

Identifying the effects of health insurance coverage on health care use when coverage is misreported and endogenous

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Importance of the issue to public policy

- Why is this an important public policy area in general?
- Health insurance policy/design is an important public finance area (inherent uncertainty of health status-> importance of health insurance)
- The health insurance market exhibits market failures mainly due to
 - ❖ Asymmetric information between the insured and insurers *before* signing the insurance contract
 - > Adverse selection (AS) / advantageous selection
 - > Non-optimal insurance coverage for low-risk individuals
 - ❖ Asymmetric information between the insured and insurers *after* signing the insurance contract
 - > Moral hazard (MH)
 - > non-optimal utilisation of health care services
- Government interventions/ public policies to combat selection and moral hazard to improve social welfare

The role of public policy through economics lens

- On adverse selection: Rothschild and Stiglitz 1976 model predictions
 - AS-> non-optimal insurance coverage for low-risk individuals, unravelling in health insurance markets
- Public policy options to combat AS:
 - A rationale for government intervention through compulsory public insurance.
 - Private insurance market with government intervention (mandate coverage with subsidy, community rating)
- On moral hazard: Zweifel and Manning 2000 model predictions
 - *ex-post* MH presents but *ex-ante* MH is ambiguous
 - The presence of *ex-post* MH means partial coverage may be an optimal solution for the insurer.
 - MH can be mitigated using cost-sharing mechanisms; there exists a critical value of the copayment rate for which the equilibrium level of health care services is optimal.
- Policy options to combat MH:
 - Demand-side cost sharing: co-payment, deductibles; optimal copayment rate depends on types of services
 - Supply-side cost sharing: incentive-based contracting with insurers and providers

The role of public policy in health insurance in Australia

- Public-private mix of HI system: mandatory public health insurance + additional PHI coverage
- Community rating and heavy government regulation of PHI in Australia
- Augmenting publicly funded healthcare through increased PHI coverage
 - carrot and stick policy initiatives to improve uptake of PHI coverage
- Governments balance their support between public and private health insurance markets

Existing literature: the knowns

- Empirical literature **internationally** on the existence and magnitude of MH
 - Limited evidence on *ex-ante* MH, but substantial evidence in *ex-post* MH
 - Generally accepted that HI has some causal impact on health care utilisation (Pauly 2006)
 - The magnitude of the causal effect varies across different empirical methods and institutional contexts

- Empirical literature **in Australia** on the PHI impact
 - Generally found positive effects on healthcare utilisation with varying magnitudes.
 - Differences come from different methods: selection on observables vs. IV methods.
 - Heterogeneity in moral hazard across elective vs. non-elective hospital procedures (Doiron et al 2014)
 - Impact of PHI on the substitution between private and public sector care (Doiron & Kettlewell 2018)
 - All previous research used self-reported insurance indicators.

Existing literature: the unknowns

- Unresolved issues around causal identification of the extent of MH
 - Non-experimental evidence suffers from confounding from
 - a) selection effects: adverse selection (+) / advantageous selection (-)
 - b) heterogeneity in preferences for insurance: risk preferences (-)
 - Misreporting of HI in survey data can lead to inconsistent estimates of the MH effects
- Unresolved issues around health insurance policy in Australia
 - How to best reform PHI in Australia to improve uptake?
 - how should governments balance their support between public and PHI markets
 - a) Does PHI achieve its expected goal of relieving the burden of public health insurance?
 - b) Does PHI help to contain overall health system costs?
 - c) Does PHI provide a higher quality of care leading to improved population health?

What I like about this study

- Tackles an important research question with high relevance to public policy
- Addresses a core academic issue related to optimal insurance policy design
 - causal identification is difficult with pervasive endogeneity and measurement errors
 - this study addresses these problems by
 - ❖ Using innovative causal identification approaches to carefully address the issues
 - ❖ Exploiting the latest data that includes accurate PHI indicator
- This study contributes to two literature
 - The first empirical evidence systematically documents the magnitude and direction of the bias from misreporting and endogeneity of health insurance coverage
 - Provide a framework that can be followed in future in dealing with misreporting/misclassification of endogenous treatment variables: linked admin and survey data

What I like about this study

- This study generates important policy insights for Australia
- Insights on the PHI effects
 - Individuals with PHI access healthcare services more frequently, particularly primary care visits and specialist consultations.
 - Current estimates are smaller than previous ones, true MH effects are smaller than expected
 - The magnitude varies across different service types
- Insights on methodological issues in the literature
 - Reveals misreporting leads to significant overestimation of the PHI effects -> Previous findings may suffer from such upward bias
 - The magnitude and statistical significance of the effects varies across different causal identification methods -> variation in previous estimates driven by differences in methods

Suggestions

- Need for a conceptual framework to guide the empirical examination & interpretations
- Empirical methods and modelling issues:
 - Method 1: selection on observables
 - a) sufficient controls for expected health utilisation (high-risk type)?
 - b) sufficient control for risk preference?
 - c) lag of PHI rather than contemporaneous status?
 - Methods 3: validity of IV (based on discontinuity in HH income induced by MLS policy) questionable
- Data:
 - The benefit of using PLIDA data to construct health care utilisation is limited as it doesn't provide a full picture: Only health care services subsidised by the government in PLIDA
 - Construction of health care utilisation from MBS could be more refined, e.g. GP vs. specialist items

Suggestions

- More discussion on reasons behind the discrepancies in estimated PHI effects across
 - Service types: Any discernible patterns between more and less discretionary services?
 - Empirical methods: How to reconcile the different results from different methods; selection on observables vs. IV -> downward bias for the former
- Further analyses for more policy insights
 - Analysis of different effects by different services/ procedures? similar to Doiron et al. 2014 testing heterogeneity in the incentive effects of health insurance on elective vs. non-elective surgeries
 - Utilisation of health care in the public vs. private sector? Possible to use outcomes in NHS data? Calling for more linked admin data!
- Interpretation of the results
 - Possible explanations for PHI leading to more doctor visits, which is not covered by PHI?
 - Any policy implications from the refined estimates?