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**CRiSIS: Crisis Pregnancy Center Regulations in States – Implications for Services**  
*A Mystery Caller Study*

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**Abstract**

**Objectives:** Crisis pregnancy centers (CPCs) provide pregnancy-related services with the intent of dissuading people from seeking abortions. Half of states support CPCs through funding or mandatory referrals. We performed a national mystery caller study to compare CPC and AF early pregnancy service availability in supportive and non-supportive CPC environments.

**Methods:** We conducted a mystery caller study of a national sample of CPCs and their nearest AFs, stratified by state NARAL CPC policy designation. The primary outcome was the difference in wait time to first available pregnancy confirmation appointment between CPCs and their closest AF. Secondary outcomes included call characteristics, ultrasound and pregnancy test availability and cost. The primary exposure was CPC policy designation. Using StataSE v15, we performed Fischer’s Exact tests and two-sided T-tests to compare outcomes of interest.

**Results:** Trained research assistants successfully called 445 CPCs and their nearest 445 AFs between May and December 2019. There was no significant difference in mean wait time to early pregnancy appointment between CPCs and AFs in disparate CPC legislative climates (1.96 days in CPC supportive states vs 2.09 days in CPC non-supportive states,  $p=0.08$ ). Mean wait time to pregnancy confirmation appointment was 0.9 days for CPCs and 3.3 for AFs ( $p<0.0001$ ). Both CPCs and AFs commonly offered pregnancy confirmation visits, but CPCs were significantly more likely to do so (98.9 vs 94.8%,  $p=0.002$ ). CPCs were also more likely to provide same-day

appointments, and free pregnancy testing. AFs were more likely to offer ultrasound for pregnancy confirmation (94.3% AFs vs 66.5% CPCs,  $p < 0.0001$ ).

**Conclusions:** State policy climate around CPCs was not associated with differences in CPC or AF access measures (wait time to first appointment, service availability, or cost). However, CPC early pregnancy services were overall more accessible by these measures than AF services in all legislative climates. **The increased accessibility of CPCs (non-healthcare facilities posing as clinics to dissuade women from seeking abortions) poses a public health challenge, which may threaten and delay access to healthcare facilities providing evidence-based pregnancy options counseling and abortion services.**

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## 1.0 Introduction

Crisis Pregnancy Centers (CPCs), also known as Pregnancy Resource Centers and/or Pregnancy Support Centers, are centers that offer free services such as pregnancy testing, ultrasound, counseling, and maternity supplies. CPCs far outnumber abortion facilities (AFs) in the US, with approximately 2537 CPCs compared to 839 AFs<sup>1,2</sup>. Although the scope of services varies across CPCs, they share a common mission to promote pregnancy continuation over abortion. Previous studies demonstrated that CPCs often disseminate inaccurate information, both in website content and in counseling to advance their mission<sup>3-7</sup>. As a result, some experts have expressed concerns about potential public health risks posed by CPCs<sup>8-10</sup>. Others, however, have posited that CPCs may provide women with valuable pregnancy resources and that they are unlikely to be utilized by women seeking abortions<sup>11,12</sup>. The public health impact of CPCs is therefore not clearly understood. Specifically, the downstream impacts of CPCs on the accessibility of reproductive services (including abortion) has not been studied.

CPCs are supported at the state level both financially and legislatively. Funding structures vary significantly, ranging from indirect funding primarily through “Choose Life” license plate programs, to direct funding of the evangelical Christian umbrella organizations that oversee CPCs. Legislative support of CPCs typically involves mandatory referrals to CPCs by abortion providers<sup>7</sup>. Currently, 25 states provide funding to CPCs or have legislation mandating CPC referrals<sup>13-15</sup>. However, the relationship between state-level policies regarding CPCs and the availability of CPC and abortion services has not been previously studied. We seek to explore whether the CPC policy environment in a state is associated with accessibility of CPC and abortion care services. Our

findings will help to better understand the public health impact of state legislative and funding strategies around CPCs.

**The objective of this study was to characterize the accessibility of CPCs and AFs in states with differing CPC policy environments.** The primary exposure was the presence or lack of a supportive CPC policy environment. States that financially or legislatively support CPCs were considered to have a supportive CPC policy environment. States that either actively regulate CPCs, or those that have no policies around CPCs, were considered to lack a supportive CPC environment. These policy delineations, based on NARAL’s “Who Decides?” report, are outlined in *Appendix A*.

We appreciate that “access” is a complex concept that can be measured using multiple factors. Travel distance has been studied as a primary abortion access measure <sup>2,13,15,16</sup>. However, it has been widely recognized that “access” extends far beyond travel distance, and includes factors ranging from provider availability to cost to legislative restrictions, among others <sup>17–19</sup>.

We conducted a mystery caller study of CPCs and abortion facilities, to explore access measures in CPCs and abortion facilities (AFs) in differing CPC policy climates. The main objective of our study was to characterize the relationship between state support for CPCs and service accessibility at both abortion and CPC facilities. **We hypothesized that states with supportive CPC policy environments are more likely to have a greater *difference* in wait time between CPCs and geographically matched AFs, compared to states that have neutral or unsupportive CPC environments.**

## 2.0 Review of the Relevant Literature

Per our literature search, there have been no previous studies specifically looking at state policy around CPCs and associated service accessibility. However, several previous studies have examined the content of CPC websites and counseling, and demonstrated that CPC content is inaccurate and misleading<sup>3-7</sup>. Others have examined the motivations and experiences of clients seeking and utilizing CPC services. For example, Kimport et al. found that pregnant women in southern Louisiana who desire abortion do not regularly seek care at CPCs, and it was rare for women to report that their visit to a CPC impacted pregnancy decision-making<sup>12</sup>.

Mystery caller studies (also called secret shopper or simulated patient studies) have also been previously utilized in the family planning literature<sup>20,21</sup>. There have been mystery caller studies of CPCs, though these are limited in number and scope. Bryant et al. published a secondary analysis of a mystery caller study performed by a nonprofit organization in North Carolina that demonstrated that CPC counseling contained medically inaccurate information about abortion<sup>3</sup>. LaRoche et al. performed a mystery caller study of post-abortion care information from CPCs in Ontario, Canada<sup>5</sup>. NARAL conducted a nationwide CPC mystery caller evaluation which is reported in their 2015 CPC report, but has not been published in its entirety in the academic literature<sup>7</sup>. While the mystery caller methodology has been applied to family planning broadly and CPCs specifically, our study contributes novel data by presenting a mystery caller study at a national level, comparing abortion service access measures stratified by state-level CPC policies.

