

VA Electronic Health Record Frailty Index (VA-FI)

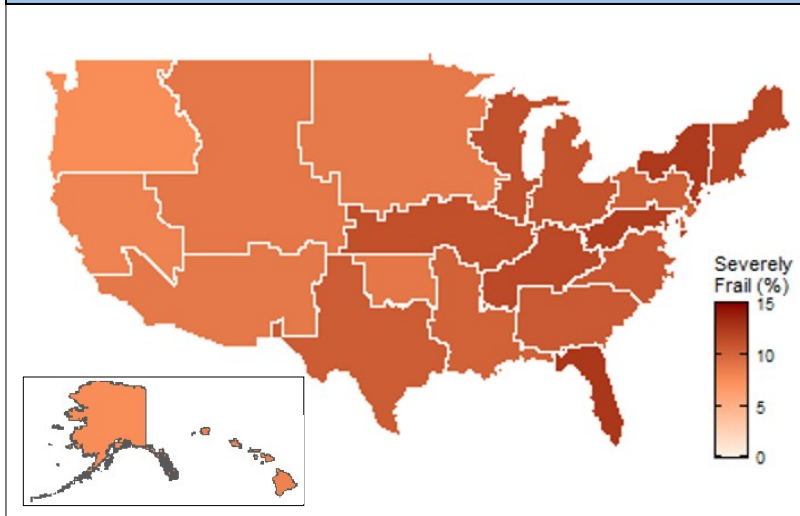
November 2023

Fact Sheet: Data on Veterans Using VA Health Care

CSPEAR provides timely epidemiologic information on VA health care users. This fact sheet presents summary data to inform a broad community of VA leaders, investigators, and clinicians as they consider how best to address the needs of Veterans.

Introduction: Frailty is a syndrome of vulnerability, more common in older adults, that makes it difficult to recover from health-related stressors.¹ As the U.S. population ages, frailty has emerged as an important public health concern and indicator of risk in older adults.² The Veterans Affairs Frailty Index (VA-FI) was developed to measure frailty using VA administrative claims and electronic health records. The VA-FI considers up to 31 health deficits⁴ and can be used as a continuous or categorical variable. In 2018, nearly 1 in 2 US Veterans aged 65 or older were identified as frail.² Frail Veterans are at increased risk of poor health outcomes including falls, fractures, cardiovascular diseases, poor surgical outcomes, suicide, elder abuse, and mortality.^{1,3}

Figure 1. Severe Frailty Status by VISN; 2018



Fast Facts

- In 2018, 43% of the elderly (65 years or older) VA Veterans were frail (VA-FI > 0.2), with 10% severely frail (VA-FI \geq 0.4).
- There was a >50% increase in the number of severely frail from 2002-2018.^{2,4} Proportions of prefrail to moderately frail patients remained steady over time during 2012-2018.
- Severely frail populations had higher rates of mortality across all age and sex strata.
- Prevalence of frailty varies by region with highest rates in the Southeast.⁴
- The Pacific region of the U.S. had lower proportions of severely frail Veterans than other regions.

Methods

Population: Veterans age 65 and older. **Data Source:** Corporate Data Warehouse (CDW) and Medicare data. Medicaid data was used for the years it was available (2012-2014). **Measurement:** We used the same annual cohorts developed for the Cheng et al. 2021 paper. Annual cohorts were constructed for each year of 2012-2018 as follows: Veterans had to be aged 65 or older and alive on September 30th of the given year and had to have had at least one routine outpatient visit in the past year. The presence of a deficit in each patient for each year was defined by whether a patient had received a diagnosis or procedure (inpatient or outpatient) for any of the 31 health deficits included in the index. The diagnosis or procedure had to be within three years on or prior to October 1st of a given year. The VA-FI was calculated as the sum of these deficits for each patient divided by the total possible deficits of 31.

Notes: This work was conducted under IRB approval for research project 3183-X. This material is the result of work supported with resources and the use of facilities at the VA Cooperative Studies Program Epidemiology Center in Boston. The contents do not represent the views of VA or the US Government.

CIPHER Link: [Frailty Index \(GPC\) - VA Phenomics Library](#)

Visit [CSPEAR's website](#) or contact CSPEAR@va.gov for more information.

