THE UNIVERSITY OF CHICAGO BIOLOGICAL SCIENCES

Lessons from Medicaid Pay-for-Performance in Nursing Homes

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Overview

- Background on nursing homes and efforts to improve quality
- Research questions
  - Does Medicaid P4P improve nursing home quality?
  - Which providers improve?
  - How does the design of P4P incentives matter?
- Lessons for policy

BACKGROUND

Nursing Home Care

- 2 distinct populations
  - Post-acute care (financed predominately by Medicare)
  - Long-term care (financed predominately by Medicaid)
- Many people, high cost
  - 1.5 million people
  - Costs $120 billion per year
- Medicaid is the majority payer
  - 50% of all expenditures for NH
  - Cover 65% of all bed-days
  - Reimburses 10-30% less than private pay rate

Persistent Concerns about Quality

- 1986 IOM report calling for major revisions in monitoring nursing home quality
- 1987 Nursing Home Reform Act (OBRA)
    - Regular inspections
    - Resident care plans
- Quality improved
- Follow up IOM report (2000)
    - Significant problems remained
- Public Reporting (Nursing Home Compare) 2002
- Medicaid Pay-for-Performance in some states

Insights from Research on Public Reporting

- Small, somewhat inconsistent improvement in nursing home quality; some evidence of "gaming"
- Heterogeneous consumer response: non-Medicaid respond more than Medicaid
  - Distance
  - Medicaid bed availability
- Which nursing homes improve depends on:
  - Type of quality measure
  - Market structure
- Need to consider costs of quality improvement
  - For different types of quality
  - For different types of providers

Early Nursing Home P4P (Norton, JHE 1990)

- 1980 experiment in San Diego
- 36 nursing homes randomized to receive financial incentives
- Three types of incentives
  - Admission (case-mix reimbursement) to improve access
  - Case outcomes (lump sum bonus for improved resident health)
  - Discharge (lump sum bonus when resident discharged home or lower-level facility)
- Results
  - Increase case mix
  - Decrease length of stay
  - Decrease in hospitalization or death

Medicare P4P Demonstration for Post-Acute Care

- Voluntary demonstration July 2009-2012
  - New York (randomized); Arizona and Wisconsin (matched controls)
- Based on performance and improvement for:
  - Staffing
  - Potentially avoidable hospitalizations
  - Survey deficiencies
  - Resident outcomes
- Financial rewards tied to Medicare payment, 80/20 shared savings; complex design
- Results: little savings, little improvement

