Medical Abortion in Italy: Evolution, Societal, Technological and Organizational Dynamics

Giulia Fornaro[1, 2*], Marzia Loghi[3], Letizia Mencarini[1, 4], and Paola Profeta[1]

March 26, 2025

[1]Bocconi University, Department of Social and Political Science, Italy

[2]Bocconi School of Management, Centre for Research on Health and Social Care, Italy

[3]Italian National Institute of Statistics

[4]Bocconi University, "Carlo F. Dondena" Centre for Research on Social Dynamics and Public Policies, Italy

PLEASE DO NOT QUOTE OR CIRCULATE

Abstract

The introduction of medical abortion has reshaped access to induced abortion in Italy, emerging as the most widely used method by 2022. Despite this, regional disparities in access persist. This study delves into four key questions: i) the extent to which individual and contextual factors shape medical abortion uptake, ii) the correlation between medical abortion, waiting times and abortion-seeking out-of-region mobility, iii) the role of Covid-19-related measures in altering patterns of medical abortion uptake, waiting times, and abortion-seeking mobility, and iv) whether the growing diffusion of medical abortion has influenced the prevalence of conscientious objection among healthcare providers.

Exploiting the official database of all induced abortion certificates that were mandatorily collected through the Italian healthcare system between 2010 and 2022 ($N > 900{,}000$), our analysis employs a variety of methods, including pooled ordinary least squares models, multilevel mixed-effect models, logistic and negative binomial regressions, and event study designs. Our results indicate that individual characteristics and healthcare facility-level factors play a more significant role in predicting medical abortion uptake compared to regional characteristics. Particularly, at the individual level, belonging to a relatively higher socio-economic status is associated with an increase in the odds of receiving medical abortion and these correlations

*Email: giulia.fornaro@sdabocconi.it

have become larger in magnitude over the years, highlighting possible inequality issues. Moreover, medical abortion is consistently correlated with a reduction in waiting times, while we find no clear link between medical abortion and abortion-seeking out-of-region mobility. The Covid-19-related measures have spurred a rise in medical abortion and - to a less extent - a reduction in waiting times, while we do not find any substantial effect for out-of-region migration. Finally, there is insufficient evidence to suggest that the diffusion of medical abortion has driven the decline in conscientious objection.
Keywords: *Medical abortion, Conscientious objection, Public and reproductive health, Waiting times, Health-related mobility, Italy*

Introduction

Induced abortion is a medical practice that lies at the intersection of public health, human rights, reproductive justice, and the principle of bodily autonomy. Due to its unique nature, it remains a highly contentious issue for policymakers. While most mature democracies guarantee at least some level of access to this procedure, signs of backsliding exist. As a prominent example, the removal of abortion rights from the U.S. Constitution stands out as one of the most alarming developments in this regard.

Access to induced abortion arguably depends on the method used to implement the procedure. Medical abortion involves ending a pregnancy by administering mifepristone, which halts the pregnancy, followed by misoprostol, which induces uterine contractions to expel the pregnancy tissue. Previous studies on acceptability and patients' reported outcomes found that patients often prefer medical abortion over surgical methods as it avoids the use of anesthesia, is perceived as safer and more natural, and provides greater bodily autonomy (Honkanen and von Hertzen, 2002; Berer, 2005; Ho, 2006; Berer and Hoggart, 2018; Lafaurie et al., 2005). Medical abortion enables the possibility of at-home self-administration through telemedicine, potentially expanding access while maintaining safety standards comparable to in-clinic procedures (Wainwright et al., 2016; Gambir et al., 2020; Grossman and Grindlay, 2017; Endler et al., 2019; Ngo et al., 2011). This approach has shown promise in reducing abortion-related morbidity and mortality

associated with unsafe invasive methods, particularly in settings where induced abortion is illegal under most circumstances (Dzuba et al., 2013; Berer, 2005; Jelinska and Yanow, 2018). From a social impact perspective, medical abortion advocates have stressed its potential to reduce violence associated with abortion provision, and reshape the *cultural meaning of abortion*, particularly in contexts where society is divided on the issue and abortion services are highly politicized (Joffe, 2000). Nevertheless, the literature has documented country-level experiences where the introduction of medical abortion was deliberately obstructed and delayed for political and ideological reasons (e.g., Australia Baird (2015)).

Most of the literature on medical abortion tends to focus on clinical effectiveness, safety and acceptability of the procedure. Less is known about societal and organizational dynamics related to its provision and most country-level accounts are based on critical content analysis of documental sources and qualitative or mixed-methods studies featuring limited sample sizes. Italy offers an arguably interesting setting to deepen the analysis on medical abortion uptake for a number of reasons. From a cultural and social standpoint, provision of abortion services has historically been a contentious and politicized topic (e.g., Caruso (2020)). Furthermore, while the law ensures access to first-trimester abortion under various conditions, healthcare providers are permitted to refuse to perform the procedure due to conscientious objection. Although conscientious objection in abortion services is not exclusive to Italy, its prevalence is among the highest in Europe. According to the most recent data, in 2022 60.7% of Italian gynecologists exercised conscientious objection (with more than 90% in one region) and such prevalence reached a peak of 71% at the country level in the past (2016). These features make the Italian system liberal *de iure* but resulting in limited access *de facto* (Pullan and Gannon, 2024). Indeed, it has been documented that the large prevalence of objecting gynecologists in Italy has historically impacted access to induced abortion, with evidence showing that the prevalence of conscientious objection has led to longer

waiting times and increasing out-of-region mobility for patients seeking induced abortion (Autorino et al., 2020; Bo et al., 2015). Medical abortion was introduced in the Italian clinical practice in 2005, following practices already in place in other developed countries, but received official marketing authorization only in 2009. Its uptake was initially slow and characterized by regional heterogeneity. However, the 2020 Covid-19 pandemic prompted changes in the regulation of medical abortion to enhance its use, mostly due to the necessity to contain the spread of the infection, pressure from scientific organizations, and the increase in requests from users, becoming the most used technique in 2022 (50.7% of induced abortions). These characteristics arguably make Italy an interesting context to investigate dynamics and consequences of the introduction and diffusion of medical abortion in clinical practice. Moreover, data availability allows for an in-depth analysis of social and organizational aspects. Indeed, the Italian Ministry of Health releases every year regional-level aggregated figures on characteristics of the induced abortion procedures implemented, prevalence of conscientious objection and supply characteristics (e.g., availability of public family planning services). In addition to this data source, the Italian National Institute of Statistics records every induced abortion procedure performed in the country, together with detailed information on patient's characteristics and technical details of the intervention.

Drawing on microlevel data sourced from the official database containing all induced abortion certificates that were mandatorily collected through the Italian healthcare system between 2010[1] and 2022 (N = 907,129) and regional-level aggregate data on induced abortion and conscientious objection, this study explores the evolution of medical abortion uptake within the Italian healthcare system, focusing on societal and organizational dynamics associated with its adoption and diffusion. At the individual level, we explore the role of demand-side and supply-side characteristics on medical abortion uptake,

[1] Although medical abortion was introduced into clinical practice in 2005, data on medical abortions have only been systematically collected since 2010. This delay was due to the formal marketing authorization of mifepristone in 2009, which marked the official regulatory recognition necessary for reliable data reporting.

and its association with waiting times and abortion-seeking out-of-region mobility, controlling for economic, demographic and cultural characteristics of regions, demographic characteristics of patients, and aspects related to the procedure (e.g., whether it was performed in a public or in an accredited and authorized private facility [from here on, *private clinic* or *private provider*], which type of healthcare professional issued the abortion certificate). Moreover, we study the impact of Covid-19 pandemic-related reorganization of access to abortion services on the diffusion of medical abortion. Finally, at the regional level, we analyze the correlation between medical abortion uptake and prevalence of conscientious objection among gynecologists and health personnel. We argue that, by providing a thorough description of the dynamics linked to the diffusion of medical abortion in a country, such as Italy, traditionally characterized by difficulties in abortion access, we contribute to the study of alternative and innovative approaches to induced abortion in a broader context of possible backsliding in access to abortion care in advanced democracies.

Medical Abortion in Context

Medical Abortion Worldwide

Medical abortion consists typically in the use of a combination of mifepristone and misoprostol to terminate a pregnancy. According to the latest guidelines from gynecology and obstetrics societies, mifepristone is employed to increase uterine contractility and enhance the uterus' response to prostaglandins. Misoprostol is then administered to induce uterine contractions and complete the abortion process (e.g., American College of Obstetricians and Gynecologists (2020), Italian Society of Gynecology and Obstetrics (SIGO) (2024), p. 9)[2].

[2] The World Health Organization recommends the use of letrozole as a possible alternative to mifepristone during the first 90 days of gestation. The use of sulprostone is no longer recommended and should be restricted to selected cases under strict monitoring in a hospital setting (e.g., Italian Society of Gynecology and Obstetrics (SIGO) (2024), p. 10). Other alternatives to mifepristone are misoprostol alone

As of 2023, 96 countries have approved mifepristone for abortion, reflecting broad global availability in principle. In high-income countries, medical abortions account for at least half of all abortions, with steady increases over time. As for North America, medical abortion accounted for 53% of all U.S. abortions in 2020, and this increased to about 63% of abortions by 2023. Canada instead was slower to adopt medical abortion. Mifepristone was only approved in 2017, and prior to that the medical method accounted for under 5% of abortions (estimated) nationwide (Dunn and Cook, 2014). Over the last few years Canada has moved toward greater use of abortion medication, but uptake remains lower than in the U.S. or Europe, due in part to initial rollout challenges and regional access disparities (Brennand et al., 2025). The U.K. has seen one of the most rapid adoptions of medical abortion. In England and Wales, 87% of all abortions in 2021 were medically induced, up from 85% in 2020 (UK Government, 2021). Medical abortion is the most frequently used technique also in many other European countries. In the Nordic countries, virtually all abortions are done with pills: for instance, Finland, Sweden, and Norway report roughly 90–96% of abortions as medical abortions (Guttmacher Institute, 2023). In Asia, India stands out for its high reliance on medical abortion. A national study estimated that about 15.6 million abortions occurred in India in 2015, of which 81% were medical abortions (Guttmacher Institute, 2017). On the contrary, China's abortion services provision has remained predominantly surgical despite early approval of mifepristone (Tu et al., 2024). Japan represents an even more extreme case, as mifepristone was apporved only in 2023 (Kaneda, 2023). As for Latin America, medical abortion uptake is substantial but largely informal due to restrictive laws in most countries. Over the past two decades women have increasingly turned to misoprostol, often times purchased online, to induce abortion at home, improving safety relative to traditional unsafe methods for self-managed abortion (Zamberlin et al., 2012).

Literature on medical abortion has explored its implications for efficacy, safety, ac-

(Raymond et al., 2019) and methotrexate combined with misoprostol (Hausknecht, 1995).

ceptability, and accessibility, with particular attention to its evolving role in diverse healthcare systems. Widespread consensus exists on medical abortion's safety and efficacy (e.g., Kapp et al. (2019); Grossman and Grindlay (2017); Berer and Hoggart (2018)). As for acceptability and user preferences, reviews of the literature found that autonomy and active involvement (Wainwright et al., 2016), safety perception and the appeal of less invasive methods may be crucial drivers in the preference of medical abortion compared to the surgical procedure in developed countries (Ho, 2006). For example, Honkanen and von Hertzen (2002) found that the three most important reasons for choosing medical abortion among Finnish patients were avoidance of surgery, avoidance of general anesthesia, and the method being more natural. Particularly, medical abortion is considered more natural because it happens in women's own bodies without external interference (Berer, 2005), i.e., it is *not "carried out" or "conducted" by someone else* (Berer and Hoggart, 2018). Comparable findings apply to experiences from the Global South, based on in-depth interviews carried out in Mexico, Colombia, Ecuador, and Peru (Lafaurie et al., 2005). However, preferences for medical abortion may decline as gestational age increases (e.g., Henshaw et al. (1993) found that between 50 and 63 days of gestational age vacuum aspiration is preferred), in case of prolonged bleeding and high levels of discomfort and anxiety during the procedure. No significant differences in emotional responses or incidence of psychiatric morbidity were found between medical and surgical induced abortion (Ho, 2006). Nevertheless, it was recognized that specific populations systematically prefer or may require surgical abortions, including people experiencing homelessness (Bateson et al., 2020).

