

Shaping Convergent Strategies in  
Comparative Effectiveness Research

# CER: Informing Public and Private Payer Decision-Making

June 24, 2010 Washington, DC

***Charles Yarborough, MD, MPH,  
FACOEM, FACPM***

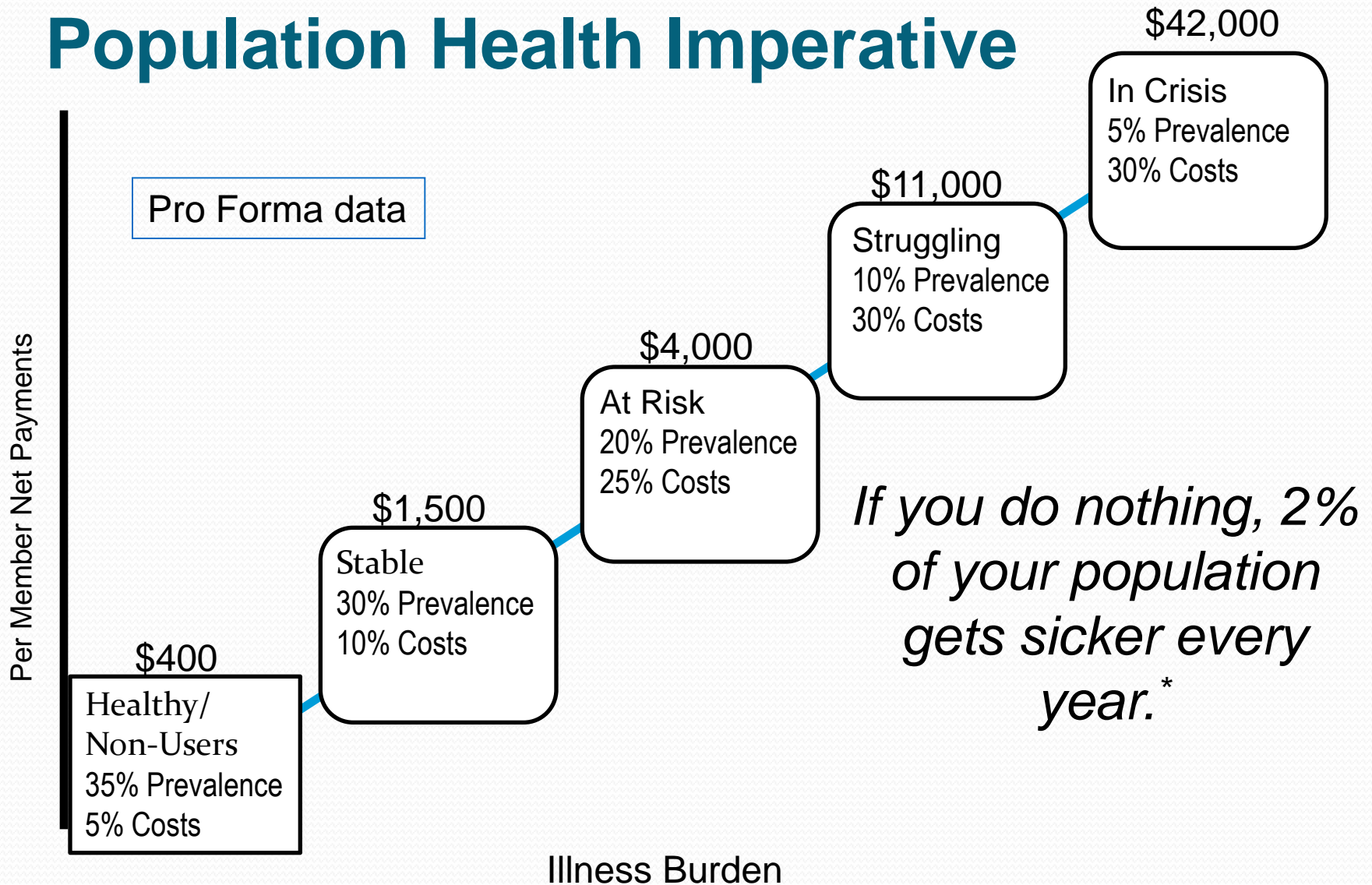
# Disclaimers

- I have not had significant direct funding with any pharmaceutical company for over 20 years.
- This presentation represents my personal views and not those of a current or past employer.
- The data in this presentation is either pro forma or in the published literature; there is no proprietary data.