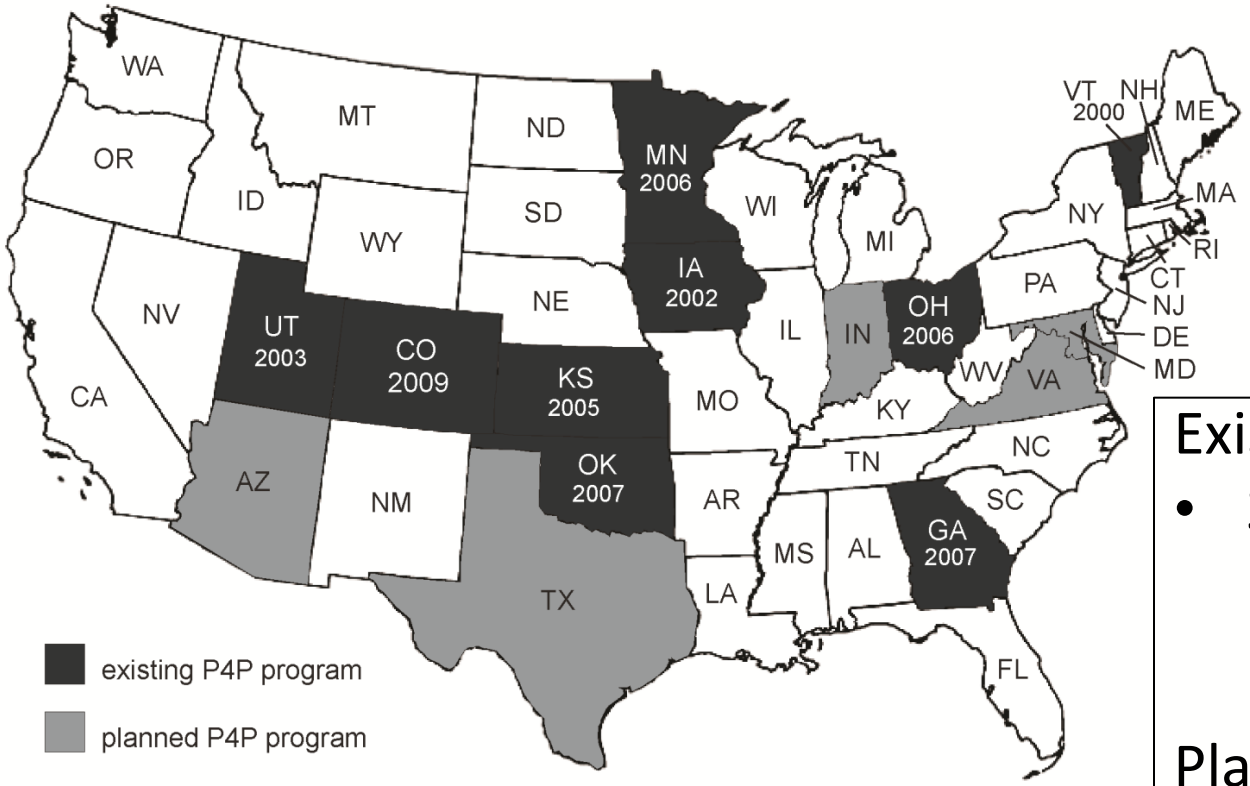
MEDICAID P4P IN NURSING HOMES: THE LANDSCAPE

Data From State Medicaid Agencies

- Telephone survey of 50 state Medicaid agencies in 2008-2009
- In 14 states with planned or existing nursing home P4P programs, conducted in-depth interviews
  - Described P4P program features

States With Planned or Existing P4P

Werner Konetzka Liang (2010) MCRR



Existing P4P

- 3,050 nursing homes
  - 20% of nursing homes
  - 17% of residents

Planned P4P

- 2,259 nursing homes
  - 15% of nursing homes
  - 14% of residents

Clinical Quality Measures Used

		% of residents							
	Dates of P4P program	**Bladder catheter**	**Restraints**	**Pain**	**Falls**	**Pressure sores**	**Weight loss**	**Deficiencies**	**Staffing ratios**
Colorado	(7/2009 to present)		X	X		X		X	
Georgia	(7/2007 to present)		X	X		X		X	X
Iowa	(7/2002 to present)							X	X
Kansas	(7/2005 to present)								X
Minnesota	(10/2006 to 9/2008)	X	X	X	X	X	X	X	X
Ohio	(7/2006 to present)							X	X
Oklahoma	(7/2007 to present)	X	X		X	X	X	X	X
Utah	(7/7003 to present)							X	

Other Quality Measures Used

	Dates of P4P program	Consumer Satisfaction	Occupancy	Efficiency	Medicaid Use	Culture Change
Colorado	(7/2009 to present)	X			X	X
Georgia	(7/2003 to present)	X				
Iowa	(7/2002 to present)	X	X	X	X	
Kansas	(7/2005 to present)		X	X	X	
Minnesota	(10/2006 to 9/2008)	X				
Ohio	(7/2006 to present)	X	X	X	X	
Oklahoma	(7/2007 to present)	X			X	X
Utah	(7/7003 to present)	X				X

Tying Measures to Incentives

- Performance on each measure translates into points
  - Relative rank
  - Achieving target-level performance
- Points are summed across measures
- Translate to per diem add-on to all Medicaid resident-days

Size of Incentives

Table 3. Summary of the Size of Financial Incentives Used in State Nursing Home Pay-for-Performance (P4P) Programs

	Maximum Per Diem Add-On	Average Per Diem Rate[a]	Total Paid in P4P Bonuses (in millions)	P4P Bonuses as Percentage of Nursing Home Budget
Colorado	$4.00	$143.75	—[b]	—[b]
Georgia	1.0%[c]	$119.51	$5.0	0.4
Iowa	$3.68	$102.56	$6.7	1.4
Kansas	$3.00	$101.81	$2.4	0.7
Minnesota	2.4%[c]	$137.01	$12.0	1.4
Ohio[d]	$6.16	$157.00	$18.4	0.6
Oklahoma	$5.45	$96.20	$12.7	1.8
Utah	$0.60	$105.55	$1.0	0.7
Vermont	—[e]	$147.24	$0.1	0.1

MEDICAID P4P IN NURSING HOMES: DOES IT IMPROVE PERFORMANCE ON AVERAGE?

