



US Centre Summer Research Grant

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Project title: American Abortion Access and Advance: How Competition and Innovation Saved Lives and Money

Summary of project:

This paper is the first to analyze the role of competition, including non-profit competition, on pricing and the elasticity of abortion take-up to pricing. I jointly analyze the impact of competition on the speed of technology take-up and estimate the subsequent impact on mortality and other outcomes related to women's wellbeing.

In addition, this paper overcomes an underlying methodological challenge in existing abortion research. To understand the impact of the federal abortion subsidies, there is an initial simultaneity issue: legalization and the initial federal abortion subsidies for people on Medicare came together. To distinguish the role of subsidies in abortion access and safety, I rely on state-level differences in the implementation of the Hyde Amendment, a ban on federal funding for abortions. I then compare the impact of the amendment and price changes within municipalities on people who are reliant on Medicaid and those who are ineligible for Medicaid. To enable these analyses, I construct a novel digitized compilation of abortion providers and their pricing across gestational weeks and for different technologies for a wide range of historical years. I integrate this with several datasets on individual-level outcomes, including mortality, birth, and birth characteristics. This integrated dataset allows me to address a critical research question: How responsive are different groups of women to price and distance when making abortion decisions? Further, what are the impacts of removing a federal subsidy for abortion on deaths, teen births, and the economic well-being of women across the USA?

This research project also provides critical evidence on the broader societal consequences of restricting public funding for abortion, offering valuable insights into how policy can either promote or inhibit women's autonomy and economic agency.

Introduction

In 2022, 27% of people said that abortion was the primary determinant of their voting behavior. Further, 1 out of 4 women in the USA have an abortion by the end of their childbearing years (Jones & Jerman, 2022). Understanding the economic impacts of abortion access is of profound importance for women and the economy. Yet, economic research on abortion access and provision is a nascent strand of literature, focusing almost exclusively on understanding the direct effects of abortion legalization or abortion bans.

In the decade after legalization, abortion-related mortalities fell by 98%. This is a remarkable figure, and it has substantial economic consequences. Yet, there are no economics papers that have looked at the role of technological development in reducing this mortality, the impact of the widespread federal abortion subsidies (and their subsequent removal), or the role of competition and price-setting in shaping women's lives.

The decades after abortion became legalized produced an enormous shift towards safer, lower-cost, and more reliable technologies. In particular, vacuum aspiration, a quicker, safer, and cheaper abortion method (Schoen, 2013), replaced more invasive procedures such as dilation and curettage (D&C) for first-trimester and early second-trimester pregnancies. Further, dilation and evacuation (D&E) replaced inductions for late second-trimester abortions, greatly enhancing safety and accessibility.

Relatedly, this paper is the first to analyze the role of competition, including non-profit competition, on pricing and the elasticity of abortion take-up to pricing. I jointly analyze the impact of competition on the speed of technology take-up and estimate the subsequent impact on mortality and other outcomes related to women's wellbeing.

In addition, this paper overcomes an underlying methodological challenge in existing abortion research. To understand the impact of the federal abortion subsidies, there is an initial simultaneity issue: legalization and the initial federal abortion subsidies for people on Medicare came together. To distinguish the role of subsidies in abortion access and safety, I rely on state-level differences in the implementation of the Hyde Amendment, a ban on federal funding for abortions. I then compare the impact of the amendment and price changes within municipalities on people who are reliant on Medicaid and those who are ineligible for Medicaid. To enable these analyses, I construct a novel digitized compilation of abortion providers and their pricing across gestational weeks and for different technologies for a wide range of historical years. I integrate this with several datasets on individual-level outcomes, including mortality, birth, and birth characteristics. This integrated dataset allows me to address a critical research question: How responsive are different groups of women to price and distance when making abortion decisions? Further, what are the impacts of removing a federal subsidy for abortion on deaths, teen births, and the economic well-being of women across the USA?

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The data and methodology discussed here are used for my interim results and reflect an initial foray into understanding the impact of abortion subsidies and competition on mortality, cost, abortion access, and child characteristics. Thus far, I have done an interim analysis using the data I have entirely digitized and integrated. The methodology described here is incomplete and will be adjusted to incorporate an instrumental variables approach relying on changes in cost structures to generate plausibly exogenous variation in prices. This builds on data collected through the Phelan PhD Summer Research Grant which will be described in further detail below. The results discussed may be subject to change as well. Some of the data elements are not currently discussed but will be made explicitly available during a later publication process.

Methodology

My analyses start by focusing on a set of variables that are both crucial outcomes in themselves and outputs into later analyses. In particular, I first identify the impact of competition on abortion provider pricing. I start by doing several initial OLS regressions, identifying the correlational relationship between pricing and several characteristics. These include county-level characteristics such as average income, the number of providers within a county, the historical number of providers in a county, and the characteristics of a clinic (e.g. non-profit, size, etc) and county/state- and time-fixed effects.

Subsequently, I analyze the persistent effects of having previously charged lower prices or having historical competition with for-profits and non-profits (even if the other clinic closes). I then incorporate an interaction term between the indicator for post-Hyde and being in a state that did not replace the federal subsidy with an equivalent state subsidy.

