

Overview of Health-Related Quality of Life Measures

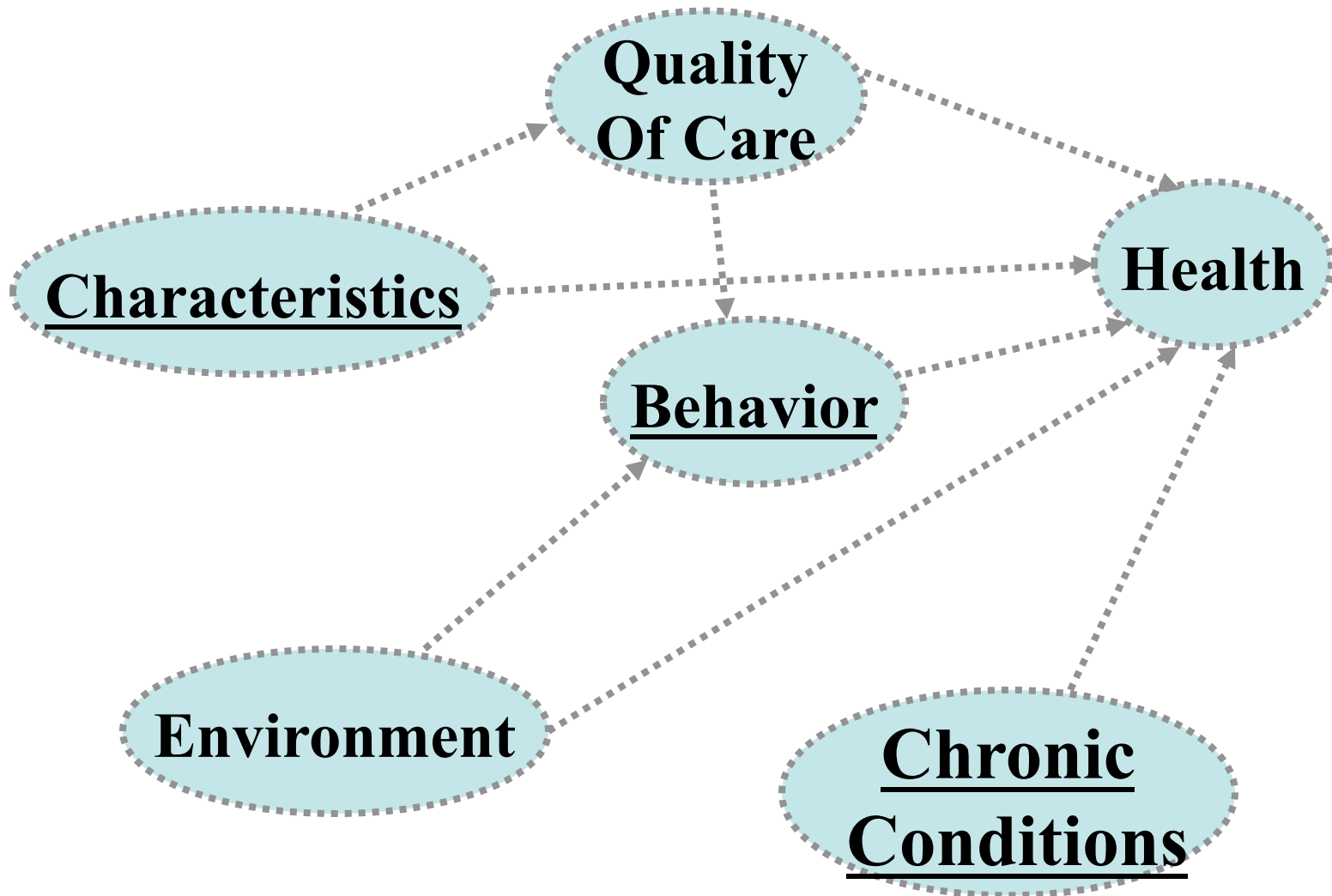
May 22, 2014 (1:00 - 2:00 PDT)

Kaiser Methods Webinar Series

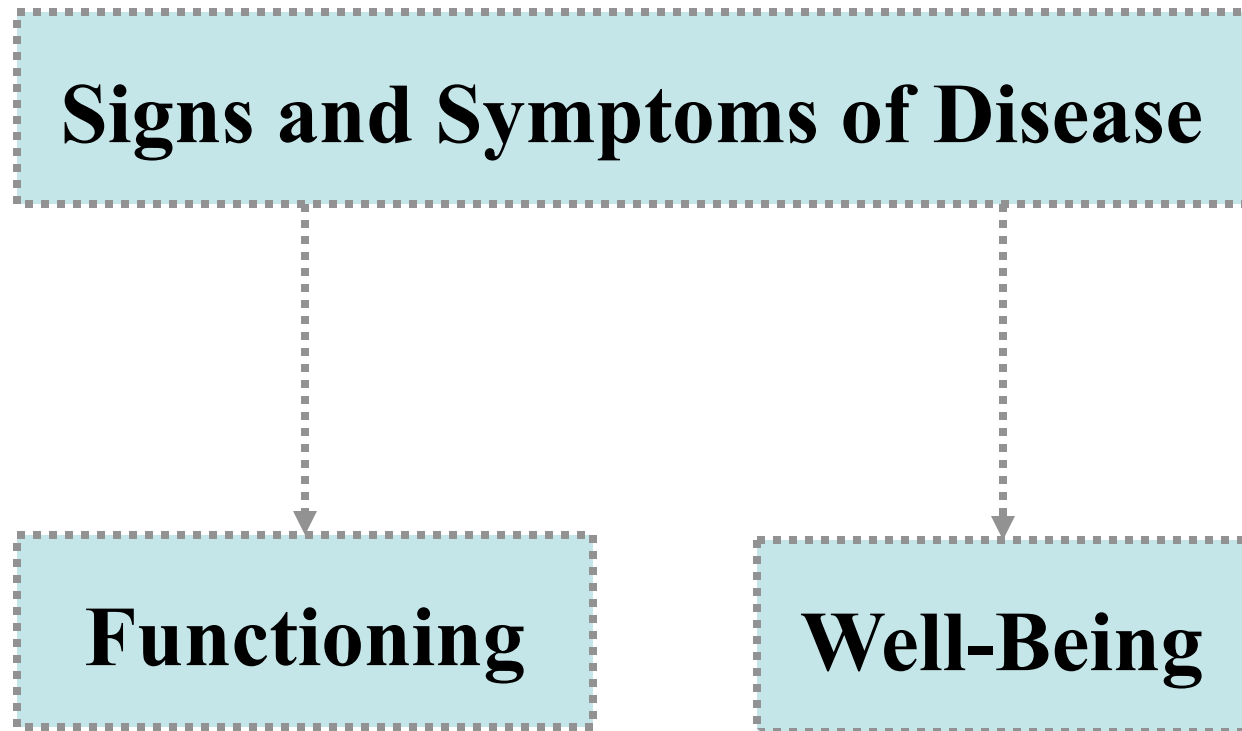
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Determinants of Health



