

*Advising the Congress on Medicare issues*

# Regional variation in Medicare service use and prescription drug use

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# Background

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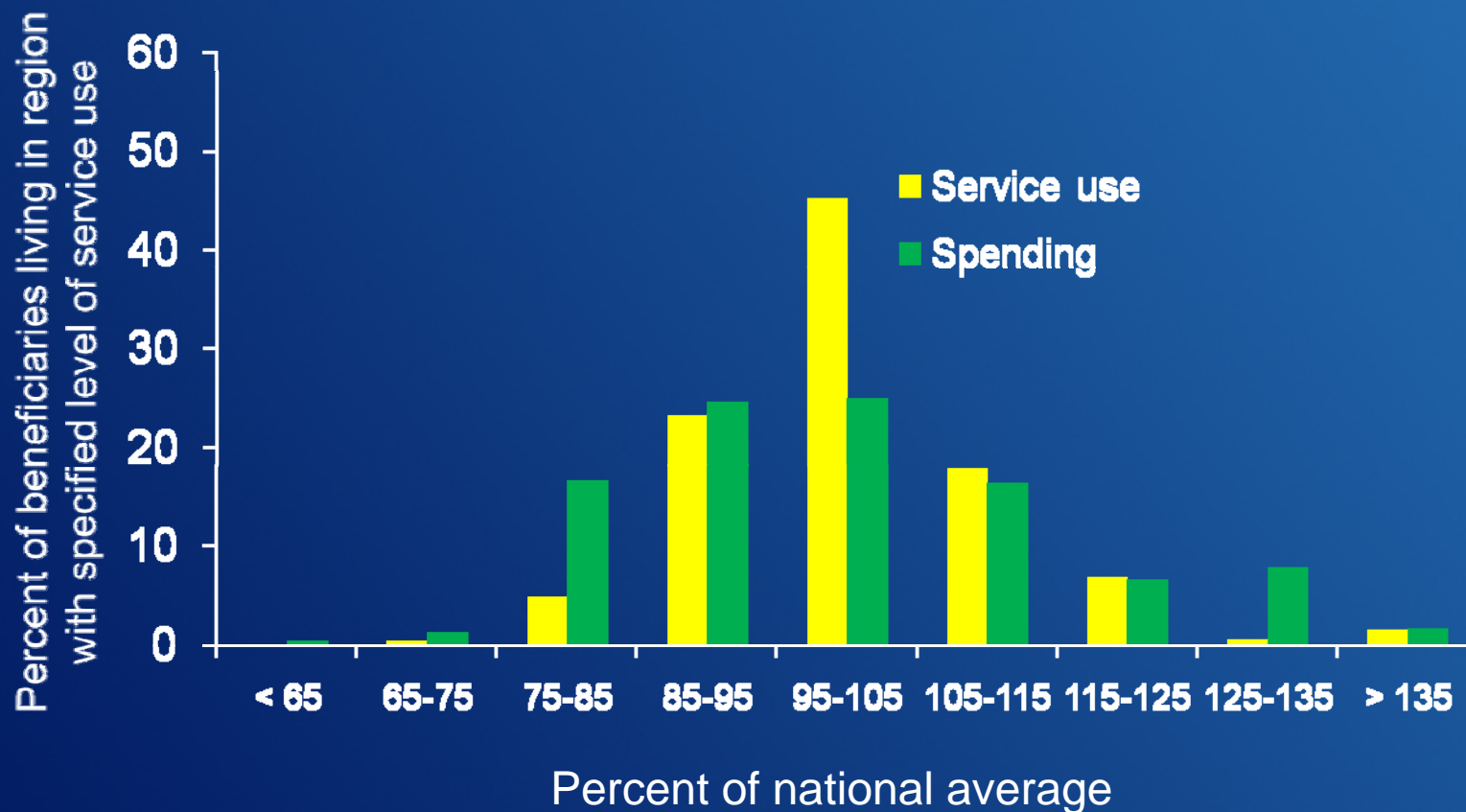
- Many studies indicate large regional variation in service use in FFS Medicare
- Because of this variation, some argue that Medicare spending can be reduced
- We extend our previous work in two ways
  - Use different data source and adjustment method to obtain measures of service use
  - Add prescription drug use to analysis of service use

