Policy- Making, Trust and the Demand for Public Services: Evidence from a Nationwide Family Planning Program

BSE Working Paper 1352| June 2022

Gianmarco León-Ciliotta, Dijana Zejcirovic, Fernando Fernandez

bse.eu/research

Policy-Making, Trust and the Demand for Public Services:

Evidence from a Nationwide Family Planning Program*

Gianmarco León-Ciliotta ⓡ
Universitat Pompeu Fabra
& BSE & IPEG

Dijana Zejcirovic ⓡ
University of Vienna

Fernando Fernandez
Universidad de Piura

June 3, 2022

Abstract

Trust in institutions is a key driver of the demand for government services, and in turn, the way these services are delivered affects trust. We study a large-scale family planning campaign in which more than 300,000 Peruvian women were sterilized. Many of these are alleged to have been performed without appropriate or informed consent. Using a difference-in-difference strategy, we show that subsequent disclosures about the alleged sterilizations reduced usage of contraceptive methods, pre-natal and birth delivery services, and –more generally– the demand for medical services and that child health worsened as a result. The results persist for at least 17 years after the information disclosure and are mainly driven by those who strongly supported the government at baseline, i.e. disappointed voters, and not by those who share demographic characteristics with the alleged victims. Learning about government mistreatment of citizens undermined trust in institutions. Our results highlight the relevance of how policies are implemented and communicated to citizens for ensuring their long-term success.

JEL Codes: O10, I14, I18, N36

Keywords: Trust, public policy, reproductive health

* León-Ciliotta: gianmarco.leon@upf.edu; Zejcirovic: dijana.zejcirovic@univie.ac.at; Fernández: fernando.fernandez@udep.edu.pe.

We thank Diego Aguilar for outstanding research assistance. The staff at REVIESFO were very helpful in providing us with access to data. Audiences at multiple seminars and conferences provided very useful comments. Comments from S. Anukriti, Marianna Battaglia, Sirus Dehdari, Marisa Glave, Mariella Gonzáles, Bruno Jiménez, Eduardo Montero, Hugo Ñopo, Maria Cecilia Villegas provided insightful feedback on earlier versions of the paper. León-Ciliotta acknowledges financial support from the Spanish Ministry of Economy and Competitiveness, through the Severo Ochoa Programme (CEX2019-000915-S) and grants RYC2017-23172 and PID2020-120118GB-I00. Authors are listed in a random order (AEA random author order archive code RWctr6eoCECk).

1 Introduction

The effectiveness of public policy depends not only on high state capacity but also on the demand for government services.[1] The trust needed to generate such demand depends critically on the ways policies are implemented. A large body of literature shows different ways through which governments can strengthen state capacity, but much less is known about how government actions can undermine or enhance trust and the demand for public services.

We study a large-scale family planning campaign in which human rights violations were alleged to take place, and its short- and long-term consequences of on child and maternal health service utilization, child health and trust in institutions. Between 1996 and 2000, the Peruvian government launched an anti-poverty strategy, which featured family planning as central component. During the implementation of this policy, more than 300,000 women were sterilized throughout the country. Following the fall of the authoritarian government that implemented this policy, in 2001, reports surfaced recounting how, in a non-trivial share of cases, women were forced or pressured into undergoing the procedure. Many women suffered from procedure-related health complications as a result, including extreme cases that resulted in death. Thousands of women lost their ability to have children through procedures conducted without their consent, and were often unaware that the procedure was irreversible (Defensoría del Pueblo, 1999).[2]

Comparing affected and unaffected municipalities before and after the disclosure of these alleged human rights violations, we show that the sterilization campaign in Perú led to long-

[1] The case of the United States and its COVID-19 vaccination campaign makes for a good recent illustration of this point. On the one hand, state capacity allowed for early financing of the development of new vaccines: they were quickly procured when ready, then effectively distributed. On the other hand, for a relatively long period, vaccination rates were significantly lower than in other developed nations, and the low demand for this public good was mostly explained by the low trust citizens had in specific institutions.

[2] Perú is not alone with respect to government-mandated coerced sterilization programs. Forced sterilization efforts have also been carried out by the Indian government during the "state of emergency" years in the 1970s (BBC, 2014). Roma women in former Czechoslovakia were targeted by the government and forced to undergo sterilization in the second half of the 20^{th} century. The Czech government signed a bill in 2021 to offer compensation to victimized women, after acknowledging wrong-doing in 2009. The victims were offered a one-time payment of approximately USD 14,000. While the number of victims varies across countries, a common thread of forced sterilization campaigns is the systematic targeting of women from vulnerable groups. For instance, in Canada and USA, women from indigenous communities were victims (Pegoraro, 2015). In four Latin American countries (El Salvador, Honduras, Mexico and Nicaragua), women living with HIV were targeted (Kendall and Albert, 2015), while in Australia, adolescents with disabilities were victimized (Elliot, 2017). Another example of the systematic targeting of vulnerable women was the sterilization campaign focused on mentally ill women in Finland in the 1940s (Seeman, 2007). See Zampas and Lamackova (2011) for other cases in Europe. In response to these actions, in 1998 the International Criminal Court recognized systematic forced sterilizations as a Crime against Humanity (Rome Statute of the International Criminal Court.)

lasting reductions in the usage of contraceptive methods, pre-natal and delivery services, and worse child health outcomes, and – more generally – lower demand for health services in public facilities. The effects can be observed up to 17 years after the change in the administration and are driven by disappointed voters, i.e. those who showed strong support for the regime at baseline and later learned about the alleged abuses. We show that the disclosures about how the sterilization campaign was carried out led to an erosion of trust towards institutions in charge of public health provision in affected municipalities.

Demand for public health care remains low in many developing countries, despite growing availability of public health services and effective treatments of common diseases (Dupas and Miguel, 2017). Mistrust towards health care providers and skepticism about treatments can be important drivers of this low demand (Alsan and Wanamaker, 2018; Lowes and Montero, 2021; Martinez-Bravo and Stegmann, 2021). To study how government policies can bolster or undermine trust in institutions responsible for delivering health services, and its effects on the demand for such services, we investigate a historical event in Perú in which widespread medical malpractice occurred and a large number of women allegedly were sterilized without providing their consent. These sterilizations were conducted under an authoritarian regime, with the government implementing very ambitious monthly targets for the number of sterilizations that should be conducted in each region and year, while also waiving the right of practitioners to object to carrying out certain treatments and procedures. These targets put significant pressure on physicians and senior staff, since high-level officials had to report the progress of the campaign directly to the President.

During the first years of the campaign, several NGOs and the Ombudsman's Office received complaints about the way the sterilization program was being conducted, claiming that in many parts of the country, staff were not following the protocols for obtaining consent to perform the sterilization procedures. For example, there were reports that women were lied to, not informed about the irreversible nature of the procedure, or threatened with having their public services withheld if they did not agree to the surgery.

The authoritarian government of president Alberto Fujimori, which conducted the family planning campaign, had tight control of had tight control of the press and other public institutions, including the Congress and the judiciary (Mcmillan and Zoido, 2004). This implied that the journalistic and political investigations of alleged human rights violations occurring during the campaign were typically not brought to light, suppressed, or were quickly dismissed. Public discussion of these atrocities did not take place to any significant degree until after the Fujimori regime fell in 2001, when a transition government took power. The

new democratically elected government started formal investigations on these cases, which began to be widely reported in the press. We take advantage of the change in the information environment that year to estimate the effects of the public disclosures about the alleged violations on the usage of public health services and health outcomes. We implement a difference-in-difference strategy, which compares outcomes in municipalities with different intensities of alleged human rights violations, before and after the change in the information environment.

A key challenge in the estimation of the effects of the public disclosures is measuring the severity of the abuses alleged to have occurred during the campaign. We collect new data from a registry created in 2015 by the Ministry of Justice to track the number of alleged victims of forced sterilizations. Inclusion in the registry is voluntary; women who registered gained priority access to legal counseling, psychological support and medical assistance covered by the government, but no monetary compensation was offered. Overall, 6,794 cases were listed in the registry at the time we obtained the data. Each case was validated by the Ministry by means of a medical examination and by cross-checking the information against the medical records maintained by the regional office of the Ministry of Health (when available) which documented that the person went through a sterilization procedure during the period the program was active.

Given the number of women who signed up in the registry, it is very likely that it provides a lower bound on the number of women sterilized without consent during the family planning campaign in each municipality. To validate whether the variation in this dataset reflects the intensity of the alleged illegal sterilizations, we compare the time and cross-sectional variation with that of sterilizations in public health facilities reported in the Peruvian Demographic and Health Survey (DHS). Not only do we document that the correlation between these two datasets is high, both in the cross section and time series, but also that the individual characteristics of women who report having been sterilized during that period match quite well those in the registry. This provides confidence that the registry is a fairly accurate representation of the actual incidence of the sterilizations performed during the implementation of the family planning program.

Our main findings are as follows. First, we find that, after the disclosure, women in municipalities with a higher number of reported cases of forced sterilizations are less likely to use contraceptives, to use prenatal health services, and seek professional care during birth. In these locations, after the information disclosure about these cases, a 10% increase in the number of reported cases leads to a 0.6% lower usage of contraceptives and a 4.1% lower

delivery and prenatal care services.

Second, we show that children in treatment areas, after 2001, are more likely to be sick and show higher levels of malnutrition. A 10% increase in the number of reported cases of illegal sterilizations caused child health to deteriorate by 4.5%. We also find that, in these areas, after the disclosure about the way the sterilizations were conducted, women were less likely to seek professional health care in public health facilities when their children were sick. While some people seem to have compensated by visiting private health facilities more often, the net effect on health service usage is both negative and large.[3]

We validate our identification assumption by showing that there are no differential trends in any of our main outcome variables in the period preceding the fall of the Fujimori government. Further, in an event study framework, we also show that the results on contraceptive usage, pre-natal and delivery health service usage, and child health persist until our last period of available data, in 2017. Our main results are robust to using an alternative dataset to measure the incidence of the campaign and to using an instrumental variable strategy to mitigate potential measurement errors in the independent variable.

Our main results could also be explained by differential trends in health care usage and child health in municipalities targeted by the program. Our baseline specification includes municipality and time fixed effects, as well as province-specific time trends. We also show that the core results are robust to the inclusion of interactions between baseline municipality characteristics and time trends. Additionally, consistent with our hypothesis that the results are driven by women who became aware of the campaign, we show that the main effects are not driven only by women who were old enough to have been directly affected by the policy but rather the effect is homogeneous across different cohorts.

What mechanisms underlie the lower demand for public health services among women in municipalities with higher incidences of alleged forced sterilizations? Previous literature has argued this decline in demand for health services in the aftermath of medical malpractice may stem from social learning induced by individual or political identification (Alsan and Wanamaker, 2018; Martinez-Bravo and Stegmann, 2021). By contrast, we argue that these effects are explained by political supporters of the regime who, after learning about the

[3]Previous studies have examined the direct effects of this campaign on health outcomes. Byker and Gutierrez (2016) find that children of sterilized women show improvements in educational attainment and health outcomes. Battaglia and Pallarés (2020) document reduced infant mortality in provinces where the campaign took place earlier, but the reductions are only present among non-indigenous mothers. Unlike these studies, we focus on the effects of the disclosure of the allegedly illegal governmental actions on the behavior of women living in affected areas *after the campaign had ended*.

human rights violations during the policy implementation, lose trust in institutions in charge of health service provision and are hence less likely to seek out medical care from the public sector. Consistent with this hypothesis, we show that our main effects are entirely accounted for by women in municipalities where the support for Fujimori's party was high at baseline. Further, the political disappointment is also reflected in voter support for Fujimori's party, which drops significantly after 2001 in locations that were more affected by the sterilization campaign.[4] We also find no indication that the drop in demand was linked to social learning driven by individual identification. The main effects are not driven by women who share characteristics with those directly affected by the policy, namely, those from rural areas, Quechua speakers, or the less educated.

Finally, we document that mistrust in those institutions charged with executing the sterilization campaign and those who failed to take action against responsible parties (i.e., the government, the public administration and the judiciary) significantly increases after the information disclosure, while mistrust in other institutions remains unchanged. This result is important because it shows that the ways in which specific policies are implemented affects trust in institutions that persist well after a specific administration leaves office, with long-lasting consequences in terms of demand for public services and relevant health outcomes.

This paper contributes to the literature studying state capacity, the legitimacy of policy making, and trust in government (Besley and Persson, 2011; Khemani, 2019). A small group of studies shows that effective policy making can lead to increases in trust in the government and legitimacy. For example, Acemoglu et al. (2020) use lab-in-the-field experiments to show that information on improvements in the quality of services provided by the Pakistani judiciary increased citizens' willingness to use, interact with, and trust these state institutions. Fair et al. (2017), studying the government's response to floods in Pakistan in 2010-11, provide evidence that political engagement (as measured by political knowledge and voter turnout) positively responds to good government policies.[5] We contribute to this literature by showing that failures in policy making can undermine trust, not only due to failures in achieving relevant policy goals, but also to the specific way in which they are implemented.

[4] Our results resonate with the findings of Ferraz and Finan (2008) who document that voters punish incumbents at the polls if previous audits reveal that they committed many corrupt violations while in office (similarly, see Larreguy, Marshall, and Snyder Jr (2020)).

[5] A related strand of the literature studies foreign interventions (in the form of aid or otherwise) and shows how the performance of their policies affects the legitimacy of non-state actors, which has important effects on local conflict (Dube and Naidu (2015); Nunn and Qian (2014); Crost, Felter, and Johnston (2014); Andrabi and Das (2017)). The underlying argument in this literature is that the level of conflict increases because international aid either undermines local state capacity or the support of local populations for local insurgents.

We show that deliberately misleading citizens in order to achieve a policy objective erodes trust in government institutions, reducing their legitimacy and decreasing the demand for public services.

A second body of literature to which our work speaks is that seeking to identify the determinants of the demand for health in developing countries (Dupas and Miguel, 2017). Despite the availability of effective treatments and increasing expansion of public health services, the demand for these services remains low in the poorest countries. Trust in medical personnel, in the treatments themselves and, more broadly, in the institutions providing medical services has long been hypothesized to be among the leading factors affecting willingness to seek health services; at the same time, empirical evidence supporting this hypothesis has been scarce until relatively recently.

Alsan and Wanamaker (2018) study the effects of the Tuskegee Experiment, in which treatment was deliberately withheld from a group of black men as part of a study on the effects of untreated syphilis. The revelation of this malpractice led to increases in medical mistrust and mortality among older black men. Relatedly, Lowes and Montero (2021) examine the long-run effects of colonial medical campaigns that experimented with treatments for the sleeping sickness in Central Africa, and document lower vaccination rates and trust in medicine in areas with higher campaign exposure, effects that persist until the present day.[6] Martinez-Bravo and Stegmann (2021) detect a decrease in vaccination rates after the disclosure of a secret CIA mission that aimed at capturing Osama Bin Laden using a vaccination campaign to gather information on his precise location. Conversely, Christensen et al. (2021) show that interventions that increase trust in the health sector personnel in non-crisis times improve their effectiveness in the response to emergencies. Our study adds to this evidence by showing that medical malpractice in the form of a large-scale government intervention negatively affects demand for healthcare. Moreover, we show evidence of a novel mechanism driving the reduction in the demand for health, namely, that former supporters of the government become disappointed after learning about the way the government misled its citizens, significantly decreasing their trust in public institutions.

