

Intersectionality in Oncology

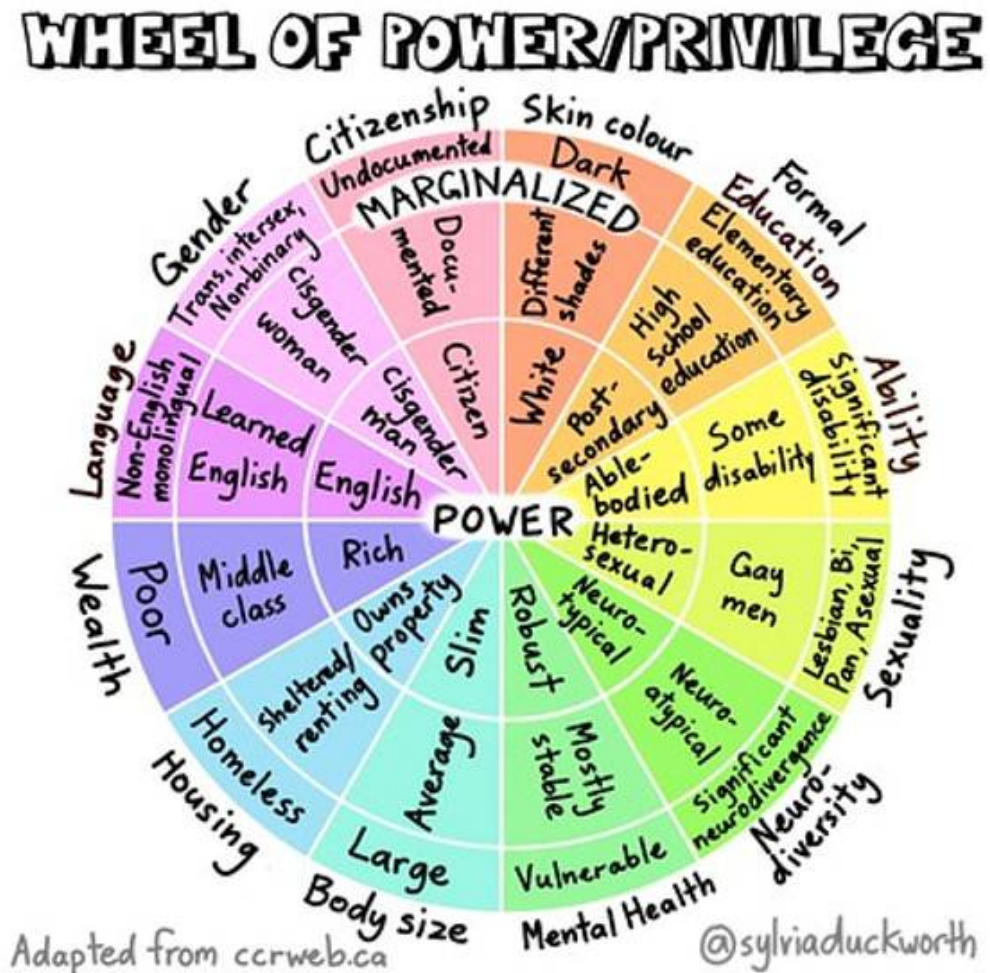
Prof. Dr. Marie von Lilienfeld-Toal
Jena

Case

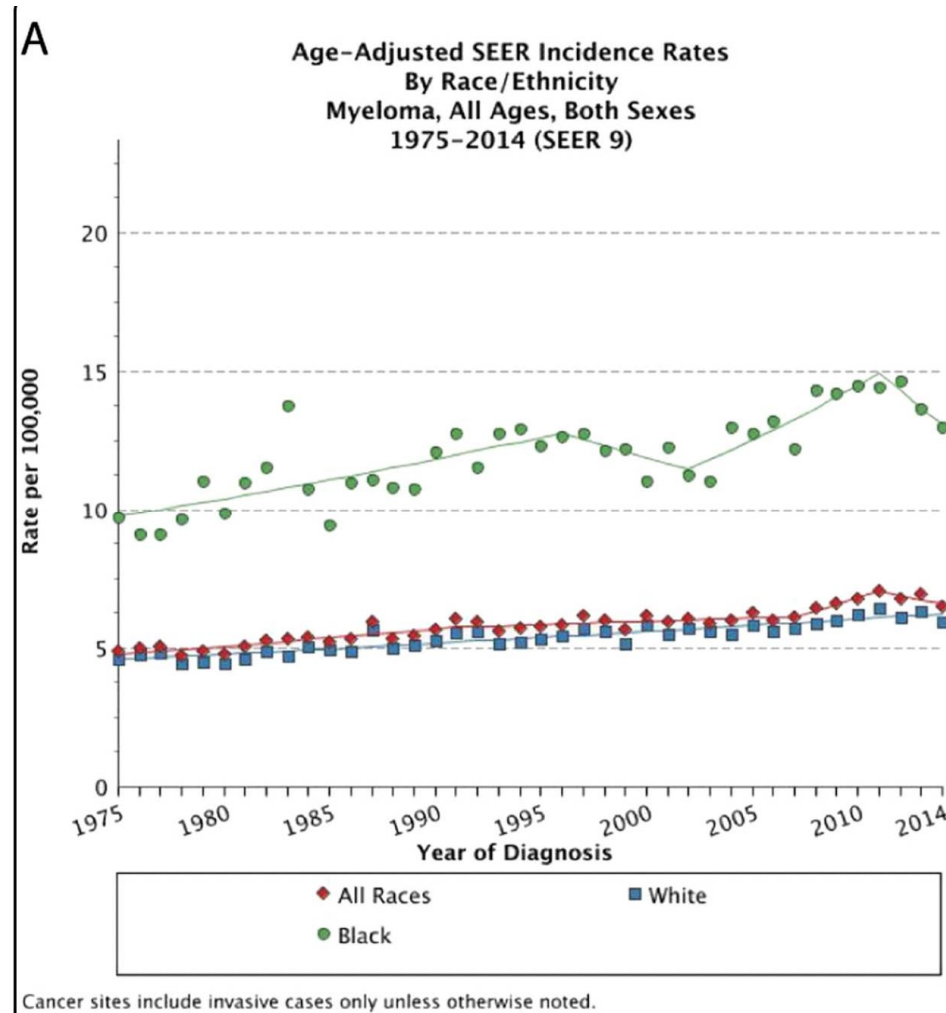
69-y old female professor for social sciences, of African American decent, active grandmother, newly diagnosed with **symptomatic multiple myeloma**. No relevant co-morbidities, in good general health

Which disparities could we expect?