# Analysis focuses on service use—not raw spending

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- Our data sources give us raw spending
- Adjust spending for regional differences in
  - Prices (e.g. HWI)
  - Special payments (IME, DSH, GME, rural hospitals, HPSA, PSA)
  - Demographics, health status
- Result: Regional service use reflecting differences in providers' practice patterns and patients' care decisions

# Previous work: Service use has less variation than spending



Note: Results based on OACT data from 2005 through 2007. Service use is estimated as spending adjusted for input prices, special payments to providers, demographics, and health status.

# Old and new methods

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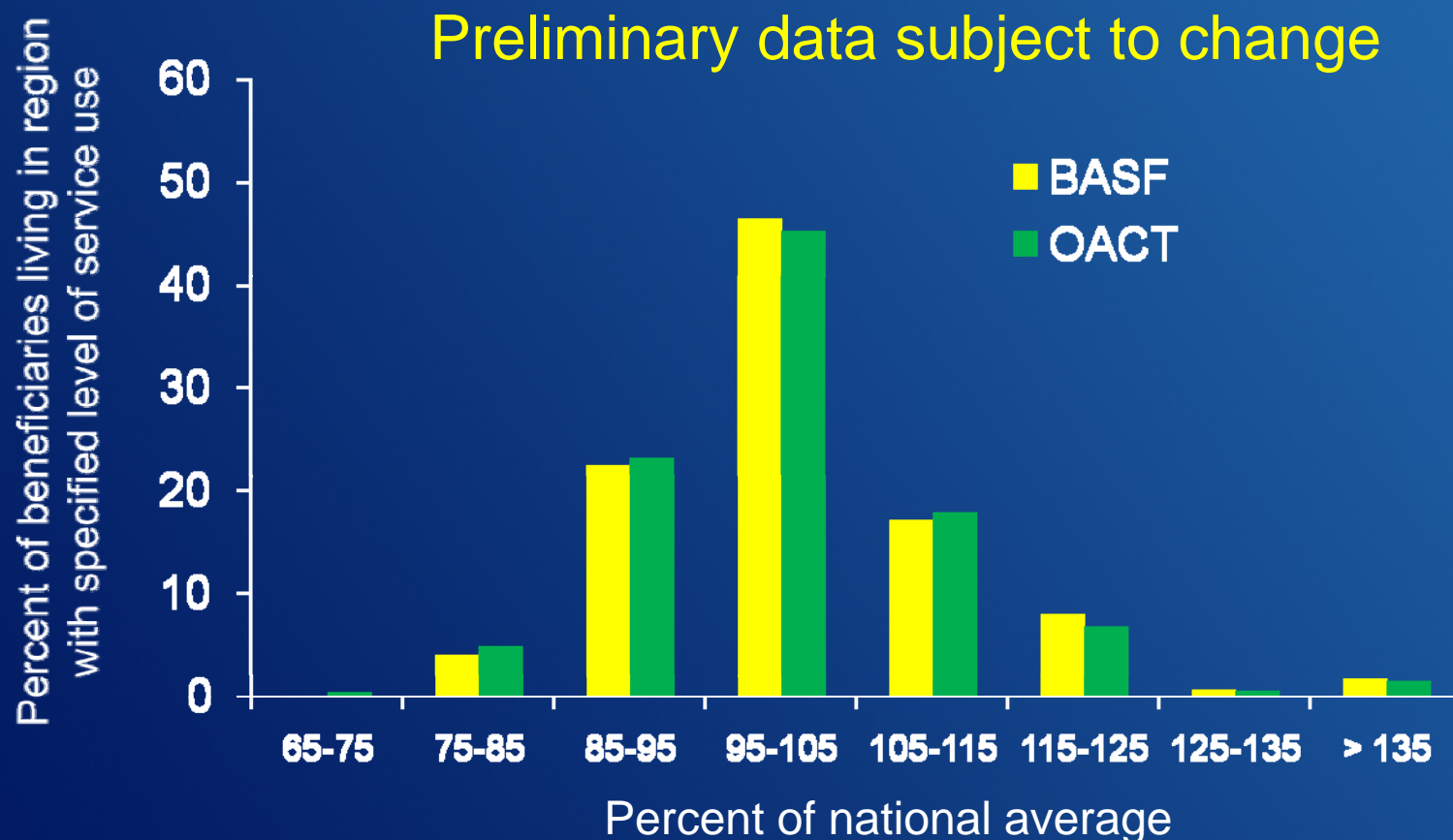
- Old method (December 2009):
  - Started with county-level spending from OACT
  - Used arithmetic methods to adjust spending to obtain service use at regional level
- New method:
  - Started with beneficiary-level spending from beneficiary annual summary file (BASf)
  - Used regression model to adjust spending to obtain regional service use