Empirical Approach

- Test for differences in nursing home performance after P4P implementation
- Difference-in-difference model
  - Pre-post in 8 nursing home states
    - Variation in timing of P4P across states
  - Use 42 control states plus DC as contemporaneous controls

Data

- Minimum Data Set (2001-2009)
  - Includes all nursing home admissions
  - Detailed clinical data collected quarterly (at least)
  - Source to calculate quality score for P4P in some states
- OSCAR
  - Survey of all certified nursing homes
  - Source of staffing and deficiency measures
  - Facility covariates
- State Medicaid agency survey (though 2009)
  - P4P implementation data

Does nursing home P4P improve nursing home performance on average?

(Werner Konetzka Polsky, HSR 2013)

- No.
  - Improved: restraints, pain
  - Worsened: catheters, falls, weight loss, deficiencies, RN+LPN staffing
  - Neutral: pressure sores, total staffing

Why not?

- Incentives small, potentially not noticeable
- Targeted toward NHs least able to respond
- Heterogeneity across components and facilities

MOVING BEYOND THE AVERAGE: WHICH NURSING HOMES IMPROVED?

Threshold-Based Incentives: Theory

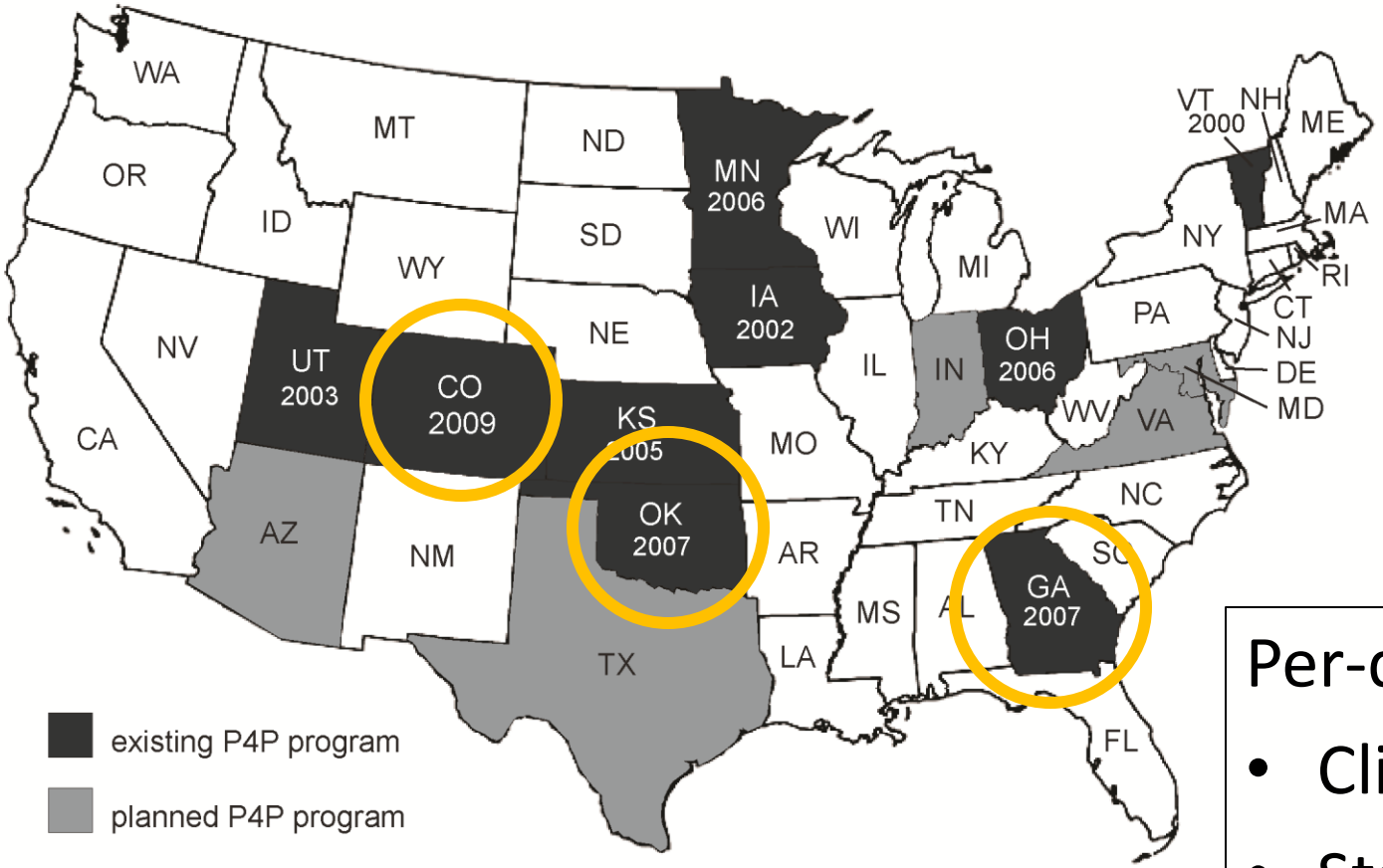
- Threshold-based incentives differ from continuous incentives
  - The marginal benefit of improved performance is zero unless you cross the threshold
  - Effect of incentive vary non-monotonically and discontinuously around the threshold
- As a result
  - Those farthest below the threshold put forth little effort
  - Those just below put forth most effort
  - Those above the threshold put forth little effort

