

Long-Run Impact of Demographic Shifts: Effects of Controlling for Changing Longevity

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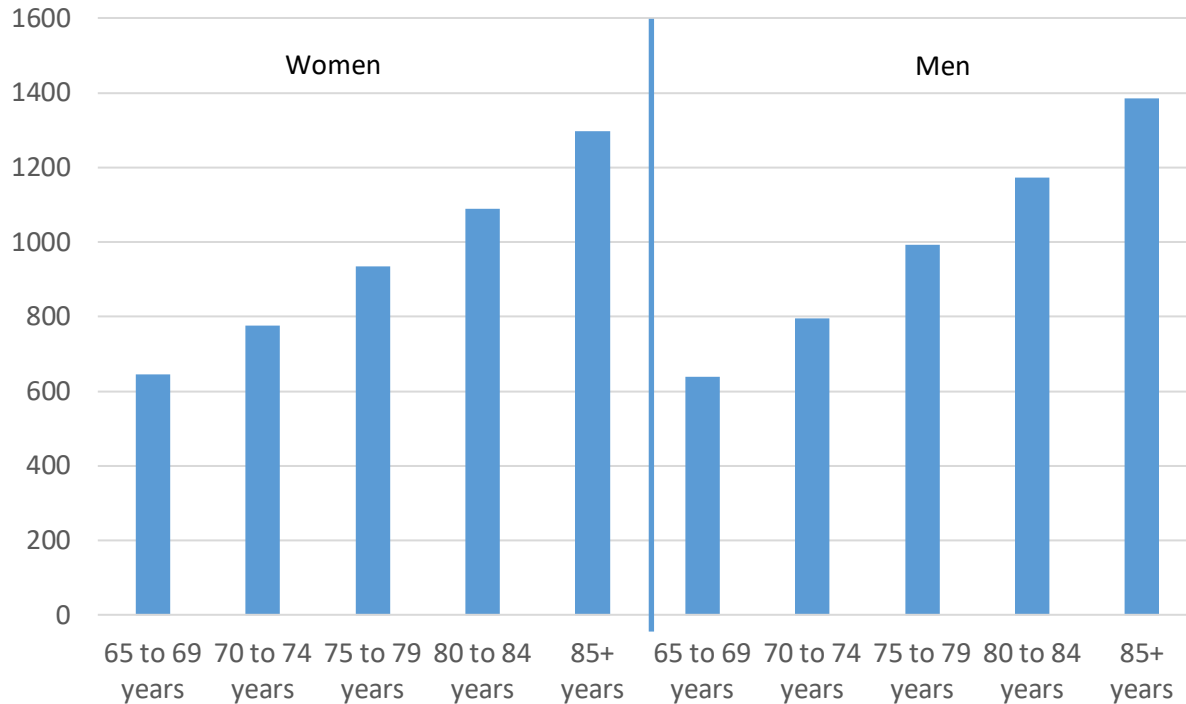


Note: The numbers here are based on the 2020 Medicare Trustees Report and therefore do not reflect the impact of the Covid-19 pandemic. However, because this presentation is focused on long run (75 years) projections, when the estimates are updated to include pandemic impacts, these long run conclusions are not likely to be significantly impacted.

Background

- Population is aging in the US and many other countries
- The “Red Herring” debate
 - If spending is driven by older age, then population aging will contribute to higher spending
 - But if spending is driven by the imminence of death, then population aging will likely NOT increase spending as rapidly as many fear
- Empirical results suggest that
 - Age is not a significant predictor of spending when proximity to death is included as well (e.g., Lubitz and Prihoba 1984, Lubitz, Beebe and Baker 1995)
 - About 25% of Medicare fee-for-service expenditures each year is spent on the 5% decedents (e.g., Riley and Lubitz 2010)
 - If time to death (TTD) is included, projected Medicare spending will be substantially lower (e.g., Miller 2001; Stearns and Norton 2004)
- The 2016 Medicare Technical Panel recommended OACT to explore this issue