[6] In a similar vein, Archibong and Annan (2021) show that the revelation of news on the testing of a new drug among children in Nigeria led to a decrease in vaccination rates.

2 Background and Study Setting

2.1 Political Regime and the Family Planning Campaign

In 1990, amid a severe economic situation, as well as political, and security crises, Alberto Fujimori was elected as president of Perú. The government quickly started to take an authoritarian turn with the dissolution of Congress in 1992, later exerting control over large parts of the judiciary, the newly elected congress, the National Board of Elections, and the media (Mcmillan and Zoido, 2004). Levitsky and Way (2002) argue that Perú under Fujimori is best described as a regime of competitive authoritarianism, where elections are the means to obtain political power, but incumbents attack democratic rules to an extent that the minimum standards for democracy are not met.

Throughout his term in office, Fujimori's domestic program was centered around poverty reduction. He argued that one of the main ways to achieve this goal was by diminishing fertility rates, and as such, in 1992, he declared the start of the "Decade of Family Planning". INEI (1992) documents that at that time, sixty percent of Peruvian women with stable partners used traditional contraception methods (e.g. the so-called 'rhythm' method and withdrawal), while access to modern contraceptives was not only low but also unequal across socioeconomic groups, translating into stark differences in fertility rates. For instance, women with college education had on average 1.9 children, whereas women with no education had 7.1 children (Aramburú, 2002). Similarly, women in urban areas averaged 2.8 children as compared to the 6.2 born to women living in rural areas (see Figure A.1). In addition, maternal and child mortality rates were extremely high, at 234 deaths per 100,000 live births (INEI, 2002) and 74 deaths per 1,000 live births (United Nations, 2020), respectively, and similar disparities were seen in these indicators.[7]

After winning his first re-election in 1995, Fujimori launched a family planning program to fight poverty by reducing fertility: the National Program of Reproductive Health and Family Planning (*Programa Nacional de Salud Reproductiva y Planificación Familiar*, Ministerial Resolution N. 071-96-SA/DM, MINSA (1996)). The program was well-funded and became a top priority for the administration (Aramburú, 2002). The emphasis of the program became clear when Fujimori proclaimed that "Perú is not only fighting poverty and exclusion, but also against the lack of information so that citizens can plan their families with absolute

[7] INEI (2002) reports that child mortality was significantly higher in rural areas (90 deaths per 100,000 live births) than in urban areas (48 deaths per 100,000 live births). According to the same source, there were also important differences in child mortality across educational levels of the mother. For instance, child mortality rate for mothers without education was 103, whereas the rate for mothers with college education was 21 (see Figure A.1).

freedom" (MINSA, 1996). Similarly, the Prime Minister stated that "the government cannot reduce poverty efficiently if poor families keep having seven children, on average" (Diario Gestión, as quoted in Aramburú (2002)). The program primarily targeted rural areas in the highlands and the Amazon, as well as urban areas with extremely poor populations.

Three significant legal reforms were at the core of the implementation strategy of the program. First, public health facilities were authorized to perform male and female sterilizations, at no charge, as a contraceptive method. Second, the General Health Law removed the possibility of objection to treatment for public health professionals, effectively mandating them to perform any type of prescribed contraceptive intervention. Third, women were granted free access to other modern contraceptives in public health facilities, which included birth control pills, intrauterine devices, and condoms.

The sterilization campaign was named Voluntary Surgical Contraception (AQV, for its acronym in Spanish). Despite longstanding shortages of medical personnel, the program was conceived as a large-scale intervention meant to reach all regions in the country. The AQV campaign established ambitious monthly and regional targets, which put pressure on physicians and senior staff to perform large numbers of sterilizations in short periods of time. In addition, consistent with the centrality of the campaign in the government's agenda, compliance with these targets was monitored at the highest levels through direct reports to the President.[8] The tight schedule and the inability of medical professionals to refuse to perform procedures may have led to violations of medical guidelines. Various NGOs and the Ombudsman's office have collected testimony from several witnesses alleging that women were sterilized without consent, were provided with limited information on the irreversible nature of this procedure, were threatened with withholding public services, or not provided sufficient time to think about the procedure's consequences (Defensoría del Pueblo, 2002).[9]

[8]For example, Mariano Costa Bauer, Minister of Health in 1997, had to submit monthly reports to President Fujimori detailing whether the targets had been met and if not, providing explanations for any delay (MINSA, 2020). Over 1997, the monthly target was to sterilize 12,000 women (i.e., 144,000 for the year). Figure A.2 show the original reports sent by the Minister in August 1997.

[9]From June 1997 to January 1998, the Ombudsman's Office was made aware of cases of women being sterilized without proper consent and of alleged irregularities in the application of voluntary surgical contraception. These irregularities consisted mainly in a lack of safeguards of free choice. Reports indicate that the campaigns focused almost exclusively on tubal ligations (and to a lesser extent at vasectomies) and that targets were established determining that a particular number of women must use certain contraceptive methods. Additionally, some testimonies show a lack of proper follow-up after surgery and a precise application of the program (Defensoría del Pueblo, 1998; Zauzich, 2000; CLADEM, 1999; Congreso de la República del Perú, 2002).

2.2 Media Environment and Information Availability

In several instances, complaints about alleged human rights violations associated with the AQV campaign were dismissed by government officials.[10] Additionally, these claims were seldom reported in newspapers or TV, a fact that is likely explained by the regime's influence on the media (Mcmillan and Zoido, 2004; Levitsky and Ziblatt, 2018).[11] Figure 1 shows the total number of news articles in international media outlets that contain the words "forced sterilizations + peru" in the Factiva database.[12] The number of articles remains minimal over the period when Fujimori was in power, and only after 2001 is there a sharp spike in the number of articles reporting on the alleged human rights violations during the family planning campaign. Overall, the evidence suggests that widespread knowledge of these cases was scarce, at least until the fall of the regime.

After illegally winning his third election in 2000, Fujimori faced well-founded claims of widespread corruption and the resulting protests ended up forcing his resignation from the presidency in September 2000. During the transition government, isolated cases of complaints about the sterilization campaign surfaced in the press but were framed as unrelated incidents. It was not until September 2001, when the new, democratically-elected, government took power, that the new Minister of Health, Luis Solari, announced an investigation on the AQV campaign would soon begin.[13] Following the executive's actions, one month later Congress established a commission to investigate the matter. In August 2002, after months of research, the appointed director of the committee, Hector Chávez Chuchón, filed a constitutional indictment against Fujimori and three of his Ministers of Health, for the role they played in AQV campaign (Burneo, 2008).[14] This constitutional indictment was widely reported in national and international media outlets, and thus, we treat this event as the one

[10] For example, the Deputy Minister of Health, Alejandro Aguinaga, stated that "The Ministry of Health has clarified endlessly that it is not part of its policy to establish goals in the family planning program" after being questioned about the sterilizations quotas in the family planning program (El Comercio, January 12, 1998). As shown in Figures A.2 and A.3, this statement is false. Similarly, an investigation of these cases was quickly archived in Congress by the government's political allies in 1998 (Congreso de la República del Perú, 2002).

[11] Mcmillan and Zoido (2004) analyze bribe receipts from Vladimiro Montesinos, the head of Perú's intelligence services. The authors show that bribes to the media (newspapers and television channels) were much larger than those to politicians from opposition parties or judges, revealing how much power and control they had on the press. Levitsky and Ziblatt (2018) states that the Fujimori government was "masterful at buying out its critics, particularly those in the media". For example, on the leading TV channels, the government was able to suggest that specific journalists be dismissed and even had control over the news programming.

[12] Unfortunately, there is no systematic digital record of newspaper articles circulated in Perú for the relevant period for our study.

[13] This announcement was reported by the BBC (Sánchez, 2001), one of the first major international media outlets to report on the campaign and alleged human rights violations.

[14] Chávez, trained as a doctor, worked for public hospitals during Fujimori's regime and lost his job because he refused to participate in the AQV campaign.

triggering the nationwide disclosure of the violations committed during the AQV campaign. Moreover, the salience of this indictment has only continued to grow over the years, as it set the legal precedent for the public trial of Fujimori and his Ministers of Health (the trial began on the first week of March 2021 and is still ongoing). Finally, this indictment, along with other charges, prepared the legal background for the creation of the registry of victims that we use in the empirical analysis (detailed in the next section). A summary of the events leading up to the disclosure of the alleged human rights violations occurring during the AQV campaign are summarized in Figure A.4.

3 Data and Descriptive Statistics

3.1 Main Sources of Data

For our empirical analysis, we draw from multiple sources of data.

Demographic and Health Surveys 1991-2017. For our main outcome variables, we use the Peruvian Demographic and Health Survey (DHS), which is available from 1991 until 2017. We have information on these outcomes for 329,630 women aged 15-49 and their children under five years of age. The DHS waves used here are nationally representative cross-sectional surveys conducted before the campaign disclosures (1991, 1992, 1996, 2000) and after (yearly, between 2004-2017). Importantly, these surveys include information on the municipalities where the respondents live, which allows us to link them to the number of forced sterilizations reported during the campaign.

Exposure to information about human rights violations during the family planning campaign may have affected women's willingness to seek advice of medical professionals on family planning, to seek pre-natal care and medical assistance during birth, and more generally, to seek medical care for their children when needed. Our main outcome variables in the analysis are thus the usage of contraceptive methods, usage of pre-natal care and delivery services, child health outcomes, and usage of health facilities.

Contraceptive usage is relatively low in our sample, with only 55% of the women of child-bearing age currently using a contraceptive method. Outcome variables related to the use of pre-natal care and delivery services and child health are presented using two indices. We first construct an index of pre-natal care and delivery, which averages survey responses on whether the woman received any prenatal care during her pregnancy, whether she gave birth at home (as opposed to institutional deliveries), and whether any qualified personnel assisted

the birth. 9% of the women in the sample received no prenatal care at all and 22% delivered their children at home (see Panel A in Table A.1). Responses are standardized with respect to baseline statistics (year 2000) and then averaged, hence lower values of the index imply lower usage of these services.

Our child health index employs survey questions asking whether the child is moderately or severely stunted (height-for-age z-score below two standard deviations), moderately or severely underweight (weight-for-age z-score below two standard deviations), and whether the child was recently sick with fever, cough, or diarrhea. On average, 46% of them report having been sick with fever, cough, or diarrhea in the past four weeks. Again, these variables are standardized with respect to the baseline year (2000) and averaged. Lower values of the index are related to worse child health outcomes.

Finally, among the sub-sample of children who reported having been sick in the preceding four weeks, the survey asks if they were taken to a health facility and whether it was a private or public center. 42% of sick children were not treated in any health institution. 23% of sick children were treated in private institutions and 37% in public institutions. The summary statistics of relevant variables are shown in Panel A in Table A.1.

Electoral Outcomes 1998-2018. To estimate the heterogeneity of our main effects by baseline support for the ruling party, as well as the effects on later voting outcomes, we collected information on municipal mayoral elections between 1998 to 2018, which we obtained from the National Electoral Commission (JNE). Table A.2's Panel B shows the corresponding summary statistics.

Trust in Government Institutions 1996-2018. We measure trust in different governmental institutions and people in charge of public offices using the Peruvian waves of Latinobarómetro between 1996-2018. Overall, we have 23,392 respondents in our dataset, with survey responses before the disclosure (1996-2000) and after (2001-2018). We present summary statistics of relevant variables in Panel A in Table A.2.

Forced Sterilization Victims. Data on the incidence of allegedly illegal sterilizations during the government's AQV campaign were obtained from the Registry of Victims of Forced Sterilizations (REVIESFO, for its acronym in Spanish). This registry was created in December 2015 by the Ministry of Justice. The main objective of the registry was to provide victims with free priority access to legal counseling, psychological support, and medical assistance for potential sequels associated with the forced sterilization. Even though women have not

been offered monetary compensation, anecdotal reports from REVIESFO's senior officials suggest that some victims are hoping to receive reparations in the future if the perpetrators are found guilty in court.

In 2016, the Ministry of Justice organized multidisciplinary groups of professional workers (health personnel, lawyers, psychologists, and translators) to collect data on the victims in three waves. In the first wave, between January and March 2016, officials went to five regions with previous reports of cases: Cusco, Cajamarca, Piura, Huancavelica, and Eastern Lima. In the second wave, during July 2016, officials went to four additional regions: Ayacucho, Center of Lima, South of Lima, and San Martin. In the third wave, in the remaining months of 2016, officials went again to the same regions and La Libertad, Huanuco, Junin, and Moquegua. Thereafter, women were allowed to register in their municipalities or at regional offices at any time. The data we use includes all victims registered before August 2021, when we obtained these data.

The information on each alleged victim of illegal sterilization was carefully verified. Women interested in adding their names to the registry were required to complete a questionnaire and document their claims with lawyers, psychologists, and translators. At the verification stage, each alleged victim had to be checked by a medical specialist, who, after determining whether or not the person had been sterilized at some point in time, would then send a detailed report to the regional office of the Ministry of Justice. Furthermore, each case was checked against the medical records of the victim in the corresponding regional office of the Ministry of Health, when available. An investigation for each case may take up to 30 days, where officials would determine where and when the sterilization took place. Once all the information had been verified, the victim was included in the registry. There are a total of 6,794 women registered with REVIESFO, with cases reported in 378 of 1,874 municipalities (20.2%). Figure A.5 shows the geographical distribution of registered cases included in REVIESFO.

3.2 Validation of REVIESFO

We use the number of alleged victims of illegal sterilizations as our main independent variable. Despite extensive efforts made by officials in REVIESFO, the actual number of victims is likely higher than the number of recorded cases. Some NGOs estimate that of the more than 300,000 sterilizations that occurred during the campaign, only about 10% had consent and sufficient information about the procedure (Tamayo, 1998).

In addition to under-reporting the actual number of victims, the reports may also be biased towards specific locations, types of victims, or time of occurrence. To validate the information

in REVIESFO, we exploit the fact that the DHS included a specific question on whether the respondent had gone through a sterilization procedure, whether the procedure took place at a public or private health facility, and on the time the procedure was conducted. Although there is no data on whether the sterilization was part of the campaign, at least some sterilizations that happened during the AQV campaign should be observed in the DHS. Recall that before 1996 these procedures were not provided for free in public health facilities, and thus were performed mainly in private clinics. Consistent with this, Figure 2a shows the number of women who reported having been sterilized in a public health facility, by year, based on the DHS waves in 1991-2017.[15] There is a sharp spike in the number of sterilized women in 1996, when the AQV campaign was launched; the number of reports goes down, then stabilizes after the end of the program in 2001 (see also Byker and Gutierrez (2016)).