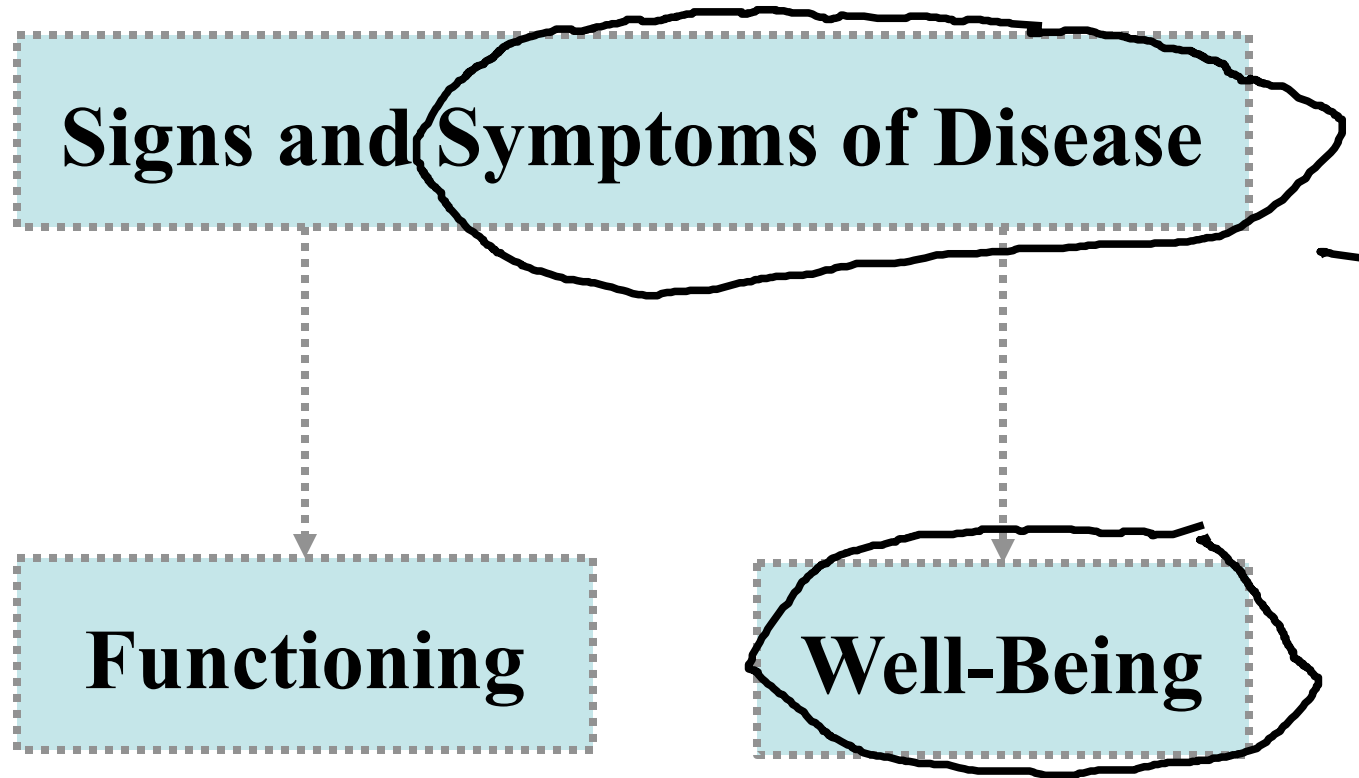
Indicators of Health



Functioning and Well-Being

- Functioning (what you can do)
 - Self-care
 - Role
 - Social
- Well-being (how you feel)
 - Pain
 - Energy
 - Depression
 - Positive affect

Indicators of Health



Health-Related Quality of Life (HRQOL)



~~Quality of environment~~
~~Type of housing~~
~~Level of income~~
~~Social Support~~

