reference)	
ALST/BMI						
Low	108/327	1.4 (1.1, 1.7)	0.002	84/327	1.4 (1.1, 1.8)	0.006
Normal	786/3795	1.0 (reference)		656/3795	1.0 (reference)	
Malnutrition (ALST/height^2)						
Severe malnutrition	78/163	2.8 (2.2, 3.6)	<0.001	65/163	2.9 (2.2, 3.7)	<0.0005
Not severe malnutrition	816/3959	1.0 (reference)		675/3959	1.0 (reference)	
Malnourished[b]	118/254	2.5 (2.0, 3.1)	<0.001	97/254	2.6 (2.1, 3.2)	<0.0005
Well nourished	776/3868	1.0 (reference)		643/3868	1.0 (reference)	
Malnutrition (ALST/BMI)						
Severe malnutrition	109/243	2.7 (2.2, 3.4)	<0.001	88/243	2.7 (2.1, 3.4)	<0.0005
Not severe malnutrition	785/3879	1.0 (reference)		652/3879	1.0 (reference)	
Malnourished	176/460	2.2 (1.8, 2.6)	<0.001	145/460	2.3 (1.9, 2.7)	<0.0005
Well nourished	718/3662	1.0 (reference)		595/3662	1.0 (reference)	
Sarcopenia (ALST/height^2)						
Sarcopenic	6/9	2.9 (1.3, 6.5)	0.013	6/9	3.6 (1.6, 8.2)	0.003
Probable sarcopenia	82/275	1.3 (1.0, 1.6)	0.022	62/275	1.2 (0.9, 1.6)	0.128
Non-sarcopenic	806/3838	1.0 (reference)		672/3838	1.0 (reference)	
Sarcopenia (ALST/BMI)						
Sarcopenic	23/54	1.6 (1.0, 2.4)	0.032	16/54	1.5 (0.9, 1.7)	0.136
Probable sarcopenia	65/230	1.3 (1.0, 1.7)	0.048	52/230	1.5 (0.9, 2.4)	0.113
Non-sarcopenic	806/3838	1.0 (reference)		672/3838	1.0 (reference)	