Our Objective

- To investigate the effect of using performance thresholds in P4P on provider response in the setting of nursing homes
  - Do low-performing providers improve their performance?
  - Do providers above the threshold improve their performance?
- Compare changes in performance related to how far NH was from threshold in prior period

Medicaid-based P4P in 2009

Werner et al (2010) MCRR



Per-diem add-on:

- Clinical quality (4)
- Staffing (8)
- Deficiencies (7)

Setting the Thresholds

NHs with clinical performance equal to or above the threshold earn points toward a P4P bonus payment

Colorado

- Sets two pre-specified thresholds for each quality measure

Georgia

- Uses average performance on each measure

Oklahoma

- Uses a composite measure of performance

Results

- Little evidence of predicted strategic response to threshold incentives
  - Largest improvements in performance among nursing homes farthest below the threshold

Why no Strategic Response?

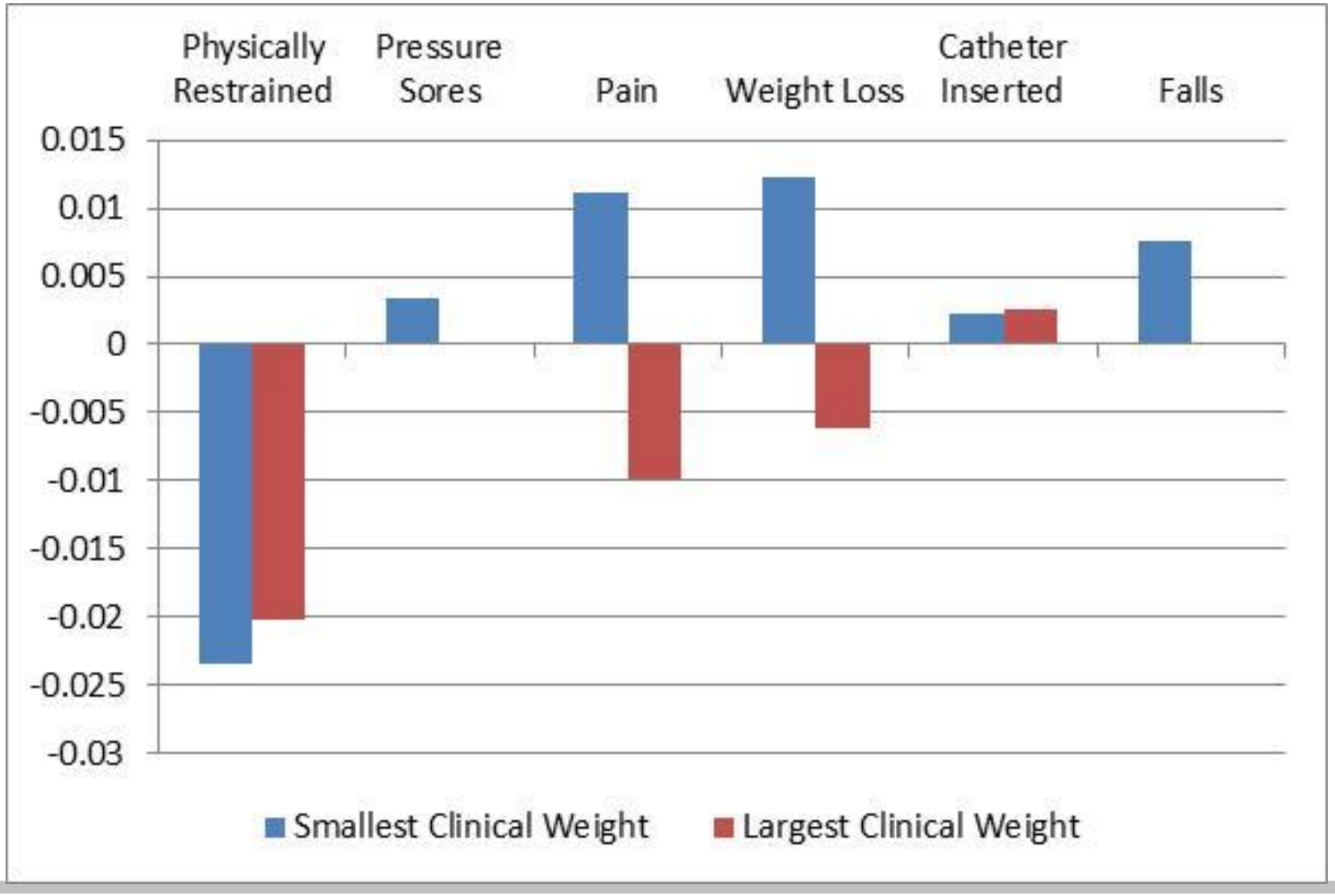
- Low cost of improving performance
  - True improvement vs. changes in coding
  - Examined clinical quality measures only
- Uncertainty of threshold
- Uncertainty of the relationship between effort and receiving the incentive
  - Complexity of NH P4P point system
- *But good news that lowest-quality nursing homes improved*.