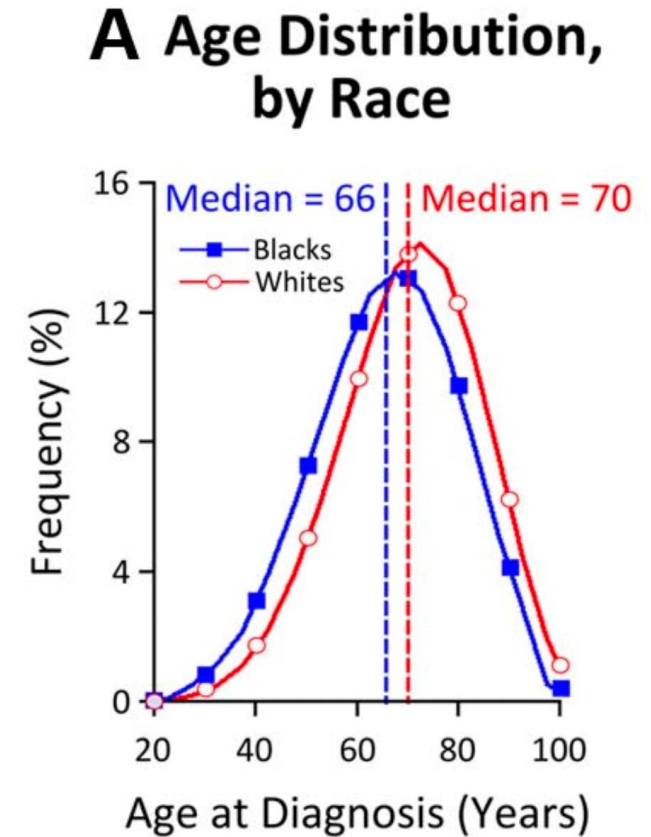
- race
- class
- gender
-



Black patients and Multiple Myeloma



Smith et al., Blood Cancer J 2018



Waxman et al., Blood 2010

Outcome if treated equally

Treatment of NHB vs. NHW:

PI: 28.3% vs. 32.7%, $P < 0.001$

IMiD: 16.4% vs. 21.3%, $P < 0.001$

ASCT: 3.8% vs. 6.4%, $P < 0.001$

After matching on SES NHB vs. NHW:

PIs: 28.3% vs. 30.9%, $P < 0.001$

IMiDs: 16.4% vs. 19.4%, $P < 0.001$

ASCT: 3.8% vs. 6.3%; all $P < 0.001$

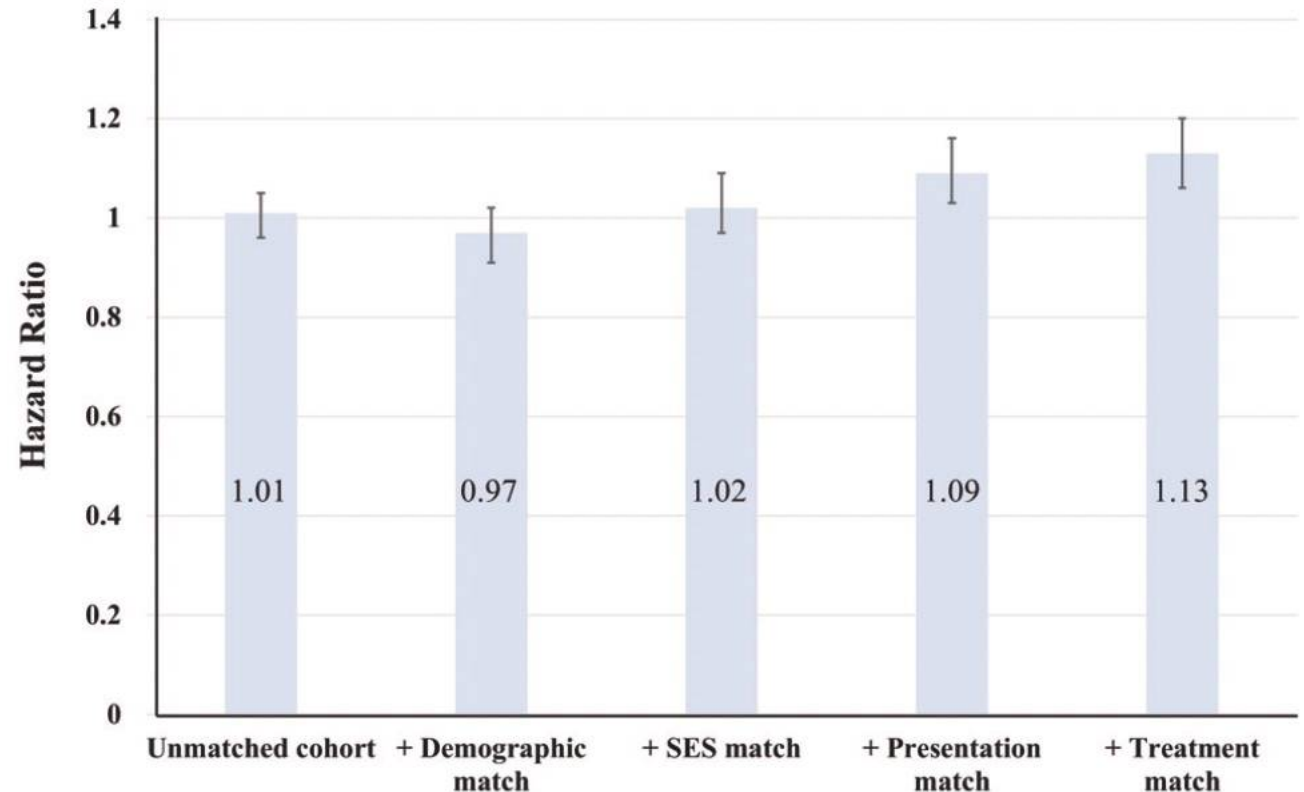


Fig. 3 HRs in four matches. HR of all-cause 5-year mortality risk for sequentially matched non-Hispanic whites vs. non-Hispanic blacks.