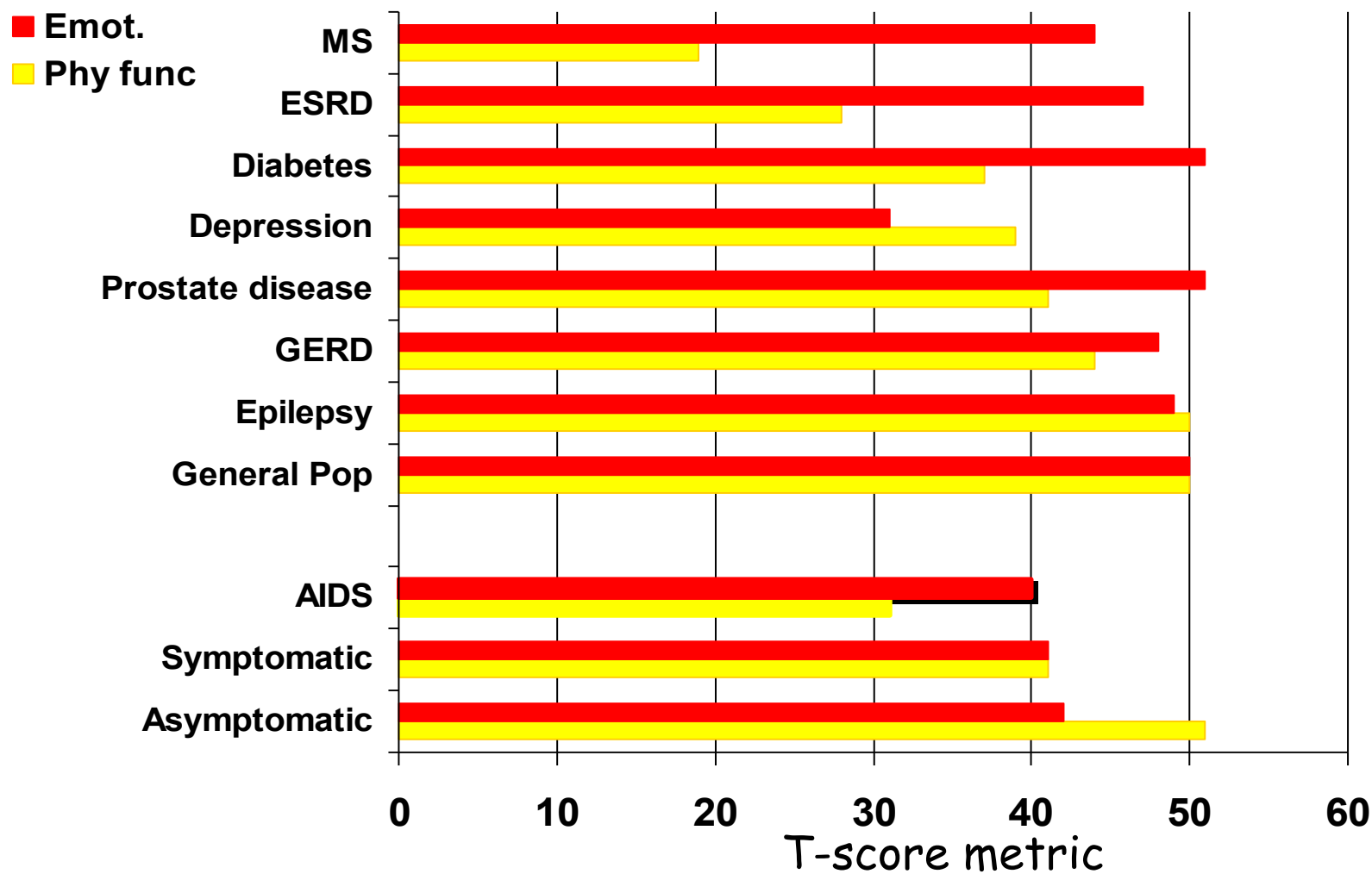
HRQOL Measurement Options

- Multiple Scores (Profile)
 - Generic (SF-36)
 - How much of the time during the past 4 weeks have you been happy? (*None of the time* → *All of the time*)
 - Targeted ("Disease specific")
 - KDQOL-36
 - My kidney disease interferes too much with my life.
- Single Score
 - Preference-based (EQ-5D, HUI, SF-6D)
- Combinations of above

HRQOL Scoring Options

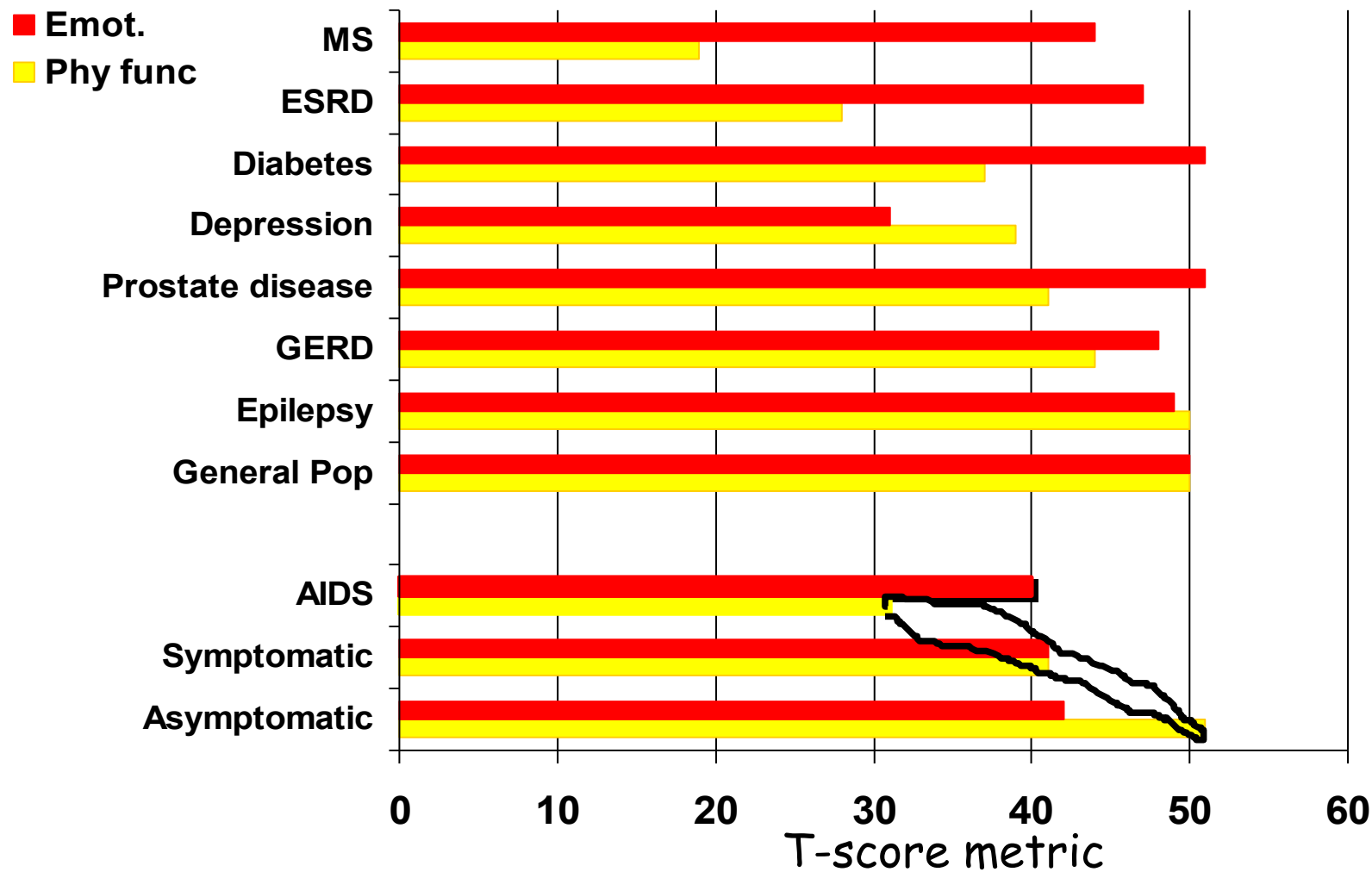
- 0-100 possible range
- T-scores (mean = 50, SD = 10)
 - $(10 * \text{z-score}) + 50$
 - $\text{z-score} = (\text{score} - \text{mean}) / \text{SD}$
- 0 (dead) to 1 (perfect health)

