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Specialized Risk Adjustment for Vulnerable Populations

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Risk adjusting based on frailty

What we did:

JEN developed a risk-adjuster for patient frailty

Why we did it:

- Most risk adjustment tools are <u>actuarially based</u> (HCC) or <u>medically focused</u> (CDPS, Charlson Comorbidity Index)
- ADL & IADL needs are a key risk indicator for elders and adults with disabilities but are only assessed for those with service needs
- JEN Frailty Index (JFI) predicts:
  - long-term institutionalization,
  - Hospitalization & re-hospitalization,
  - mortality and
  - total health care payments
- Risk tools for targeting services and quality measurement for vulnerable populations must use blended clinical and actuarial models

JFI was validated by VA

GECDAC, a research division within the Veterans administration, used the 2004 National Long Term Care Survey (linked to Medicare and VA utilization data) to validate the JFI.

JFI predicted LTI admissions as effectively as the ADLs scores.
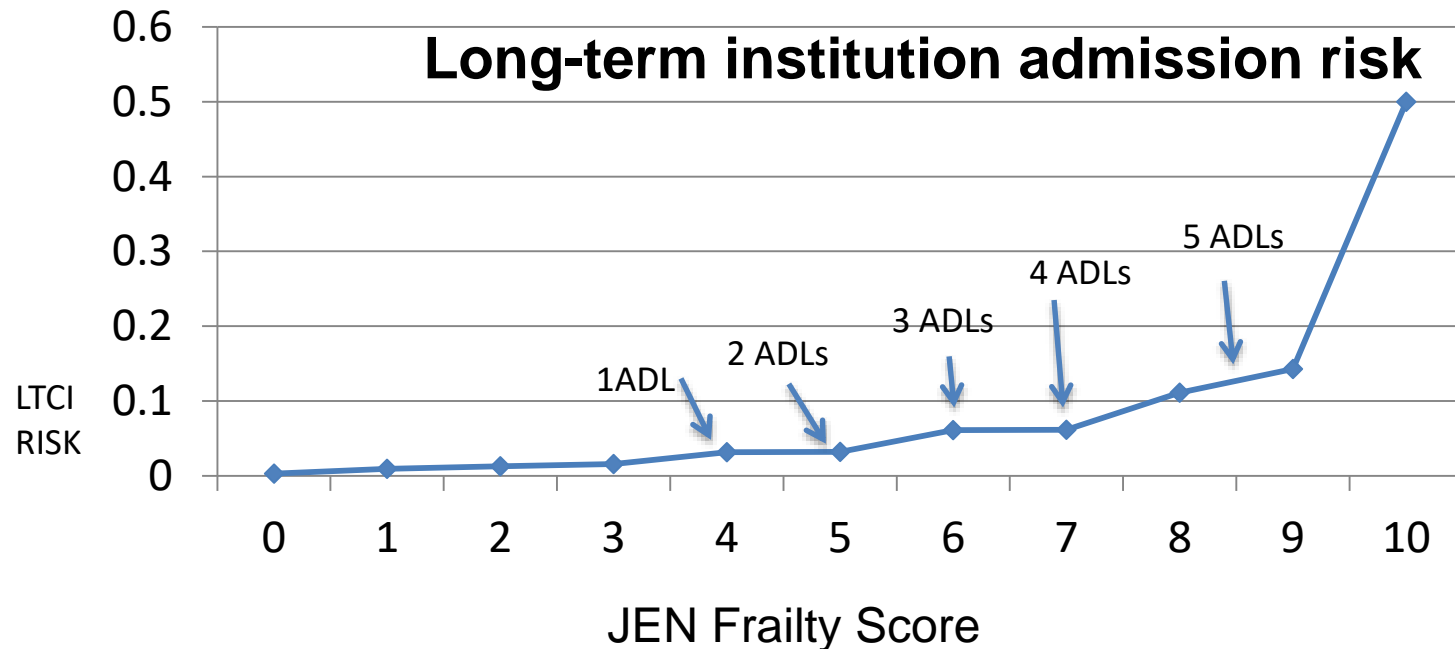
JFI predicted 5-Year Community Stays as effectively as ADL count