One crucial aspect of medical abortion emphasized in the literature is its versatility in terms of settings where it can be implemented. Particularly, advances in telemedicine have emerged as a pivotal development in the provision of medical abortion services. Reviews of the literature on telemedicine for medical abortion found no differences in effectiveness or acceptability between home-based and clinic-based medical abortions

across countries (Ngo et al., 2011; Grossman and Grindlay, 2017) and highlighted that qualitative studies on acceptability showed no negative impacts for women or providers (Endler et al., 2019). Some studies suggest that at-home abortions may achieve better compliance compared to in-clinic procedures, with many individuals finding them more popular and reporting a generally more positive experience. However, there are notable reasons for preferring in-clinic abortions, primarily due to the stigma associated with family dynamics (Gambir et al., 2020).

It has been argued that medical abortion has the potential to reduce deaths and morbidity from complications such as sepsis and uterine perforation leading to hysterectomy, arising from unsafe invasive procedures, in places where most abortions are still illegal (Berer, 2005). Substantial declines in abortion-related morbidity and mortality and lower costs of treating complications have been observed in Latin American countries with medical abortion than with other self-induction methods (Dzuba et al., 2013). Nevertheless, it has been emphasized that the promise of medical abortion to both reduce maternal mortality and morbidity from unsafe abortion and to expand reproductive rights can only be realized if information is available (Jelinska and Yanow, 2018; Joffe, 2000). Indeed, it was found that successful access to medical abortion crucially depends on awareness. Qualitative evidence from Australia documented that the key information sources tend to be own research (often online), experiences of peers, and advice from health professionals (Newton et al., 2016). The role of safe abortion hotlines in the Global South has been identified as a key element in generating awareness on medical abortion (Berer and Hoggart, 2018) and its proper use (Dzuba et al., 2013). More broadly, counseling and education were found to be strongly correlated with women's satisfaction with medical abortion because of the larger extent of patient's involvement in the procedure (Breitbart, 2000). From a social and cultural standpoint, pro-abortion access activists have historically sustained that medical abortion has the potential to reshape the abortion landscape by improving access, reduce violence associated with

abortion provision and ultimately change the *cultural meaning* of abortion in contexts where society is deeply divided over the issue and where abortion services have been strongly politicized (Joffe, 2000).

Despite the abundance of evidence on safety, effectiveness and acceptability of medical abortion, the literature documents country-level experiences of lags in its introduction in clinical practice or vetoes due to political and cultural reasons. For example, the introduction of medical abortion in Australia was argued to be deliberately obstructed and consequently significantly delayed. Baird 2015 claimed that the integration of medical abortion into primary health care has been constrained by the stigma attached to abortion, overly cautious institutionalized frameworks, and the lack of public health responsibility for abortion services. Another prominent example is the ban of over-the-counter sales of misoprostol in Brazil in the '90s, firmly advocated by the anti-abortion access movement, which forced misoprostol onto the black market, causing major detrimental consequences in terms of costs and access (Berer, 2005). Conversely, shocks such as the outbreak of the Covid-19 pandemic, which compelled hospitals and healthcare facilities to rapidly adapt their organizational models, have influenced abortion practices, leading to an increased availability of medical abortion. For instance, as a reaction the challenges imposed by the Covid-19 pandemic, France increased gestational age limits and introduced telemedicine services for medical abortion (Gibelin et al., 2021). Finally, medical abortion has gained even more relevance for abortion access in the U.S. in the aftermath of the overturning of Roe v. Wade and the consequent enactment of major limitations to standard abortion provision in a set of states (Sheets, 2022).

Medical Abortion in Italy

Induced abortion in Italy is free of charge and allowed in the first trimester if childbearing is expected to harm physical or mental health, economic, social or familial state, based on Law 194 of 1978. Beyond the first trimester, induced abortion is permitted only

in cases of fetal abnormalities or when the patient's physical health is at risk. Those seeking an abortion must first consult with their primary physician, a healthcare provider at a family planning clinic, or another medical facility. The provider is responsible for conducting the necessary medical assessments and evaluating the grounds for the request. After discussing possible alternatives with the patient, the provider issues a certificate confirming the pregnancy and authorizing its termination. A mandatory seven-day waiting period follows—except in urgent cases—before the procedure can take place at any accredited healthcare facility. These regulations apply uniformly across all Italian regions, allowing patients to undergo the procedure anywhere in the country, regardless of where the certification was issued. Law 194 of 1978 grants healthcare professionals the right to refuse participation in procedures specifically intended to terminate a pregnancy, citing conscientious objection. To be exempt from performing abortions, practitioners must formally submit their objection to the local healthcare authority and the director of their facility. The law also requires regional authorities to ensure sufficient access to abortion services, which may involve deploying staff from other locations if needed. Unlike in other countries, such as England, Norway, and Portugal, Italian objectors are not obligated to refer patients to non-objecting providers. However, they are prohibited from engaging in discriminatory practices or obstructing access to information that would enable patients to seek alternative services.

The prevalence of conscientious objection is often linked to conservative religious beliefs. While religion appears to play a role, evidence—including qualitative studies based on in-depth interviews with practitioners—suggests that career incentives may also influence the decision to become a conscientious objector. Due to the high proportion of objecting gynecologists, non-objectors frequently bear the bulk of abortion procedures, whereas more complex medical cases tend to be handled by objectors. As a result, objecting practitioners may have greater opportunities for career advancement (Minerva, 2015).

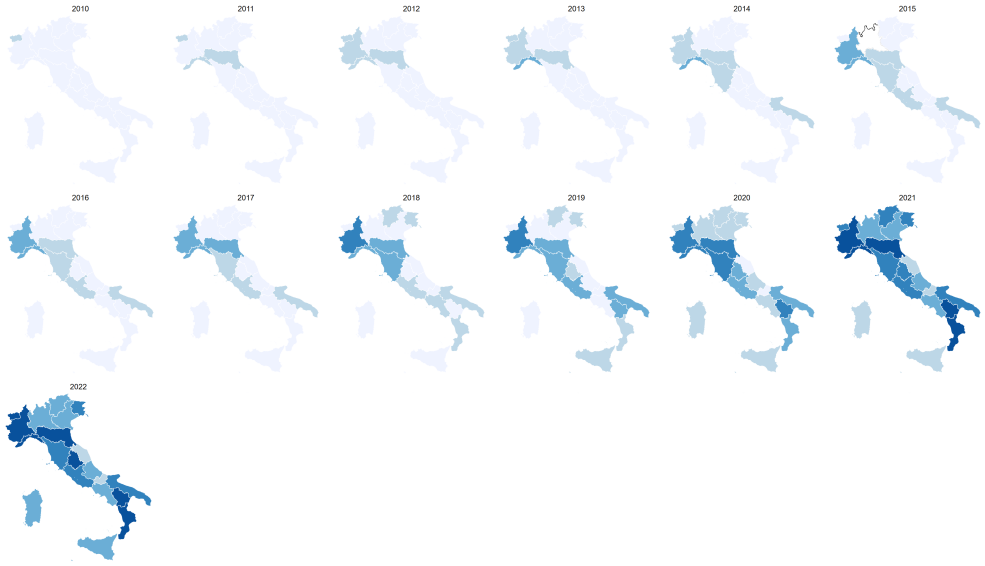
The significant prevalence of objecting gynecologists in Italy has historically notably impacted access to induced abortion. Particularly, the high concentration of objecting practitioners in Southern, lower-income regions (compared to the North) has created abortion deserts, resulting in territorial discrimination. Empirical studies have confirmed that the prevalence of conscientious objection has led to longer waiting times and increasing out-of-region mobility for women seeking induced abortion (Autorino et al., 2020; Bo et al., 2015).

Medical abortion was introduced in the Italian clinical practice in 2005, following practices already in place in other developed countries and as recommended by the World Health Organization guidelines. However, until 2009, mifepristone was not available on the market in Italy, and it was therefore necessary to purchase it from abroad through healthcare facilities, creating major difficulties in its distribution. The process for authorizing the commercialization of mifepristone in Italy was completed at the end of July 2009, when the Italian Medicines Agency Board of Directors expressed a favorable opinion on its use up to forty-nine days, requiring hospitalization until expulsion.

The uptake of medical abortion in clinical practice was initially slow and displayed major heterogeneity across regions, starting predominantly in the North (Liguria, Piedmont, and Emilia Romagna) and gradually extending to Central and Southern regions. However, the Covid-19 pandemic prompted regulatory changes to facilitate the use of medical abortion. These changes were driven by the need to contain the spread of the virus, pressure from scientific organizations, and a surge in user demand, also through web platforms (e.g., Women on Web (Aiken et al., 2021)). Indeed, in August 2020 the use of medical abortion was officially extended up to 9 weeks of gestation, the requirement to hospitalize the patient until expulsion was removed, and medical abortion could be administered in a Day Hospital or at adequately equipped outpatient facilities that are functionally connected to a hospital and authorized by the regions, as well as at family planning clinics (AIFA, 2020; Montanari Vergallo et al., 2021). Consequently, in

2021 medical abortion became the most frequently used technique for induced abortion in Italy, followed by vacuum aspiration (42.7% of cases), and 8% of procedures are still performed by curettage, nevertheless reaching 24.9% in Sardinia and 14.2% in Abruzzo (Italian Ministry of Health, 2023). Updated data confirm that medical abortion was the most frequently used technique also in 2022, reaching a prevalence of 50.7% of cases (Italian Ministry of Health, 2024) (Figure 1).

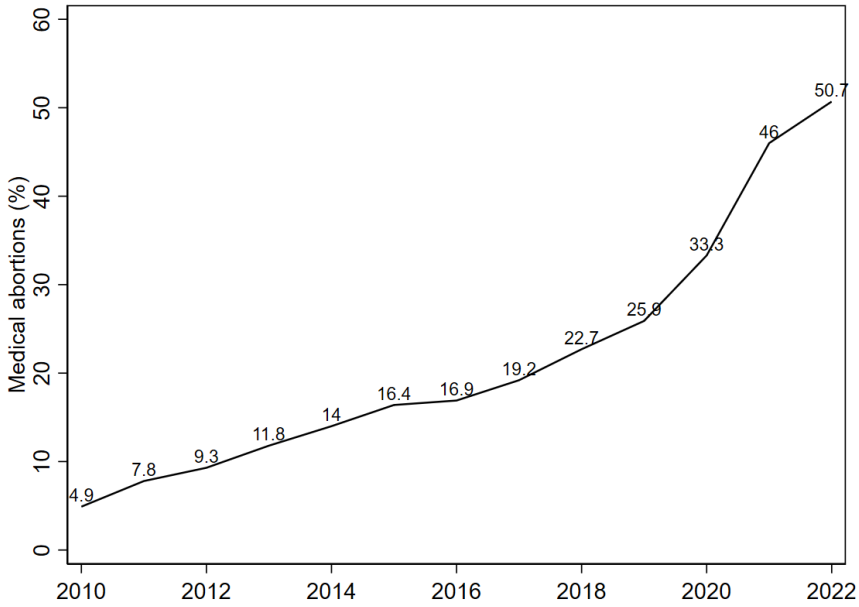
Figure 1: Evolution of the share of medical abortions performed in Italian regions from 2010 (top left) to 2021 (bottom right).



Note: The color scheme identifies four levels: <15% (lightest), 15%-30%, 30%-45%, 45%-60%, >60% (darkest). Source: Italian Ministry of Health reports on the state of access to induced abortion for the years 2010 to 2022.

Together with the diffusion of medical abortion (Figure 2), two other major trends have characterized the dynamics of induced abortion in Italy in the last decade. One is the constant decline in induced abortion rate (measured as the number of induced abortions per 1,000 women in childbearing age) - with the exception of a rebound in 2022 - as shown in Figure 3 (Italian Ministry of Health, 2024). The drop in 2020, probably related to the reduction in interpersonal contacts due to the epidemic confinement

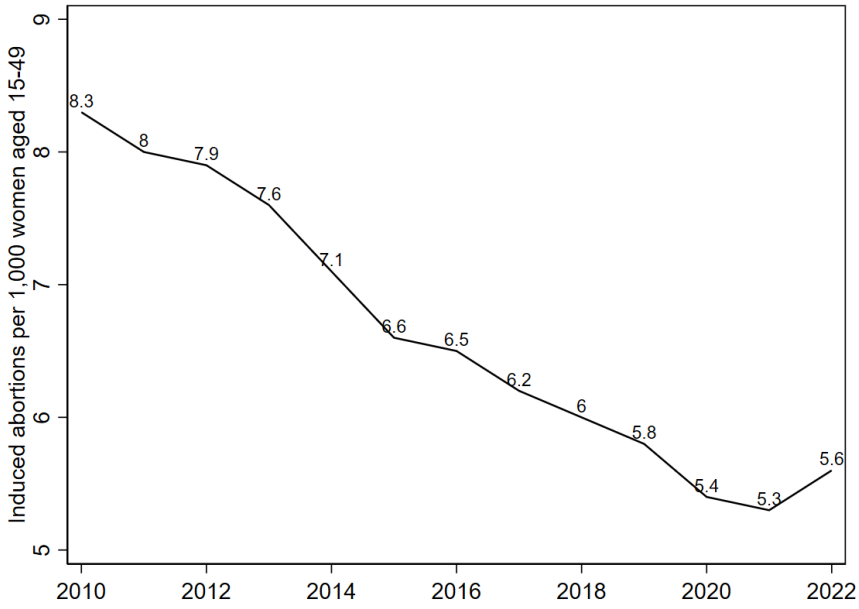
Figure 2: Increasing diffusion of medical abortion in Italian clinical practice



measures, represents the largest one since 2014.