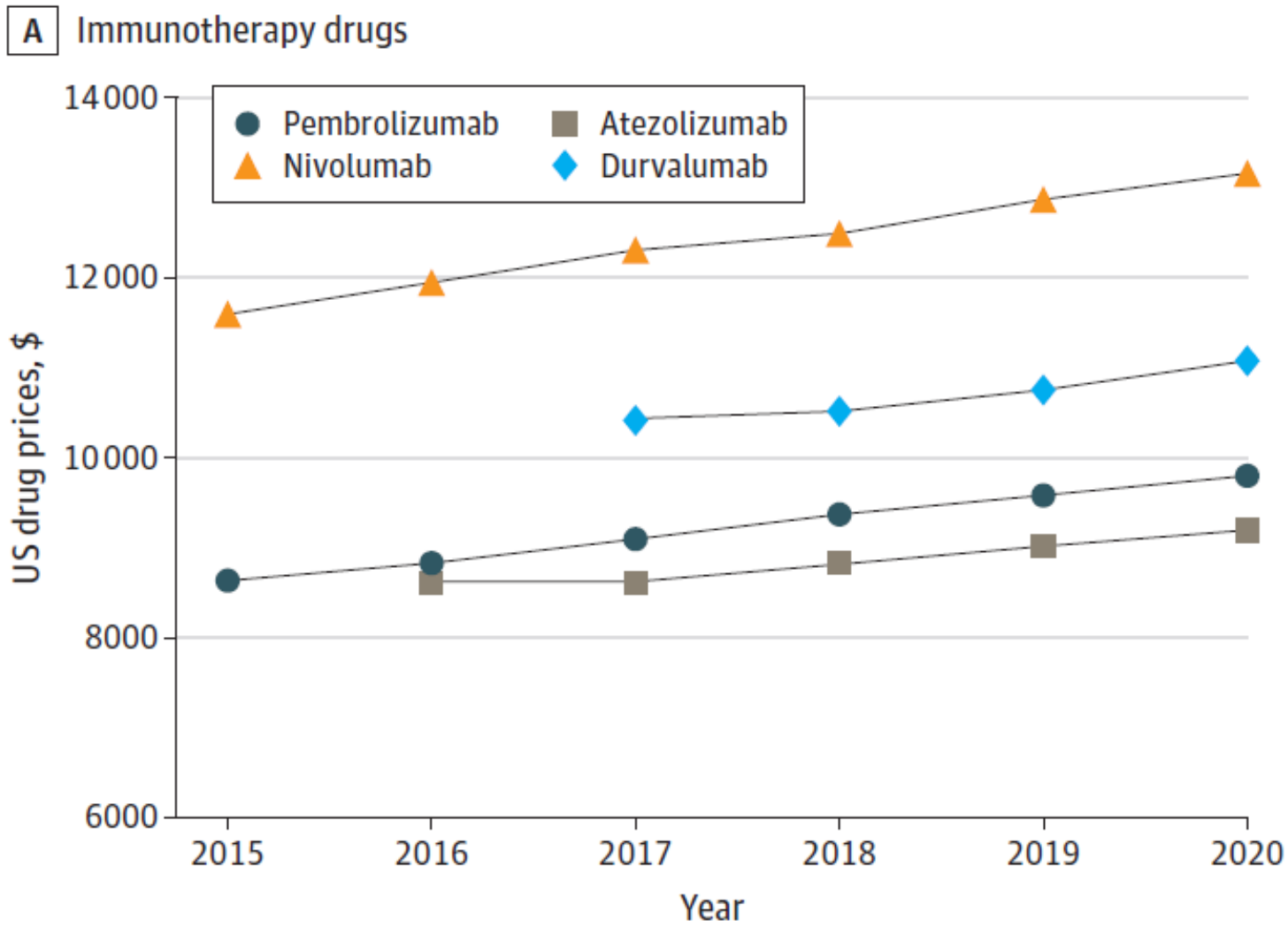
ALST, appendicular lean soft tissue.
[a]Adjusted for BMI (height-adjusted measures only), age, sex, time since cancer diagnosis, smoking status, alcohol intake, and number of co-morbidities.
[b]Malnutrition includes both mild-moderate and severe malnutrition.

Financial toxicity

Trends in Prices of Drugs Used to Treat Metastatic Non–Small Cell Lung Cancer in the US From 2015 to 2020

Aakash Desai, MBBS, MPH; Caleb Scheckel, DO; Chelsee J. Jensen, PharmD, RPh; Jacob Orme, MD, PhD; Colt Williams, MD; Nilay Shah, MPH; Konstantinos Leventakos, MD, PhD; Alex A. Adjei, MD, PhD

JAMA Network Open. 2022;5(1):e2144923.