Figure 3a plots the number of cases of sterilizations reported in REVIESFO and the sterilizations in public health facilities reported in the DHS, by year. The time profile of sterilization cases in the DHS matches those of cases reported in REVIESFO. Even though the registry does not cover the universe of alleged victims, the time variation in the data provides meaningful information about the evolution of sterilizations performed by public services in the country. In addition, the DHS contains information on the municipality where each respondent lives. We can thus compare the time and cross-sectional variation in sterilizations in the DHS and REVIESFO. Figure 3b shows the correlation between our two main sources of data, after partialling out municipality and year fixed effects, as well as province-specific linear time trends (all of which will be included in our main specification). The correlation between the residuals in these different data sets is 0.625 (p-value$<$0.01), showing that these variables also correlate in the cross section.

We can go a step further in using the data in the DHS to validate REVIESFO by comparing the few observable characteristics of women in the registry with those who report having been sterilized during the years of the AQV campaign. These comparisons are displayed in (Table 1), where we show the averages and standard deviations. Sterilized women in both the registry and the DHS look remarkably similar in terms of number of children (4), age at sterilization (31), agricultural or rural location (35-37%). The only clear deviation we observe is a higher share of Quechua-speaking women in the victim registry as compared to the DHS (48% vs. 10%).[16]

[15] Figure 2b shows the number of women who report having been sterilized in a public health facility, by year, using only DHS 2009 wave (one of the largest wave regarding women respondents and districts covered). A similar pattern emerges, confirming the timeline of the program.

[16] The share of indigenous and Spanish-speaking women surveyed in the DHS are similar to the shares found in the 1993 census at the municipality level. The classification of whether someone is Quechua speaker

Lastly, to gain a better understanding of how the campaign was implemented geographically and to bolster the argument that the correlation between the DHS and REVIESFO is not led by spurious factors, we investigate which municipality baseline characteristics (from the 1993 census) determine the intensity of sterilizations. Columns (1) and (2) in Table A.3 show results of simple OLS regressions, while in columns (3) and (4) we use a LASSO model to choose predictors.[17] Important predictors are the number of children born in the last five years, the share of Quechua-speaking people in the municipality, and level of urbanization. Reassuringly, we observe that similar characteristics are simultaneously predictive of the DHS and REVIESFO sterilization counts, both in the OLS and LASSO models.

Overall, the data reveals a significant correlation between the reports of alleged illegal sterilizations contained in REVIESFO and the female sterilizations reported in the DHS. Importantly, this correlation holds in both the temporal and cross-sectional dimensions. Furthermore, individual characteristics of sterilized women in the DHS and the registry are very similar, and the municipality-level intensity of sterilizations in both data sets are very much aligned. Based on these empirical exercises, we conclude that the variation in the REVIESFO data can plausibly be interpreted as a meaningful representation of the distribution of sterilization cases that took place during the AQV campaign.

4 Empirical Strategy

To identify the causal effect of the disclosure of information on the forced sterilization campaign on a range of relevant outcomes, we use a difference-in-differences (DiD) strategy. We compare individuals living in municipalities that were exposed to the AQV campaign (and its intensity) or not exposed, before and after the campaign started to be publicly debated (i.e., before and after the fall of the Fujimori regime). Thus, survey year and the municipality of residence jointly determine the exposure to the shock induced by the campaign disclosure. Our main hypothesis is that the public disclosure of the details of how the campaign was conducted affected women living in municipalities where the campaign actually took place. To test it, we estimate the following regression equation:

$$Y_{ijt} = \beta Post_t \times FS_j + \zeta X_{ijt} + \gamma_j + \delta_t + \nu_{p(t)} + \varepsilon_{ijt} \tag{1}$$

is very sensitive to the way the question was asked. We do not have the details on the specific question asked in the registry.

[17] To pick predictors of the sterilization count, we apply a penalty parameter that minimizes the BIC.

where Y_{ijt} is the outcome of interest for individual i, in municipality j, in survey year t. $Post_t$ takes value 1 if the survey took place after the disclosure in 2001. FS_j, denotes our treatment variable in municipality j as reported in REVIESFO. This variable can be either the number of women illegally sterilized in municipality j during the campaign period (1996-2000) or a dummy for whether any women reported being illegally sterilized in municipality j between 1996-2000. Given the skewed distribution of the intensity of the program and the large number of zeroes, we apply the inverse hyperbolic sine transformation (IHS) (Johnson, 1949; Friedline, Masa, and Chowa, 2015).

To account for other potential determinants of the demand for health care and child health outcomes, we add to the main specification a vector of individual-level time-varying covariates X_{ijt}, which include the ethnicity of the respondent, her highest educational attainment, an index of household wealth, source of drinking water, whether the respondent lives in a rural area, and the birth-order of the child (for child health regressions). Finally, we account for any municipality-specific, time-invariant factors through the inclusion of municipality fixed effects (γ_j), as well as any covariate shocks through survey year fixed effects (δ_t). The aggregate time profile of our main outcome variables is controlled for by including province-specific linear trends in the regressions ($\nu_{p(t)}$). Our standard errors are clustered at the treatment unit level, the municipality (j).

We are interested in the coefficient β, which is estimated using variation in the intensity (presence) of the AQV campaign across municipalities within the same province trend, before and after the campaign disclosure. In the next section, we extend this DiD specification to study the persistence of the effects over time.

5 Forced Sterilizations, Health Outcomes and Service Utilization

5.1 Main Results

The start of public discussions around the way in which female sterilizations were conducted during the AQV campaign may have led to a reduction in usage of health services by women in municipalities where the campaign took place. This should be especially relevant for outcomes related to the usage of family planning methods, and professional health services for both women and their children. Table 2 tests this hypothesis and displays the main results following Equation 1. We use two different specifications. In Panel A, we exploit all the variation in the data, and the main independent variable is the total number of victims

registered in REVIESFO using the IHS transformation (our preferred specification), while in Panel B, our treatment is defined as a dummy taking the value of one if any victim was registered in the municipality.

After 2001, women in municipalities with a 10% higher incidence of reports of illegal sterilizations are 0.6% less likely to use contraceptive methods in the years after the release of information about the campaign (column 1).[18,19] We obtain a similar result if we use the dummy specification in Panel B, where we show that exposure to any alleged illegal sterilizations during the AQV program leads to a 4 percentage points (6%) drop in the usage of contraceptive methods. Modern contraceptive methods delivered through public health facilities represented 79% in 2001, and hence a reduction in the usage of these methods may reflect the fact that women in these areas are less likely to seek family planning health services in these facilities. We return to this point later in this section.

Municipalities with 10% more reported cases of illegal female sterilizations, after 2001, show a 4.1% lower utilization of pre-natal care and professional help when giving birth. Child health in these municipalities is also 4.5% significantly worse (columns 2 and 3 in Panel A, respectively). These results are consistent with the idea that in places with a higher incidence of reported illegal sterilizations, women were more likely to learn about the alleged human rights violations and to distrust health service providers, leading to lower maternal health service usage and a deterioration of child health. Panel B (columns 2 and 3) shows that exposure to the alleged illegal sterilizations caused a decrease in our maternal health service usage index of 0.11σ (29.7%) and the child health index is reduced by 0.05σ (35.5%) in the years after the fall of the Fujimori administration.

The effects of the disclosure of information about the AQV campaign on child health are partially explained by the fact that, after 2001, mothers in affected areas were less likely to seek professional health care services when their children are sick. To investigate this, we use data from the DHS, where women are asked whether each of their children under 5 had been sick within the past four weeks; if so, they are asked if they took the child to a professional health service provider. Table 3 shows that in areas where the number of reported cases of illegal sterilizations is 10% higher, women are 0.3% less likely to seek professional health care for their sick children (Panel A, column 1). The reduction in professional health care is

[18] Contraceptive methods include birth-control pills, IUDs, injections, foam/jelly, condoms, periodic abstinence/withdrawal, Norplant, emergency contraception, and sterilization.

[19] We follow the recommendation by Bellemare and Wichman (2020) to calculate the elasticities in a linear-arcsinh specification. The elasticities are evaluated at the sample means of y and x, using the following formula: $\hat{\xi}_{yx} = \frac{\hat{\beta}}{y}\frac{x}{\sqrt{x^2+1}}$.

even more pronounced in public health facilities, where women are 1.6% less likely to seek care (column 2). Instead, 1.1% more women choose to seek professional health services from private providers (column 3), however, this is not nearly enough to compensate for the large drop in usage of public health services, especially considering the fact that the vast majority of health services in the country are provided in public health facilities. The results using the dummy specification are shown in Panel B for the sake of completeness.[20]

5.2 Identification Assumption and Time Profile of the Effects

The identification of the causal effects of exposure to the campaign disclosure is that, absent the campaign, after controlling for the relevant fixed effects, trends, and observable characteristics, the outcomes of interest would have behaved similarly in municipalities experiencing different levels of intensity in the implementation of the sterilization campaign. To empirically assess the validity of our identification assumption, we check whether there are any discernible differences in our main outcomes before the campaign disclosure. We execute the analysis laid out in Equation 1, and using our preferred specification in an event study regression, where we interact the treatment with dummies for every survey year available.

The results for our main outcomes of interest, namely, whether the respondent uses any type of contraceptive methods, the index for pre-natal and delivery services, and a child health index, are shown in Figures 4a to 4c. The omitted category in the analysis is the survey year in which the campaign started (1996). There are no statistically significant differences in our three main outcome variables in 1991, 1992 and 2000 – before the campaign was disclosed – supporting the identification assumption.

Figures 4a to 4c also show the time profile of the effects. Remarkably, the negative effects of the campaign disclosure in municipalities affected by the AQV campaign hold – and in some cases are magnified – until our last year of data, 17 years after the campaign had ended. In the next sections, we study the underlying mechanisms for these effects and their persistence.

5.3 Robustness Checks

One concern about our results is the reliability of the data and its effect on our main measure of campaign exposure. Section 3.2 shows that the reports contained in the REVIESFO registry correlate well, both in the time and cross-sectional dimensions, with reports of female

[20]Note that the question of whether mothers seek professional care for their children is only asked if the child reports having been sick. To avoid using an endogenously selected sample, we impute a zero for children who do not report a recent event of sickness. Table A.4 shows the results of the regressions in the restricted sample of children who had reported a recent sickness, and the results are qualitatively similar.

sterilizations conducted in public health facilities, as reported in the DHS. We perform two additional analyses to show that our results do not depend on the victim measure used.

First, we repeat the analysis shown in Table 2, but using the number of reports of sterilizations in a public health facility carried out between 1995 and 2000 as the main independent variable, as reported in the DHS (using the IHS transformation). These results are shown in columns (2), (5), and (8) in Table 4, while for reference, columns (1), (4), and (7) display our baseline coefficients. Across the board, we find quantitatively similar results, though the result for the child health index is imprecisely estimated.

Second, both measures of the incidence of illegal sterilizations may contain measurement error. To the extent that these data reflect part of the true variation in the program intensity, we can use an instrumental variable strategy to parse out the noise from the signal. Columns (3), (6), and (9) in Table 4 show the results of a set of regressions in which we use the DHS sterilization count to instrument for the REVIESFO sterilization count. The results of the first stage regressions are depicted in the second to last row in Table 4. As expected, there is a positive and robust association between our two measures of program intensity, delivering partial F-values ranging between 133.37-174.04. The second stage results are qualitatively similar to our main results for the three main outcomes. Measurement error in the independent variable may cause attenuation bias, and consistent with this, we find that the magnitude of our coefficients in the IV specification is larger for two of the three main outcomes. We conclude that any potential measurement error in our main treatment variable is unlikely to cause any systematic biases in the estimation of our treatment effects.

Still, there are other potential concerns with the validity of our results or our interpretation. One such worry is that the targeted municipalities in the campaign may systematically differ from those not targeted, and follow different time trends in health care use and child health measures. As reported in Section 3.2, the AQV campaign was conducted with higher intensity in municipalities where fertility rates were higher, had a higher proportion of Quechua speaking women, and had a lower urbanization rate at baseline. To account for this concern, we interact baseline measures at the municipality level (taken from the 1993 census) on fertility, the share of the indigenous population, and labor market participation with a linear time-trend and include them in our regressions. Table A.5 shows that the coefficients are similar to our baseline specification, albeit slightly smaller for the first two outcomes.

We interpret our results as being driven by women who have been exposed to public discussions about the alleged crimes committed during the campaign. However, given the scale of the sterilization program, it could be the case that women directly affected by the campaign

are the ones who are less likely to trust public health services and reduce their usage, leading to worse child health outcomes. To rule out this interpretation, we run the heterogeneity of the main results by the age of the respondent. Women under age 14 by the end of the campaign were very unlikely to have been sterilized during the program. Table A.6 shows that there is no evidence that the results are driven exclusively by women born before 1985. Instead, the results are equally strong for younger and older women. This implies that some information was transmitted to women who were not directly affected by the campaign. Another observation that speaks against this interpretation is that the effect only materializes after 2001. If our results were being driven only by campaign victims, we should already be able to detect a significant effect during the campaign years.

Finally, the observed results on pre-natal care and delivery service usage or child health are not caused by the standardization or aggregation of the variables. Figures A.6a and A.6b show the regression results on each of the variables included in these indices. The figures display the point estimates and their 95% confidence intervals. Women are less likely to receive prenatal care, more likely to give birth at home, and less likely to receive qualified birth assistance (other than from a relative). Children in affected areas tend to be shorter and lower body weight after the campaign disclosure and more likely to report being sick in the four weeks preceding the survey (Figure A.6b).

6 What Explains the Effects of Exposure to the Campaign?

The results in previous sections show significant effects of exposure to cases of alleged human rights violations during the implementation of the AQV campaign, notably on the usage of contraceptive methods, usage of pre-natal and delivery services, and child health. What mechanisms are primarily responsible for driving these effects? In previous research, Alsan and Wanamaker (2018) show that the revelation of an experiment in Tuskegee (US) in which black citizens with syphilis were monitored but not treated, despite the availability of effective medicines, led to reduced trust in health service providers and higher mortality rates. Higher mortality rates were detected in older black men living closer to the experimental site, who had a similar racial and socio-demographic profile as the experiment's victims. Martinez-Bravo and Stegmann (2021) show that the use of vaccination teams for strategic military purposes in Afghanistan led to lower trust in vaccines and lower vaccination rates, and the results were driven by areas with high support for Islamist groups. Instead of social learning through individual identification, the main mechanism is religious and political identification.

