



Advising the Congress on Medicare issues

Stability of year-to-year physician resource-use measurement using episode groupers

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Commission's work on physician resource-use measurement

- March 2005 recommendation that CMS measure physicians' resource use and provide confidential feedback
- Episode groupers appear suitable for Medicare claims data
 - More than 95 percent of Medicare claims grouped to episodes across 6 MSAs
 - Assignment of claims to episodes has face validity

Importance of year-to-year stability of physician resource-use measurement

- Now have 2002 and 2003 episodes
- Stability of resource-use measurement would further indicate that episode groupers are suitable for Medicare claims data

Comparing physicians' resource use to their peers'

- Expand on observed-to-expected ratios
- Two statistical models:
 - Multilevel regression
 - Monte Carlo randomization

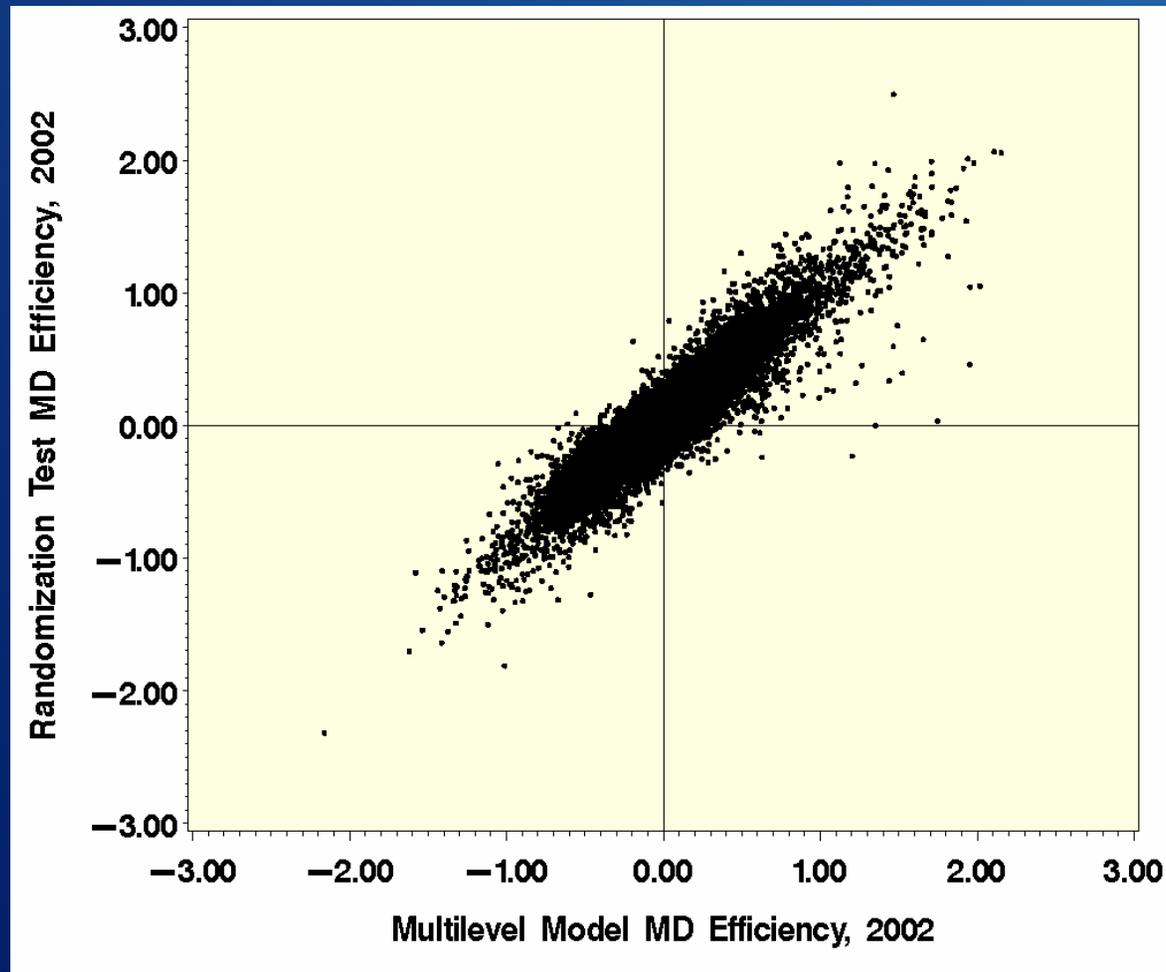
Multilevel regression

- Commonly used for physician and hospital profiling applications
- Using this approach, physicians' differences from the mean form the basis for each physician's estimated "efficiency" score

Monte Carlo randomization

- Compares specific episode/severity/disease-stage to other episodes with the same characteristics
- Creates a distribution by randomly drawing episodes similar to the physician's episodes and then compares the physician's observed resource use to the expected resource use shown by the distribution

