# “Students need this”:
# access to medication abortion for California’s public university students

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Abstract

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Objectives: This study aimed to better understand California public university students' experiences accessing abortion services at off-campus abortion facilities. In anticipation of a new California law, we investigated these students' perspectives regarding the future integration of medication abortion at their on-campus student health center.

Methods: We completed semi-structured in-depth interviews with 15 individuals who are currently enrolled at or attended a University of California (UC) or California State University (CSU) as an undergraduate and had obtained abortion services as a college student. Interview topics included access to first-trimester abortion services at off-campus facilities and recommendations for implementation of medication abortion at on-campus student health centers at California public universities. We performed thematic analysis of the interviews.

Results: From the interview analyses, our results demonstrate: (1) Institutional barriers from UC and CSU health services affect how students access abortion services, with students reporting delayed care to receive an abortion; (2) All students encountered barriers and few reported facilitators when attempting to access first-trimester abortion services off campus; (3) Barriers experienced from navigating abortion services off campus impacted students' academic performance and financial security; (4) Students recommended California public universities can better support students and increase knowledge of sexual and reproductive health services when implementing medication abortion at on-campus student health centers.

Conclusion: California public university undergraduate students navigate multiple barriers both on and off campus to obtain abortion services. Institutional support from student services such as academic accommodations, short-term emergency loans, and counseling resources can mitigate the impact of navigating abortion services for students. Participants' recommendations for implementation of medication abortion at on-campus student health centers suggest that institutions can better support this effort beyond provision by increasing awareness of health services.

**Table of Contents**

**Literature Review: California's public university students' access to medication abortion**.........**1**

**Original Research: "Students need this": access to medication abortion for California's public university students** .........................................................................................................**15**

**References** ........................................................................................................................**30**

**Appendices** ........................................................................................................................**36**

**Literature Review: California's public university students' access to medication abortion**

## 1. Introduction

In 2019, the United States undergone an unprecedented wave of antiabortion legislation to restrict abortion in almost all or most circumstances, directly violating *Roe v Wade* and *Planned Parenthood of Southern Pennsylvania v Casey* (Guttmacher Institute, 2019). At the most extreme, Alabama outright banned abortion without exceptions for the mother's health, incest, or rape. Several states including Georgia, Kentucky, Louisiana, Mississippi, Ohio, and Missouri enacted fetal heartbeat bans restricting abortion from six to eight weeks; the majority of pregnancies are detected at five and a half weeks (Branum & Ahrens, 2017). Furthermore, draconian laws criminalizing abortion providers and investigating miscarriages were approved in a number of these states (Amnesty International, 2019). As of November 2019, Guttmacher reports that 58 abortion restrictions and 25 abortion bans were enacted in 19 states.

In contrast to a landscape where pregnant people's reproductive freedoms are being methodically restricted, California legislation seeks to increase abortion services. For example, in 2017, California Senator Leyva introduced Senate Bill 320, the *College Student Right to Access Act* (California State Legislature, 2018). The first bill of its kind, mandates all student health centers, which are medical facilities operated by the university and located on campus, at University of California (UC) and California State University (CSU) campuses to provide medication abortion. The genesis of this bill was spearheaded by a group of UC Berkeley students who unsuccessfully tried to implement medication abortion at their student health center on campus (Belluck, 2019). While California public universities routinely offer sexual and reproductive health services to students, abortion services are not offered at any campus, thereby requiring all students to travel off campus to obtain an abortion. Segregating abortion services at non-affiliated health centers may force college students to become new patients and navigate an entirely new health system alone.

A recent study conducted by Upadhyay et al., measured access to abortion among California public university campuses, they estimated 1,038 students traveled off campus each month for abortion services and of those students, 519 obtained a medication abortion (Upadhyay, Cartwright, & Johns, 2018). The average time it takes to travel to the nearest, non-affiliated California public university, off-site facility providing medication abortion is 34 minutes one-way on public transportation. However, the furthest campus from an abortion provider is 1 hour and 32 minutes one-way and approximately 6 hours total for two round-trip visits for a medication abortion and a follow-up appointment. Time spent on public transportation is relevant since approximately two-thirds of UC and one-third of CSU students do not own cars (U.S. News & World Report, 2018).

Barriers to abortion services, such as time spent traveling to providers, disproportionately affect low-income women and women of color (Dehlendorf, Harris, & Weitz, 2013). California public universities are in a unique position to address barriers to access abortion services since they serve a racially and financially diverse student population. For instance, over half of

students (51%) qualify for a Pell Grant (U.S. News and World Report, 2017), which indicates financial need, while many students report struggling with food (42% UC and 21% CSU) and housing (9%  CSU) insecurity (California State University, 2015; University of California Global Food Initiative, 2016).

Despite efforts to implement medication abortion provision at on-campus student health centers, former Governor Jerry Brown vetoed California legislation that would achieve this vision. His justification concluded that "the average distance to abortion providers in campus communities varies from five to seven miles, not an unreasonable distance" (Governor Edmund G. Brown Jr., 2018). However, this reasoning is an oversimplification of the barriers college students face in trying to secure abortion services.

What is considered *reasonable* for UC and CSU students to access comprehensive health care services that includes abortion? The United States Department of Health and Human Services defines achieving equitable health care as access to insurance coverage, health services, competent providers, and timeliness of care (Healthy People 2020). Students who attend the 11 UC campuses are required to have health insurance (University of California, 2017), whereas health insurance is not mandatory of all 23 CSU campuses. For UC students, enrollment in the UC Student Health Insurance Plan (SHIP) meets this requirement or unless waived by private or state-funded insurance plans (University of California, 2017). UC SHIP covers medical and surgical abortion services as well as a comprehensive range of contraception that includes oral, long-acting reversible contraception (e.g., injections, intrauterine devices, and implants), and emergency contraception (University of California, 2019). As for CSU campuses, only some campuses accept a public insurance option, which includes Family PACT to cover comprehensive family planning services (Raifman, Anderson, Kaller, Tober, & Grossman, 2018). Approximately 10% of CSU students are uninsured (10%) (Los Angeles Cal State, 2014) and 23% have insurance provided by the state (Critchfield, 2016).

All California public university students, irrespective of health insurance status, may use the on-campus student health center (UC, 2017). A student health center is an affiliated outpatient health center at the university that provides services from preventative care to more specialized medical services and mental health care. Although primary care services including sexual and reproductive health care vary across the 34 UC and CSU campuses, no student health center offers any abortion services (Raifman et al., 2018). Student health centers remedy this disruption in health care provision by giving students information about off-campus resources to non-affiliated medical clinics that provide abortion services (UC Davis, 2019). After that, students independently navigate abortion services off campus — a time-consuming task.

When UC and CSU students seek abortion services off campus, they must register as a new patient, schedule an often hard-to-get weekday appointment at an abortion clinic, undergo repeated lab tests to confirm pregnancy status, receive an ultrasound to determine gestational age, screen for sexually transmitted infections and HIV, and set up billing and payments options. Often times insurance policies, with the exception of SHIP, restrict coverage for abortion services (Dehlendorf & Grumbach, 2008) and students are left to pay an average of

$604 out-of-pocket for a medication abortion (Upadhyay et al., 2018). All of this can be required before health care is administered. As a consequence, abortion care is often delayed (Dehlendorf et al., 2013). For medication abortions, even a delay of days can have a health and logistical impact for the student, given that the FDA has approved its use for only up to 10 weeks of pregnancy (ANSIRH, 2016).

