



HEALTH

***Adventures in Claims Data Analysis:
A Report from the Front Lines***

Elizabeth A. McGlynn, Ph.D.

Aligning Forces for Quality Annual Meeting

June 27, 2007

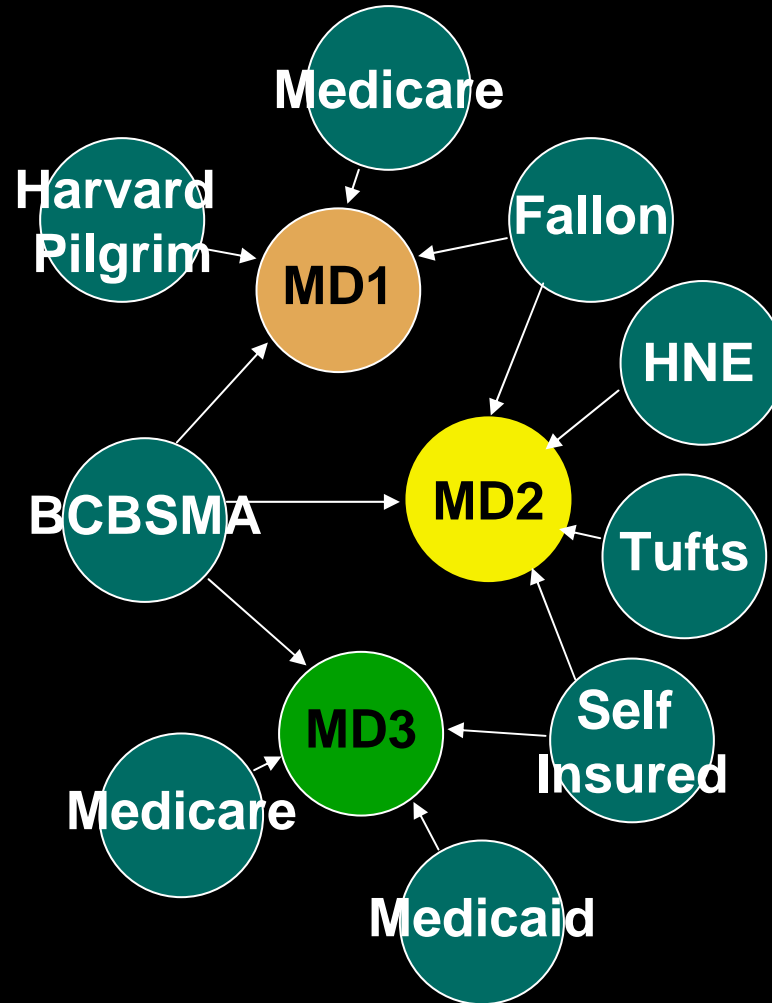
What We Set Out To Do

- **Create physician-level scores for:**
 - **Efficiency (cost)**
 - **Effectiveness (quality)**
- **Using a statewide database from Massachusetts**
- **To explore various methodological issues**
- **And raise awareness among stakeholders about:**
 - **Whether different methodological choices produced different results**
 - **If so, what policy implications should be addressed**

4 Major Health Plans Agreed to Participate

Health Plan	# of Enrollees (June 2006)
Blue Cross Blue Shield of MA	3,022,230
Harvard Pilgrim	711,733
Fallon Community Health Plan	160,900
Health New England	67,786
Remaining plans	586,678

Physicians Have Multiple Contracts



So, having enough information matters:
Aggregation

Some Challenges in Aggregation

- **Creating a master directory**
- **Figuring out who is who**
- **Deciding on the specialty**
- **Putting codes together**
- **Figuring out how much each piece costs**

Creating A Master Directory

- **We were fortunate that Massachusetts Health Quality Partners had already done a lot of work**
 - **Primary care physicians (done once)**
 - **Now extending to specialists**
- **Algorithms for creating a unique identifier often get you 80% of the way to complete**
 - **Manual labor required after that**
 - **And it has to be kept up to date**
- **Some entity needs to be in charge of constructing and maintaining this piece**
 - **Solving problems in one context may not result in solutions useful for the next application**

