

**P4P from the Provider Perspective:**

**Models and Analysis from BTE and Prometheus**

François de Brantes, CEO, Health Care Incentives Improvement Institute

Guy D'Andrea, President, Discern Consulting

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# Presentation Overview

- Two basic payment reform options
  - Pay-for-performance bonuses/rewards
  - Episode Payment
- Either way, the incentive has to create the desired behavior
- Analysis of P4P from the physician perspective
- Analysis of episode payment from the physician perspective

# About HCI3

- Resulted from the merger of Prometheus Payment Inc into Bridges To Excellence, Inc
- Changed corporate name to Health Care Incentives Improvement Institute
- BTE and Prometheus programs are the organization's flagship efforts
- Goal is still to catalyze change and push innovative solutions in the market

# About Discern

- Healthcare policy consulting firm focused on improving health systems by aligning incentives with high-quality care.
- Specializes in designing, implementing, and evaluating Value-Based Purchasing programs.
- Key Clients
  - Bridges to Excellence/Prometheus
  - National Business Coalition on Health
  - The Leapfrog Group
- [www.discernconsulting.com](http://www.discernconsulting.com)

# Payment Reform Has Broad Support

- “Each agency shall develop . . . approaches that encourage and facilitate the provision and receipt of high-quality and efficient health care. Such approaches may include pay-for-performance models of reimbursement.” - *Executive Order issued by President Bush, August 22, 2006*
- “We need to give doctors bonuses for good health outcomes – so that we are not promoting just more treatment, but better care.” - *President Obama, June 15, 2009, Speech to the American Medical Association*
- CMS has stated its goal “to transform Medicare from a passive payer to an active purchaser of higher quality, more efficient health care.”

# Two Payment Reform Options

- Bonus/supplemental payment
  - Leave existing payment system intact (typically fee-for-service) and make additional payments to providers that meet criteria
    - e.g. Bridges to Excellence
- Episode payment
  - Replace existing payment system with episode payment
    - e.g. Prometheus Payment
- Both are designed to create certain behavioral changes

# Behavioral Changes Sought

## Bridges To Excellence:

- Focus on intermediate outcomes of patients
- Adopt better systems of care in practice
- Redirect some practice resources from optimizing volume to improving results

## PROMETHEUS Payment

- Significantly reduce Potentially Avoidable Complications
- Manage total resources within a defined medical episode of care
- Coordinate care with all providers along the continuum of care that co-manage the patient

Potential Undesired Behavior: Dumping severe/tough patients

# Bridges to Excellence

- Programs award pay-for-performance rewards
- Specific to areas of clinical performance
  - 10 programs focused on chronic care
  - 1 program focused on systems of care
- Implemented by health plans in 22 states
- Clinicians/Practice that meet criteria receive a fixed amount per patient
  - Must submit chart data for quality measurement
  - Reward amount averages \$100/patient