A hypothesized alternative mechanism that may explain our results is disappointment among political supporters of the government in charge of the execution of the policy. During Fujimori's term as President, the political and economic crisis of the 1980s was greatly alleviated, and social policies led to a drastic reduction in poverty and increased access to public services for a large share of the population. This led to broad support for his party, leading to a landslide victory in his first reelection run in 1995, and to control a large share of municipal governments in 1998. Learning that some of the social policies carried out during his term may have been imposed in an authoritarian fashion, and even carried out through means of abuses and violation of basic rights may have led to a deep disappointment among Fujimori's supporters. This, in turn, could have caused them to not only reduce their trust in the government itself, but more broadly, in government institutions in charge of health service provision. In the following subsections, we empirically test these potential mechanisms.

6.1 Political Disappointment and Health Service Usage

To evaluate whether political disappointment on the part of government supporters is the main driver of our results, we re-estimate Equation 1, after including a heterogeneity term interacting the intensity of alleged illegal sterilizations with the indicator for post-2001, and a dummy variable for whether voters in the municipality were strong supporters of Fujimori's party. More precisely, we split the sample between those municipalities falling above the median of votes in favor of Fujimori's party in the 1998 municipal elections, and those falling below (25.85%). The 1998 elections are taken as baseline support for the government, since they provide an accurate measure of political preferences before the disclosure of the abuses that took place during the campaign.

The results are shown in Panel A of Table 5. The coefficient of interest in the triple-difference specification is the one associated with the heterogeneity of the treatment effects by baseline support for Fujimori. The results show that the negative effect of the disclosure of the human rights violations occurring during the AQV campaign on contraceptive usage, usage of maternal health services, and child health is entirely driven by municipalities with strong support for Fujimori's party before the revelations (columns 1, 2, and 3 in Panel A). In all cases, the treatment effects for those municipalities with below-the-median vote shares for Fujimori's party are very close to zero. This is in line with the interpretation that learning about the specifics of the campaign led to a larger greater awareness among former Fujimori supporters, who were then disinclined to use public health services, leading to worse health outcomes for children.

If it was indeed the case that disappointment with the government is the main driver of our effects, we should observe that municipalities with a higher incidence of alleged illegal sterilization also reduced their support for Fujimori's party *after* the disclosure of information about the abuses. We test this in Panel B in Table 5, where we evaluate the treatment effects on the vote share received by Fujimori's party in subsequent elections, the party's rank in the final election results and whether the party won the election. We include in the analysis all municipal elections between 1998 and 2018. After 2001, the support for Fujimori's party was 0.6% lower in municipalities with 10% more registered victims. Consequently, the party ranked higher in the election, i.e. farther from the first position (column 2), but the effects are not large enough to affect the probability that they would win (column 3).[21]

Overall, we see that the effect of the disclosure of the alleged forced sterilizations is entirely driven by municipalities where the baseline support for the party in power was high, which is consistent with the idea that the main mechanism behind these effects is the disappointment of former political supporters.

6.2 Alternative Mechanisms

Learning about the human rights violations that were alleged to have occurred during the AQV campaign may have reduced the usage of public health services through social learning due to individual ethnic identification (Alsan and Wanamaker, 2018). The data in the victim's registry shows that women affected by the campaign were more likely to live in rural localities and to speak Quechua as their mother tongue. Additionally, several accounts point out that they were also less likely to have completed secondary or higher education. If it was the case that the main effects are due to social learning through identification, we should expect it to be concentrated among rural, Quechua speaking and uneducated women. We study the heterogeneity of our results along these dimensions in turn.

In Table 6, we present a horse race between several alternative mechanisms that could explain our results. We do this by including in the main specification from Equation 1 interactions between the difference-in-difference term and indicators for whether the respondent is a Quechua speaker, lives in a rural locality, has completed more than secondary schooling, or lives in a municipality where support for the government was high at baseline. Additionally, we also include an interaction with the radio signal strength in 2001 (normalized with mean zero) to test for information diffusion through traditional media.[22] Our results show

[21] The probability of the party running for election is unrelated to the number of registered victims.

[22] We use the location and power of all radio transmitting antennas in 2001 to calculate the maximum signal strength in all municipalities at the time of the information disclosure about the AQV campaign.

that Quechua speakers, women in rural localities, and less educated women are not more likely to respond to the treatment in their usage of contraceptive methods or the usage of maternal health services. Similarly, their children show comparable health status as those of Spanish-speaking women, those in urban areas, or more-highly educated women. In fact, the triple interaction terms are very close to zero, demonstrating that social learning through identification cannot explain our results.[23]

We also evaluate whether learning was triggered by the availability of traditional media sources, using estimates on radio signal strength at the municipality level. The results show that municipalities with higher radio signal intensity are not the main drivers of the result. This result, while surprising, may reflect the fact that the information about the alleged human rights violations spread through different mechanisms, including newspapers and public discussions.

Finally, the one interaction coefficient that survives the horse race is baseline support for Fujimori's party. Not only does the interaction maintain its statistical significance (except in the case of contraceptive usage), but the magnitude of the estimates is also barely reduced, supporting our interpretation that the mechanism explaining our results is the disappointment among Fujimori's political supporters.

6.3 Forced Sterilizations and Trust in Government Institutions

Usage of public health services and child health significantly decreased in municipalities where the alleged medical malpractice took place during the AQV campaign, after the fall of the Fujimori government, when information about this malpractice started to be publicly discussed. We argue that learning about the medical malpractice undermined trust in institutions in charge of the delivery of health services, and this caused the reduction in health care utilization and worsened child health.

Information on the radio antennas was provided by the Ministry of Transportation and Communication (MTC). We apply the Irregular Terrain Model (Hufford, 2002) (ITM) to calculate the signal loss induced by the distance between the transmitting and receiving antennas and the topography of the municipalities. We follow a similar approach to Olken (2009); DellaVigna et al. (2014); Durante, Pinotti, and Tesei (2019) and use the ITM algorithm to calculate (i) the predicted signal loss given the topography of the municipality, and (ii) the predicted signal loss assuming no obstacles (free space signal loss). We subtract the signal loss from the radio station's transmission power to obtain the predicted signal power in decibels (dB). We keep the highest predicted signal power per municipality for the (i) predicted signal power, and (ii) the free space signal power. In all specifications using the signal power, we control for the predicted free-space signal strength, allowing us to use variation in signal strength caused by topographical characteristics only.

[23] Table A.7 shows the results of regressions where we include the triple interactions in the main specification independently. Given the high correlation between these variables, these results are hard to interpret independently.

We obtain data on trust in public institutions from Latinobarómetro, which was collected yearly between 1996 and 2018. We use questions reflecting trust in institutions that were directly involved in either the implementation of the campaign or its investigation. As a placebo, we also use questions related to trust in other institutions or individuals in key government posts. The results are shown in Table 7. Citizens in municipalities where the intensity of the campaign was higher show higher levels of mistrust in the government, in the public administration and in the judiciary after 2001 (Panel A, columns 1-3). Instead, mistrust in the President, Congress and political parties (Panel A, columns 4-6), as well as in the church, the police, armed forces or generalized trust (Panel B) remain unchanged.

The results show that the increased mistrust is directed at government institutions, rather than specific people or political parties in charge of the administration of these institutions. This explains why we see that the reduced usage of public health services and the consequent worsening of child health status persists up to 17 years after the disclosure of information about the alleged atrocities committed during the AQV campaign. This backlash is consistent with the idea that the implementation of public policies without a democratic mandate can lead to lower generalized trust in the public sector and lower demand for public goods.

7 Conclusions

Trust in the government and public institutions is a key determinant of the demand for public services. In turn, the way these policies are executed and communicated to citizens influences trust. We study how policy making shapes citizen trust by examining the effects of the disclosure of human rights violations committed during a large-scale family planning campaign in the late 1990s in Perú. The central government initiated this campaign to reduce total fertility and poverty rates. Many women were allegedly forced or pressured into undergoing tubal ligations (sterilizations), and given insufficient information or time to consider its consequences. Several accounts have documented the existence of ambitious sterilization quotas, which put significant pressure on health workers to perform a large number of sterilizations. Many women suffered from procedure-related health complications, some of which resulted in death. The sterilization campaign infringed the reproductive rights of thousands of women who were unfamiliar with the irreversible nature of tubal ligations or the appropriate way to proceed in such medical circumstances. Importantly, widespread information about the human rights violations alleged to have occurred during the campaign was not available until a new democratically elected government took office in 2001.

We find that the disclosure in 2001 caused a reduction in the utilization of contraceptive

methods, the usage of pre-natal and birth delivery services, and more generally, public health services, ultimately leading to worsened child health. Our results reveal that in affected municipalities where the support for the government responsible for the sterilizations was stronger at baseline saw more pronounced reductions in the usage of public health services. This suggests that the main mechanism driving the results is the disappointment of political supporters of the regime. Moreover, we are able to reject alternative mechanisms, consistent with theories of social learning based on identification.

Our results highlight the importance of government actions in shaping trust in institutions and their long-lasting effects on demand for public services. For instance, in our study setting, we observe that the effects survive up to 17 years after the disclosure of information about the alleged human rights violations. This means that citizens who lose trust in a given administration are unlikely to regain confidence in public institutions after that administration leaves office, which translates into a permanent decrease in the demand for public services. Understanding the drivers of mistrust and under-utilization of public goods is crucial to improving the design of public policy interventions. Furthermore, our results have important implications for the way in which public policies are communicated to citizens. Transparency and accountability could play an important role in fostering trust in institutions and enhancing the demand for public services (Christensen et al., 2021).

References

Acemoglu, Daron, Ali Cheema, Asim I Khwaja, and James A Robinson. 2020. "Trust in state and nonstate actors: Evidence from dispute resolution in Pakistan." *Journal of Political Economy* 128 (8):3090–3147.

Alsan, Marcella and Marianne Wanamaker. 2018. "Tuskegee and the health of black men." *The Quarterly Journal of Economics* 133 (1):407–455.

Andrabi, Tahir and Jishnu Das. 2017. "In aid we trust: hearts and minds and the Pakistan earthquake of 2005." *Review of Economics and Statistics* 99 (3):371–386.

Aramburú, Carlos. 2002. "Politics and Reproductive Health: A Dangerous Connection." *CICRED Interregional Seminar on Reproductive Health, Unmet Needs and Poverty* , Bangkok, November 2002.

Archibong, Belinda and Francis Annan. 2021. "'We Are Not Guinea Pigs': The Effects of Negative News on Vaccine Compliance." *Available at SSRN 3765793* .

Battaglia, Marianna and Nina Pallarés. 2020. "Family Planning and Child Health Care: Effect of the Peruvian Programa de Salud Reproductiva y Planificación Familiar, 1996–2000." *Population and Development Review* 46 (1):33–64.

BBC. 2014. "India's dark history of sterilisation." *BBC News* .

Bellemare, Marc F and Casey J Wichman. 2020. "Elasticities and the inverse hyperbolic sine transformation." *Oxford Bulletin of Economics and Statistics* 82 (1):50–61.

Besley, Timothy and Torsten Persson. 2011. *Pillars of prosperity*. Princeton University Press.

Burneo, José A. 2008. "Esterilización Forzada en Perú: Delito de Lesa Humanidad." *Estudio para la Defensa de los Derechos de la Mujer* .

Byker, Tanya and Italo A Gutierrez. 2016. "Treatment Effects Using Inverse Probability Weighting and Contaminated Treatment Data: An Application to the Evaluation of a Government Female Sterilization Campaign in Peru." *RAND Corporation* .

Christensen, Darin, Oeindrila Dube, Johannes Haushofer, Bilal Siddiqi, and Maarten Voors. 2021. "Building resilient health systems: experimental evidence from Sierra Leone and the 2014 Ebola outbreak." *The Quarterly Journal of Economics* 136 (2):1145–1198.

CLADEM. 1999. "Nada personal: Reporte de Derechos Humanos sobre la aplicación de la anticoncepción quirúrgica en el Perú 1996-1998." .

Congreso de la República del Perú. 2002. "Informe Final sobre la aplicación Anticoncepción Quirúrgica Voluntaria (AQV) en los años 1990-2000." .

Crost, Benjamin, Joseph Felter, and Patrick Johnston. 2014. "Aid under fire: Development projects and civil conflict." *American Economic Review* 104 (6):1833–56.

Defensoría del Pueblo, Perú. 1998. "Anticoncepción Quirúrgica Voluntaria I." *Series de Informes Defensoriales* (N. 7).

———. 1999. "La aplicación de la anticoncepción quirúrgica y los derechos reproductivos II." *Series de Informes Defensoriales* (N. 27).

———. 2002. "La aplicación de la anticoncepción quirúrgica y los derechos reproductivos III." *Series de Informes Defensoriales* (N. 69).

DellaVigna, Stefano, Ruben Enikolopov, Vera Mironova, Maria Petrova, and Ekaterina Zhuravskaya. 2014. "Cross-border media and nationalism: Evidence from Serbian radio in Croatia." *American Economic Journal: Applied Economics* 6 (3):103–32.

Dube, Oeindrila and Suresh Naidu. 2015. "Bases, bullets, and ballots: The effect of US military aid on political conflict in Colombia." *The Journal of Politics* 77 (1):249–267.

Dupas, Pascaline and Edward Miguel. 2017. "Impacts and determinants of health levels in low-income countries." In *Handbook of Economic Field Experiments*, vol. 2. Elsevier, 3–93.

Durante, Ruben, Paolo Pinotti, and Andrea Tesei. 2019. "The political legacy of entertainment tv." *American Economic Review* 109 (7):2497–2530.

Elliot, L. 2017. "Victims of Violence: The Forced Sterilisation of Women and Girls with Disabilities in Australia." *Laws* 6 (8).

Fair, C Christine, Patrick M Kuhn, Neil Malhotra, and Jacob N Shapiro. 2017. "Natural Disasters and Political Engagement: Evidence from the 2010–11 Pakistani Floods." *Quarterly Journal of Political Science* 12:99–141.

Ferraz, Claudio and Frederico Finan. 2008. "Exposing corrupt politicians: the effects of Brazil's publicly released audits on electoral outcomes." *The Quarterly Journal of Economics* 123 (2):703–745.

Friedline, Terri, Rainier D. Masa, and Gina A.N. Chowa. 2015. "Transforming Wealth: Using the Inverse Hyperbolic Sine (IHS) and splines to Predict Youth's Math Achievement." *Social Science Research* 49:264 – 287.

Hufford, George A. 2002. "The its irregular terrain model, version 1.2. 2 the algorithm." *Institute for Telecommunication Sciences, National Telecommunications and Information Administration, US Department of Commerce. http://flattop. its. bldrdoc. gov/itm. html* .

INEI. 1992. "Encuesta Demográfica y de Salud Familiar 1991/1992." *Instituto Nacional de Estadística e Informática (INEI)* .

———. 2002. "Tendencias, Niveles y Estructura de la Mortalidad Materna en el Perú 1992-2000." *Instituto Nacional de Estadística e Informática (INEI)* .