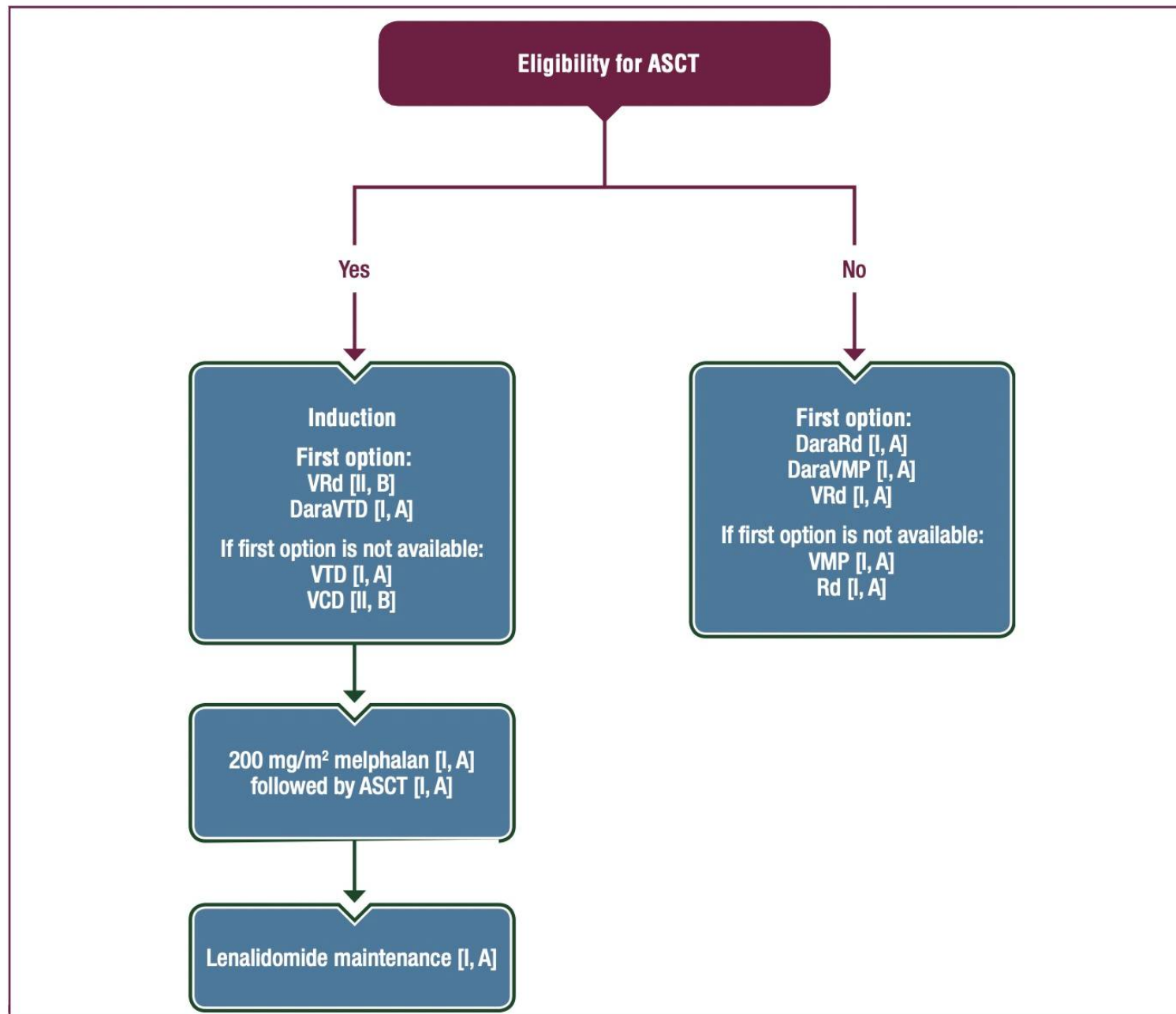
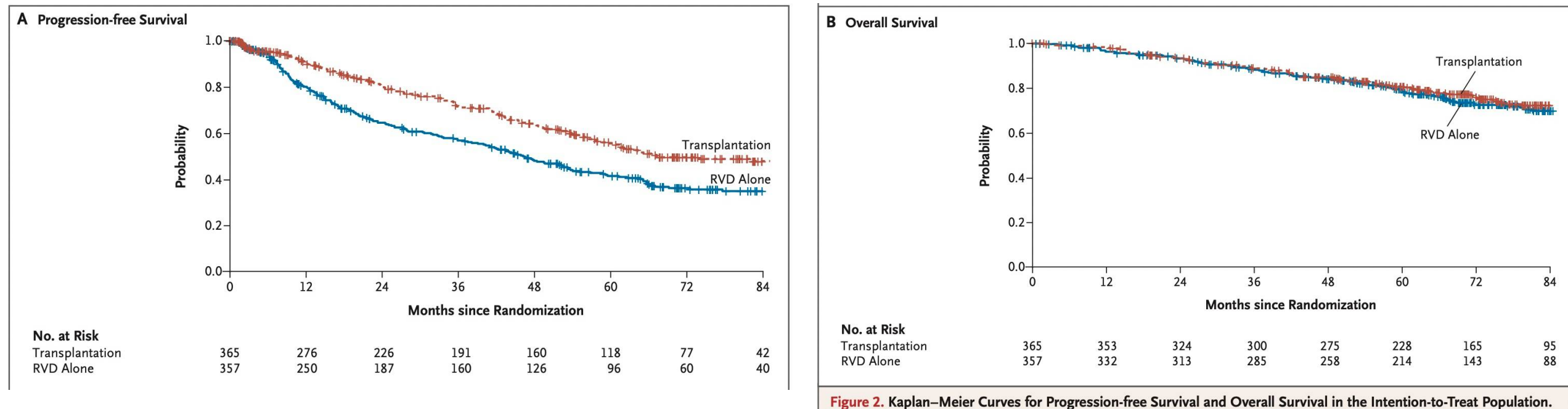


Figure 1. Recommendations for MM front-line therapy.

ASCT, autologous stem cell transplantation; DaraRd, daratumumab/lenalidomide/dexamethasone; DaraVMP, daratumumab/bortezomib/melphalan/prednisone; DaraVTD, daratumumab/bortezomib/thalidomide/dexamethasone; MM, multiple myeloma; Rd, lenalidomide/dexamethasone; VCD, bortezomib/cyclophosphamide/dexamethasone; VMP, bortezomib/melphalan/prednisone; VRd, bortezomib/lenalidomide/dexamethasone; VTD, bortezomib/thalidomide/dexamethasone.

EHA-ESMO guideline
multiple myeloma
Ann Oncol 2021

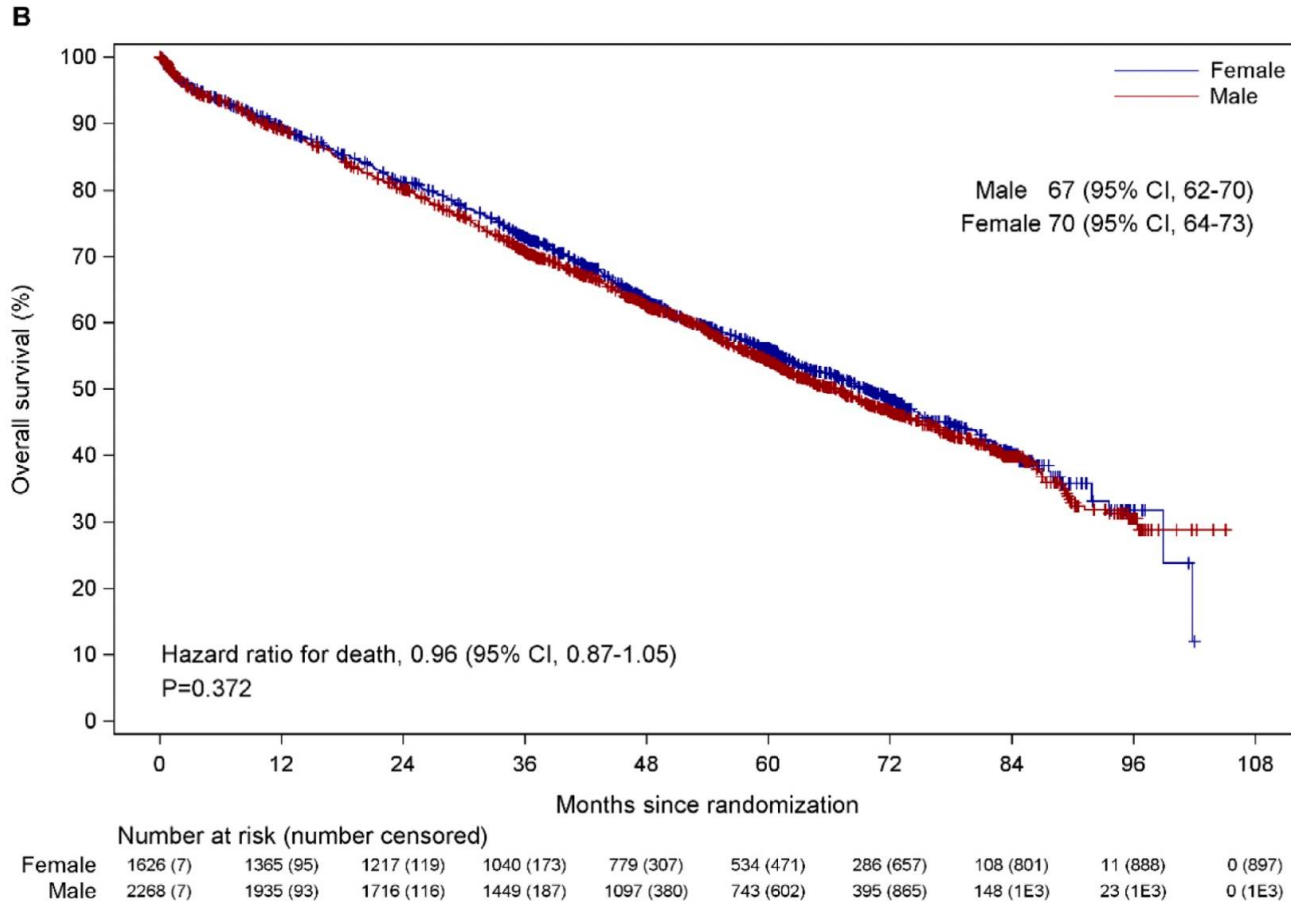
Outcome of ASCT in the context of modern therapy