### *1.1. Medication Abortion*

Medication abortion is an extremely safe and effective abortion method for patients who prefer an alternative noninvasive method to first-trimester uterine aspiration abortion (ANSIRH, 2016; Beckman & Harvey, 1997; Christin-Maitre, Bouchard, & Spitz, 2000). It consists of two medications, mifepristone followed by misoprostol, and can be used up to 10 weeks or 70 days since the first day of a patient's last menstrual period (FDA, 2016). Overall, medication abortion is 95% effective, 5% of cases will continue an ongoing pregnancy, which is a major complication, and will need an aspiration abortion to complete the process (ANSIRH, 2016). Concerns to implement medication abortion at student health center facilities include medical resources and equipment. The model of integrating first-trimester abortion provision at primary care facilities exists (Godfrey, Rubin, Smith, Khare, & Gold, 2010.; Rubin, Godfrey, & Gold, 2008). Nearly 36% of abortions in the United States are provided outside of abortion clinics at primary care centers (Jones & Jerman, 2017), and student health centers function as primary care centers at college campuses. A recent study by Raifman et al., evaluated the feasibility of California public universities student health centers to implement medication abortion, determined all UC campuses and 20 CSU campuses have the capacity to provide abortion services (Raifman et al., 2018).

### *1.2. Specific Aims*

This literature review aims to understand the experience of college students' access to family planning services and the motivation to offer medication abortion at California public universities' student health centers. In order to establish a framework for abortion services at college campuses, this literature review examines the intersection of sexual and reproductive health for college-age women in the United States and the integration of early abortion services in primary care settings. The first section outlines the demand for medication abortion services for UC and CSU students. It includes an analysis of current reproductive and sexual health services offered to American college students and the unmet need for comprehensive family planning on college campuses. The second section describes medication abortion protocols to demonstrate feasibility to offer this service at student health centers. The final section evaluates patients' attitudes towards the integration of first-trimester abortion services, such as medication abortion and aspiration abortions, in family medicine clinic settings.

## 2. Methods

This literature review only includes studies from 2000 to 2019 since medication abortion was not FDA-approved until 2000 in the United States. Studies prior to 2000 focus on clinical trials

and dosing for effectiveness. Currently, no qualitative studies investigating the experiences of college students obtaining abortion services exists. Only a few studies have described college students' experiences accessing abortion services on and off campus (Godfrey, Bordoloi, Moorthie, & Pela, 2012; Jaime, Yakzan, Lewis, & Bimla Schwarz, 2018; Raifman et al., 2018; Upadhyay et al., 2018). Therefore, the intersection of first-trimester abortion services in primary care settings, college student sexual and reproductive health, and recent legislation to increase abortion access at on-campus student health centers attempts to fill the gap in knowledge about college students' experiences accessing abortion off campus. Lastly, testimonies from California public university students, collected from a bill sponsor, are used to analyze the current landscape of access to abortion services.

Studies included were identified by keyword searches in Pubmed and Google Scholar databases with assistance from UC Berkeley's Public Health librarian. Keywords used in searches included 'abortion', 'medication abortion', 'medical abortion', 'sexual and reproductive health care' in combination with 'primary care', 'abortion experiences', 'qualitative study', 'college', and 'student health center'. Manual searches for relevant articles were identified in journals such as *Contraception, JAMA, Obstetrics and Gynecology,* and *Journal of American College Health*. Data for college students' sexual activity and contraception was gathered from the American College Health Association – National College Health Assessment (ACHA-NCHA) surveys from Fall 2015 to Spring 2019. The ACHA-NCHA is a nationally recognized survey that measures the distinct health-related behaviors and outcomes among college students (American College Health Association, 2019). Grey literature is included in the review for Senate Bill 320 and Senate Bill 24. Keywords used in Google searches included 'SB 320', 'SB 24', 'justCARE', 'medication abortion' in combination with 'UC', 'CSU', and 'student health center'.

### *2.1. Gender definitions*

The majority of studies included in this literature review refer to all participants as "women" or "female" who have the capacity to become pregnant. It is essential to note that individuals who have the capacity to become pregnant includes transmen and gender nonconforming people. To honor the original research, original language used to describe participants from these publications is reflected in the literature review. Moreover, the category of "women" expands beyond the biological capacity to become pregnant and includes ciswomen and transwomen.

## 3. The need for abortion access among college students in the United States

Unintended pregnancy among college students in the United States remains a concern in public health. According to an article by Finer et al., 45% of pregnancies in the United States are unintended (2.8 million annually) (Finer & Zolna, 2016). Although the overall rate of unintended pregnancies has declined, rates continue to remain highest among young adults 20- to 24-years-old and second highest among late teens 18- to 19-year-olds, the ages of most undergraduate students (Finer & Zolna, 2016). Among unintended pregnancies, unwanted pregnancies are at risk for adverse health outcomes due to greater association with unhealthy

perinatal behaviors such as smoking, alcohol consumption, and inadequate daily folic acid intake (Cheng, 2009).

Among college students unintended pregnancy is a concern because it impacts their ability to continue their education and graduate compared to their peers (National Campaign to Prevent Teen and Unplanned Pregnancy, 2015). For example, college students with an unintended pregnancy are 64% more likely to dropout compared to their peers. For community college students, about 10% of dropout rates among female students is due to an unintended pregnancy (Prentice, Storin, & Robinson, 2012), and 61% will not return to finish their degree (Bradburn & Carroll, 2002). College students with children encounter unique challenges that make it difficult to complete their education. Frequently, female students with children who do not receive adequate support from their institution to address conflicts with childcare, employment, student loans, and housing, results in reduced enrollment or leaving school (The National Campaign to Prevent Teen and Unplanned Pregnancy, 2008; Clery and Harmon, 2012). Although some colleges and universities support student-parents with child development services (Cal State LA, 2019), comprehensive family planning is also required to better support these students by preventing future pregnancies in order to complete their degree. Consequently, pregnancy prevention for all college students, including abortion, ensures that unintended pregnancies do not interfere with their education and delay graduation (Hickey & Shedlin, 2017).

Factors influencing high unintended pregnancy rates among women 18- to 24-years-old are attributed to inconsistent use, failure, and nonuse of contraceptives (Kaye, Suellentrop, & Sloup, 2006; Kavanaugh, Jerman, & Hubacher et al., 2011; Cheng & Van Leuven, 2015). Consistent with this finding, the ACHA-NCHA reported only 56% of students used contraception during their last vaginal intercourse (ACHA-NCHA, 2012). In an effort to reduce unintended pregnancies, the American College Health Association's (ACHA) Healthy Campus 2020 initiative, a national health program dedicated to improving the overall health among students, sought to increase access to contraceptives. This included increasing the proportion of student health centers offering emergency contraception, and increasing the use of contraception during last sexual intercourse (ACHA, 2012).

Despite institutional efforts to increase on campus access to emergency contraception, for example offering it in vending machines (Sacramento Bee, 2017), unintended pregnancy continues to occur (ACHA NCHA II, 2017). Over the counter pills and condoms are the most commonly used contraceptive methods among college students (Walsh-Buhi & Helmy, 2018). Although long-acting reversible contraceptives (LARCs) are a highly effective contraceptive option, with failure rates comparable to permanent sterilization (Guttmacher, 2016), less effective contraceptives such as over the counter pills and condoms are still preferred by college students over LARCs (Walsh-Buhi & Helmy, 2018). Increased access to emergency contraception and other contraceptives is not enough to prevent pregnancy because contraceptives are not 100% effective, especially less effective methods (American College of Obstetricians and Gynecologists, 2015; Guttmacher Institute, 2016; Trussell, 2011).

