The Impact of CER on Health and Health Care Spending

Tomas J. Philipson, Ph.D
Daniel Levin Chair of Public Policy
The University of Chicago

The long history of public technology assessments

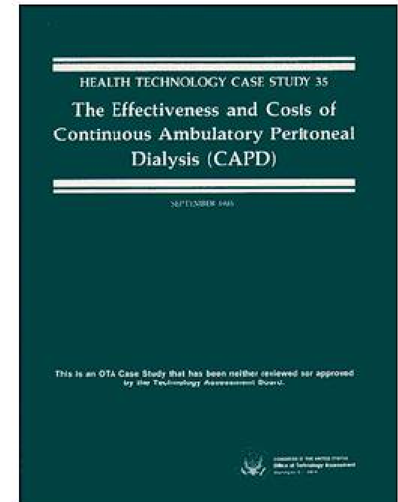
Policy Implications of the Computed Tomography (CT) Scanner: An Update

January 1981

NTIS order #PB81-163917

The Effectiveness and Costs of Continuous Ambulatory Peritoneal Dialysis (CAPD)

September 1985

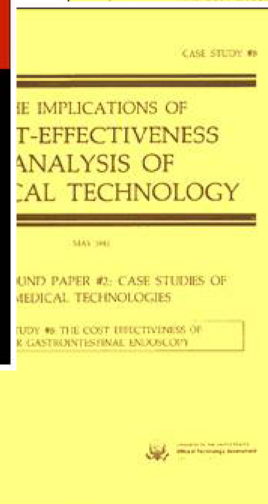


Outpatient Immunosuppressive Drugs Under Medicare

July 1991

OTA-H-452

NTIS order #PB92-117720



R.I.P. 1972-1995

Latest Incarnation: CER

- American Recovery and Reinvestment Act dedicated $1.1 billion for CER
- Proponents argue that CER will:
  - Improve health
  - Reduce regional variation
  - Lower spending
- Some analysts project huge savings
  - Lewin Group: $368 billion over 10 years

Outline

- Predicted effects of CER on cost-effectiveness of care
- Case study for Medicaid coverage for antipsychotics
- Wish list for PCORI

Discussed:

Basu and Philipson (2009), "The Impact of CER on Health and Health Care Spending", National Bureau of Economic Research, Working Paper (www.nber.org)

Impact-Questions Poorly Understood

- How will the market place respond to evidence generated by publicly-subsidized CER?
- How will these responses affect health and spending ?
- Will these responses impact intended goal of CER legislation?

Market Responses without Coverage Responses

CER affects beliefs about product quality

Winners of CER perceived of higher quality

Losers of CER perceived of lower quality

Beliefs about product quality drive demand

Higher demand for CER winners

Lower demand for CER losers

Health- and Spending Implications of CER

Implications for health (e.g. QALYs)

- Health improves if the research is well done ("valid")
- Shifts demand to the superior treatment

Implications for spending (=Utilization x Price)

- More spending on CER winners
- Less spending on CER losers

Cost-effectiveness may be lowered or raised by CER

Private and Public Payer Responses

- Doctor & patients responses versus payers
- Payers will likely use CER to make decisions about coverage
  - CER winners (losers) get more (less) generous coverage
- These payer responses create a 'multiplier effect'
  - Winners of CER utilized even more
  - Losers of CER utilized even less
- Cost-effectiveness implications of CER unclear