## **3.0 Methods**

### **3.1 Research Design and General Methodological Approach**

This study used a mystery caller approach to test our central hypothesis. This design relied on comprehensive listings of CPCs and abortion facilities nationally. A database of CPCs and their location data is publicly available at [www.crisispregnancycentermap.com](http://www.crisispregnancycentermap.com), an initiative by the University of Georgia <sup>1</sup>. This resource contains specific location data as well as information about basic medical services (such as ultrasound) offered at each site. A similarly comprehensive database of abortion facilities will be obtained through the University of California, San Francisco Advancing New Standards in Reproductive Health (ANSIRH). This database was collected using a systematic internet search strategy, with a mystery caller methodology employed to obtain complete information <sup>2</sup>. The database includes location data (addresses) of all abortion facilities listed, as well as additional information about cost, gestational age limitations, and aspiration versus medication abortion availability. Permission was obtained from ANSIRH to use this database in this study.

Sampling for the mystery caller study was stratified by state CPC policy environment designations. NARAL Pro-Choice America produces an annual report summarizing state-level policy <sup>22</sup> which includes a description of state policy on CPCs. States can support CPCs in one of three ways: direct state funding, indirect state funding (primarily through “choose life” license plate programs), or by legislation mandating CPC referrals. A state that meets any of these designations will be assigned to the “supportive CPC policy environment” category. States that have no policy on CPCs, or those that actively regulate CPCs, will be assigned to the “no

supportive CPC policy environment” category. Of note, our original study design separated the “no policy” states from those that actively regulate CPCs, but only two states (California and Hawaii) had legislation regulating CPCs. Given this finding, the neutral states were combined with those that have legislation regulating CPCs (*Appendix A*). The CPC policy designation was verified for each state by reviewing the cited legislation in the NARAL report. Policy designations were based only on legislation enacted on or before December 31, 2017, as any legislation enacted since that time was unlikely to have gone into effect at the time the calls were placed. All 50 states were included. U.S. territories and the District of Columbia were excluded, due to the distinct legislative structuring in these regions.

We generated a random sample of CPCs, matched to closest abortion facilities selected from two strata: facilities in states with supportive CPC policy environments (through legislation and/or funding), and facilities in states lacking supportive CPC environments. CPCs from each stratum were randomly selected using a random number generator. Using geocoded addresses and nearest neighbor functionality in QGIS v3.4, we matched each sampled CPC to its closest AF (see section 3.1.4 for sampling methods). We then performed semi-structured telephone calls (*Appendix B*) in which trained female research assistants called CPCs and abortion facilities, claiming to have had a positive home pregnancy test. The primary exposure was state level CPC policy environment (as defined above). The primary outcome was the median *difference* in wait time (in calendar days) to first available appointment for an early pregnancy service visit between CPC and abortion facilities. An early pregnancy service visit was defined as any visit involving a non-abortion service intended to diagnose, date, or guide pregnancy decision-making. Specifically, we asked about scheduling availability of services such as pregnancy options counseling and ultrasound at both CPCs and abortion facilities.

Secondary outcome measures included availability and cost of early pregnancy services such as pregnancy testing and ultrasound, and duration of telephone encounter (including time on hold). We also inquired about abortion availability, such as “could I get an abortion at the same visit?” At CPCs, we additionally assessed disclosure of abortion non-provision.

The semi-structured script format provided an opportunity to obtain basic qualitative findings that enhanced our quantitative study and served as a basis for hypothesis generation in future studies. Due to Pennsylvania state restrictions, recordings of the telephone encounters were not obtained. However, during and immediately following each telephone encounter, research assistants completed a worksheet which included space for qualitative comments (*Appendix B*).

Because no human subjects were involved, this study was given exemption status by the University of Pittsburgh Institutional Review Board (study #18120033).

### **3.1.1 Criteria for Inclusion**

We used two existing databases developed by academic research groups, both of which have employed systematic methods to compile comprehensive facility lists.

The CPC database, generated by researchers at the University of Georgia, is called “Crisis Pregnancy Center Map”. CPC location information is publicly available at [www.crisispregnancycentermap.com](http://www.crisispregnancycentermap.com)<sup>1</sup>. The database was created in August 2018 by pooling five existing online CPC databases managed by CPC umbrella organizations (Care Net, Heartbeat International, National Institute of Family and Life Advocates, Birthright International, Ramah International), in addition to standard keyword searches and reviews of existing CPC maps. As detailed in the methodology described on the website, centers were eligible for inclusion if they were confirmed to be currently in business (address listed on a live propriety domain and center

address confirmed) and confirmed to be a CPC. A center was considered a CPC if it was identified through one of the search strategies and advertised free pregnancy testing/counseling on a live proprietary domain, or if the center confirmed the availability of free pregnancy testing <sup>1</sup>.

The abortion facility database, generated through Advancing New Standards in Reproductive Health (ANSIRH) at the University of California San Francisco, was developed through a rigorous internet search strategy <sup>2</sup>. Researchers used major internet search engines (Google, Bing, and Yahoo) initially between February and May 2017, to search the key words “Abortion clinic in [state]” for all 50 states and the District of Columbia. They also searched all cities with populations greater than 100,000 (or the three most populous cities in each state, for states with fewer than three cities with populations greater than 100,000). Each website was evaluated and added to the database if abortion provision was advertised. The address, abortion modalities (aspiration vs medication) offered, as well as facility gestational age limits were recorded. Hospitals and clinics affiliated with Ryan Residency Training Programs were included if they provided information about abortion services on their website, even if they did not appear in the search engine searches. For incomplete information, a mystery shopper method was used to obtain the remaining information <sup>2</sup>. Information was obtained both about currently operational clinics, as well as closed clinics. The database was updated in August 2018. For our study, all open abortion clinics in the database were included as abortion facilities, with the exception of hospitals. The ANSIRH database has several advantages over the abortion provider data available through a proprietary database of high-volume abortion facilities generated by the Guttmacher Institute <sup>2,13,23</sup>. First, it includes specific location data that are not publicly available through Guttmacher. This is crucial for the spatial analysis component on this study. Second, while the most recently published Guttmacher data are from 2014, the ANSIRH database was updated in summer 2018.



While there has been no published comparison between the databases, the overall numbers of facilities available through ANSIRH and through Guttmacher appear comparable<sup>2,23</sup>.

### **3.1.2 Telephone call logistics**

Telephone calls for the mystery caller study were conducted using the Google Voice web application ([www.voice.google.com](http://www.voice.google.com)), through which a zip code can be entered and an unused telephone number from that zip code was assigned. We purchased four cellular phones (one per research assistant) for use in recording voice mails (Google Voice will automatically forward to this listed number, unbeknownst to the caller). Telephone calls were made by trained female research assistants, each posing as a simulated patient with an unknown last menstrual period and positive home pregnancy test, desiring pregnancy confirmation. The research assistants used a standardized semi-structured scripted instrument, with specified personal information to provide to CPCs and abortion facilities (*Appendix B*). All four research assistants were trained using the same protocol (*Appendix C*), and conducted 20 pilot phone calls in April 2019, from which the semi-structured call script was refined.

