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Defunding women's health clinics exacerbates Hispanic disparity in preventive care

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HIGHLIGHTS

- To prevent abortions, many states have cut funding for women's health.
- This reduced access to providers, including those that provide preventive care.
- I estimate the impact of greater distance to the nearest clinic on preventive care.
- For Hispanics, 100 more miles decreases breast exams, Pap tests, & checkups 14–23%.
- For non-Hispanics whites, there are no statistically significant results.

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ABSTRACT

To prevent abortions, many states have cut funding for women's health, reducing access, including to preventive care. Merging BRFSS data with clinic locations from a network of women's health clinics, this paper estimates the relative impact of an increase in the driving distance to the nearest clinic on preventive care. For Hispanics women, a 100-mile increase decreases the rates of clinical breast exams by 23%, Pap tests by 16% and checkups by 14%. For non-Hispanics, there are no statistically significant results.

1. Introduction

Numerous politicians believe that the ideal level of public funding for women's health organizations that are associated with abortion services is zero.[1] However, as one of the largest health care providers for poor women, these organizations provide a broad variety of services. For federally funded Title *X* clinics, 38% of family planning users also received clinical breast exams and 31% also received a Pap test (Fowler et al., 2012). Clinic closures resulting from funding cuts could therefore have wide ranging consequences. This in direct contrast to the perspectives of legislators who believe such funding cuts can happen in isolation. Texas Representative Wayne Christian made this point explicitly, saying, "I don't think anybody is against providing health care for women. What we're opposed to are abortions".[2]

Previous research has found that clinic closures and the resulting increase in driving distance to the nearest clinic reduced preventive care, more so for less educated women (Lu and Slusky, 2016). I continue that research by investigating ethnic health disparities for clinical breast exams, mammograms, Pap tests, and checkups, contributing to a large literature on the racial disparities in preventive care (Sambamoorthi and McAlpine, 2003; Kirby et al., 2006; Fiscella and Holt, 2007; Vargas et al., 2010) and cancer rates (Beavis et al., forthcoming). I also follow several studies in the economics literature that study the impact of relative changes in various distances on relative changes in health outcomes (Buchmueller et al., 2006; Currie et al., 2010; Anderson and Matsa, 2011; Currie and Walker, 2011; Rossin-Slater, 2013).

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[1] *New York Times* 8/17/2015.

[2] *New York Times* 3/7/2012.

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Table 1
Summary statistics.

		Whites ($N = 2381$)	Hispanics ($N = 1572$)	Difference	P-value
	Age (years)	33.4 (7.6)	32.8 (7.3)	−0.6	0.013
Education	High school (%)	20.4	27.9	7.5	<0.001
	Some college (%)	33.4	24.2	−9.2	<0.001
	College (%)	42.0	14.1	−27.9	<0.001
	Employed (%)	67.9	45.8	−22.1	<0.001
	Married (%)	63.2	55.2	−8.0	<0.001
	Health insurance coverage (%)	85.8	45.9	−39.9	<0.001
	County unemployment rate over past year (%)	7.26	7.74	0.48	<0.001
Past year had a?	Clinical breast exam (%)	63.6	47	−16.5	<0.001
	Mammogram (%)	19.6	15.7	−4.0	0.002
	Pap test (%)	61.2	55.2	−6.1	<0.001
	Check-up (%)	67.3	54.9	−12.4	<0.001

Standard errors in parenthesis. Weighted by landline-only subsample weights.

Given the existing substandard care that Hispanic women receive, quantifying the magnitude of the effect of these particular funding cuts on Hispanics would be helpful for future policy makers looking to mitigate adverse health disparities.

2. Material and methods

The outcome measures of interest are from the Behavioral Risk Factor Surveillance System (BRFSS) (2013) which asks about the timeframe of a respondent's female preventive care procedures. These data are confidentially merged by ZIP-code and interview quarter with snapshots covering 10/1/2007–12/31/2012 from a national network of women's health centers. Given clinic locations, using Google Maps, I calculated the weighted average past-year driving distance from the nearest clinic to each ZIP-code centroids (SAS, 2013), using Geocode3 and Traveltime3 (Bernhard, 2013). I included clinic locations from surrounding states to account for nearby closures. Additionally, this analysis used county-level unemployment rate (Bureau of Labor Statistics, 2013), averaged over the past year, to control for local economic downturns, which can result in a reduced ability of patients to pay out of pocket and also fewer hours of operations.

