Evaluating Prescription Drug Subsidies for Diabetics

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Motivation

- Rising drug prices are putting increased financial strain on individuals with chronic diseases such as diabetes
- Since 2006, out-of-pocket costs for insulin have doubled
- Rising out-of-pocket costs for prescription drugs may impede medication adherence and lead to poor health outcomes for diabetic patients

Policy Background

- Medicare's Part D Low-Income Subsidy (LIS) reduces drug co-pays and caps out-of-pocket costs for low-income beneficiaries
- The LIS has strict eligibility thresholds based on household income (135% and 150% of the Federal Poverty Level) and assets
- These thresholds generate sizable differences in expected out-of-pocket drug costs below vs. above 135% and 150% of FPL

Cost-sharing responsibilities per prescription for Medicare Part D enrollees by LIS status, 2019

	Full LIS (≤135% FPL)	Partial LIS (136-150% FPL)	No LIS (>150% FPL)
Deductible	$0	$83	$415
Coinsurance	$1.25*-$8.50**	15%	25%
Catastrophic	$0	$3.40*-$8.50**	5%

Estimated out-of-pocket cost of filling a one-month prescription of Lantus insulin by LIS status, 2019

	Full LIS (≤135% FPL)	Partial LIS (136-150% FPL)	No LIS (>150% FPL)
Deductible	$0.00	$143.45	$432.75
Coinsurance	$3.80	$72.90	$121.50
Catastrophic	$0.00	$8.50	$24.30

*For generic drugs, $1.25 with income below 100% FPL; $3.40 above 100% FPL
**For brand name drugs, $3.80 with income below 100% FPL; $8.50 above 100% FPL
Notes: Coinsurance phase is when total spending that counts as out-of-pocket is between deductible amount and catastrophic threshold of $5,100. We use estimated cost for Lantus of $243 per vial, assuming two vials per one-month prescription filled at beginning of each phase. Assume Lantus is a brand-name drug. Source: SSA, 2019 and Health Care Cost Institute, 2019.

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Prescription drug subsidies for **low-income Medicare beneficiaries** cap out-of-pocket costs for **insulin** and other drugs used by diabetics.

We will employ **quasi-experimental** methods to examine the effects of caps on out-of-pocket costs on beneficiaries' **mediation adherence** and **diabetes-related health outcomes**.

Data and Methods

- Data from Health and Retirement Survey linked to Medicare claims (5 waves, 2006-2016)
- Regression discontinuity (RD) design:
  - Exploits abrupt reductions in subsidies at LIS thresholds among those who are otherwise minimally different
  - Mimics a "randomized trial" within the vicinity of LIS thresholds
  - Allows us isolate the effects of differences in out-of-pocket drug costs at these thresholds with patients' health outcomes

Outcomes and Analyses

- Primary outcomes:
  - Total out-of-pocket drug spending
  - Medication adherence
  - Cost-related medication non-adherence
  - Hospital admissions related to diabetes
- Separate analyses will be conducted for insulin and oral diabetes medications
- Secondary analysis for will be conducted beneficiaries with co-morbid hypertension and hyperlipidemia

Project Goals

- Publication in a peer-reviewed journal and presentation at scientific conferences
- Catalyze collaborative research program between researchers in Pitt's Schools of Pharmacy and Public Health
- Generate preliminary data for an R21 or R01 grant proposal
- Support research training opportunities for one PhD student and an undergraduate at Pitt

Potential Impact

- Our study will provide evidence to policymakers on the impact of high out-of-pocket drug costs for low-income diabetics
- This is relevant because several states and insurers are considering limits on out-of-pocket costs for insulin products
- The results will also demonstrate whether reforms to the LIS could improve medication outcomes among individuals most sensitive to rising drug costs