Telephone calls took place between business hours of 9 AM-4 PM adjusted to the time zone in which facilities were located. Calls to a given pairing (abortion facility and CPC in the same area) occurred on the same day. Since *difference* in appointment wait time was the primary outcome, this methodology was designed to minimize data variation based on day of week (due to proximity of weekends) in comparing wait times. To avoid concerns with appointment cancellations or no-shows, appointments were not confirmed during the telephone encounter.

If the caller reached a voicemail, she left a scripted message with the callback number of the Google Voice account used (*Appendix B*). This number was automatically forwarded to the study

cell phone number linked to the Google Voice account. Any incoming calls from CPCs or abortion facilities were not be immediately answered, but went to voicemail. The call was then returned from the Google Voice account.

### **3.1.3 Exclusion Criteria**

Sampled facilities were excluded if they could not be contacted within six call attempts: four calls placed on the same day to reach the facility, followed by two calls on the next business day. This is consistent with a simulated patient study performed by White et al<sup>24</sup>, in which research assistants called Texas abortion clinics. If the facility posted certain days that they were open online, the research assistants placed calls on those days.

If a facility was deemed closed, it was removed from the study and its paired facility was re-paired with the next closest facility. If it was determined that an abortion facility did not provide abortion services, the originally sampled CPC was re-paired with the next closest AF in the database using the QGIS nearest neighbor function.

### **3.1.4 Sampling Methodology, Number of Subjects and Statistical Power**

We obtained a random sample of geographically matched CPCs and abortion facilities in two groups of states: those that do and do not support CPCs. CPCs were divided into two groups: 1) those that are in states supporting CPCs, and 2) those that are in states not supporting CPCs. Using a random number generator to list CPCs in a random order, an equal number of CPCs were sampled from the “pro-CPC” group of states and the “not pro-CPC” group of states. For each CPC selected, the abortion facility in closest linear geographic proximity (in miles) to the abortion clinic

was also selected for inclusion in the study. Of note, the findings from the mystery caller study were not intended to be representative of the populations in the sampled states, but rather, of the facilities themselves. Moreover, this study was not be powered to make state-level conclusions. Rather, conclusions can be drawn regarding facilities in states that support CPCs, compared to facilities in states that do not.

Because CPCs far outnumber abortion facilities, multiple CPCs matched geographically to the same abortion facility. We considered instead sampling abortion facilities and matching them to nearest CPC, but this sampling method would then fail to represent CPCs that exist in abortion deserts. Since our primary study interest is CPCs, we decided to sample CPCs and match to the nearest abortion facility within the same state. For abortion facilities sampled multiple times, we capped at four samplings, and then imputed the data from the previous calls for the subsequent repeat pairings.

Previous mystery caller studies in primary care have measured appointment wait time as a primary outcome and can serve as methodological examples for sampling in this study<sup>25,26</sup>. These studies had standard deviations ranging 24-46 days, but this is likely a much higher standard deviation than there would be for early pregnancy care, given the time-sensitive nature of options counseling and abortion compared to primary care appointments. Therefore, a standard deviation of 25 days provides a very conservative sample size calculation, since the standard deviation in our sample is likely to be far smaller. We powered this study for the primary outcome of median *difference* in appointment wait time (calendar days) between geographically paired abortion facilities and CPCs. The study has 80% power to detect a difference in 7 days when comparing states that do support CPCs to those that do not, assuming an alpha of 0.05. Seven days was chosen because it would pose a clinically significant delay in care, given that gestational age cutoffs and

abortion modality (medication versus aspiration) can be influenced by a 7-day difference in gestational age. To account for non-parametric distributions of the data, we increased our sample size by 10 (*Figure 1.1-1.2*).

For quality assurance, two individuals (principal investigator and a research assistant) conducted chart auditing of 10% of all charts monthly, comparing paper charts to the information entered into REDCap by the research assistants.

### **3.1.5 Data Analysis**

We first performed descriptive statistics to evaluate access measures and call characteristics at sampled CPCs and AFs in all states. For categorical outcomes, we performed Fischer's Exact testing. For continuous outcomes, we performed two-sided T-tests of equal variance. We adjusted for the non-parametric distribution of data by adding 10 additional facilities to the sample. All analyses were performed in StataSE v15.

We then performed descriptive statistics to draw comparisons between different policy environments. The primary outcome was the mean difference in first available appointment between CPCs and geographically matched abortion facilities (in calendar days from date of telephone call to date of scheduled appointment). Again, Fischer's Exact Test and two-sided T-tests were performed for categorical and continuous outcomes, respectively. We applied the same analysis method to our secondary outcomes: availability of pregnancy testing and ultrasound, cost of these services, and duration of telephone encounter.

### **3.1.6 Imputation**

Since CPCs far outnumber AFs in the United States, sampled CPCs often co-located to AFs that had been previously paired with another sampled CPC. For AFs that were sampled multiple times, research assistants called up to four separate times (spread throughout the study period to minimize chances of drawing suspicion from the facility). After being sampled four times, the data for subsequent sampling of a given facility was imputed based on the four previous calls.

## 4.0 Results

Between May and December 2019, four trained research assistants successfully called a total of 890 facilities, consisting of a national stratified sample of CPCs and their geographically paired AFs. Including sites that met exclusion criteria, 947 total facilities were sampled and 914 of these were called. 22 CPCs and 35 AFs were excluded due to being miscategorized (i.e. not actually a CPC or AF), closed (including those not contacted within six call attempts), or for other reasons. These calls yielded 445 successful calls to CPCs and 445 successful calls to their geographically paired AFs (*Figure 2*). Of the sampled AFs, 18 were sampled more than four times, requiring imputation of data for subsequent samplings beyond the first four calls. When sampled CPCs were paired with the closest AF, 161 (36.17%) paired with an abortion facility in a different state.

### 4.1 Descriptive analysis of CPCs and AFs in the United States

#### 4.1.1 Access to early pregnancy services at CPCs and AFs

On average, CPCs had shorter wait times for early pregnancy visits (mean wait time 0.9 days), compared to 3.3 days at AFs ( $p < 0.0001$ , *Table 1*). CPCs were more likely to offer same-day pregnancy visits compared to AFs (67.2% vs 36.9% respectively,  $p < 0.0001$ ). In at least four calls to CPCs (in Ohio, Pennsylvania, Missouri, and Texas), an earlier appointment was offered after the caller mentioned that she was considering abortion.

Most CPCs and AFs offered pregnancy testing, though CPCs were more likely to offer this service (98.9% of CPC vs 94.8% of AFs,  $p=0.002$ ). CPCs were more likely than AFs to offer free pregnancy testing (98.0% vs 16.6%,  $p<0.0001$ ). The mean cost of a pregnancy test at a CPC was \$0.13, compared to \$70.48 at AFs ( $<0.0001$ ), where pregnancy testing was often bundled with other services such as ultrasound (see *section 4.1.2*). Several AFs (including sites located in Minnesota, Louisiana, New Jersey, and Colorado) counseled callers to procure pregnancy testing elsewhere, as it would be cheaper than coming to the abortion facility.

