What about the oldest old?

?

Connie W. Bales, PhD, RD
Duke University School of Medicine
GRECC, Durham VA Medical Center
Durham, NC, USA

Funding and Appreciation

VA

- VHA RX003981
- VHA RX002843 (recent)

NIH

- NIAMS 5R01-AR074800
- NIA 5R01-AG058725

Other

- Eggland's Best

***Thanks to Dr. Katie Starr!

Who are the oldest old?

- American Geriatric Society, WHO: **80 years and older**
- British Geriatrics Society: 85 years and older
- National Research Council and Committee on Population:
  - Developed countries--**85 years and older**
  - Developing countries-- **80 years and older**

World's older population grows dramatically

NIH-funded Census Bureau report offers details of global aging phenomenon.

The global population of the "oldest old" — people aged 80 and older — is expected to more than triple between 2015 and 2050"

High-Level View:
What about the oldest old (with obesity)?

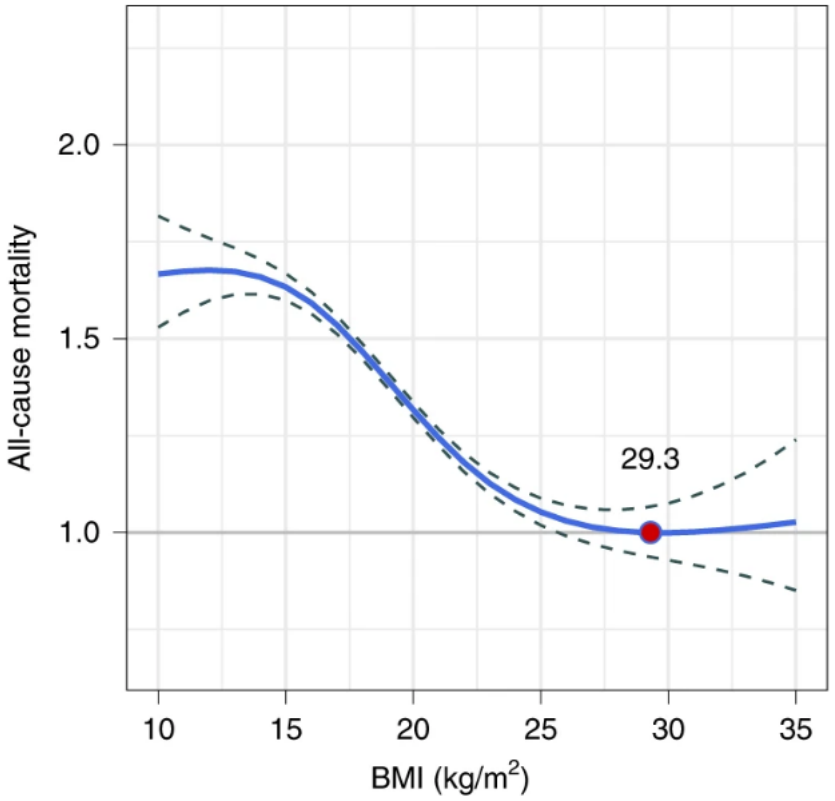
1. The optimal BMI for individuals aged 80+ years is unknown and weight loss has been linked with reduced survival in older adults.