THE POWER OF CONCERTED EFFORTS AGAINST MALNUTRITION

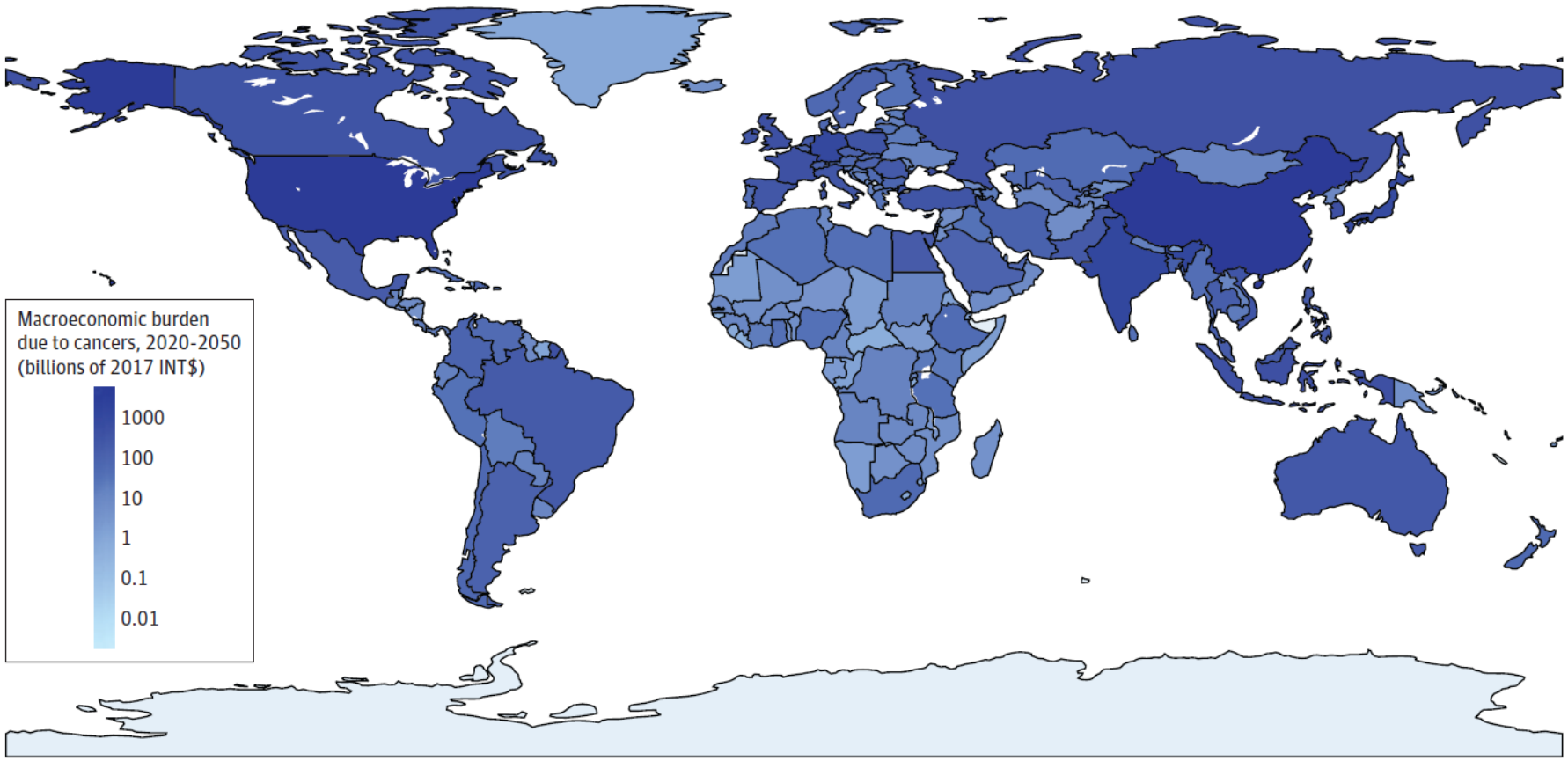
CONTINUITY OF NUTRITION CARE

Estimates and Projections of the Global Economic Cost of 29 Cancers in 204 Countries and Territories From 2020 to 2050