Abortion facilities were significantly more likely to offer sonographic confirmation of pregnancy compared to CPCs (94.3% vs 66.5%, respectively,  $p<0.0001$ ). However, at CPCs that offered ultrasound, this service was more likely to be free of cost. 289 (96.7%) of CPCs offered free ultrasound, compared to 10 (3.34%) of AFs ( $p<0.0001$ ). The mean ultrasound cost at CPCs was \$3.61, compared to \$270.82 at AFs (again, with many sites bundling this service with other services – see *section 4.1.2*). Ultrasound modality (transabdominal or transvaginal) was not specified in the phone calls. Several AFs noted that their ultrasounds were for abortion patients only, and recommended obtaining a pregnancy confirmation ultrasound elsewhere: one site in Pennsylvania instructed the caller to go to a hospital and claim to be cramping and bleeding in order to obtain an ultrasound. Several AFs (in Ohio, Nevada, Oregon, Texas, Nevada, and Indiana) recommended that the caller obtain free pregnancy testing and ultrasound at a CPC, prior to presenting for an abortion visit. An AF in Ohio, when encouraging the caller to seek services at a CPC, noted: “*They [CPC] don't believe in what we do here*”, but that the CPC was located across the street [from the AF].

#### **4.1.2 Bundling of services**

Abortion facilities sometimes bundled early pregnancy services into consolidated fees for multiple services. Of the 445 sampled AFs, 66 bundled ultrasound fees with other early pregnancy services. Of these, 23 bundled ultrasound with abortion services and 37 bundled ultrasound with pregnancy testing/early pregnancy consultation fee. Six were unspecified bundling.

#### **4.1.3 Call characteristics for CPCs and AFs**

Calls to CPCs involved more call attempts (on average 1.30 attempts, vs 1.10 to AFs,  $p=0.002$ ) (*Table 2*). Once contact was made, calls were significantly shorter at CPCs than at AFs (4.25 minutes vs 6.18 minutes respectively,  $p<0.0001$ ). Abortion facilities were more likely to put the caller on hold, with 67.6% of AFs putting the caller on hold, compared to 24.9% of CPCs ( $p<0.0001$ ). Furthermore, of the facilities that put callers on hold, hold times were significantly longer on average at AFs than at CPCs (2.31 vs 0.77 minutes respectively,  $p<0.0001$ ).

#### **4.1.4 Disclosure of abortion non-provision and referrals by CPCs**

When asked, 98.7% of CPCs (438 facilities) stated they did not provide abortion services. 7 facilities (1.57%) did not answer the question when asked. None explicitly stated that they provided abortion services. One CPC in Texas would neither confirm nor deny whether they performed abortion services, stating that they would provide this information at the visit. Similar instances occurred at CPCs in Idaho, Tennessee, and New Jersey, where it was stated that abortion service information would be made available only at an in-person visit.



CPCs that stated they did not provide abortion services were asked if an abortion referral could be provided. Most CPCs (94.8%) stated that they did not provide abortion referrals. This did not differ between facilities in CPC supportive and non-supportive environments (95.5% and 94.09% respectively,  $p=0.48$ ). Eleven CPC facilities (2.49%) stated that they did provide referrals, and 12 (2.71%) did not provide a definitive answer. One facility in Illinois stated that they do not provide referrals, but instead work with an adoption agency “*if you want to give your little one life*”. Several facilities, including this one, stated that they do not provide abortion referrals but provide information about “*what abortion really is*”, or mentioned discussion of abortion risks.

## **4.2 State policy designation and early pregnancy services**

Comparison of CPC and AF access measures in differing policy environments (i.e. CPC-supportive states vs CPC non-supportive states) generally did not show significant differences.

### **4.2.1 Difference in wait time to first available appointment**

The primary outcome of interest was the mean *difference* in appointment wait time for an early pregnancy visit between paired CPC and AFs. Comparison of CPC supportive and non-supportive states showed a mean difference of 1.96 days in CPC supportive states, vs 2.90 days in non-supportive states ( $p=0.08$ ).

#### **4.2.2 State policy designation and early pregnancy services at CPC**

When comparing early pregnancy service access measures at CPCs in states with differing CPC legislative climates, there were overall no differences seen in mean appointment wait time, pregnancy test availability and cost, or ultrasound availability and cost (*Table 3*). Furthermore, call characteristics at CPCs in supportive and non-supportive states had no significant differences in call attempts, duration, or hold times (*Table 4*).

#### **4.2.3 State policy designation and early pregnancy services at AFs**

Early pregnancy service access measures were largely similar at AFs in states with supportive and non-supportive CPC policies (*Table 5*). Mean wait time to first available early pregnancy appointment, pregnancy test availability, and pregnancy test cost were not significantly different at AFs coupled to CPCs in CPC supportive vs non-supportive states. While similarly high numbers of AFs in CPC supportive and non-supportive states offered pregnancy confirmation ultrasound (94.8% vs 93.9% respectively,  $p=0.91$ ), the associated cost of an early pregnancy ultrasound was significantly higher in CPC non-supportive states compared to supportive states (\$307.41 vs \$239.43 respectively,  $p=0.01$ ).

## 5.0 Discussion

This mystery caller study demonstrated the experiences of simulated patients in obtaining pregnancy confirmation appointments at CPCs and AFs throughout the United States. We found no significant difference in wait time to pregnancy confirmation appointment between CPCs and their co-located AFs when comparing differing CPC legislative environments. State-level CPC policy did not appear to be associated with differences in CPC or AF access measures, likely reflective of the complex funding structure for CPCs (involving federal and private funds in addition to state support).

Importantly, we found that CPCs differed substantially from AFs in availability and cost of services. CPCs were more likely to offer pregnancy testing at a lower cost than AFs, and more likely to offer same-day pregnancy confirmation appointments. It is notable that several AFs appeared not to have the capacity to offer timely pregnancy confirmation visits, and urged the caller to seek pregnancy confirmation with an OB/GYN, at a hospital, or, in several instances, at a CPC. This likely reflects that many AFs are currently spread thin and many cannot reliably provide timely early pregnancy consultative visits. AFs were more likely than CPCs to offer ultrasound services, but these services were substantially more costly at AFs compared to the CPCs that did offer ultrasound.

When prompted, most CPCs did disclose that they did not provide or refer for abortion services. Many alluded to abortion as a risky procedure, and others withheld information about service availability until an in-person visit to the CPC.

## 5.1 Strengths and Limitations

This study has many strengths. We called a large national sample of both CPCs and their nearest AF, thus generating a large dataset of simulated patient data at geographically comparable abortion and CPC facilities. The mystery caller methodology exemplifies a “real-world” simulation of patient access to services, and has been widely used in health services research as an accurate assessment of healthcare access measures<sup>21,24,25,27,28</sup>. Given the dearth of descriptive data on CPC services, our study provides much-needed descriptive data on CPC services.