# CER Questions

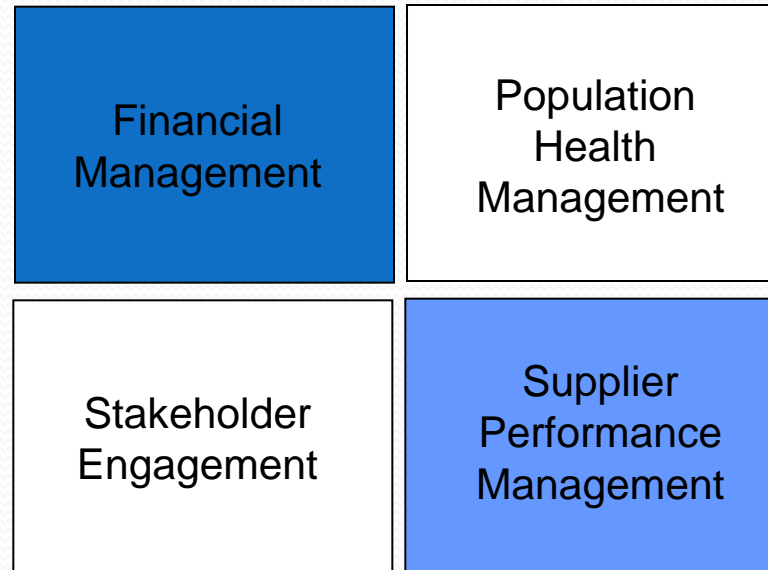
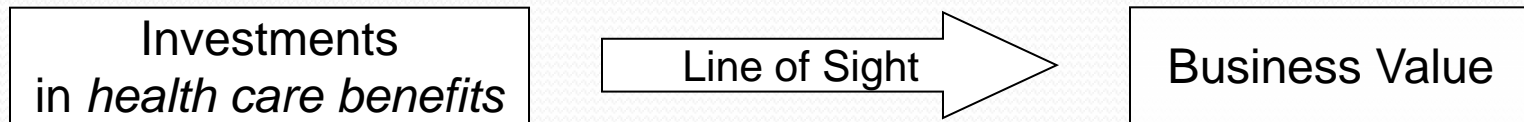
- Do we need Comparative Effectiveness Research (CER) to improve plan members' health status?
- Will CER methods be selectively applied to companies' data sets?
- CER methods be important for assessing population impacts of alternative healthcare approaches? (an example)

# Population Health Imperative



\*Dr. Dee Edington, Director, Health Management; Research Center, University of Michigan