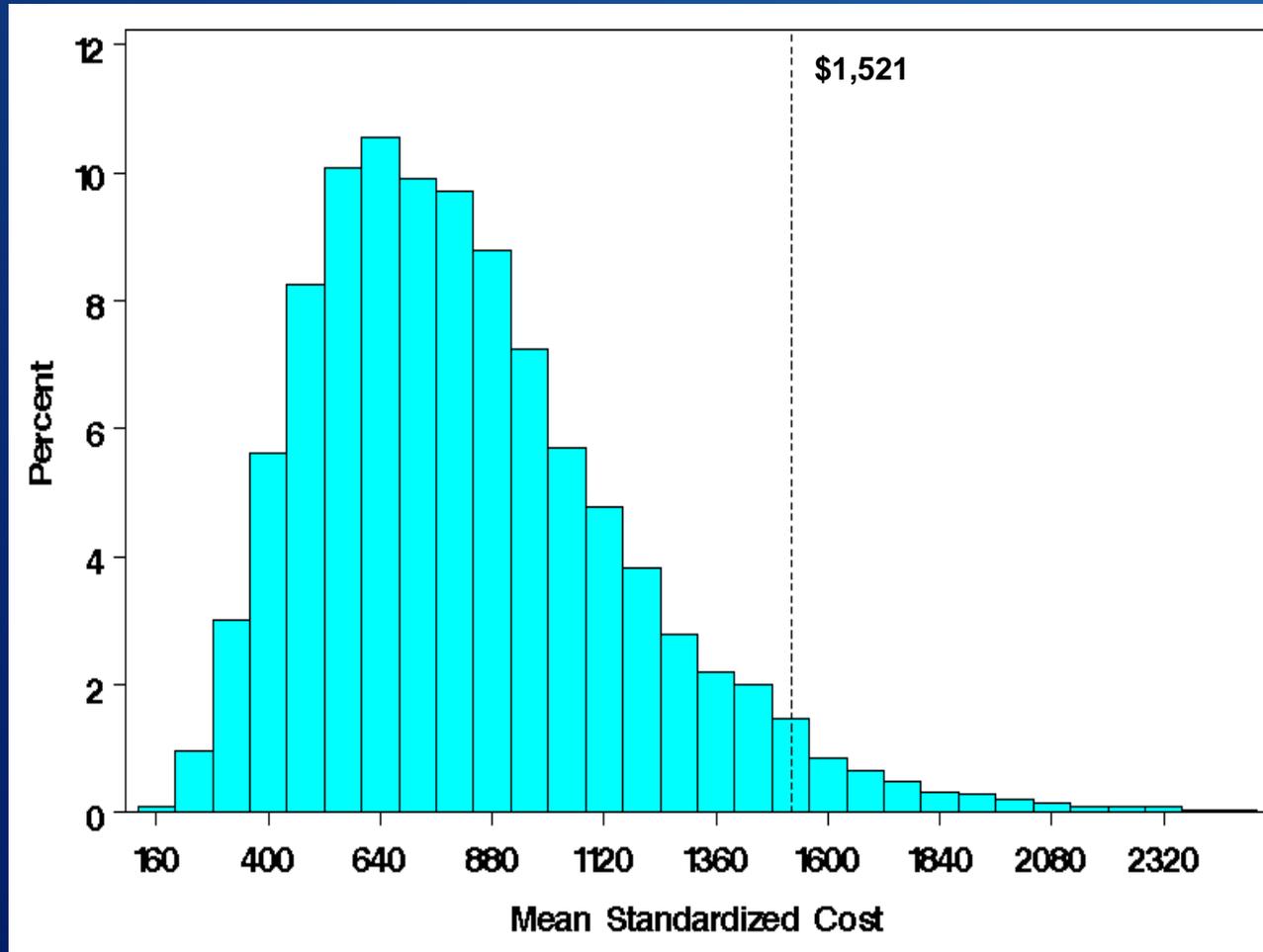
Multilevel regression and Monte Carlo randomization models produced similar results for 2002



The Monte Carlo model matches a physician's episodes to 10,000 samples of similar episodes

Episode	MEG (episode type)	Stage	Risk score	Observed spending
1	180	1	1	\$334
2	184	1	1	3,475
3	192	1	1	1,188
4	331	1	3	264
5	331	2	3	3,995
...22				
			Mean	1,521

Distribution of mean resource use for 10,000 Monte Carlo samples matched to a physician's mix of episodes



Correlations show that physicians' efficiency scores are stable, 2002 to 2003

MSA	Multilevel	Monte Carlo
Boston	0.90	0.87
Greenville	0.91	0.89
Miami	0.88	0.86
Minneapolis	0.86	0.84
Orange County	0.89	0.84
Phoenix	0.90	0.88
Total	0.89	0.87

Physicians who were outliers in 2002 tended to remain outliers in 2003

- In 2002 there were 611 physicians identified as outliers
- 572 of the 611 (94 percent) were also identified as outliers in 2003
- The 6 percent who were identified as outliers in 2002, but not in 2003, may not have been outliers in 2002 or may have changed their practice patterns

Conclusions and future work

- Year-to-year stability results are encouraging
- Results for the specialties analyzed thus far are similar to the overall results
- Thomson is also exploring alternative attribution methods
- We plan to also conduct stability analyses using ETGs