HRQOL in HIV Compared to other Chronic Illnesses and General Population



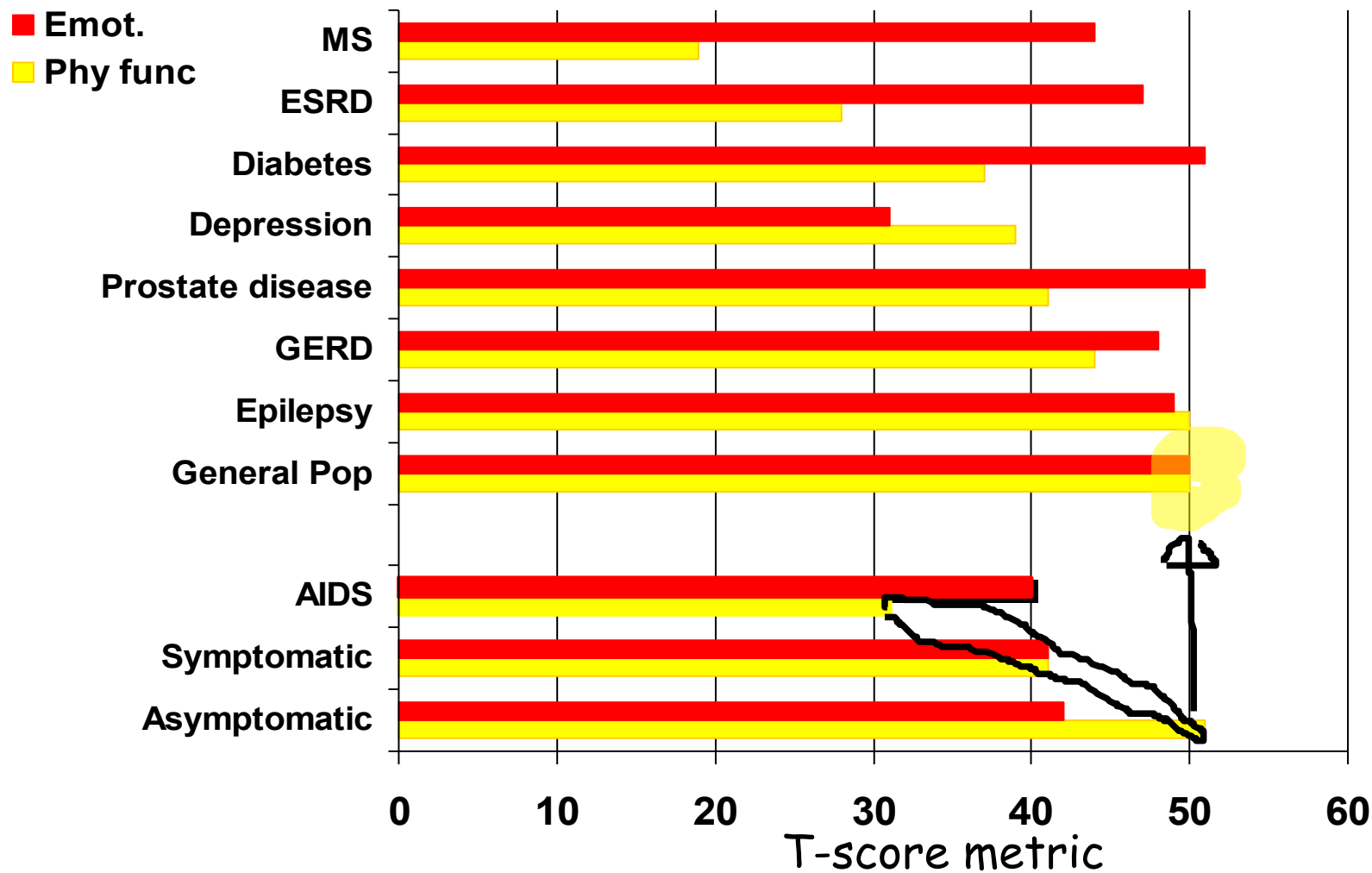
Hays et al. (2000), American Journal of Medicine

HRQOL in HIV Compared to other Chronic Illnesses and General Population



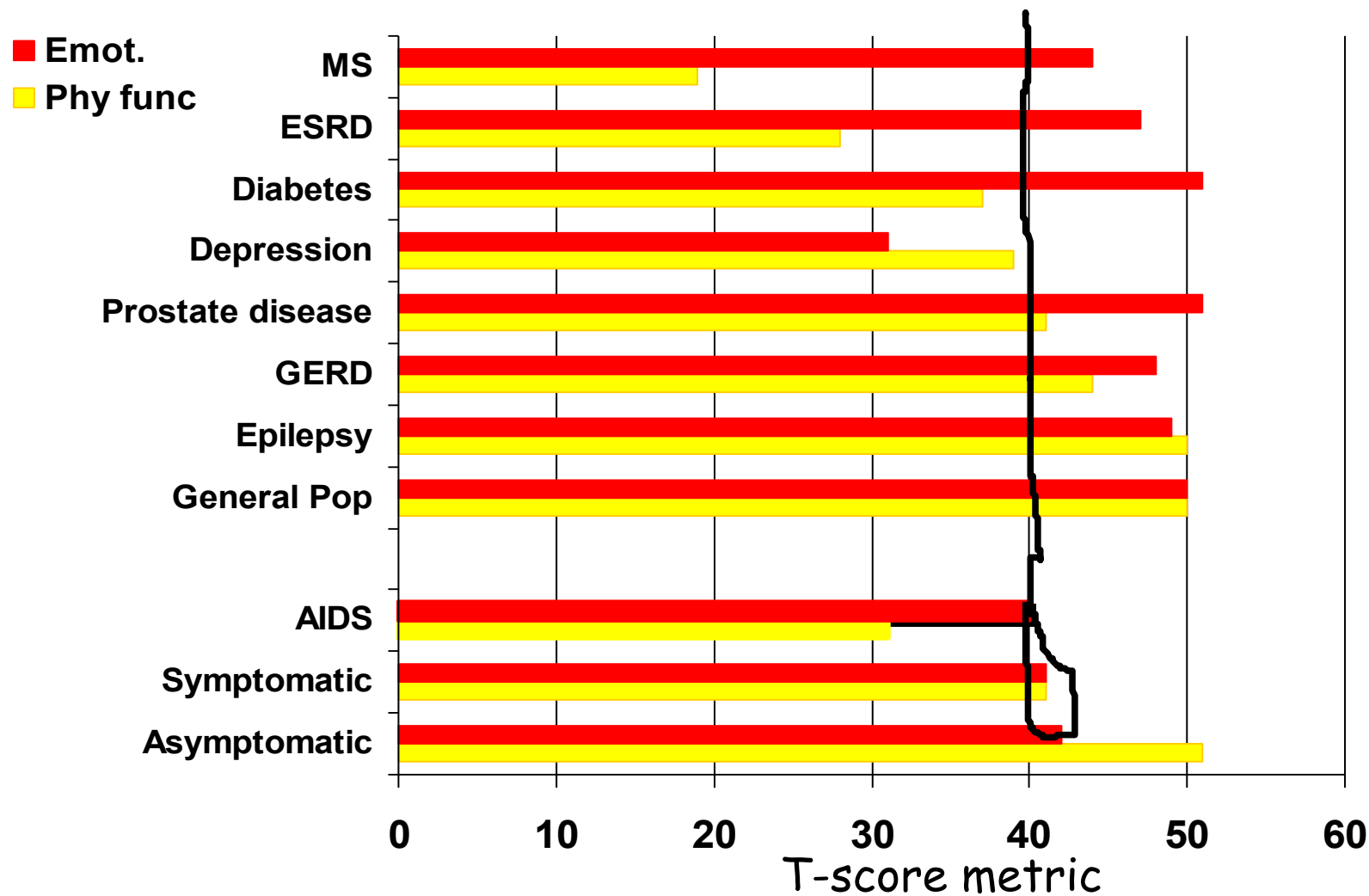
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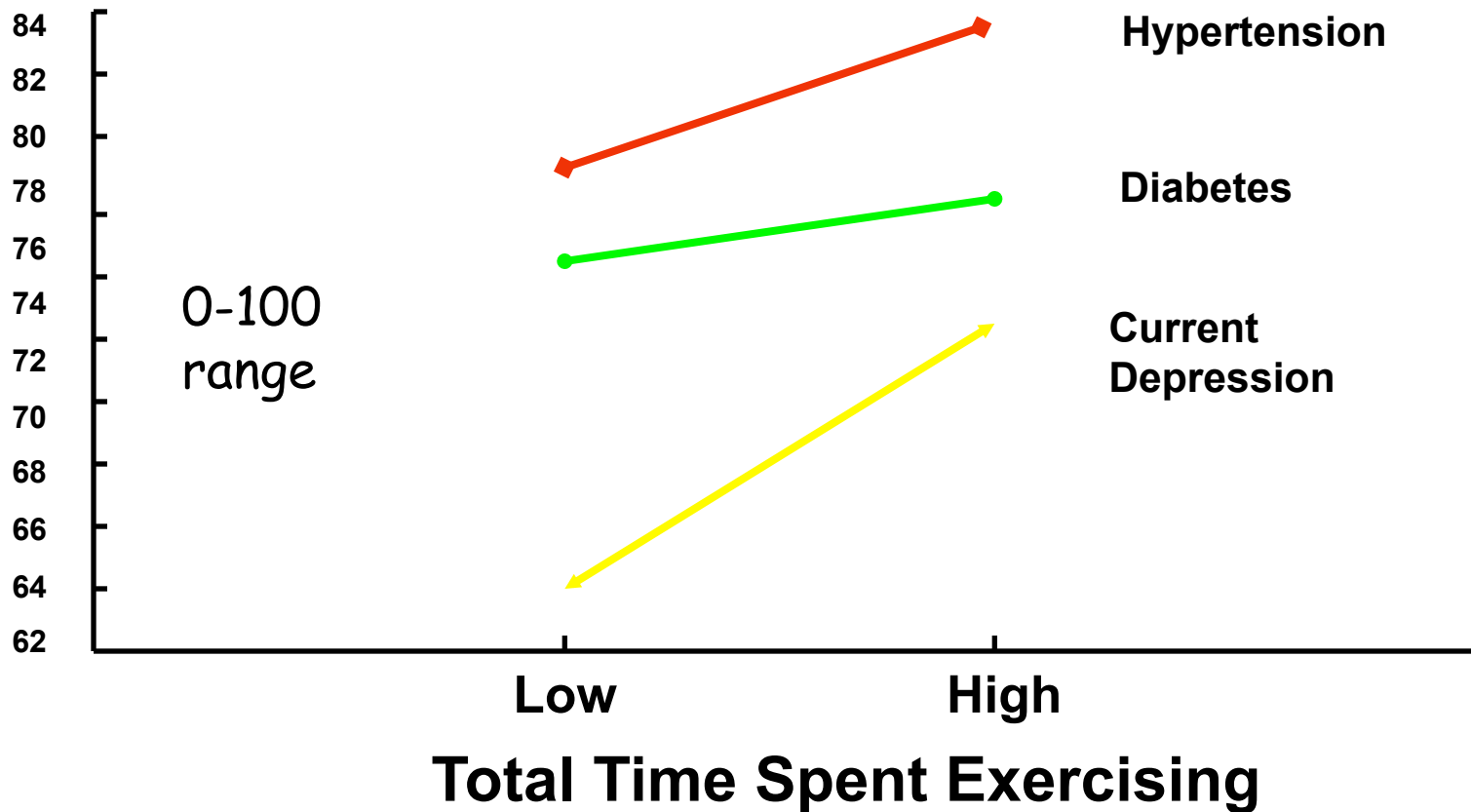
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HRQOL in HIV Compared to other Chronic Illnesses and General Population