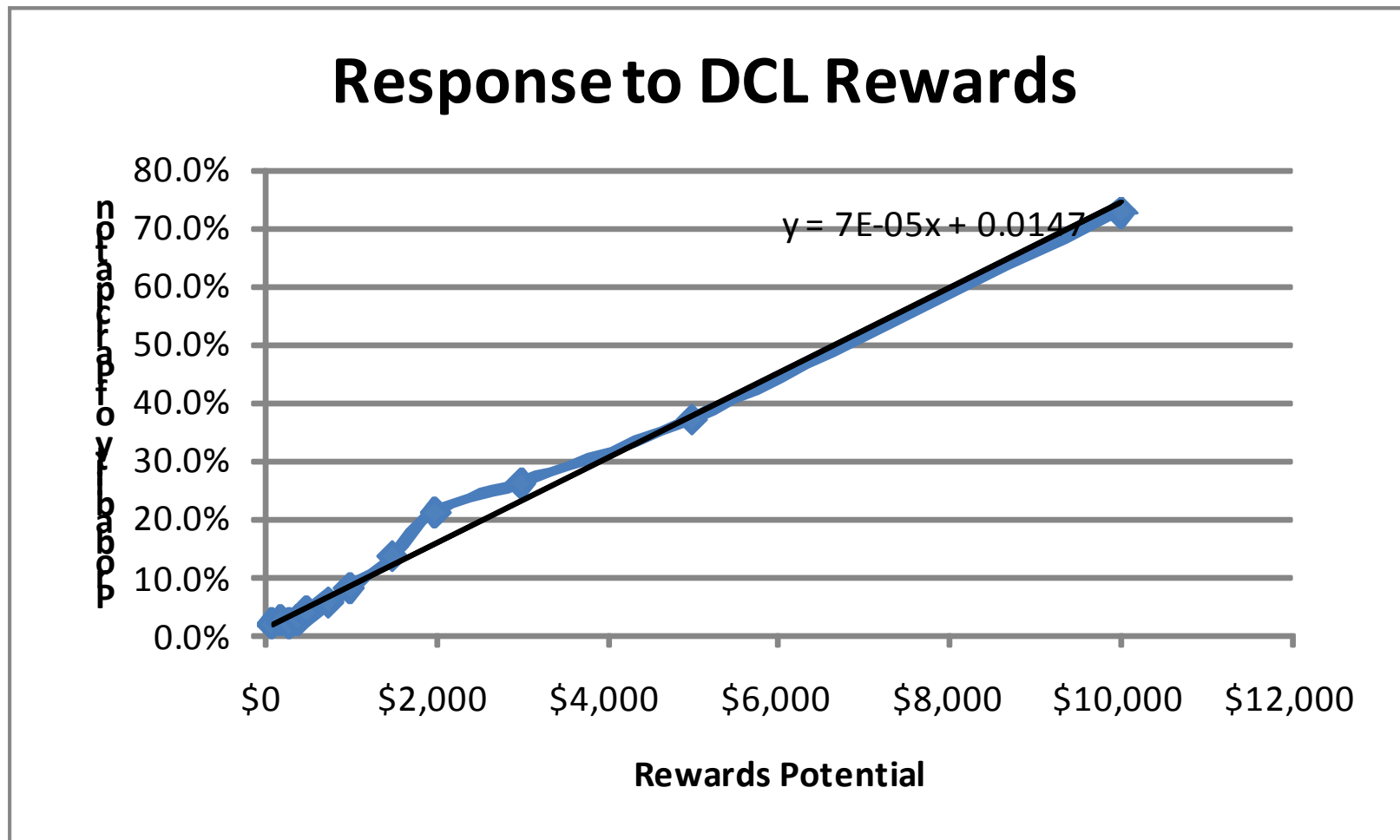
# Physician Response is Key

- Participation by physicians is generally voluntary
- Physicians must invest resources in achieving recognition
  - Practice modification
  - Chart abstraction
  - Recognition fees (in some cases)
- Physicians must evaluate P4P opportunities in the context of other demands on their practices

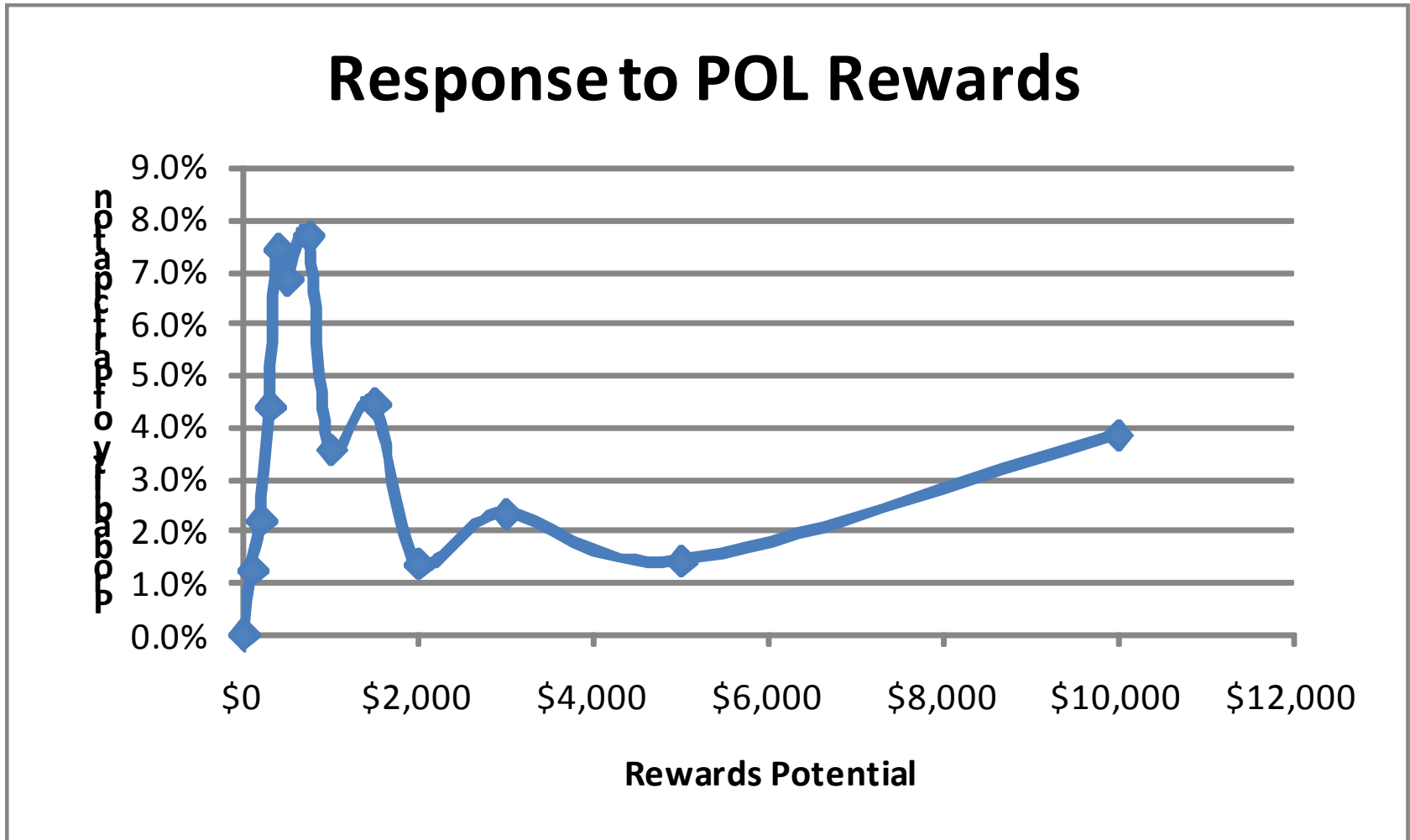
# Study of Physician P4P Response

- Two BTE programs
  - Diabetes Care Link (DCL) (~4,000 physicians)
  - Physician Office Link (POL) program (~9,500 physicians)
- Four sites
  - Albany
  - Boston
  - Cincinnati
  - Louisville
- Rewards potential ranged from \$0 to \$14,000