Outcome of ASCT in the context of modern therapy – there is a supplement

Subgroup analysis of progression-free survival	No. of events / total no. of patients		Median, months			HR	(95% CI)
	RVd-alone	RVd+ASCT	RVd-alone	RVd+ASCT			
All patients, ITT analysis	189/357	139/365	46.2	67.5		1.53	(1.23–1.91)
Age							
<60 years	122/235	100/263	46.2	73.8		1.49	(1.14–1.95)
≥60 years	67/122	39/102	46.5	66.5		1.59	(1.05–2.40)
Sex							
Male	107/202	81/215	47.4	66.5		1.50	(1.11–2.02)
Female	82/155	58/150	45.3	82.3		1.54	(1.09–2.17)
Race							
White/Caucasian	150/268	104/272	44.3	67.2		1.67	(1.29–2.15)
Black/African American	24/66	24/66	NR	61.4		1.07	(0.61–1.89)
Other	12/17	5/21	38.1	NR		3.40	(1.00–11.5)

Sex and MM, UK



	Males n = 2268 n (%)	Females n = 1626 n (%)	p - value
Age at initial randomization (years)			
Median (range)	67.0 (28.0, 92.0)	68.0 (28.0, 89.0)	0.195
ISS			
Stage I	533 (23.5%)	397 (24.4%)	0.783
Stage II	889 (39.2%)	627 (38.6%)	
Stage III	669 (29.5%)	491 (30.2%)	
Not available	177 (7.8%)	111 (6.8%)	

Genetic lesion	Males (n = 962) n (%)	Females (n = 648) n (%)	p - value
t(4;14)	105 (11%)	78 (12%)	0.487
t(14;16)	17 (1.8%)	27 (4.2%)	0.004
t(14;20)	9 (0.9%)	7 (1.1%)	0.774
del(17p)	71 (7.4%)	69 (10.6%)	0.023
gain(1q)	312 (32%)	226 (35%)	0.308
Risk status			
SR	551 (57%)	333 (51%)	0.026
HiR	317 (33%)	229 (35%)	
UHiR	94 (9.8%)	86 (13%)	

Women are older and have higher risk disease

Sex and MM, Germany

ul cohort

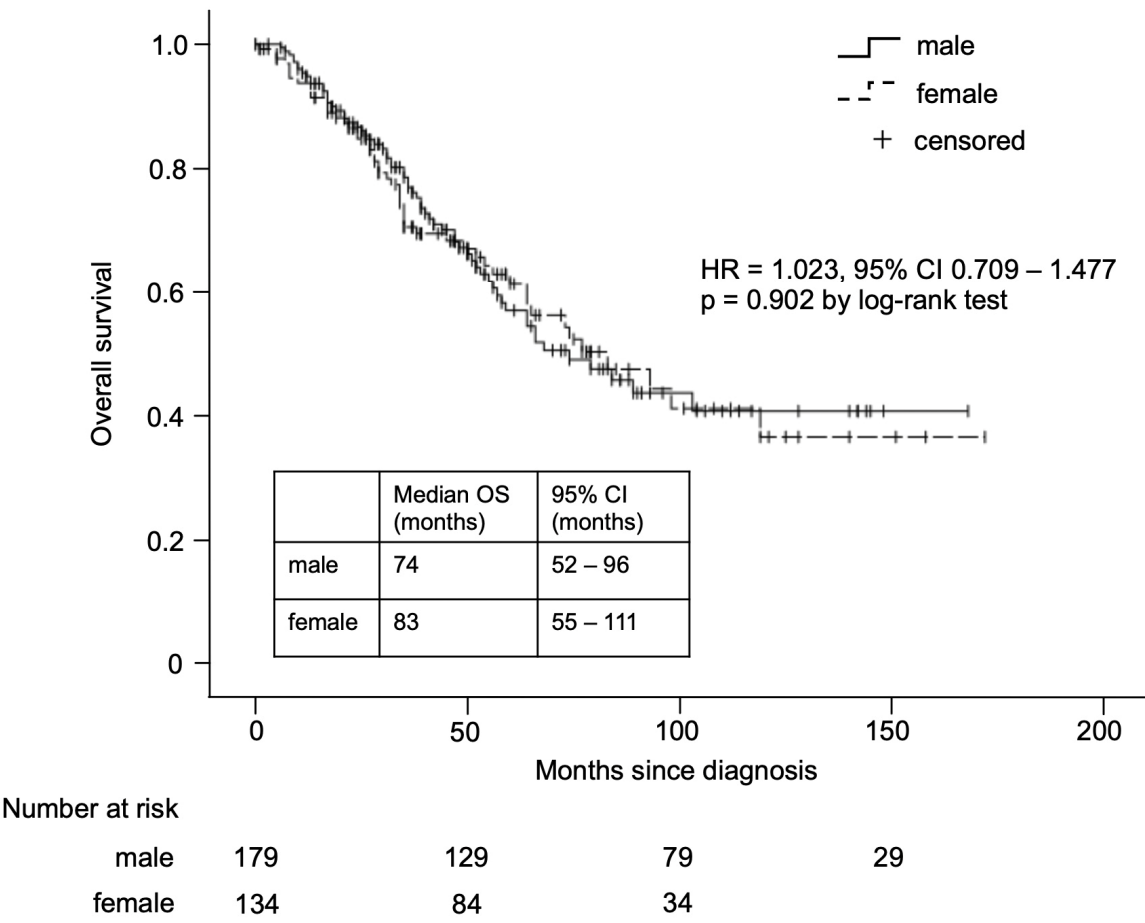
		Male N=363 (55%) n/N (%)	Female N=292 (45%) n/N (%)	p
Median age at Diagnosis (years, range)		62 (35-88)	63 (36-89)	0.086
Stage Salmon-Durie	IA IB IIA IIB IIIA IIIB	48/362 (13%) 5/362 (1%) 27/362 (8%) 9/362 (3%) 204/362 (56%) 69/362 (19%)	37/292 (13%) 1/292 (1%) 26/292 (9%) 6/292 (2%) 177/292 (61%) 45/292 (15%)	0.517
Anaemia	no anaemia mild (11-12g/dl) moderate (8-11g/dl) severe (<8g/dl)	95/261 (36%) 53/261 (20%) 101/261 (39%) 12/261 (5%)	66/233 (28%) 39/233 (17%) 110/233 (47%) 18/233 (8%)	<0.001
Comorbidities	Coronary heart disease	68/363 (19%)	32/292 (11%)	0.006
	COPD	40/363 (11%)	10/292 (3%)	<0.001

Women are older,
more likely to have
anemia but fewer
comorbidities

Sex and MM, Germany

MM cohort

655 patients with symptomatic MM
313 received ASCT



		Male n=179 (57%)	Female n=134 (43%)	p
Median age at SCT		59 (31-73)	59 (33-73)	0.523
Dose of Melphalan	MEL200	113 (63%)	79 (59%)	0.483
	MELRed	66 (37%)	55 (41%)	
Toxicity	Haem.	168 (94%)	132 (98%)	0.103
	Infections	131 (73%)	93 (69%)	0.527
	GI	91 (51%)	88 (66%)	0.107
	Mucositis	39 (22%)	54 (40%)	0.001
	Cardiovasc.	18 (10%)	13 (10%)	0.792
Response after SCT (≥VGPR)		157 (88%)	113 (84%)	0.410
Relapse (N=311)		99 (56%)	79 (59%)	0.504

Toxicity – is it a matter of dose?