MOVING BEYOND THE AVERAGE: HOW DOES PROGRAM DESIGN MATTER?

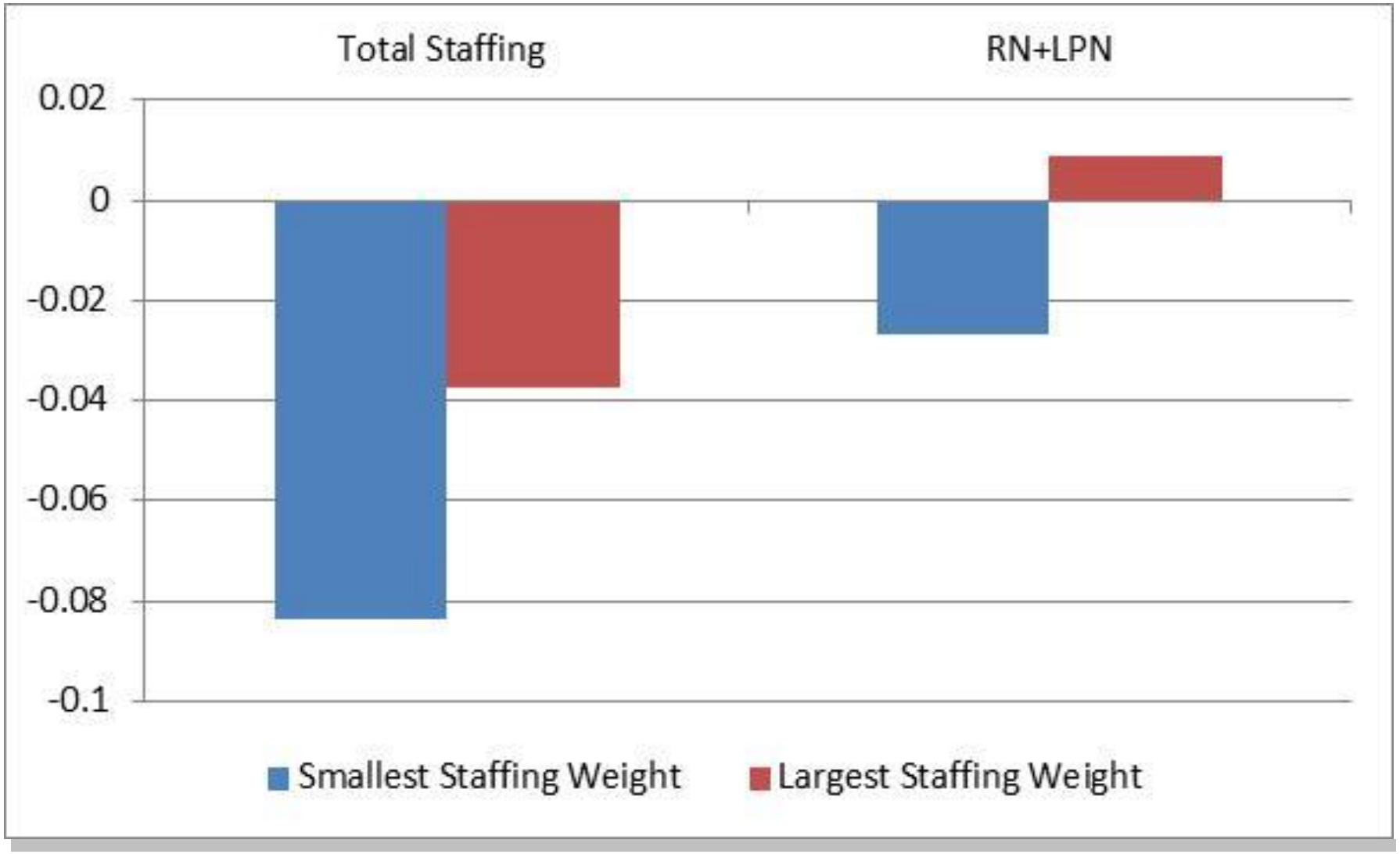
Objective

- Examine specific elements of P4P design and their effects on performance
  - Weights– do quality measures weighted more heavily see more improvement?