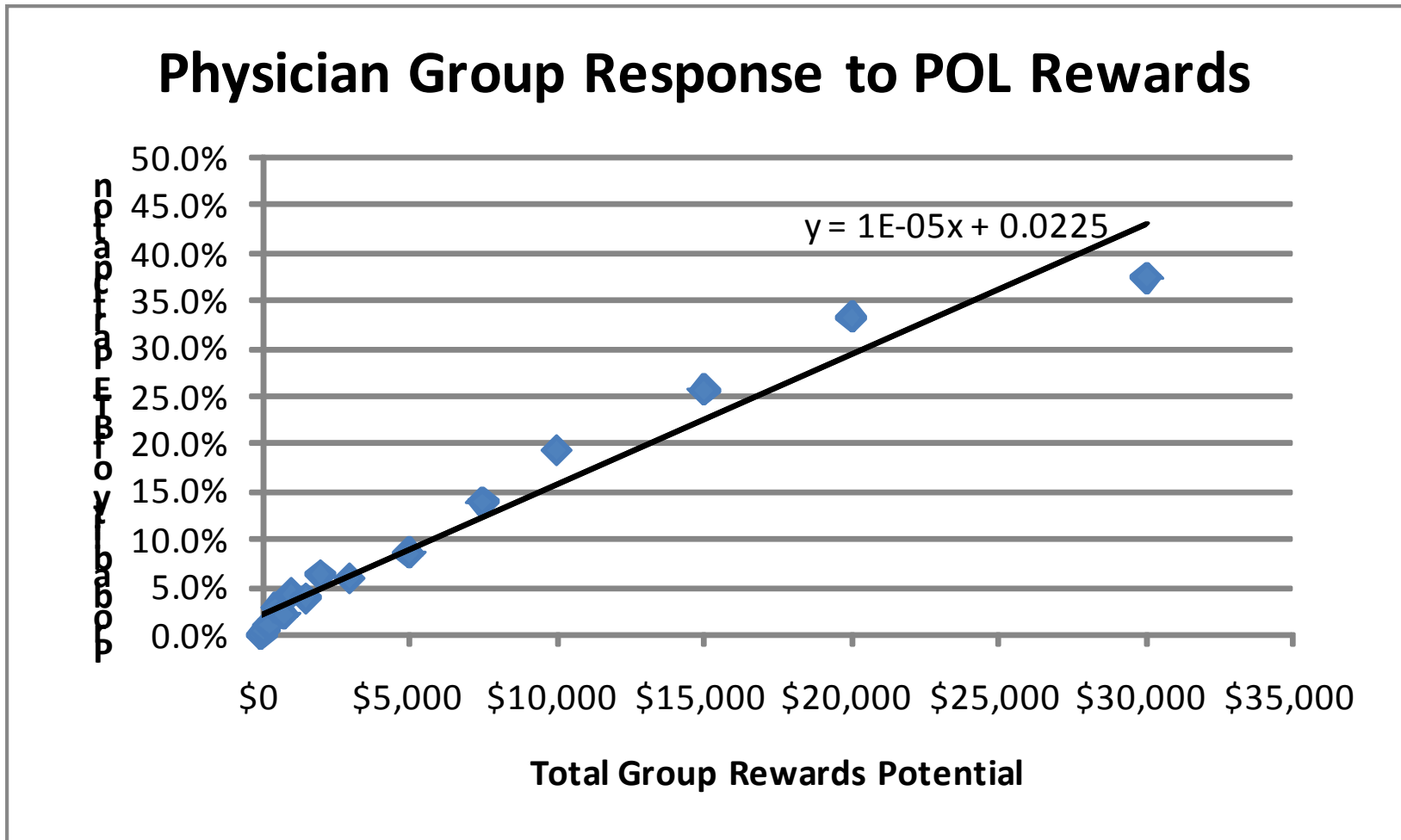
# Probability of Individual Physician Recognition – Diabetes Care Link



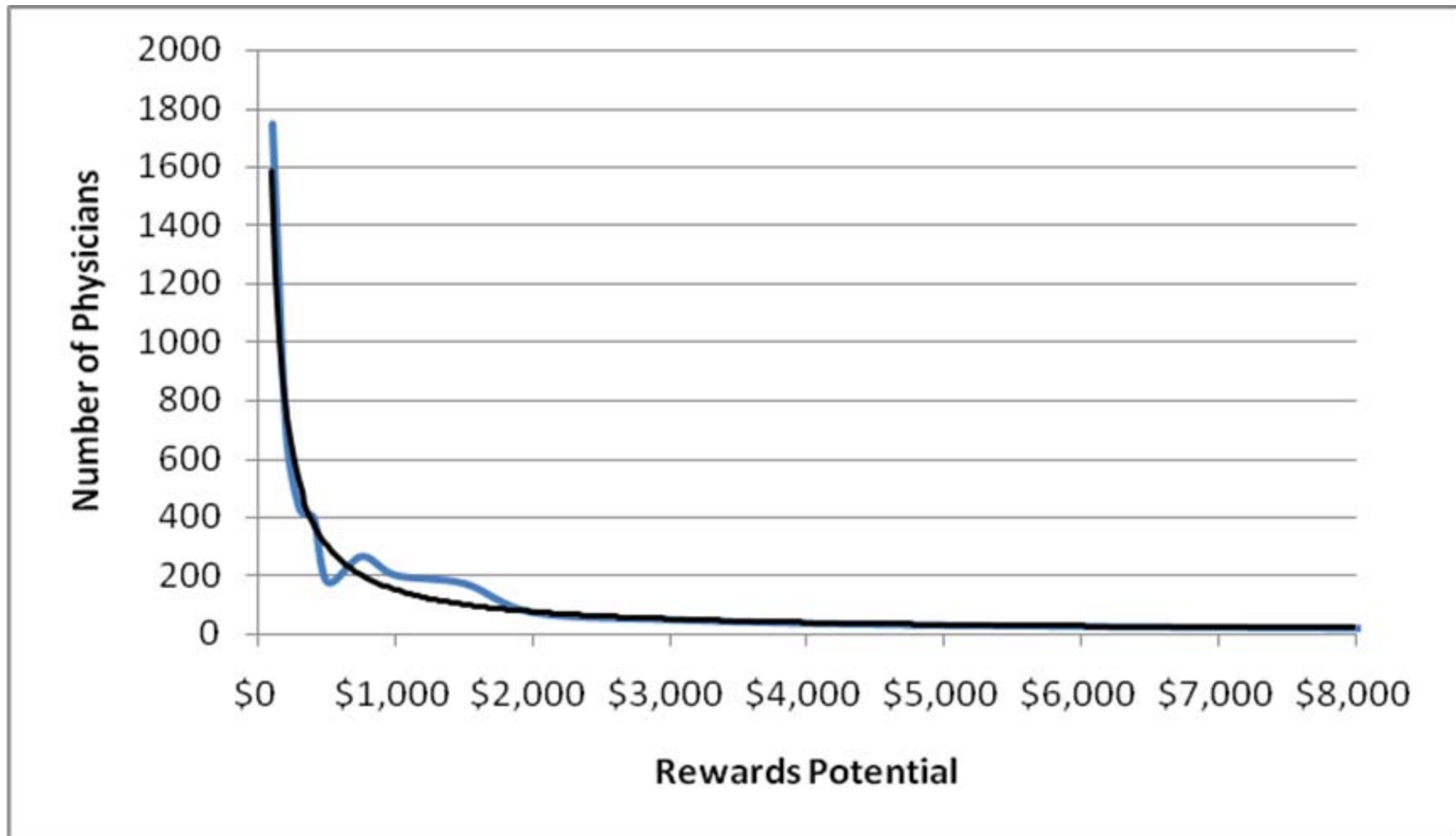
# Probability of Individual Physician Recognition – Physician Office Link



