Improving economic conditions matter for healthcare consumption, care quality, and outcomes among Medicare fee-for-service beneficiaries in the U.S.

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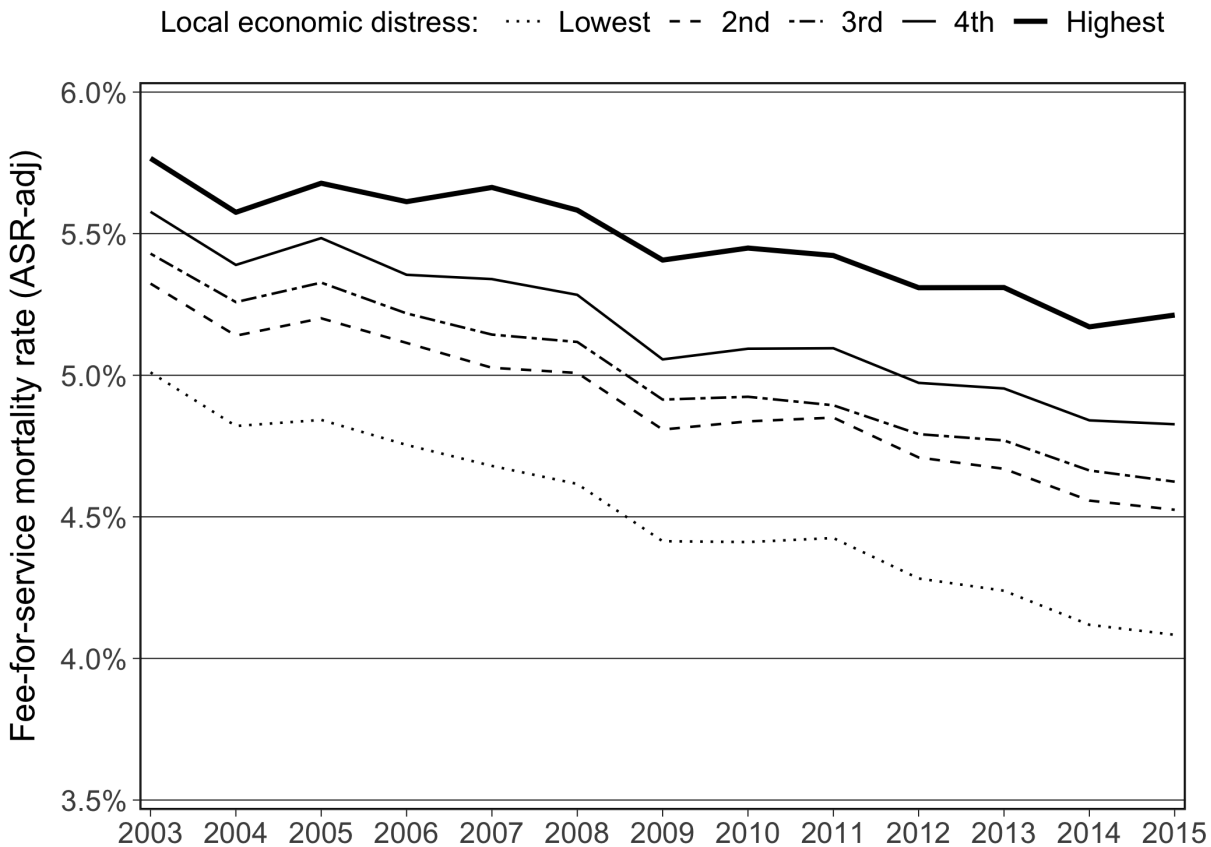
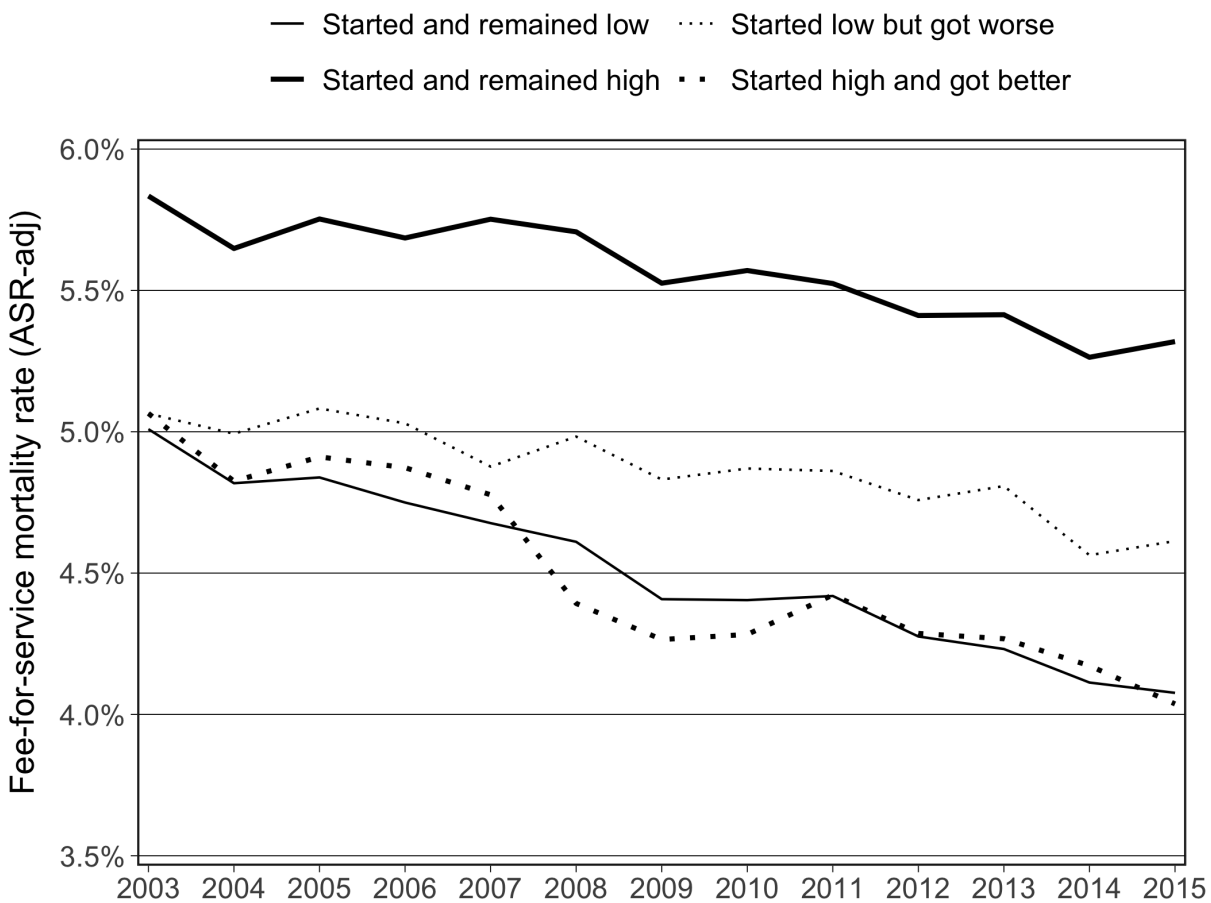
Mortality, by local economic distress (Medicare A + B)