# Population Health as Strategic Component



# Potential for Secondary Analyses of Existing Clinical Datasets for CER

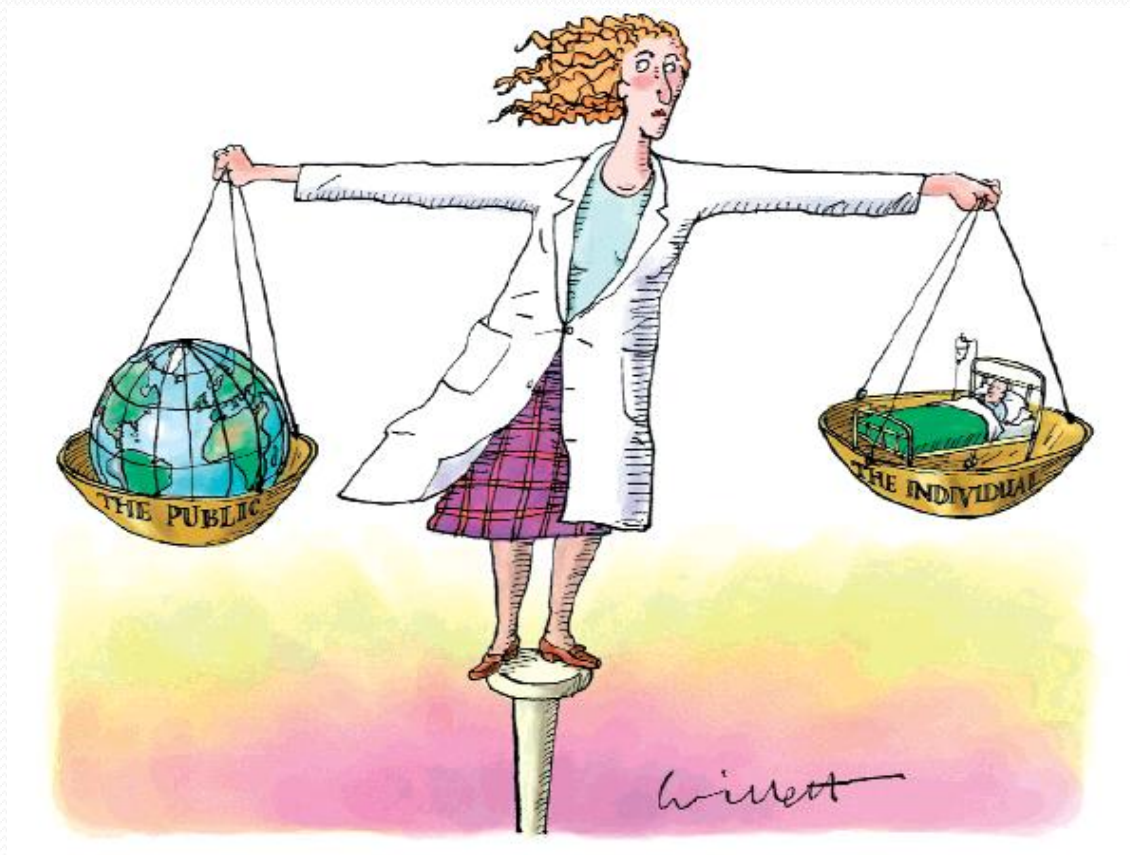
- Typical CER
  - Estimating incidence and prevalence
  - Estimating treatment needs
  - Developing health policy
  - Testing clinical hypotheses
  - Performing meta-analyses
- Innovative challenges\* (examples)
  - Cross-design synthesis to standardize and compare clinical data collected by different methods
  - Evaluation of new statistical models and methods on treatment effectiveness outcomes

\*Ref.: NIH Challenge Grant 05-AA-101 (high priority)

# NIH Challenge Grants for CER

- Prevention and Risk Factor Reduction Strategies for Disabilities (05-AG-102\*)
- Comparative Effectiveness Studies of Non-Pharmacological Treatments for Chronic Low Back Pain (05-AT-101\*)
- CER on Cancer Screening (05-CA-102\*)
- Cost-Effectiveness of Patient Navigation (05-CA-103\*)
- Understanding the Effects of Bariatric Surgery on Type 2 Diabetes and Cardiovascular Risk Factors (05-DK-101\*)
- Support Pilot CER Projects in Community Settings (05-RR-102\*)

# Health of Individuals and Populations





# Population Impact Assessments

- Ask the question -- make the options explicit
- Collect data
  - Relevant population denominators
  - Prevalence and current practice
  - Estimated data on baseline risk of identified outcomes
  - Library of evidence for risks (Relative Risks and Relative Risk Ratios )
- Calculate impact -- population impact measures
- Understand -- values, training, culture, receptivity
- Use -- implement results in prioritizing services using change and knowledge management

