Subsidizing Health Insurance for Low-Income Adults: Evidence from Massachusetts and Implications for Future Health Reforms

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How much are low-income individuals willing to pay for health insurance? What are the implications for insurance market reforms that change government subsidies?

Using administrative data from Massachusetts' subsidized insurance exchange in 2009-2013, we exploit discontinuities in the premium subsidy schedule to estimate willingness to pay and costs of insurance among low-income adults. We obtain three main results:

- **Subsidies Matter:** Insurance take-up falls rapidly as subsidies decline: About 25% of the low-income eligible population drop coverage in response to a $40 increase monthly enrollee premiums. As an individual's cost of buying insurance rises from $0 to $116 per month, we estimate that take-up falls from nearly complete (94%) to less than half (44%).

- **Plans Suffer Adverse Selection:** Enrollees induced by larger subsidies to purchase insurance are also lower-cost, consistent with adverse selection into insurance. But adverse selection cannot completely explain low take-up: even adjusting for adverse selection, enrollees' own expected medical costs are three to four times larger than what they are willing to pay for insurance.

- **Uncompensated Care Matters:** Plausible estimates of the amount of uncompensated care provided to the low-income population account for nearly all of the gap between enrollee willingness to pay and costs. This suggests a primary beneficiary of expanded insurance coverage is not the enrollees themselves, but rather providers of uncompensated care.

Implications for the ACA and Future Health Reforms

Our results help explain several features the ACA experience. First, our low willingness to pay estimates are consistent with highly incomplete enrollment in the ACA Marketplaces. Even modest enrollee premiums are a major deterrent to universal coverage for a low-income population in Massachusetts. Second, our finding of adverse selection may help explain why insurance plans on the ACA exchanges experienced higher-than-expected costs, leading to recent premium increases. Finally, our finding suggests a key beneficiary of insurance subsidies may not be the recipients themselves, but rather on the providers of uncompensated care.

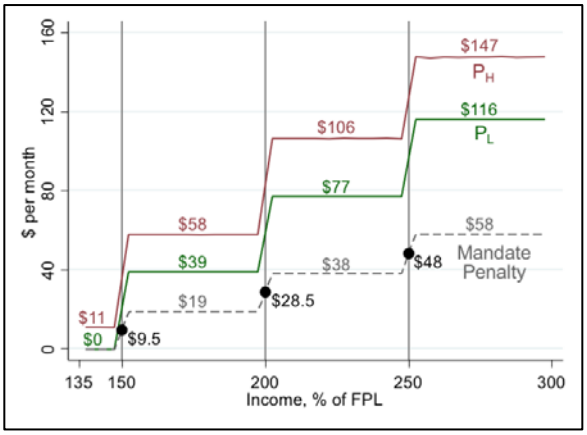
Our results also have implications for reforms that cut or eliminate subsidies. While reducing insurance subsidies can lower costs, significant subsidies are required to achieve near-universal coverage. Eliminating subsidies would almost entirely evaporate insurance coverage for low-income adults who currently obtain insurance through the ACA exchanges.

Detailed Summary

Background: Commonwealth Care in MA

Established in the state's 2006 health care reform, Commonwealth Care (CommCare) offers heavily-subsidized private plans to non-elderly adults below 300% of poverty who do not have access to insurance through an employer or another public program but who are mandated to have coverage under Massachusetts law. We use a regression discontinuity design, together with administrative data on enrollment and medical costs, to estimate demand and cost for CommCare plans.

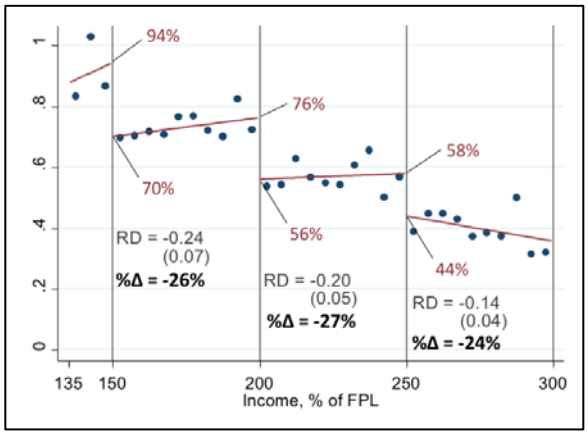
FIGURE 1
CommCare Premiums by Income in 2011



Our analysis exploits discontinuous drops in CommCare subsidies as incomes rise. Figure 1 shows the premiums owed by individuals for the least generous plan (P_L in green) and most generous plans (P_H, in red) offered, along with the mandate penalty paid if they remain uninsured. The subsidy amount changed discretely at 150%, 200% and 250% of the federal poverty line (FPL). The cheapest plan's (post-subsidy) monthly enrollee premium increases by about $40 at each of the discontinuities, and more generous plans experience a $40 to $50 increase in (post-subsidy) monthly enrollee premiums. These discontinuities in program rules provide identifying variation in enrollee premiums.

Figure 2 reports the fraction of the eligible population that enrolled in CommCare at each income level. At each threshold where premiums increase, we find significant reductions in insurance enrollment. For example, individuals at 149% of the federal poverty line pay $0 for health insurance, whereas individuals at 151% of the federal poverty line pay $39/month in premiums. This price increase reduces the percentage of individuals choosing to enroll from 94% to 70%.