Women in their early 20s are approximately 40% more fertile compared to women in their late 30s and are at greater risk of becoming pregnant (Fretts, 2019). About 48% of female college students reported having vaginal intercourse within the past 30 days and 67% reported having one or more sexual partners within the last year (ACHA-NCHA, 2019). Therefore, college students are potentially at greater risk to have an unintended pregnancy compared to the general population. Overall, 42% of unintended pregnancies end in abortion and college-aged women account for 42% of all abortions ( Finer LB, 2016; Jones & Jerman, 2017). Medication abortions account for nearly a quarter of all abortions in the United States provided in nonhospital clinic settings (Jones & Jerman, 2014). Data specific to abortion incidence for college students in the United States is not collected. However, age ranges from 18 – 24 years-old, which is the age of most college students, is collected for abortion incidence and is used as a proxy for college students.

Results from the *Turnaway Study,* a study measuring the health and socioeconomic impacts of being denied or receiving an abortion in the United States, found that the decision to obtain an abortion to end an unintended pregnancy is related to feeling financially insecure and it not being the right time (Biggs, Gould, & Foster, 2013). Although limited data is available for college students' abortion rates, community college students reported that having a child would make it difficult to complete their education (The National Campaign, 2011) and perhaps more likely to access abortion services for an unintended pregnancy. Access to abortion provides students the opportunity to continue their education without disruption and pursue future opportunities. In a study by Upadhyay et al (2015), which used data from the *Turnaway Study,* found the most common aspirational one-year plan for participants was continuing or pursuing their education. Authors conclude that women who obtained an abortion were more likely to achieve their aspirational plan compared to women who were denied an abortion (Upadhyay, Biggs, & Greene Foster, 2015).

### *3.1. Medication provision at student health centers: a case study at University of Illinois at Chicago*

Despite the need to provide abortion services to college-aged women, transmen, and gender nonconforming people to continue their education, only University of Illinois at Chicago in 2006 (Godfrey et al., 2012) and two unidentified universities as of 2015 reported offering medication abortion at an on-campus student health center (ACHA, 2015). Between 2006 and 2009, the University of Illinois at Chicago performed 46 medication abortions up to 49 days or 7 weeks gestation, the previous FDA approved gestational limit, at the student health center. This study determined that medication abortion is safe and feasible to administer in a primary care setting on campus. All medication abortions were performed by family medicine physicians who completed a family-planning fellowship. Medical supplies were purchased such as an ultrasound machine, mifepristone tablets, and materials for uterine aspiration before medication abortion provision was implemented. Approximately, 85% of cases were successful and did not require an uterine aspiration to complete the abortion. The remaining six patients received an aspiration abortion at the student health center for completion of an ongoing pregnancy – there was no need to be referred to another clinic off campus.

University of Illinois at Chicago's student health center had a lower efficacy for medication abortions compared to similar evidence-based regimens that had 90% to 98% success rate (Creinin & Gemzell-Danielsson, 2009). This discrepancy from the on-campus health center can be contributed to an inferior protocol. Informed by an evidence-based regimen, the University of Illinois of Chicago's protocol specified administration of 200 mg oral mifepristone at the student health center and 800 µg misoprostol vaginally between 0 – 48 hours after. Since this study, new evidence-based protocols for medication abortion demonstrated 95% or higher success rates when patients waited at least 6 hours to administer misoprostol after mifepristone (ANSIRH, 2016). Overall, medication abortion is highly effective and safe but may require vacuum aspiration or additional medication for 5% or less of cases. No additional information about abortion services was provided for the two unidentified universities.

*3.2. Testimonials: California public university students' experience accessing abortion*

Even though abortion services are an integral and common health care experience for college students, limited research has been conducted about their experience navigating abortion off campus. During the bill campaign for Senate Bill 320, justCARE, a bill sponsor advocating for medication abortion at California public university student health centers, compiled written testimonials from UC and CSU students who obtained abortion services while enrolled in school (justCARE, 2018). These testimonials represent a range of experiences concerning access to abortion as college students. For example, some UC and CSU students went to their student health center before leaving campus for abortion services, whereas others went directly off campus. Each testimonial demonstrates the barriers and facilitators to seek abortion services such as medical fees, resources from student health centers, and establishing health care. The following testimonials are edited and paraphrased by the author J.C. First names are changed and schools are deidentified to maintain confidentially for each student.

*Angelica, CSU:* After trying to access abortion resources at the CSU campus' student health center, Angelica eventually found an off-campus provider to perform an abortion. She reports she was subject to a 10-day waiting period because of the provider's "personal anti-abortion beliefs." The delay in care made her ineligible for a medication abortion, which she preferred, and instead had a first-trimester aspiration abortion.

*Carina, UC:* Carina became pregnant after she was sexually assaulted during her senior year at UC. After discovering she was pregnant, she made an appointment at the on-campus student health center to seek abortion services. The on-campus physician instructed her to speak to a counselor before she could get a referral to an off-site abortion clinic. Carina felt "shamed" by the process as she was "forced" to provide details about the sexual assault and rapist. She was asked if she wanted to continue the pregnancy. After skipping meals to save money, she traveled to a clinic alone and obtained a second-trimester abortion. She reports, "I wish I could have received the medication abortion pill on campus, right when I realized I was pregnant."

*Faye, UC:* During their senior year at UC, Faye learned they were pregnant during finals, which led to them performing poorly on an exam. Before the remainder of their final exams, Faye's

boyfriend drove them to a Planned Parenthood a few hours away to obtain a medication abortion. They were "surprised that it costed over $600 for the abortion pill" and "thought it would be more affordable." A week later they would need to return to the same clinic hours away for their follow-up appointment. Faye reported, "it would have been helpful if there were a clinic on campus or closer."

*Megan, UC:* Megan went to UC's student health center to take a pregnancy test after missing her period. When both urine and blood tests returned positive, the nurse instructed her to go to the emergency department off campus to confirm that it was not an ectopic pregnancy. She paid more than $200 in medical fees, extra money she did not have because she worked at a restaurant to help support her family while attending college. To obtain a referral for an out-of-network clinic from the health center, she had to see a social worker for all options counseling despite her intention for an abortion. The day of the appointment, she missed her 4 am work shift and traveled alone to Planned Parenthood in a neighboring city. At the clinic, she was notified that her insurance did not cover the procedure but was able to qualify for presumptive eligibility due to her low-income status.

*Jessica, UC:* Despite being on birth control, Jessica discovered she was pregnant and went to the UC's student health center where she was informed they did not offer abortion services. Before she could get a list of off-campus abortion providers, she was required to see a counselor at the health center to discuss her pregnancy options. The first clinic she contacted did not offer abortion services and the subsequent clinic was a crisis pregnancy center that tried to deter her from seeking an abortion. She was finally able to obtain an abortion at the third clinic she contacted but was unable to get a medication abortion, which she preferred, because she was no longer eligible. The procedure cost approximately $400.

