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How Exactly Will Providers Be Held Accountable? Emerging Methods of ACO Performance Measurement

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Accountable Care Organization (ACO)

Definition: Network of physicians, hospitals, and other providers that work together to improve quality of care and reduce expenditures for a defined patient population.

Shared savings/gainsharing: If spending ↓ payers share part of the savings with the ACO (assuming quality standards are met).

Overarching goal: Give providers clear incentives & resources to provide efficient, coordinated, high quality care.

Goals for the webinar

1. Describe emerging frameworks for measuring ACO savings (and losses).

2. Outline the theory and practical considerations involved with savings measurement methodologies.

3. Describe emerging approaches to ACO quality surveillance.

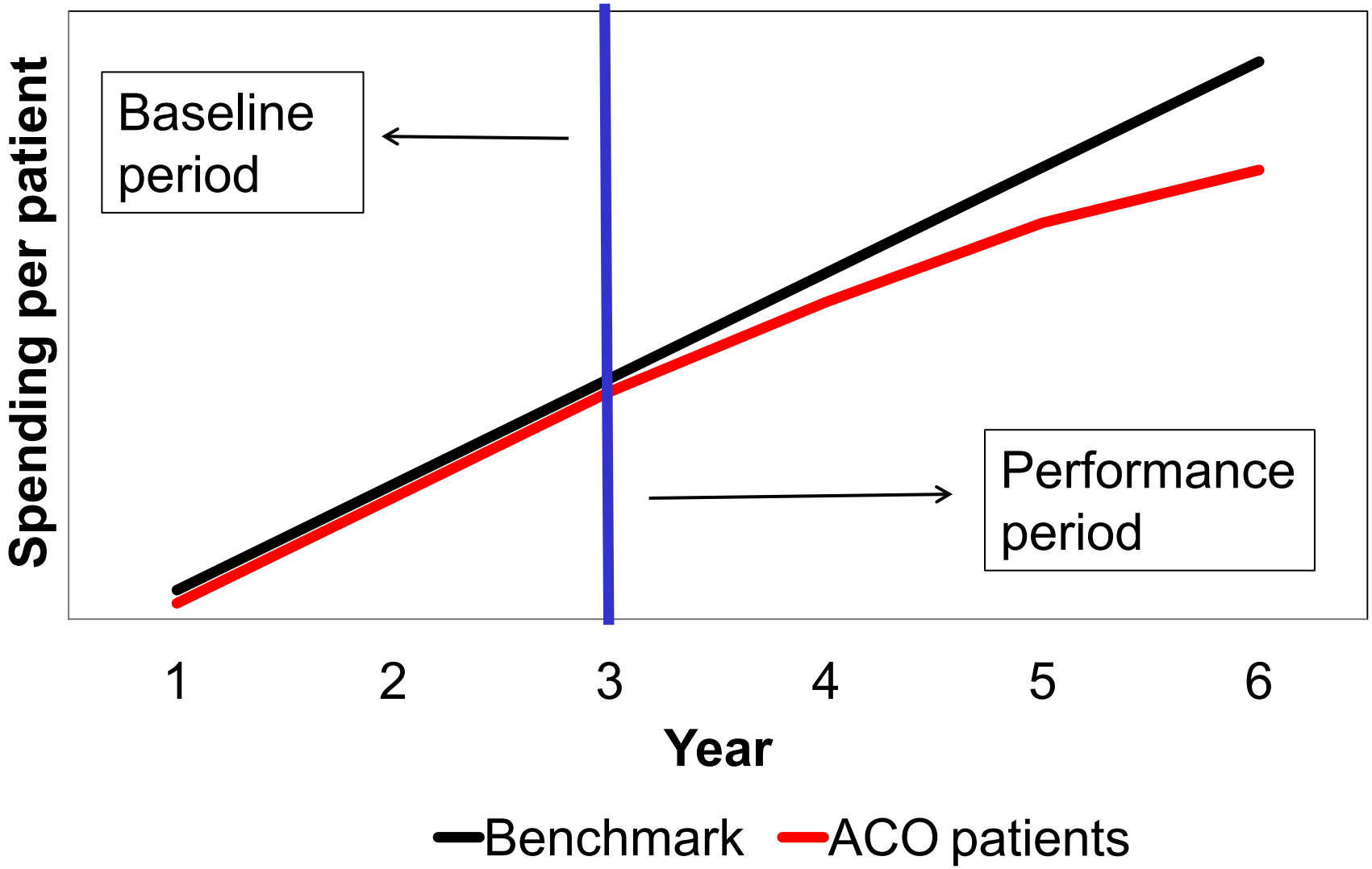
4. Highlight differences in accountability measurement for ACOs serving Medicare, Medicaid, & commercially insured populations.