Johnson, NL. 1949. "Systems of Frequency Curves Generated by Methods of Translation." *Biometrika* 36 (Pt. 1-2):149–176.

Kendall, T. and C. Albert. 2015. "Experiences of coercion to sterilize and forced sterilization among women living with HIV in Latin America." *Journal of the International AIDS Society* (18).

Khemani, Stuti. 2019. "What is state capacity?" *World Bank Policy Research Working Paper* (8734).

Larreguy, Horacio, John Marshall, and James M Snyder Jr. 2020. "Publicising malfeasance: when the local media structure facilitates electoral accountability in Mexico." *The Economic Journal* 130 (631):2291–2327.

Levitsky, S. and L. Way. 2002. "The Rise of Competitive Authoritarianism." *Journal of Democracy* 13 (2):51–65.

Levitsky, S. and D. Ziblatt. 2018. "How Democracies Die." *Broadway Books* New York.

Lowes, Sara and Eduardo Montero. 2021. "The Legacy of Colonial Medicine in Central Africa." *American Economic Review* 111 (4):1284–1314.

Martinez-Bravo, Monica and Andreas Stegmann. 2021. "In vaccines we trust? The effects of the CIA's vaccine ruse on immunization in Pakistan." *Journal of the European Economic Association* .

Mcmillan, John and Pablo Zoido. 2004. "How to Subvert Democracy: Montesinos in Peru." *Journal of Economic Perspectives* 18 (4):69–92.

MINSA, Ministerio de Salud. 1996. "Programa de Salud Reproductiva y Planificación Familiar 1996-2000." *Dirección General de Salud de Personas* .

———. 2020. "Carta del ministro Marino Costa Bauer al presidente Alberto Fujimori con fecha 6 de agosto de 1997." *Oficina de Transparencia y Anticorrupción* .

Nunn, Nathan and Nancy Qian. 2014. "US food aid and civil conflict." *American Economic Review* 104 (6):1630–66.

Olken, Benjamin A. 2009. "Do television and radio destroy social capital? Evidence from Indonesian villages." *American Economic Journal: Applied Economics* 1 (4):1–33.

Pegoraro, L. 2015. "Second-rate victims: The forced sterilization of Indigenous peoples in the USA and Canada." *Sttler Colonial Studies* 5 (2):161–173.

Sánchez, Flor. 2001. "Perú: Festival de ligaduras." *BBC, Mundo, Latinoamérica* , September 2001.

Seeman, M. 2007. "Sterilization of Mentally III During the Years of World War II in Finland." *International Journal of Mental Health* 36 (1):58–66.

Tamayo, Giulia. 1998. "Silencio y complicidad." *Reporte de derechos humanos sobre violencia contra las mujeres en los servicios públicos de salud en el Perú. Lima: Cladem* .

United Nations, Inter-agency Group for Child Mortality Estimation. 2020. "Child Mortality in Peru in 1990." , Retrieved from https://childmortality.org/data/Peru on March 21st 2021.

Zampas, C. and A. Lamackova. 2011. "Forced and coerced sterlization of women in Europe." *International Journal of Gynecology and Obstetrics* 114 (2011):163–166.

Zauzich, M. 2000. "Perú: "Política de población" y derechos humanos: Campañas de esterilización 1996-1998." .

Table 1: Summary Statistics of Women registered in REVIESFO and Sterilized Women in Public Health Facilities in DHS

	(1)
	REVIESFO
Variable	Obs
Number of children	6794
Age at sterilization	6794
% Quechua speakers	6794
% agricultural or native community[a]	6794

Notes: Summary statistics of victims registered in REVIESFO and all sterilizations in public health facilities recorded in between 1995 and 2000. [a]: "live in rural community" in DHS.

Table 2: Forced Sterilizations, Health Care Usage and Child Health (DHS)

	(1) Currently using contraceptives	(2) Prenatal care and delivery index	(3) Child health index
Panel A			
IHS (Num. of Forced Sterilizations Reported)×*Post* 2001	-0.013***	-0.044***	-0.019***
	(0.002)	(0.006)	(0.004)
Panel B			
Any Forced Sterilization Reported (1=Yes)×*Post* 2001	-0.040***	-0.106***	-0.049***
	(0.008)	(0.021)	(0.016)
Mean Dep. Var.	0.663	0.356	0.138
Observations	253562	152775	160926
HH characteristics	Yes	Yes	Yes
Year F.E.	Yes	Yes	Yes
Municipality F.E.	Yes	Yes	Yes
ProvinceXTime	Yes	Yes	Yes

Notes: Prenatal and delivery index: 1) no prenatal care received 2) birth at home 3) birth assistance (other than relative). Child health index: 1) child was sick recently (diarrhea, fever, cough) 2) child is underweight 3) child is stunted. Variables standardized (with mean 0 and standard deviation 1) with respect to baseline year 2000. Lower values indicate worse outcomes. HH characteristics: ethnicity of respondent, highest educational attainment, household wealth index, drinking water source, lives in rural area, birth order of child. Standard errors clustered at the municipality level are included in parentheses. Asterisks denote statistical significance at the 1(***), 5(**) or 10(*) percent level. Sources: DHS waves 1991-2017 and REVIESFO.

Table 3: Forced Sterilizations and Health Seeking Behavior (DHS)

	(1) Sick child received any health care	(2) Sick child received private health care	(3) Sick child received public health care
Panel A			
IHS (Num. of Forced Sterilizations Reported)×*Post* 2001	-0.007***	0.003**	-0.008***
	(0.002)	(0.002)	(0.002)
Panel B			
Any Forced Sterilization Reported (1=Yes)×*Post* 2001	-0.020**	0.011**	-0.022**
	(0.009)	(0.006)	(0.009)
Observations	172608	172213	172132
Adj. R-squared	0.042	0.038	0.028
HH characteristics	Yes	Yes	Yes
Year F.E.	Yes	Yes	Yes
Municipality F.E.	Yes	Yes	Yes
ProvinceXTime	Yes	Yes	Yes

Notes: See footnote of Table 2 for the list of HH characteristics. Standard errors clustered at the municipality level are included in parentheses. Asterisks denote statistical significance at the 1(***), 5(**) or 10(*) percent level. We replace the outcome variables' values with zero if the child was not recently sick. In Table A.4, these values are missing.

Table 4: Health Care Usage and Child Health (DHS): OLS and 2SLS Regressions

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Currently using contraceptives			Prenatal care and delivery index			Child health index		
IHS (Num. of Forced Sterilizations Reported) $\times Post$ 2001	-0.013***		-0.032***	-0.044***		-0.104***	-0.019***		-0.016
	(0.002)		(0.005)	(0.006)		(0.013)	(0.004)		(0.012)
IHS (Num. of Reported Sterilizations DHS) $\times Post$ 2001		-0.020***			-0.067***			-0.010	
		(0.003)			(0.008)			(0.008)	
Observations	253562	253562	253562	152775	152775	152775	160926	160926	160926
1st stage Wald F-stat			133.367			164.581			174.041
$\beta^{1stStage}$			0.618***			0.644***			0.648***
			(0.054)			(0.050)			(0.049)
Method	OLS	OLS	2SLS	OLS	OLS	2SLS	OLS	OLS	2SLS

Notes: Sterilizations according to DHS are all women sterilized between 1995 and 2000 in a public health facility. Standard errors clustered at the municipality level are included in parentheses. Asterisks denote statistical significance at the 1(***), 5(**) or 10(*) percent level. Sources: DHS waves 1991-2017 and REVIESFO.

Table 5: Forced Sterilizations and Political Support for Fujimori's Party

	(1)
Panel A: Main Effects, by Baseline Support for Fujimori's Party	
	Currently using contraceptives
IHS (Num. of Forced Sterilizations Reported)×*Post* 2001	-0.002 (0.005)
High Support × IHS (Num. of Forced Sterilizations Reported)×*Post* 2001	-0.012 (0.008)
Mean Dep. Var.	0.660
Observations	155125
Adj. R-squared	0.088
Panel B: Support for Fujimori's Party in Municipal Elections	
	Votes shares
IHS (Num. of Forced Sterilizations Reported)×*Post* 2001	-1.272** (0.521)
Mean Dep. Var.	18.036
Observations	3241
Adj. R-squared	0.434
Year F.E.	Yes
District F.E.	Yes
ProvinceXTime	Yes

Notes: High Support is equal to one if votes share is above the median in the 1998 municipality electio results. Panel A includes household characteristics. See footnote of Table 2 for list of characteristics Standard errors clustered at the municipality level are included in parentheses. Asterisks denot statistical significance at the 1(***), 5(**) or 10(*) percent level. Sources: DHS waves 1991-2017

Table 6: Horse Race - Alternative Mechanisms (DHS)

	(1) Currently using contraceptives	(2) Prenatal care and delivery index	(3) Child health index
IHS (Num. of Forced Sterilizations Reported)× *Post* 2001	-0.00759	-0.01636	-0.00047
	(0.006)	(0.014)	(0.011)
Quechua Speaker × IHS (Num. of Forced Sterilizations Reported ×*Post* 2001	0.00380	-0.00207	-0.00590
	(0.009)	(0.025)	(0.017)
Rural × IHS (Num. of Forced Sterilizations Reported ×*Post* 2001	0.01066	0.03417	-0.02353*
	(0.010)	(0.021)	(0.014)
Secondary education or more × IHS (Num. of Forced Sterilizations Reported ×*Post* 2001	0.00891	0.01764	0.00756
	(0.006)	(0.011)	(0.010)
Signal strength × IHS (Num. of Forced Sterilizations Reported ×*Post* 2001	0.00058	0.00673	0.00073
	(0.004)	(0.012)	(0.010)
Support for Fujimori × IHS (Num. of Forced Sterilizations Reported ×*Post* 2001	-0.00858	-0.03828**	-0.02411*
	(0.007)	(0.017)	(0.014)
HH characteristics	Yes	Yes	Yes
Year F.E.	Yes	Yes	Yes
Municipality F.E.	Yes	Yes	Yes
ProvinceXTime	Yes	Yes	Yes

Notes: Information on the radio antennas was provided by the Ministry of Transportation and Communication (MTC). We apply the Irregular Terrain Model (Hufford, 2002) (ITM) to calculate the signal loss induced by the distance between the transmitting and receiving antennas and the topography of the municipalities. We follow a similar approach to Olken (2009); DellaVigna et al. (2014); Durante, Pinotti, and Tesei (2019) and use the ITM algorithm to calculate the predicted signal loss given the topography of the municipality. We subtract the signal loss from the radio station's transmission power to obtain the predicted signal power in decibels (dB). We keep the highest predicted signal power per municipality and standardize the predicted signal power (0,1). See footnote of Table 2 for list of household characteristics. Standard errors clustered at the municipality level are included in parentheses. Asterisks denote statistical significance at the 1(***), 5(**) or 10(*) percent level.

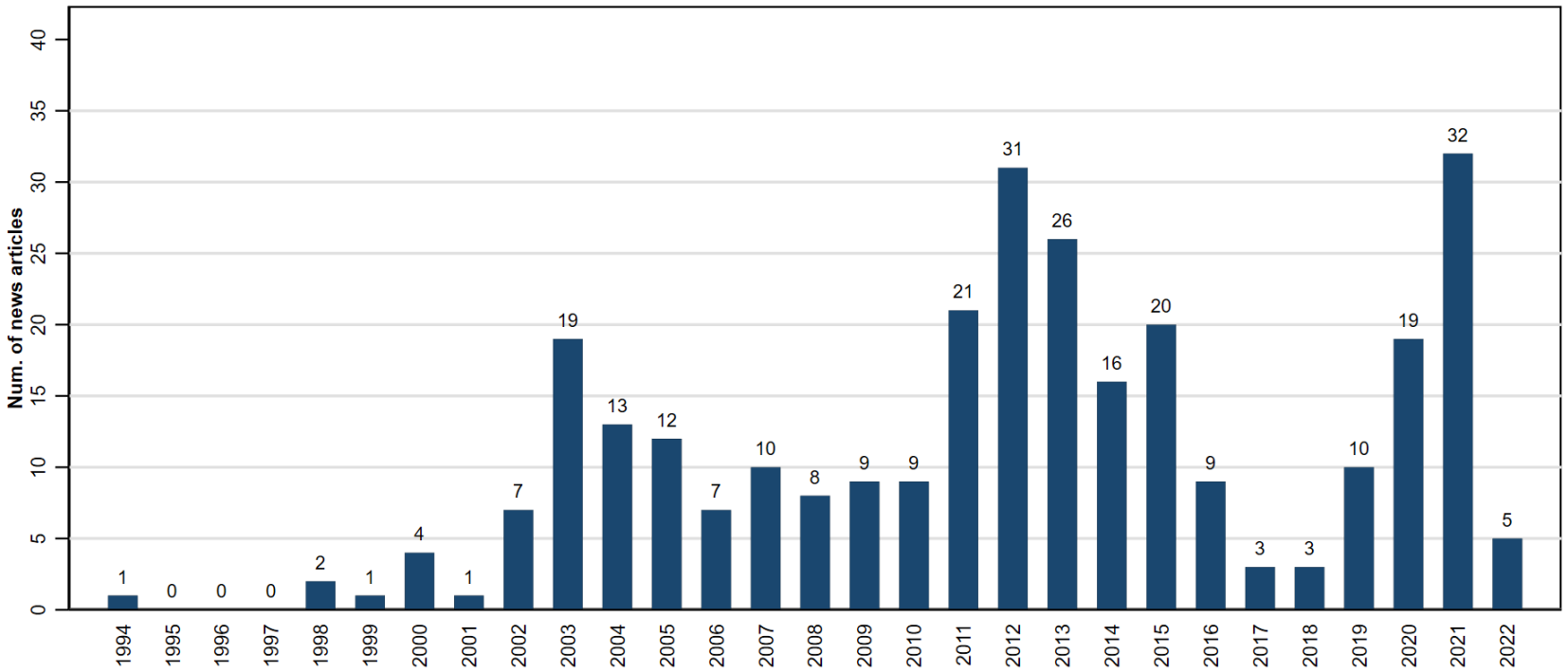
Table 7: Forced Sterilizations and Trust in Institutions (Latinobarómetro)

	(1)	(2)	(3)	(4)	(5)	(6)
	Panel A: Forced Sterilizations and Trust in Political Institutions					
	Mistrust government	Mistrust public administration	Mistrust judiciary	Mistrust president	Mistrust congress	Mistrust political parties
IHS (Num. of Forced Sterilizations Reported)×*Post* 2001	0.025*	0.045***	0.030*	0.019	0.015	0.018
	(0.014)	(0.014)	(0.017)	(0.017)	(0.017)	(0.017)
Mean Dep. Var.	0.384	0.306	0.441	0.400	0.435	0.473
Observations	17581	8825	21323	10986	21345	21304
Adj. R-squared	0.092	0.060	0.034	0.133	0.041	0.037