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U.S. Department of Veterans Affairs
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Definitions

The VA-FI is the sum of health deficits for each patient found in the CDW and Medicare/Medicaid data divided by a total possible 31: Validated categorical levels are defined

Level of Frailty	Definition	2018 Distribution
Nonfrail	VA-FI \leq 0.10	574,951 (25%)
Prefrail	VA-FI $>$ 0.10 – 0.20	752,132 (32%)
Mildly frail	VA-FI $>$ 0.20 – 0.30	494,318 (21%)
Moderately frail	VA-FI $>$ 0.30 – 0.40	276,023 (12%)
Severely frail	VA-FI $>$ 0.40	247,176 (10%)

The VA-FI frailty score is a validated, stable metric that is easy to calculate. It has been shown to accurately predict outcomes in the VA population.

How to Use the Score

- The VA-FI can be used in statistical models as a primary exposure, covariate, confounder, stratifying variable, or effect modifier. Frailty can also be considered as an outcome to examine potential treatments to mitigate frailty. A VA-FI tool will soon be available to clinicians.

Figure 2. VA Population by Frailty Category; 2018

Frailty Group Composition by Sex, 2018



Frailty Group Composition by Race, 2018

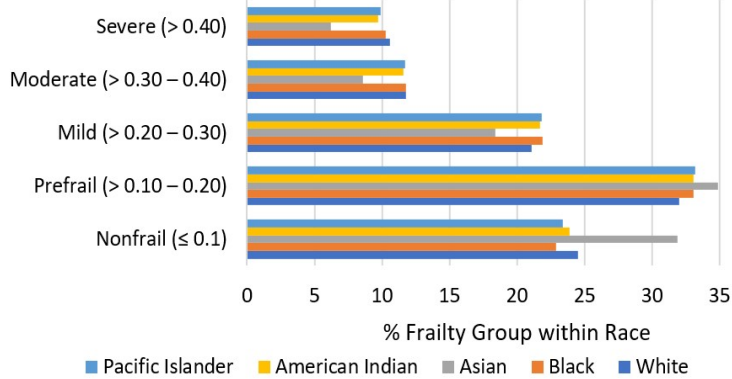
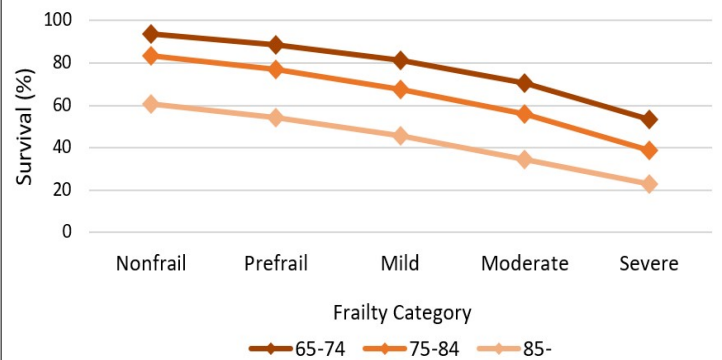
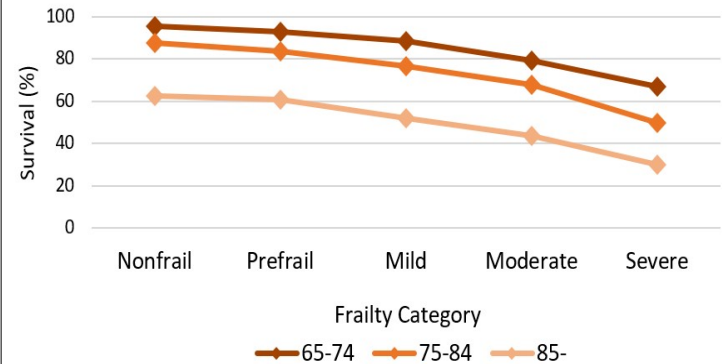


Figure 3. 5-Year Survival Rate by Age, Sex, and Frailty Level (%); 2012 Cohort

Male



Female



Limitations and Challenges

- The lookback periods overlapped between years, which could have limited the score's ability to track yearly changes.
- Design of assessment periods may limit ability to identify frailty reversal; however, reversal of VA-FI has been identified in trajectory analysis.⁶

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References and Resources

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