These students' testimonials demonstrate a range of experiences from obtaining a preferred abortion method to obtaining an abortion method not preferred (justCARE, 2018). The majority of students experienced barriers that delayed abortion care. A major contributor for delayed services included no abortion services and inaccurate resources at student health centers. Current abortion-related services available at student health centers include pregnancy testing, all options counseling, and referrals to a local family planning, physician's office, or hospital (Raifman et al., 2018). For example, the referrals to off-campus clinics Jessica obtained from the student health center were inaccurate and led her to a harmful encounter at a crisis pregnancy center that unnecessarily delayed care.

Once students left campus, they experienced discontinuity of care from their student health center or other health network by independently navigating abortion care off campus. Discontinuity of care contributed to a delay in health care that resulted in students becoming ineligible to obtain a medication abortion – their preferred method. For example, navigating providers with anti-abortion beliefs, clinics that do not offer abortion services, and the emergency department – reinforced barriers to get safe and legal health care. As illustrated by Angelica's experience attempting to establish care with a new provider, she could not schedule an earlier appointment and no longer qualified for a medication abortion. Furthermore, in

order to travel to these appointments, students made arrangements, missed work, and drove hours away for multiple appointments.

In addition to barriers associated with navigating abortion services, four students cited cost associated with obtaining an abortion as a barrier. All registered UC students are required to have health insurance (UC, 2017). However, these students paid $200, $400, and $600 out-of-pocket despite having health insurance. Although all UC and CSU students are required to travel off campus for an abortion, barriers to seek abortion services that include financial expenses may disproportionately impact certain student populations. As noted by Megan, paying $200 for an emergency room visit and missed wages from work to obtain an abortion impacted her ability to support herself and family back home. Many students are low-income (U.S. News and World Report, 2017) or financially insecure and paying for abortion services can make it difficult to meet their basic needs. Furthermore, Carina's experience skipping meals to pay for a later procedure is consistent with the literature that poor women experience more delays in their care because of difficulties encountered when making arrangements (Finer et al, 2005).

These testimonials from UC and CSU students are the first step to better understand and assess the need for medication abortion at student health centers. The limitations of these five students' testimonials may represent sampling bias since they were recruited for a bill sponsor's campaign and may disproportionally highlight students experiences with more barriers. Despite a small sample size, their experiences demonstrate the lack of access to abortion on campus and the reality of students' options for timely, affordable and accessible health care. The lack of standardized protocol for abortion related services at student health centers delayed receipt of health care.

The Reproductive Justice framework, as described by Loretta Ross of SisterSong (2017), "analyzes how the ability of any woman to determine her own reproductive destiny is linked directly to the conditions in her community – and these conditions are not just a matter of individual choice and access." California public universities are uniquely positioned to offer student services to address barriers to access abortion services and create equitable conditions on campus for reproductive autonomy.

**4. Sexual and reproductive health care at student health centers**

Sexual and reproductive health care utilization rates remain low among young adults in the United States. This is especially true for young women under 25-years-old since the majority seek their first appointment for reproductive health care 22 months between first sexual encounter (Finer & Zabin, 1998). Given that college-aged adults have the highest rates of sexually transmitted disease and unintended pregnancy rates (Finer & Zolna, 2014; Forhan et al, 2009), the student health center offers an opportunity to address young people's sexual and reproductive health needs.

A content analysis of perceived barriers to sexual and reproductive health care among youth and young adults found that access, entry, and quality to services made it difficult to obtain

care (Bender & Fullbright, 2013). Perceived barriers included “service access”, as defined in the study, indicated the lack of ease or knowledge to services. “Service entry” indicated long wait times and lack of clinic comfort; whereas, “quality of services” represented a perceived lack of respect or consideration. The fourth barrier to sexual and reproductive health care was “social ramifications” from the threat of being recognized by peers when receiving services, thereby compromising their confidentially and being gossiped about. These resolvable barriers contribute to sexual and reproductive health disparities in young adults.

Despite low utilization rates of sexual and reproductive health services among college-aged individuals potentially contributed by perceived barriers, one study found that college students at a Northern California public university were more likely to utilize services if they were sexual active within the past year (Bersamin, 2016). Students surveyed tended to visit a primary care and school-based setting for sexual and reproductive health services over a family planning clinic or hospital. Consistent with this finding, the majority of students surveyed at UC Davis reported getting their health care at the on-campus student health center within the past year (Jaime et al., 2018). Using the student health center for sexual and reproductive health services was positively correlated with higher rates of contraception, condom use, and testing for sexually transmitted infections and pregnancy. Although emergency contraception is offered at UC Davis’ student health center, only 68% of respondents were aware about the availability of the service. Awareness of services among students was greater among those who used the student health center previously compared to students who go off campus. However, students’ knowledge about available services like emergency contraception and abortion is inconsistent and may lead to delayed care.

Nearly a quarter of UC Davis respondents believed the student health center already provides medication abortion even though no California public universities offer abortion services (Jaime et al., 2018). The majority of respondents were in favor of expanding abortion services on campus to support students’ ability to complete their education, timeliness to healthcare, and convenience. Students in favor of access to abortion services on campus expressed UC Davis’ responsibility to support students who experienced a sexual assault that results in a pregnancy. Among students who were not in favor of offering abortion services on campus reported personal beliefs opposed to abortion and concerns for lack of high-quality services. Nonetheless, student health centers offer an opportunity to integrate early abortion services, such as medication abortion, especially for students who already obtain health services on campus.

**5. Feasibility of medication abortion provision at California public universities**

In a 2018 study exploring the capacity of UC and CSU student health centers’ ability to provide medication abortion, these authors determined it is feasible to implement the service with some investment for resources (Raifman et al., 2018). For this evaluation, the authors defined the capacity to offer medication abortion services as meeting eight requirements: 1) private exam room to perform pelvic exams; 2) diagnose a pregnancy; 3) lab testing (on-site or outside lab); 4) measure gestational age; 5) medication abortion trained providers; 6) after-hours

triage; 7) offer on-site or referrals for an aspiration abortion to address an ongoing pregnancy; and 8) referrals to specialists for adverse events (Raifman et al., 2018). All student health centers surveyed met the requirements for physical space and ability to diagnosis a pregnancy. All UCs had an after-hours triage but not CSUs. Furthermore, many student health centers did not have an ultrasound machine or trained staff for medication abortion. In order for UC and CSU campuses to provide medication abortion, they would need to invest in training, ultrasound machines, after-hours triage hotlines, and back-up care.

*5.1. What is medication abortion?*

Medication abortion has successfully been integrated in family medicine clinics because of its safety and demand for little specialized equipment and training (Godfrey et al., 2010.; Rubin et al., 2008). It is an extremely safe and effective first-trimester abortion method for patients who prefer a noninvasive alternative method to an aspiration abortion (Christin-Maitre et al., 2000; Beckman et al., 1997). Medication abortion was first approved by the U.S. Food and Drug Administration (FDA) in 2000. It consists of two medications, mifepristone followed by misoprostol, and can be used up to 10 weeks or 70 days since the first day of a patient's last menstrual period (FDA, 2016). As of 2014, medication abortion accounts for nearly one-third (31%) of all abortions in nonhospital settings in the United States (Guttmacher, MA). Patients who obtain first-trimester abortions prefer medication abortion because it allows them to expel the pregnancy at home or consider it a more natural process (Shochet & Trussell, 2008).