Wallace et al., 2021, *J Gen Intern Med*

- decreasing since 2003
- consistently higher in the more-distressed HSAs

Mortality, according to **change** in distress



Wallace et al., 2021, *J Gen Intern Med*

- HSAs with dramatic economic improvement resemble prosperous ones.
- HSAs with dramatic economic decline diverge from the prosperous ones.

Objective

- extend to analysis according to **change** in prosperity, for per-capita medical admissions, elective surgeries, primary care, and spending data for Medicare (A + B) beneficiaries aged 65 and older (Dartmouth Atlas)

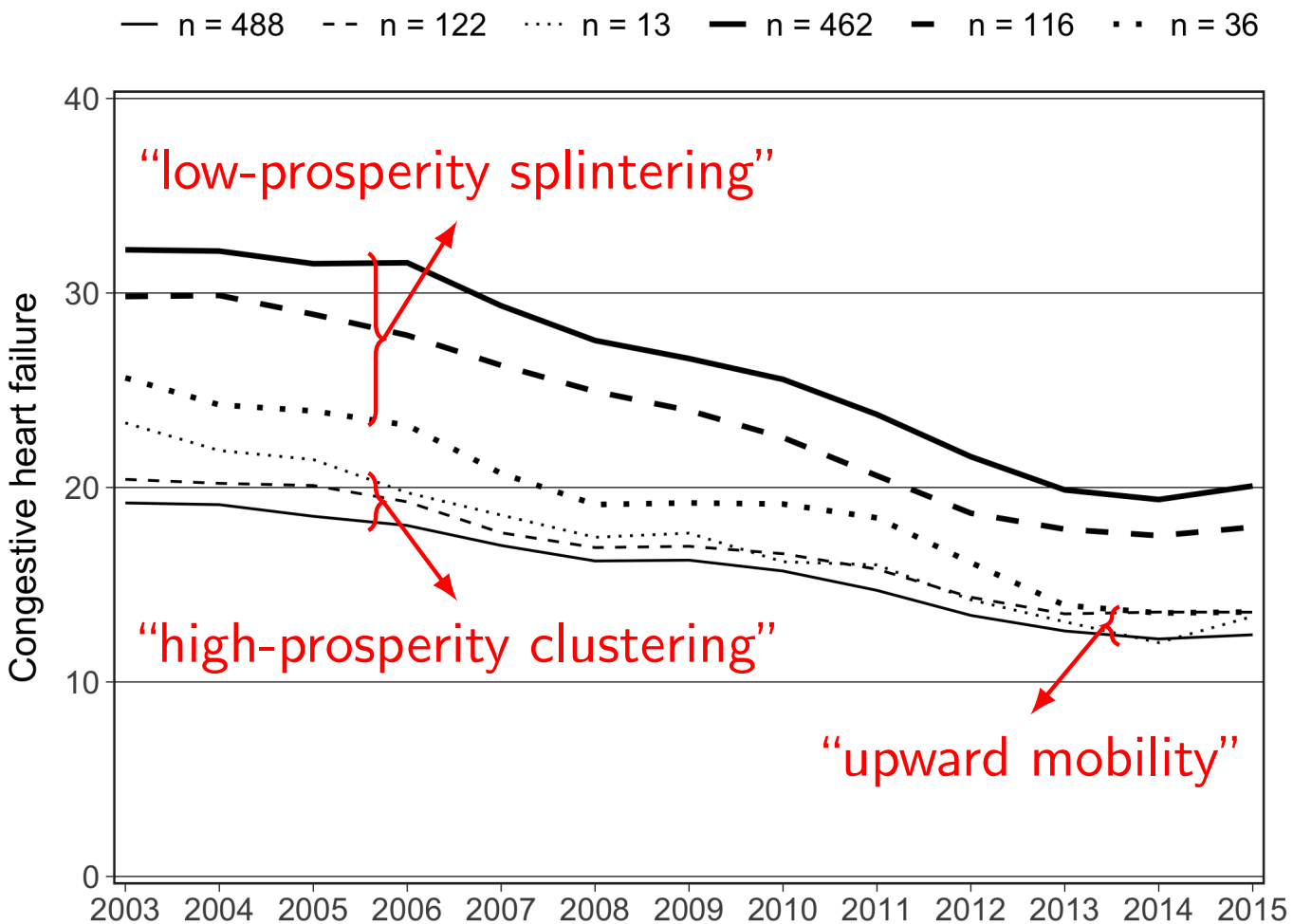
How well do healthcare utilization patterns fit this profile:

- "High-prosperity clustering" (HPC) — Do the most-prosperous HSAs have healthcare consumption patterns that are "immune" to economic decline?
- "Low-prosperity splintering" (LPS) — Do HSAs that see dramatic economic improvement adopt healthcare use patterns that diverge from those of HSAs that did not see such improvement?
- "Upward mobility" (UM) — Do HSAs that see dramatic economic improvement adopt healthcare use patterns that come to resemble those of the most-prosperous HSAs?