ACO projects

Payer	Projects
Medicare	Medicare Shared Savings Program (MSSP) Pioneer ACO Model
Medicaid	State programs under development ACO or ACO-like programs
Commercial	Growing # of ACO initiative under development

- Very similar goals & general approach
- Great variation in details of implementation and methods to hold providers accountable
- All are evolving

Savings measurement:
Is the ACO bending the cost curve?

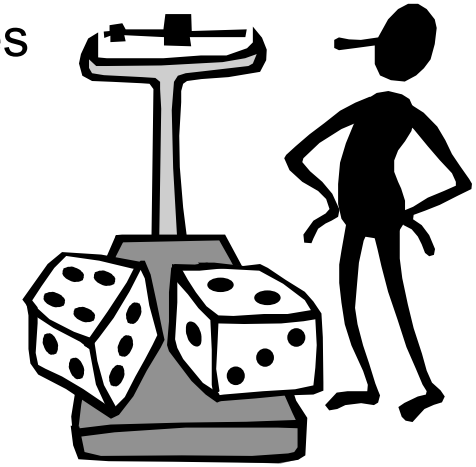


Common elements of savings measurement

- Per capita spending
  - Baseline period (6 months – 3 years)
  - Performance period
  - Possibly risk adjusted
- Adjustment to baseline ==> benchmark
  - Counterfactual (what would have happened anyway)
  - Predetermined goal
  - $ or % increases
- Based on paid claims/encounter data
  - Savings based on current reimbursement arrangements

ACO risk bearing

- One-sided model
  - ACO keeps part of savings generated
  - No risk of financial loss for spending increases
  - Protection for providers/risk for payer
  - Still at risk for startup costs



- Two-sided model
  - ACO pays penalties for spending increases
  - ACO keeps larger part of savings generated
  - Transfers risk from payers to providers

- Risk bearing: Option vs. mandate
- One-sided as a bridge to two-sided arrangement

Measured savings in detail

$$ASR = \frac{(\bar{Y}_B + A) - \bar{Y}_P}{(\bar{Y}_B + A)}$$

ASR : **Average savings rate**

$\bar{Y}_P$: Per capita spending in performance year

$\bar{Y}_B$: Per capita spending in baseline period

A : Adjustment factor (expected or targeted growth)

ASR > 0 ==> savings that can be shared

Total savings = ASR*(Number of patients)

Spending may/not be risk adjusted

Example

- Baseline per capita spending: $8,000
- Per capita spending in performance year: $8,400
- Target growth $300
- Risk scores
  - Baseline 1.1
  - Performance year 1.15

- Target amount = (8,000/1.1) + 300 = 7,573
- Performance spending = 8,400/1.15 = 7,304

- ASR = (7,573 – 7,304)/7,573 = 0.035

The problem of random variation

- ACO spending could ↑ or ↓ due to random factors
- Statistical risks
  1. Falsely credited savings (Type I error)
  2. Fail to credit true savings (Type II error)

- Establish **minimum savings rate (MSR)** for savings to "count"