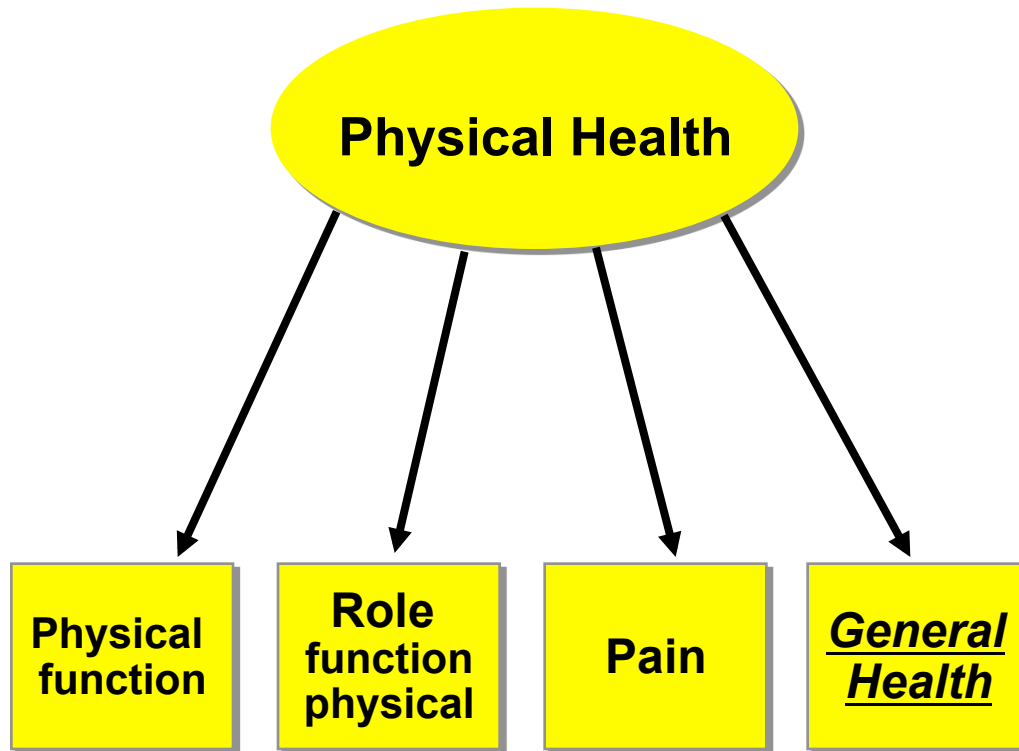
Hays et al. (2000), American Journal of Medicine

