

# Developing a frailty concept in the OMOP CDM among sexual and gender minority older adults (age 50+) in the All of Us database

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## INTRODUCTION

- Deficit accumulation frailty measures have prognostic value, are comprehensive and can be applied across many data sources
- Frailty is not a standardized concept in many common data models, including the Observational Medical Outcomes Partnership Common Data Model (OMOP CDM)
- Frailty in the older sexual and gender minority (OSGM) population has not been studied
- The All of Us (AoU) Research Program provides an opportunity to study frailty among OSGM and to create a frailty concept for the OMOP CDM

## METHODS

- n = 13,357 non-OSGM; n = 1,118 OSGM; Aged 50+ with complete data
- Using AoU baseline surveys, developed a 35-item deficit accumulation frailty index (AOU-FI) based on validated FI's<sup>1,2,3</sup>
- Deficit items included concepts spanning comorbidities (18 concepts), physical functioning (9 concepts), mental health (6 concepts), and cognition (2 concepts)
- Compared AOU-FI to two known FI distributions using t-tests
- Performed principal components analysis of the 35-items

# OSGM potentially have higher frailty at younger ages

## Frailty would be a valuable concept to add to the OMOP CDM for AoU users

Figure 1. Comparing distributions of the All of Us – Frailty Index for the OSGM and general older All of Us populations.