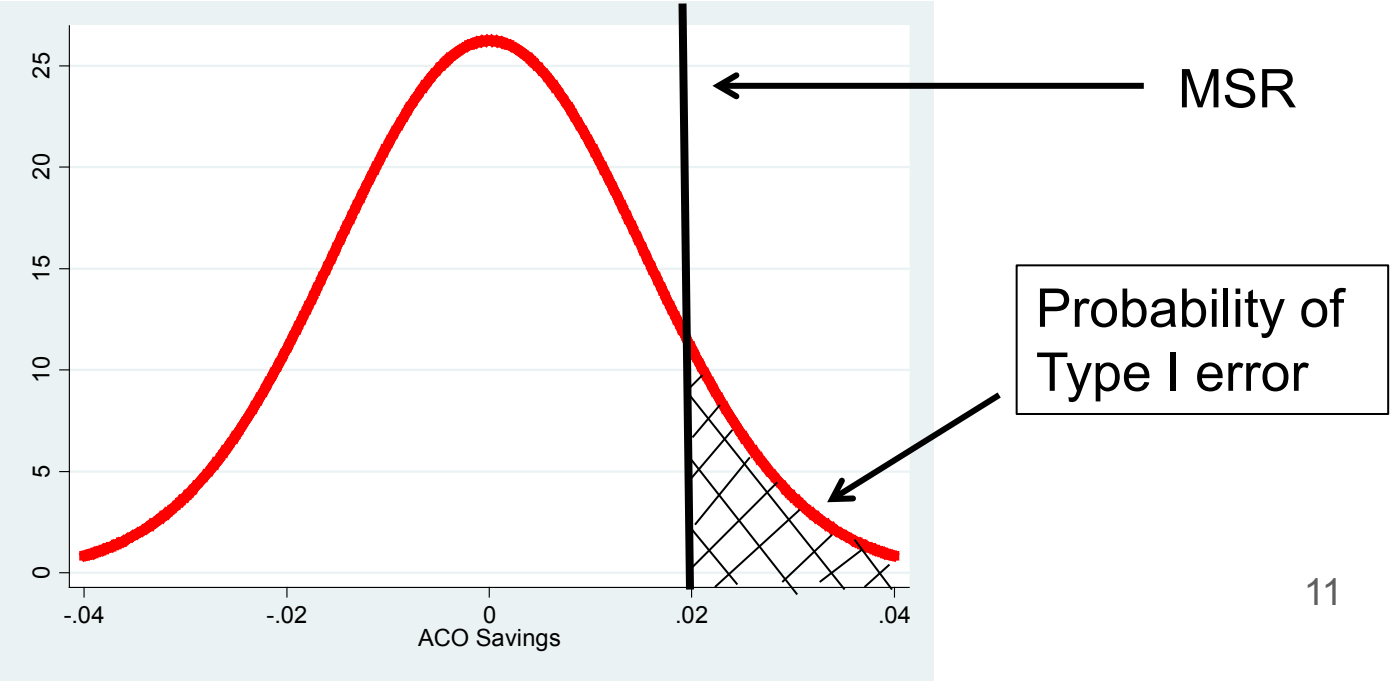
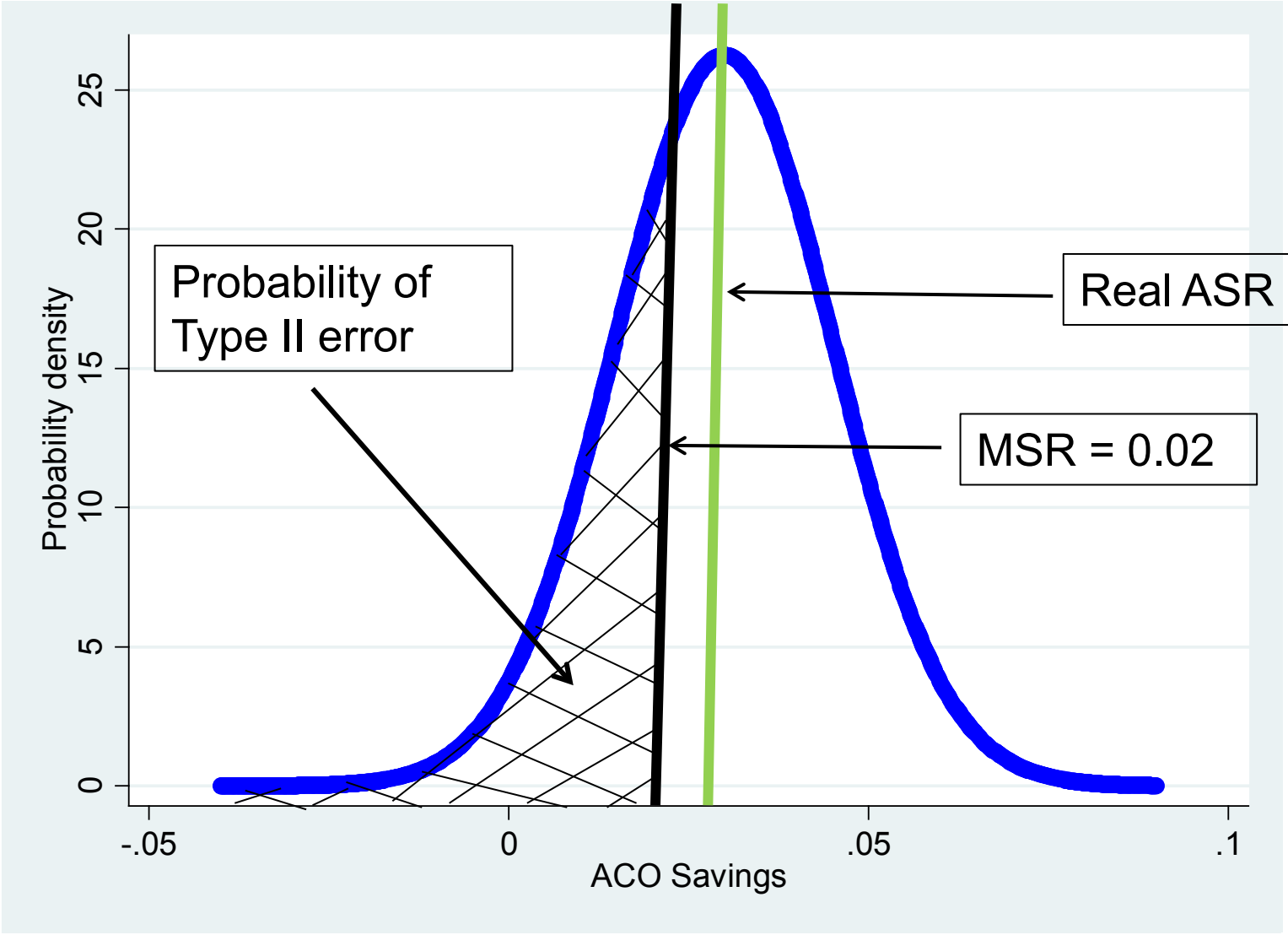