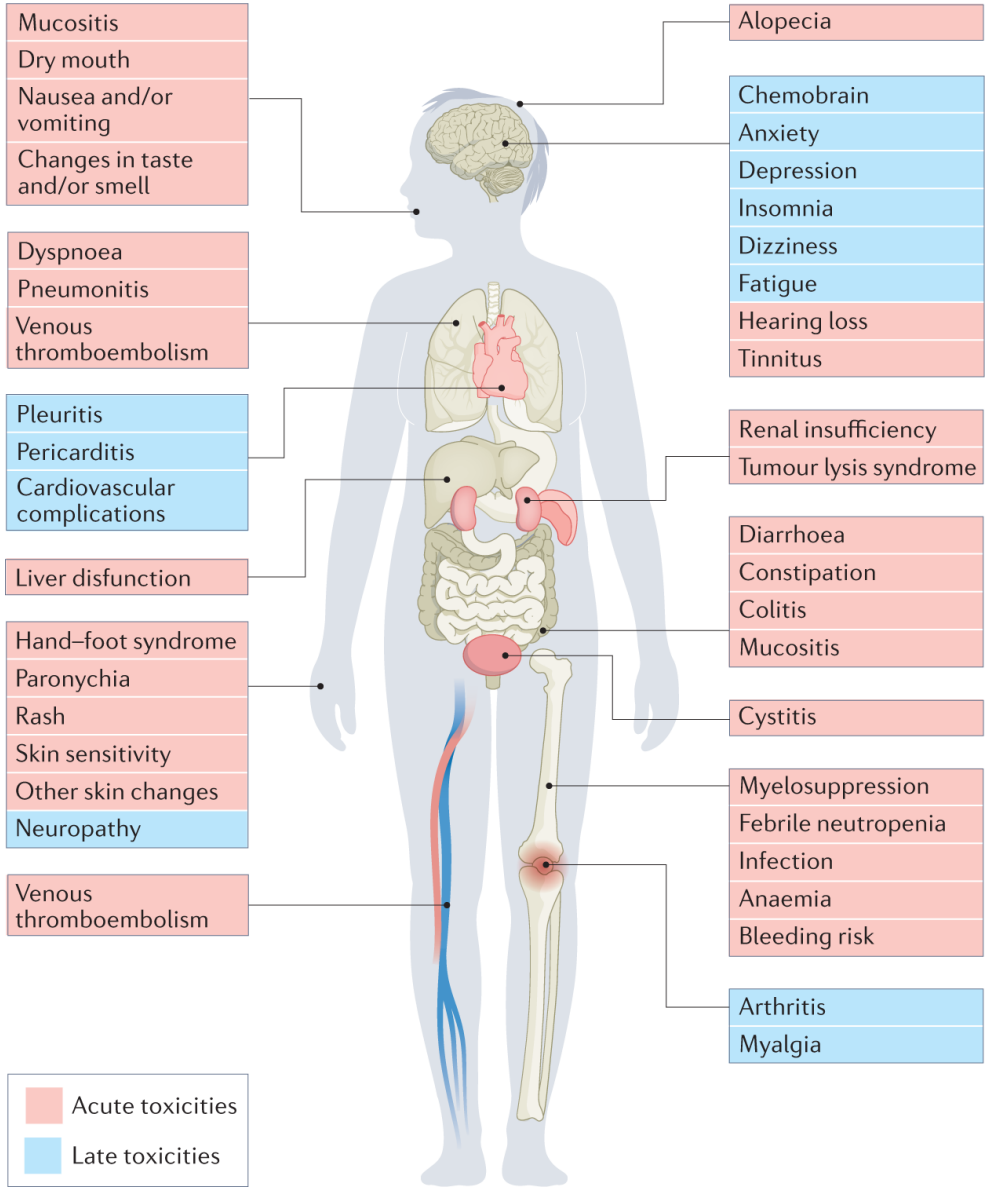
Simiao Chen, ScD; Zhong Cao, BE; Klaus Prettner, PhD; Michael Kuhn, PhD; Juntao Yang, PhD; Lirui Jiao, BA; Zhuoran Wang, BSc; Weimin Li, MD; Pascal Geldsetzer, MD, ScD; Till Bärnighausen, MD, ScD; David E. Bloom, PhD; Chen Wang, MD, PhD