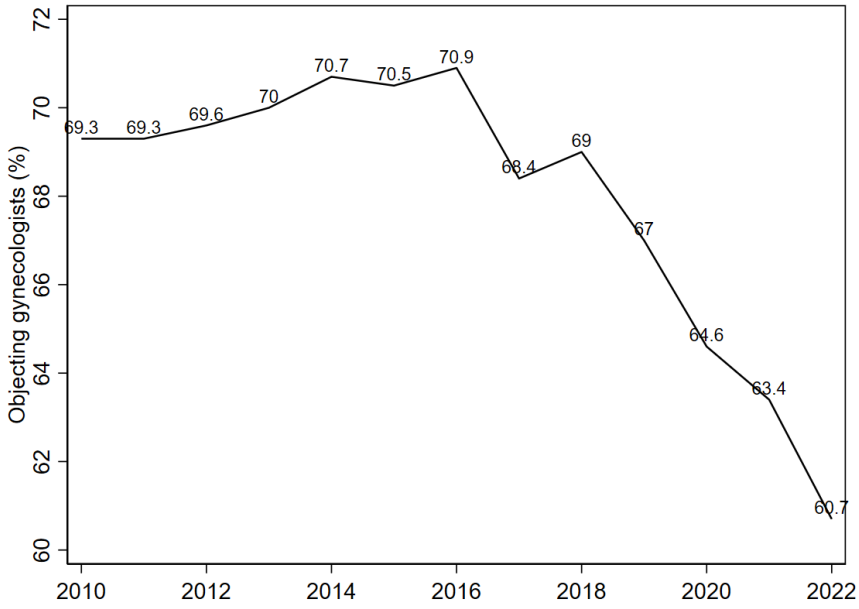
The other trend is related to prevalence of conscientious objection. Indeed, despite remaining particularly high, the share of gynecologists exercising conscientious objection has steadily decreased since 2018, settling at 60.7% in 2022 (Figure 4). Similarly decreasing trends, although less marked, can be found for anesthesiologists and non-medical personnel (Italian Ministry of Health, 2024). The conjoint dynamics of reduction in prevalence of conscientious objection and increased diffusion of medical abortion have given rise to the hypothesis that the increase in the uptake of medical abortion as a substitute of surgical procedures may lead to a decrease in the prevalence of conscientious objection among healthcare providers. This hypothesis is based on theories of professional identity creation pointing to the idea that disruptions in regular practice, possibly deriving by the introduction of new technologies, can provide occasions for the evaluation of existing intra- and inter-professional relationships, and professional identity as a whole (e.g., Korica and Molloy (2010)).

Figure 3: Overtime decrease in Italian abortion rate, interrupted by a rebound in 2022.



In this article, we aim at investigating a set of research questions related to societal, technological and organizational dynamics linked to the diffusion of medical abortion in Italy. First, we examine the demographic and organizational factors that influence medical abortion uptake. Particularly, we ask whether individual, demand-side characteristics or contextual, supply-side factors better explain variability in medical abortion adoption. Second, we assess the influence of medical abortion uptake on waiting times and out-of-region mobility. Third, we analyze the impact of Covid-19 pandemic-related confinement measures on the diffusion of medical abortion and how it compares to standard measures of access such as waiting times and out-of-region mobility. Finally, using regional-level aggregated data, we ask whether there exists a significant and consistent correlation between the uptake of medical abortion and prevalence of conscientious objection, controlling for regional characteristics and time trends.

Figure 4: Overtime decrease in gynecologists exercising conscientious objection in Italy since 2018.



Data

To address the research questions above, we employed three main data sources. First, we relied on regional-level aggregated figures on share of medical abortions performed, prevalence of conscientious objection, abortion rates, net outflow of abortion procedures, and other relevant supply-side characteristics (e.g., public family planning clinics per 20,000 residents ratio) published in the annual ministerial reports on the enforcement status of the Law 194/78. Second, we exploit individual-level data from the complete database (i.e., the entire population) of first-trimester, legal induced abortions performed in Italy between 2010 and 2022 (n = 907,129). These data are collected by the Italian National Institute of Statistics (ISTAT). As mandated by the law, healthcare facilities offering abortion services have to collect detailed information about each intervention with the aim of gaining a better understanding of the phenomenon. Consequently, data on socio-demographic attributes of the patient, characteristics of the pregnancy, the ser-

vices involved in authorizing and conducting the abortion, and on the technical details of the intervention are gathered. Detailed characteristics are collected through an individual and anonymous form filled out by the physician who performs the operation. Single forms are transmitted to healthcare facilities, then to the regional offices that monitor the collection process and finally to ISTAT, which is responsible for the data management. Finally, additional regional characteristics, including gross domestic product (GDP) per capita, a measure of secularization (defined as the share of the regional population which has not attended a place of worship in the previous year), share of non-Italian women in reproductive age, and total fertility rate were retrieved from ISTAT data warehouse (ISTATData Italian National Institute of Statistics (2024)).

Empirical Analysis

Determinants of Medical Abortion Uptake

We first examine the predictors of medical abortion uptake using logistic regression models that include fixed effects for year, region of birth, region of residence, region where the induced abortion was performed, and healthcare facility. These fixed effects allow us to account for time patterns and time-invariant regional characteristics (e.g., cultural factors, local attitudes towards abortion). In this analysis, the dependent variable is binary, taking value 1 if the procedure was a medical abortion (mifepristone alone or combined with prostaglandines) and 0 otherwise. The individual-level explanatory variables included in these models are: age, citizenship, marital status, educational attainment, employment status, parity, previous induced abortions, and urgency of the procedure. Supply-specific variables included are certificate issuer and healthcare center type; regional-level variables are the (lagged) share of medical abortions performed in the region, share of objecting gynecologists, non-objecting gynecologists weekly workload (available from 2016), the indicator of secularization, GDP per capita, total fertility rate,

induced abortion rate, share of accredited private health providers performing abortions, public family planning clinics rate, and net outflow of induced abortions in the region[3]. Standard errors are corrected to account for cluster correlation at the healthcare facility level.

Furthermore, to investigate whether individual, demand-side characteristics or systemic, supply-side characteristics matter *most* in explaining variability in access to medical abortion, we estimate two and three-level mixed effect models (regional level, healthcare facility-level, and "facilities nested in regions" models). The focus of this analysis is on the intracorrelation class coefficient (ICC), which measures the proportion of total variance in the outcome that is attributable to differences between groups (regions, hospitals, hospitals nested in regions) and the variance of the random intercept, which quantifies the extent to which group-specific averages differ from the overall average.

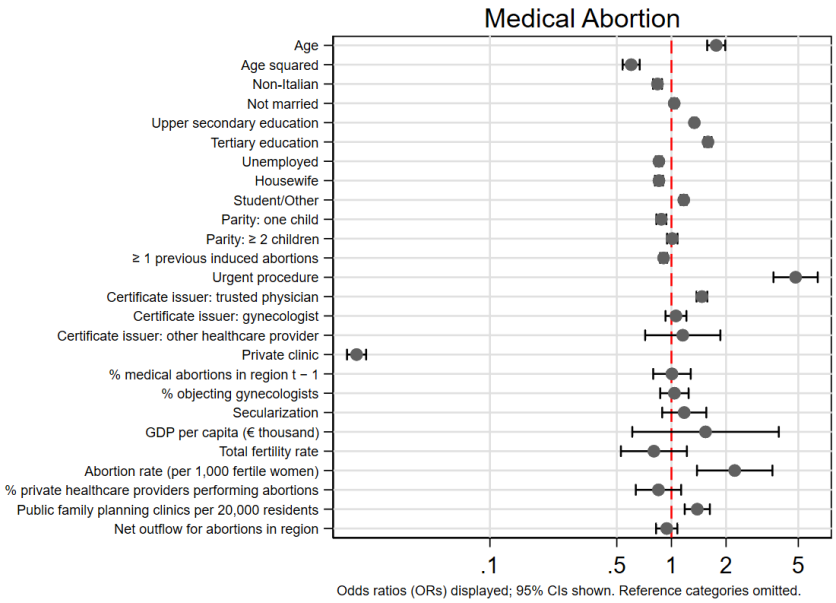
Two and three-level mixed effect models indicate that individual-level and facility-level characteristics explain most of the variability in the probability of accessing medical abortion, while regional differences appear to play a minimal role. Indeed, extremely small values of the intra-class correlation coefficient (ICC) and of the variance of the random intercept suggest virtually no variation in the probability of having access to medical abortion is attributed to differences across regions. On the contrary, facility-level ICC indicates that 22.7% - 70.3% (depending on the model) of this variance can be attributed to differences between healthcare facilities (variance of the random intercept = 7.803, 95 % CI 5.958 – 10.220 in the two-level model, 0.030, 95% CI 0.020 – 0.044 in the three-level one). Among the individual characteristics, older (odds ratio [OR] = 1.765, $p < 0.001$), Italian (OR non-Italian = 0.838, $p < 0.001$), educated (at least upper secondary educational attainment, OR = 1.338, $p < 0.001$), formally employed (OR on unemployed = 0.853, $p < 0.001$) or student (OR = 1.169, $p < 0.001$), childless (OR on having

[3] As a robustness check, we also include the share of non-Italian citizens among women of childbearing age as an additional regional-level predictor. This variable was excluded from the main specification due to its high correlation with regional GDP per capita

one child = 0.880, $p < 0.01$) pregnant people are the most likely to receive a medical abortion. Moreover, the fact that the procedure was considered *urgent* is associated with a greater likelihood of the procedure being medical (OR 4.832, $p < 0.001$). This can be explained by the fact that Italian law (Art. 5 of Law 194/1978) states that when a physician identifies conditions requiring urgent intervention, they must immediately issue a certificate attesting to the urgency. Before the introduction of medical abortion, most urgent abortion procedures were those approaching or exceeding 90 days of gestation, as delays beyond this threshold could increase the risk of complications. However, with the availability of medical abortion, this urgency threshold has shifted to an earlier gestational stage—specifically, the 7-week (later extended to 9-week) limit for medical abortion. As a result, many of the procedures classified as urgent now fall within this lower gestational range, where medical abortion is a viable and preferred option. Given that the number of pregnancies at or before 7–9 weeks is significantly higher than those beyond 90 days, this shift has led to a strong association between urgency and medical abortion. In other words, the urgency classification is increasingly applied to cases eligible for medical abortion, reinforcing the observed pattern in which urgent procedures are more likely to be performed through medical rather than surgical means. Finally, obtaining the abortion from a private provider significantly reduces the odds that the procedure is a medical one (OR = 0.018, $p < 0.001$), possibly because of distorted incentives arising from reimbursement schemes. The complete model results are reported in Figure 5 and in the Supplementary Materials (Table S1). Additional robustness checks are available in Table S2.

By looking at the marginal effect by year, we find that these correlations have become stronger over the years (Figure 6). In other words, coeteris paribus, older, Italian, educated, and employed women have become more likely to receive a medical abortion compared to their counterparts over the years.

Figure 5: Predictors of medical abortion. The figure displays odds ratios from the logistic regression model.