The first medication administered is Mifepristone, also known as Mifeprex. It is a progesterone receptor antagonist that inhibits the synthesis of progesterone, which is required for a pregnancy to continue (Christin-Maitre et al., 2000). Its effects on the uterus include decidual necrosis, cervical softening, and increased uterine contractility (Practice bulletin, 2014). Mifepristone also increases prostaglandin sensitivity, which aids the actions of misoprostol, the second set of pills.

Misoprostol is a synthetic prostaglandin $E_1$ that promotes pregnancy expulsion through mechanisms such as uterine contractions, cervical softening and dilation. FDA-approved labeling for Misoprostol uses include prevention of peptic ulcers with prolonged use of anti-inflammatory drugs and medication abortion. However, its prostaglandin properties can also be used in other gynecological procedures such as other regimens for abortion, post-partum hemorrhage, miscarriage, and labor induction. Misoprostol routes of administration with the greatest efficacy include vaginal and buccal compared to oral administration. It can also be administered sublingual with high efficacy but results in greater adverse effects with increases in concentration.

*5.2. Medication abortion regimen*

In 2016, the FDA-approved regimen for medication abortion with mifepristone and misoprostol was updated to include an evidence-based protocol. The dosing regimen includes 200 mg of mifepristone administered orally, followed 24-48 hours later by 800 mcg of misoprostol taken

buccally or 6 hours later vaginally (FDA, 2016). The maximum gestation is now 10 weeks or 70 days from the patient's last menstrual period compared to 7 weeks or 49 days from original FDA label.

The new FDA label's increase in maximum gestation led to twice as many patients being eligible for medication abortion from 37% to 75% of all abortions in the United States (CDC Abortion Surveillance, 2012). This evidence-based treatment is 93% to 99% efficacious, requiring vacuum aspiration for 1% to 7% to complete the abortion (Practice bulletin, 2014). In contrast, early studies of medication abortion with non-evidence-based regimens had less efficacy and more side effects (Abbas, Chong, & Raymond, 2015; Chen & Creinin, 2015; Cleland & Smith, 2015).

Medication abortion includes both clinical-administration of mifepristone by a physician or advance care professional and administration by the patient for misoprostol. A 200 mg mifepristone orally is first administered at a clinicians office (FDA, 2016). The patient is then given an 800 µg dose of misoprostol to take at home 6-72 hours after mifepristone. The route of misoprostol administration includes vaginal or buccal and consists of 4 tablets, 200 µg each. A follow-up visit is recommended between 5-14 days after mifepristone is taken to confirm complete abortion. Nonetheless, the minimum number of office visits is one and may increase depending on state requirements and provider preference.

Most patients will experience heavy bleeding and severe cramping, which are necessary to facilitate the abortion process. Adverse side effects include "nausea, vomiting, diarrhea, headache, dizziness, and fever" (ANSIRH, 2016). Serious adverse events, although incredibly rare, require medical treatment such as "blood transfusion, surgery, or hospital admission." A study analyzing serious adverse events from medication abortion in California discovered only 0.3% of medication abortions required further medical intervention (Upadhyay et al., 2015). Consistent with that, several studies concluded that less than 0.5% of medication abortions in the United States resulted in serious adverse effects (Cleland et al., 2013; Raymond, 2013). Therefore, medication abortion is a safe and effective first-trimester abortion method to implement at primary care settings such as student health centers.

**6. Early abortion care in primary care settings**

Approximately, 36% of all abortions are performed at nonspecialized clinics such as primary care or family medicine settings (Jones & Jerman, 2017). However, the majority of abortion services in the United States are provided at abortion clinics (i.e., facilities where greater than half of all patients obtain an abortion). According to the Guttmacher Institute, California has only 16% of abortions performed at abortion clinics and 31% at nonspecialized clinics. Student health centers at California public universities represent another primary care setting for college students to obtain abortion services on campus. Students would have the opportunity for continuity of care, connection to place and provider, and the convenience to stay on campus. No studies have examined college students' experience with first-trimester abortion services at primary care settings. Therefore, studies analyzing the attitudes of patients

obtaining first-trimester abortion services in primary care settings will approximate the integration of medication abortion provision at student health centers.

Quantitative studies demonstrated that primary care and family medicine settings are an acceptable option for most women obtaining an early abortion (Rubin et al., 2008; Rubin et al., 2009; Godfrey et al., 2010). Respondents most commonly cited familiarity and comfort with their providers and family medicine clinics as opposed to a specialized abortion clinic (Rubin et al., 2009). In contrast, “expertise” was cited as the main reason for respondents preferring to access abortion at a specialized abortion clinic. This is under the assumption that clinicians in primary care settings are not properly trained to perform early abortions, which is a misconception (Yanow, 2013). However, one multi-site study in urban academic family medicine clinics found that 93% of patients who obtained either a medication abortion or aspiration abortion reported a high level of satisfaction (Wu, Godfrey, Prine, Andersen, MacNaughton, & Gold, 2015).

The acceptance and satisfaction patients reported when obtaining medication abortion services in primary care settings illustrates the shift from separating abortion care to integrating it more broadly in health care. Qualitative studies exploring patient experiences in family medicine clinics reinforce findings of comfort and satisfaction from previous studies (Summit, Casey, Bennett, Karasz, & Gold, 2016). According to the study conducted by Summit et al., they found that patients felt a connection to the clinic and provider, which fostered trust and comfort. This study underscores the patient’s experience obtaining medical care and their preference to choose a primary care setting over a specialized abortion clinic.

### *6.1. Patients’ abortion experiences in family medicine setting*

Summit’s et al. study of 15 women interviewed at a family medicine clinic, identified the following themes: “connection to place”, “connection to provider”, “privacy”, “convenience”, and “continuity of care.” These themes demonstrate the motivations why some patients may choose their primary care clinic over an abortion clinic. For example, the majority of patients were satisfied with their decision to incorporate abortion care within their general health care setting. For connection to place, one participant reported, “I think that it may just go back to it’s a safe place. You know, it’s years of coming here, and so I think it goes back to childhood, you know, like you just trust a setting and the people… I’m going to cry… it’s a lot of trust” (Summit et al, 2016). Compared to an abortion clinic, this primary care setting allows women the opportunity to integrate their abortion care within an established relationship between them and their provider.

Privacy was another theme identified that participants noted as a benefit of choosing a family medicine setting. The abortion landscape in the United States can be hostile and highly stigmatizing for patients with the threat of protesters (Greene Foster et al. 2012). One participant described her hesitation to go to an abortion clinic because of protesters, “Here it was more private and calm. Nobody knows what you’re doing. Ain’t nobody with no picket signs in front of the building” (Summit et al., 2016). It is important to note that a study about

the effects of abortion protesters found that women who obtained abortions after being confronted by protesters were not emotionally affected after one week (Greene Foster et al. 2012). However, this does not negate the right individuals have to seek abortion services without the threat of harassment.

Continuity of care is an unique aspect of health care that family medicine and outpatient clinics contributes to abortion care. One woman remarked, “That’s good. So that when you see your doctor, your doctor knows what was going on, you can follow up and make sure that you’re okay” (Summit et al. 2016). Not every participant agreed that continuity of care and existing relationships with the provider and clinic were advantageous. Two participants described mixed feelings about their decision to have their abortion in a primary care setting. One participant noted, “I didn’t like it, because…it was a very difficult, personal decision, so for me…it’s like basically revisiting that moment every time that I go back to the clinic” (Summit et al., 2016). Overall, participants preferred and accepted first-trimester abortion services in family medicine settings. However, abortion clinics and obstetricians will continue to provide a reliable and acceptable option for patients who prefer to seek abortion care outside of family medicine clinics.