Physical Functioning in Relation to Time Spent Exercising 2-years Before

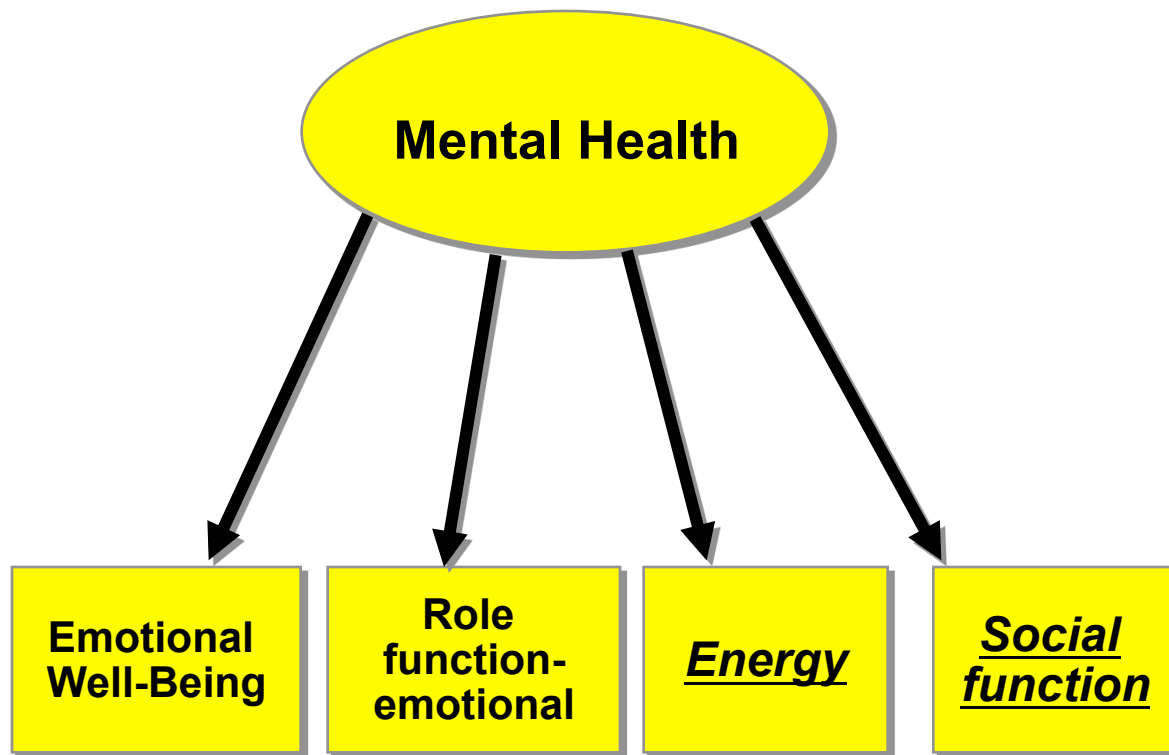


Stewart, A.L., Hays, R.D., Wells, K.B., Rogers, W.H., Spritzer, K.L., & Greenfield, S. (1994). Long-term functioning and well-being outcomes associated with physical activity and exercise in patients with chronic conditions in the Medical Outcomes Study. *Journal of Clinical Epidemiology*, 47, 719-730.

Physical Health



Mental Health



SF-36 PCS and MCS

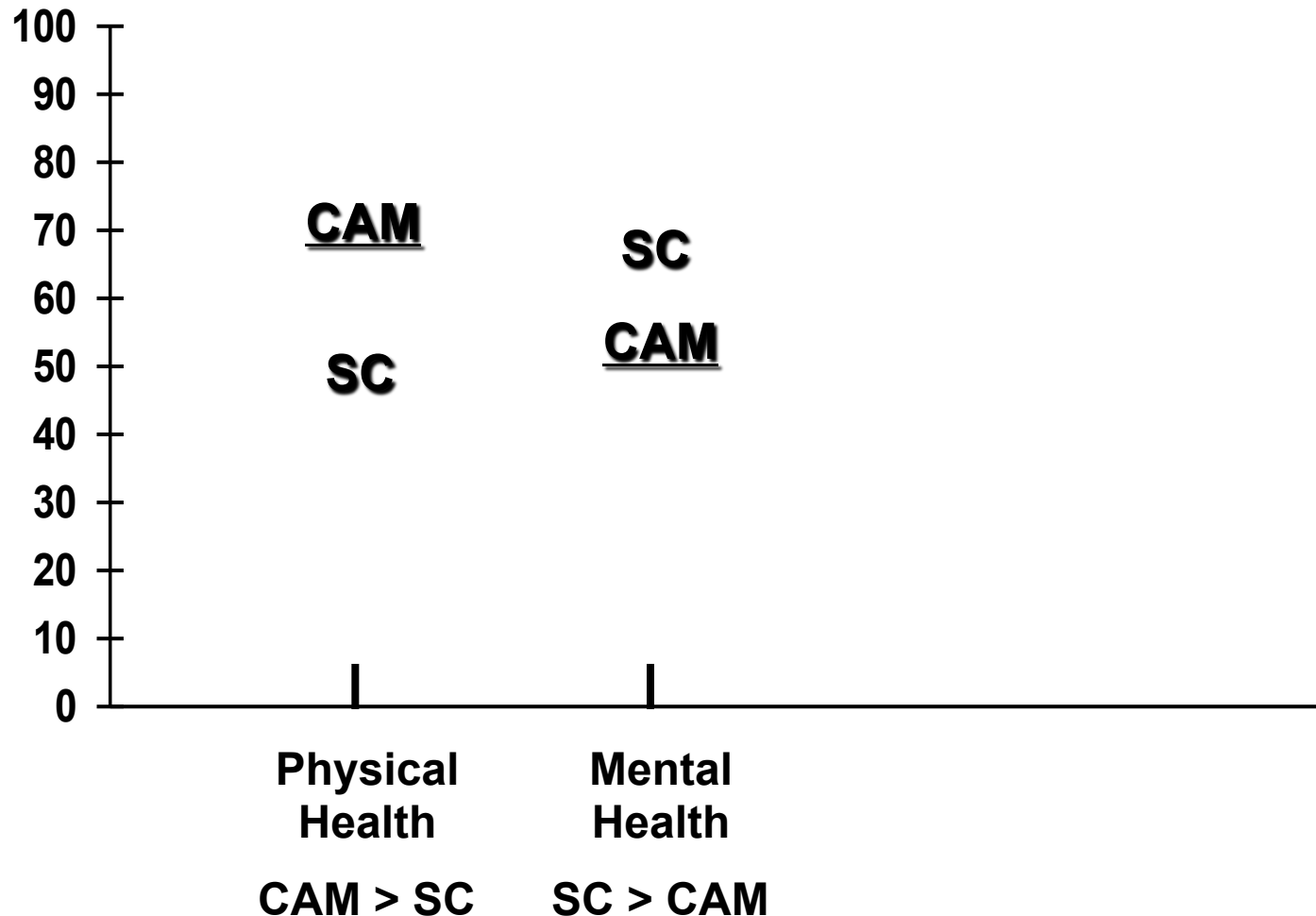
$$\begin{aligned} \text{PCS_z} = & (\text{PF_Z} * 0.42) + (\text{RP_Z} * 0.35) + \\ & (\text{BP_Z} * 0.32) + (\text{GH_Z} * 0.25) + \\ & (\text{EF_Z} * 0.03) + (\text{SF_Z} * \underline{-.01}) + \\ & (\text{RE_Z} * \underline{-.19}) + (\text{EW_Z} * \underline{-.22}) \end{aligned}$$

$$\begin{aligned} \text{MCS_z} = & (\text{PF_Z} * \underline{-.23}) + (\text{RP_Z} * \underline{-.12}) + \\ & (\text{BP_Z} * \underline{-.10}) + (\text{GH_Z} * \underline{-.02}) + \\ & (\text{EF_Z} * 0.24) + (\text{SF_Z} * 0.27) + \\ & (\text{RE_Z} * 0.43) + (\text{EW_Z} * 0.49) \end{aligned}$$