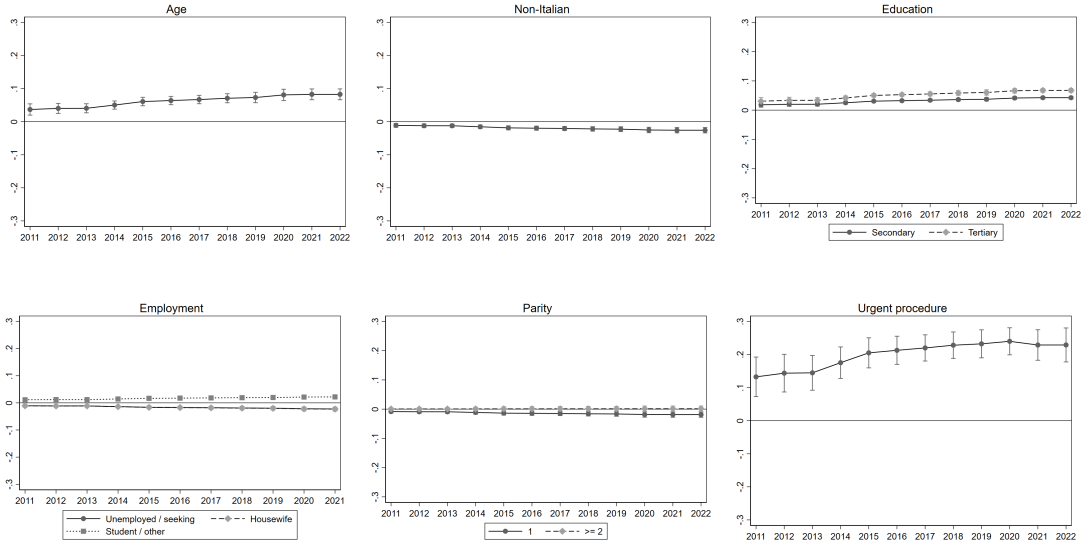


Note: The x-axis is displayed on a logarithmic scale to reflect the multiplicative nature of the estimates.

Medical Abortion and Waiting Times

To study the relation between medical abortion and waiting times (expressed in days) we use individual-level data to estimate zero-inflated negative binomial models. The choice of zero-inflated negative binomial is justified by the presence of overdispersion (overdispersion alpha = 0.166) and the better fit to the data compared to non zero-inflated models, measured through Akaike and Baysesian information criteria. In this analysis, the dependent variable is the number of days between certificate issuance and the day of the intervention. The main independent variable of interest is whether the procedure is a medical abortion and we control for both the individual- and regional-level variables enumerated in the previous section. The models include the same set of fixed effects previously mentioned and, again, standard errors are corrected to account for cluster correlation at the healthcare facility level.

Figure 6: Marginal effects per year. Dependent variable: 1 = the patient received medical abortion (mifepristone or mifepristone plus prostaglindin), 0 = otherwise.



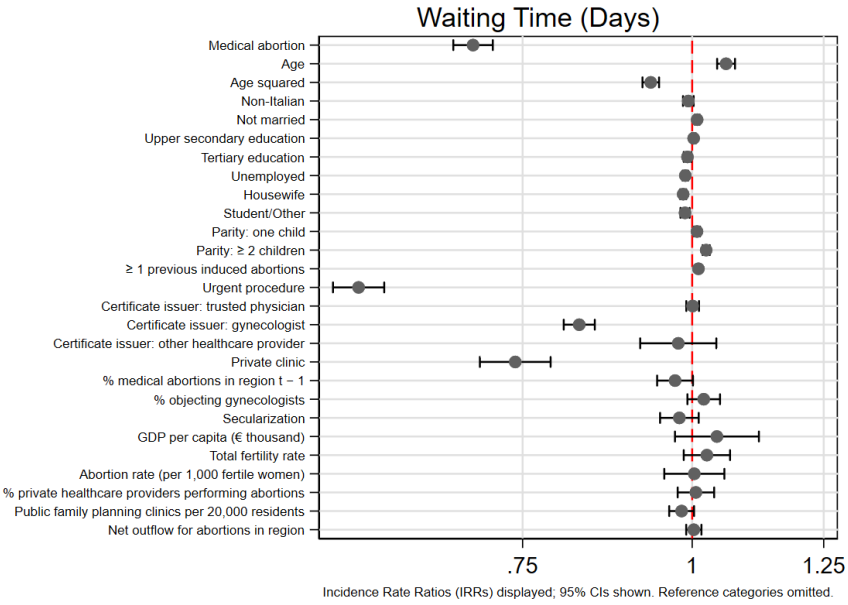
Medical abortion is consistently associated with a significant decrease in waiting time expressed in days (incidence rate ratio (IRR): 0.689, $p < 0.001$). Contrary to previous analyses conducted on different time spans (e.g., Autorino et al. (2020)), our estimates indicate that between 2010 and 2022 the share of objecting gynecologists in one region, ceteris paribus, is not significantly associated with increasing waiting times (possibly because of the coinciding decline in abortion rate). The complete model results are displayed in Figure 7 and in the Supplementary Materials (Table S1, Table S3).

Medical Abortion and Out-of-Region Mobility

To analyze the relation between medical abortion and out-of-region mobility, we estimate a set of logistic models where the dependent variable is binary, taking value of 1 if the procedure took place outside of the region of residence and not in a neighboring province[4] and 0 otherwise. In addition to the set of control variables common to the

[4] In Italy, regions are the primary administrative units with legislative autonomy in certain areas, such as healthcare. Each region is further subdivided into provinces, which serve as intermediate administrative divisions mainly responsible for local coordination and infrastructures but with limited political power.

Figure 7: Predictors of waiting time (in days). The figure displays incidence rate ratios (IRRs) from the zero-inflated negative binomial regression model.



Note: The x-axis is displayed on a logarithmic scale to reflect the multiplicative nature of the estimates.

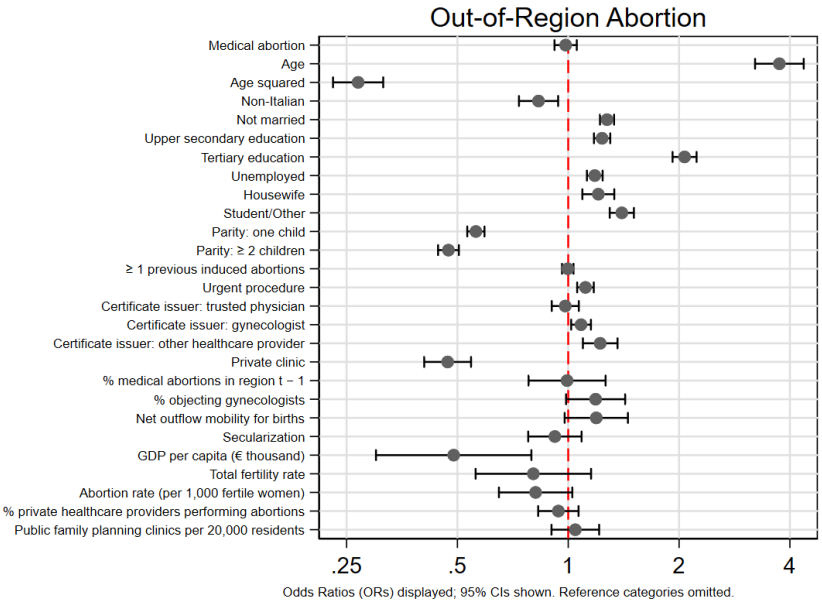
previously presented models, here we further control for the difference between the number of births among a region's residents (regardless of the location of delivery) and the total births occurring within the region, expressed as a percentage of the latter. This variable serves as a measure of birth-related mobility and helps control for the possibility that individuals seeking abortions outside their region of residence may be influenced not only by provider availability but also by the perceived higher quality or reputation of gynecological services.

We do not find consistent evidence to support the claim that women might be migrating out of their region of residence specifically to obtain a medical abortion. However, contrary to the previous analysis on waiting times, we find that prevalence of conscientious objection among gynecologists in one region may still contribute to affect the

While regions have their own governments and policy-making authority, provinces primarily oversee administrative tasks at a smaller scale.

probability of out-of-region mobility (odds ratio: 1.187, $p < 0.1$). Among the other predictors, the ones associated with an increase in the probability of traveling out of the region of residence to obtain an abortion are age - although following a concave pattern (OR: 3.746, $p < 0.001$), not being married (OR: 1.275, $p < 0.01$), having received at least upper secondary education (OR 1.236, $p < 0.001$), not being formally employed, and undergoing an urgent procedure (OR 1.114, $p < 0.001$). On the contrary, non-Italian citizens are less likely to travel to a different region (OR 0.831, $p < 0.01$). Similarly, obtaining an abortion in a private clinic and residing in wealthier regions reduce the odds of out-of-region mobility for abortion seekers (OR 0.470, $p < 0.001$ for the former; OR 0.489, $p < 0.01$ for the latter). The complete model results are displayed in Figure 8 and in the Supplementary Materials (Table S1, Table S4). A summary of the three baseline models' results is available in Figure S1.

Figure 8: Predictors of out-of-region mobility to obtain an abortion. The figure displays odds ratios from the logistic regression model.



Note: The x-axis is displayed on a logarithmic scale to reflect the multiplicative nature of the estimates.

Medical Abortion and the Covid-19 Pandemic

To study the influence of the Covid-19 emergence on medical abortion uptake and, more broadly, on abortion access in Italy, we rely on an event study design using high-dimensional fixed effects regression models. This approach estimates the dynamic effects of the implementation of the Covid-19-related measures by including a series of leads and lags relative to the implementation month (in our case, March 2020). Specifically, we regress the outcomes of interest (i.e., the proportion of medical abortions, waiting time [in days], and the proportion of procedures implemented outside of the pregnant person's region of residence) on a set of indicator variables representing different time periods before and after the policy change. Our specification includes the same individual-level controls, procedural and healthcare system factors (i.e., certificate issuer, healthcare facility type), and regional characteristics presented in the previous sections. To account for time-invariant regional characteristics and facility-level heterogeneity, we include year, month, healthcare facility, and regional fixed effects. Standard errors are clustered at the facility level to account for potential within-facility correlation in errors. The coefficients on the lead indicators test for potential pre-trends, while the coefficients on the lag indicators capture the post-policy effects on each outcome. As a robustness check, we also estimate a simpler model that excludes controls and relies on a slimmer fixed-effects structure, absorbing only year, month, and facility-level heterogeneity. This alternative specification provides a transparent comparison, ensuring that the estimated policy effects are not solely driven by the inclusion of controls.

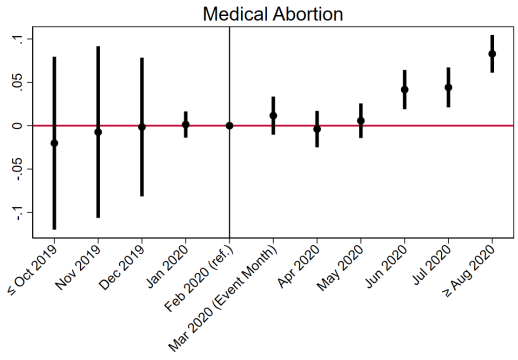
As for the proportion of medical abortions, pre-trends exhibit non-significant coefficients, indicating that there were no systematic differences in the probability of medical abortion uptake prior to the enactment of the Covid-19 confinement measures. This suggests that the parallel trends assumption holds, supporting the validity of the event study design. Following March 2020, the estimated coefficients remain close to zero in the initial months, suggesting a lagged response to the policy changes and reorganization

of healthcare services implemented in response to the pandemic. However, from June 2020 onward, there is a statistically significant and progressively increasing effect, indicating a higher likelihood of medical abortion uptake over time. By August 2020 and beyond, the effect reaches its peak, reflecting a substantial increase in the probability of obtaining a medical abortion.

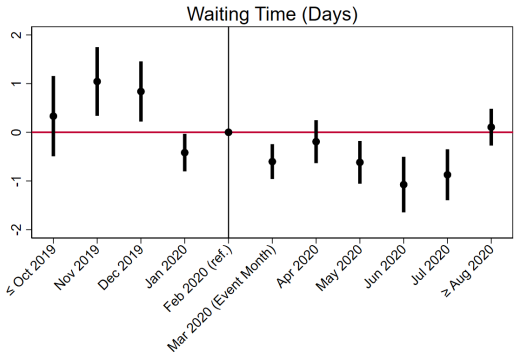
Looking at waiting times, in the pre-Covid period our estimates indicate relatively longer waiting times. However, there is no strong evidence of a consistent pre-trend, supporting the validity of the event study approach. Following the Covid-19-related measures passed in March 2020, waiting times decrease sharply, with coefficients turning negative and remaining significantly below zero in most of the months immediately after the policy change. However, starting from August 2020 and beyond, the coefficients approach zero, indicating a partial reversion of the initial reductions.

Finally, as for out-of-region migration, we find no significant effect, suggesting that access did not worsen as a consequences of the Covid-19 shock. The results remain consistent across specifications, reinforcing the robustness of our findings. The findings of the event study are displayed in Figure 9 and in the Supplementary Materials (Figure S2, Table S5).