Figuring Out Who is Who: Physician IDs

- **A few things we found out along the way:**
 - **Physicians can have multiple IDs in a plan**
 - **In one plan we had ~2M unique provider IDs**
 - **Plans may maintain multiple physician lists (each with its own IDs)**
 - **ID length can vary (up to 100 characters)**
 - **IDs are often encrypted (usually need unencrypted IDs for matching)**
- **It has been critical to have health plan data analysts to interact with**

Deciding on Physician Specialty

- **Physician specialty is on the claim form**
- **Physician specialty is also in the master director**
- **List of specialties varies by plan**
 - **Same specialty can have different names**
- **Physicians may have multiple specialties**
 - **Some make sense**
 - **Others may be coding errors**
- **Specialty can be an important determinant:**
 - **Attribution**
 - **Peer comparisons**
- **We've made a number of decisions & documented them**

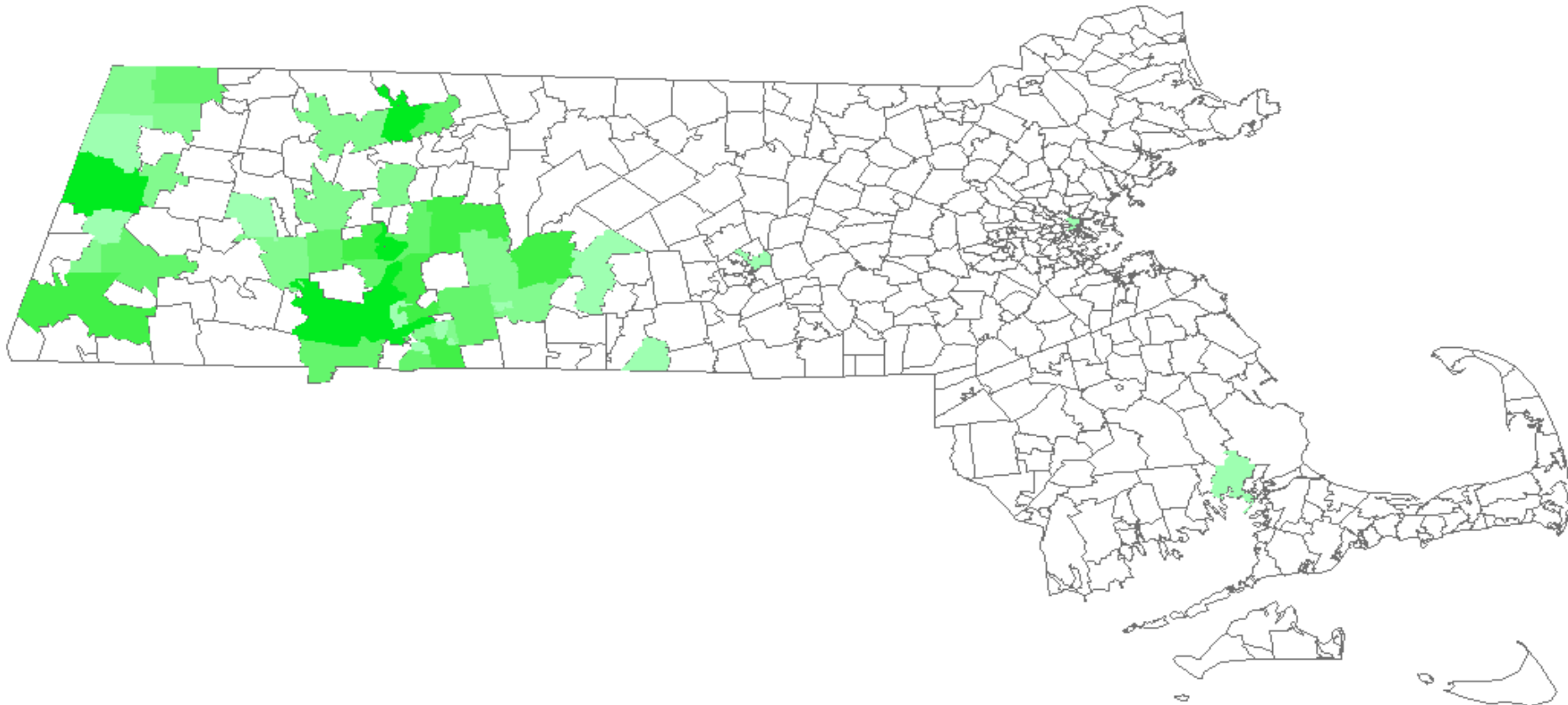
Putting the Codes Together

- **We found code type did not always match field label (and documentation may be lacking)**
- **The same codes were used differently**
- **Many plans have local codes (may be aggregates or splits of standard codes)**
- **Site labels vary (emergency department, urgent care, outpatient)**
- **Plans may vary in the number of digits used (ICD-9)**
- **Some of the variation may be driven benefit plan differences within and across plans**
- **Again, interaction with health plan analysts is key**