  - Qualifiers– do requirements for participation in P4P lead to improvement in achieving the requirement?
- Which providers seem to respond more to these incentives?

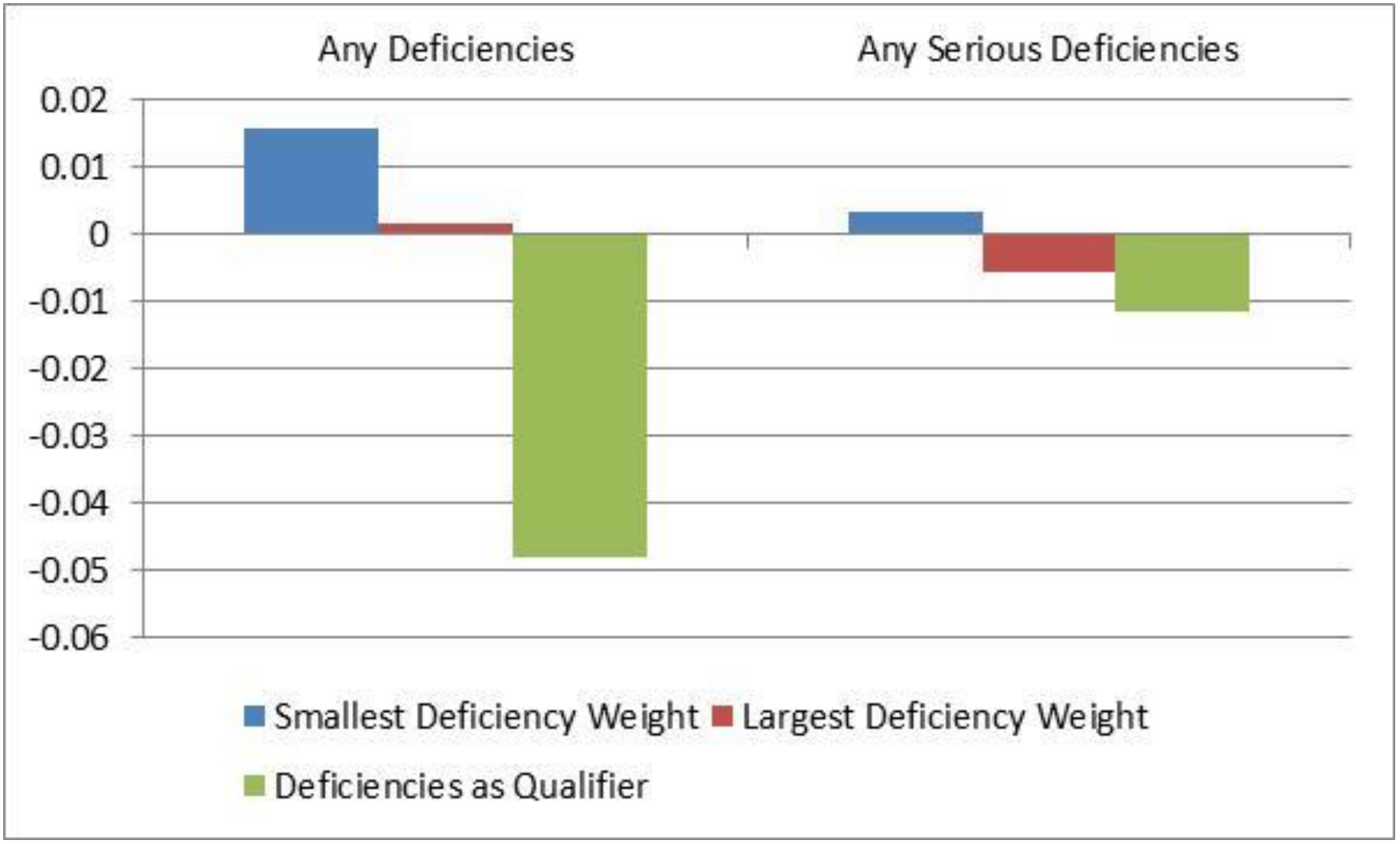
Small vs Large Weights: Clinical Quality