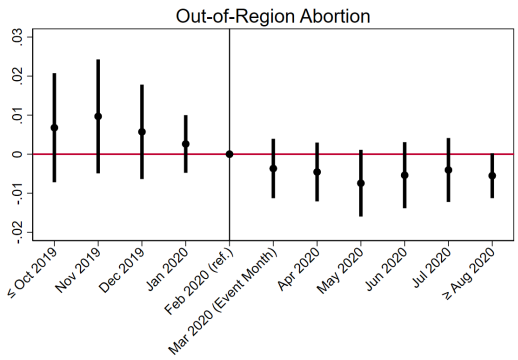
Figure 9: Event study estimates for medical abortion, waiting time, and out-of-region procedures.



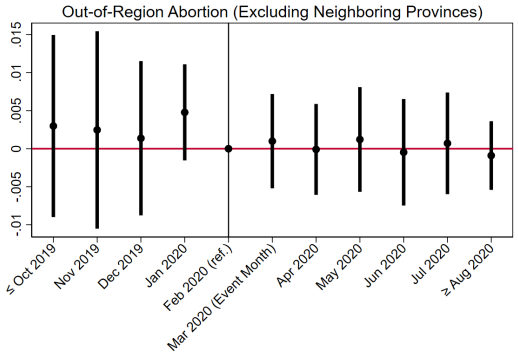
(a) Share of medical abortions



(b) Waiting time (days)



(c) Share of out-of-region procedures



(d) Share of out-of-region procedures, excluding non-neighboring provinces

Note: Estimates were generated from high-dimensional fixed effects regressions controlling for individual, procedural, and systemic factors. The model includes facility, month, year, and regional fixed effects, with standard errors clustered at the facility level. Markers indicate point estimates, and vertical bars represent 95% confidence intervals.

Medical Abortion and Conscientious Objection: A Regional-Level Analysis

To investigate the correlation between medical abortion diffusion and prevalence of conscientious objection among gynecologists at the aggregate level, we use panel,

regional-level data and estimate ordinary least squares (OLS) regressions including regional and year-fixed effects to account for unobserved time-invariant regional characteristics and for temporal trends that are common to all regions. The dependent variable is the share of gynecologists exercising conscientious objection in a given region at a given year. The main independent variable of interest is the share of medical abortions on the overall number of procedures performed in that region during the given year. To allow for the possibility of asynchronous effects, we run separate regressions using its one-year lag and different versions of lagged rolling averages. In models including additional covariates, we control for a set of variables that capture cultural and economic aspects that are argued to influence the way healthcare services - and especially abortion services - are provided. First, we control for GDP per capita at current market prices and the female unemployment rate to characterize the economic context. Second, we account for the share of the regional population which has not attended a place of worship in the past year as a measure for for local religiously-motivated attitudes towards abortion. Third, we include the share of non-Italian citizens among women of childbearing age to control for the fact that women from abroad, who reside in Italy but distributed unequally across regions, rely on abortion services more frequently than Italian women do (following Autorino et al. (2020)). Finally, we control for the total fertility rate to account for fertility patterns that might be related to abortion trends. The estimated standard errors are robust to heteroscedasticity and in robustness checks they allow for arbitrary intra-region correlation.

We find a negative correlation between the share of objecting gynecologists and the share of medical abortions performed in the region, although the result is not consistent across all model specifications, implying that there is not sufficient empirical evidence to claim that the diffusion of medical abortion is consistently associated with a decline in prevalence of conscientious objection (Table 1).

Table 1: Correlation between conscientious objection and diffusion of medical abortion.

	% objecting gynecologists					
	(1)	(2)	(3)	(4)	(5)	(6)
% medical abortions at time t	-0.169***				-0.135**	-0.142
	(0.062)				(0.064)	(0.106)
% medical abortions at time t-1		-0.163***				
		(0.061)				
Rolling avg. % medical abortions			-0.159***			
			(0.056)			
Rolling avg. % medical abortions t-2				-0.164***		
				(0.056)		
Year and region F.E.	✓	✓	✓	✓	✓	✓
Regional controls	X	X	X	X	✓	✓
S.E. corrected for cluster corr.	X	X	X	X	X	✓
Observations	271	250	250	250	271	271
Adjusted R-squared	0.913	0.913	0.912	0.914	0.921	0.921

Note: Regional controls include secularization indicator, GDP per capita (thousands €), share of foreign women aged 15-49, female unemployment rate, total fertility rate, induced abortions per 1,000 women aged 15-49. **** $p < 0.001$ *** $p < 0.01$ ** $p < 0.05$, * $p < 0.1$.

Discussion and Conclusion

Medical abortion is recognized as a safe and effective approach to induced abortion (Wainwright et al., 2016; Gambir et al., 2020; Grossman and Grindlay, 2017; Endler et al., 2019; Ngo et al., 2011) and is frequently preferred to surgical techniques by patients as it grants greater bodily autonomy and is less invasive compared to other approaches (Honkanen and von Hertzen, 2002; Berer, 2005; Ho, 2006; Berer and Hoggart, 2018; Lafaurie et al., 2005). Although its uptake has majorly increased in several countries consequently to the Covid-19 pandemic and the expansion of telemedicine (Gibelin et al., 2021; Sheets, 2022; Aiken et al., 2021), little is still known on societal and organizational dynamics surrounding the diffusion of medical abortion. Exploiting the wealth of individual-level data on first-trimester induced abortions performed between 2010 and 2022 by Italian healthcare facilities, we investigated drivers of medical abortion uptake, its impact on waiting times and out-of-region mobility, the impact of Covid-19 lockdown measures on its diffusion, and the correlation between medical abortion diffusion and prevalence of conscientious objection.

Our findings indicate that individuals from relatively high socio-economic backgrounds are significantly more likely to have access to medical abortion and this trend has increased over time. This raises concerns about whether the implementation of medical abortion in Italy has effectively reduced inequalities in access. Previous findings indicated that (lack of) awareness of the possibility of choosing medical abortion plays a key role in shaping access to this method (Newton et al., 2016). We argue that our findings contribute to this literature by suggesting that a certain level of human capital is necessary to obtain a medical abortion. They also raise questions about whether the organizational arrangements on the supply side have been adequate to ensure widespread access.

Moreover, we show that medical abortion is associated with significant and consistent

reduction waiting times, while it is not a driver of the choice to migrate to a different region to obtain abortion services. This might suggest that there is no strong individual preference for medical abortion compared to other techniques. Alternatively, the structured timeline required by this method, such as the waiting periods between drug administrations and the necessity to wait until the expulsion is complete, may encourage patients to seek care within their area of residence. We also find that prevalence of conscientious objection might still be a factor influencing of out-of-region mobility, in spite of the concurrent declines in abortion rates and share of objecting gynecologists.

Furthermore, our data indicate that the shock generated by the onset of the Covid-19 pandemic and the consequent disruption of standard models of healthcare services provision have prompted a shift in abortion practices in Italy. Particularly, we find a significant increase in the proportion of medical abortions, although this effect was not immediate. Our estimates show that the increase becomes stable and significant starting from June 2020 and this effect appears reinforced and consolidated from August 2020 onward, most likely as a consequence of the Italian Ministry of Health increasing the gestational age limit to access medical abortion and removing the mandatory 3-day hospital stay (AIFA, 2020). Overall, our data support the claim that the Covid-19 pandemic played a key role in shaping medical abortion utilization patterns. As for the most frequently used measures of access, we found evidence of a reduction in waiting time in the immediate post-Covid-19-related measures implementation, possibly fueled by the reduction in abortion incidence resulting from the confinement measures together with the indication of abortion as a non-deferrable service by the Ministry of Health. However, this effect appears short-lived, indicating a partial reversal after August 2020. Moreover, we do not detect any significant change in abortion-seeking out-of-region mobility.

Finally, our results indicate that the shift from a predominantly surgical-based approach to induced abortion to medical-based one is not likely to be a primary driver of

the reduction in prevalence of conscientious objection. Ideological and reputational motives, together with better career prospects (Pullan and Gannon, 2024) might still prevail in the choice of exercising conscientious objection. Nevertheless, our regional-level aggregate data might not be sufficient to fully capture the complexities of these trends; qualitative evidence in the form of in-depth interviews with practitioners is therefore necessary to reach a more substantial understanding of the phenomenon.

This study provides a detailed account of the factors shaping medical abortion uptake and its consequences for access to abortion care in Italy. By highlighting the interplay between individual and contextual characteristics, our findings offer valuable insights into persistent disparities and evolving patterns of abortion provision. Beyond the Italian case, this research contributes to a broader understanding of how the diffusion of medical abortion can reshape access to reproductive healthcare in contexts where structural and institutional barriers remain.

Acknowledgments

This research was supported by Bocconi University Department of Social and Political Science's interdisciplinary grant EXI-AAA one-year project 2024.

References

AIFA (2020). Determina n. 865/2020: Modifica alle condizioni e modalità di impiego del medicinale per uso umano mifepristone e prostaglandina. Gazzetta Ufficiale della Repubblica Italian, Serie generale n. 203 del 14-08-2020. Accessed on [date].

Aiken, A., Starling, J., Gomperts, R., Scott, J., and Aiken, C. (2021). Demand for self-managed online telemedicine abortion in eight european countries during the covid-19 pandemic: a regression discontinuity analysis. *BMJ Sex Reprod Health*, 47(4):238–245.

American College of Obstetricians and Gynecologists (2020). Medication abortion up to 70 days of gestation. Accessed: March 19, 2025.

Autorino, T., Mattioli, F., and Mencarini, L. (2020). The impact of gynecologists' conscientious objection on abortion access. *Social science research*, 87:102403.

Baird, B. (2015). Medical abortion in australia: a short history. *Reproductive Health Matters*, 23(46):169–176.

Bateson, D. J., Lohr, P. A., Norman, W. V., Moreau, C., Gemzell-Danielsson, K., Blumenthal, P. D., Hoggart, L., Li, H.-W. R., Aiken, A. R., and Black, K. I. (2020). The impact of covid-19 on contraception and abortion care policy and practice: experiences from selected countries.

Berer, M. (2005). Why medical abortion is important for women.

Berer, M. and Hoggart, L. (2018). Medical abortion pills have the potential to change everything about abortion. *Contraception*, 97(2):79–81.

Bo, M., Zotti, C. M., and Charrier, L. (2015). Conscientious objection and waiting time for voluntary abortion in italy. *The European Journal of Contraception & Reproductive Health Care*, 20(4):272–282.

Breitbart, V. (2000). Counseling for medical abortion. *American journal of obstetrics and gynecology*, 183(2):S26–S33.

Brennand, E. A., Huang, B., Scime, N. V., Paw, J., and Nelson, E. L. (2025). Abortion care in alberta, canada, from 2012 to 2023: a population-based, cross-sectional analysis of use and geographical access. *The Lancet Public Health*, 10(3):e246–e256.

Caruso, E. (2020). Abortion in italy: forty years on. *Feminist Legal Studies*, 28(1):87–96.

Dunn, S. and Cook, R. (2014). Medical abortion in canada: behind the times. *CMAJ*, 186(1):13–14.

Dzuba, I. G., Winikoff, B., and Peña, M. (2013). Medical abortion: a path to safe, high-quality abortion care in latin america and the caribbean. *The European Journal of Contraception & Reproductive Health Care*, 18(6):441–450.

Endler, M., Lavelanet, A., Cleeve, A., Ganatra, B., Gomperts, R., and Gemzell-Danielsson, K. (2019). Telemedicine for medical abortion: a systematic review. *BJOG: An International Journal of Obstetrics & Gynaecology*, 126(9):1094–1102.

Gambir, K., Garnsey, C., Necastro, K. A., and Ngo, T. D. (2020). Effectiveness, safety and acceptability of medical abortion at home versus in the clinic: a systematic review and meta-analysis in response to covid-19. *BMJ global health*, 5(12):e003934.

Gibelin, K., Agostini, A., Marcot, M., Piclet, H., Bretelle, F., and Miquel, L. (2021). Covid-19 impact in abortions' practice, a regional french evaluation. *Journal of gynecology obstetrics and human reproduction*, 50(5):102038.

Grossman, D. and Grindlay, K. (2017). Safety of medical abortion provided through telemedicine compared with in person. *Obstetrics & Gynecology*, 130(4):778–782.

Guttmacher Institute (2017). National estimate of abortion in india released. Accessed: March 19, 2025.

Guttmacher Institute (2023). Mifepristone for abortion in a global context: Safe, effective and approved in nearly 100 countries. Accessed: March 19, 2025.

Hausknecht, R. U. (1995). Methotrexate and misoprostol to terminate early pregnancy. *New England Journal of Medicine*, 333(9):537–540.