I also regress the relative availability of vacuum aspiration at different weeks across time and how the adoption of vacuum aspiration by clinics relates to a competing clinic's provision of vacuum aspiration in a particular gestation week during the last pricing year. This is enabled by the firm's public price list for each year, meaning that price changes are infrequent and there is little contemporaneous price or availability response. For both price and technology provision, I analyze the impacts of competition with increasing levels of product similarity: First, what is the impact of a competitor entering the same county? Second, what is the impact of a competitor who offers the same service entering the same county? Third, what is the impact of an entrant in the same service-week? Next, I compare providers who face a large player entry relative to the estimated behavior of those who do not. I use the imputed difference-in-difference approach of Borusyak et al. (2023). I focus on two primary outcomes of interest: the real prices of abortion services and whether a

provider offers a given service (e.g. vacuum aspiration in the 13th week of pregnancy).

I then regress individual-level teen births and births in general for Medicaid and non-Medicaid eligible women on clinic proximity and pre- and post-Hyde dummies with municipality fixed effects and use a difference-in-differences approach to estimate the relative impact of the subsidy removal on eligible women.

I then study the impacts of safer abortion technology availability (vacuum aspiration) between critical weeks of pregnancy (e.g. 8 to 12 weeks) and pricing on outcomes such as teenage motherhood and children's weight at birth. I also identify the elasticity of abortion to price changes, using the sudden drop in prices in some Hyde Amendment states after the removal of the subsidy and looking at the impact on non-Medicaid eligible women. I then regress births, child illnesses, and deaths on the change in abortion access for women on the margin and the inframarginal Medicaid-subsidized women.

As discussed above, these analyses have only been completed for a subset of years, and only a subset of the results will be shown below. In addition, I will also be strengthening the analyses using New York-State detailed clinic cost structures, detailing the number of abortions by each clinic, their abortion-related complications, and detailed clinic information.

Data

To overcome the simultaneity problem and the data limitations that limit researchers to focusing on event-study analyses of legalization and anti-abortion crime in previous works, I have had to construct a new detailed dataset of abortion providers and their pricing structure across years, as well as connect this novel dataset with a wide variety of individual-level data sources to identify outcomes. To create this dataset, I have combined archival data from multiple abortion-provider-related organizations from historians and three universities and digitized the membership directories each archive contained. I then heavily re-worked this data to provide a harmonized data structure. This dataset includes provider names, addresses, exact geo-codes, phone numbers, clinical organization, personnel details, and what technologies the clinic provided, at what cost, at each gestational week for a dozen years covering the 1970s through the 1990s.

In addition, I combine this newly constructed data set with individual-level data from the Current Population Survey (CPS). The CPS includes demographic, geographic, income, and relevant Medicaid variables. In addition, I also merge this data with birth data from the Vital Statistics Natality Birth Data, Social Security Administration Bulletin, and Historical, Demographic, Economic, and Social Data (Inter-University Consortium for Political and Social Research).

Preliminary Results

For the first set of analyses related to competition, I find that exposure to large firm

entrants does lead to reduced prices among incumbent firms. Specifically, I find that the effect of entry significantly lowers abortion prices. I find that there is a substantially large impact at the time of treatment but it is followed by a reversal four years later. I find that competitors who provide safer technology or provide abortion access using the same technology for more gestational weeks influence the behavior of other providers. Within a year, 40% of clinics exposed to an in-state competitor offering safer technology or more extended abortion access follow suit and provide the same access. In addition, I also find that offering vacuum aspiration in week 13 of pregnancy (a critical gestational week, representing a huge cost-saving for providers and significantly reduced loss of life relative to prior technologies) increases the likelihood of the incumbent competition offering it in the following year.

I find that the availability of vacuum aspiration between 8 to 12 weeks is associated with a reduced likelihood of teenage motherhood. Individuals who have access to vacuum aspiration at any time in the first trimester have a change in the odds ratio of becoming a teenage mother of 17%.

Specifically, I look at how crucial health and social characteristics (birth weight and teenage motherhood) correspond to prices of vacuum aspiration abortion in weeks 8 and 12 of pregnancy. A doubling (100% increase) in price of vacuum aspiration abortion at week 8 corresponds to a 1.3 percentage point increase in teenage mothers as a portion of women who give birth. This is an enormous impact and well within the level of price variation observed. Similarly, a doubling in price of vacuum aspiration at week 12 corresponds to a 1.2% increase in teenage mothers as a portion of women who give birth within the CPS data.

Upon investigating the impact of removing federal subsidies for abortion, I find that the removal of the federal subsidy through Medicaid for a subset of low-income women increased teenage motherhood among affected women by 2%. In addition, it substantially affected babies' birth weights and health outcomes.

Future Steps

I will incorporate more data obtained through the summer visit into my analyses. This entails bringing in four additional years of national-level provider data and more detailed cost structure data. It also includes information on the universe of providers within New York State to better understand the proportion of clinics I have data coverage over and the proportions of abortions my price analyses cover.

This additional data will allow me to investigate competition at a more local level with richer data and provide a more robust coverage of the impacts of abortion competition and pricing. Further, I will be integrating mortality data from a broader range of years to identify the effects of abortion access on women's mortality-related outcomes, e.g., abortion-related deaths. This will also allow me to compare my estimates with healthcare estimates and identify the proportion of the 98% drop in mortality due to each mechanism described above.

References

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