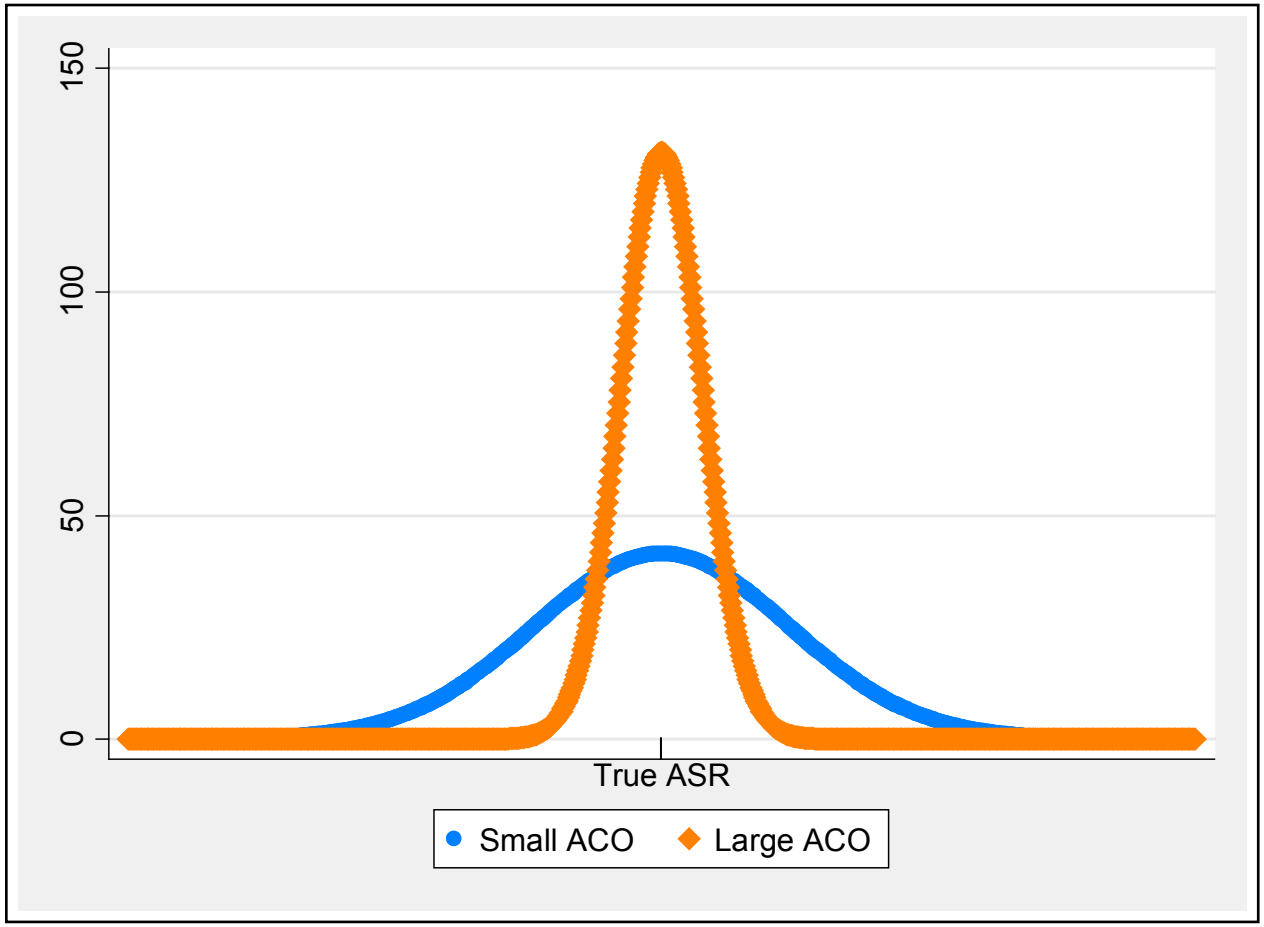