Henshaw, R., Naji, S., Russell, I., and Templeton, A. (1993). Comparison of medical abortion with surgical vacuum aspiration: women's preferences and acceptability of treatment. *British Medical Journal*, 307(6906):714–717.

Ho, P. C. (2006). Women's perceptions on medical abortion. *Contraception*, 74(1):11–15.

Honkanen, H. and von Hertzen, H. (2002). Users' perspectives on medical abortion in finland. *Contraception*, 65(6):419–423.

Italian Ministry of Health (2023). Report on the state of access to induced abortion in 2021 by the ministry of health to the italian parliament. Technical report, Italian Ministry of Health. Available at: `https://www.salute.gov.it/portale/donna/dettaglioPubblicazioniDonna.jsp?lingua=italiano&id=3367`.

Italian Ministry of Health (2024). Report on the state of access to induced abortion in 2022 by the ministry of health to the italian parliament. Technical report, Italian Ministry of Health. Available at: `https://www.salute.gov.it/portale/documentazione/p6_2_2_1.jsp?lingua=italiano&id=3493`.

Italian National Institute of Statistics (2024). Istatdata - the italian national institute of statistics data warehouse. Technical report, Italian National Institute of Statistics. Available at: `https://esploradati.istat.it/databrowser/#/en`.

Italian Society of Gynecology and Obstetrics (SIGO) (2024). Recommendations for the pharmacological treatment of abortion. Accessed: March 19, 2025.

Jelinska, K. and Yanow, S. (2018). Putting abortion pills into women's hands: realizing the full potential of medical abortion. *Contraception*, 97(2):86–89.

Joffe, C. (2000). Medical abortion in social context. *American journal of obstetrics and gynecology*, 183(2):S10–S15.

Kaneda, Y. (2023). Japan's approval of oral abortion pills: A new era of opportunities and challenges in aligning with global standards. *Women's Health*, 19:17455057231216533.

Kapp, N., Eckersberger, E., Lavelanet, A., and Rodriguez, M. I. (2019). Medical abortion in the late first trimester: a systematic review. *Contraception*, 99(2):77–86.

Korica, M. and Molloy, E. (2010). Making sense of professional identities: Stories of medical professionals and new technologies. *Human relations*, 63(12):1879–1901.

Lafaurie, M. M., Grossman, D., Troncoso, E., Billings, D. L., and Chávez, S. (2005). Women's perspectives on medical abortion in mexico, colombia, ecuador and peru: a qualitative study. *Reproductive health matters*, 13(26):75–83.

Minerva, F. (2015). Conscientious objection in italy. *Journal of Medical Ethics*, 41(2):170–173.

Montanari Vergallo, G., Rinaldi, R., Piersanti, V., Tini, A., and Del Rio, A. (2021). Is the right to abortion at risk in times of covid-19? the italian state of affairs within the european context. *Medicina*, 57(6):615.

Newton, D., Bayly, C., McNamee, K., Hardiman, A., Bismark, M., Webster, A., and Keogh, L. (2016). How do women seeking abortion choose between surgical and medical abortion? perspectives from abortion service providers. *Australian and New Zealand Journal of Obstetrics and Gynaecology*, 56(5):523–529.

Ngo, T. D., Park, M. H., Shakur, H., and Free, C. (2011). Comparative effectiveness, safety and acceptability of medical abortion at home and in a clinic: a systematic review. *Bulletin of the World Health Organization*, 89:360–370.

Pullan, D. and Gannon, P. (2024). Between the church and the state: Catholic and european influences on abortion governance in italy and beyond. *Journal of Religion in Europe*, 17(3):262–292.

Raymond, E. G., Harrison, M. S., and Weaver, M. A. (2019). Efficacy of misoprostol alone for first-trimester medical abortion: a systematic review. *Obstetrics & Gynecology*, 133(1):137–147.

Sheets, F. (2022). Medication abortion now accounts for more than half of all us abortions. *Policy Analysis*.

Tu, P., Hu, D., Wu, S., Li, J., Jiang, X., Pei, K., and Zhang, W.-H. (2024). Characteristics and contraceptive practices among chinese women seeking abortion: a multicentre, descriptive study from 2019 to 2021. *BMJ Sexual & Reproductive Health*, 50(4):252–261.

UK Government (2021). Abortion statistics for england and wales: 2021. Accessed: March 19, 2025.

Wainwright, M., Colvin, C. J., Swartz, A., and Leon, N. (2016). Self-management of medical abortion: a qualitative evidence synthesis. *Reproductive Health Matters*, 24(47):155–167.

Zamberlin, N., Romero, M., and Ramos, S. (2012). Latin american women's experiences with medical abortion in settings where abortion is legally restricted. *Reproductive health*, 9:1–11.

Supplementary Materials

Table S1: Summary of baseline models' results. For models (1), (2), (3), the dependent variable is 1 if the patient received medical abortion (mifepristone or mifepristone plus prostaglandin), 0 otherwise; for model (5), the dependent variable is 1 if the abortion was performed outside of the patient's region of residence and not in a neighboring province, 0 otherwise. Estimates expressed in odds ratios for the logistic models (1), (2), and (5), incidence rate ratios for the zero-inflated negative binomial model (4), and in ordinary beta coefficients for the linear model (3).

	Depvar: Medical abortion			Waiting time (days)	OOR mobility
	Multilevel logistic		Multilevel linear	Zero-inflated	Logistic
	Regional-level	Facility-level	Three-level (Nested)	negative binomial	
	(1)	(2)	(3)	(4)	(5)
Medical abortion	-	-	-	0.689****	0.984
	-	-	-	(0.012)	(0.035)
Age	1.752****	1.765****	0.059****	1.059****	3.744****
	(0.107)	(0.132)	(0.011)	(0.008)	(0.290)
Age squared	0.599****	0.600****	-0.053****	0.932****	0.269****
	(0.033)	(0.041)	(0.010)	(0.007)	(0.021)
Non-Italian	0.870***	0.838****	-0.019****	0.993	0.831***
	(0.041)	(0.030)	(0.005)	(0.005)	(0.052)
Not married	1.017	1.036	0.003	1.009****	1.275****
	(0.034)	(0.024)	(0.002)	(0.002)	(0.029)
Urgent	5.202****	4.825****	0.232****	0.568****	1.236****
	(1.173)	(1.270)	(0.053)	(0.013)	(0.032)
No educational attainment / Primary / Lower secondary (Ref.)					
Upper secondary	1.308****	1.338****	0.028****	1.002	2.070****
	(0.014)	(0.018)	(0.004)	(0.002)	(0.079)
Tertiary	1.561****	1.589****	0.053****	0.992**	1.180****
	(0.046)	(0.036)	(0.006)	(0.003)	(0.030)
Employed (Ref.)					
Unemployed	0.853****	0.852****	-0.019****	0.989****	1.207****
	(0.013)	(0.016)	(0.003)	(0.002)	(0.061)
Housewife	0.882****	0.853****	-0.015****	0.985****	1.398****
	(0.029)	(0.022)	(0.003)	(0.003)	(0.054)
Student / other	1.205****	1.169****	0.013****	0.988***	0.561****

	(0.031)	(0.020)	(0.003)	(0.004)	(0.015)
Childless (Ref.)					
One child	0.884***	0.879***	-0.014****	1.009****	0.472****
	(0.036)	(0.039)	(0.004)	(0.003)	(0.016)
≥ two children	1.004	1.010	-0.001	1.025****	0.997
	(0.047)	(0.044)	(0.005)	(0.003)	(0.018)
No previous induced abortions (Ref.)					
≥ one	0.940***	0.906****	-0.010****	1.011****	1.113****
induced abortion	(0.019)	(0.025)	(0.002)	(0.002)	(0.030)
Certificate issuer (Ref = family planning clinic)					
'Trusted physician'	1.474****	1.469****	0.038****	1.001	0.981
	(0.084)	(0.049)	(0.005)	(0.005)	(0.043)
Gynecologist	1.047	1.056	0.008	0.826****	1.080**
	(0.124)	(0.075)	(0.007)	(0.011)	(0.035)
Other	1.209	1.147	0.006	0.978	1.221****
	(0.331)	(0.249)	(0.014)	(0.031)	(0.067)
Healthcare provider (Ref = public hospital)					
Private clinic	0.045***	0.010****	-0.129**	0.732****	0.470****
	(0.049)	(0.012)	(0.059)	(0.024)	(0.036)
% medical	1.022	1.017	0.084****	0.970**	0.961
abortions t-1	(0.161)	(0.171)	(0.012)	(0.014)	(0.099)
% objecting	1.010	1.073	-0.021**	1.014	1.135*
gynecologists	(0.091)	(0.105)	(0.009)	(0.014)	(0.080)
Secularization	1.185	1.208	0.022	0.975	0.902
	(0.168)	(0.193)	(0.015)	(0.016)	(0.078)
GDP per capita	1.533	1.481	0.017	1.074*	0.489***
	(0.876)	(0.881)	(0.019)	(0.044)	(0.122)
% non-Italian	1.841	1.747	-0.012	0.841**	1.286
women 15-49	(1.089)	(1.041)	(0.045)	(0.062)	(0.467)
Total fertility rate	0.768*	0.808	-0.026**	1.027	0.858
	(0.118)	(0.127)	(0.013)	(0.020)	(0.113)
Abortion rate (per	2.179****	2.282****	0.038	0.989	0.806*
1,000 women 15-49)	(0.513)	(0.570)	(0.024)	(0.026)	(0.093)
% private	0.885	0.838*	-0.001	1.008	0.939
	(0.088)	(0.084)	(0.012)	(0.018)	(0.062)
Family planning	1.403***	1.369***	0.018**	0.981*	1.049
clinics rate	(0.155)	(0.142)	(0.009)	(0.010)	(0.075)
Net outflow	0.966	0.947	-0.011**	1.000	-

of abortions	(0.062)	(0.081)	(0.004)	(0.007)	-
Year FE	✓	✓	✓	✓	✓
Region of birth FE	✓	✓	✓	✓	✓
Region of res. FE	✓	✓	✓	✓	✓
Region of interv. FE	✓	✓	✓	✓	✓
Facility FE	✓	✓	✓	✓	✓
Observations	797,334	797,334	797,334	782,292	761,134
Intraclass corr.	0.000	0.703	0.227	-	-
coefficient	(0.000–0.000)	(0.644–0.757)	(0.163–0.308)	-	-
Variance of the	0.000	7.803	0.030	-	-
random intercept	(0.000–0.000)	(5.958–10.220)	(0.020–0.044)	-	-
AIC	593940.8	480478.9	440245.5	4933173	-
BIC	584172.6	480722.3	441427.6	4934249	-
Pseudo R2	-	-	-	-	0.2875

Note: Robust standard errors in parentheses, clustered by healthcare facility. **** $p < 0.001$ *** $p < 0.01$ ** $p < 0.05$, * $p < 0.1$. for the intraclass correlation coefficients and the variance of the random intercept, values in parentheses represent 95% confidence intervals. The three-level model is linear despite the binary nature of the dependent variable due to convergence issues.

Complete regression tables for predictors of access to medical abortion, waiting times, and out-of-region mobility.

Table S2: Demographic and systemic factors associated with the use of medical abortion (2010-2022). Logistic regressions, dependent variable: 1 if the patient received medical abortion (mifepristone or mifepristone plus prostaglandin), 0 otherwise. Estimates expressed in odds ratios.