The sample was limited to survey respondents that were either non-Hispanic white ("white") or Hispanic, 18–44, female, not pregnant, with non-missing values for ZIP-code, education, income, employment, marital status, health insurance, and the outcome variables. There were unfortunately not enough black respondents to have statistical power to study them separately, and so they are excluded from this study.

In 2012, BRFSS added cell-phone-only respondents to their sample. As these respondents are systematically different from household with landlines and were added in the middle of the policy implementation, including them may bias the results (Pierannunzi et al., 2012). The sample is therefore limited to landline respondents, and uses corresponding landline-only subsample weights. Additionally, since the primary independent variable incorporates clinic driving distance data from the previous year, and that data only goes back to 10/1/2007, survey data without a full prior year of clinic data (i.e., 1/1/2008–8/15/2008) is excluded.

My econometric strategy is ZIP-code and state-by-year fixed effects with individual and county controls:

$$y_{izt} = \beta_0 + \beta_1 dist_{zt} + \boldsymbol{\beta}_2 \mathbf{X}_{izt} + \boldsymbol{\beta}_3 \mathbf{Z}_{zt} + \boldsymbol{\beta}_4 \mathbf{C}_z + \boldsymbol{\beta}_5 \mathbf{T}_t + \varepsilon_{izt}.$$

Individual i lives in ZIP-code z and is surveyed in year t about outcome y. $dist$ is the average distance to the nearest facility in the provider database as described above. $\mathbf{X}$ are individual-level controls. $\mathbf{Z}$ contains the past-year average county-level unemployment rate and state-by-year fixed effects. $\mathbf{C}$ and $\mathbf{T}$ are ZIP-code and year fixed effects, respectively. Standard errors are clustered at the county level to account for spatial correlation among adjacent ZIP-codes that are jointly affected by clinic closures.

3. Results

Table 1 shows the summary statistics.

Hispanics respondents tend to be younger, less educated, less likely to be employed, married, and in counties with higher unemployment. Furthermore, Hispanics are significantly less likely to have health insurance and thus may be more dependent on women's clinics to obtain basic healthcare. Hispanics are also much less likely to have had breast exams, mammograms, Pap tests and checkups in the past year. These differences further motivate this paper's ethnically stratified analysis.

Fig. 1 shows histograms of the distribution of changes in the past-year average driving distance by ZIP-codes, weighted by the respective non-Hispanic white and Hispanic populations.

These two figures show that while in both cases most changes in driving distance were minimal, there were more medium (∼50 mile) and very large (∼275 mile) increases for ZIP-codes with large Hispanic populations than for ZIP-codes with large white populations (United States Census Bureau, 2013).

Table 2 contains the main results. For ease of comprehension, the results are scaled by an increase in driving distance to the nearest clinic by 100 miles. Given Fig. 1 this represents a large but not implausible increase.

For white and Hispanic women together and for white women, the coefficients are not significantly different from zero, suggesting that clinic closures have no statistically significant effects on preventive care incidence for the pooled sample or for white women alone.[3] For Hispanic women, increasing the driving distance to the nearest clinic reduces utilization of all four procedures. Comparing these estimates to the means in Table 1 gives relative decreases of 14%–23%.

While not all coefficients are statistically significant, all are of a reasonable magnitude and direction. Furthermore, a test of joint significance for the eight coefficients in columns (2) and (3) shows that they are jointly significant at the 1% level. Additionally, a Bonferroni correction that multiplies the p-values from the eight regressions by eight results in driving distance still having a negative effective on the incidence of clinic breast exams for Hispanic women which is statistically significant at the 5% level.

The last row of Table 2 contains a "placebo" test: looking at men's preventive care. The vast majority of the patients of these clinics are women, and so women's health clinic closures would be expected to have a minimal impact on men. Confirming this hypothesis, the coefficients here are both very small in magnitude and not statistically significant.

[3] This is in contrast to my previous work on this topic which found statistically significant negative results in the pooled sample (Lu and Slusky, 2016). The primary reason for this disparity is that my previous results included women who were neither white nor Hispanic, increasing statistical power.