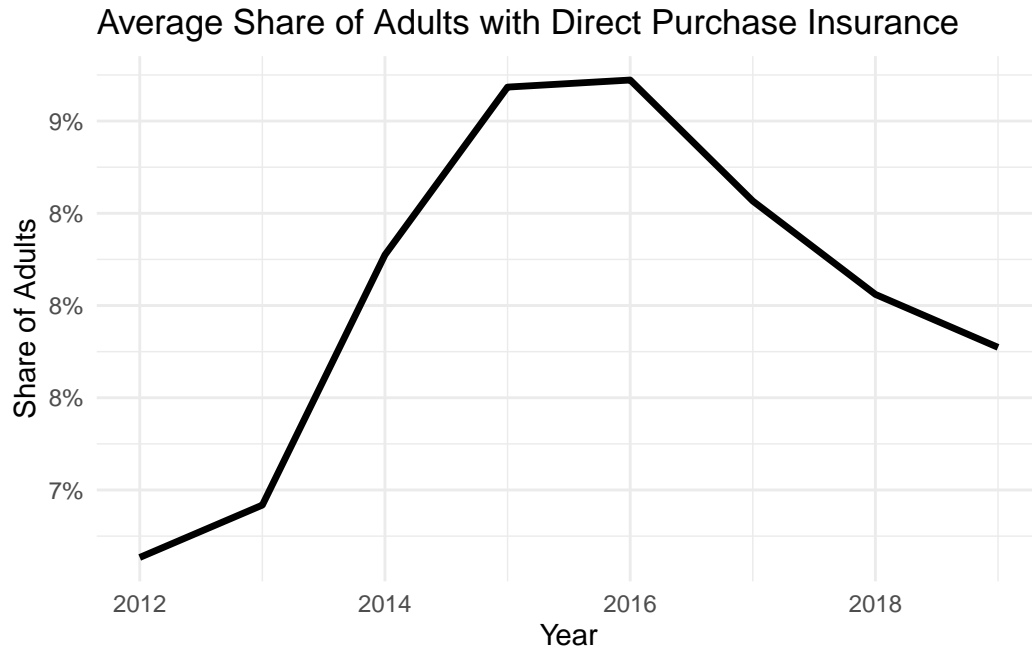# Homework 5

## Research in Health Economics, Spring 2025

### Lisbeth Vargas

The following is my submission for Homework 5. Note that the setup and analysis for these responses are in a seperate R script. The GitHub repository for this work is available here.

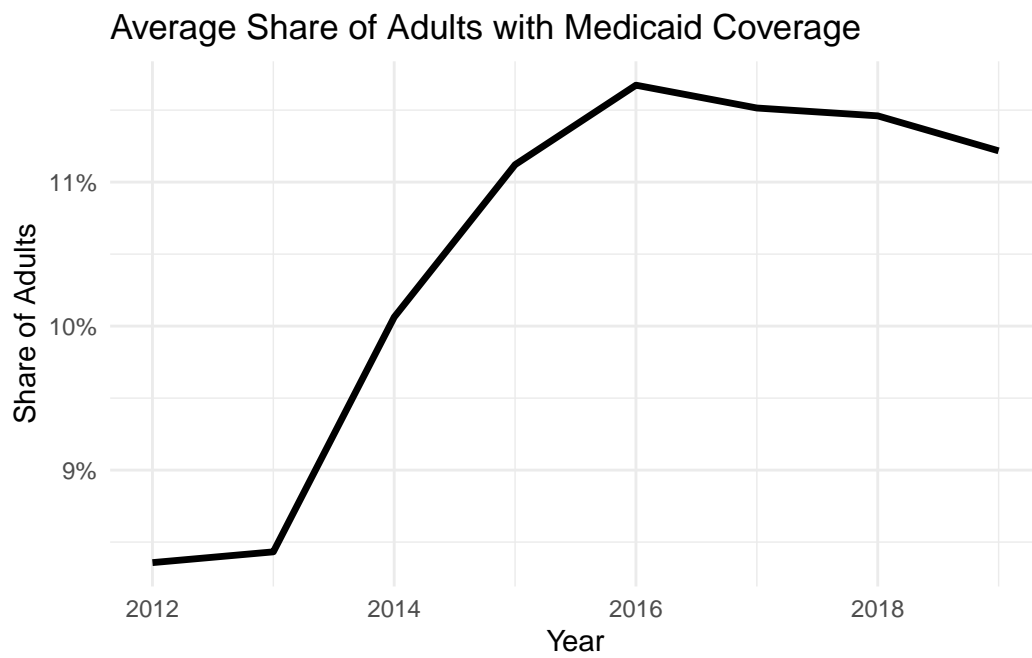## Summarize the Data

Question 1. Plot the share of the adult population with direct purchase health insurance over time.