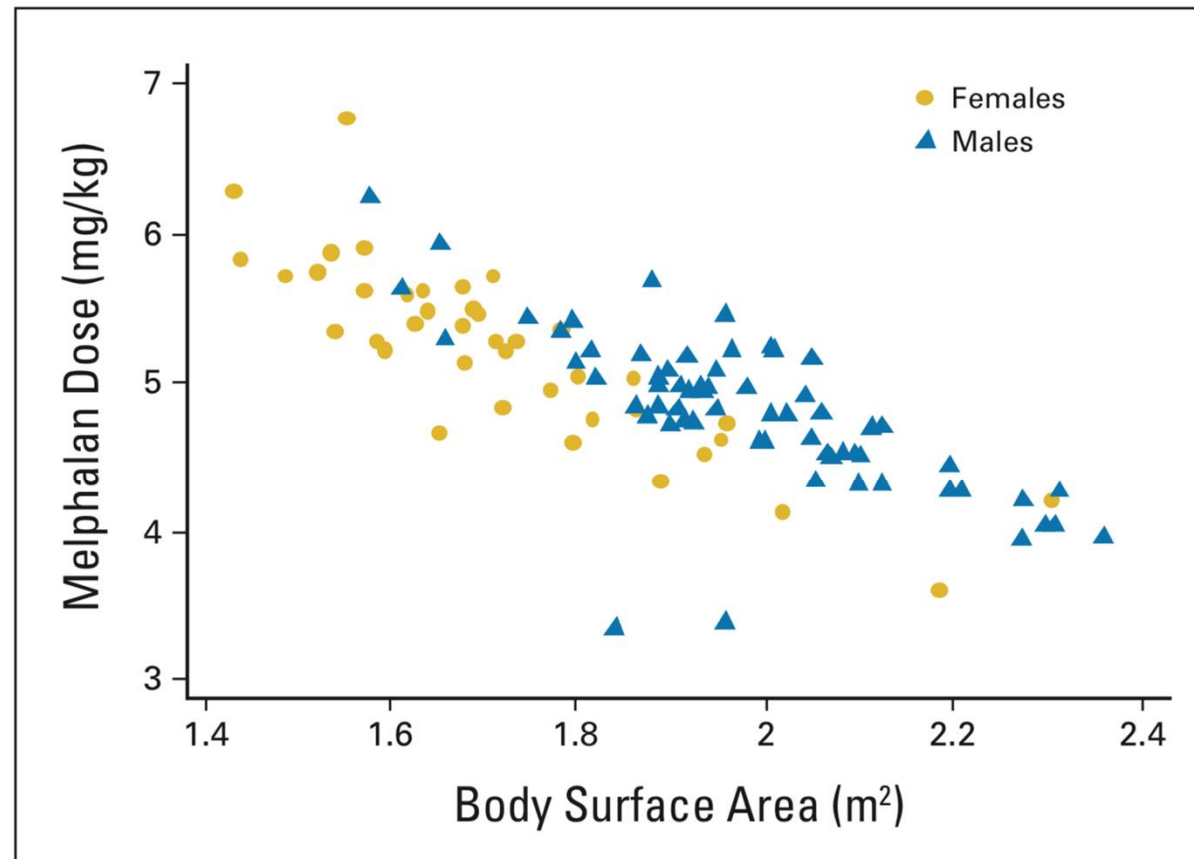


Fig 4. Scatterplot of melphalan dose in milligrams per kilogram of body weight and body-surface area in patients with multiple myeloma.

Case

69-y old female professor for social sciences, of African American decent, active grandmother, newly diagnosed with **symptomatic multiple myeloma**.

No relevant co-morbidities, in good general health

Where is the evidence for this particular patient?

What could she expect if we deduce recommendations?

What is HER aim of the treatment?

Close the care gap



[About](#) [Understanding Cancer](#) [Take action](#) [Materials](#) [Map of Activities](#)

Close the care gap

#CloseTheCareGap

Watch Video

Online



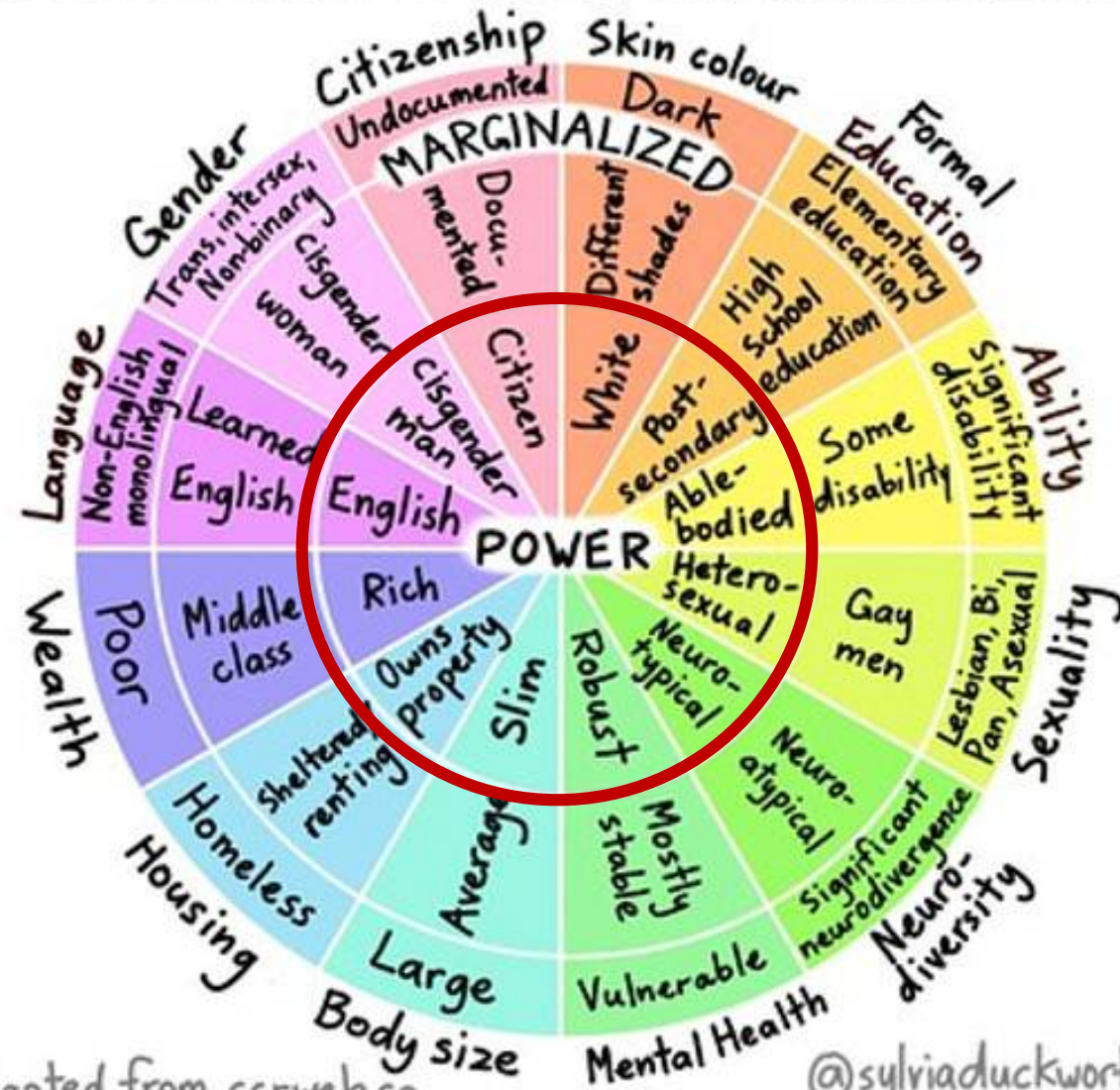
What do we mean by “inequity”?