# Population Impact Numbers

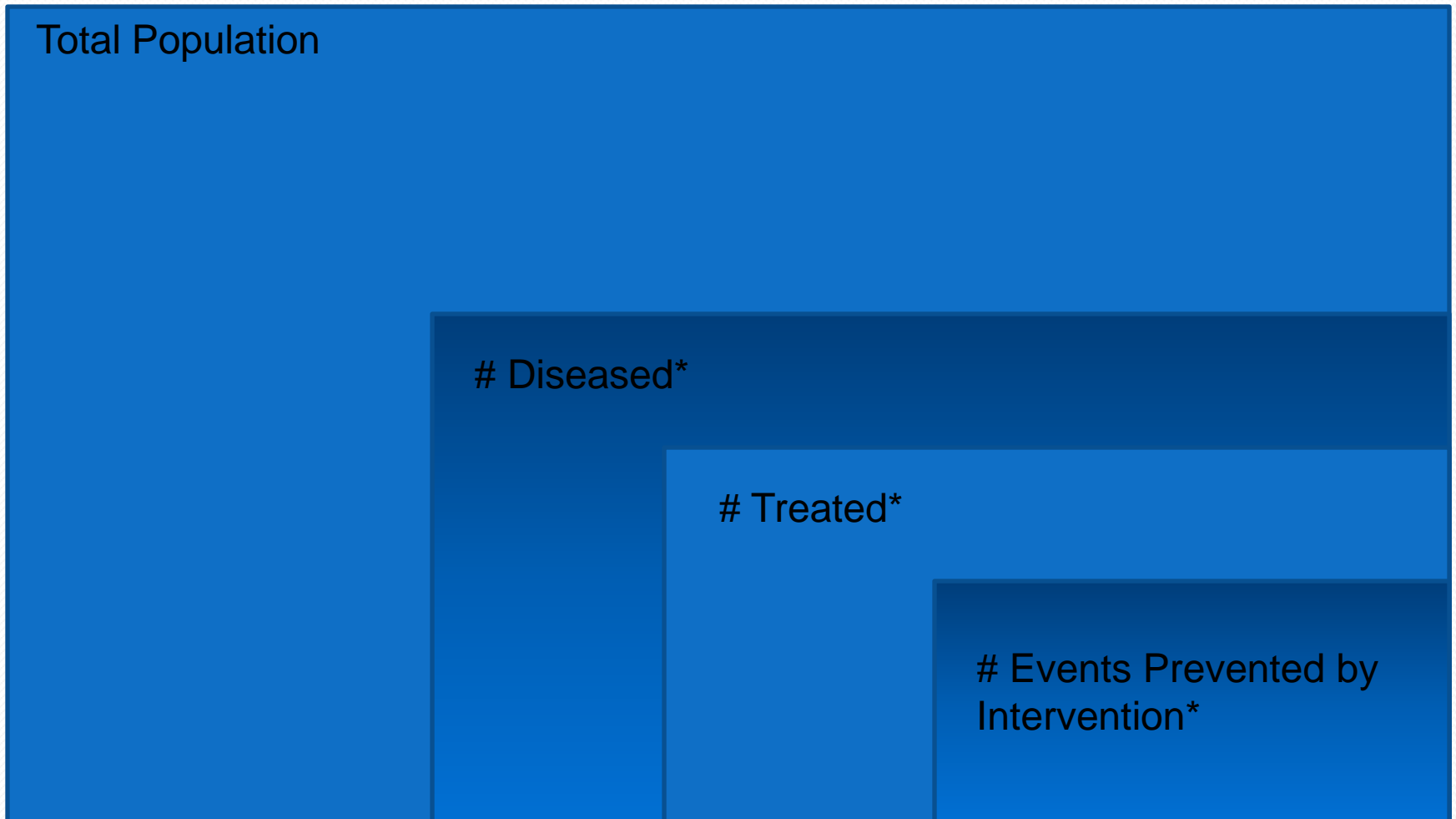
Need: Public health counterpart to evidence based medicine

Solution: Population impact measures to use evidence that is combined with collected data to provide local context to measure of risk and benefit, and to support health policy decision making

Types: Eliminating a risk factor (PIN-ER-*t*) and the number of events prevented by the intervention in your population” (NEPP)