Average Real Medicare Spending, 1991-2017



Age	Time to death (years)					
	0	1	2	3	4	5+
65 to 69 years	\$6,214	\$2,725	\$1,772	\$1,407	\$1,204	\$458
70 to 74 years	\$6,154	\$2,629	\$1,721	\$1,391	\$1,188	\$535
75 to 79 years	\$5,821	\$2,440	\$1,637	\$1,343	\$1,164	\$617
80 to 84 years	\$5,189	\$2,196	\$1,508	\$1,265	\$1,106	\$672
85+ years	\$4,021	\$1,821	\$1,319	\$1,140	\$1,015	\$703

* Spending is per member per month (PMPM). Spending is in 2012 dollars, deflated by GDP deflator.

** Mean reflects average for all enrollees.

Comparison of Two Approaches to Projection

Age-Sex

- Spending by age-sex remains constant throughout the projection period
- Distribution of Medicare aged fee-for-service population by age-sex varies over the projection period
- As more live to older ages, spending will rise since older age is associated with higher spending

Age-Sex-TTD

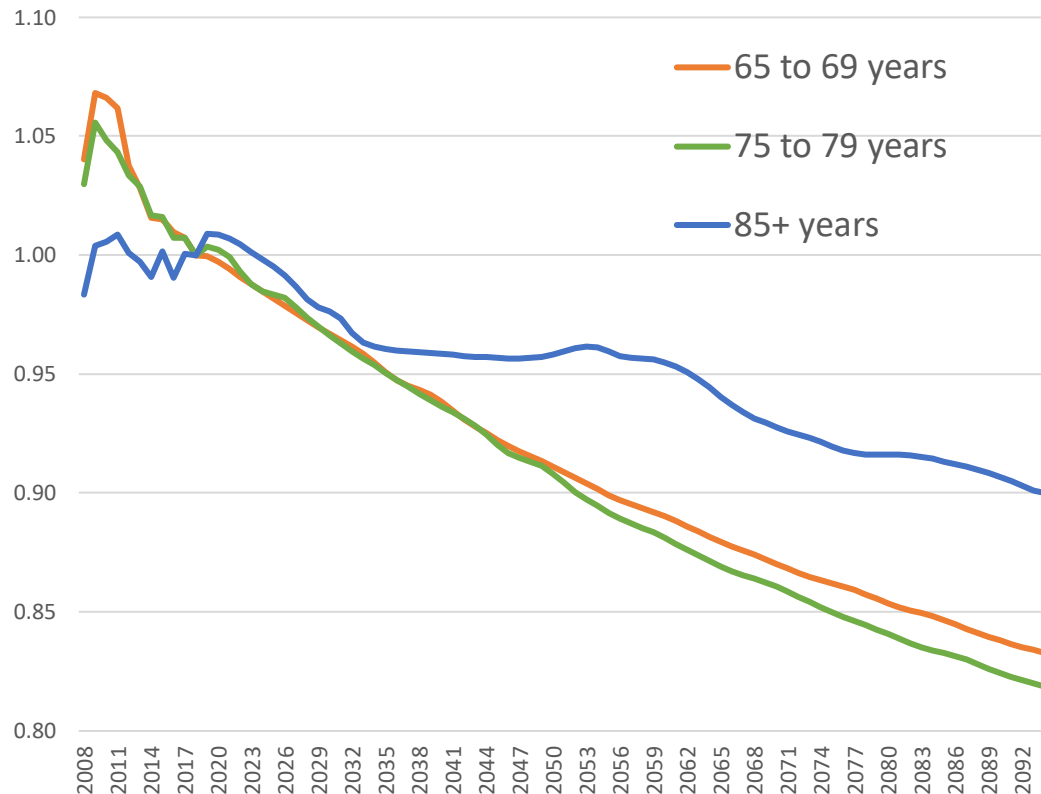
- Spending by age-sex-TTD remains constant throughout the projection period
- Distribution of Medicare aged fee-for-service population by age-sex-TTD varies over the projection period
- As a result, average spending by age-sex varies over the projection period
- As more live to older ages, spending will rise less rapidly since longevity continues to improve and more seniors (%) are moving away from death each year