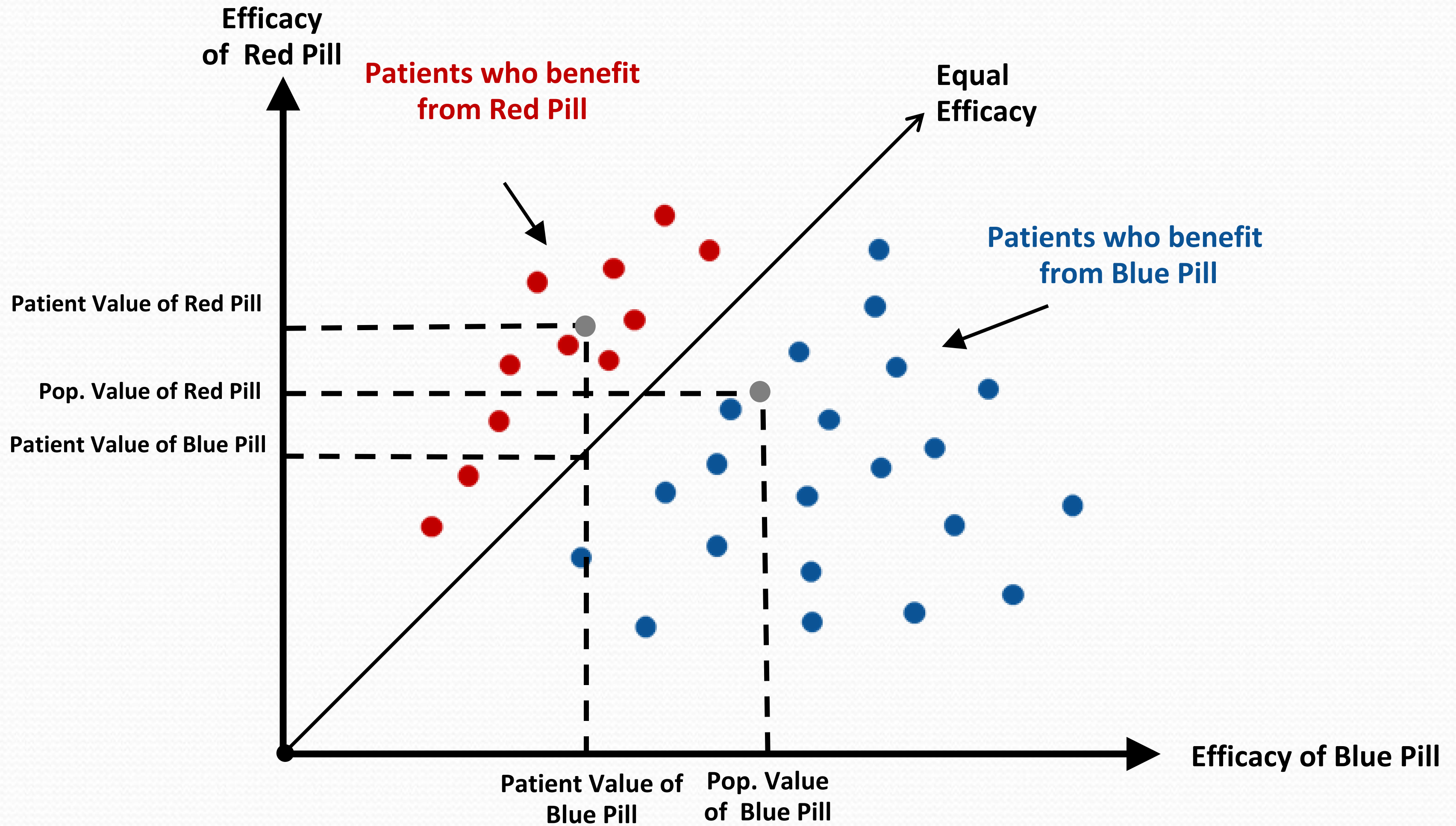
Bottom Lines under (Implicit) Homogeneous Treatment Effects

- Improvements in health from CER
  - Substitution towards better efficacy

- Spending on winners will rise and losers fall
  - Indeterminate effects on spending

- Payer coverage policy tied to CER magnifies these effects

What Happens When Patients Are Heterogeneous?



Health and Spending Implications under Heterogeneity

- Patient heterogeneity
  - Payer subsidies are *product-specific*
  - Treatment is *patient-specific*
  - Some patients will lose from winners more covered
  - Sub-populations may just magnify this problem
- Implications for patient welfare:
  - Indeterminate effects on health outcomes
  - Indeterminate effects on spending
- Cost-effectiveness implications of CER unclear

Case study:
Use of Antipsychotics in Medicaid

- Payer: Medicaid
- Indication: Schizophrenia
- Drug class: Antipsychotics
- CER study CATIE trial
- Responsive subsidy issue: Should more cost-effective drugs receive more Medicaid coverage?

Schizophrenia

- Schizophrenia
  - Chronic psychiatric disorder
  - Lifetime prevalence ~ 1.3%
  - Standardized Mortality Ratio = 151
  - No known cure; treatable disease, primarily with drug-therapy