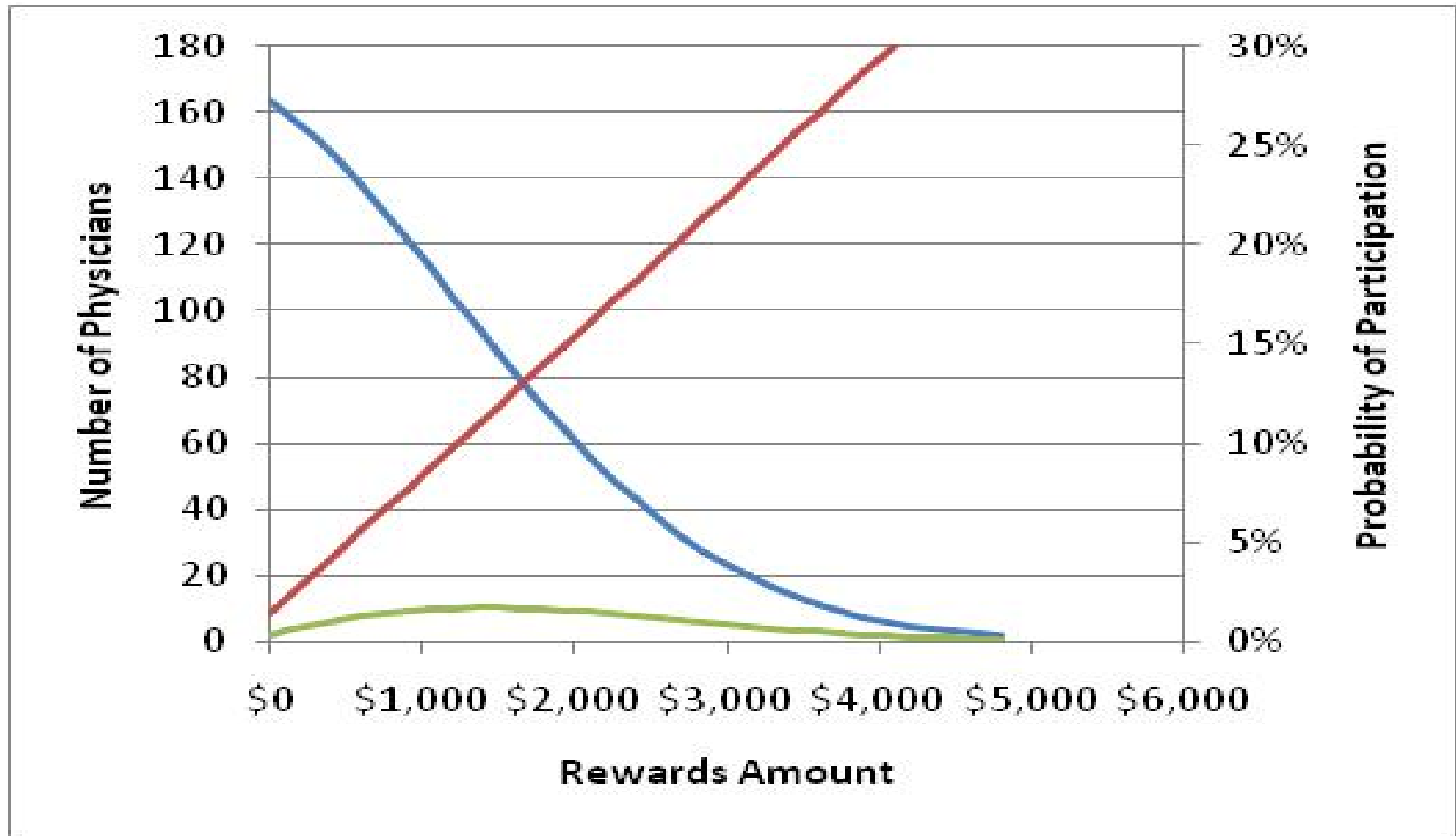
But let's look at the group level . . .