Our study is limited by the fact that no in-person visits were conducted, and thus all service availability assessments are based on what is reported by the person answering the phone at the sampled facilities. Furthermore, the policy analysis component of our study was limited by the fact that state-level funding and legislation for CPCs is variable, and CPC funding structures are complex and opaque, often involving federal and private funding sources. Thus, isolating state policy climate as an exposure is difficult. Another study limitation is the fact that 161 of the sampled CPCs co-located with a nearest AF located in a different state. This also complicates the state policy exposure, but does give the most accurate simulation of patient experience and necessity for crossing state lines to access services. Finally, we were limited in the qualitative data that we could collect in this study. Since we were unable to record calls, it was not possible to reliably collect qualitative data and we thus obtained comments that our research assistant callers generated after each call. While this cannot be analyzed, it did provide substantive context for our quantitative findings, and may prove to be hypothesis-generating for future studies.

## 5.2 Public Health Relevance

The public health implications of this study are substantial. CPCs can impact public wellbeing by posing as healthcare institutions, when in fact they aim to dissuade women from seeking abortion services<sup>9,10,29</sup>. This study explored the experiences of simulated patients in attempting to access early pregnancy services at both CPCs and AFs in varying legislative climates. **We have found that CPCs are more accessible than healthcare facilities offering comprehensive pregnancy options counseling and abortion, which may threaten and delay access to evidence-based care.**

Future studies are needed to explore the complexity and nuances of CPC services. In particular, larger qualitative studies of patients from geographically and legislatively diverse areas may enhance the limited qualitative studies of women seeking CPC services that currently exist<sup>11,12</sup>. Furthermore, policy analysis of states that have regulated or attempted to regulate CPCs (California, Hawaii) may further inform inquiries into the interplay between state-level policy and service availability.

## 6.0 Tables

**Table 1. Access measures for early pregnancy services at CPCs and AFs**

	<b>CPC (n=445)</b>	<b>Abortion Facility (n=445)</b>	<b>P value</b>
<b>Facilities <u>not</u> offering pregnancy confirmation visits<sup>‡</sup> (#)</b>	4	0	<0.0001
<b>Facilities offering same day visit #(%)</b>	302 (67.8)	164 (36.9)	<0.0001
<b>Mean wait time (days) to pregnancy confirmation appointment<sup>§</sup></b>	0.9	3.3	<0.0001
<b>Facilities offering pregnancy testing # (%)<sup>‡</sup></b>	440 (98.9)	422 (94.8)	0.002
<b>Mean pregnancy test cost (\$) *<sup>§</sup></b>	0.13	70.48	<0.0001
<b># (%) offering pregnancy confirmation ultrasound<sup>‡</sup></b>	296 (66.5)	418 (94.3)	<0.0001
<b>Mean ultrasound cost (\$) *<sup>§</sup></b>	3.61	270.82	<0.0001

<sup>§</sup>Two-sided T-test of equal variance

<sup>‡</sup>Fischer's exact test

\*Bundling of services

**Table 2. Call characteristics of CPCs and AFs**

	<b>CPC (n=445)</b>	<b>Abortion Facility (n=445)</b>	<b>P value</b>
<b>Mean # telephone attempts<sup>§</sup></b>	1.30	1.10	0.002
<b>Mean duration of call (minutes)<sup>§</sup></b>	4.25	6.18	<0.0001
<b>Placed on hold # (%)<sup>‡</sup></b>	111 (24.9)	301 (67.6)	<0.0001
<b>Mean time on hold (minutes) *<sup>§</sup></b>	0.77	2.31	<0.0001

<sup>§</sup>Two-sided T-test of equal variance

<sup>‡</sup>Fischer's exact test

\*Among facilities with hold times

**Table 3. State policy designation and early pregnancy services at CPCs**

	<b>CPC- supportive states (n=224)</b>	<b>Non-CPC supportive states (n=221)</b>	<b>P value</b>
<b>Mean wait time (days) to pregnancy confirmation appointment<sup>§</sup></b>	1.1	0.8	0.16
<b>Facilities offering pregnancy testing # (%)<sup>¥</sup></b>	222 (99.1)	218 (98.6)	0.60
<b>Mean pregnancy test cost (\$) <sup>*§</sup></b>	0	0.25	0.10
<b># (%) offering pregnancy confirmation ultrasound<sup>¥</sup></b>	152 (67.9)	144 (65.2)	0.52
<b>Mean ultrasound cost (\$) <sup>*§</sup></b>	4.17	3.01	0.81

<sup>§</sup>Two-sided T-test of equal variance

<sup>¥</sup>Fischer's exact test

\*Bundling of services

**Table 4. Call characteristics at CPCs**

	<b>CPC- supportive states (n=224)</b>	<b>CPC non- supportive state (n=221)</b>	<b>P value</b>
<b>Mean # telephone attempts<sup>§</sup></b>	1.30	1.29	0.87
<b>Mean duration of call (minutes)<sup>§</sup></b>	4.31	4.21	0.57
<b>Placed on hold # (%)<sup>¥</sup></b>	62 (27.68)	49 (22.17)	0.18
<b>Mean time on hold (minutes) <sup>*§</sup></b>	0.72	0.83	0.43

<sup>§</sup>Two-sided T-test of equal variance

<sup>¥</sup>Fischer's exact test

\*Among facilities with hold times

**Table 5. State policy designation and early pregnancy services at CPCs**

	<b>CPC- supportive states (n=224)</b>	<b>Non-CPC supportive states (n=221)</b>	<b>P value</b>
<b>Mean wait time (days) to pregnancy confirmation appointment<sup>§</sup></b>	1.1	0.8	0.16
<b>Facilities offering pregnancy testing # (%)<sup>¥</sup></b>	222 (99.1)	218 (98.6)	0.60
<b>Mean pregnancy test cost (\$) <sup>*§</sup></b>	0	0.25	0.10
<b># (%) offering pregnancy confirmation ultrasound<sup>¥</sup></b>	152 (67.9)	144 (65.2)	0.52
<b>Mean ultrasound cost (\$) <sup>*§</sup></b>	4.17	3.01	0.81