Fig 1d. Product-Limit Survival Estimates by Disable Groups in NLTCS 2004 (HMO=0)
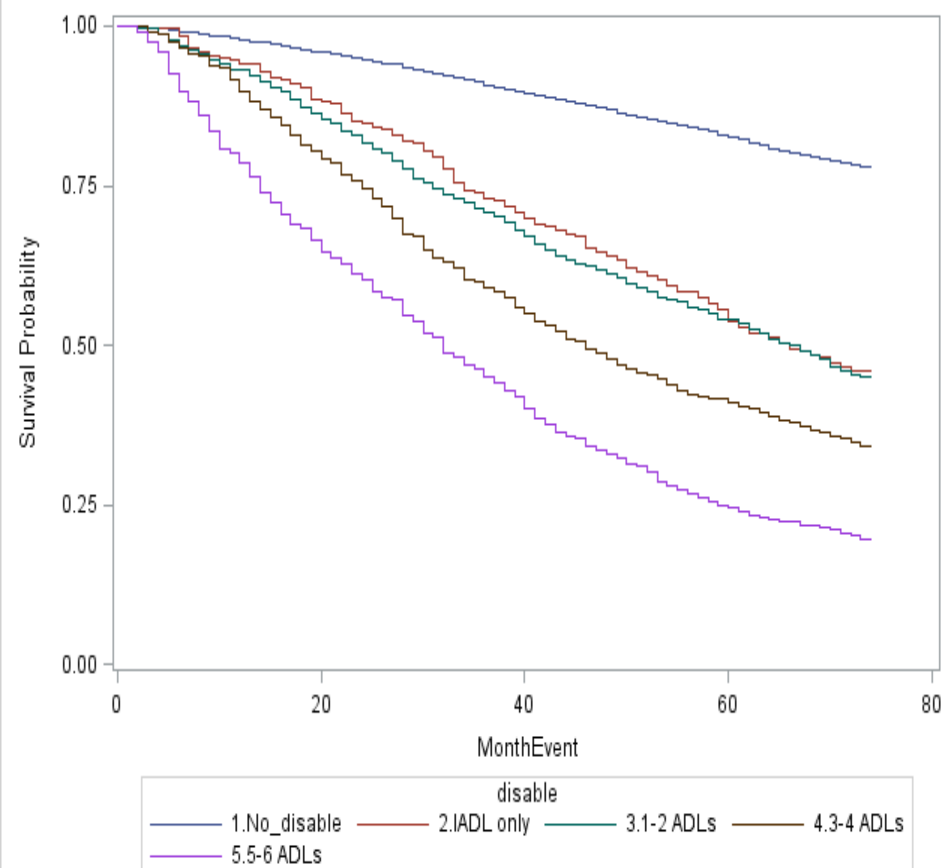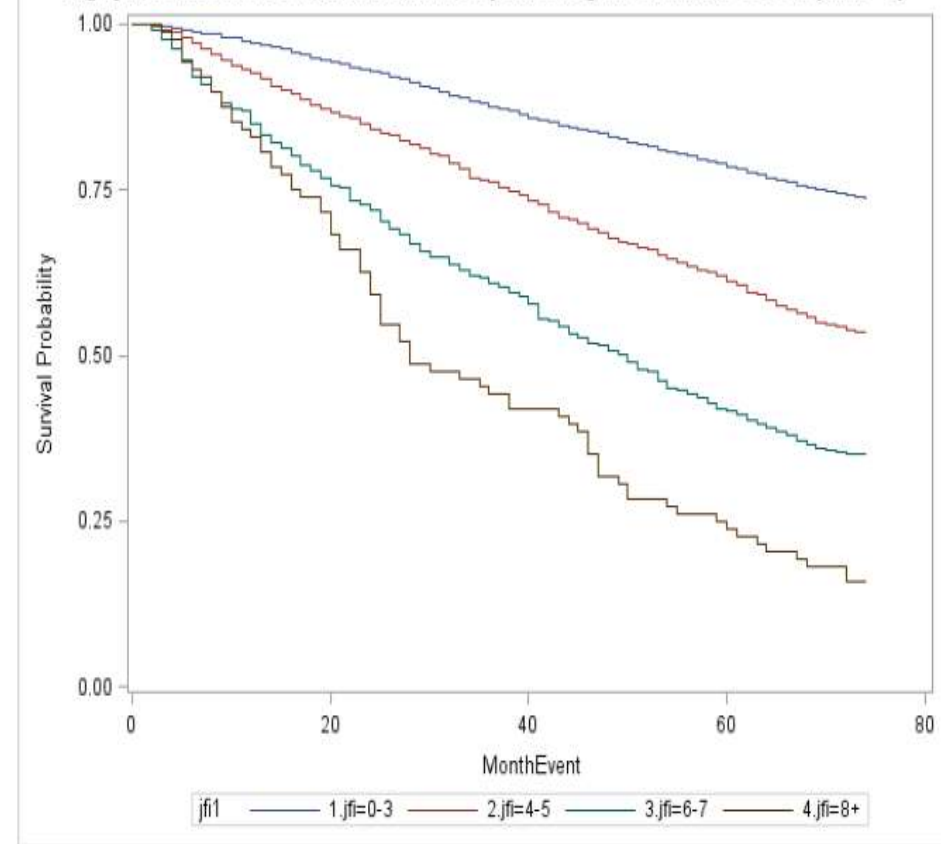
Fig 1j. Product-Limit Survival Estimates by Jfi Categories in NLTCS 2004 (HMO=0)

VA Conclusions

- JFI discriminates high ADL dependent individuals from those with low or no ADL dependencies (ROC .80)*

- JFI identifies those with high LTI risk (ROC .84-.91)

- ADL counts have a higher sensitivity, but JFI has excellent specificity (95%) and can be used when ADL information is not available.