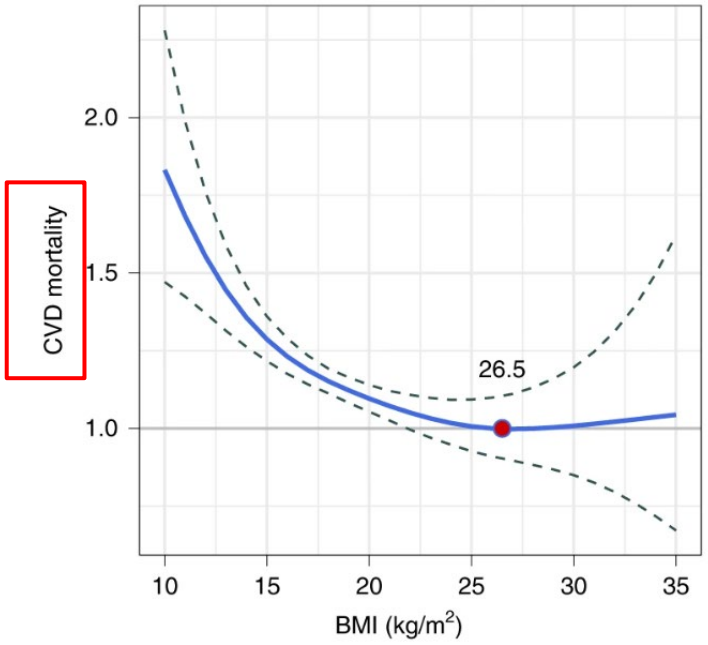
2. Evidence to guide obesity reduction in the oldest old is extremely scarce.

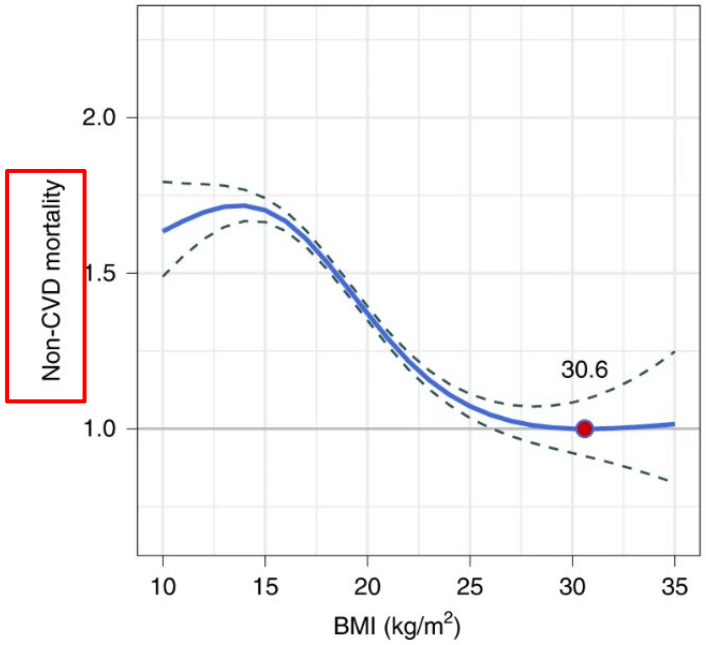
Mortality and BMI:

Most studies seeking to determine optimal BMI use mortality as the outcome

Associations of BMI with all-cause, CVD and non-CVD mortality in Oldest Old in China







Compared to normal weight, overweight and obesity associated with decreased all-cause and non-CVD mortality (but not CVD).

"Optimal BMI in oldest old may be overweight to mild obesity range."

Lv, Y., Mao, C., Gao, X. *et al*. *Nat Aging* **2**, 389–396 (2022).

Systematic Review

The Obesity Paradox and Mortality in Older Adults: A Systematic Review

Moustapha Dramé [1,2,*] and Lidvine Godaert [1,3]

Of 17 trials with mean age ≥80 yrs, only 2 did not confirm obesity paradox for mortality at ≥12 months

Included 58 trials.
Nutrients. 2023

Author	Mean Age	Medical Dx	Obesity Paradox ≥12-mo mortality
Martinez-Tapia	81±6	Cancer	Yes
Tokarek	82	TAVI	Yes
De Palma	83±6	TAVI	Yes
Lv	92±8	NS	Yes
De Souto Barreto	86±8	Dementia	Yes
Ford	81±4	NS	No
Lang	85+6	NS	Yes
Chen	83±5	NS	Yes
Dahl	80±6	NS	Yes
Nakazawa	84±8	NS	Yes
Takata	80±0	NS	No
Veronese	81±8	NS	Yes
Yamamoto	83±7	TAVI	Yes
Zekry	85±7	NS	Yes
Cereda	84±8	NS	Yes
Kitamura	84±8	NS	Yes
Takata	80±0	NS	Yes