JAMA Oncology April 2023 Volume 9, Number 4

Figure 1. Macroeconomic Burden Due to Cancers From 2020 to 2050



Treatment-associated toxicity

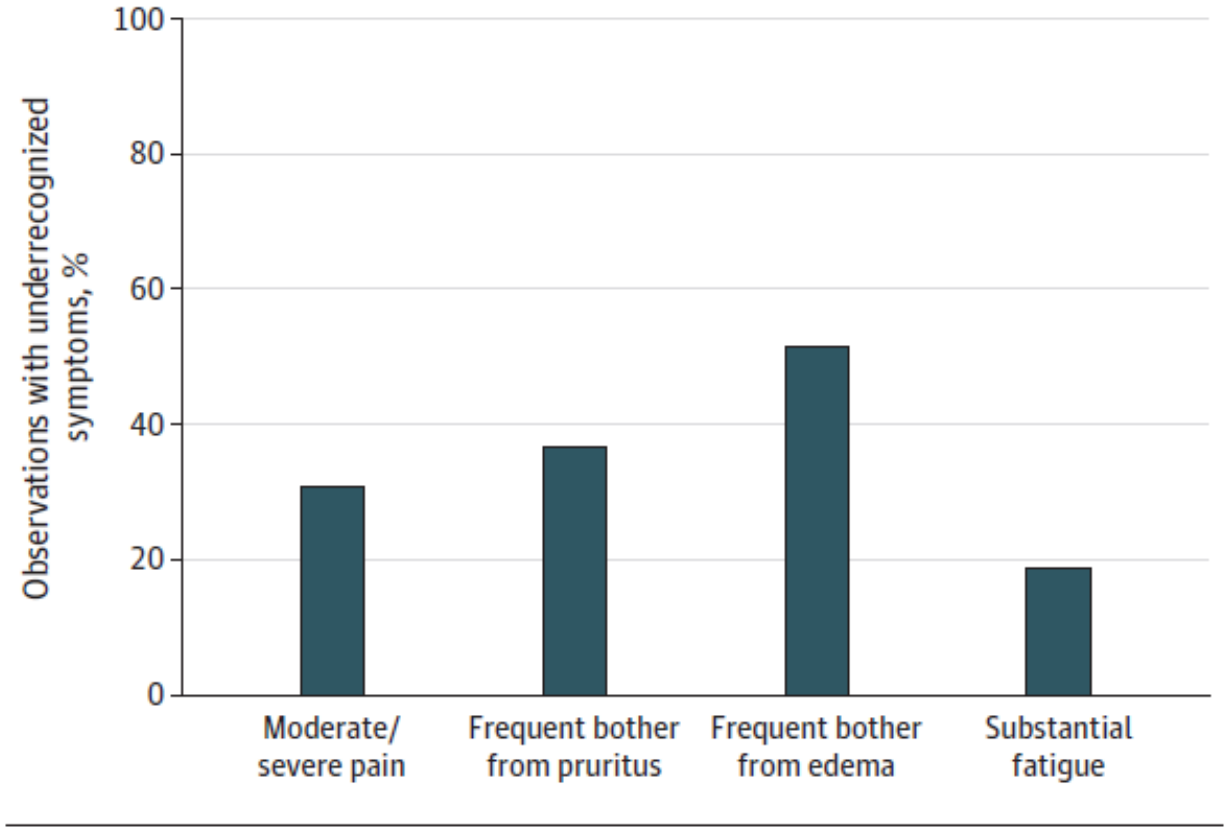


Identifying Patients Whose Symptoms Are Underrecognized During Treatment With Breast Radiotherapy

Reshma Jagsi, MD, DPhil; Kent A. Griffith, MS, MPH; Frank Vicini, MD; Thomas Boike, MD; Michael Dominello, DO; Gregory Gustafson, MD; James A. Hayman, MD, MBA; Jean M. Moran, PhD; Jeffrey D. Radawski, MD; Eleanor Walker, MD; Lori Pierce, MD; for the Michigan Radiation Oncology Quality Consortium