	(1)	(2)	(3)	(4)
	Panel B: Forced Sterilizations and Trust in Other Institutions			
	Mistrust church	Mistrust police	Mistrust armed forces	Mistrust people
IHS (Num. of Forced Sterilizations Reported)×*Post* 2001	-0.004	-0.000	0.009	0.011
	(0.005)	(0.012)	(0.014)	(0.009)
Mean Dep. Var.	0.095	0.307	0.221	0.846
Observations	21573	21528	21474	20892
Adj. R-squared	0.017	0.023	0.043	0.020
HH characteristics	Yes	Yes	Yes	Yes
Year F.E.	Yes	Yes	Yes	Yes
Municipality F.E.	Yes	Yes	Yes	Yes

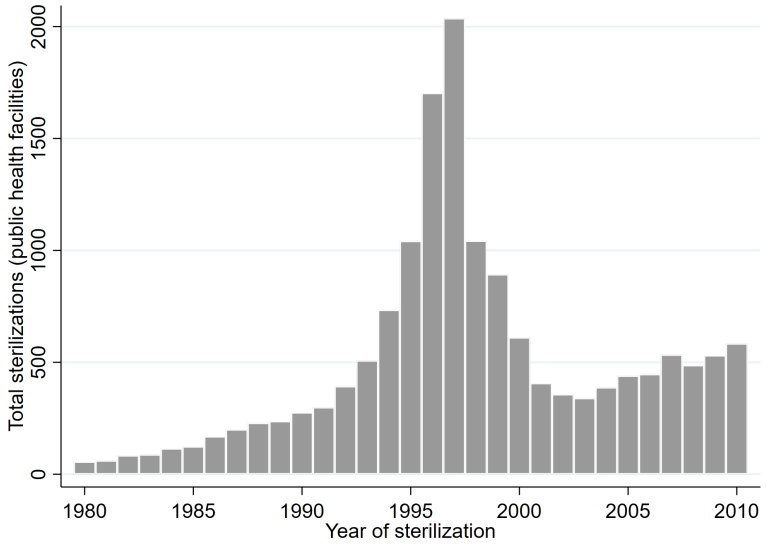
Notes: Standard errors clustered at the municipality level are included in parentheses. Asterisks denote statistical significance at the 1(***), 5(**) or 10(*) percent level. Sources: Latinobarómetro (1996-2018) and REVIESFO.

Figure 1: Number of News Articles Including "Forced Sterilizations + Peru", by Year

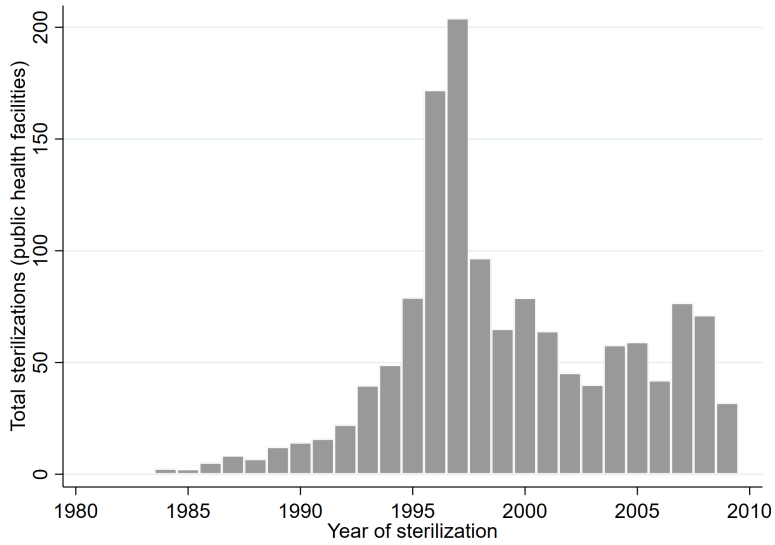


Notes: The figure shows the total number of news articles containing the words "forced sterilizations + peru" in the Factiva database.

Figure 2: Total Number of Reported Sterilizations in Public Health Facilities by Year (DHS 1991-2017)



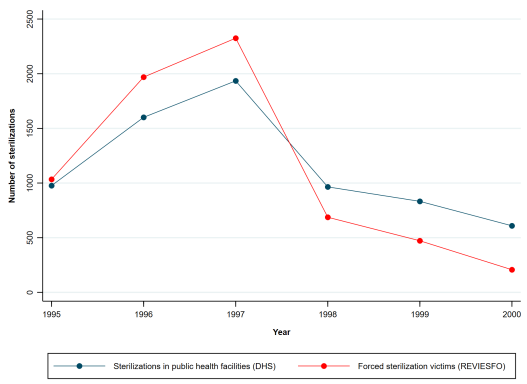
(a) All DHS Waves



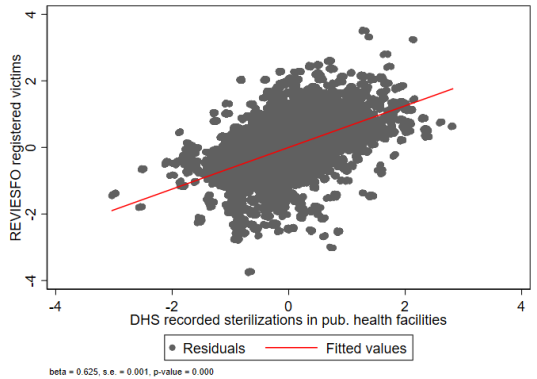
(b) DHS 2009 Wave

Notes: Panel (a) shows the total number of sterilizations in public health facilities by year, registered in the DHS 1991-2017 waves. Panel (b) shows the total number of sterilizations in public health facilities by year, registered in the DHS 2009 wave. DHS observations weighted in both panels. The reported number of sterilizations is based on the following questions: *"Have you ever used a female sterilization method (tubal ligation)? (Some women can have an operation to avoid having more children)"* and *"In what month and year did you (they) operate (you) - Female sterilization?"*. Public health facilities include: Campaign/fair/jornada. MINSA hospital, MINSA health center, MINSA health post, MINSA health worker, ESSALUD hospital, ESSALUD post, army/police hospital, local government hospital.

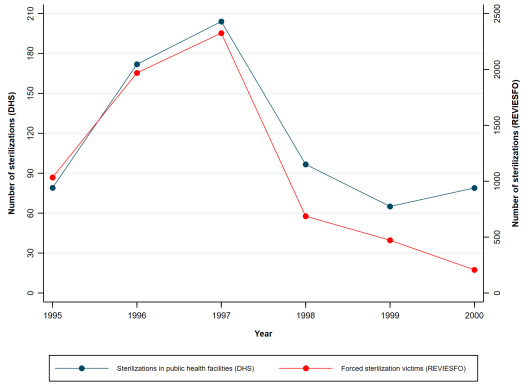
Figure 3: Cross-Sectional and Time Variation in REVIESFO and DHS



(a) Total number of reported sterilizations by year (DHS and REVIESFO)



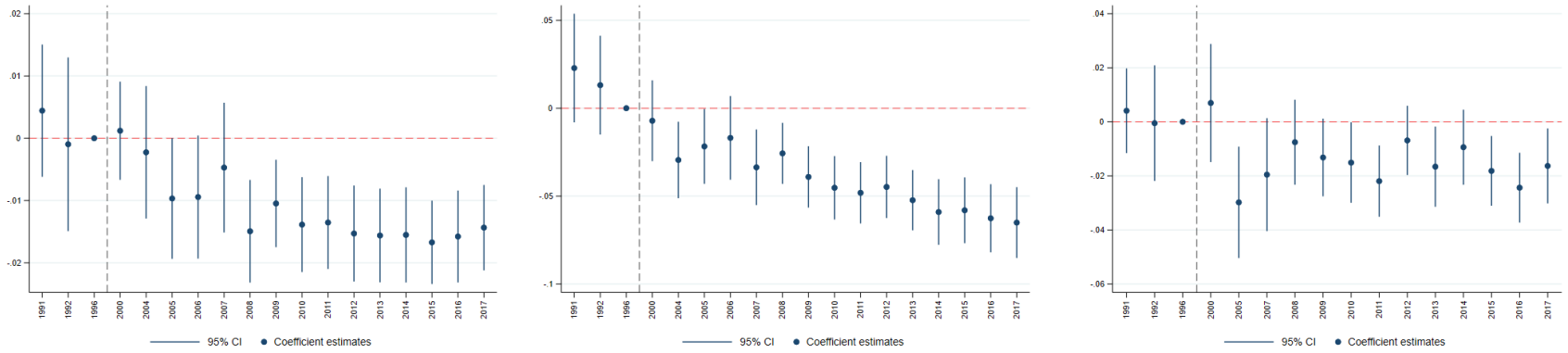
(b) Correlation between total sterilizations registered in REVIESFO and DHS



(c) Total number of reported sterilizations by year (DHS 2009 and REVIESFO)

Notes: Panel (a) shows the aggregated number of reported sterilizations in public health facilities by year in the DHS 1991-2017 waves (blue line) and REVIESFO (red line) (DHS observations weighted). Panel (b) shows the correlation between total sterilizations registered in REVIESFO and all sterilizations registered in DHS waves (1991-2017) that took place in public health facilities between 1996-2000. Both measures in this panel are residualized using province-specific linear time trend, year and municipality fixed effects. Panel (c) shows the aggregated number of reported sterilizations in public health facilities by year in the DHS 2009 wave (blue line) and REVIESFO (red line) (DHS observations weighted).

Figure 4: Pre-trends and Year-by-year Effects for DHS Outcomes



(a) Any contraceptive use (b) Prenatal and delivery index (c) Child health index

Notes: Coefficients in the above figures represent regression results of Equation 1, replacing the post-dummy with year dummies. The omitted category is year 1996.

Appendix Tables and Figures

Table A.1: Summary Statistics - DHS and Sterilization Counts

	(1) Observations	(2) Mean	(3) Std. Dev.
Panel A: DHS 1991-2017			
Prenatal Care and Delivery Index			
Prenatal care: none	153796	0.09	0.29
Child birth at home	173091	0.22	0.42
Birth attendant not only relative	178072	0.90	0.29
Currently using contraceptive	329630	0.55	0.50
Child Health			
Child sick	173981	0.46	0.50
Weight to height (sd)	161017	-0.98	1.15
Weight to age (sd)	161017	-0.41	1.18
Sick never treated	79066	0.42	0.49
Sick treated in private health institution	78671	0.23	0.42
Sick treated in public health institution	78590	0.37	0.48
Mistrust health personnel (any disease)	34323	0.11	0.31
Household Characteristics			
Has radio	329511	0.82	0.38
Has television	329489	0.80	0.40
Wealth index (quintiles group)	329630	2.79	1.34
No education	329630	0.04	0.19
Primary education	329630	0.27	0.44
Secondary education	329630	0.44	0.50
Higher education	329630	0.26	0.44
Speaks indigenous language	329582	0.10	0.30
Rural	329630	0.33	0.47
Panel B: Sterilizations at the District-Level 1996-2000			
REVIESFO			
Sterilizations (total)	1874	4.02	21.91
Sterilizations (IHS)	1874	0.48	1.16
Sterilizations (1=Yes)	1874	0.21	0.41
DHS			
Sterilizations (total)	1483	4.24	11.28
Sterilizations (IHS)	1483	1.32	1.18
Sterilizations (1=Yes)	1483	0.69	0.46

Table A.2: Summary Statistics - Latinobarómetro, and Municipal Elections

	(1) Observations	(2) Mean	(3) Std. Dev.
Panel A: Latinobarómetro 1996-2018			
Mistrust			
Mistrust congress	22839	0.44	0.50
Mistrust government	18937	0.39	0.49
Mistrust judiciary	22807	0.44	0.50
Mistrust president	11176	0.40	0.49
Mistrust public administration	8944	0.31	0.46
Mistrust political parties	22801	0.48	0.50
Household Characteristics			
Socioeconomic level perception	23392	3.02	0.86
Respondent education	22135	4.56	1.74
Female	23392	0.50	0.50
Panel B: Municipal Elections 1998-2018			
Votes shares	3241	18.04	15.06
Party rank	3241	3.96	2.70
Won	3241	0.20	0.40

Table A.3: Campaign Victim Predictions

	(1) REVIESFO (model)	(2) DHS (model)	(3) REVIESFO (Lasso)	(4) DHS (Lasso)
Log population	0.466***	0.791***	0.445***	0.787***
	(0.028)	(0.025)	(0.025)	(0.024)
% men 1993	0.022**	0.035***	0.025***	0.035***
	(0.009)	(0.008)	(0.009)	(0.008)
% Quechua speaking 1993	0.004***	0.003***	0.003***	0.003***
	(0.001)	(0.001)	(0.001)	(0.001)
% Aymara speaking 1993	-0.004	-0.002	-0.004	-0.002
	(0.002)	(0.002)	(0.002)	(0.002)
% Oth. indigenous speaking 1993	-0.007	-0.007*	-0.008*	-0.008**
	(0.005)	(0.004)	(0.004)	(0.004)
% people rural 1993	-0.005***	-0.009***	-0.004***	-0.009***
	(0.001)	(0.001)	(0.001)	(0.001)
% Educ = Primary 1993	0.005	0.003		
	(0.006)	(0.005)		
% Educ = Secondary 1993	-0.019***	0.007	-0.023***	0.007
	(0.005)	(0.004)	(0.004)	(0.004)
% Educ = Higher 1993	-0.006	-0.024***		-0.026***
	(0.008)	(0.007)		(0.006)
Births pc	0.001***	0.001***	0.001***	0.001***
	(0.000)	(0.000)	(0.000)	(0.000)
Pub health centers 1996 pc	0.163***	0.312***	0.159***	0.313***
	(0.038)	(0.035)	(0.038)	(0.035)
Pub nurses 1996 pc	0.013	0.073**		0.055**
	(0.041)	(0.037)		(0.022)
Pub doctors 1996 pc	0.052	-0.024	0.054**	
	(0.045)	(0.040)	(0.026)	
Constant	-4.549***	-7.280***	-4.249***	-7.100***
	(0.598)	(0.540)	(0.492)	(0.444)
Mean Dep. Var.	0.341	0.555	0.341	0.555
Observations	1793	1793	1793	1793
Adj. R-squared	0.197	0.491	0.197	0.491

Notes: Dependent variable: total number of sterilizations (REVIESFO, DHS). Column (3) and column (4) show linear regression results following a Lasso analysis for model selection. A penalty parameter was chosen that minimizes BIC. Asterisks denote statistical significance at the 1(***), 5(**) or 10(*) percent level.