Mortality and weight loss history:

Most studies link weight stability with best survival

The Journals of Gerontology, Series A: Biological Sciences and Medical Sciences, 2023, **78**(12), 2264–2273
https://doi.org/10.1093/gerona/glad177
Advance access publication 29 August 2023
Research Article

OXFORD

Association of Later-Life Weight Changes With Survival to Ages 90, 95, and 100: The Women's Health Initiative

For the 30,647 who survived to age 90+ years

Conclusion: Weight loss of ≥5% versus stable weight was associated with lower odds of longevity, more strongly for unintentional weight loss than for intentional weight loss

Shadyab AH. et al. 2023

Available evidence for oldest old: Optimal BMI shifts up and weight stability is favored

Research on interventions for obesity in the oldest old

Subgroups for whom obesity reduction is not recommended or must be individualized with great caution.

- Life expectancy less than a year/**terminal illness**
- Moderate to pronounced **dementia** or other **advanced mental illness**
- **Osteoporosis**
- Disability that **precludes physical exercise**
- Disease states that might progress to a state of **wasting/cachexia**
  - E.g., Heart failure, COPD, advanced renal disease, certain cancers
- What about those in **long term care facilities**?

Starr & Bales, Clin Geriatr Med 2015; Starr, McDonald, Weidner & Bales, Nutrients 2016

What about those in long term care facilities?

The “obesity paradox” related to mortality is confirmed:

- Lee JS et al. JAMDA 2014: 9 yr prospective study, nursing home residents
- Veronese N et al. Obes Rev 2015: Meta analysis in older nursing home residents; 19,538 LTC residents, 5,223 deaths; Both overweight and obesity were protective
- De SoutoBarreto P. Clin Nutr 2017: older LTC residents with dementia

Weight stability is usually advocated

Have we studied RCT of obesity reduction in the oldest old?

- Many studies are open to those ≥80 yrs but relatively few individuals qualify
- For those who qualify, attrition can be high due to disqualifying medical issues and personal difficulties
- Mean ages tend to be well under 80 for most trials

Case Study: Mr. G

- 82-year old male Veteran; prediabetes
- Baseline BMI = 34 kg/m$_2$, HbA1c = 6.6%
- Entered 6-month RTC of kcal reduction and exercise

- Life and health events during the study included:
  - Wife diagnosed with cancer
  - 2 falls; torn rotator cuff with the second fall
  - After a long delay, treated in ER for bacterial lung infection
  - Missed midpoint measures due to this illness

Changes from baseline to 6-month endpoint:

Decreases in

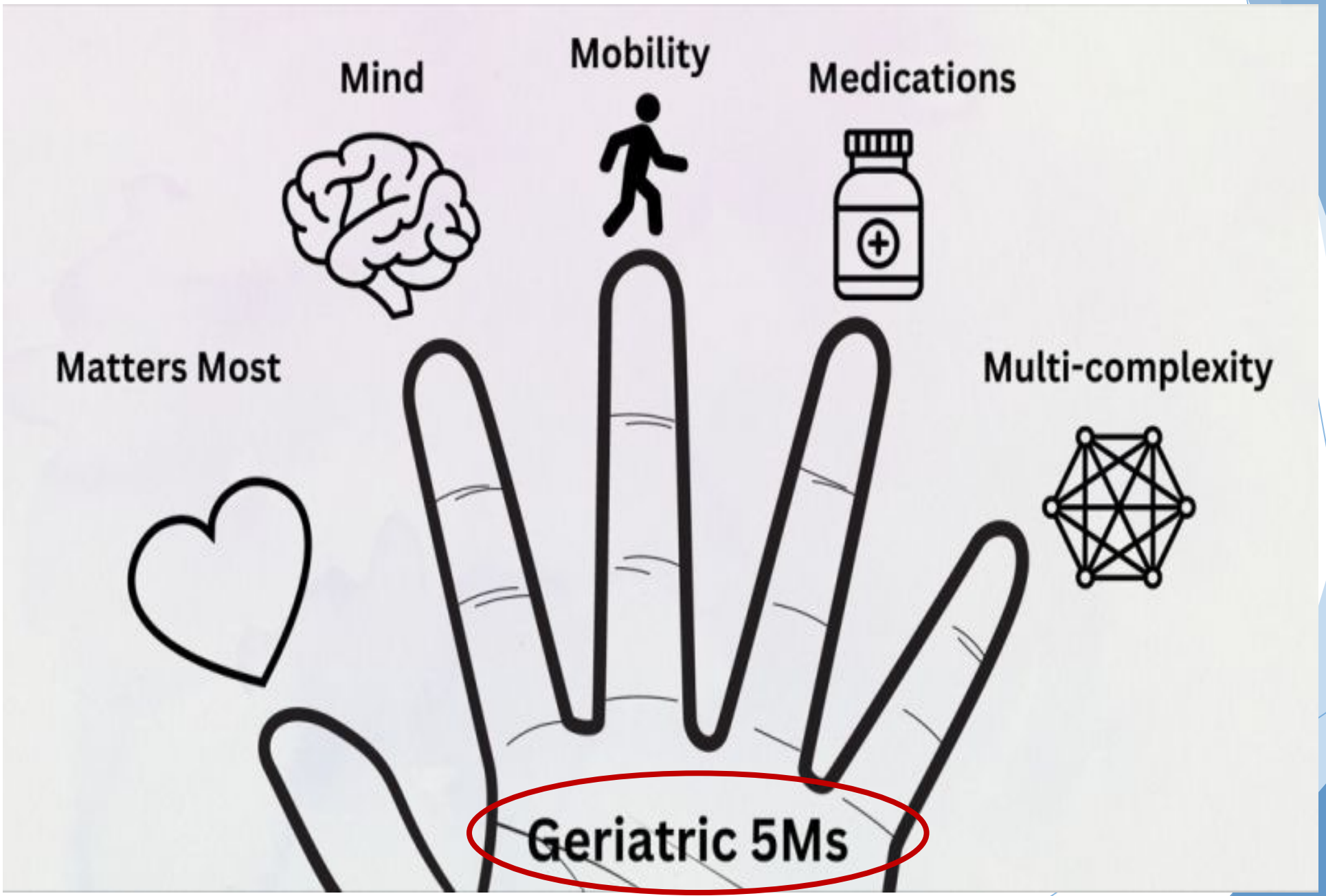
- FBS (120 to 103 mg/dl)
- Hb A1c (6.6 to 6.1%)
- Body weight (220 to 213 lb)
- BMI (34 to 32.8)
- Body fat (-2.69 lb)
- Body lean (-4.82 lb)
- SPPB (10 to 8)