JAMA Oncology June 2022 Volume 8, Number 6

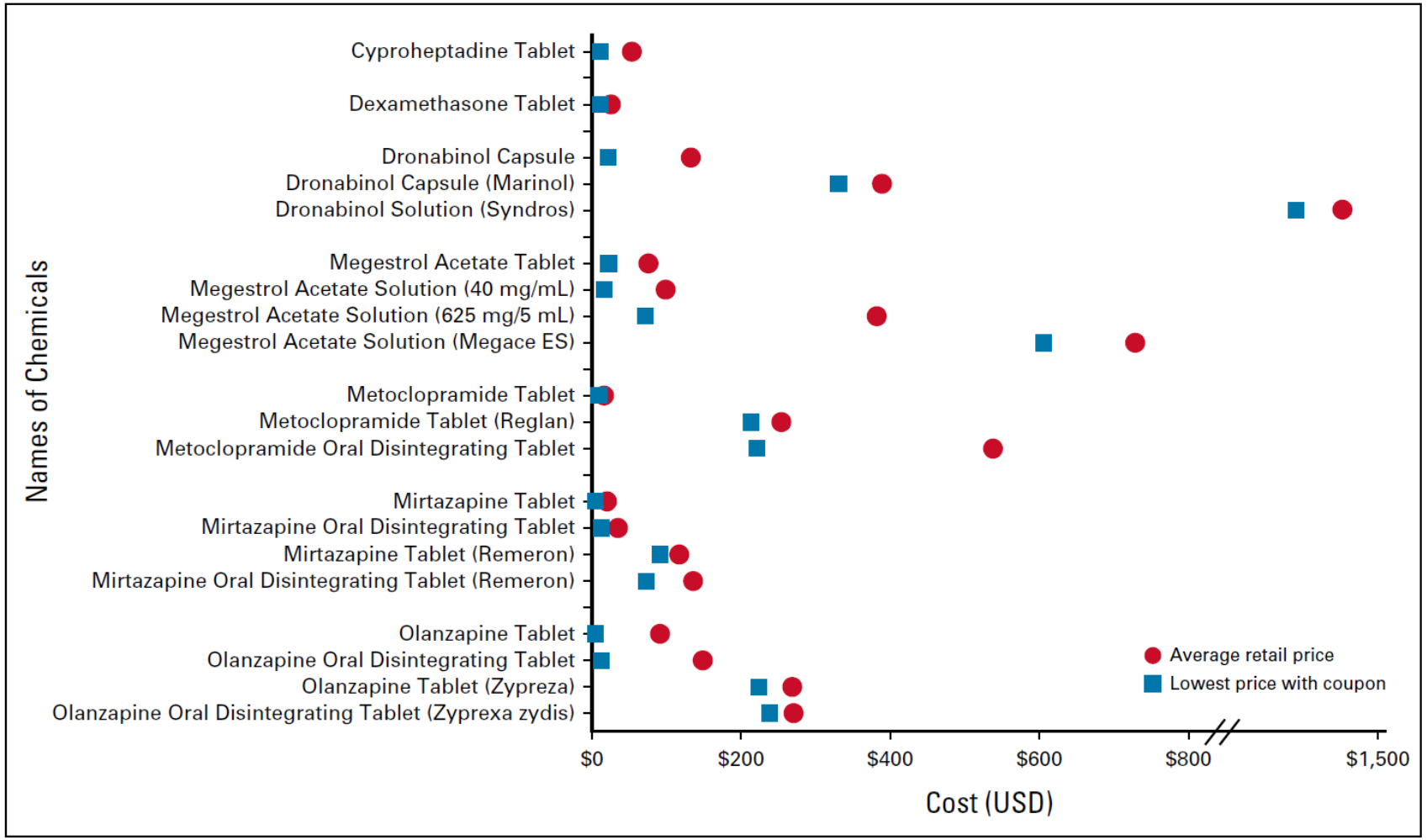
Figure 1. Percentage of Observations With Underrecognized Symptoms



Financial Burden of Drugs Prescribed for Cancer-Associated Symptoms

JCO Oncol Pract 00. © 2021 by American Society of Clinical Oncology

Arjun Gupta, MD[1]; Leonce Nshuti, MS[2]; Udhayvir S. Grewal, MD[3]; Ramy Sedhom, MD[4]; Devon K. Check, PhD[5]; Helen M. Parsons, PhD[6]; Anne H. Blaes, MD[1]; Beth A. Virnig, PhD, MPH[6]; Maryam B. Lustberg, MD[7]; Ishwaria M. Subbiah, MD[8]; Ryan D. Nipp, MD[9]; Sydney M. Dy, MD[10]; and Stacie B. Dusetzina, PhD[2]