Data and methods

- The new age-sex-TTD adjustment is applied to the projection of fee-for-service (FFS) spending in the 2020 Trustees Report (TR)
- Distribution of FFS beneficiaries by age-sex-TTD
 - Based on age-sex-specific mortality projections from the Social Security Administration
 - TTD distribution is derived using the cohort approach to reflect both individual aging and mortality change over time
 - Projected mortality of the FFS benes are adjusted to reflect the historical differences between the FFS and MA population
- Spending by age-sex-TTD
 - For TR20, we use three-year average spending by age-sex-TTD in 2013-2015 as baseline and keep it constant throughout the projection period

Inpatient Spending (relative to 2018) by Age Group

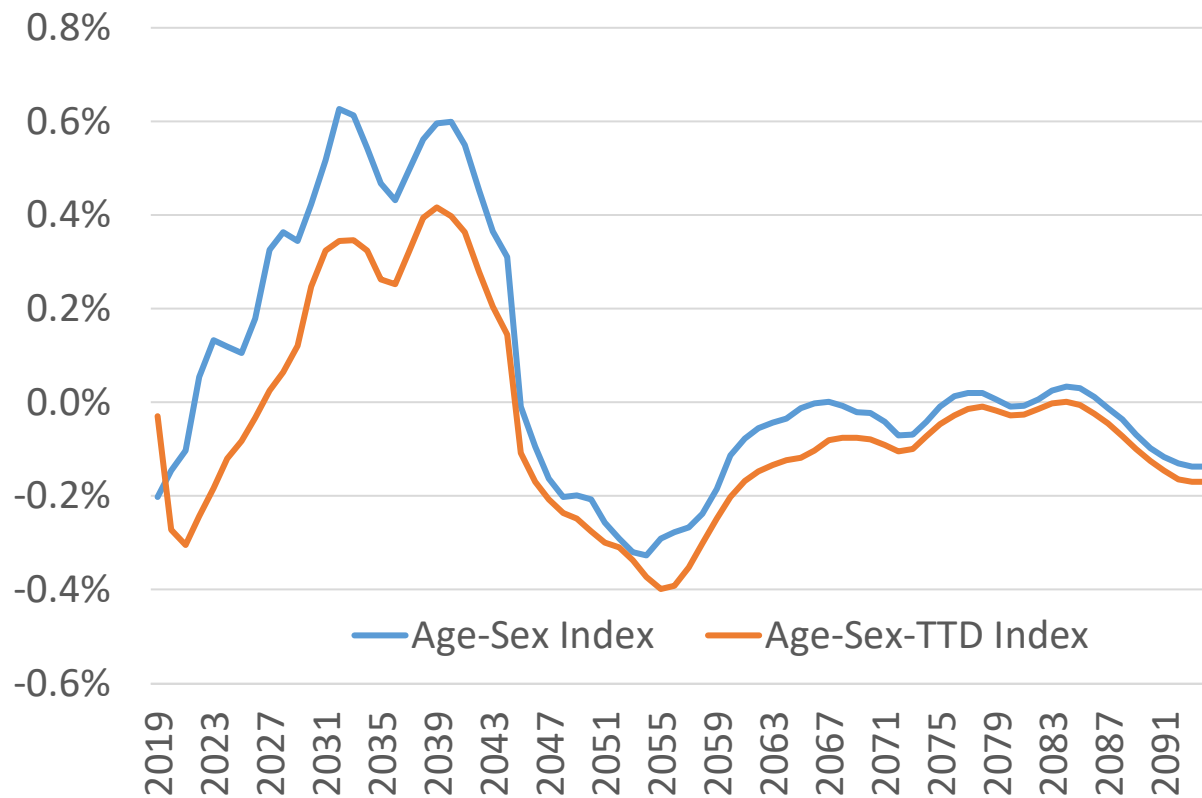
Inpatient Spending (per member per month)