## 7. Conclusion

Despite the then-governor of California vetoing Senate Bill 320, Senator Leyva revived the College Student Right to Access Act in December 2018 (justCARE, 2018). In 2019, California passed legislation to provide medication abortion services in student health centers at California public universities (California State Legislature, 2019). This literature review revealed a gap in knowledge about the experiences of students who have navigated an abortion off campus. Previous studies have demonstrated that medication abortion can be safely and successfully provided at student health centers (Godfrey et al., 2012; Raifman et al., 2018). However, to responsibly integrate medication abortion at student health centers by January 2023, California public universities need to learn from the experiences of students who faced barriers to abortion care both on and off campus to better support students.

College students may represent a distinct group compared to these participants from prior studies about abortion experience in primary care settings. Specifically, the student population may have unique motivations influenced by the demand to complete their education. Integrating abortion services at on-campus student health centers may benefit students by removing unnecessary barriers that may delay care. Thereby, a qualitative study is needed to assess the experiences of UC and CSU students who have accessed abortion services as a student to examine the barriers and facilitators they encountered. Secondly, this study should aim to illicit students’ recommendations for how California public universities can best support students navigating abortion services.

**Original Research: "Students need this": access to first-trimester abortion services for California's public university students**

## 1. Introduction

In 2019, California passed legislation to provide medication abortion services at student health centers at California public universities (California State Legislature, 2019). Prior to this legislation, these universities did not offer any abortion services at the student health center, thereby, requiring students to get care at another facility – usually off campus. A recent study measuring access to medication abortion among California public university campuses estimated 1,038 students travel off campus each month for abortion services and of those students, 519 obtained a medication abortion (Upadhyay, Cartwright, & Johns, 2018). Per this study, the average time it takes to travel to an off-site facility providing medication abortion is 34 minutes one-way on public transportation. However, the furthest campus from an abortion provider is 1 hour and 32 minutes one-way on public transportation, requiring approximately 6 hours total for two round-trip visits for a medication abortion and a follow-up appointment. Time spent taking public transportation is particularly salient since two-thirds of University of California (UC) and one-third of California State University (CSU) students do not own cars (U.S. News & World Report, 2019).

Barriers to abortion services, such as time spent traveling to providers, disproportionately affect low-income women and women of color (Dehlendorf, Harris, & Weitz, 2013). California public universities are in a unique position to address inequities when accessing abortion services since they serve a racially and financially diverse student population. For instance, over half of students (51%) qualify for a Pell Grant (U.S. News and World Report, 2017), which indicates financial need, and many students report struggling with food (42%, UC and 21%, CSU) and housing (9%, CSU) insecurity (CSU, 2015; UC Global Food Initiative, 2016).

Few studies have described college students' experiences accessing abortion services off campus (Godfrey, Bordoloi, Moorthie, & Pela, 2012; Jaime, Yakzan, Lewis, & Bimla Schwarz, 2018; Raifman, Anderson, Kaller, Tober, & Grossman, 2018; Upadhyay et al., 2018). For example, most respondents from a UC Davis study conducted during the 2016 – 2017 academic year agreed medication abortion should be provided at the student health center (Jaime et al., 2018). Nearly a quarter of UC Davis respondents incorrectly believed medication abortion was offered on campus, despite no abortion services being provided at any UC or CSU student health center. As of 2015, only two unidentified universities (American College Health Association, 2015) and the University of Illinois at Chicago (American College Health Association, 2015) reported providing medication abortion services on campus. A study conducted at the University of Illinois at Chicago determined medication abortion was safe and feasible to provide services at the student health center after the first 46 medication abortion cases in the first 3 years of implementation.

Despite the growing literature to explore accessibility and feasibility of medication abortion services at California public universities, UC and CSU students' perspectives, who have obtained abortion services, have not been studied. This study aims to better understand California public university students' first-trimester abortion experiences and their perspective regarding implementation of medication abortion provision at on-campus student health centers. Specifically, we interviewed individuals about navigating abortion services off campus as a

student and how their institution could better support students who may utilize medication abortion services on campus in the near future. At the time this research was conducted, the California law mandating medication abortion at on-campus student health centers had yet to be signed.

## 2. Methods

Two research questions informed this study: (1) how does accessing first trimester abortion services off campus affect California's public university students; (2) how do California public university students, who obtained a first-trimester abortion, perceive the integration of medication abortion at on-campus student health centers? The Committee on the Protection of Human Subjects at the University of Berkeley Institutional Review Board approved the study protocol.

### *2.1. Participants and Recruitment*

Before recruitment, we initially implemented quota sampling to ensure a balanced representation of UC and CSU campuses. Due to low study enrollment, we used convenience sampling to recruit participants from April to October 2019. Interested students were invited to complete an anonymous Qualtrics survey to screen for eligibility. Students were screened with closed-ended inclusion criteria questions. Eligibility to be interviewed included if they (1) are at least 18 years-old and not currently pregnant, (2) attended a UC or CSU as an undergraduate, (3) became pregnant or had a medication abortion or aspiration abortion, while enrolled in a California public university, (4) obtained first-trimester abortion services since 2013. Participants were also included if they attended a California community college and transferred to a UC or CSU. Lastly, participants met eligibility requirements if they became pregnant while attending a UC or CSU and obtained an abortion after being placed on academic probation that resulted in a leave of absence.

We redirected eligible participants to a separate survey to obtain specific UC and CSU enrollment, first name or alias, and preferred contact information – no identifiable information was linked to the eligibility survey. Eligible participants were contacted up to four times by email, phone, and text. Enrolled participants received a $50 Amazon eGift card for remuneration of their time and effort. Recruitment concluded once thematic saturation was reached.

We recruited from UC and CSU academic and student listserv, in-person at key stakeholder events, and social media advertisements. We emailed and direct messaged on Facebook and Instagram approximately 545 student groups at 4 UC and 20 CSU campuses to distribute recruitment materials. Only UC campuses with explicit Institutional Review Board approval to recruit students from non-affiliated researchers were emailed. J.C. and T.C. recruited in person at four key stakeholder events advocating for medication abortion at on-campus student health centers. Digital recruitment materials were shared on the bill sponsor's, justCARE, social media accounts. Additionally, we implemented paid advertisements on Facebook and Instagram to recruit participants. Lastly, we asked participants to distribute recruitment flyers among classmates and friends.

*2.2. Study Design*

We first conducted a preliminary literature review on sexual and reproductive health care for college students, patients' first-trimester abortion experiences in family medicine clinics, and medication abortion. Thereafter, we developed a semi-structured interview guide. The interview guide was refined after pilot testing with a UC Berkeley qualitative working group and UC and CSU campus organizer advocating for the bill in the California legislature. We refined online recruitment materials and screening survey after reviewed by key stakeholder Students United for Reproductive Justice, a UC Berkeley undergraduate student club and bill sponsor.

We initially used deductive content analysis of abortion frameworks to inform topics for the semi-structure interview guide and codebook development (Tolley, Ulin, Mack, Robinson, & Succop, 2016). After interviewing half the participants, we modified our approach and incorporated a phenomenological analysis (Wertz, F. J., Charmaz, K., & McMullen et al., 2011).