# Population Impact

\* Includes embedded numbers

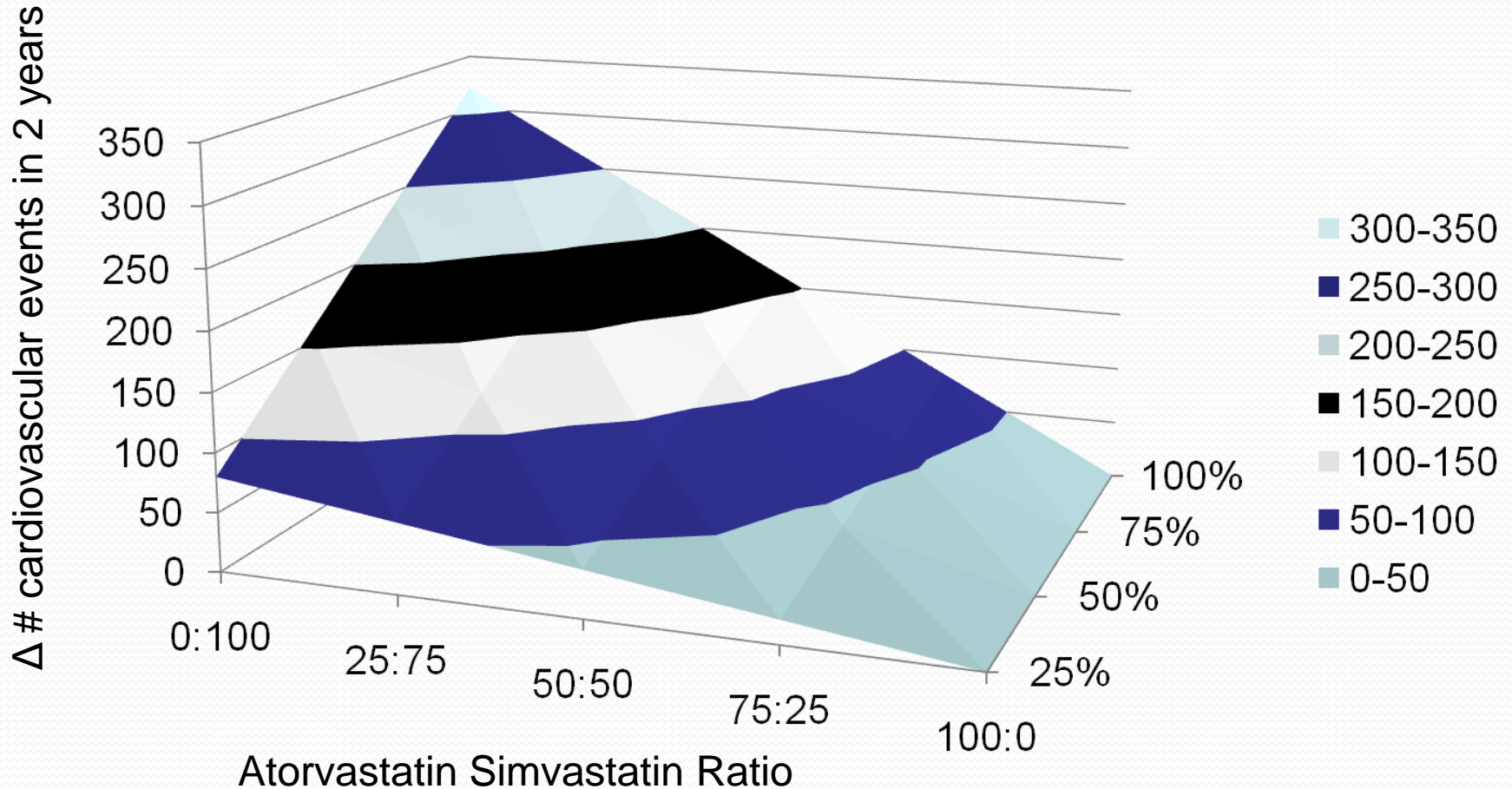


Adapted from R. Heller “Evidence for Population Health” (2005), Oxford U. Press

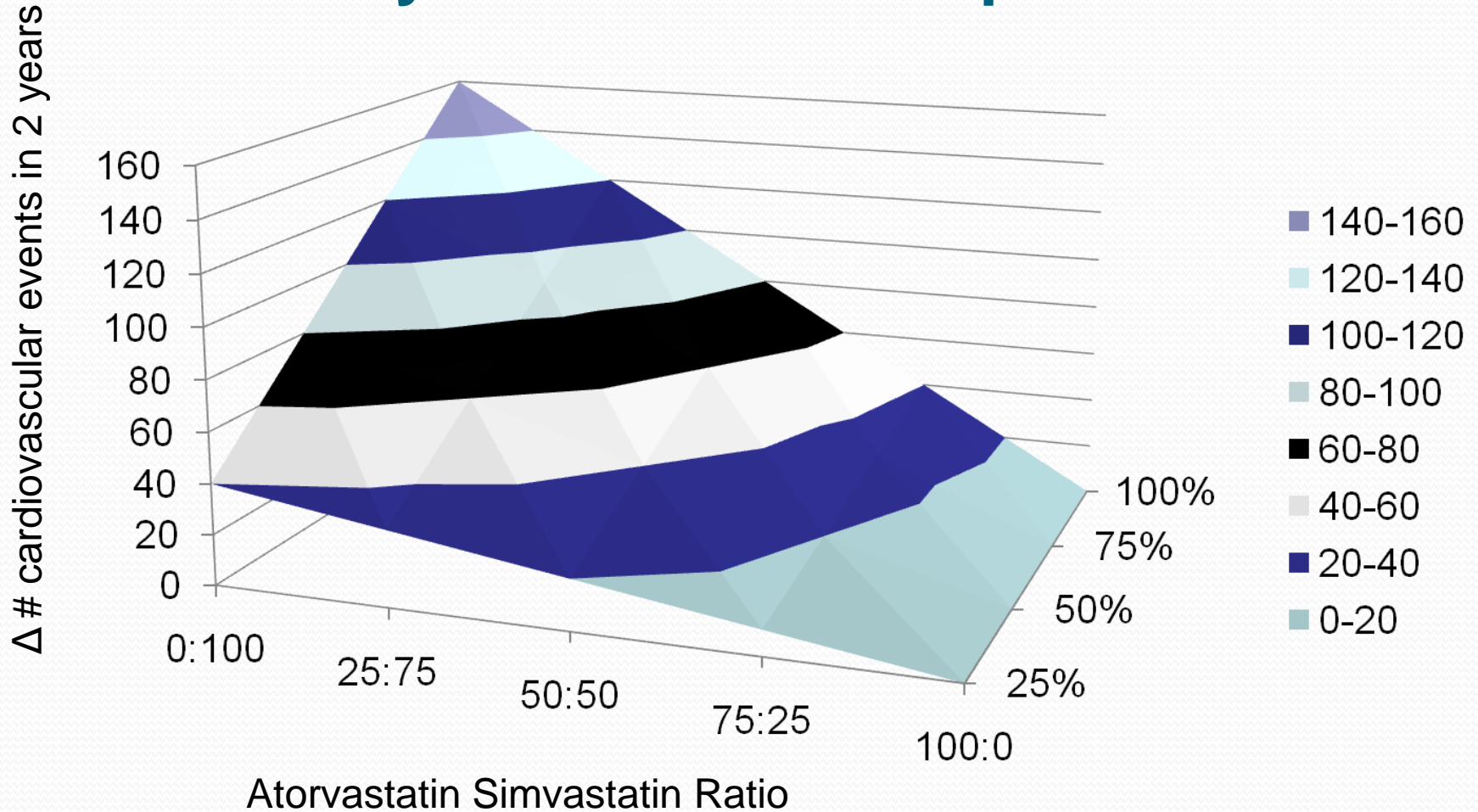
# Atorvastatin vs. Simvastatin Study\*

- Case-referent design
- Full time employees from 23 companies with 2 years continuous postindex enrollment
- Matching (13,584 in each group)
  - Initial drug dose
  - Baseline inpatient CVD events
  - Average wage
  - Propensity score
- Primary study outcomes collected for 2 years
  - Rate of inpatient CVD events
  - Total costs to employers