<sup>§</sup>Two-sided T-test of equal variance

<sup>¥</sup>Fischer's exact test

\*Bundling of services

## 7.0 Figures

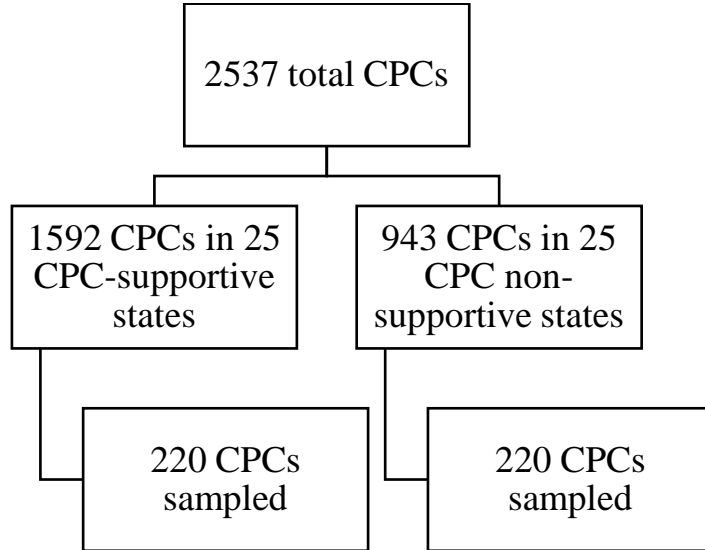


Figure 1.1 CPC Sampling

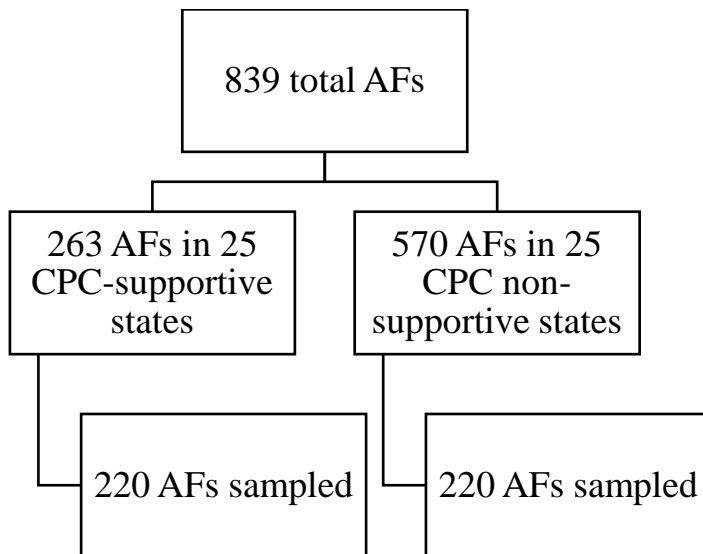
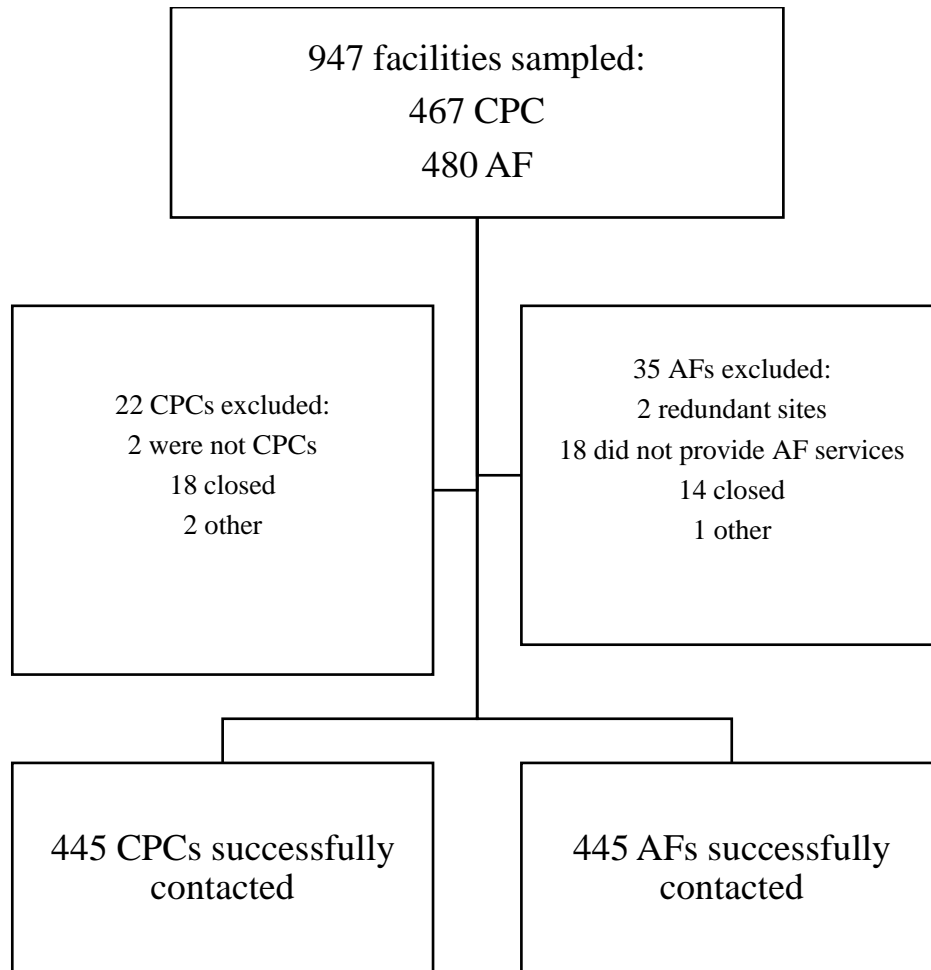


Figure 1.2 AF Sampling





**Figure 2. Mystery caller flow chart**

## Appendix A NARAL CPC Policy Designations<sup>22</sup>

		<b>Reproductive Healthcare Access Designation</b>					
		<i>Severely restricted (29 states)</i>	<i>Restricted (1 state)</i>	<i>Some access (5 states)</i>	<i>Protected access (9 states)</i>	<i>Strongly protected access (6 states)</i>	
<b>CPC Policy Designation</b>	<i>Supportive CPC Environment</i>	<b>Pro CPC (25 states)</b>	Alabama, Arizona, Arkansas, Florida, Georgia, Kansas, Louisiana, Michigan, Mississippi, Missouri, Nebraska, North Carolina, North Dakota, Ohio, Oklahoma, Pennsylvania, South Carolina, South Dakota, Tennessee, Texas, Virginia, West Virginia, Wisconsin		Minnesota	New Mexico	
	<i>Lack of Supportive CPC Environment</i>	<b>No CPC policy (23 states)</b>	Idaho, Indiana, Iowa, Kentucky, Rhode Island, Utah	Wyoming	Colorado, Delaware, Massachusetts, New Hampshire	Alaska, Illinois, Maine, Maryland, Nevada, New Jersey, New York, Vermont	Connecticut, Montana, Oregon, Washington
	<b>Regulates CPCs (2 states)</b>						California, Hawaii