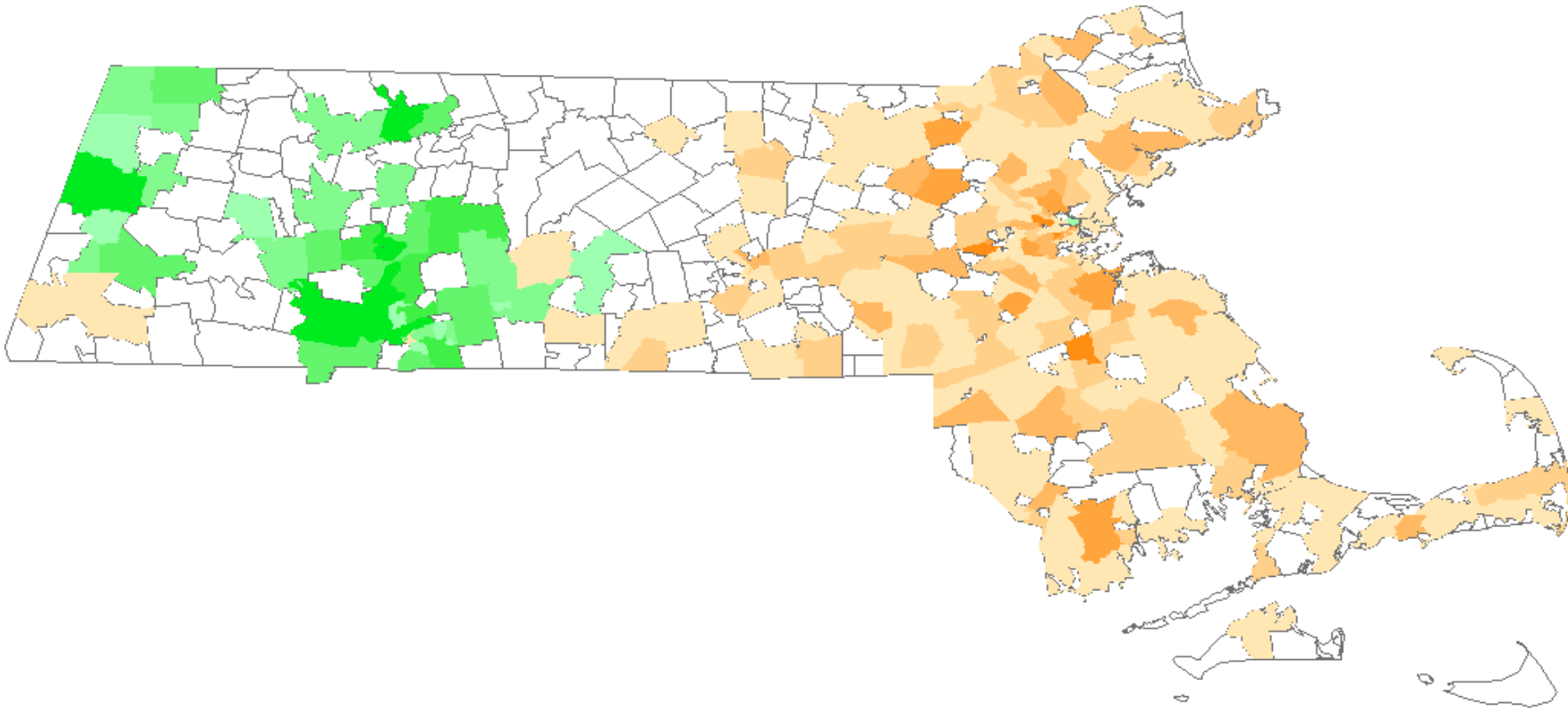
Figuring Out Costs of Care

- We had actual prices paid by plans and we were creating “standardized” costs
- Standardized costs derived by creating an overall average cost for a chunk of care (prescription, admission, procedure, visit)
 - Need to deal with missing data