- This figure shows that relative spending by age, holding everything else constant, would decline over time when TTD is taken into account.
- This is because a larger percentage of people in every age group would survive every year if mortality continues to improve.
- But the effect differs across age groups since rate of mortality improvement differs

Result: Impact on the 2020 TR

Contribution of Demographic Change to Growth In Medicare Spending
Per member per month, Parts A, B, and D (%)

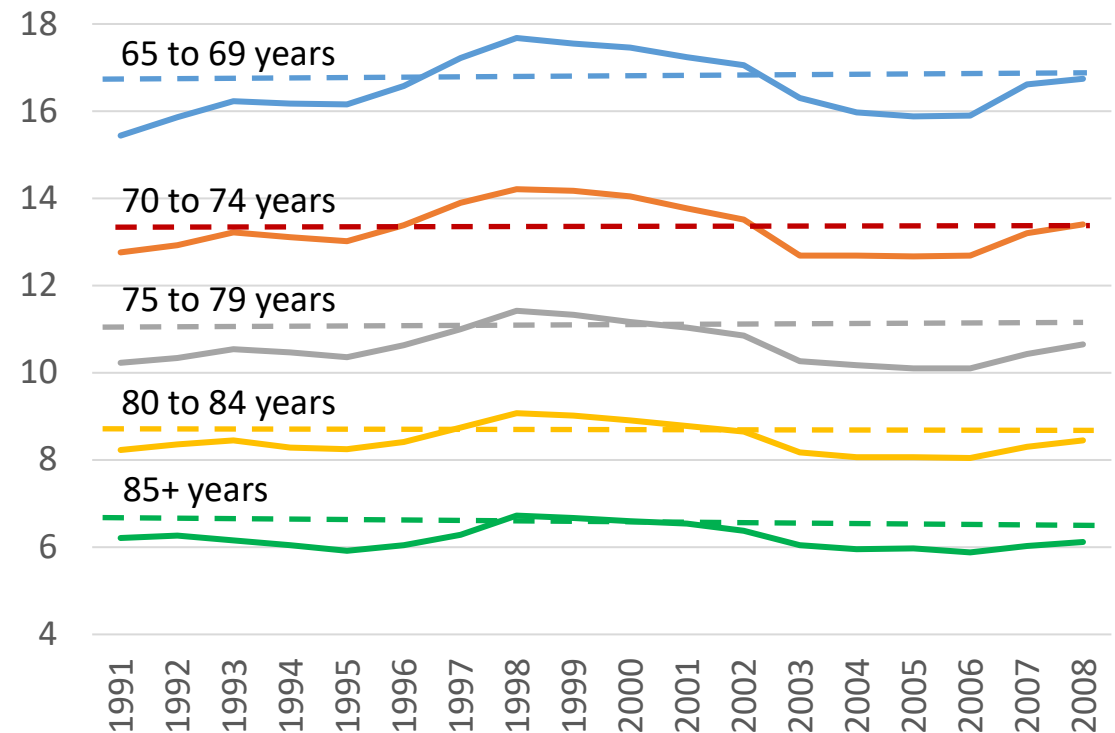


- Overall the impact of demographics on spending growth changed from 0.06% to -0.05%
- Part A – Actuarial balance would change from -1.03% to -0.76% (a drop of 26%)
- Part B – As a share in GDP in 2094, expenditures would fall from 3.6% to 3.5% (a drop of 3%)
- Part D – As a share in GDP, expenditures would fall from 1.0% to 0.95% (a drop of 5%)

Discussion and Conclusion

- Demographic adjustment by age-sex-TTD yields a more realistic assessment of the impact of population aging
- The key driver is that longevity improvement yields lower spending by age and sex
- Assumption of constant spending by age-sex-TTD
 - OACT will keep monitoring the spending trend and evaluate its appropriateness
- More details at <https://www.cms.gov/research-statistics-data-systems/trustees-report-trust-funds/time-death-demographic-factors>

Ratio of Real Spending PMPM for TTD=0 to TTD=5+ years by age group



Thank You!