*ROC=Receiver Operating Characteristic

JFI is more effective than HCC in predicting total expenditures
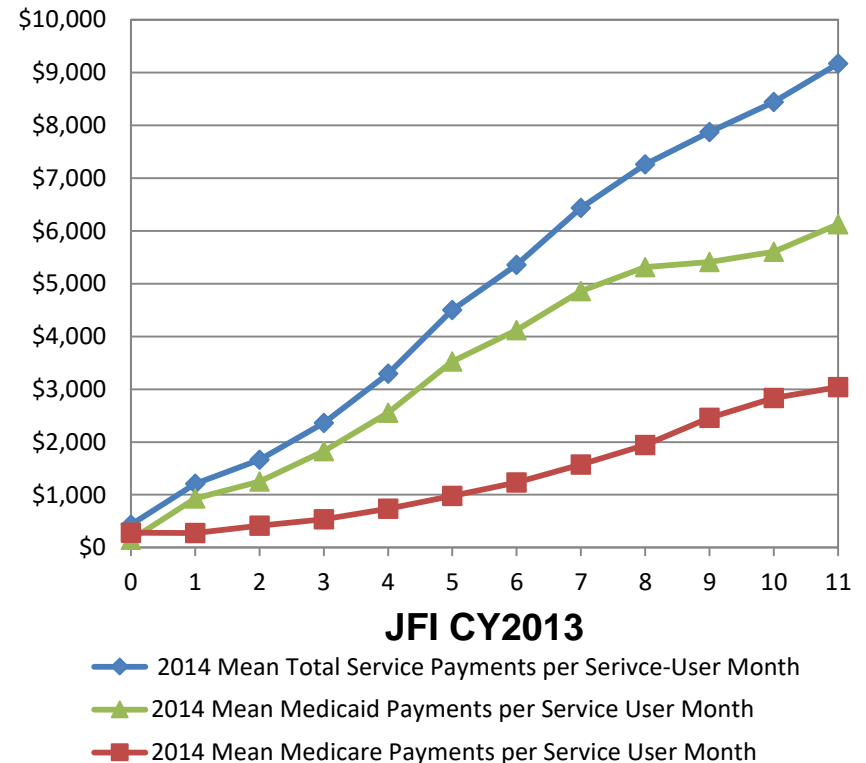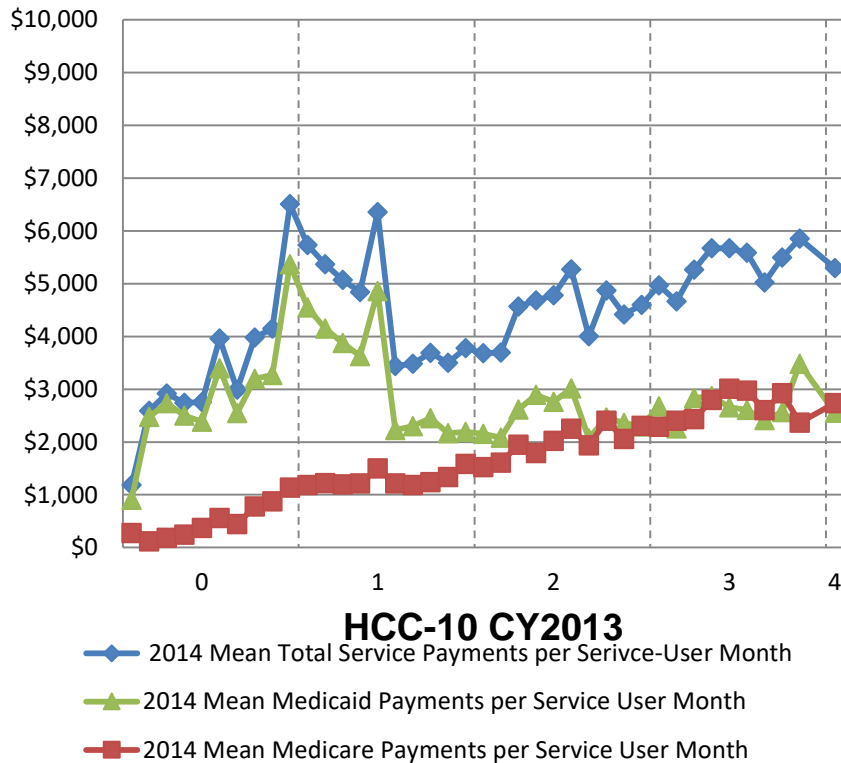
Source: Using a Claims-based Frailty Score to Predict Healthcare utilization and costs.
Gilden, DM, et al., publication forthcoming.

Vulnerable populations require risk tools that blend clinical and actuarial models and focus on impairments

Predicting Risk of Adverse Outcomes

Legend:
- Hospitalization
- Re-hospitalization
- Nursing home Entry
- Death

Y-axis: % OF POPULATION YEAR 2
X-axis: JFI SCORE YEAR 1