In healthcare, inequality refers to the uneven distribution of resources. By contrast, **inequity means unjust, avoidable differences in care or outcomes.**

The difference may seem subtle, but closing the cancer care gap isn't really about simply providing everyone with equal resources. One size doesn't fit all, and every challenge demands a different solution. Equity is about giving everyone what they need to bring them up to the same level.

“Close the care gap”

WHEEL OF POWER/PRIVILEGE



Adapted from ccrweb.ca

@sylviaduckworth

“Close the care gap”

WHEEL OF POWER/PRIVILEGE

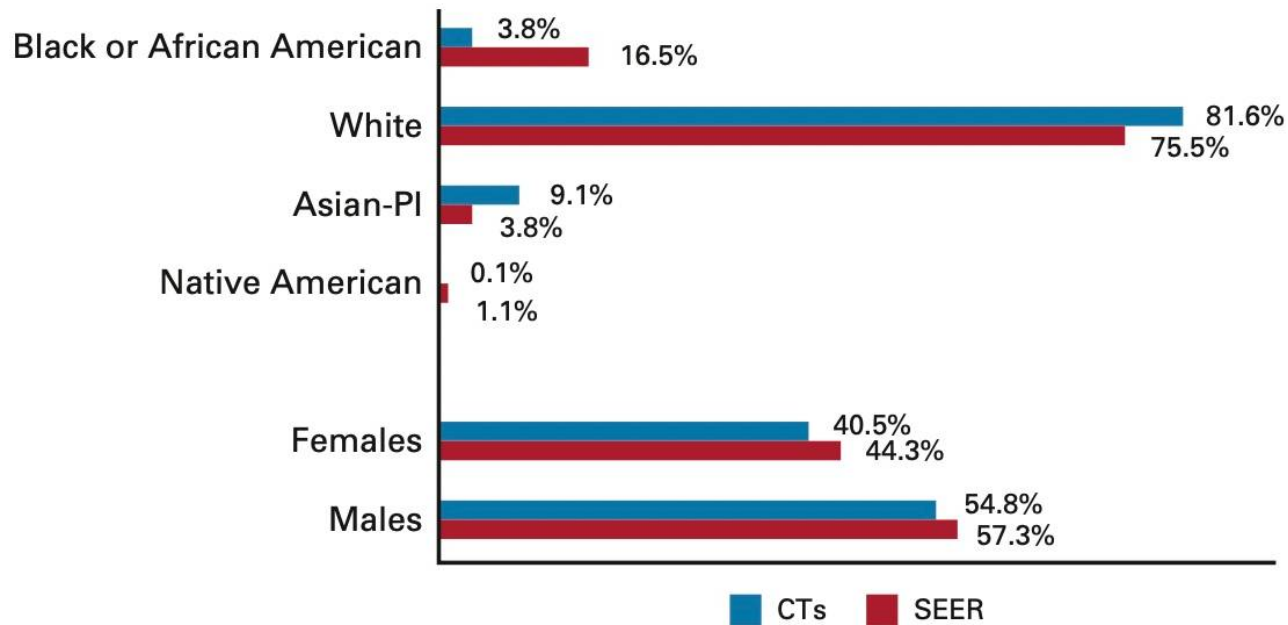


Thus: evidence-based medicine best suited for inner circle

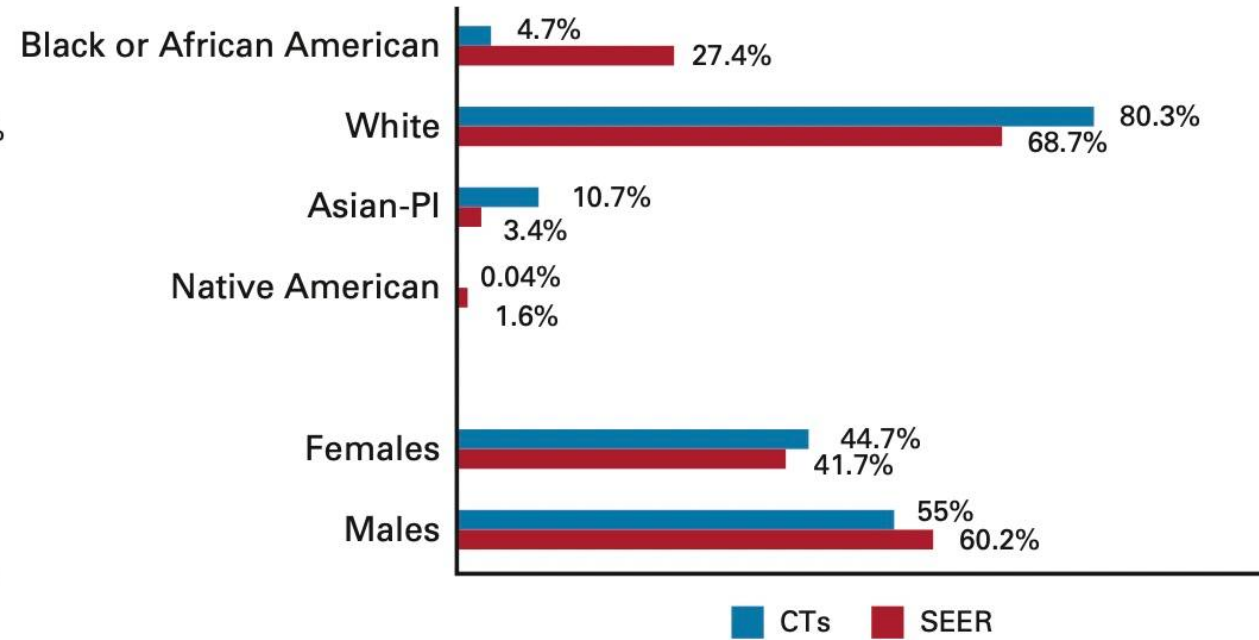