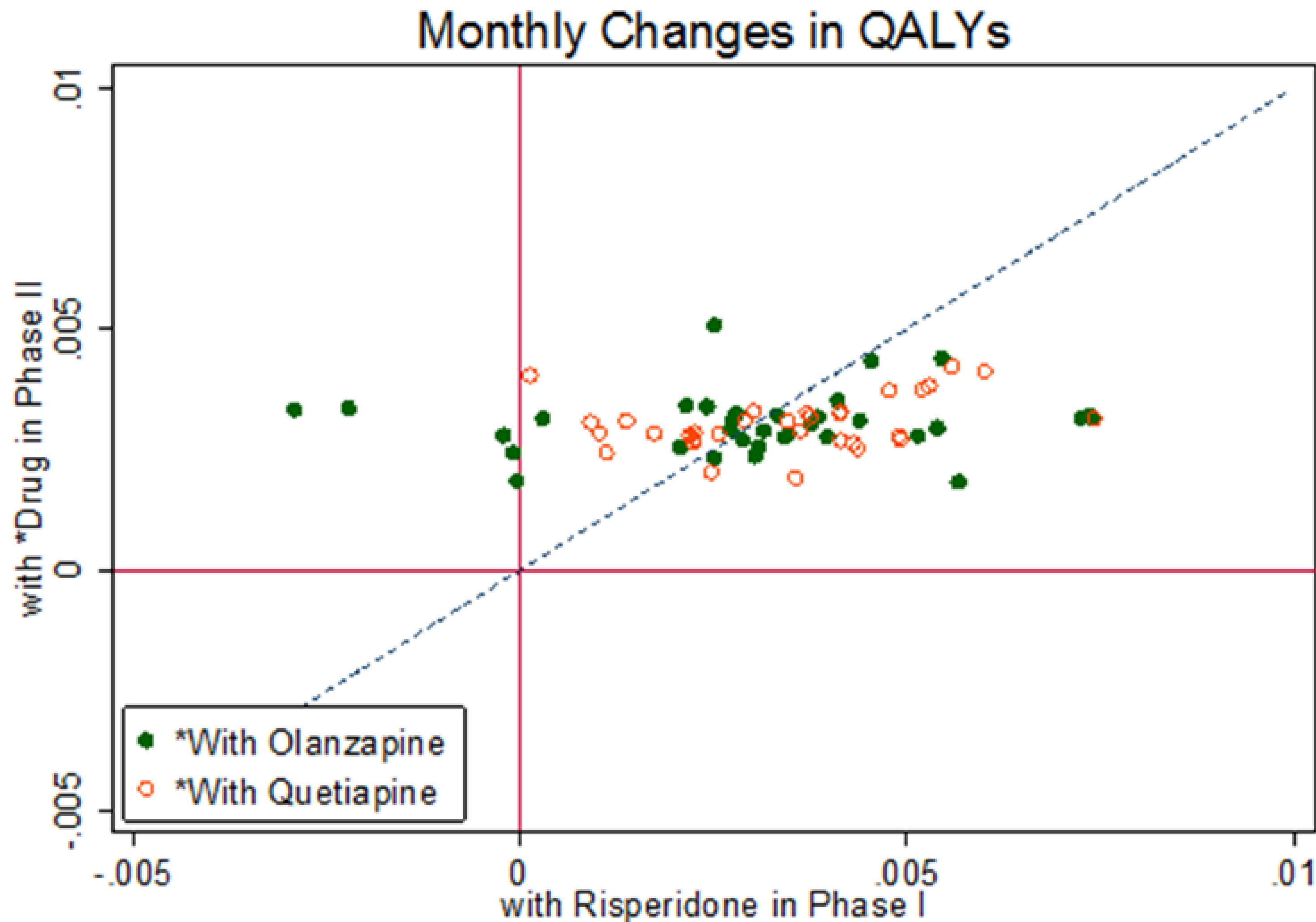
- Drug treatments: Antipsychotics
  - First-generation (typical) antipsychotics or neuroleptics, available since 1950's, e.g., haloperidol, pherphenazine.
  - Second-generation (atypical) antipsychotics , available since early 1990s, e.g., olanzapine, risperidone, quetiapine

CATIE Trial

- Sponsored by NIMH
- Compared 1st and 2nd generation antipsychotics for schizophrenia
- Results published in 2006

> *"Treatment with perphenazine was less costly than treatment with second-generation antipsychotics with no significant differences in measures of effectiveness."*
>
> --Rosenheck et al. (2006)

Heterogeneity: Fail First Line, Respond on Second?



Source: Basu and Philipson (2009), NBER Working Paper.

CER-Responsive Coverage: Medicaid Coverage based on CATIE

- Many argue Medicaid should cover the most cost-effective treatments
  - Issue at hand: more generous coverage for CER winners
- Using CATIE as CER in schizophrenia case:
  - Pay only for first generation antipsychotics in Medicaid
  - 90% reduction Medicaid annual class spending annually (currently $1.3 billion)
- Problem:
  - Many patients fail first-line typicals but respond to 2nd line atypicals
  - Induces a loss of health valued at 98% of class spending

Summary

- Implications of public investments in CER on spending and health outcomes seem poorly understood
  - The cost-effectiveness implications of CER unclear under common market responses
    - Health - and spending effects indeterminate
    - True whether or not payers respond in coverage
  - Case study : Natural public payer response to CATIE CER would lower patient health more than it lowered spending

Future of CER and PCORI Wish-list

- Thee goal should not be treatment A vs B but matching patients to A and B
- Targeting of useful scope of public subsidies versus private quality research efforts
- Value of decentralized vs decentralized evidence
- Fitting CER to medical practice

What is the Appropriate Scope of CER? Medical Products versus Procedures

- Intellectual property stronger for products
  - Procedures generally do not have IP, products do
  - Private incentives for quality evidence stronger under IP
- Products mandated effectiveness through FDA
- Therefore: Public subsidies for CER may be more productive for procedures

Fitting CER to Medical Practice

- Sequencing of treatments in practice
  - First-, Second-,Third-line therapy
- Dependence of treatment effects
  - Non-response on first→ Non-response second ?
- Common Practice
  - Assigning sequence through MARGINAL means
  - Throws away information of failure
- Cost-effective sequence of treatments uses dependence

Questions & Answers

- Contact Information
  - Email: t-philipson@uchicago.edu