# Key points of methods

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- Regions: MSAs for urban areas, rest-of-state nonurban for all others
- Old method: Adjusted for health status using county average risk scores from CMS-HCC for FFS beneficiaries
- New method: Regression includes demographics, CMS-HCC health factors, indicators for each region

# Service use is similar with OACT (old) and BASF (new) data



Note: Results based on OACT data from 2005 through 2007 and BASF data from 2006 through 2008. Service use is estimated as spending adjusted for input prices, special payments to providers, demographics, and health status

# Difference in service use at extremes is similar between data sources

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- Service use at 90<sup>th</sup> percentile compared to 10<sup>th</sup> percentile
  - OACT: 90<sup>th</sup> percentile is 29% greater
  - BASF: 90<sup>th</sup> percentile is 30% greater



# If results are similar, why use new data and method?

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- BASF data at beneficiary level
  - Able to analyze subsets of beneficiaries
  - More accurate health adjustment (CMS-HCC is also beneficiary level)
- BASF has seven spending categories (provider types); OACT has two categories (Parts A and B)
- More disaggregation allows for better understanding of drivers of variation

# Method used to analyze regional variation in drug use

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- Part D prescription drug event data (2007 & 2008) for stand-alone PDP enrollees
- Drug use is gross drug spending adjusted for:
  - Prices
  - Demographics, health status
  - Other factors (e.g. low-income subsidy status)
- Used a regression model to adjust drug spending to obtain regional drug use

## Drug use is more concentrated than medical service use for PDP enrollees

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- % of PDP enrollees in areas with service use within +/-15% of the national average:
  - 98% for drug use
  - 82% for medical service use
- Area at the 90<sup>th</sup> percentile vs. area at 10<sup>th</sup> percentile:
  - 20% more for drug use
  - 32% more for medical service use

# Do areas that use more medical service also use more drugs?

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- No consistent relationship between drug use and medical service use at the MSA level
- Combined medical service and drug use varies less than medical service use alone

# Combined use varies less than medical use alone

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- % of PDP enrollees in areas with service use within +/-15% of the national average:
  - 91% for combined (medical service/drug) use
  - 82% for medical service use
- Area at the 90<sup>th</sup> percentile vs. area at the 10<sup>th</sup> percentile:
  - 24% more for combined use
  - 32% more for medical service use

# Summary

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- Service use varies less than spending for all types of services
- Large differences in service use remain, even after controlling for prices, demographic characteristics, and health status
- No consistent relationship between drug use and medical service use at MSA level

# Discussion

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- Any questions or comments on the presentation?
- Any implications for policy?
- Potential future direction:
  - Analysis of regional variation by sector
  - Exploring relationship between medical service use and drug use for a subset of population
  - Other suggestions?