*CALL LOG*

Attempt #	Date	Day of the Week	Start Time military	Call Duration MM:SS	Telephone Contact				REDCap Call #	Initials
					<u>Reached?</u>		<u>Message left?</u>			
					Yes	No	Yes	No		
1		M T W R F		<input type="checkbox"/> n/a, not reached	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> n/a	
2		M T W R F		<input type="checkbox"/> n/a, not reached	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> n/a	
3		M T W R F		<input type="checkbox"/> n/a, not reached	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> n/a	
4		M T W R F		<input type="checkbox"/> n/a, not reached	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> n/a	
5		M T W R F		<input type="checkbox"/> n/a, not reached	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> n/a	
6		M T W R F		<input type="checkbox"/> n/a, not reached	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		

Additional contacts/comments:

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## CALL INFORMATION

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File #: \_\_\_\_\_ Site #: \_\_\_\_\_ Attempt #: \_\_\_\_\_ REDCap Call #: \_\_\_\_\_ (for data entry)

Date of Call: \_\_\_\_/\_\_\_\_/\_\_\_\_ Start of Call: \_\_\_\_:\_\_\_\_ Call Duration: \_\_\_\_:\_\_\_\_  
mm/dd/yyyy military mm:ssNumber of times on hold: \_\_\_\_\_ Total time on hold: \_\_\_\_:\_\_\_\_  n/a  
mm:ssWere you redirected to a different number to complete this call?  Yes  NoIf so, how many times were you redirected? \_\_\_\_\_  n/a, never redirected

## APPOINTMENT INFORMATION

---

Appointment offered?  Yes, date of appointment: \_\_\_\_/\_\_\_\_/\_\_\_\_  No  
mm/dd/yyyyPregnancy testing available?  Yes, cost: \$ \_\_\_\_\_.\_\_\_\_  No  information not available  
\$\$\$.ccUltrasound available?  Yes, cost: \$ \_\_\_\_\_.\_\_\_\_  No  information not available  
\$\$\$.ccAvailable same day?  Yes  No  n/a, doesn't provide ultrasounds

## ABORTION INFORMATION

---

Abortions provided at this facility?  Yes  Yes, with limitations  No  information not available  
*Explain any limitations in the comments.*Available same day?  Yes  No, date available: \_\_\_\_/\_\_\_\_/\_\_\_\_  n/a  
mm/dd/yyyyAbortion referral provided?  Yes  No  n/a, provides abortions

If yes, where is the referral? \_\_\_\_\_

## DEBRIEF

---

Should this call be flagged?  Yes  No  
*If yes, explain in the comments.*RA signature: \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_  
mm/dd/yyyy



*Explain any limitations in the comments.*

If yes, available same day?   Yes  No, must complete early pregnancy

No, date available:  n/a, doesn't  
\_\_\_\_/\_\_\_\_/\_\_\_\_ .. . .

**Abortion referral provided?**   Yes   No   n/a, provides abortions

If yes, where is the referral?  
\_\_\_\_\_

**DEBRIEF**

---

**Should this call be flagged?**   Yes   No

*If yes, explain in the comments.*

**RA signature:** \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_ **Date:**



























*Simulated Patient Profile*

Name: **Tanya** \_\_\_\_\_

Age: **24**

DOB: **11/19/** \_\_\_\_\_

Address: *I don't know my sister's address, but I could ask her and call back with it.*

*Mailing address back in PA:*

LMP: unknown, on the pill but missed some

Past Medical History: seasonal allergies

Past Surgical History: tonsils out

# of previous pregnancies: 0

Smokes 1 ppd, social EtOH, no drug use

Occupation: Looking for a job, just moved here from Pittsburgh

Income: \$25,000 per year (previously)

Insurance: none

**For voice messages left with CPC/abortion facilities:**

“Hi, my name is Tanya, and I was just hoping to make an appointment as soon as possible. You can call me back at (XXX)XXX-XXXX.”

**Voice mailbox recording:**

“Hey, you've reached Tanya. I can't come to the phone right now, so leave a message and I'll get back to you.”

*Facility Profiles*

Facility	Name:
<hr/>	
Facility Location: _____	Site #:
<hr/>	
Facility Phone Number: _____	

Facility	Name:
<hr/>	
Facility Location: _____	Site #:
<hr/>	
Facility Phone Number: _____	

**5. Scripts/Flow Chart**  
**Call Log**

Call #	Date	Day of the Week	Start Time	Call Duration MM:SS	Telephone Contact		Initials
					<u>Reached?</u> Yes    No	<u>Message left?</u> Yes    No	
1		M    T    W    R F		<input type="checkbox"/> <input type="checkbox"/> n/a, not reached	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>	
2		M    T    W    R F		<input type="checkbox"/> <input type="checkbox"/> n/a, not reached	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>	
3		M    T    W    R F		<input type="checkbox"/> <input type="checkbox"/> n/a, not reached	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>	
4		M    T    W    R F		<input type="checkbox"/> <input type="checkbox"/> n/a, not reached	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>	
5		M    T    W    R F		<input type="checkbox"/> <input type="checkbox"/> n/a, not reached	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>	

Additional contacts/comments:

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**Scripts/Flow Chart**

*Simulated patient semi-structured telephone instrument*

**Appointment**  
*“Hi, I just took a pregnancy test and it’s positive. I would like some help. When is the soonest I can come in for an appointment?”*



**Pregnancy Testing**  
*“Could I get another pregnancy test to confirm?”*  
  
 yes    no



**Ultrasound**  
*“Would I have an ultrasound to figure out how far along I am?”*



**Abortion Access**  
*“If I decide I can’t keep it, do I have to go somewhere else to have an abortion?”*



**Does not provide abortions**  
*“Where would I go if I needed to end the pregnancy?”*



**Abortion Referral**  
 yes    no



**Provides abortions**  
*“Could I get an abortion on the*



**Abortion appointment date provided:**  
  
\_ \_

**Simulated Patient Calls: Response Sheet**

**CALL INFORMATION**

---

**File #:** \_\_\_\_\_ **Site #:** \_\_\_\_\_ **Attempt #:** \_\_\_\_\_ **REDCap Call #:** \_\_\_\_\_ (for

**Date of Call:** \_\_\_\_/\_\_\_\_/\_\_\_\_ **Start of Call:** \_\_\_\_:\_\_\_\_ **End of Call:**  
\_\_\_\_:\_\_\_\_  
mm/dd/yyyy military military  
military

**Total time on hold:** \_\_\_\_\_ **Number of times on hold:** \_\_\_\_\_  
\_\_\_\_:\_\_\_\_

**APPOINTMENT INFORMATION**

---

**Appointment made?**  Yes, date of appointment: \_\_\_\_/\_\_\_\_/\_\_\_\_  No  
mm/dd/yyyy

**Pregnancy testing available?**  Yes, Cost: \$ \_\_\_\_\_  No

**Ultrasound available?**  Yes, Cost: \$ \_\_\_\_\_  
Available same day?  Yes  No

**ABORTION INFORMATION**

---

**Abortions provided at this facility?**  Yes, date of abortion appointment:  
\_\_\_\_/\_\_\_\_/\_\_\_\_  No  
mm/dd/yyyy

**Abortion referral provided?**  Yes  No

If yes, where is the referral?  
\_\_\_\_\_

**DEBRIEF**

---

**Should this call be flagged?**  Yes  No

*If yes, explain in the comments.*

RA signature: \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

**COMMENTS**

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## 6. Specific scenarios

The most important piece of information you need to collect is whether or not you can get an appointment and when that appointment is. However, given the nature of the call, you can anticipate several other questions. Sometimes the conversation may lead to options counseling. If this is the case, you should try and redirect the conversation using some of the strategies listed below.

