

How Can We Not Incorporate Function in Underserved Populations Living with Obesity and Diabetes?

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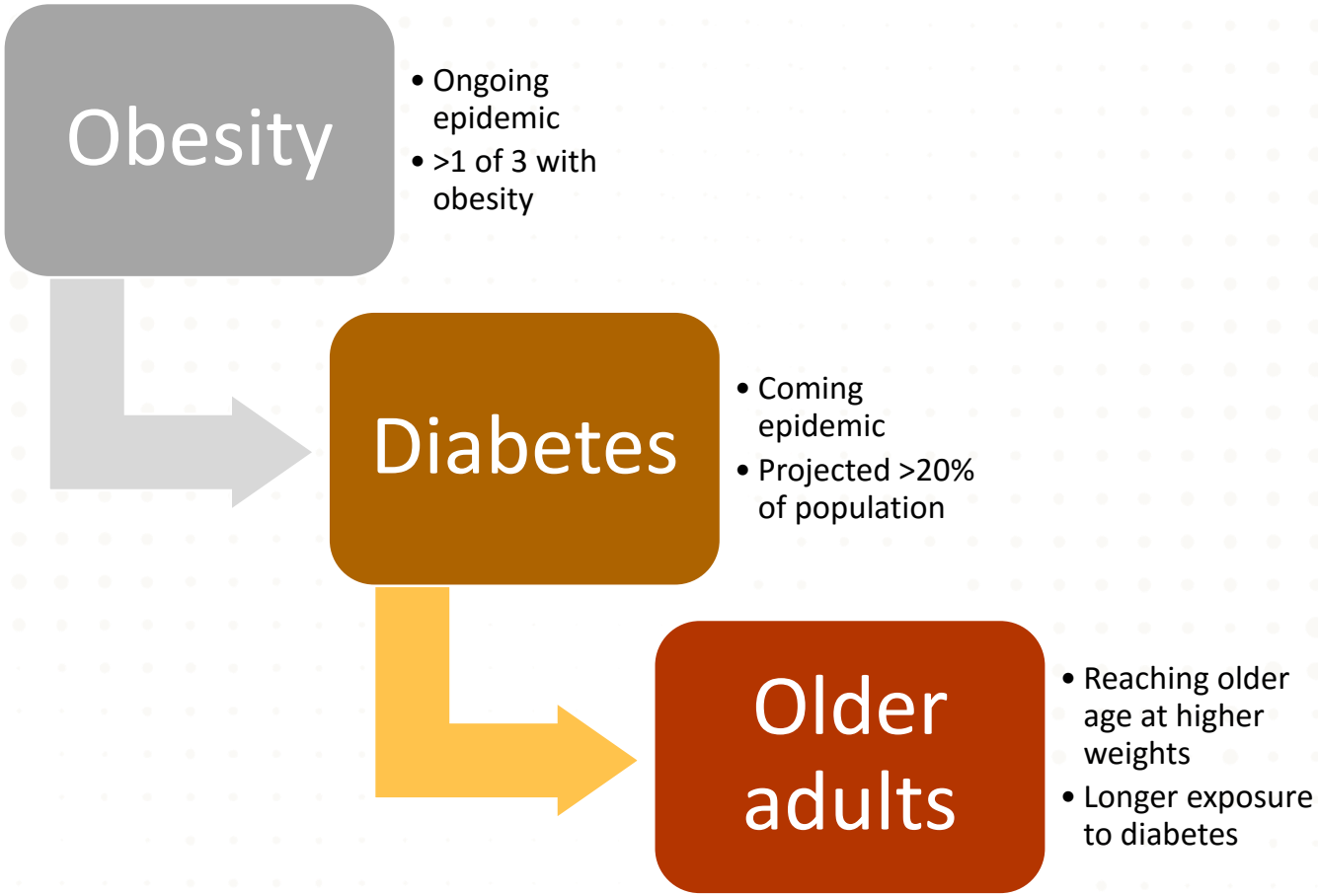
Objectives

- Scope of work- what populations are we talking about?
- What is at stake- what is the impact of obesity and diabetes in older age on function?
- Clinical conundrum- function as a clinical outcome, treatment target, and barrier to treatment
- Population health- what are the considerations for engaging populations around function

Scope of Work



Flegal, K. M., et al. (2016). "Trends in Obesity Among Adults in the United States, 2005 to 2014." JAMA **315(21): 2284-2291.**

Boyle, J. P., et al. (2010). "Projection of the year 2050 burden of diabetes in the US adult population: dynamic modeling of incidence, mortality, and prediabetes prevalence." Popul Health Metr **8: 29.**

Fang, M. (2018). "Trends in the Prevalence of Diabetes Among U.S. Adults: 1999-2016." Am J Prev Med **55(4): 497-505.**

Scope of Work

Individuals from racial/ethnic minority groups (R/EMG)

- Higher prevalence of obesity (e.g., 57% for AA women vs 39% for NHW women)
- Higher prevalence of diabetes (e.g., 18% AA and Mex Am vs 11% NHW)

Why do disparities exist?

- Genetics + Environment + Behaviors

Flegal, K. M., et al. (2016). "Trends in Obesity Among Adults in the United States, 2005 to 2014." JAMA **315(21): 2284-2291.**

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Example

Family history of type 2 diabetes and obesity [Genetic]

+

African American women are more likely to live in neighborhoods with a higher proportion of fast food restaurants vs. grocery stores [Environment]

+

African American women have ideas about body image that may be different from mainstream culture [Behavior]

Am J Public Health. 2002;92(11):1761–8; *Am J Clin Nutr.* 2000;71:500-6.