Table A.4: Forced Sterilizations and Health Seeking Behavior (DHS), Restricted Sample

	(1) Sick child received any health care	(2) Sick child received public health care	(3) Sick child received private health care
Panel A			
IHS (Num. of Forced Sterilizations Reported)×*Post* 2001	-0.012***	-0.021***	0.009***
	(0.003)	(0.003)	(0.004)
Panel B			
Any Forced Sterilization Reported (1=Yes)×*Post* 2001	-0.029**	-0.060***	0.029***
	(0.012)	(0.010)	(0.015)
Mean Dep. Var.	0.581	0.372	0.231
Observations	79022	78546	78627
Adj. R-squared	0.060	0.062	0.103
HH characteristics	Yes	Yes	Yes
Year F.E.	Yes	Yes	Yes
Municipality F.E.	Yes	Yes	Yes
ProvinceXTime	Yes	Yes	Yes

Notes: The sample is restricted to children who were recently sick with diarrhea or a cough. See footnote of Table 2 for list of HH characteristics. Standard errors clustered at the municipality level are included in parentheses. Asterisks denote statistical significance at the 1(***), 5(**) or 10(*) percent level. Sources: DHS waves 1991-2017 and REVIESFO.

Table A.5: Health Care Use and Child Health with Baseline Covariates Interacted with Time Trends (DHS)

	(1) Currently using contraceptives	(2) Prenatal care and delivery index	(3) Child health index
Panel A			
IHS (Num. of Forced Sterilizations Reported)×*Post* 2001	-0.007***	-0.021***	-0.017***
	(0.003)	(0.006)	(0.004)
Panel B			
Any Forced Sterilization Reported (1=Yes)×*Post* 2001	-0.021***	-0.041**	-0.042**
	(0.008)	(0.020)	(0.017)
Mean Dep. Var.	0.663	0.356	0.138
Observations	253562	152775	160926
Adj. R-squared	0.084	0.530	0.114
HH characteristics	Yes	Yes	Yes
Year F.E.	Yes	Yes	Yes
Municipality F.E.	Yes	Yes	Yes
ProvinceXTime	Yes	Yes	Yes
Baseline CovXTime	Yes	Yes	Yes

Notes: Baseline covariates include: share of indigenous population 1993, fertility rate 1993, employment share 1993. See footnote of Table 2 for the list of HH characteristics. Standard errors clustered at the municipality level are included in parentheses. Asterisks denote statistical significance at the 1(***), 5(**) or 10(*) percent level.

Table A.6: Heterogeneity by Age of Mother

	(1) Currently using contraceptives
IHS (Num. of Forced Sterilizations Reported)×*Post* 2001	-0.013*** (0.002)
Young× IHS (Num. of Forced Sterilizations Reported)×*Post* 2001	-0.047 (0.163)
Mean Dep. Var.	0.547
Observations	329629
HH characteristics	Yes
Year F.E.	Yes
District F.E.	Yes
ProvinceXTime	Yes

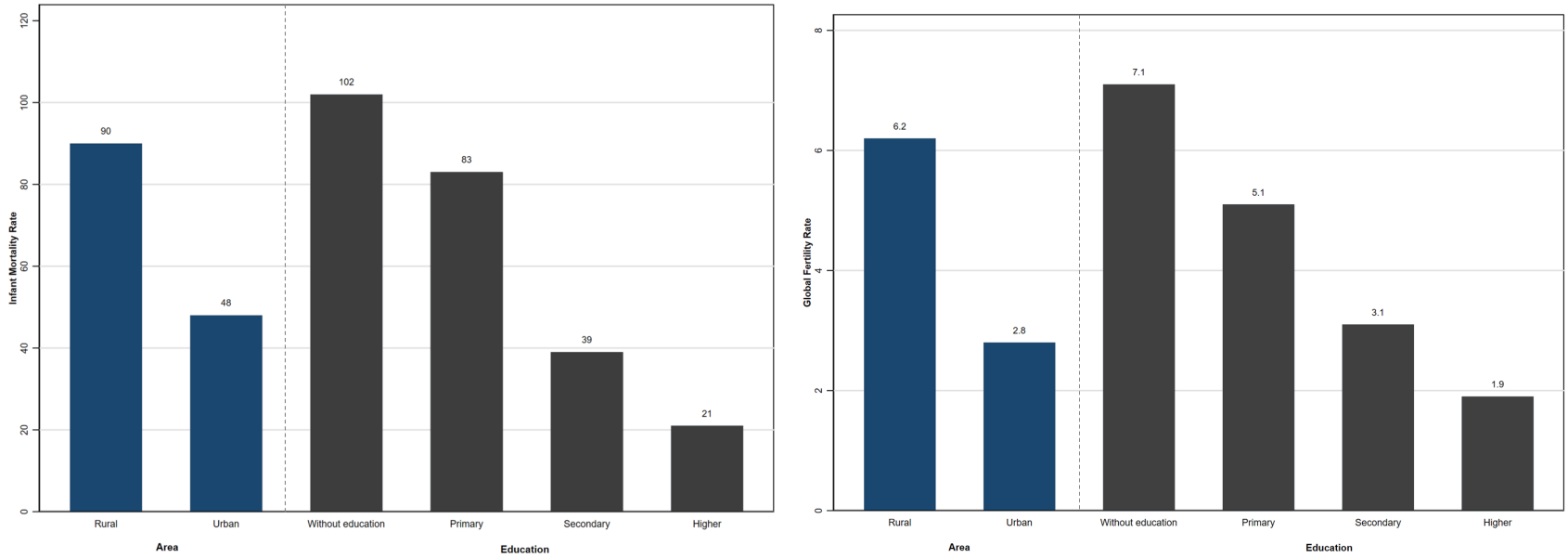
Notes: Standard errors clustered at the municipality level are included in parentheses. Asterisks denot significance at the 1(***), 5(**) or 10(*) percent level. Respondents are classified ass too young to be direc if they were born after 1985. See footnote of Table 2 for the list of HH characteristics. Sources: DHS wave and REVIESFO.

Table A.7: Heterogeneous Effects

	(1) Currently using contraceptives	(2) Prenatal care and delivery index	(3) Child health index
Panel A: Rural			
IHS (Num. of Forced Sterilizations Reported)× *Post* 2001	-0.008***	-0.029***	-0.019***
	(0.003)	(0.007)	(0.005)
Rural × IHS (Num. of Forced Sterilizations Reported ×*Post* 2001	0.010**	0.036***	0.005
	(0.004)	(0.010)	(0.008)
Panel B: Indigenous			
IHS (Num. of Forced Sterilizations Reported)× *Post* 2001	-0.013***	-0.043***	-0.018***
	(0.002)	(0.006)	(0.004)
Quechua Speaker × IHS (Num. of Forced Sterilizations Reported ×*Post* 2001	0.020***	0.042***	-0.007
	(0.005)	(0.014)	(0.009)
Panel C: Less than secondary schooling			
IHS (Num. of Forced Sterilizations Reported)× *Post* 2001	-0.013***	-0.039***	-0.016***
	(0.003)	(0.007)	(0.005)
Secondary education or more × IHS (Num. of Forced Sterilizations Reported ×*Post* 2001	0.008**	0.018**	-0.001
	(0.003)	(0.009)	(0.006)
Panel D: Radio signal strength 2001			
IHS (Num. of Forced Sterilizations Reported)× *Post* 2001	-0.012***	-0.034***	-0.020***
	(0.003)	(0.007)	(0.005)
Signal strength × IHS (Num. of Forced Sterilizations Reported ×*Post* 2001	0.001	-0.004	0.001
	(0.003)	(0.007)	(0.005)
HH characteristics	Yes	Yes	Yes
Year F.E.	Yes	Yes	Yes
Municipality F.E.	Yes	Yes	Yes
ProvinceXTime	Yes	Yes	Yes

Notes: Information on the radio antennas was provided by the Ministry of Transportation and Communication (MTC). We apply the Irregular Terrain Model (Hufford, 2002) (ITM) to calculate the signal loss induced by the distance between the transmitting and receiving antennas and the topography of the municipalities. We follow a similar approach to Olken (2009); DellaVigna et al. (2014); Durante, Pinotti, and Tesei (2019) and use the ITM algorithm to calculate the predicted signal loss given the topography of the municipality. We subtract the signal loss from the radio station's transmission power to obtain the predicted signal power in decibels (dB). We keep the highest predicted signal power per municipality and standardize the predicted signal power (0,1). See footnote of Table 2 for the list of HH characteristics. Standard errors clustered at the municipality level are included in parentheses. Asterisks denote statistical significance at the 1(***), 5(**) or 10(*) percent level.

Figure A.1: Infant Mortality and Fertility Rates in Peru (1991-1992)

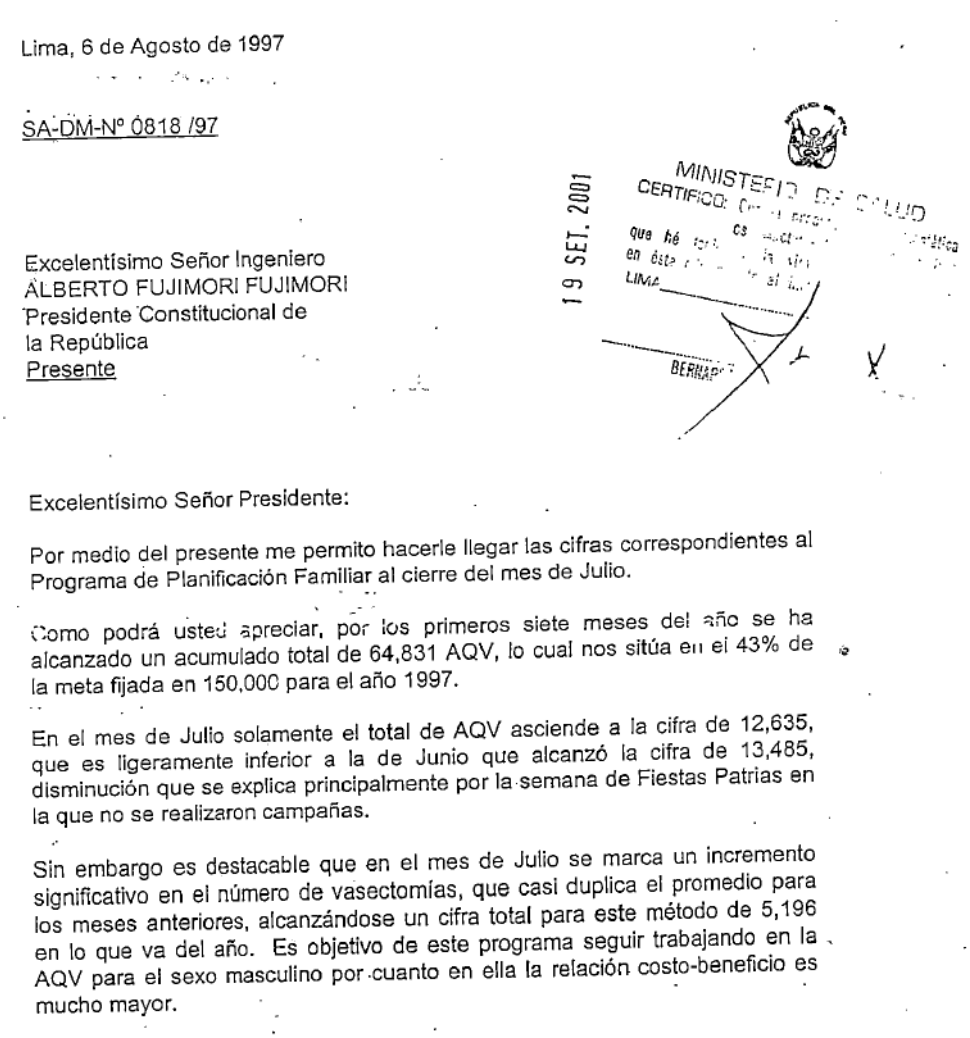


(a) Infant Mortality Rate

(b) Fertility Rate

Notes: Panel A shows the Infant Mortality Rate per 500 live births according to urbanization rate and educational level. Panel B shows the Fertility Rate according to urbanization rate and educational level. The rates are based on women aged 40-49. Source: DHS 1991-1992.

Figure A.2: Letter from the Minister of Health to President Alberto Fujimori, August 6th, 1997 (Part 1)



Lima, 6 de Agosto de 1997

SA-DM-Nº 0818 /97

MINISTERIO DE SALUD
CERTIFICO: [illegible]
que hé [illegible] cs [illegible]
en ésta [illegible]
LIMA
19 SET. 2001
BERNARD[illegible]

Excelentísimo Señor Ingeniero
ALBERTO FUJIMORI FUJIMORI
Presidente Constitucional de
la República
Presente

Excelentísimo Señor Presidente:

Por medio del presente me permito hacerle llegar las cifras correspondientes al Programa de Planificación Familiar al cierre del mes de Julio.

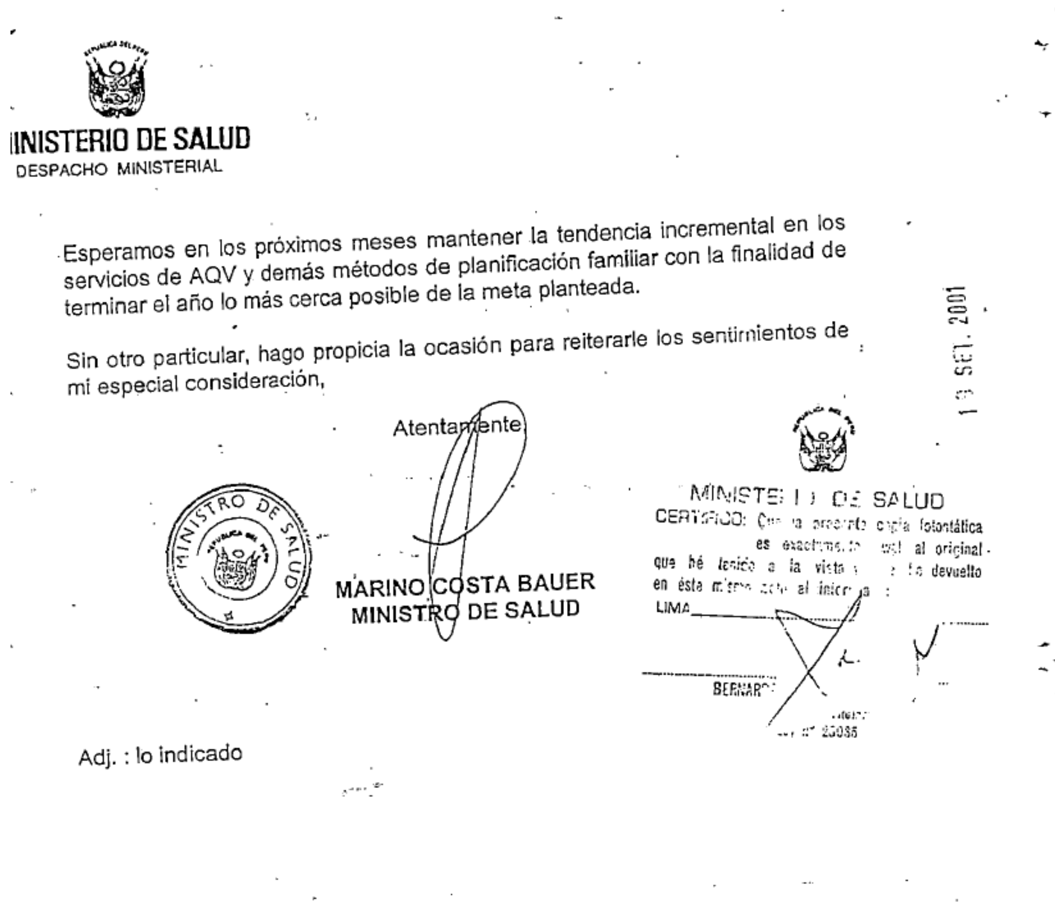
Como podrá usted apreciar, por los primeros siete meses del año se ha alcanzado un acumulado total de 64,831 AQV, lo cual nos sitúa en el 43% de la meta fijada en 150,000 para el año 1997.