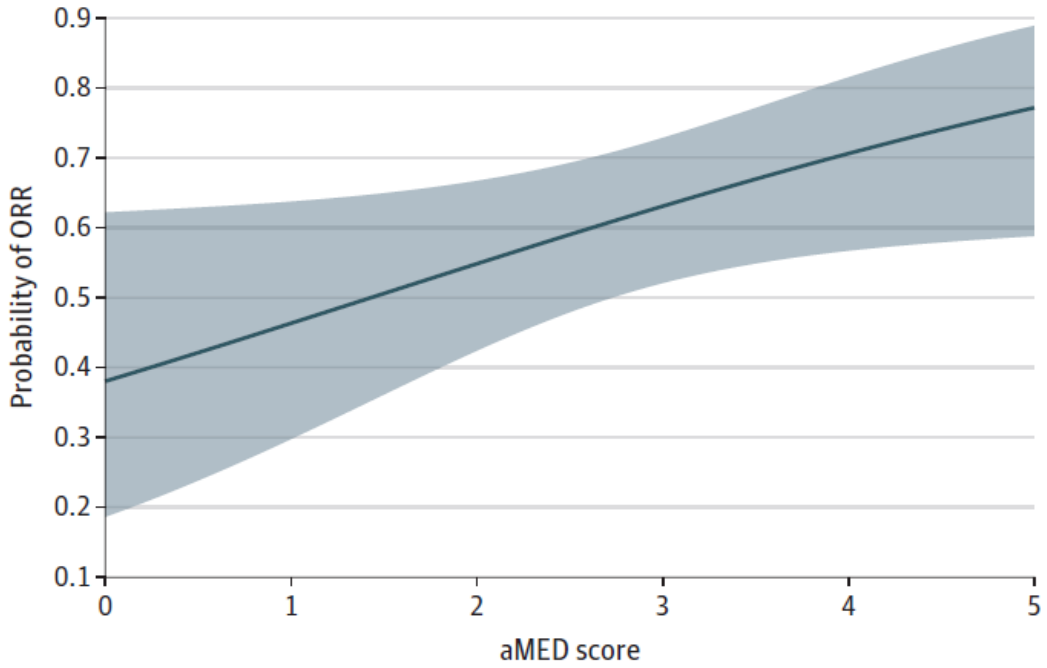


Association of a Mediterranean Diet With Outcomes for Patients Treated With Immune Checkpoint Blockade for Advanced Melanoma

Laura A. Bolte, MSc; Karla A. Lee, MD; Johannes R. Björk, PhD; Emily R. Leeming, PhD; Marjo J. E. Campmans-Kuijpers, PhD; Jacco J. de Haan, MD; Arnau Vich Vila, PhD; Andrew Maltez-Thomas, PhD; Nicola Segata, PhD; Ruth Board, MD; Mark Harries, MD, PhD; Paul Lorigan, MD, PhD; Elisabeth G. E. de Vries, MD, PhD; Paul Nathan, MD, PhD; Rudolf Fehrmann, MD; Véronique Bataille, MD, PhD; Tim D. Spector, MD, PhD; Geke A. P. Hospers, MD, PhD; Rinse K. Weersma, MD, PhD