FIGURE 2
CommCare Enrollment by Income



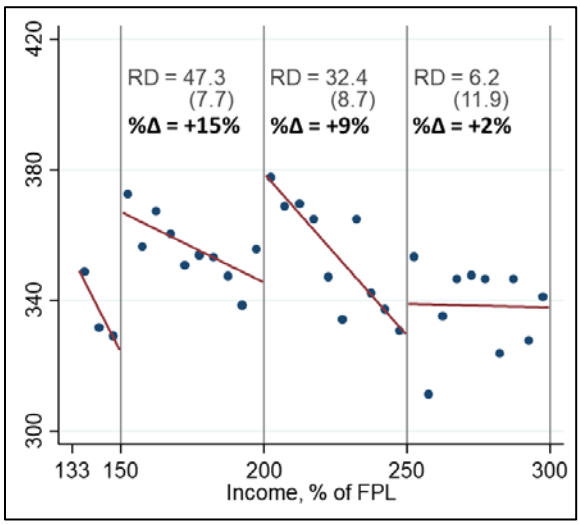
Aggregating our results, we estimate that a 75% subsidy requiring individuals to pay only 25% of their health insurance premiums would lead to less than 50% of eligible individuals enrolling. A 90% subsidy requiring individuals

to only pay 10% of their premiums would still leave 20% of eligible uninsured. Large price subsidies are required to reach near-universal coverage.

Reasons for Low Enrollment: Adverse Selection and Uncompensated Care

Why is enrollment so low even at heavily-subsidized prices? Our results suggest adverse selection provides one explanation, but it is not the entire story. Adverse selection describes a situation in which the enrollees who drop coverage when the premium increase are healthier (i.e. lower cost) than the average enrollee. Figure 3 shows evidence of this adverse selection by plotting the average monthly cost of enrollees at different income levels. The average cost increases at 150% of the FPL from about $325 to $370 per month as enrollee premiums increase by $39. In other words, despite the presence of a coverage mandate, a higher enrollee premium causes lower cost enrollees to drop coverage and leads to higher cost risk pool among remaining enrollees.

FIGURE 3
Average Enrollee Costs by Income



However, we also find that enrollees' own costs imposed on the insurer are 3-4 times higher than individuals' willingness to pay throughout the eligible population. In this sense, adverse selection does not explain low enrollment even at heavily subsidized prices: enrollee's willingness to pay lies below their own cost they would impose on the insurance company.

Standard models of insurance suggest willingness to pay exceeds the insurance cost by a risk premium individuals are willing to pay to reduce exposure to risk. Why in this case do we find willingness to pay below cost?

Recent work has highlighted and quantified the significant role of uncompensated care provided to low-income populations (e.g. Coughlin et al. (2014); Finkelstein, Hendren, and Luttmer (2015)). These estimates suggest that low-income individuals pay roughly 20-30% of their total medical expenditures. The remaining balance is either provided as charity/free care or left as unpaid bills.

In this sense, uncompensated care can provide a rationale for low willingness to pay and low enrollment even at highly subsidized prices. Enrollee willingness to pay is much closer to their own "net costs" (after subtracting uncompensated care they would have received while uninsured) than the gross costs they impose on the insurer.

A key implication of this is that insurance subsidies benefit not only the recipient directly, but also have spillover benefits to the providers of uncompensated care. The primary beneficiary of health insurance expansions may by the providers of uncompensated care, as opposed to the previously uninsured.

Implications for Health Insurance Reforms

Our results have implications for the recent experience of health insurance exchanges under the Affordable Care Act (ACA) and future proposed health reforms, such as the American Health Care Act (AHCA).

Affordable Care Act

Our results help explain several features the ACA experience. First, our low demand estimates are consistent with many especially low-income individuals and families choosing to remain uninsured despite high subsidies. Second, our finding of adverse selection helps explain why insurance plans on the ACA exchanges perhaps experienced higher-than-expected costs. To the extent this was not forecasted by insurers, this could help explain some recent premium increases on the exchanges. Finally, the significant amount of uncompensated care suggests a key beneficiary of health insurance subsidies may not be the recipients themselves, but rather on the providers of uncompensated care.

Future Health Insurance Reforms

Our finding suggest that without large subsidies or high mandate penalties, few low-income individuals will choose to purchase insurance Even 75% subsidies that render premiums to be only 25% of insurer costs leads to less than half of those eligible choosing to enroll.

More recently, various Congressional health reform bills have proposed reducing health insurance subsidies offered to adults with incomes below 300% of the federal poverty level. Our calculations, using numbers for the House-passed American Health Care Act, suggest these reductions could lead to premiums in excess of $200/month, which would lead to less than 20% of the market insured, effectively unraveling the market for health insurance for low-income adults.

More generally, reforms that reduce or eliminate insurance subsidies for low-income adults would lead to insurance pools that are highly adversely selected, and leave most low-income individuals in the exchanges without insurance.

Works Cited

Coughlin, Teresa A, Holahan, John, Caswell, Kyle and McGrath, Megan, “Uncompensated care for the uninsured in 2013: A detailed examination”, *Henry J Kaiser Family Foundation* (2014).

Finkelstein, Amy, Hendren, Nathaniel, and Luttmer, Erzo FP, “The Value of Medicaid: Interpreting Results from the Oregon Health Insurance Experiment”, National Bureau of Economic Research (2015).