Below are scenarios that may arise. Bullet-points are suggestions for ways to elaborate on an answer, but only do so if it feels natural in that setting. The answers to these scenarios do not need to be completely standardized – it’s more important that you stay “in character” and say what feels natural, without deviating from the overall scenario.

### Insurance

#### **What insurance do you have?**

I don’t have insurance.

- I haven’t seen a doctor in a really long time
- I’m new to the area so I haven’t applied for insurance yet

#### **What is your salary?**

I don’t have a job right now

- I was in school and just left and moved in with my sister, so I’m just starting to look for jobs

### Demographics

#### **What is your address?**

I’m just crashing at my sister’s place right now. I don’t have her exact address but I could call you

back with it if you needed it.

Use mailing address in Pittsburgh (refer to your profile).



**Which of our locations would you like to come to?**

Which one would be able to see me the soonest?

<Choose the first location listed>

**What's your email address?** See above

**How old are you?** See profile

**What is your date of birth?** See profile

Medical History

**Do you have any medical problems?**

No

**Have you been pregnant before?**

No, this is the first time

**Have you had any surgeries?**

Just my tonsils when I was a kid

Pregnancy

**Have you been pregnant before?**

No, this is the first time

**When was your last period?**

I'm not sure – I've been on the pill and didn't get periods with it, so I have no clue. It has been a really long time.

- If pressed on this, just insist that you can't remember

**When did you take the pregnancy test?**

Last night and again this morning

**How many pregnancy tests did you take?**

There were two in the box and I did both of them.

Call Logistics

**What if there is an option to stay on hold versus leave your number for a callback?**

It is preferable to hold in these instances, to better quantify hold time and to avoid phone-tag with callbacks.

**How long should I stay on hold before hanging up?**

If you are on hold for >20 minutes, you may hang up and call again at another time. This will count as one call “attempt”. Remember, we are simulating actual patients who are motivated to seek an appointment, but who also don’t have all day to wait on the phone.

**What if they recommend that I make the appointment?**

Some schedulers might say, “there’s only one slot left – do you want me to hold it for you?” If this comes up, just say you’re really not sure about your schedule yet, and you will call back to make the appointment when you have your schedule sorted out.

**What if I am disconnected from the call?**

Call the number again – just as a real patient would. It’s fine to say “I just called and was disconnected” the way a patient would likely say.

**What if I am told to call another phone number instead?**

The original call should be listed under “Non-attempt Additional Calls” in the recording sheet, and should be entered into REDCap accordingly. The original call will not count as an attempt, but the duration of that call should be recorded. The call duration can be easily obtained in Google Voice.

**What if I am concerned the facility suspects I am a simulated patient?**

It is unlikely that a facility will directly accuse you of being a simulated patient, but if they do, you should immediately end the call by hanging up and flag the file (by flagging the file for review by the PI and by describing the incident in the REDCap section on concerns/comments). In this instance, a different pair of sites will be randomly selected to replace the voided file.

If a facility does not directly accuse you of being a simulated patient, but you are concerned that they are suspicious enough that is affecting your conversation, try to complete the call (if you think it is appropriate). Indicate that you had concerns about the call and detail these concerns in the REDCap by flagging the encounter and describing your concerns under comments.

**What if I am concerned I deviated too much from the script?**

Flag the file for review by the PI, and describe the deviation in the REDCap section on concerns/comments.

## 7. Data Collection & Entry

You will be filling out a data collection sheet by hand, and then entering the information into REDCap within the same work day. The link for pilot data entry is:

<https://www.ctsiredcap.pitt.edu/redcap/>

You will soon be added as an editor and will be able to Add/Edit data entry documents. The project will be listed on your REDCap homepage.

You can decide whether it is easiest to enter into REDCap right away, or after you have completed several calls. However, all calls should be entered into REDCap within 24 hours of the call, to avoid errors in recall.

### Data entry best practices:

1. *REDCap Call Number:* This is the record number automatically generated by REDCap. Since you will complete a REDCap form for each call attempt, the call number should be recorded on your paper file next to attempt #.
2. *File ID Number:* This is the number recorded on each file. You should enter it into REDCap as “File #”.
3. *Site ID Numbers:* Each site has a unique ID number. **It is critical that the site ID number on your data collection sheet matches the one entered into REDCap data entry form.**
4. *Unclear responses:* if the answer to a question is unclear and there is no code for “Don’t know”, leave it blank (it is missing data – don’t assume a value for it, since it gets analyzed differently).
5. *Numeric fields:* in fields with numbers/numeric codes, do not include any text or symbols (including <, >, ?, etc.) as the statistical software can’t analyze anything but exact numbers.
6. *Dates and Times:* When entering dates in REDCap, follow the formatting specified in REDCap. All times should be in military time, EASTERN time.
7. *Varying information by call:* if you are inadvertently cut-off mid-call when they tried to transfer you to another line and then got a different person who provided more help and information than the first person had, record the most helpful response because a real patient would have called right back and could have gotten the same improved help from the second person.

8. *Record everything*: first, write any notes that will help you on the next call to this same clinic (for the same or different profile) – this could include quirks of the appointment system, the name of the person who took your call, clinic hours, etc. Also, record any information that might at all be relevant to the study such as side comments made by the scheduler to you or others – we can’t recover data you don’t write down. Always err on the side of assuming it will be important. These can be included in the “comments” section on REDCap.
  
9. *Flags*: If you are concerned that a call either exposed that you are not a real patient, or if you have concerns about any aspect of the phone call threatening the validity of the data you are collecting, say “yes” to the question in REDCap asking whether the call should be flagged, and explain the reasons for the flags. This file should then be set aside and the PI should be notified. When you flag a file, email .....

Examples of reasons for flagging:

- The call is terminated early (facility hangs up) and you are unable to call back, or it would not be appropriate to call back under the circumstances that the call was terminated.
- A facility directly accuses you of not being a real patient.
- You felt it was unsafe to continue the telephone encounter.
- You have a question about the encounter that you feel should be immediately reviewed, and could influence future calls.
- You suspect the facility is a hospital, or something other than a CPC or abortion facility.

**Questions?:**

Contact:

Principal Investigator,

Office:

Cell:

Pager:

Email:

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