What is at Stake?

Excess body weight has a negative impact on physical function

- **Biomechanical** (DJD/OA, OSA/hypoventilation)
- Decreased **cardiovascular fitness**
- **Metabolic dysregulation**
  - Diabetes
    - Hyperglycemia (fatigue)
    - Hypoglycemia (safety)
    - Neuropathy (pain, safety)
    - CVD

Jensen, M. D., et al. (2014). "2013 AHA/ACC/TOS Guideline for the Management of Overweight and Obesity in Adults: A Report of the American College of Cardiology/American Heart Association Task Force on Practice Guidelines and The Obesity Society." J Am Coll Cardiol **63(25 Pt B): 2985-3023.**

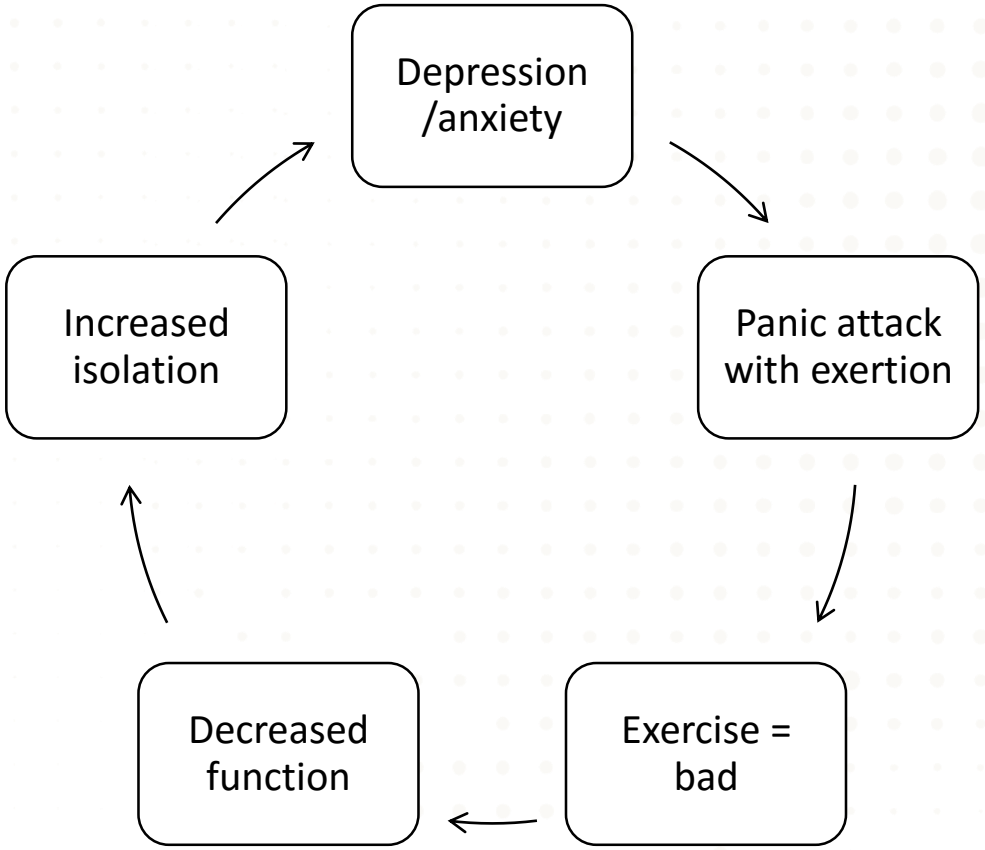
What is at Stake?

Mood has a significant impact on the cycle of obesity and diabetes progression

Individuals from R/EMG may be less likely to engage in behavioral health treatment

- Cultural beliefs
- Access to care
- Stigma and bias

A common clinical scenario



Romain, A. J., J. Marleau and A. Baillot (2018). "Impact of obesity and mood disorders on physical comorbidities, psychological well-being, health behaviours and use of health services." J Affect Disord **225: 381-388.**

Clinical Conundrum

Physical function can be a

- Primary outcome
  - (e.g., avoid decline in function; play with grandkids)

- Treatment target to improve another outcome
  - (e.g., ↑ physical activity → ↓ weight and blood glucose)

- Barrier to treatment
  - (non-ambulatory 67 yo, BMI 50, potential sarcopenic obesity, A1c 8%)

Clinical Conundrum

Low physical function at time of presentation

Should we implement **primary prevention** strategies?

Is prevention easier than **restoration** of function?

What are the **key time points** when such strategies may be most useful?

High physical function at time of presentation

- Facilitator of positive outcomes
- Careful to avoid risk of diminishing function with treatment
  - *(e.g., loss of lean mass with weight reduction)*

Population Health Perspective

As population health and value-based care becomes the norm for healthcare systems

- How do we move beyond A1c, include function as an outcome?
- Can we scale interventions that target physical function as an outcome? How?
- How do we show the impact on cost/cost savings that drives deployment of these interventions?
- Can we use population health strategies to eliminate disparities?

Summary: How Can We (Not) Incorporate Function in Underserved Populations Living with Obesity and Diabetes?

- Obesity & diabetes are linked, highly prevalent in R/EMG and older persons
  - Limited resources, bias, stigma impact development and treatment of these diseases
- Negative impacts on physical function
  - Consider intersection of behavioral health
- Whether function is an outcome or treatment target, it is often critical to diabetes/obesity management– especially in older adults [PRIMARY PREVENTION?]
- We need to understand how the outcome of function can be leveraged in delivering quality outcomes for population health