Best medical evidence for inner circle

Close the evidence gap – inclusion in clinical trials

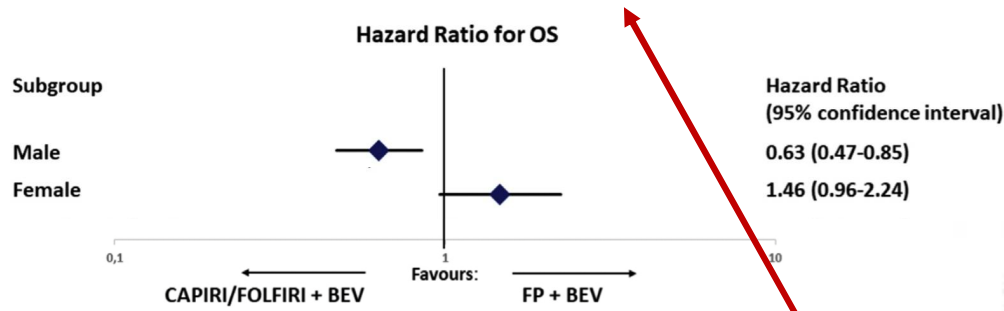
All Malignancies



Multiple Myeloma

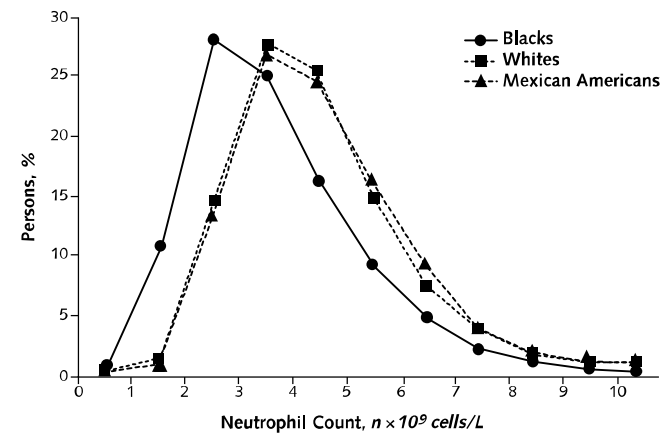


Triple-therapy for colorectal cancer only beneficial for men



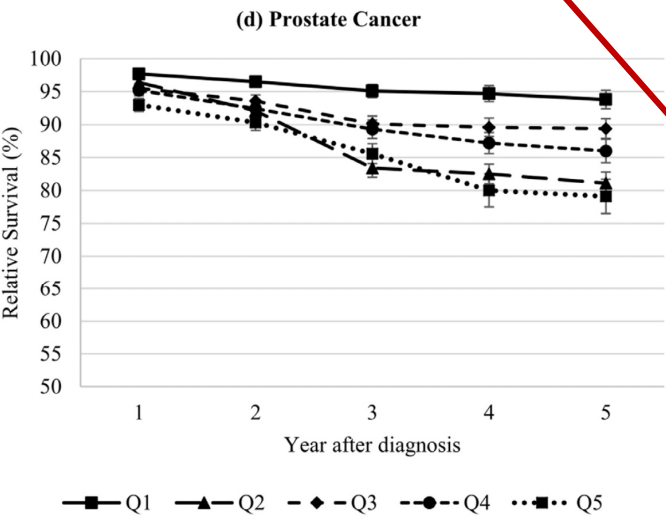
Heinrich et al., Eur J Cancer 2021

Reference values for neutrophils not correct for Black people

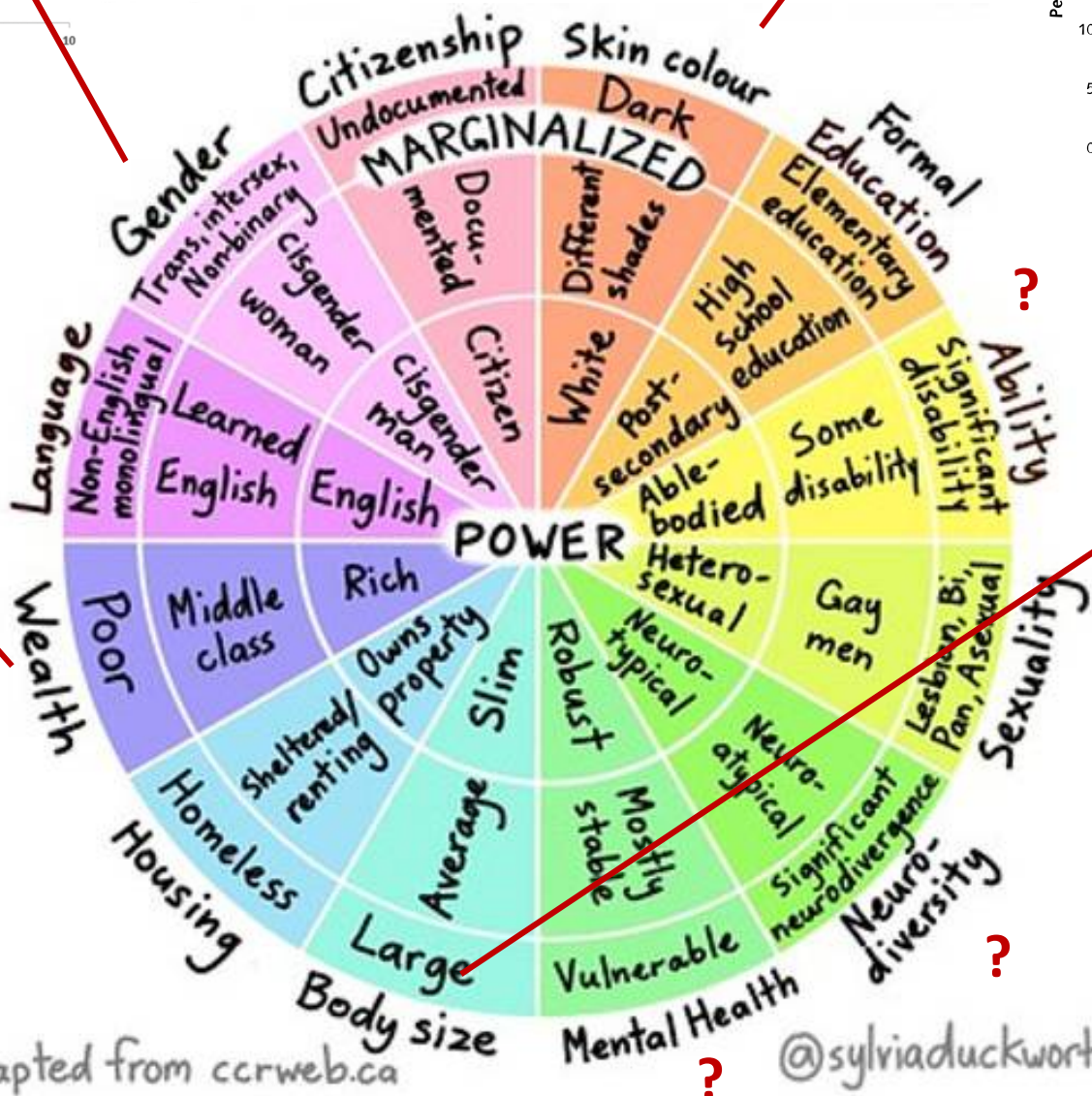


Hsieh et al., Ann Intern Med. 2007

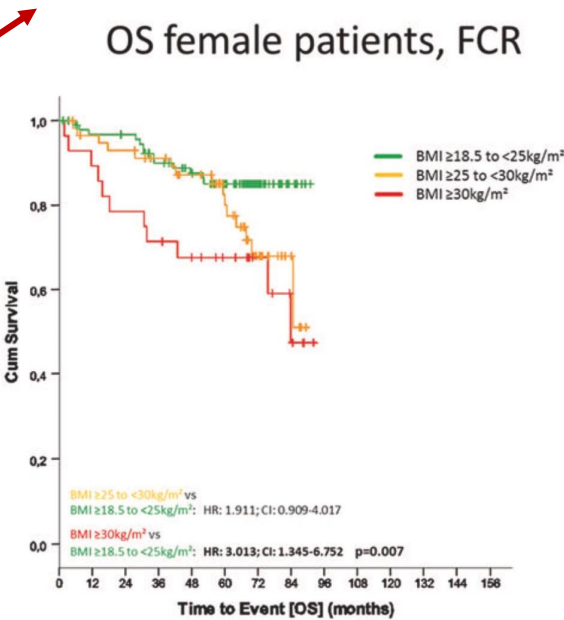
Prostate cancer in Germany: 5-y OS 15% lower in most deprived population



2018 by socioeconomic deprivation quintile (Q1 – least deprived; Q5 – most deprived). Jansen et al., Lancet Reg Health Eur 2021