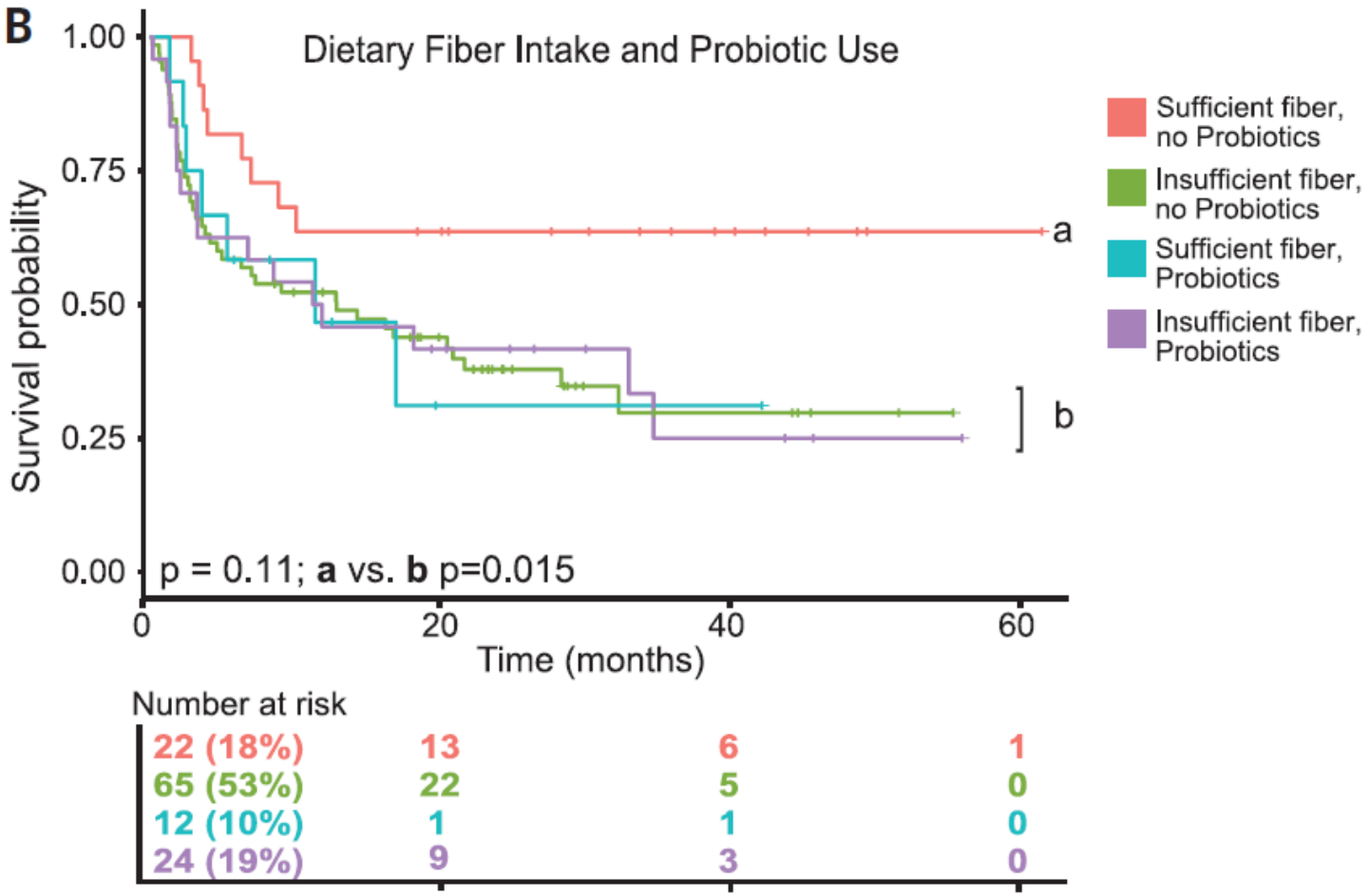
JAMA Oncology Published online February 16, 2023

Figure. Association Between Overall Response Rate (ORR) and the Alternate Mediterranean Diet Score (aMED) Across Both Cohorts



Dietary fiber and probiotics influence the gut microbiome and melanoma immunotherapy response

Spencer *et al.*, *Science* **374**, 1632–1640 (2021)



THE POWER OF CONCERTED EFFORTS AGAINST MALNUTRITION

CONTINUITY OF NUTRITION CARE

International Conference Amsterdam 15 & 16 June

optimal nutritional care for all

Policy Brief handed over to John F. Ryan, Director Public Health, DG Santé (April 2023)

Conclusions

- Precision oncology is not personalized oncology.
- PRO should inform anticancer therapies.
- Implementation of nutritional care should address unmet needs:
  - Quality of life
  - Financial toxicity
  - Increased toxicity
  - Poor response to treatments in real life

Highlighting the unmet needs is key to successful implementation