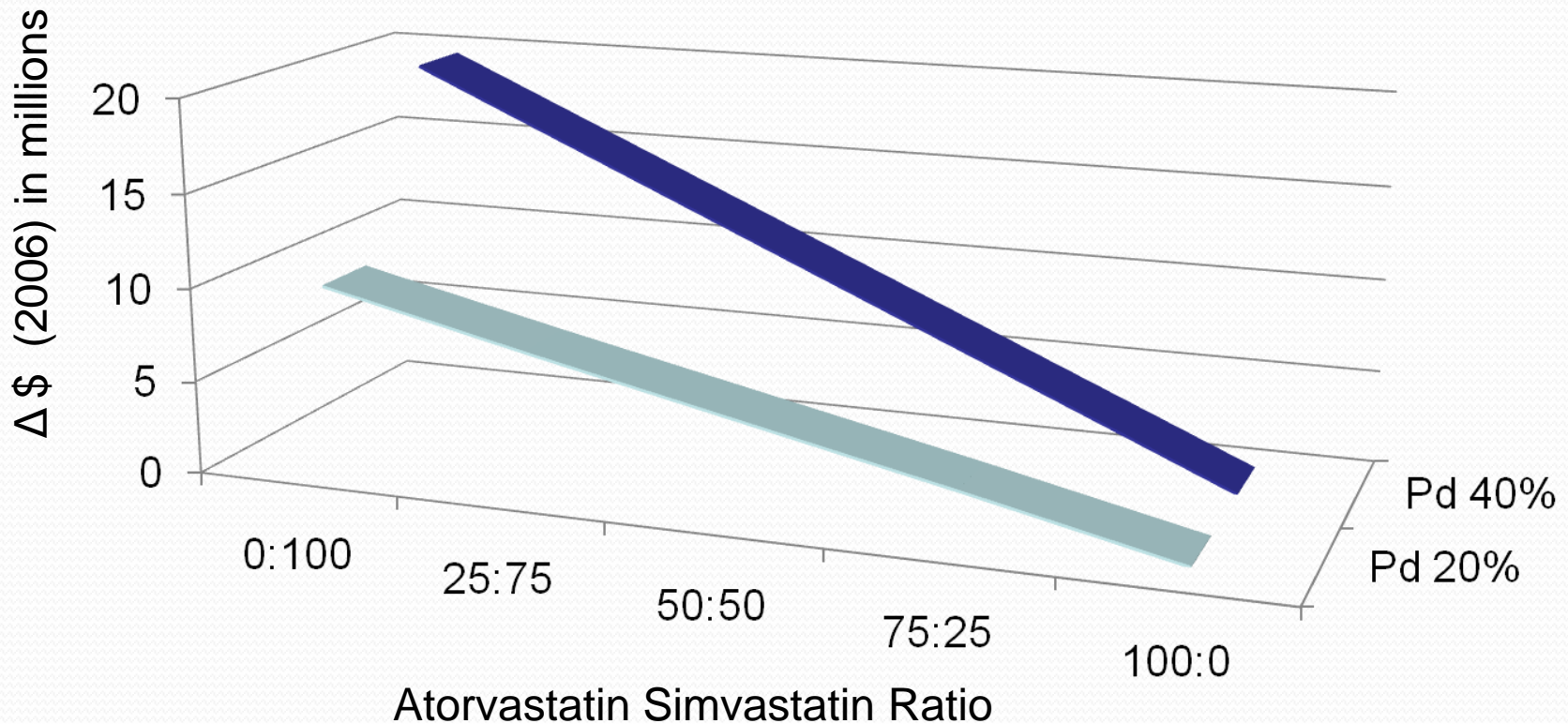
# Impact at 40% Prevalence by Rx Mix and Compliance



# Impact at 20% Prevalence by Rx Mix and Compliance



# Added Cost for Index Drug Depending on Prevalence and Rx Mix



Atorvastatin \$946 mean; Simvastatin \$489 mean.

# Summary

- We need CER studies to enhance decision making for improving plan members' health status.
- CER methods can be selectively applied to and supplemented by companies' data sets.
- CER methods be important for assessing population impacts of alternative healthcare approaches.





**Thank You**