 - Zero allowed cost
 - Negative allowed cost
- Negative lengths of stay for admissions or negative days supplied for prescriptions
- Some fields needed to be aggregated
- Capitated contracts or subcontracts

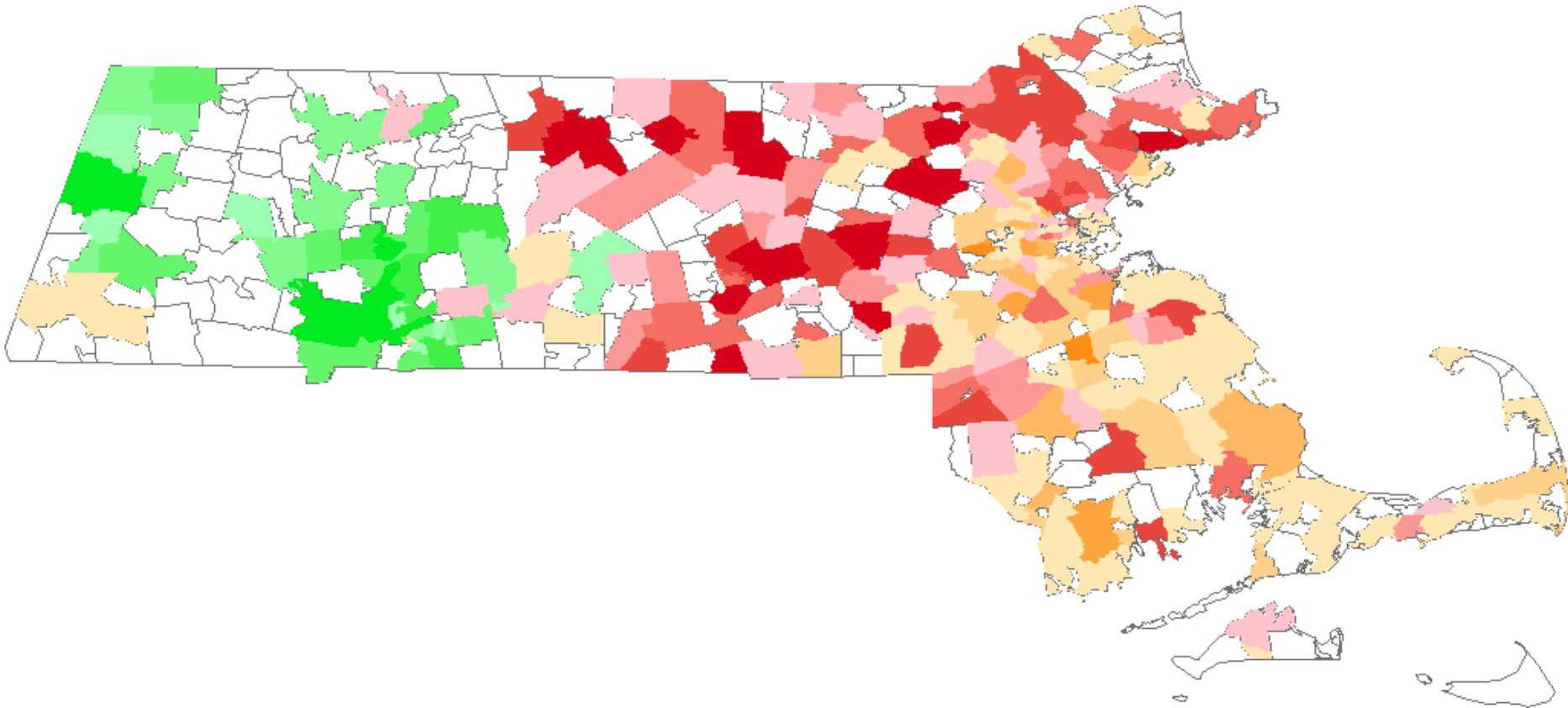
But Utilization Is Concentrated in One Area of the State