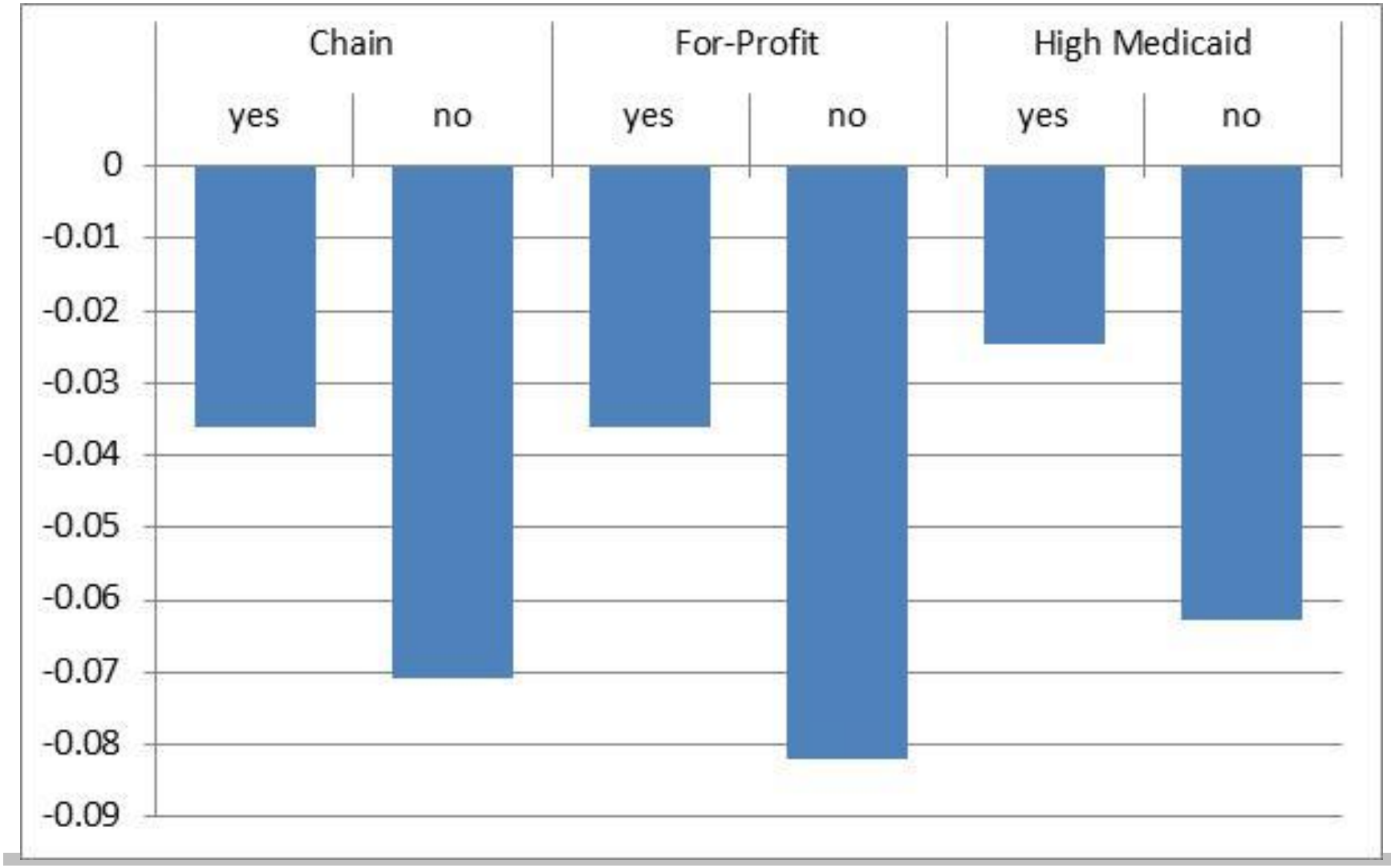
Small vs Large Weights: Staffing



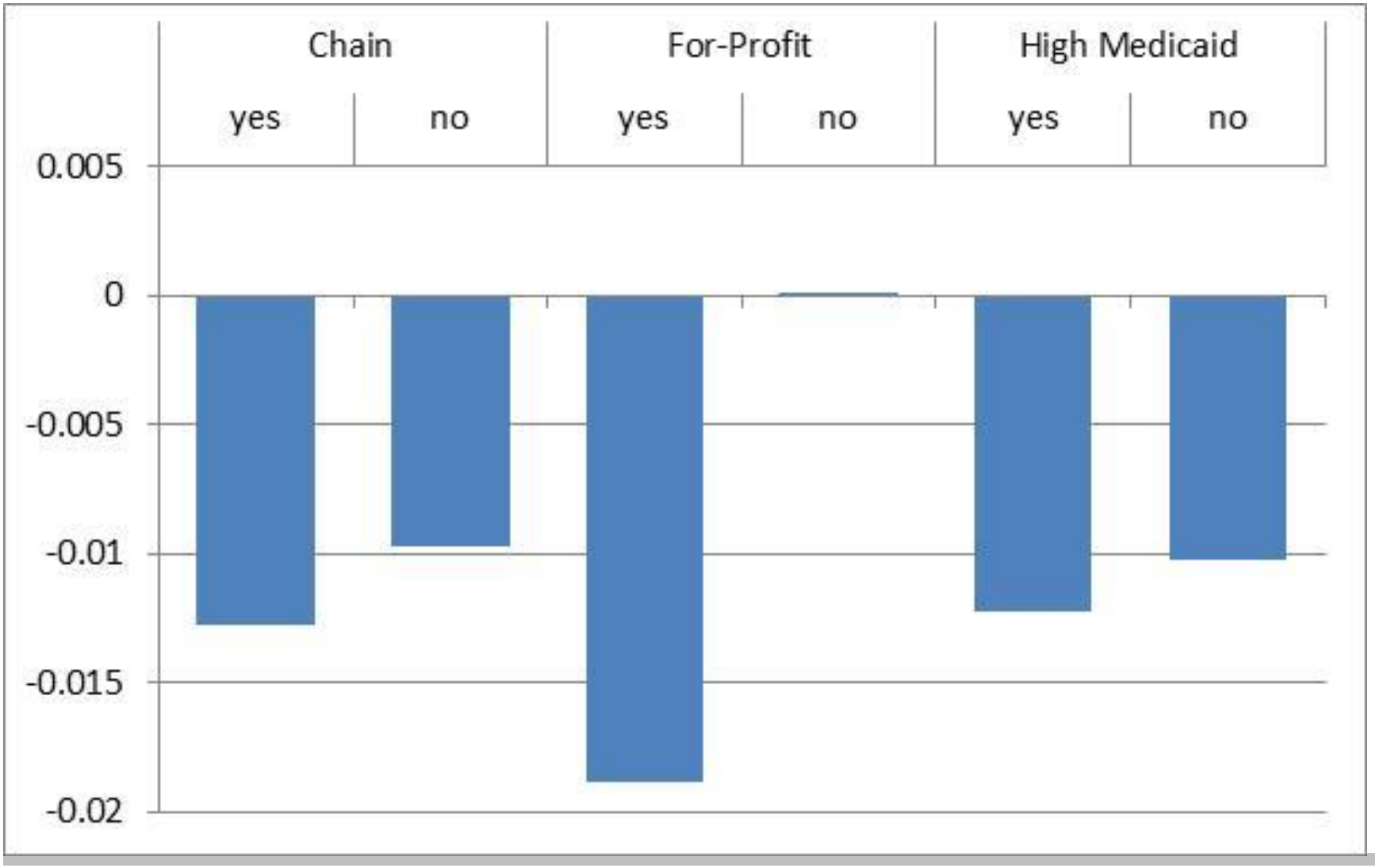
Small vs Large Weights vs Qualifier: Deficiencies



If Deficiencies Used as Qualifier: Effect on Any Deficiencies



Deficiencies Used as Qualifier: Effect on Serious Deficiencies



Conclusions

- Use of weights in bonus formulae had mixed effects
  - Larger weights were only sometimes associated with more improvement
  - Smaller weights sometimes associated with worsening
- Simple requirement for participation – no deficiencies – was more effective
- Well-resourced nursing homes more likely to improve on average
- But we see important improvement among nursing homes considered lowest quality

Lessons Learned from Medicaid P4P in Nursing Homes

- Structure of P4P incentives matters
  - Using weights may have unintended consequences
  - Simple rules for participation may incent larger improvement
- Context (market, competing incentives) matters
- Heterogeneity is key
  - Looking for average effects of a multi-faceted P4P program may not be fruitful
  - "Personalized" P4P – facility-specific targets – may be more effective than one-size-fits-all