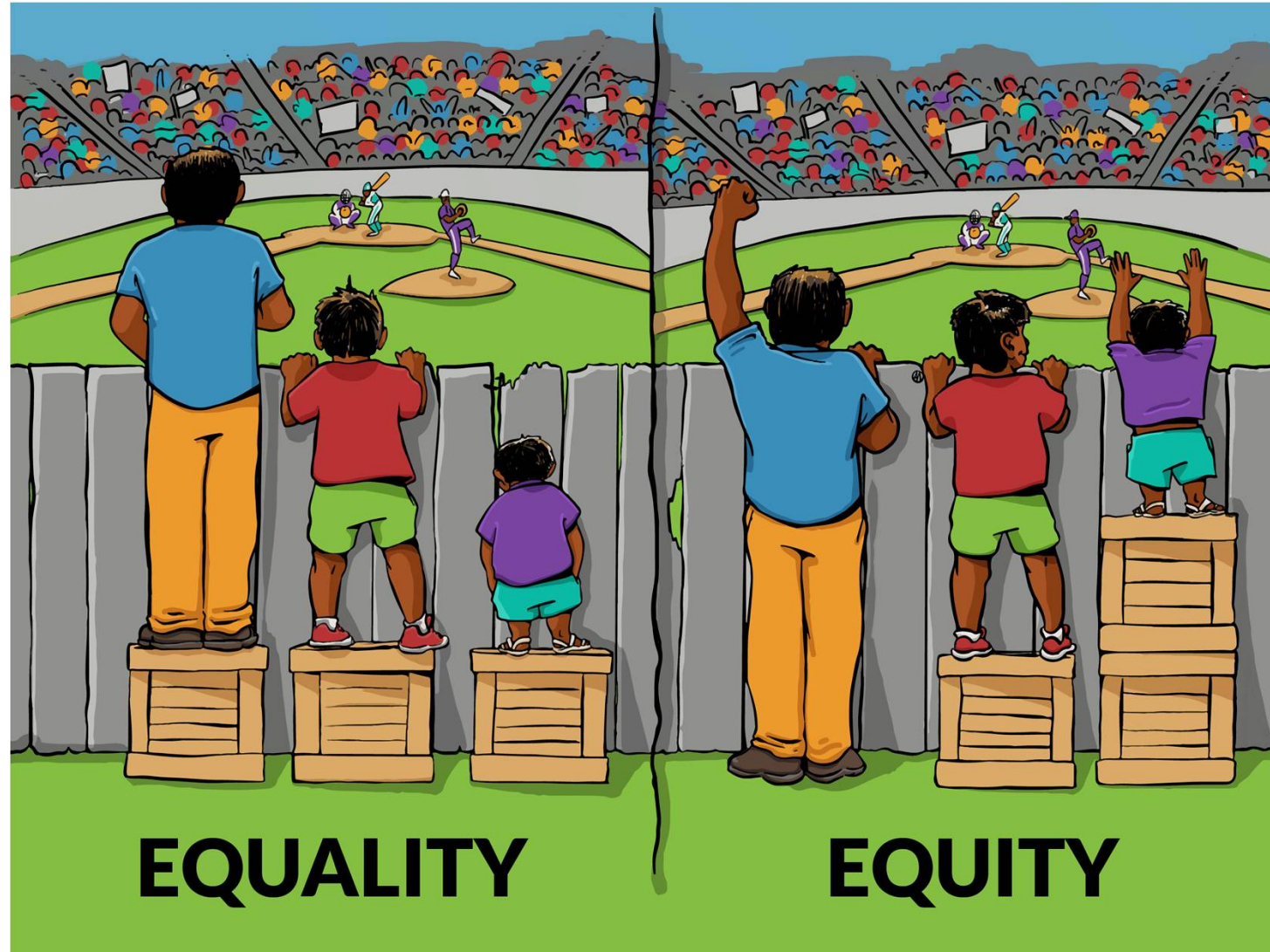


Immune-therapy NHL only beneficial for slim women



Fürstenau et al., Leukemia 2020

“Equity is about giving everyone what they need to bring them up to the same level”



Back up

Disparities in COVID-19

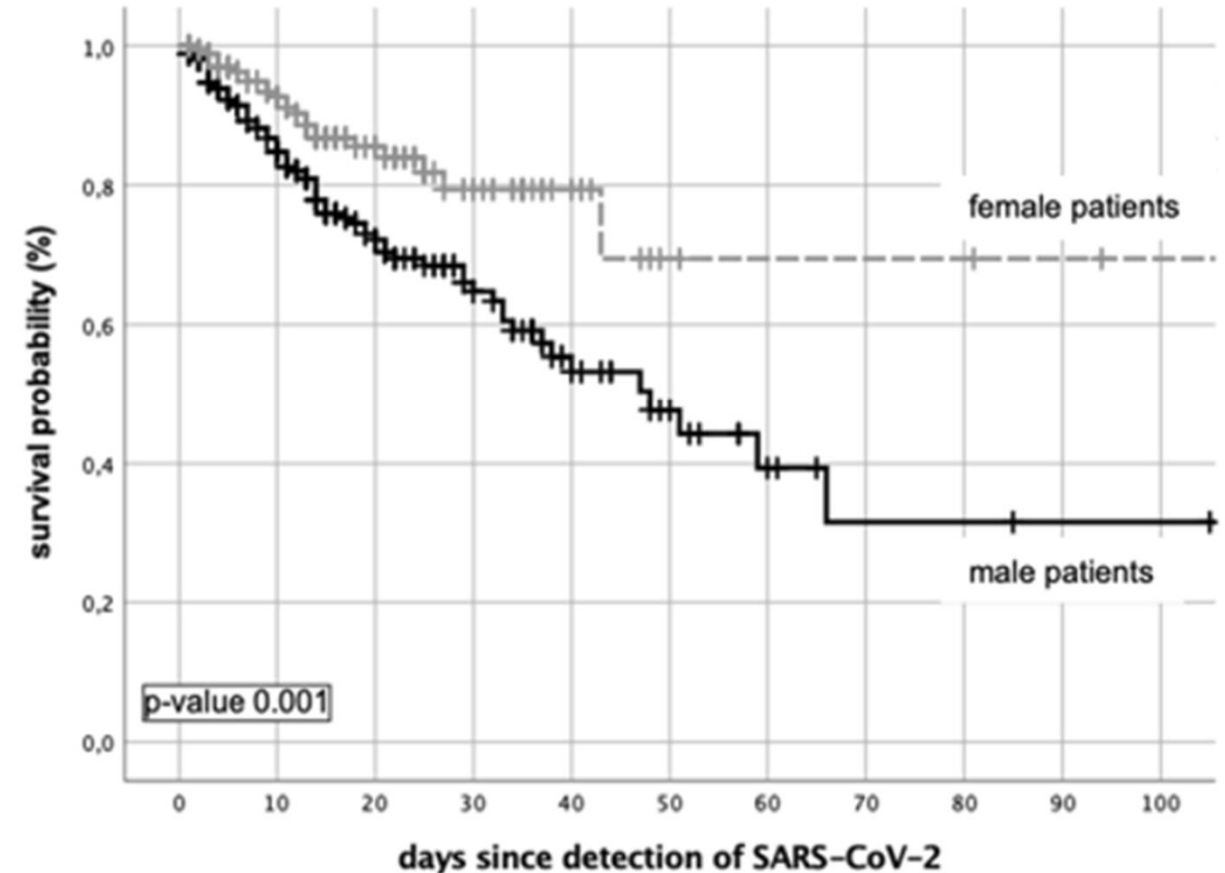
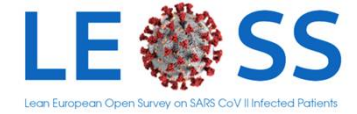


The COVID-19 & Cancer Consortium

Table 3. Adjusted associations of baseline prognostic factors with

	30-day mortality
	OR ^b (95% CI)
Age, per decade ^c	
Age <40 years	0.58 (0.35-0.97)
Age >40 years	1.75 (1.59-1.93)
Sex, male versus female	<u>1.46 (1.20-1.77)</u>
Race and ethnicity, versus non-Hispanic white	
Non-Hispanic black	<u>1.38 (1.09-1.75)</u>
Hispanic	1.31 (0.96-1.80)
Other	0.97 (0.70-1.36)

n=4966, nur SARS-CoV-2
Grivas et al., Ann Oncol 2021



n=435, nur SARS-CoV-2
Rüthrich et al., Ann Hematol 2021