Illustration of Type II error



Greater ACO enrollment reduces probability of Type I AND Type II error

Greater statistical efficiency with larger enrollment



MSR thresholds for one-sided model in MSSP

Number of patients	MSR threshold	Probability of Type I error
5,000	0.039	0.10
20,000	0.025	0.05
60,000	0.020	0.01

- MSSP does not consider Type II error in setting MSRs
- Probability of Type II error typically much larger than Type I error (DeLia et al., 2012)

Concerns about large very large ACOs

- Anti-trust/monopoly power
- Coordination problems
- Free rider problems
- Distribution of rewards within ACOs
- Ultimately, understanding and potentially minimizing the influence of random variation is important for ACOs of any size.

Multiple dimensions of random variation

		Performance period	
		Randomly low	**Randomly high**
Baseline period	**Randomly low**	?????	False losses (Type II error ↑)
	Randomly high	False savings (Type I error ↑)	?????

Random variation in adjustment factor adds third dimension of uncertainty.

MSSP assumes that only source of random variation is performance period spending. This assumption is likely violated.

Random variation & structure of savings measurement scheme

- **Key issue:** What is known with certainty at time of contracting?
- ACO performance clearly unknown
- Adjustment factor
  - Trend in comparison group ==> random
  - Predetermined fixed target ==> deterministic
  - Other important considerations
- Baseline spending
  - Theoretically "pre-observable"
  - Need comprehensive patient data
- Consistency of patient base
  - Spending is correlated within patients over time
  - High correlation ==> variance ↓ , Type I & II errors ↓
  - Informal risk adjuster

Patient assignment

- Primary care use patterns
  - Retrospective
  - Prospective
- Geographic assignment
- Patient steering
- Patient mortality

High cost outliers

- Outlier expenditures often censored (e.g., 99th percentile)
- **Issue:** Are these outliers a statistical nuisance or focus of care management?
- Super-user programs
  - Care management “along the tail”
  - Regression to the mean
  - Carefully matched comparisons
- Exclusion by type vs. amount

ACO quality surveillance

Purposes

1. Ensure savings are not at the expense of quality
2. Provide incentives to improve quality
3. Target special needs populations

Data sources

1. Primarily claims data
2. Patient surveys (new or preexisting)
3. Preexisting reports/P4P measures
4. Provider proposed
5. Electronic health records

Domains of quality measurement

- Avoidable utilization
- Follow-up care
- Management of chronic conditions
- Prevention/screening
- Behavioral health
- Patient assessed measures
  - Perceived health trajectory
  - Satisfaction
  - Activation
- Special needs
  - Pregnant women
  - Socially disadvantaged
  - End of life

Connecting quality to savings

- From quality reporting to standards
- Financial rewards/penalties tied to quality measures
- Standards
  1. Gates
  2. Ladders
- P4P without savings

Putting it all together

- Analytic & policy tradeoffs
- Evolutionary process
  - Different starting points
  - The perfect & the good
- Short term vs. long terms goals
  - Transition strategy
  - Increasing thoroughness of accountability standards
- Relative costs of Type I & II errors
  - Consequences of over/under-paying providers
  - Will vary by targeted patient group & shared savings arrangment

Related resources

1. Bailit M, Hughes C, Burns M, & Freedman DH (2012). *Shared Savings Payment Arrangements in Health Care*. The Commonwealth Fund Pub. No. 1624: New York, NY.
2. DeLia D, Hoover D, & Cantor JC (2012). "Statistical Uncertainty in the Medicare Shared Savings Program." Forthcoming in *Medicare and Medicaid Research Review*.
3. DeLia D & Cantor JC (2012). *Recommended Approach for Calculating Savings in the NJ Medicaid ACO Demonstration Project*. Report to the NJ Department of Human Services. Rutgers Center for State Health Policy: New Brunswick, NJ.
4. Robinson JC. (2011). *Accountable Care Organization for PPO Patients: Challenge and Opportunity in California*. Integrated Healthcare Association: Oakland, CA.
5. Weissman JS, Bailit M, D'Andrea G, & Rosenthal MB (2012). "The Design and Application of Shared Savings: Lessons from Early Adopters." *Health Affairs* 31(9): 1959-1968.

Questions & discussion

- Questions now?

- Questions later? ddelia@ifh.rutgers.edu