En el mes de Julio solamente el total de AQV asciende a la cifra de 12,635, que es ligeramente inferior a la de Junio que alcanzó la cifra de 13,485, disminución que se explica principalmente por la semana de Fiestas Patrias en la que no se realizaron campañas.

Sin embargo es destacable que en el mes de Julio se marca un incremento significativo en el número de vasectomías, que casi duplica el promedio para los meses anteriores, alcanzándose un cifra total para este método de 5,196 en lo que va del año. Es objetivo de este programa seguir trabajando en la AQV para el sexo masculino por cuanto en ella la relación costo-beneficio es mucho mayor.

English translation: Your Excellency, Mr. President: I hereby inform you about the total Family Planning Program figures at the end of July. As you can see, we reached 64,831 voluntary contraception surgeries (AQVs) in the first seven months of this year, which places us at 43% of the final goal set at 150,000 for 1997. In July, just the AQVs amounted to 12,635, which is slightly lower than the total of June, when we reached a figure of 13,485. This decrease is mainly explained by the week of National Holidays in which no campaigns were carried out. However, it is noteworthy that in the month of July there was a significant increase in the number of vasectomies, which doubles the average from the previous months, reaching a total of 5,196 this year. The objective of this program is to continue working on AQVs for males, as the cost-benefit ratio is much higher. Source: MINSA, Oficina de Transparencia y Anticorrupción, 2020

Figure A.3: Letter from the Minister of Health to President Alberto Fujimori, August 6th, 1997 (Part 2)



INISTERIO DE SALUD
DESPACHO MINISTERIAL

Esperamos en los próximos meses mantener la tendencia incremental en los servicios de AQV y demás métodos de planificación familiar con la finalidad de terminar el año lo más cerca posible de la meta planteada.

Sin otro particular, hago propicia la ocasión para reiterarle los sentimientos de mi especial consideración,

Atentamente

MARINO COSTA BAUER
MINISTRO DE SALUD

MINISTERIO DE SALUD
CERTIFICO: Que la presente copia fotostática es exactamente igual al original que he tenido a la vista y que lo devuelto en ésta misma acto al interesado
LIMA

13 SET. 2001

Adj. : lo indicado

English translation: We hope to maintain the increasing trend in AQV services and other planning methods in the coming months to end the year as close as possible to the set goal. Without further ado, I take the opportunity to reiterate my highest consideration. Source: MINSA, Oficina de Transparencia y Anticorrupción, 2020

Figure A.4: Program Timeline

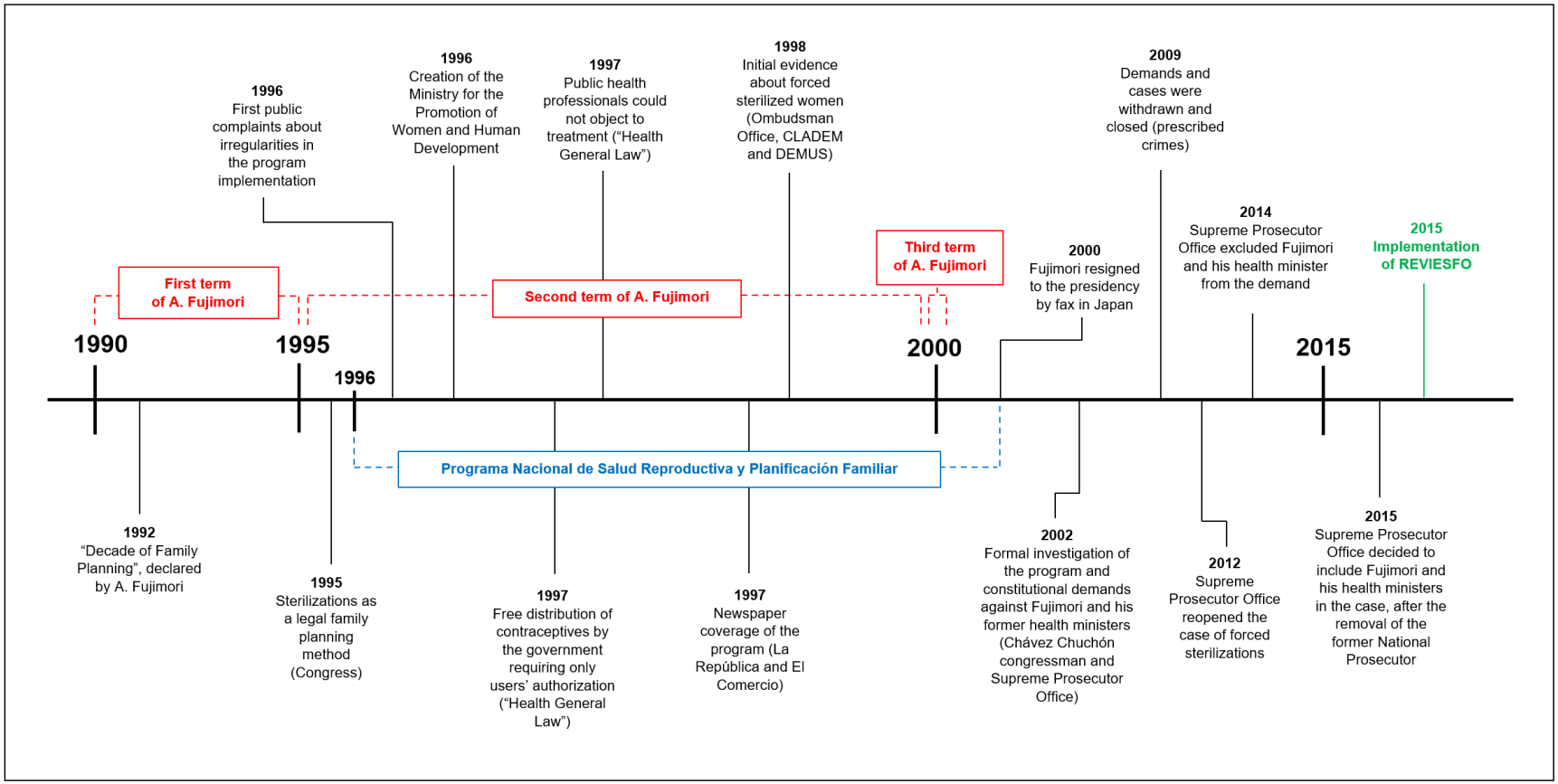
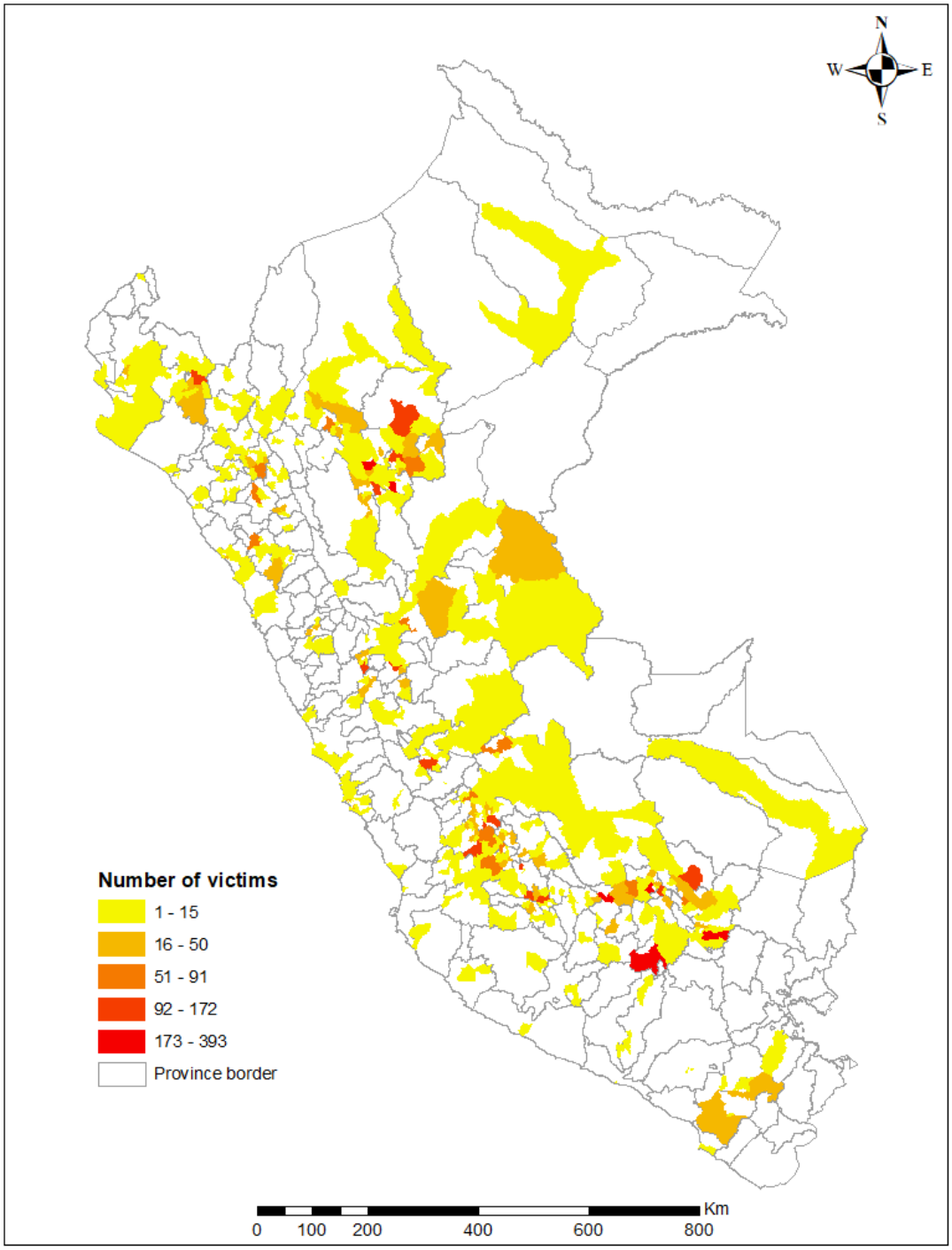
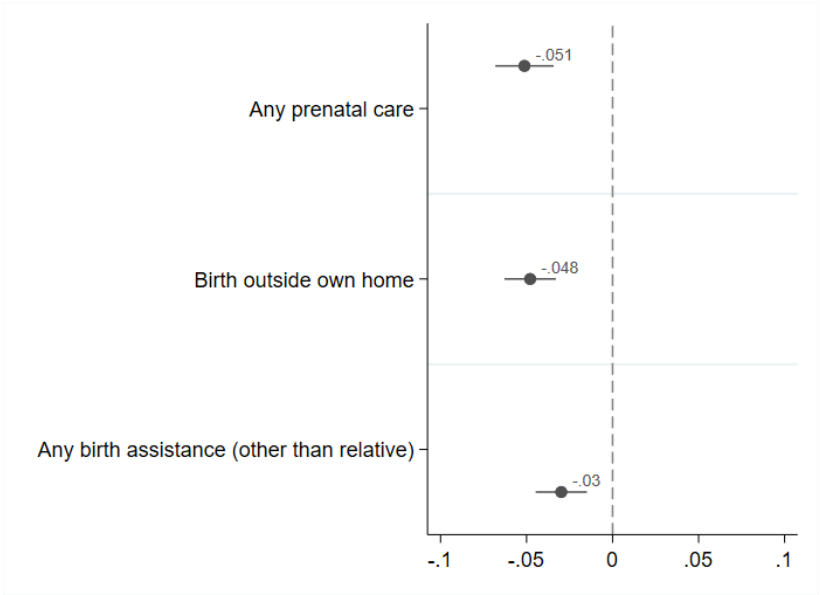


Figure A.5: Victims Reported in REVIESFO by Municipality

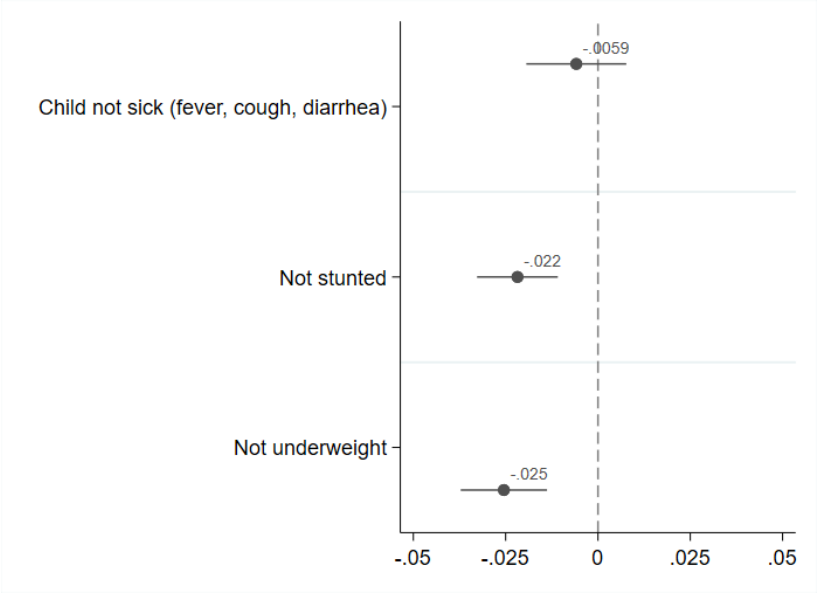


Notes: The Figure shows the municipality distribution of registered forced sterilizations in REVIESFO (1995-2000).

Figure A.6: Splitting Indices in Main Analysis Into Their Three Components



(a) Prenatal and delivery care index



(b) Child health index

Notes: Coefficients in the above figures represent regression results of Equation 1 and splitting the indices into their three components. Sources: DHS waves 1991-2017 and REVIESFO.