$$\text{PCS} = (\text{PCS_z} * 10) + 50$$

$$\text{MCS} = (\text{MCS_z} * 10) + 50$$

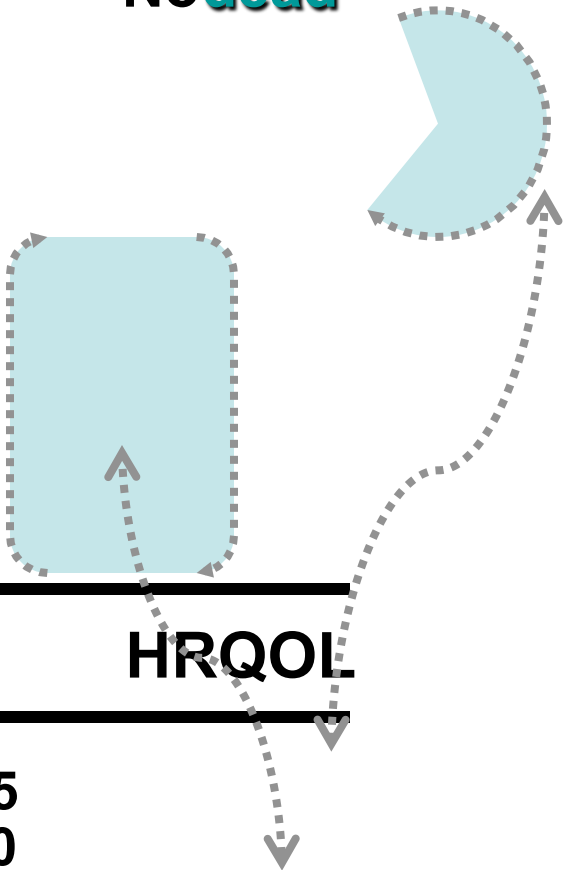
Is Complementary and Alternative Medicine (CAM) Better than Standard Care (SC)?

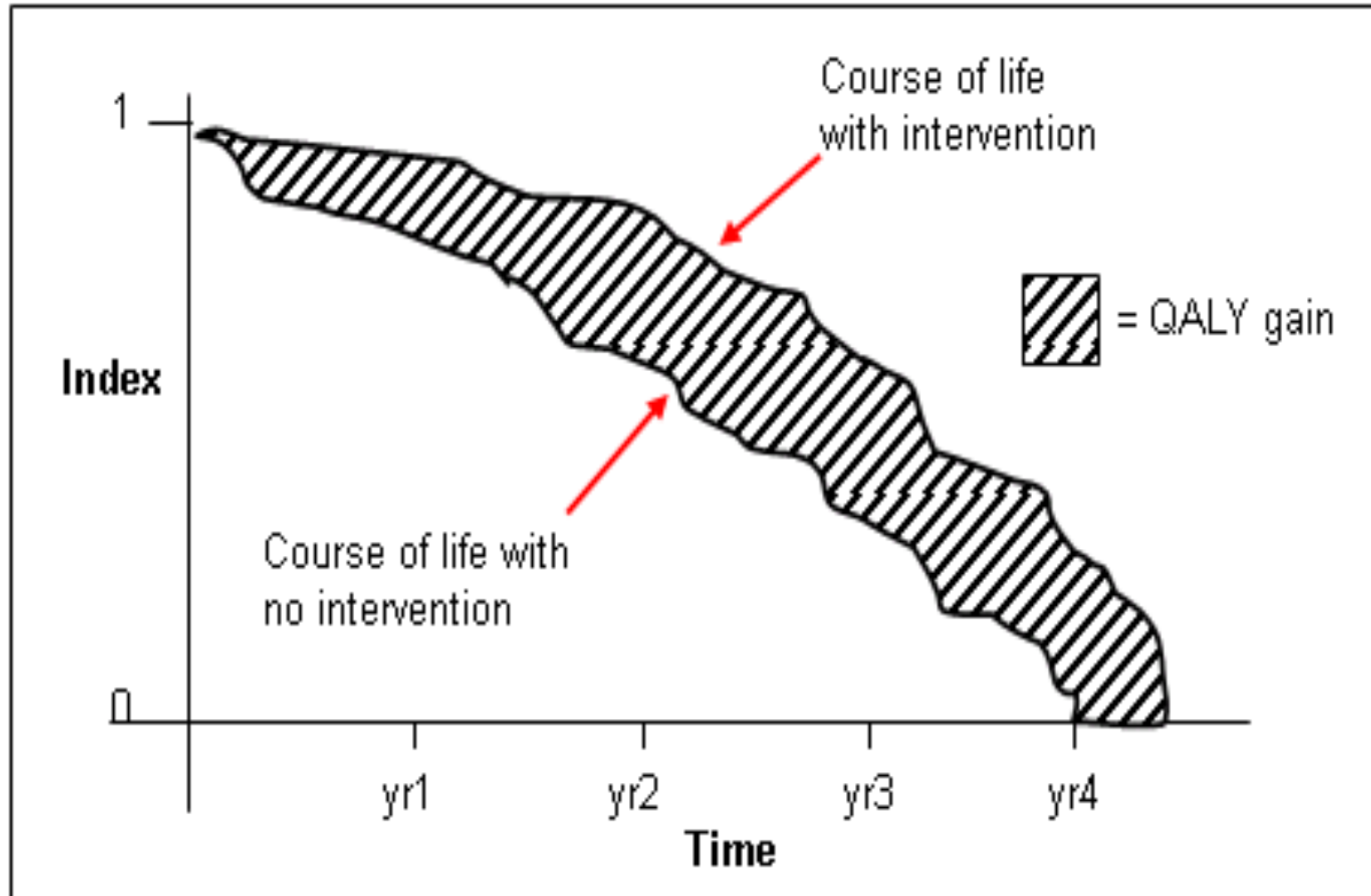


Does Taking Medicine for HIV Lead to Worse HRQOL?

Subject	Antiretrovirals	HRQOL (0-100)
1	No	dead
2	No	dead
3	No	50
4	No	75
5	No	100
6	Yes	0
7	Yes	25
8	Yes	50
9	Yes	75
10	Yes	100

Group	n	HRQOL
No Antiretroviral	3	75
Yes Antiretroviral	5	50





Cost-Effectiveness of Health Care

Cost ↓

— — — — — — — — — —

Effectiveness (“Utility”) ↑

"QALYs: The Basics"

- Value is ...
 - Preference or desirability of health states
- Preferences can be used to
 - Compare different interventions on a single common metric (societal resource allocation)
 - Help make personal decisions about whether to have a treatment

Milton Weinstein, George Torrance, Alistair McGuire, Value in Health, 2009, vol. 12 Supplement 1.