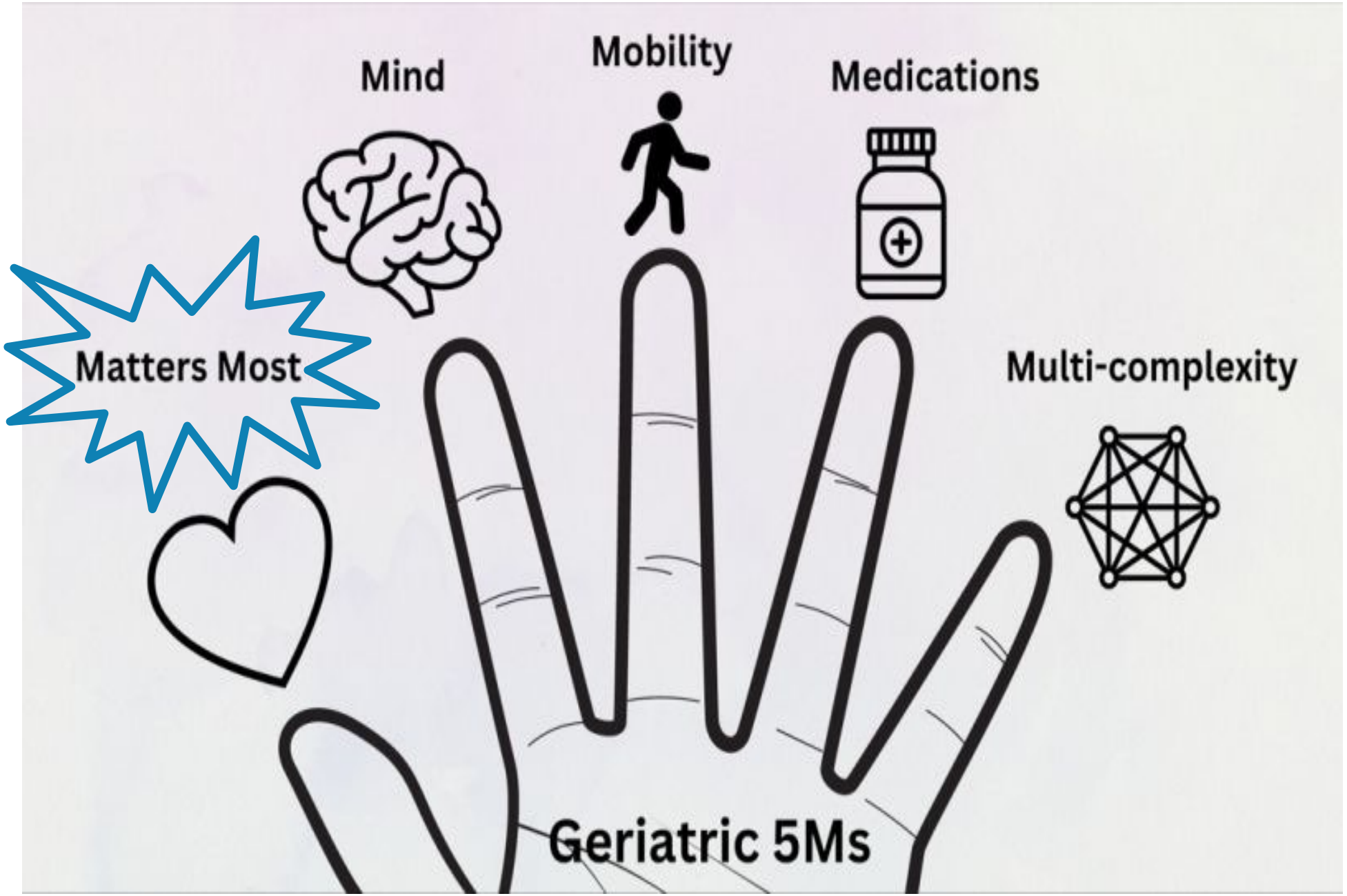
Increases in:

- Distance walked in 6 minutes
  - +51.7 meters)
- 30 second chair stands
  - + 2
- Handgrip (both hands)
  - Rt +4 kg; L +1 kg

No change or slightly better:

- Exit interview: “Quality of Life about the same”
- SF-36: Self-rated health “slightly better than 1 year ago”


Mind
Mobility
Medications
Matters Most
Multi-complexity
Geriatric 5Ms


Mind
Mobility
Medications
Matters Most
Multi-complexity
Geriatric 5Ms

Thoughts on interventions for obesity in the oldest old:

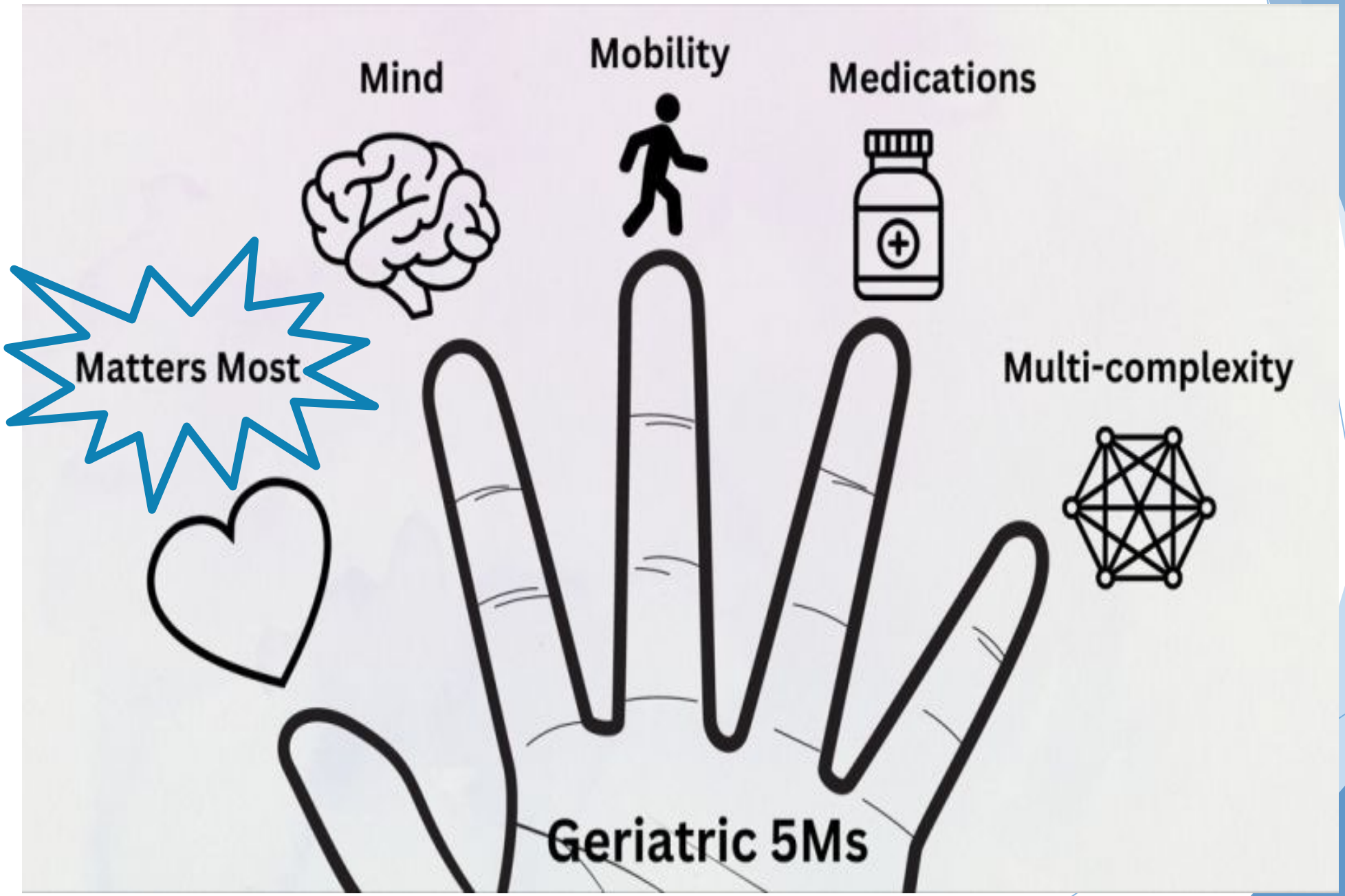
- Characteristics of the population will need to be considered in the study design, e.g.:
  - Inclusion/exclusion criteria
  - Retention and protocol deviations
  - Choice of primary and secondary study outcomes
  - Time interval---maybe 6 months is a long term study?
- May need to do a “narrow” inclusion age (≥75 years?) to focus on the unique aspects of the population, reduce variability

Reducing obesity improves obesity-related diseases and conditions, at least through the 5th to 6th decades of life.

Beyond that age, we get concerned about increasing sarcopenia, bone loss, and all-cause mortality.

Even so, obesity reduction may improve quality of life and increase health span for many aged 80+ years.

For this rapidly growing age cohort, future studies should emphasize “person centered” outcomes.


Mind
Mobility
Medications
Matters Most
Multi-complexity
Geriatric 5Ms