Abstract

- Individuals infer their own health risk after observing health experiences of their family members (e.g., new major diagnoses or hospitalizations).
- When an individual is newly diagnosed with a chronic condition:
  - Unaffected family members increase their healthcare spending by 1–10%.
  - Spillovers include 1% use of both high- and low-return care.
  - Responses are consistent with individuals updating their own health risks.
- To assess welfare, I estimate a structural model of health choices with treatment costs identified to improve social welfare.

Introduction

- Social networks provide information for consumers' health choices.
- Individual expectations of health needs are updated as they observe the experiences of family members, friends, and neighbors.
- Spillover effects may include updated beliefs about health risk, but also:
  - Moral hazard: Changes to the expected price of medical care.
  - Salience: Preferences for health consumption (e.g., risk aversion).
  - Health System Information: Knowledge about the availability of services.

Data and Setting

- Setting: new diagnoses of chronic conditions (e.g., diabetes, depression, asthma).

Methods and Contributions

Reduced-Form Evidence: Spillovers and Mechanisms

- I identify causal impact of health shocks on choices using TWFE regressions:
  \[
  \sin^{-1}(y_{ij}) = a_i + r_i + \sum_{k=1}^{K} f_k E_{kt} = k + \epsilon_{it}
  \]
- Results are robust to alternative TWFE estimators.
- Explore effects on competing mechanisms based on selection of \( y_{ij} \).

Structural Approach: Belief Evolution and Learning

- Model where households form beliefs about their health risks over time.
- Households choose insurance plans, then select health care in response to fluctuations in individual health states.
- Health events ⇒ updated beliefs, but also updated spot prices and risk aversion.

Structural Identification:

- Variation in treatment costs identifies spot price changes (moral hazard).
- Plan choice set variation identifies household risk aversion.
- Characteristics of diagnostic event identify belief evolution separately.

Results: Spillover Effects and Mechanisms

1. Diagnoses ⇒ informational spillovers for household members (Figure 1).
   - This includes 1% in total utilization and 1% in preventive care.
   - Increases are particularly strong for disease-specific prevention (e.g., diabetes screenings after a new diabetes diagnosis: Figure 2a).

2. Results are most consistent with belief updating (Competing Mechanisms):
   - Moral hazard: Spending 1% even when spot prices don’t change (Figure 2b).
   - Salience: Diagnoses induce stronger preventive responses than acute events.

3. Responses include 1% utilization of “quasi-preventive” low-value care.
   - Cardiac screenings prior to low-risk surgery.
   - Imaging services (e.g., for lower back pain).

Conclusions & Contributions

Health information ⇒ powerful spillover effects in family networks

1. Novel (strong) channel for health spillovers: chronic diagnoses.
2. Mechanisms: health events affect decisions most by how they affect beliefs.
3. Heterogeneous Returns: diagnoses increase use of both high and low-value care, ultimately resulting in welfare losses for the average household.

Other Contributions:

- Learning and preferences in structural models of health behavior.
- Non-Bayesian learning, with an emphasis on salience of recent events.
- Suboptimal health decisions made by many health consumers.

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References


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