Preference Elicitation

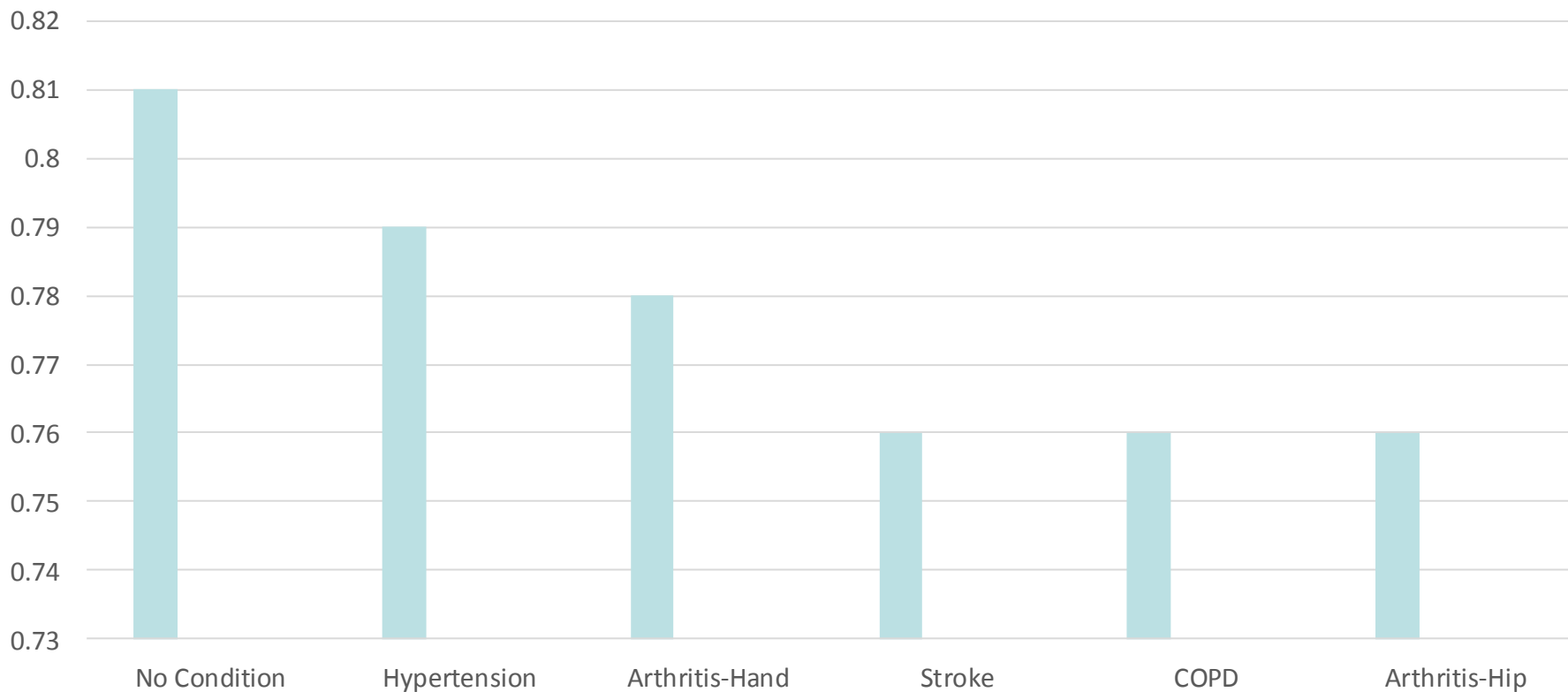
- Standard gamble (SG)
- Time trade-off (TTO)
- Rating scale (RS)
 - <http://araw.mede.uic.edu/cgi-bin/utility.cgi>
- $SG > TTO > RS$
- $SG = TTO^a$
- $SG = RS^b$ (Where a and b are less than 1)
- Also discrete choice experiments

SF-6D health state (424421) = 0.59

- Your health limits you a lot in moderate activities (such as moving a table, pushing a vacuum cleaner, bowling or playing golf)
- You are limited in the kind of work or other activities as a result of your physical health
- Your health limits your social activities (like visiting friends, relatives etc.) most of the time.
- You have pain that interferes with your normal work (both outside the home and housework) moderately
- You feel tense or downhearted and low a little of the time.
- You have a lot of energy all of the time

HRQOL in SEER-Medicare Health Outcomes Study (n = 126,366)

SF-6D (range = 0.30-1.00; SD = 0.14) by Condition



Controlling for age, gender, race/ethnicity, education, income, and marital status.

Distant stage of cancer associated with 0.05-0.10 lower SF-6D Score

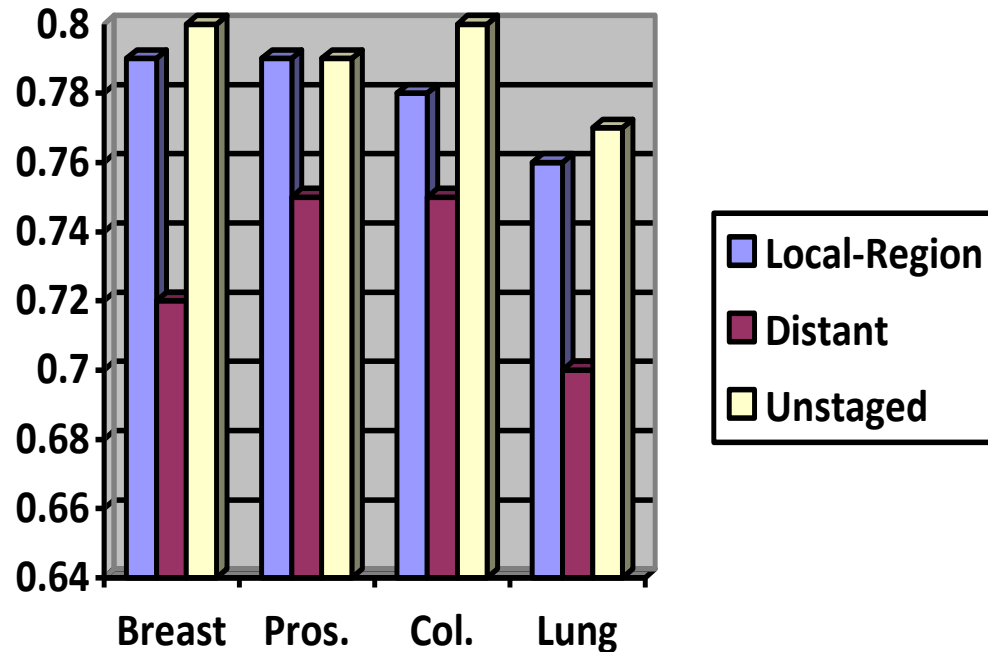


Figure 1. Distant Stage of Disease Associated with Worse SF-6D Scores (Sample sizes for local/regional, distant, and unstaged: Breast (2045, 26, 347); Prostate (2652, 61 and 633), Colorectal (1481, 48 and 203), and Lung (466, 47 and 65)).

Thank You!



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Powerpoint file available for downloading at:

<http://gim.med.ucla.edu/FacultyPages/Hays/>