	(1)	(2)	(3)	(4)	(5)	(6)
Age	1.840****		1.765****	1.763****	1.763****	1.697****
	(0.108)		(0.104)	(0.104)	(0.104)	(0.085)
Age squared	0.584****		0.600****	0.600****	0.600****	0.607****
	(0.032)		(0.033)	(0.033)	(0.033)	(0.029)
Italian (Ref.)						
Non-Italian	0.824****		0.838****	0.837****	0.838****	0.847****
	(0.023)		(0.024)	(0.024)	(0.024)	(0.029)
Married (Ref.)						
Not married	1.030		1.036*	1.035*	1.036*	1.039*
	(0.019)		(0.020)	(0.020)	(0.020)	(0.021)
No educational attainment / Primary / Lower secondary (Ref.)						
Upper secondary education	1.356****		1.338****	1.337****	1.338****	1.324****
	(0.021)		(0.022)	(0.021)	(0.021)	(0.022)
Tertiary education	1.610****		1.589****	1.591****	1.590****	1.555****
	(0.039)		(0.038)	(0.038)	(0.038)	(0.038)
Employed (Ref.)						
Unemployed / Seeking job	0.833****		0.852****	0.853****	0.852****	0.841****
	(0.016)		(0.018)	(0.017)	(0.018)	(0.019)
Housewife	0.848****		0.853****	0.852****	0.853****	0.817****
	(0.022)		(0.022)	(0.022)	(0.022)	(0.019)
Student / other	1.168****		1.169****	1.173****	1.170****	1.163****
	(0.022)		(0.025)	(0.024)	(0.025)	(0.028)
Childless (Ref.)						
One child	0.876****		0.879****	0.881****	0.880****	0.906****
	(0.029)		(0.028)	(0.028)	(0.028)	(0.019)
Two children or more	1.002		1.010	1.013	1.011	1.072**
	(0.034)		(0.034)	(0.034)	(0.034)	(0.033)
No previous induced abortions (Ref.)						
≥ 1 induced abortions	0.901****		0.906****	0.905****	0.906****	0.921****
	(0.021)		(0.021)	(0.020)	(0.021)	(0.014)
Not urgent (Ref.)						
Urgent procedure	4.740****		4.820****	4.845****	4.829****	4.106****
	(0.668)		(0.694)	(0.694)	(0.695)	(0.616)
Certificate issuer (Ref. = family planning clinic)						
Trusted physician		1.573****	1.469****	1.469****	1.469****	1.443****
		(0.060)	(0.051)	(0.051)	(0.051)	(0.050)
Gynecologist		1.497****	1.057	1.054	1.056	1.021

Continued on next page

	(1)	(2)	(3)	(4)	(5)	(6)
		(0.142)	(0.072)	(0.072)	(0.072)	(0.079)
Other		1.454*	1.147	1.162	1.151	0.885
		(0.300)	(0.272)	(0.295)	(0.279)	(0.148)
Healthcare center type (Ref. = public hospital)						
Private clinic		0.014****	0.019****	0.019****	0.019****	0.011****
		(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
% medical abortions in regions $t-1$		1.091	1.017			1.349**
		(0.125)	(0.123)			(0.183)
% medical abortions in regions (rolling average since 2010)				0.694**		
				(0.118)		
% medical abortions in regions (rolling average $t-2$)					0.907	
					(0.113)	
% objecting gynecologists		1.105	1.073	1.008	1.051	0.916
		(0.107)	(0.106)	(0.104)	(0.106)	(0.102)
Non-objecting gynecologists' weekly workload						1.092
						(0.095)
Secularization		1.195	1.208	1.289*	1.232	0.870
		(0.164)	(0.168)	(0.174)	(0.170)	(0.094)
GDP per capita (€ thousand)		1.191	1.481	1.342	1.449	2.025
		(0.544)	(0.743)	(0.667)	(0.715)	(1.054)
Share of non-Italian women in reproductive age		2.229	1.746	1.342	1.629	1.093
		(1.404)	(1.120)	(0.817)	(1.022)	(0.888)
Total fertility rate		0.799	0.808	0.786	0.791	1.002
		(0.168)	(0.177)	(0.174)	(0.171)	(0.202)
Abortion rate (per 1,000 fertile women)		2.217***	2.283****	2.057***	2.216***	2.651***
		(0.558)	(0.567)	(0.517)	(0.552)	(0.827)
% private healthcare providers performing abortions		0.830	0.838	0.831	0.824	0.909
		(0.122)	(0.120)	(0.118)	(0.118)	(0.225)
Public family planning clinics per 20,000 residents		1.371****	1.368****	1.302****	1.363****	1.332****
		(0.116)	(0.110)	(0.101)	(0.105)	(0.115)
Net outflow of abortion the region		0.956	0.947	0.913	0.929	0.975
		(0.064)	(0.066)	(0.062)	(0.066)	(0.059)
Region of birth FE	✓	✓	✓	✓	✓	✓
Region of residence FE	✓	✓	✓	✓	✓	✓
Region of intervention FE	✓	✓	✓	✓	✓	✓
Healthcare facility FE	✓	✓	✓	✓	✓	✓
Year FE	✓	✓	✓	✓	✓	✓
Pseudo R2	0.3778	0.3288	0.3704	0.3711	0.3704	0.3189
Observations	821,062	725,169	725,169	725,169	725,169	342,388

Note: Robust standard errors in parentheses, clustered by healthcare facility. *p<0.1, **p<0.05, ***p<0.01, ****p<0.001.

Table S3: Medical abortion and waiting time (days) in Italy (2010-2022). Zero-inflated negative binomial regressions, dependent variable: number of days between issuance of the certificate and the procedure. Estimates expressed in incidence rate ratios.

	(1)	(2)	(3)	(4)
Medical abortion	0.689****	0.688****	0.689****	0.712****
	(0.012)	(0.012)	(0.012)	(0.010)
Age	1.059****	1.059****	1.059****	1.042****
	(0.008)	(0.008)	(0.008)	(0.009)
Age squared	0.932****	0.932****	0.932****	0.947****
	(0.007)	(0.007)	(0.007)	(0.008)
Italian (Ref.)				
Non-Italian	0.993	0.993	0.993	0.999
	(0.005)	(0.005)	(0.005)	(0.006)
Married (Ref.)				
Not married	1.009****	1.009****	1.009****	1.012****
	(0.002)	(0.002)	(0.002)	(0.003)
No educational attainment / Primary / Lower secondary (Ref.)				
Upper secondary education	1.002	1.002	1.002	1.003
	(0.002)	(0.002)	(0.002)	(0.002)
Tertiary education	0.992**	0.992**	0.992**	0.989***
	(0.003)	(0.003)	(0.003)	(0.004)
Employed (Ref.)				
Unemployed / Seeking first-time job	0.989****	0.989****	0.989****	0.991**
	(0.002)	(0.002)	(0.002)	(0.003)
Housewife	0.985****	0.985****	0.985****	0.988****
	(0.003)	(0.003)	(0.003)	(0.003)
Student / other	0.988***	0.988***	0.988***	0.994
	(0.004)	(0.004)	(0.004)	(0.004)
Childless (Ref.)				
One child	1.009****	1.009****	1.009****	1.009***
	(0.003)	(0.003)	(0.003)	(0.003)
Two children or more	1.025****	1.025****	1.025****	1.027****
	(0.003)	(0.003)	(0.003)	(0.004)
No previous induced abortions (Ref.)				
≥ 1 previous induced abortions	1.011****	1.011****	1.011****	1.013****
	(0.002)	(0.002)	(0.002)	(0.002)
Not urgent (Ref.)				
Urgent procedure	0.568****	0.568****	0.569****	0.595****
	(0.013)	(0.013)	(0.013)	(0.013)
Certificate issuer (Ref. = family planning clinic)				
Trusted physician	1.001	1.001	1.001	1.015***
	(0.005)	(0.005)	(0.005)	(0.005)
Gynecologist	0.826****	0.826****	0.826****	0.826****
	(0.011)	(0.011)	(0.011)	(0.012)

Continued on next page

	(1)	(2)	(3)	(4)
Other healthcare provider	0.978	0.978	0.978	1.008
	(0.031)	(0.032)	(0.031)	(0.038)
Healthcare center type (Ref. = public hospital)				
Private clinic	0.732****	0.722****	0.730****	0.770****
	(0.024)	(0.025)	(0.024)	(0.008)
% medical abortions in the region ($t-1$)	0.970**			0.947***
	(0.014)			(0.019)
% medical abortions in the region (rolling average since 2010)		0.987		
		(0.017)		
% medical abortions in the region (rolling average $t-2$)			0.972*	
			(0.015)	
% objecting gynecologists	1.014	1.016	1.013	1.005
	(0.014)	(0.014)	(0.014)	(0.013)
Non-objecting gynecologists' weekly workload				0.997
				(0.009)
Secularization	0.975	0.971*	0.975	0.967*
	(0.016)	(0.015)	(0.016)	(0.019)
GDP per capita (€ thousand)	1.074*	1.076*	1.072*	1.122
	(0.044)	(0.045)	(0.044)	(0.092)
% non-Italian women in reproductive age	0.841**	0.841**	0.837**	1.054
	(0.062)	(0.063)	(0.063)	(0.098)
Total fertility rate	1.027	1.031	1.028	0.985
	(0.020)	(0.021)	(0.020)	(0.025)
Abortion rate (per 1,000 fertile women)	0.989	0.998	0.987	0.998
	(0.026)	(0.026)	(0.027)	(0.048)
% private healthcare providers performing abortions	1.008	1.012	1.008	1.027
	(0.018)	(0.018)	(0.018)	(0.029)
Public family planning clinics per 20,000 residents	0.981*	0.981*	0.980*	0.981
	(0.010)	(0.010)	(0.010)	(0.014)
Net outflow of abortions in the region	1.000	1.004	1.000	0.999
	(0.007)	(0.007)	(0.007)	(0.007)
Region of birth FE	✓	✓	✓	✓
Region of residence FE	✓	✓	✓	✓
Region of intervention FE	✓	✓	✓	✓
Healthcare facility FE	✓	✓	✓	✓
Year FE	✓	✓	✓	✓
AIC	4,933,173	4,933,371	4,933,191	2,363,738
BIC	4,934,249	4,934,459	4,934,290	2,364,681
Observations	782,292	782,292	782,292	375,633

Note: Robust standard errors in parentheses, clustered by healthcare facility. *p<0.1, **p<0.05, ***p<0.01, ****p<0.001.

Table S4: Out-of-region mobility (excluding neighboring provinces and patients not residing in Italy) and medical abortion. Logistic regressions of individual abortions occurred outside or within the region of residence (2010-2022), dependent variable: 1 = the abortion was performed outside of the region and not in a neighboring province, 0 = otherwise. Estimates expressed in odds ratios.

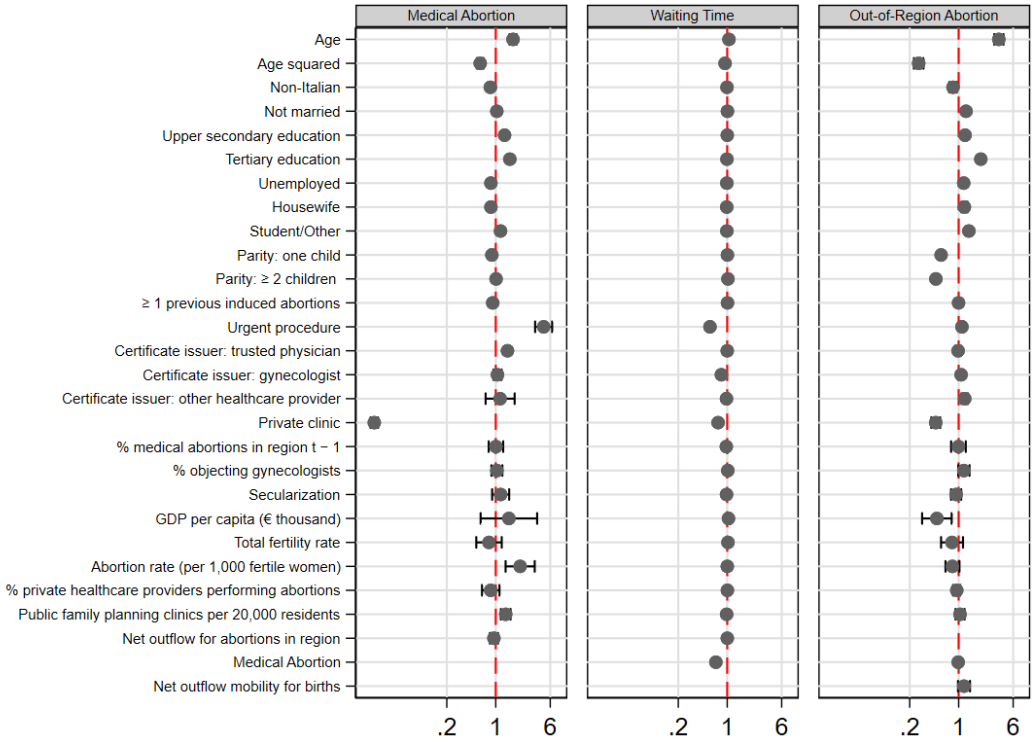
	(1)	(2)	(3)	(4)	(5)	(6)
Medical abortion	1.002	1.092**	0.984	0.989	0.985	0.988
	(0.040)	(0.039)	(0.035)	(0.034)	(0.035)	(0.032)
Age	3.823****		3.746****	3.751****	3.746****	3.574****
	(0.273)		(0.291)	(0.292)	(0.291)	(0.406)
Age squared	0.263****		0.269****	0.268****	0.269****	0.283****
	(0.020)		(0.022)	(0.022)	(0.022)	(0.032)
Italian (Ref.)						
Non-Italian	0.823****		0.831***	0.829***	0.831***	0.856*
	(0.046)		(0.052)	(0.052)	(0.052)	(0.074)
Married (Ref.)						
Not married	1.273****		1.275****	1.274****	1.275****	1.260****
	(0.027)		(0.029)	(0.029)	(0.029)	(0.042)
No educational attainment / Primary / Lower secondary (Ref.)						
Upper secondary education	1.236****		1.236****	1.236****	1.236****	1.272****
	(0.030)		(0.032)	(0.032)	(0.032)	(0.039)
Tertiary education	2.097****		2.069****	2.069****	2.070****	2.145****
	(0.076)		(0.079)	(0.079)	(0.079)	(0.086)
Employed (Ref.)						
Unemployed / Seeking job	1.188****		1.180****	1.180****	1.180****	1.171****
	(0.028)		(0.030)	(0.030)	(0.030)	(0.044)
Housewife	1.208****		1.207****	1.207****	1.207****	1.136**
	(0.062)		(0.061)	(0.061)	(0.061)	(0.070)
Student / other	1.392****		1.398****	1.400****	1.398****	1.334****
	(0.053)		(0.054)	(0.054)	(0.054)	(0.071)
Childless (Ref.)						
One child	0.569****		0.561****	0.561****	0.561****	0.514****
	(0.015)		(0.015)	(0.015)	(0.015)	(0.018)
Two children or more	0.477****		0.473****	0.473****	0.473****	0.426****
	(0.016)		(0.016)	(0.016)	(0.016)	(0.018)
No previous induced abortions (Ref.)						
≥ 1 induced abortions	0.996		0.997	0.997	0.997	0.999
	(0.020)		(0.018)	(0.018)	(0.018)	(0.027)
Not urgent (Ref.)						
Urgent procedure	1.130****		1.113****	1.119****	1.114****	1.116***
	(0.030)		(0.029)	(0.031)	(0.030)	(0.040)
Certificate issuer (Ref. = family planning clinic)						
Trusted physician		0.953	0.981	0.981	0.981	0.997
		(0.040)	(0.043)	(0.042)	(0.043)	(0.047)