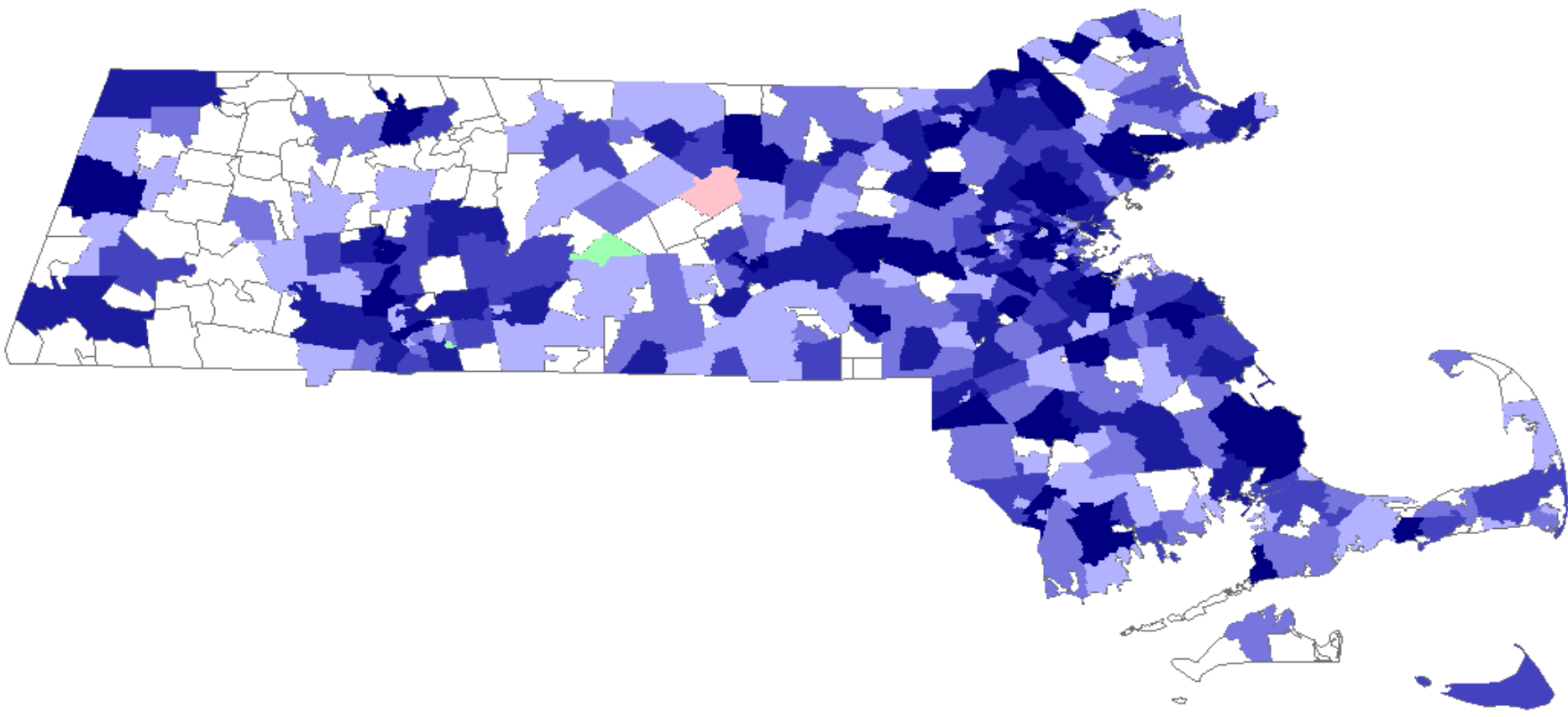
So Aggregating These Plans May Not Increase Sample Sizes