*2.3. Data Collection*

A qualitative methods-trained interviewer, UC Berkeley graduate student, and UCSF medical student (J.C.) conducted all interviews between July and October 2019. The semi-structured interviews were conducted using video conferencing platform or over the phone. After participants gave verbal consent, interviews were audio recorded. All participants were asked the following questions and followed-up based on individual responses: (1) overall experience accessing abortion as a student; (2) would they have used the student health center to obtain a medication abortion; (3) are there any concerns or benefits offering medication abortion at student health centers; (4) what recommendations would they offer to California public universities if they implement medication abortion on campus. Data collection concluded when thematic saturation of access to abortion services off campus was achieved. At the end of each interview, sociodemographic information was collected for age, race and ethnicity, gender, and health insurance status.

*2.4. Analysis*

We analyzed interviews using inductive and deductive methods to inform thematic analysis. The primary investigator (J.C.) developed an initial codebook based on a literature review that yielded codes informed by existing frameworks to examine access to abortion care as they pertain to navigation to care off campus (Upadhyay et al., 2018); impact of an unintended pregnancy or accessing abortion services as they relate to education and finances (Logan et al., 2007; Gipson, Koenig, & Hindin, 2008); and attitudes about medication abortion provision on campus as they relate to acceptability and addressing barriers to abortion care (Jaime et al., 2018). Two investigators coded each transcript and revised codebook throughout data collection. After discussing code discrepancies, both researchers reached consensus by reconciling and refining codes. Thematic development occurred through an iterative process with discussion among study team. Descriptive statistics are used to analyze survey items and participant demographic characteristics. All interviews were professionally transcribed by REV.com and reviewed for accuracy. We utilized Dedoose, a web-based qualitative analysis program, for data management.

## 3. Results

*3.1. Participant demographics*

We screened approximately 624 individuals and 33 were deemed eligible. We recruited and interviewed participants until we reached thematic saturation at 15 participants (representing 11 out of the 34 California public universities). Semi-structured interviews ranged from 38 to 60 minutes. Participants' ages ranged from ages 20 to 29 (median age of 24; Table 1). The majority of students interviewed (n=9) were enrolled or attended a University of California (UC). No more than three participants attended a single university. Three participants were enrolled at a California community college when they obtained an abortion. Two of these participants became pregnant at a UC before transferring to a community college, while the third became pregnant and obtained an abortion while attending community college and transferred to a CSU thereafter. The majority of participants self-identified as Latina (n=6) and Asian or Asian American (n=5).

Time passed since obtaining an abortion ranged from 3 months to 6 years prior to the interview, with the majority occurring within 5 years or less (n=14). The majority of respondents (n=10) had a medication abortion, while 6 participants had an aspiration abortion. One participant required an aspiration abortion after failure of medication abortion.

Most participants who attended a UC campus had private insurance through their parents (n=7) or enrolled in the UC Student Health Insurance Plan (n=1). Three UC students with private insurance used Medi-Cal or paid out-of-pocket for abortion services. The majority of CSU students (n=5) used Medi-Cal to pay for an abortion, and only one CSU student's private insurance covered abortion services.

*3.2. Topic 1: Access to first-trimester abortion services on campus*

**Institutional barriers**

UC and CSU students who become pregnant and wished to obtain an abortion can either first present to the student health center and then travel off campus to an abortion provider or go directly off campus to an abortion provider (Figure 1). Regardless of the path, all students were ultimately required to leave campus to obtain an abortion. All students can access health services on campus regardless of health insurance status. However, lack of knowledge of sexual and reproductive health services and no abortion provision at UC and CSU campuses ultimately delayed care to get an abortion, a time-sensitive health service. For example, one UC student, who had a medication abortion first presented to the on-campus student health center:

> I called the [student health center]. At first I pretended I was asking for a friend… And they said, "Okay, well your friend's gonna need to set up an appointment with a social worker before they give any suggestions on what to do moving forward." So then I called again and then I set up an appointment with the social worker there.
> (UC undergraduate, obtained a medication abortion)

After this student received a list of off-campus providers, she was left to navigate those appointments on her own. A convoluted pursuit to obtain an abortion unfolded. For instance,

at the first clinic she contacted, the clinician refused to provide a medication abortion, which she preferred, because her gestational age was nearing the 10 week cut off. She then had to find and schedule another appointment with a clinic on the list she was provided. Of the 6 students who sought pregnancy and abortion-related services on campus, only two students got referrals to abortion providers off campus. The remaining students did not receive resources for abortion services for a variety of reasons such as a requirement to be seen at the student health center and having a negative pregnancy test. Afterwards, students were left to navigate abortion services off campus independently without direct referrals from medical providers at the student health center to off-site abortion providers.

Students who bypassed the student health center reported a lack of knowledge of sexual and reproductive health services and resources that could support them on campus. Some participants, who were isolated from medical and peer support, had difficulty finding accurate information about where to get an abortion and how to pay for it. As exemplified by the following participant:

> I wish I had learned more about where I could get help and who would be the best thing, or place, to turn to because I feel like a lot of emotion, time, and stress was spent simply just looking for help.
> (UC undergraduate, obtained a medication abortion)

This particular student spent several hours at the county social services office determining how to pay for an abortion. As a consequence, abortion care was delayed by trying to look for resources outside of their usual health care setting and establish care as a new patient.

*3.3. Topic 2: Access to first-trimester abortion services off campus*

Participants described a range of facilitators and barriers related to accessing abortion services off campus. Facilitators included pre-existing knowledge of abortion services, confidence navigating the health care system, and social support from peers and family that resulted in increased health literacy to locate accurate health care information and abortion clinics. Despite these facilitators, all participants encountered barriers to abortion services when traveling off campus. These barriers included navigating multiple appointments, lack of social support, and costs.

**Facilitators**

Participants reported pre-existing knowledge of abortion services and confidence navigating self-referrals to off-campus abortion facilities if they continued their care at clinics where they previously obtained sexual and reproductive health care. For instance, students who were established patients at Planned Parenthood continued seeking abortion services at a local Planned Parenthood, although, not all clinics offered both first-trimester abortion methods. Other participants who utilized their private insurance felt confident they could navigate self-referrals to in-network abortion clinics. As one UC student who obtained an aspiration abortion noted: “I had good health insurance, and I grew up in [the area] so I just knew better how to navigate my own system here.” Yet not every participant who attended

college in the area where they were raised was comfortable independently accessing abortion services.

Most participants' ability to pay for abortion services presented as a critical barrier, especially students who are low-income and dependent on parents (or others) financially. For some students, this barrier was mitigated by administrative staff from off-campus clinics who informed students about payment options: private insurance, public insurance, or out-of-pocket. Clinic staff alleviated stress about coverage by confirming whether private insurance covered services and enrolled eligible participants in public insurance.

Once participants located a health care facility that offered abortion services, many reported that scheduling an appointment was not a challenge but getting to those appointments were a challenge. Students who were able to overcome this challenge had social support from peers, partners, and family that served as a facilitator. Social support is exemplified as being directed to trustworthy resources online, providing rides to these students to attend medical appointments, and providing emotional support throughout the abortion. As illustrated by the following CSU student:

> I'm lucky that I have someone, this was a decision made by both, my partner and I [sic]. And I had his support the entire way. He was willing to drive me there. He was willing to drive me back and he was willing to stay with me the entire time. But if I didn't have that, I think it should be a lot more of a traumatic history.
> (CSU undergraduate, obtained a medication abortion)

Some supportive peers, partners, and family members missed work or other responsibilities to provide rides to help students get to these appointments. Unfortunately, not all peers, partners, and family members were supportive and helped facilitate accessing abortion services for all participants.