Continued on next page

	(1)	(2)	(3)	(4)	(5)	(6)
Gynecologist		1.063**	1.083**	1.082**	1.083**	1.094**
		(0.033)	(0.034)	(0.034)	(0.035)	(0.039)
Other		1.252****	1.220****	1.217****	1.220****	1.134
		(0.072)	(0.067)	(0.068)	(0.068)	(0.105)
Healthcare center type (Ref. = public hospital)						
Private clinic	0.483****		0.475****	0.485****	0.477****	0.985
	(0.037)		(0.038)	(0.041)	(0.039)	(0.087)
% medical abortions in region $t-1$		0.989	0.990			1.168*
		(0.117)	(0.119)			(0.098)
% medical abortions in regions (rolling average since 2010)				0.842		
				(0.124)		
% medical abortions in regions (rolling average $t-2$)					0.974	
					(0.116)	
% objecting gynecologists		1.206*	1.195*	1.151	1.190*	0.926
		(0.119)	(0.119)	(0.115)	(0.120)	(0.093)
Non-objector gynecologists' weekly workload						0.983
						(0.024)
Net outflow mobility for births		1.196*	1.185*	1.135	1.179*	1.115
		(0.115)	(0.115)	(0.107)	(0.116)	(0.086)
Secularization		0.936	0.925	0.961	0.928	0.963
		(0.083)	(0.083)	(0.082)	(0.082)	(0.085)
GDP per capita (€ thousand)		0.481***	0.478***	0.469***	0.477***	0.444
		(0.120)	(0.123)	(0.122)	(0.123)	(0.224)
% non-Italian women in reproductive age		1.104	1.141	1.154	1.143	1.441
		(0.358)	(0.371)	(0.385)	(0.379)	(1.260)
Total fertility rate		0.800	0.801	0.808	0.800	1.073
		(0.145)	(0.148)	(0.139)	(0.147)	(0.153)
Abortion rate (per 1,000 fertile women)		0.811*	0.821*	0.759**	0.815*	0.614**
		(0.094)	(0.097)	(0.097)	(0.099)	(0.120)
% private healthcare providers performing abortions		0.956	0.939	0.930	0.938	0.814*
		(0.063)	(0.061)	(0.060)	(0.061)	(0.096)
Public family planning clinics per 20,000 residents		1.031	1.050	1.007	1.047	0.936
		(0.077)	(0.080)	(0.072)	(0.079)	(0.106)
Region of birth FE	✓	✓	✓	✓	✓	✓
Region of residence FE	✓	✓	✓	✓	✓	✓
Region of intervention FE	✓	✓	✓	✓	✓	✓
Healthcare facility FE	✓	✓	✓	✓	✓	✓
Year FE	✓	✓	✓	✓	✓	✓
Pseudo R2	0.2880	0.2667	0.2877	0.2879	0.2877	0.3147
Observations	865,053	761,134	761,134	761,134	761,134	365,738

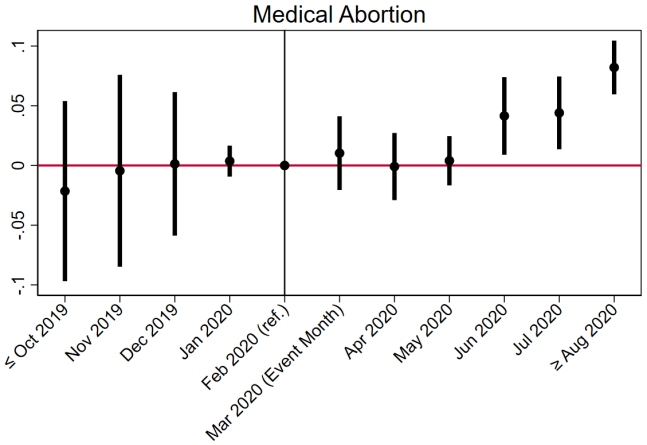
Note: Robust standard errors in parentheses, clustered by healthcare facility. *p<0.1, **p<0.05, ***p<0.01, ****p<0.001.

Figure S1: Multivariable estimates for medical abortion, waiting time, and out-of-region procedures. Baseline models.

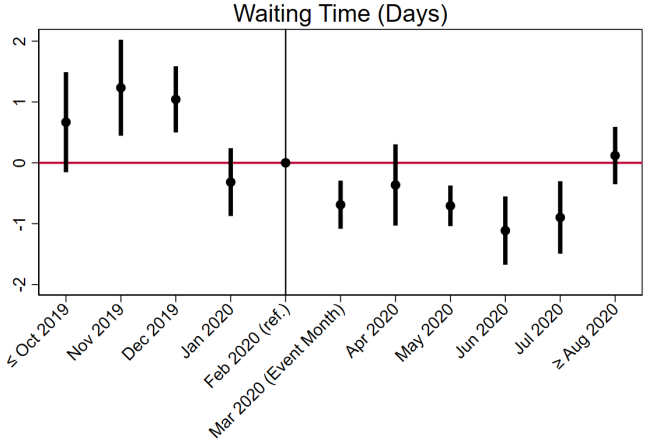


Note: Point estimates are displayed as odds ratios or incidence rate ratios, with 95% confidence intervals. The x-axis is on a logarithmic scale to reflect the multiplicative nature of the estimates.

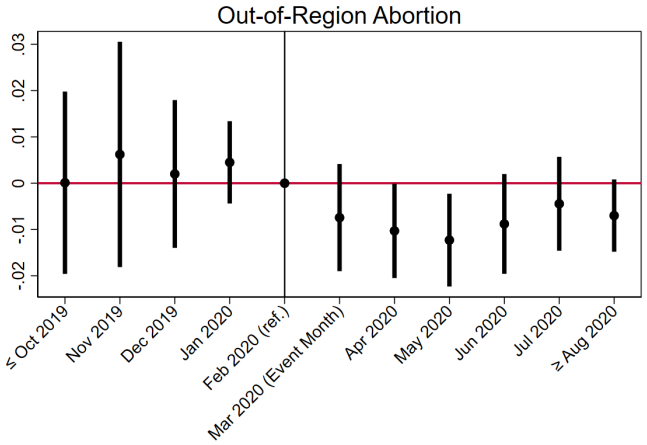
Figure S2: Event study unadjusted estimates for medical abortion, waiting time, and out-of-region procedures.



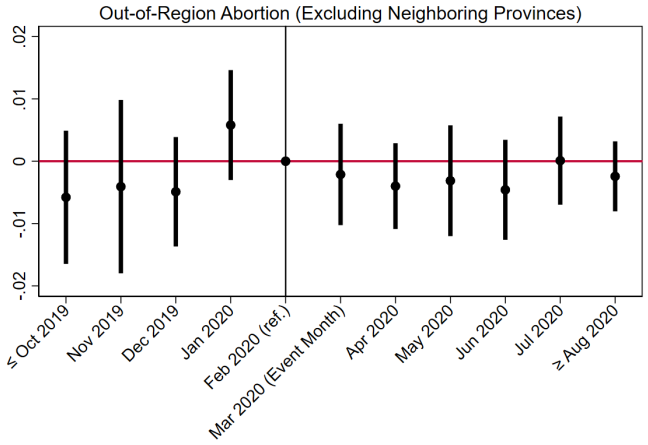
(a) Share of medical abortions



(b) Waiting time (days)



(c) Share of out-of-region procedures



(d) Share of out-of-region procedures, excluding non-neighboring provinces

Note: Estimates were generated from high-dimensional fixed effects regressions with facility, month, and year fixed effects, clustering standard errors at the regional level. Markers indicate point estimates, and vertical bars represent 95% confidence intervals.

Table S5: Summary of event study estimates.

	Medical		Waiting Time		Out-of-Region Abortion		OOR Abortion (Excl. Neighb. Prov.)	
Time Period	**Unadjusted**	**With Controls**	**Unadjusted**	**With Controls**	**Unadjusted**	**With Controls**	**Unadjusted**	**With Controls**
$\leq$ Oct 2019	-0.022	-0.020	0.668	0.332	0.000	0.007	-0.006	0.003
	(0.036)	(0.051)	(0.394)	(0.420)	(0.009)	(0.007)	(0.005)	(0.006)
Nov 2019	-0.004	-0.007	1.234***	1.044***	0.006	0.010	-0.004	0.003
	(0.041)	(0.049)	(0.402)	(0.411)	(0.008)	(0.007)	(0.005)	(0.006)
Dec 2019	0.001	-0.002	1.043****	0.838***	0.002	0.006	-0.005	0.001
	(0.029)	(0.041)	(0.261)	(0.315)	(0.008)	(0.006)	(0.004)	(0.005)
Jan 2020	0.004	0.001	-0.317	-0.418**	0.005	0.003	0.006	0.005
	(0.006)	(0.008)	(0.267)	(0.196)	(0.004)	(0.004)	(0.004)	(0.003)
Feb 2020	-	-	-	-	-	-	-	-
	(.)	(.)	(.)	(.)	(.)	(.)	(.)	(.)
Mar 2020	0.010	0.012	-0.689***	-0.602***	-0.007	-0.004	-0.002	0.001
	(0.015)	(0.011)	(0.190)	(0.182)	(0.006)	(0.004)	(0.004)	(0.003)
Apr 2020	-0.001	-0.004	-0.364	-0.192	-0.010**	-0.005	-0.004	-0.0001
	(0.014)	(0.011)	(0.320)	(0.225)	(0.005)	(0.004)	(0.003)	(0.003)
May 2020	0.004	0.006	-0.707****	-0.618***	-0.012**	-0.007*	-0.003	0.001
	(0.010)	(0.010)	(0.160)	(0.223)	(0.005)	(0.004)	(0.004)	(0.004)
Jun 2020	0.042**	0.042****	-1.114****	-1.074****	-0.009	-0.005	-0.005	-0.001
	(0.016)	(0.012)	(0.269)	(0.290)	(0.005)	(0.004)	(0.004)	(0.004)
Jul 2020	0.044***	0.044****	-0.898***	-0.872***	-0.004	-0.004	0.0001	0.001
	(-0.015)	(0.012)	(0.285)	(0.266)	(0.005)	(0.004)	(0.003)	(0.003)
$\geq$ Aug 2020	0.082****	0.083****	0.119	0.105	-0.007*	-0.006*	-0.002	-0.001
	(0.011)	(0.011)	(0.226)	(0.192)	(0.004)	(0.003)	(0.003)	(0.002)
Observations	907,126	797,331	886,746	782,289	882,430	776,402	866,021	762,019

Note: Robust standard errors in parentheses. *p<0.1, **p<0.05, ***p<0.01, ****p<0.001.