# How many physicians are at each reward level?

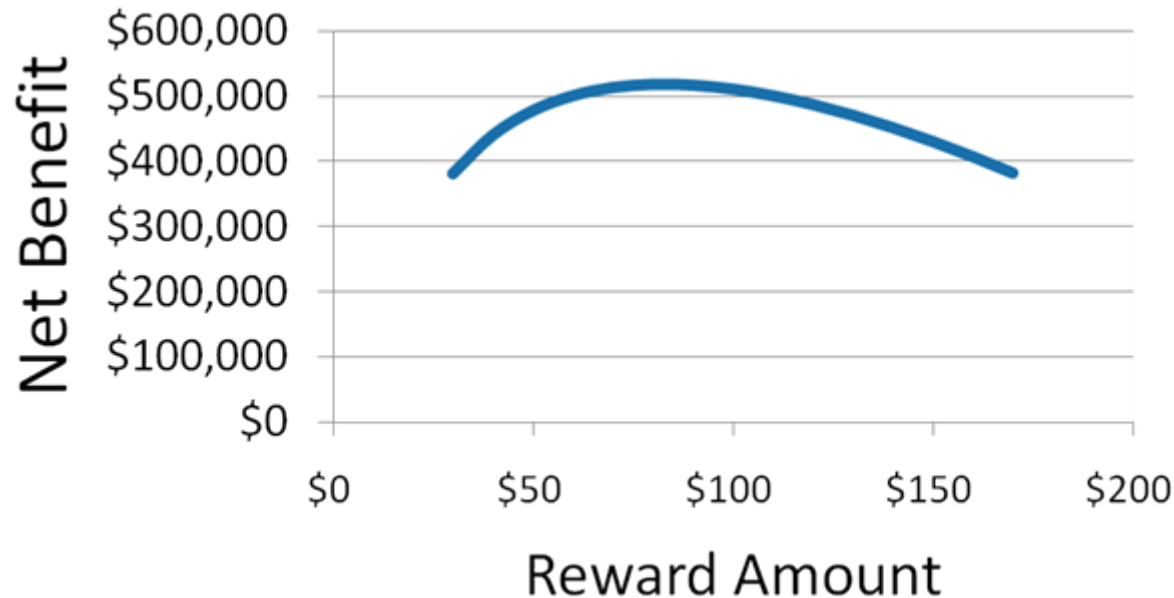


# Predicting Physician Participation



# Optimizing Reward Level

- Purchasers need to balance higher rewards (which attract more physician participation) against lower rewards (which maximize ROI from those physicians that do participate)





# Main Points – P4P Participation

- Depending on program, decision will be made by individual physician or at the group level
- Physician response rates to P4P programs follow a predictable pattern: higher rewards lead to greater participation.
- Understanding the relationship between rewards and physician participation can help health plans and purchasers design more effective incentive programs.

# PROMETHEUS Payment

- A global evidence-informed case rate (ECR) to care for a patient is budgeted for each patient
- Budget is based on patient health status, severity of a condition and co-morbidities
  - Severity-adjusted for:
    - Age
    - Sex
    - Presence of chronic illnesses
    - Health history
- Budget covers all services during a specific time period

# Budgets Include an Allowance for Potentially Avoidable Complications

- At least half of the total current costs associated to Potentially Avoidable Complications (PACs) are redistributed into the ECR budgets, mostly proportionally to the severity-adjusted base budget
- This creates an incentive for providers to help patients avoid complications:
  - If PAC costs are less than predicted, the provider keeps the remainder.
  - If PAC costs are higher than predicted, the provider potentially loses money
- As a result, a *de facto* warranty is created.

# Some Health Care Warranty Experimentation

- Common in patient self-pay environment
  - Cosmetic surgery
  - Dentistry
- Knee and shoulder arthroscopic surgery
  - Dr. Lanny Johnson negotiated an episode case rate
  - Dr. Johnson posted a bond to cover costs above the case rate
    - Results:
      - Costs for payer lower than fee-for-service
      - Profit margins for providers increased
      - Complications decreased
- Geisinger's ProvenCare program

# How ECRs Are Calculated

- Case Study: AMI
- Based on large commercial payer claims database
- 13,977 total cases
  - 7,246 (52%) with no PAC ; average cost = \$40,712
  - 6,731 (48%) with PAC; average cost = \$66,655
  - Model allows 50% of PAC cost = \$8,028
  - PAC allowance is risk-adjusted and added to the

	Low-Risk Patient	Medium-Risk Patient	High-Risk Patient
Base ECR	\$10,957	\$43,915	\$120,045
PAC Allowance	\$3,628	\$8,502	\$19,761
10% Margin	\$1,096	\$4,392	\$12,005
<b>TOTAL ECR</b>	<b>\$15,681</b>	<b>\$56,809</b>	<b>\$151,811</b>

# Modeling the Impact of Episode Payment

- ECR Goal – “Win-Win-Win”
  - Patients get better outcomes (fewer PACs)
  - Total costs decrease
  - Provider margins increase
- Key questions:
  - Impact of population health status (i.e. probability risk)
  - Impact of complications rates/cost on system (i.e. technical risk)
  - Potential for financial benefit
- We built a model to analyze these issues

# Model of a Primary Care Practice

- 2,000 patients
- 500 chronically ill
  - Hypertension – 310 patients (62%)
  - Coronary Artery Disease – 70 patients (14%)
  - Diabetes – 50 patients (10%)
  - Asthma – 35 Patients (7%)
  - Chronic Obstructive Pulmonary Disease (COPD) – 25 patients (5%)
  - Congestive Heart Failure – 10 patients (2%)

# Individual Patients

- Each patient modeled as an individual
- Example
  - Age: 60
  - Gender: Female
  - Risk Factors Present
    - Medical
      - Diabetes – IDDM, Uncontrolled
      - Thyroid Disorders
      - Ancillary, home health, transport
      - DME, visual, hearing aids
    - Pharmacy
      - Insulin
      - Other antidiabetics
      - Other cardiovascular agents
      - Statins, other anti-lipid agents