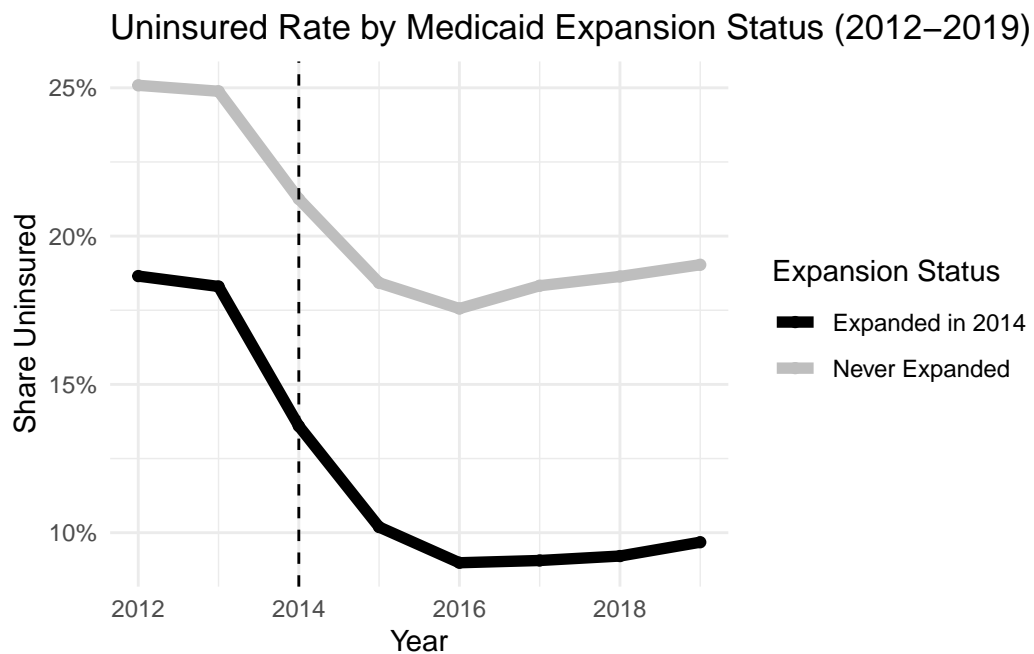**Average Share of Adults with Direct Purchase Insurance**



Question 2. Discuss the reduction in direct purchase health insurance in later years. Can you list a couple of policies that might have affected the success of the direct purchase insurance market?

Question 3. Plot the share of the adult population with Medicaid over time.

## Average Share of Adults with Medicaid Coverage

Question 4. Plot the share of uninsured over time, separately by states that expanded Medicaid in 2014 versus those that did not. Drop all states that expanded after 2014.

## Uninsured Rate by Medicaid Expansion Status (2012–2019)

## Estimate ATEs

Question 5. Calculate the average percent of uninsured individuals in 2012 and 2015, separately for expansion and non-expansion states. Present your results in a basic 2x2 DD table.

Table 1: Average Uninsured Rates by Expansion Status

| Group | 2012 | 2015 | Difference |
|---|---|---|---|
| Expanded in 2014 | 18.7% | 10.2% | -8.5% |
| Never Expanded | 25.1% | 18.4% | -6.7% |

Question 6. Estimate the effect of Medicaid expansion on the uninsurance rate using a standard DD regression estimator, again focusing only on states that expanded in 2014 versus those that never expanded.

Table 2: Difference-in-Differences Model

| term | estimate | std.error | statistic | p.value | conf.low | conf.high |
|------|----------|-----------|-----------|---------|----------|-----------|
| (Intercept) | 0.211 | 0.009 | 22.607 | 0.0 | 0.193 | 0.230 |
| treat | -0.044 | 0.011 | -3.942 | 0.0 | -0.066 | -0.022 |
| post | -0.052 | 0.011 | -4.794 | 0.0 | -0.073 | -0.031 |
| treat_post | -0.021 | 0.013 | -1.651 | 0.1 | -0.046 | 0.004 |

Question 7. Include state and year fixed effects in your estimates. Try using the lfe or fixest package to estimate this instead of directly including the fixed effects.

Table 3: Fixed Effects Model

| term | estimate | std.error | statistic | p.value | conf.low | conf.high |
|------|----------|-----------|-----------|---------|----------|-----------|
| treat_post | -0.021 | 0.009 | -2.367 | 0.023 | -0.039 | -0.003 |

Question 8. Repeat the analysis in question 7 but include all states (even those that expanded after 2014). Are your results different? If so, why?

Table 4: Fixed Effects Model (All States)

| term | estimate | std.error | statistic | p.value | conf.low | conf.high |
|---|---|---|---|---|---|---|
| treat | -0.024 | 0.006 | -4.242 | 0 | -0.035 | -0.013 |

Question 9. Provide an "event study" graph showing the effects of Medicaid expansion in each year. Use the specification that includes state and year fixed effects, limited to states that expanded in 2014 or never expanded.

Question 10. Repeat part 9 but again include states that expanded after 2014.

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