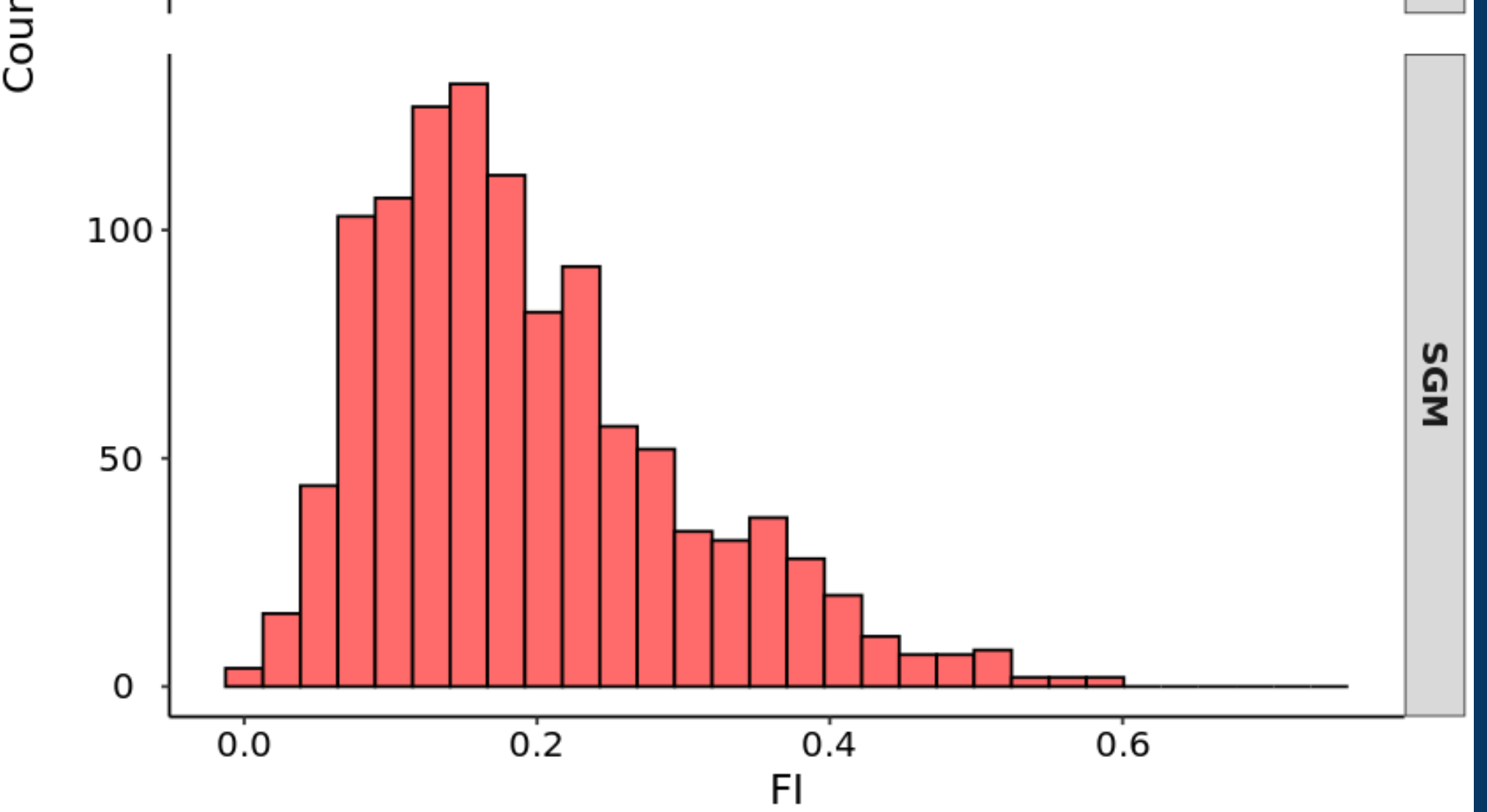
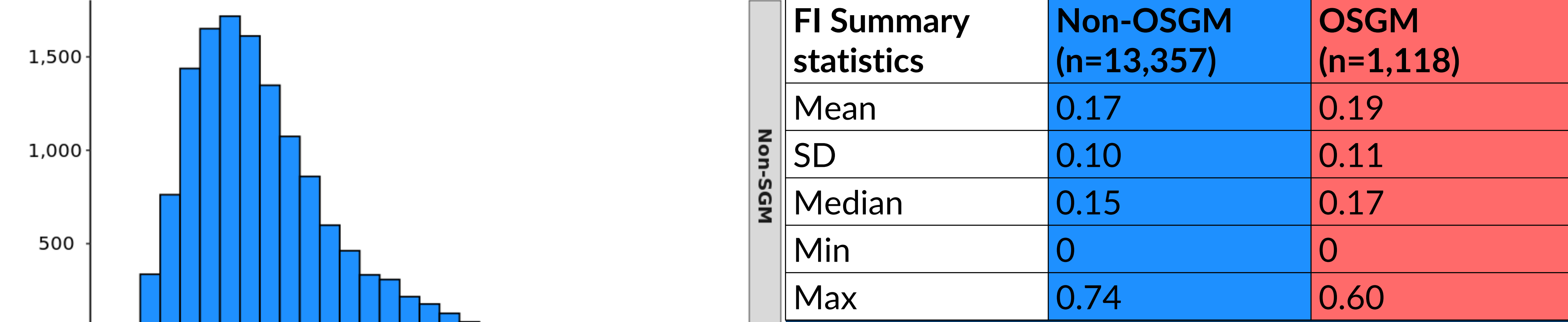
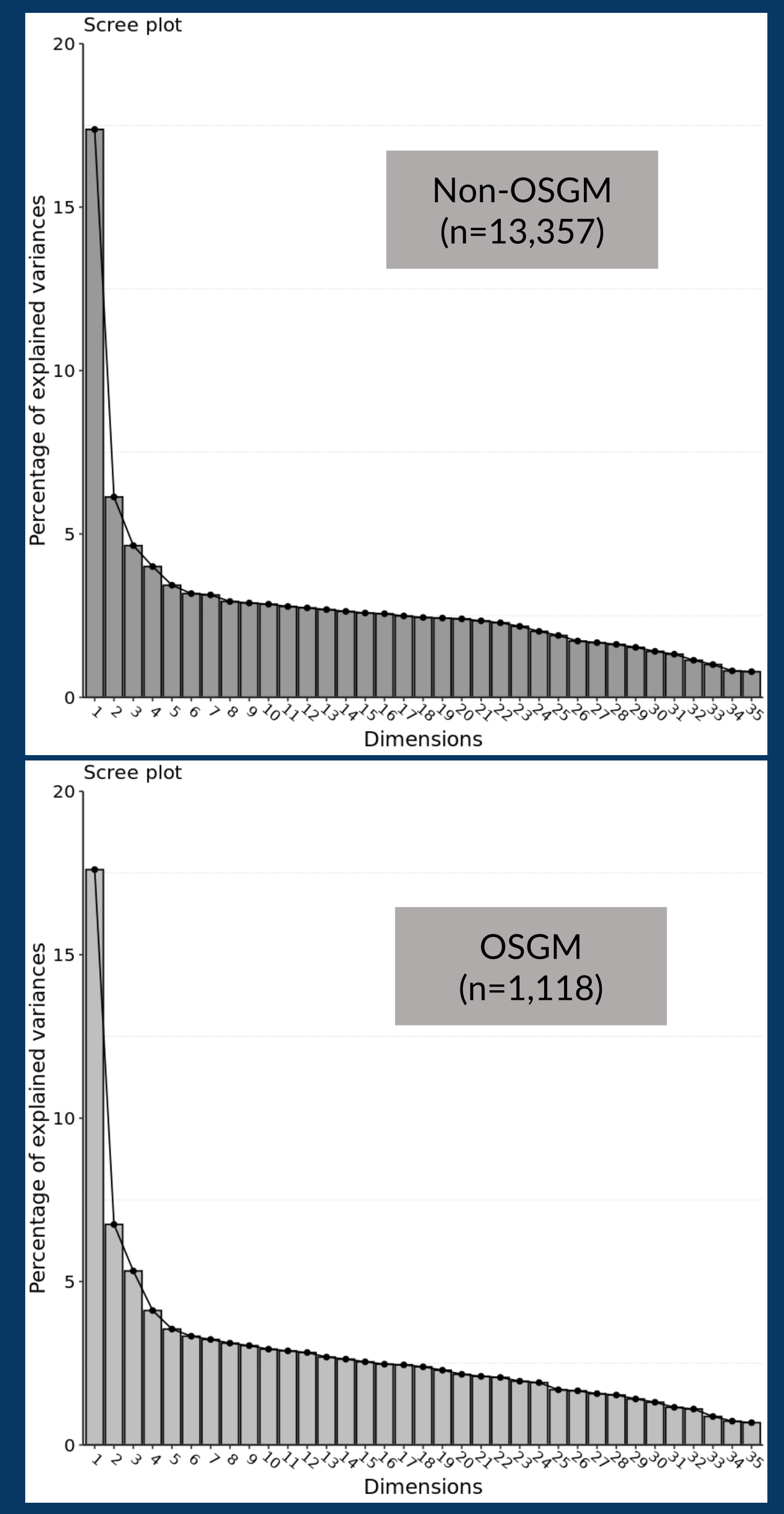