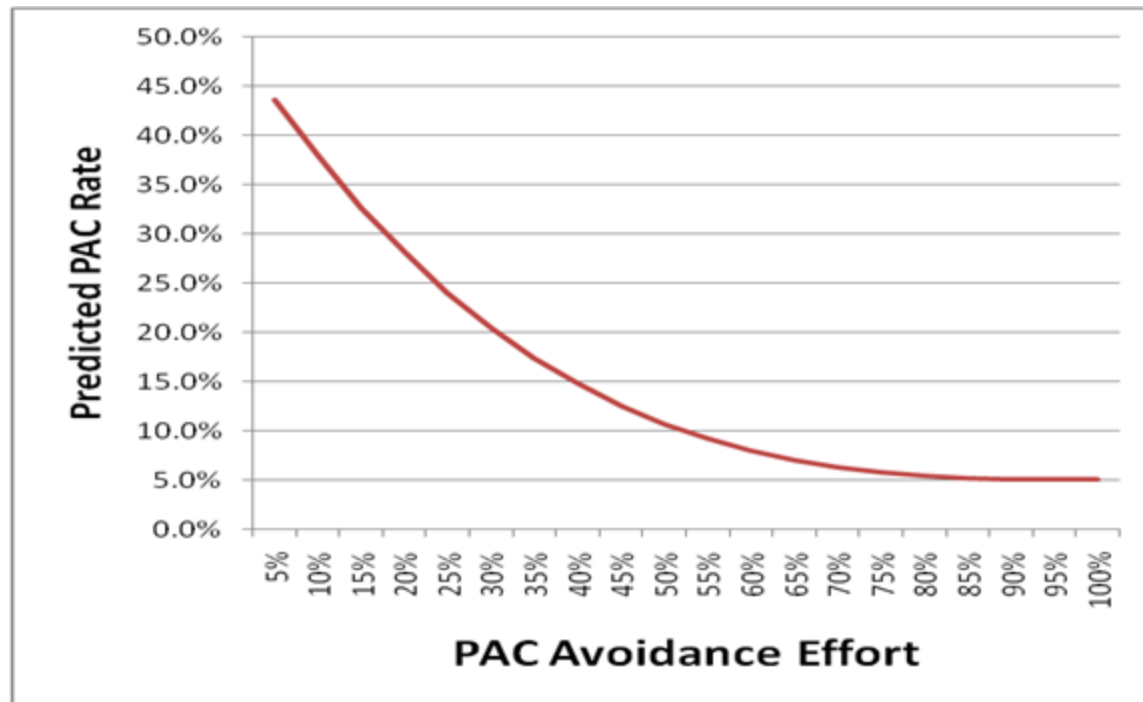


# Payment Model

- For each patient, calculate:
  - Expected FFS payment
  - Prometheus ECR budget
- Sum up both across population – ECR budget will be higher because it includes an allowance for PACs
- Difference is “bonus potential”
- Bonus potential – PAC costs – investment to reduce PACs = actual bonus

# Equation to Estimate PAC Rate

Predicted PAC Rate = Min PAC Rate + (Max PAC Rate - Min PAC Rate) \* (1 - PAC Avoidance Effort) ^Factor + Risk Adjustment



# Key Features of PAC Equation

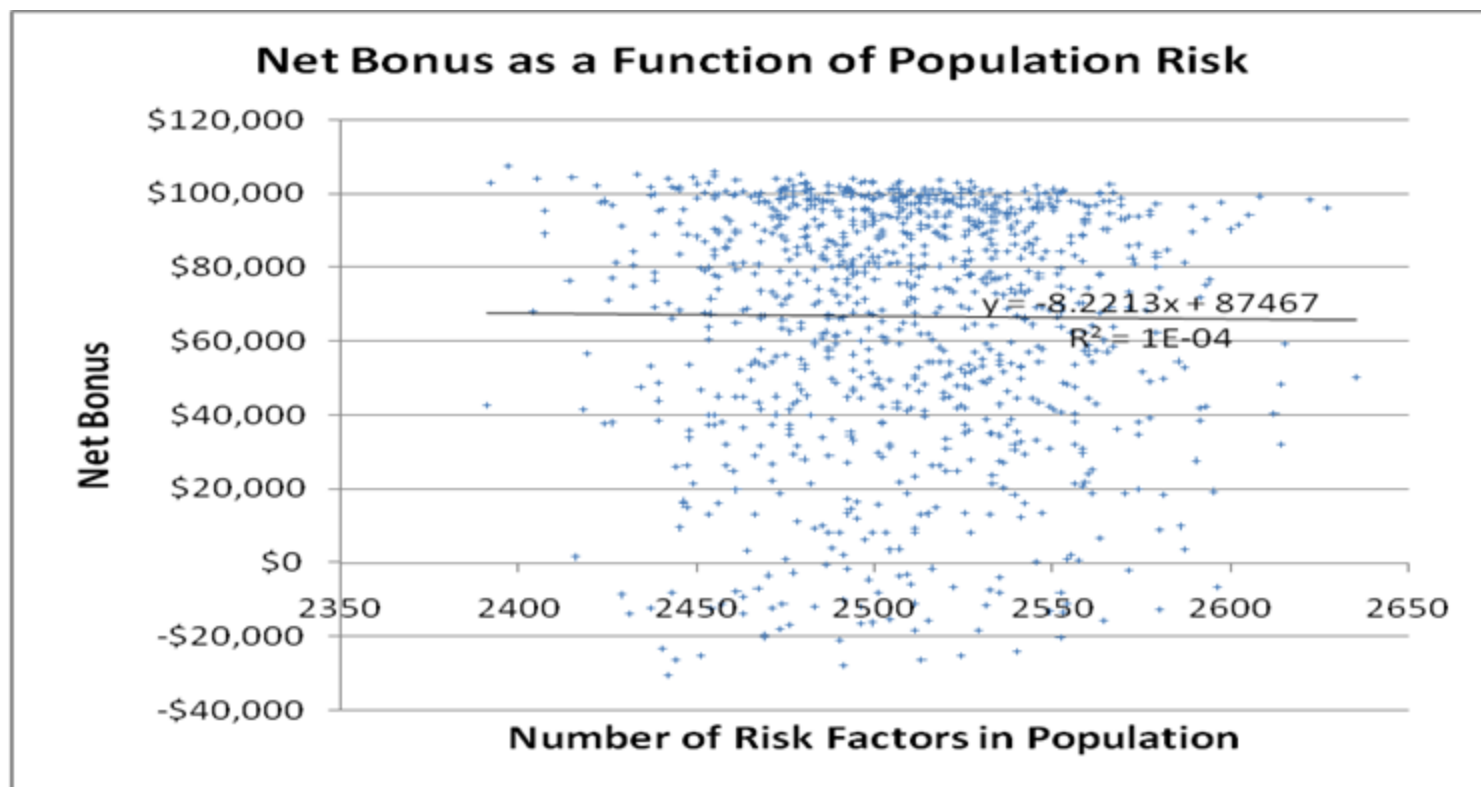
- The max PAC rate is the current PAC rate, since physicians won't get worse at avoiding PACs under a payment system that rewards them for reducing PACs.
- The minimum PAC rate is above zero –physicians cannot prevent every PAC.
- The predicted PAC rate is a function of how much the physician invests in avoiding PACs. This is a non-linear relationship, with diminishing returns as the PAC rate approaches the lower limit.
- The PAC rate is adjusted based on the severity of the population.

