

# Geographic Variation in Medicare Spending

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# Geographic Variation

## **Why are we concerned about geographic variation in Medicare spending?**

- Does increased spending imply better health outcomes?
- How do we justify variation in Medicare expenditures if we don't see better outcomes associated with higher costs?

# Geographic Variation

## Overview

### ■ Goal:

- Review how Medicare adjusts reimbursement levels by geographic region, teaching affiliations, etc. and
- describe the importance of readjusting cost estimates so that high costs represent differences in intensity of services versus differences in Medicare reimbursement levels and/or health status.

# Geographic Variation

## Medicare Price Adjustments

- Medicare reimburses health care providers for hospital admissions based on diagnostic-related groups (DRGs).
  - CMS assigns a given DRG “weight” based on the estimated amount of resources necessary to provide a service.
  - For example, in 2007:
    - » Stent for major cardiovascular event: weight = 2.7
    - » Bypass surgery: weight = 6.1
    - » National average reimbursement rate = \$5,301/DRG weight
- Actual payments per DRG vary considerably across Health Referral Regions (HRRs) (Dartmouth Atlas)

# Geographic Variation

## Medicare Price Adjustments

- In addition to base DRG rates, Medicare adjusts reimbursement rates for each procedure, treatment or physician visit for the following (regional) differences:
  - Cost of living (NY vs ND) adjusted by wage index
  - Higher payments to hospitals with medical and surgical residency training programs
  - Disproportionate share hospital (DSH) payments designed to compensate hospitals that serve a high percentage of low-income patients
- Thus, health services performed in urban areas typically have higher reimbursement rates than in rural areas

# Geographic Variation

## Medicare Price Adjustments

- **When comparing costs of doing business across regions, want a standardized price.**
  - Don't want high prices to simply reflect differences in reimbursement rates
  - Want to identify high spending areas that are typically characterized by overutilization of services for example
  - If you don't acknowledge differences in reimbursement rates and back them out of the equation, high cost hospitals would be attributed in part to the fact that they are urban teaching hospitals or DSH (e.g. NYC)

# Geographic Variation

## Medicare Price Adjustments

- How? Dartmouth Institute:
- Standardized (normalized) prices so that everything rolls up to what Medicare spent on health services in any given year
  - Inpatient care: standardized (normalized) DRG prices by setting the total price-adjusted dollar reimbursements in the U.S. in each year equal to total unadjusted, i.e. actual reimbursements.
  - $\Sigma (\text{DRG weights} * \text{DRG price}) * \text{CMS price adjustments} = \$ \text{ actual Medicare inpatient care}$
  - **normalizing factor** =  $\$ \text{ actual IP} / \Sigma (\text{DRG weights} * \text{DRG price})$

# Geographic Variation

## Medicare Price Adjustments

- Outpatient (physician services): age, sex, and race-adjusted RVUs were added up across patients and HRRs, and then priced uniformly using a single national relative value unit (RVU) for every HRR in the county.
- $\sum_i (\text{RVU}_i * \text{GPCI}_i * \text{Fee Schedule's Conversion Factor}) = \$ \text{ Medicare outpatient physician services}$
- $i=1,2,3$ ; 1=work RVU, 2=practice expense RVU, and 3=professional liability insurance expense RVU;
- GPCI = Geographic Practice Cost Indexes
- *Note – other policy adjustments for provider type, health professional shortage areas, service type*



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**Importance of risk adjustment** (*Reschovsky et al, 2013; Newhouse & Garber, 2013*):

- Analysts have attributed a substantial part of variation to health status, i.e. casemix
- Medicare beneficiaries who move from lower to higher spending regions have more diagnoses coded after their move, whereas those moving in the opposite direction do not
  - Suggests some of variation explained by diagnoses on claims forms results from differing coding practices – which may result from differences in the aggressiveness of diagnostic testing
  - aggressiveness of care may be a cause of apparent variation in health status, rather than an effect!

# Geographic Variation

## Institute of Medicine (IOM)

### *Create a value index?*

At request of members of Congress, IOM convened a committee to determine whether Medicare should modify payments to adjust for the *value (quality) of services* delivered in a region by using a value index

- Account for health benefits and costs
- Raise payment rates in areas where benefits are high relative to Medicare spending
- Lower payments where benefits are low relative to spending
- Idea – funnel Medicare \$\$ to areas that provide high quality services at relatively low cost

# Geographic Variation

## **Institute of Medicine (IOM)**

*Create a value index?*

***Controversial*** – panel concluded a value index would be unfair because it would:

- **Reward inefficient providers in low cost regions**
  - Increasing reimbursement for all providers in low-cost areas would unfairly reward poorly performing providers
- **Punish more efficient providers in high-cost regions**
  - Reducing reimbursement for high cost regions would penalize high-performing

# Geographic Variation

## Institute of Medicine (IOM), 2013

- 1) Substantial part of variation across HRRs due to post-acute care: home health, skilled nursing facilities, rehabilitation, long-term care, and hospice
- 2) Magnitude of spending on post-acute care is suggestive of fraud – weakening case for developing a value index
- 3) Lots of variation in admissions and visits among Hospital Service Areas (HSAs), which are subunits of HRRs

# Geographic Variation

## Institute of Medicine (IOM), 2013

4) Spending for one condition within an HRR was not strongly correlated with spending for another

- physician specialities within an HRR - not equally aggressive
- lots of intra-HRR variation among providers
- Target clinical decision-making units rather than geographic areas
- Value-based purchasing and accountable care organizations are step in right direction

5) Small correlations between spending on certain medical conditions and outcomes – some positive, some negative

- Directional effect of changes in reimbursement levels on patient outcomes for patients with different conditions is uncertain

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## Commentaries

### NY Times

- <http://www.nytimes.com/2013/07/25/health/dont-shift-payments-by-medicare-panel-says.html?src=recg&pagewanted=print>

# Geographic Variation

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[http://www.medpac.gov/payment\\_basics.cfm](http://www.medpac.gov/payment_basics.cfm)
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<http://www.dartmouthatlas.org/downloads/methods/geogappdx.pdf>