Figure 3. FI by age and gender

Figure 2. PCA Scree plot for dimension 1 of each group



## RESULTS

- The AOU-FI is a ratio (range 0-1) with a maximum of 35-items worth up to 1 point each
- Both AOU-FI distributions had expected gamma shapes (Figure 1)
- The non-OSGM mean was higher (p<.01) than the known Canadian FI distribution (mean=0.164; sd=0.098)
- The OSGM mean was higher than the known Canadian distribution, but lower (p<.01) than the FI for people with intellectual disabilities (mean=0.27; sd=0.13)
- 35-items are each independently contributing to the AOU-FI, justifies our choice of the items (Figure 2)
- Both groups were >80% white. Non-OSGM were 42% male, 61% age 60 or younger <1% had HIV. OSGM were 54% male, 70% age 60 or less, 5% had HIV.
- Compared to non-OSGM, mean age of OSGM was significantly lower (65 [sd=8] vs 66 [sd=9]), but the AOU-FI was significantly higher (p<.01)
- Age trends for FI were as expected for non-OSGM (Figure 3)

## DISCUSSION

- AOU-FI is consistent with shape and behavior of established FI distributions
- OSGM potentially have higher frailty at younger ages compared to a general older population
- Adding the AOU-FI as a concept to the OMOP CDM for AoU users will be critical to maximizing the utility of these data for studying vulnerable subpopulations of older adults