# Summary of Model Components

- A population of 500 chronically ill patients
- A method to predict payment for each patient based on their risk profile:
  - Fee-for-service payment
  - Prometheus ECR payment
  - The difference between FFS and ECR is the “potential bonus”
- A method to predict the PAC rate and costs within the population as a function of the physician’s efforts to reduce the PAC rate.
- 1,000 iterations on Monte Carlo simulation, with physician PAC avoidance effort varying randomly

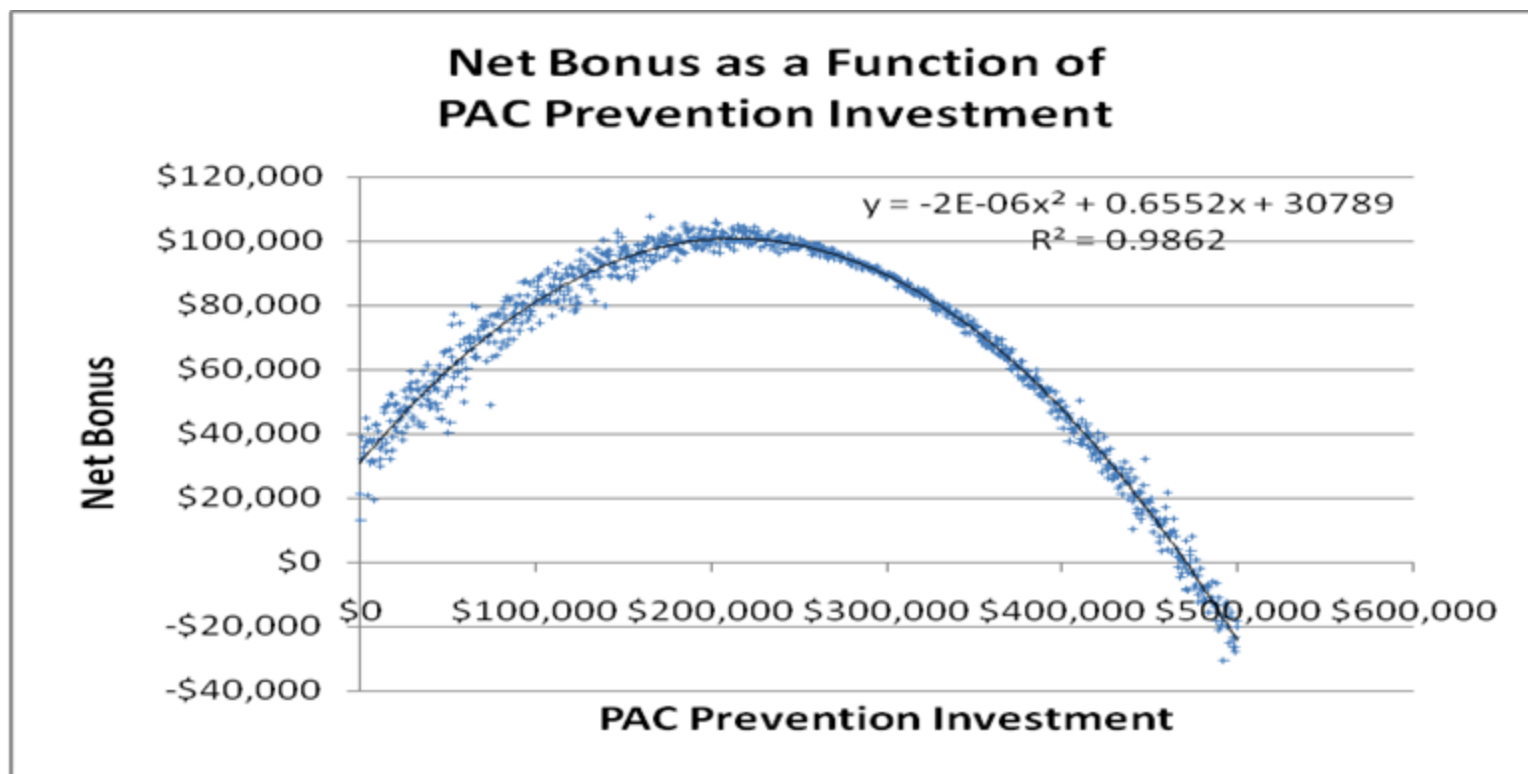
# Effect of Patient Severity

- Patients with more risk factors will have higher PAC rates
- However, ECRs are adjusted for risk