Method

- ZIP-level economic prosperity scores (Distressed Communities Index [DCI], Economic Innovation Group)
  - enrollee-weighted to obtain HSA-level prosperity scores
  - assigned 3,212 HSAs to prosperity quintiles in 2000 and 2015
  - grouped HSAs into six prosperity-change cohorts:
    - (▬▬) started and remained unprosperous (lowest quintile)
    - (▬ ▬) started unprosperous and got slightly better (↑ 1 quintile)
    - (▪▪▪▪) started unprosperous and got much better (↑ at least 2 quintiles)
    - (——) started and remained prosperous (highest quintile)
    - (– –) started prosperous and got slightly worse (↓ 1 quintile)
    - (·····) started prosperous and got much worse (↓ at least 2 quintiles)
- compared healthcare usage between prosperity-change cohorts (for each metric, in each year in 2003–2015; enrollee-weighted, Bonferroni-corrected ANOVAs and post-hoc pairwise comparisons, with $\alpha = 0.05$):
  - signif. difference in (▬) v. (▪▪▪) ⇝ LPS
  - non-s. difference in (—) v. (····) ⇝ HPC
  - non-s. difference in (—) v. (▪▪▪) ⇝ UM

Medical admissions — congestive heart failure (per k)



Wallace et al. (In press)

Main findings — medical admissions

Care metric	**ANOVA**	**HPC**	**LPS**	**UM**
ACSC	X	X	X	.
Bacterial pneumonia*	X	X	X	X
Congestive heart failure*	X	X	X	X
COPD*	X	X	X	X
Kidney/urinary infection	X	X	.	X
Total medical admissions	X	X	X	.

Main findings — elective surgeries

Care metric	**ANOVA**	**HPC**	**LPS**	**UM**
Coronary angiography*	X	X	X	X
Knee replacement	.	—	—	—
Total elective surgeries*	X	X	X	X

Main findings — primary care services

Care metric	**ANOVA**	**HPC**	**LPS**	**UM**
Ambulatory visits	X	.	X	X
Eye exam (diabetics 65–75)	X	X	.	.
A1c test (diabetics 65–75)	X	X	.	.
LDL-C test (diabetics 65–75)	X	X	.	.

Main findings — Medicare expenditures

Care metric	**ANOVA**	**HPC**	**LPS**	**UM**
Durable medical equipment	X	X	X	.
Home health	X	X	.	.
Hospital/SNF	X	X	.	.
Outpatient	X	X	.	X
Physician*	X	X	X	X
Total ependitures	X	X	.	.

Discussion

- 6/19 care metrics were characterized by HPC, LPS, and UM: Bacterial pneumonia, congestive heart failure, COPD; Coronary angiography; Total elective surgeries; Physician expenditures
  - The most-prosperous HSAs had healthcare consumption patterns that were "immune" to economic decline (HPC).
  - Increases in economic prosperity were associated with significant changes in healthcare usage patterns, away from those of the least-prosperous HSAs (LPS)...
  - and toward those of the most-prosperous (UM).

Discussion

- Less-prosperous HSAs had:
  - higher rates of avoidable admissions;
  - higher rates of elective surgeries;
  - lower rates of appropriate primary care services; and
  - higher healthcare spending.

Improvements in local economic conditions for specific populations may have health services utilization and quality consequences.

Limitations: Medicare fee-for-service data, time period (2003–2015), specific measure of economic prosperity (DCI).

References

Wallace HOW, Fikri K, Weinstein JN, Weeks WB. Local economic distress, unhealthy behaviors, use of preventive services, and health outcomes: An observational study. (In press)

Wallace HOW, Fikri K, Weinstein JN, Weeks WB. Improving economic conditions matter for mortality: Changes in local economic distress associated with mortality among Medicare fee-for-service beneficiaries between 2003 and 2015. *J Gen Intern Med*, **2021**. https://doi.org/10.1007/s11606-020-06410-z.