Or Any Two of These Plans

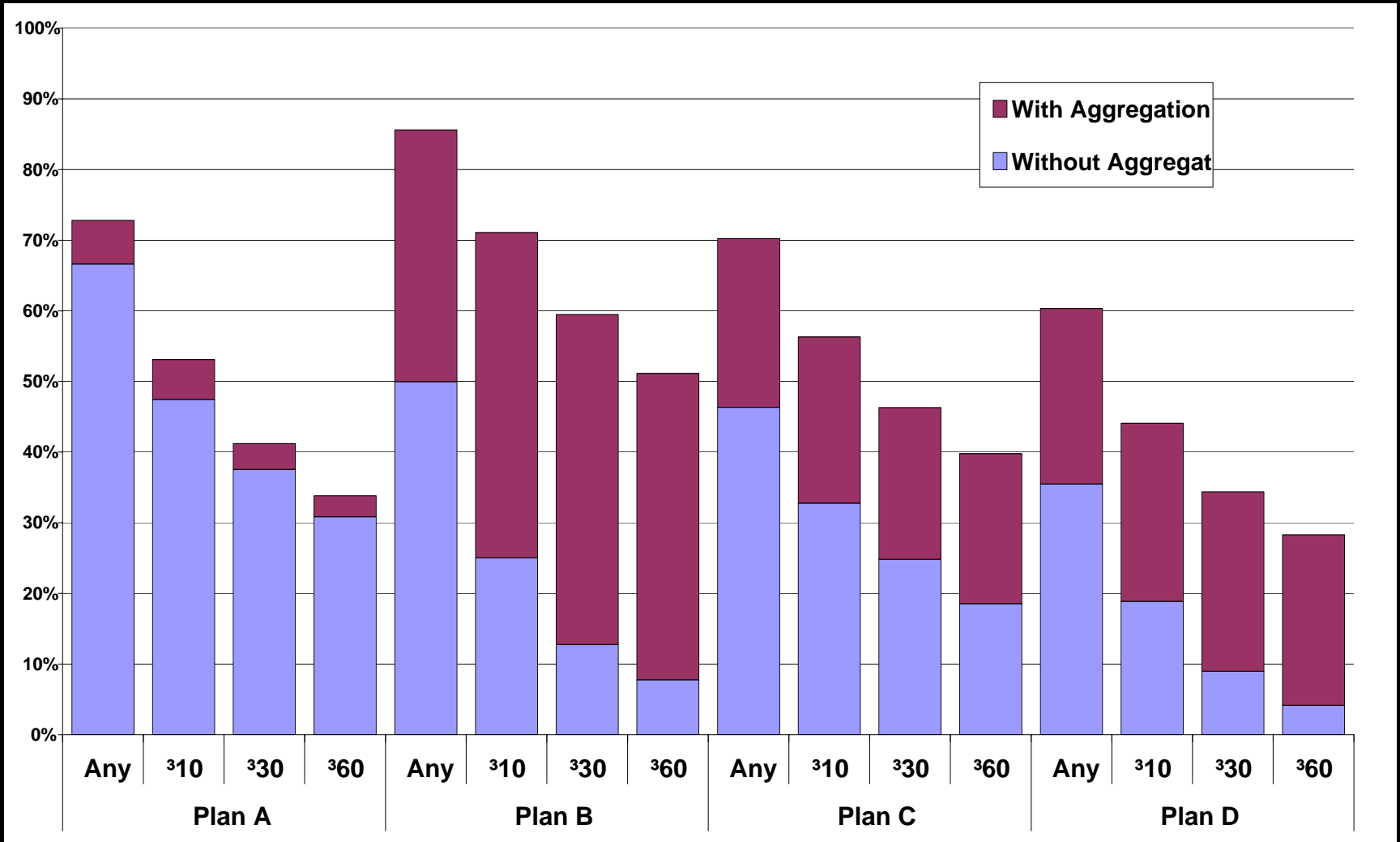


***But Aggregating Data with this Plan Increases
Number of Observations***



Aggregation Helps Plans Profile More MDs

% of Contracted MDs that Can Be Profiled on Efficiency





HEALTH