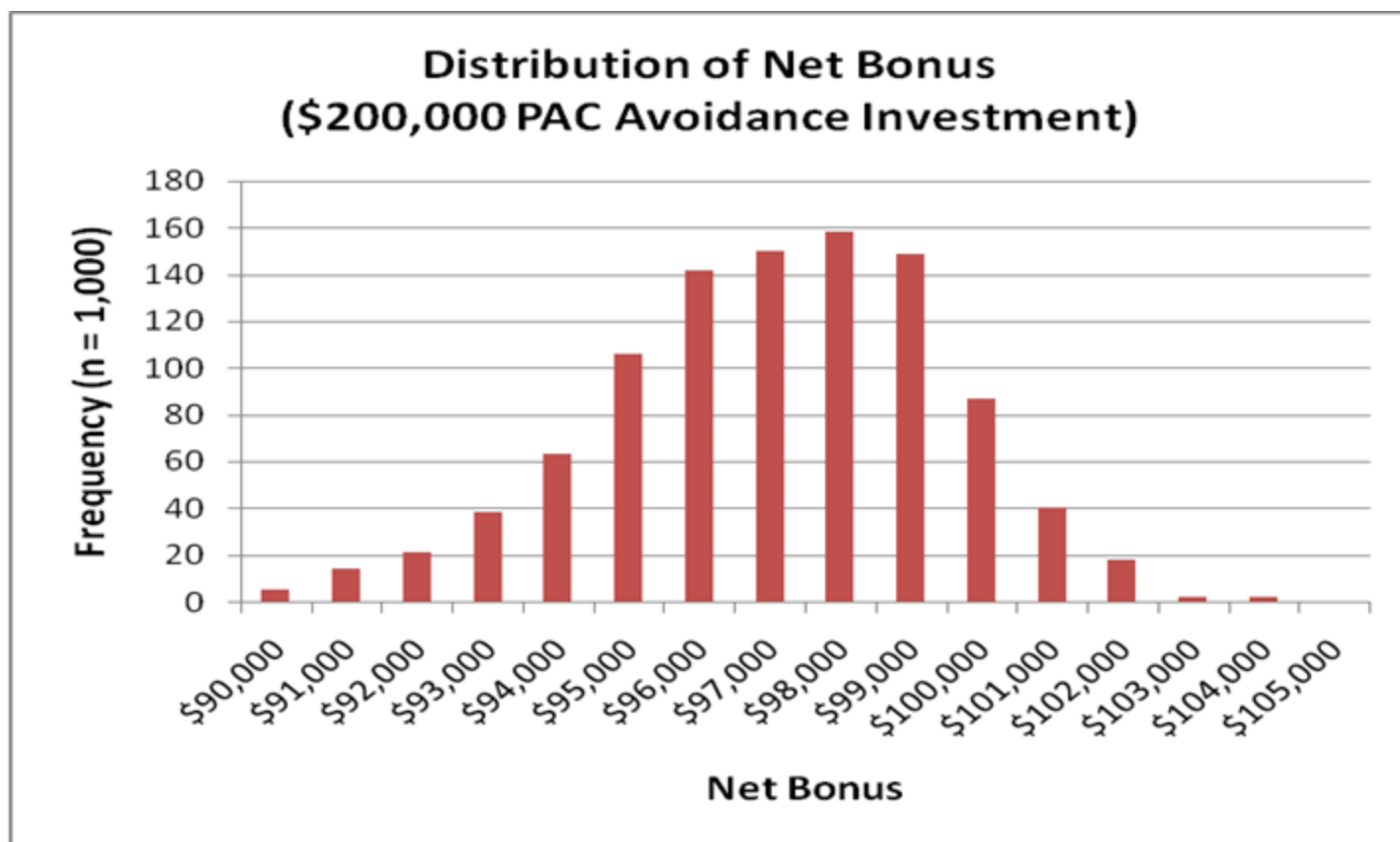
# Incentive for Providers to Invest in PAC Reduction

- Providers will do better when they take some of the extra ECR dollars and invest in improving systems of care.



# Limited Risk to Providers

- When investments are optimized, physicians will see a positive result



# Resources

- Pay-for-Performance
  - Rosenthal, et al., “Bridges to Excellence—Recognizing High-Quality Care: Analysis of Physician Quality and Resource Use” *Am J Manag Care*, 2008;14(10):670-677
  - de Brantes and D’Andrea, “Physicians Respond to Pay-for-Performance Incentives: Larger Incentives Yield Greater Participation,” *Am J Manag Care*, 2009;15(5):305-310
- Episode Payment
  - de Brantes, et al., “Sustaining the Medical Home: How PROMETHEUS Payment® Can Revitalize Primary Care,” <http://prometheuspayout.org>.
  - de Brantes, D’Andrea, and Rosenthal, “Should Health Care Come With A Warranty?,” *Health Affairs*, 28, no. 4 (2009): w678-w687



# Thank You!

## *Questions?*

Contact information:

François de Brantes, CEO, HCI3

francois.debrantes@hci3.org

203-270-2906

Guy D'Andrea, President, Discern Consulting

gdandrea@discernconsulting.com

410-542-4470