**Barriers**

Even with facilitators to access off-campus abortion services, all participants encountered barriers, such as navigating multiple appointments, lack of supportive services, and costs. For instance, once students secured a self-referral to an abortion clinic, they navigated multiple appointments in order to establish care as a new patient. As demonstrated by a CSU student who called a family planning clinic closest to her residence to make an appointment:

> They [abortion clinic staff] told me that with Kaiser it is covered, but I had to go through them first. I had to go to Kaiser, take a pregnancy test there to get a referral to the clinic. So I went to Kaiser, just took a pregnancy test … then gave me the referral and sent it over to that clinic.
> (CSU undergraduate, obtained a medication abortion and aspiration abortion)

Since the semester had ended, this participant was able to attend multiple appointments within the week to access timely health care. However, some students who are seeking an abortion during the school year are not afforded a flexible schedule to make limited appointments at off-site clinics. Instead, they are required to schedule appointments often during weekdays in between classes and other responsibilities. A CSU undergraduate who was a

single, student-parent described her complex logistics to obtain a medication abortion on the day of her midterm exam on campus:

> That morning, I drove to campus with my son, I dropped him off at daycare. I drove myself to Planned Parenthood, went to the appointment. They gave me the medication, then they gave me a prescription for pain medication, and nausea medication. I went to drop off the prescriptions at the pharmacy, nearest to campus. Then I went back to campus, drove myself back to campus, took the [midterm] exam. After the exam, I walked to my son's preschool to pick him up. And then I dropped him off at his grandparents … and came home and took the second set [of] pill[s].
> (CSU undergraduate, obtained a medication abortion)

Navigating appointments off campus further disconnects and isolates students from their community and resources on campus. This student's complex experience was exacerbated by not having social support and could have been simplified if medication abortion was offered on campus. She would not have traveled as much and could have received exam accommodations if connected to student services on campus. Instead, her only option was to time the medication abortion regimen with her midterm and childcare services.

### *3.4. Topic 3: Impact of accessing off-campus abortion care and managing symptoms after a medication abortion on campus*

Navigating abortion services off campus rippled through students' lives and impacted participants' academic performance and financial stability. Most often, students missed class or work to attend multiple medical appointments both on and off campus. Upon returning to campus, students who had a medication abortion felt pressured to resume coursework immediately despite having intense symptoms such as bleeding and cramping.

#### **Academics**

Students who discovered they were pregnant during the academic year, especially those enrolled in academically rigorous courses, described declining performance on exams from missing class and being unable to concentrate on their studies. Discovering an unwanted pregnancy, navigating abortion care off campus, and having symptoms such as bleeding and cramping after the abortion affected some participants' ability to concentrate. Unable to focus on their studies from the distraction and stress of navigating a pregnancy and abortion services, some students reported performing poorly that semester. Furthermore, a few participants reported that the toll on their academics extended beyond that immediate quarter or semester when they obtained an abortion. As illustrated by a UC undergraduate who obtained an aspiration abortion: "[the] beginning of spring quarter, I couldn't focus on anything that was going on. I ended up failing most of my classes that quarter, and I had to apply for reinstatement on probation with the school." This participant obtained an abortion during the summer and her academic performance declined immediately while enrolled in summer session. During subsequent quarters, landmarks from a continued pregnancy, such as at 9 months she could have given birth, impacted her mental health and academics. Unfortunately, this student did not seek or receive supportive services on campus, such as academic or

psychological counseling to address her needs. Only once she was placed on academic probation did she get academic support.

Even though medical notes are provided at off-site clinics for missed class, the majority of participants did not consider asking for a medical note because of lack of knowledge or stigma. Therefore, many students do not receive academic accommodations for missed assignments, classes, or exams from off-site clinics, which compromised their ability to learn and resume coursework. Among students who missed class for abortion-related health care appointments, a few students felt like they could not miss additional class for the fear of falling behind or being dropped. A few participants who had a medication abortion chose to attend class while experiencing intense symptoms from an ongoing abortion. Feeling the pressure and urgency to not fall further behind in their studies, one respondent, a CSU student who obtained a medication abortion, described attending class as the pregnancy expelled:

> I failed that final. I got a 52% on it, and it was for my engineering class, circuits. So I felt like I had to be in class to make sure I didn't fail again…I was going to class while it [expelling the pregnancy] was literally happening.

Although students experienced physical symptoms from medication abortion, such as uterine cramping, nausea, and vaginal bleeding, many forced themselves to continue studying especially during exams. As one UC student who obtained a medication abortion noted, "I had a lot of cramps, and I was very bloated. I kind of just wanted to sit at home, but I had to be at the library or at office hours." Only one participant described obtaining academic accommodations to account for their health care needs: in this case, the student got a medical note from the off-site clinic for an excused absence, and only for the day of the abortion.

**Financial barriers**

Getting to these appointments off campus often required sacrifices, some study participants said. For example, traveling to an off-campus abortion clinic during weekdays often meant missing classes or work. A full-time CSU undergraduate who worked two jobs to support herself had to miss two work shifts to obtain an aspiration abortion. She noted that the time she took away from work "was the first time my bank account had hit zero. I had to borrow some money from my partner to be able to make my tuition payment." Although the medical bill was paid by public insurance, lost wages crippled her financial stability and ability to pay tuition.

Many college students are already financially insecure (CSU, 2019; U.S. News and World Report, 2017) and lost wages from missing work is hugely impactful and can keep them from meeting their basic needs (CSU, 2015). Another UC undergraduate, who obtained an aspiration abortion, worked off campus had to quit her job because she no longer had sick leave that she could use for abortion-related care.

> I've been kind of living to the penny with my financial aid. After it would be spent for tuition and books and such, I would be dividing everything up. "Okay, what do I need for rent, for my phone bill, for utilities? How much money do I have on the side for food?"

While some participants received financial support from family and partners to offset lost income to pay for housing and food, this student's only option was applying for additional unsubsidized student loans.

*3.5. Topic 4: Increasing access to abortion-related services and post-abortion care at California public universities*

All participants were asked if they would have utilized the student health center to seek medication abortion services if available. Participants who had an aspiration abortion still preferred that method and did not have the option to get that service at the student health center. However, all participants agreed medication abortion should be offered on campus. Questions that followed examined concerns or benefits if medication abortion was offered on campus. Lastly, students gave recommendations to help increase utilization of abortion services when medication abortion at student health centers becomes available.

**Attitudes**

Several participants who obtained a medication abortion reported they would have utilized the service at the student health center. Those who obtained an aspiration abortion still preferred that method but would go on campus for supportive services. Participants noted that on-campus abortion care is not only convenient but also allows students who may not have the resources to travel off campus to stay close to their community for any support needed. An undergraduate who attends a UC in a rural area and obtained a medication abortion said having to go off campus to an unfamiliar clinic was an isolating experience. If given the option, this student would have preferred to stay on campus to get abortion services.

> I've never been to [rural city] before besides that. It's somewhere I don't know. Things could go wrong and I have no help. It was just being there by myself, not with anybody that I know. So if I was on campus, if something goes wrong, if I need a hand or something I could definitely call a friend, closer to the support system I have. And it's just more convenient with traveling.

Most participants cited familiarity and convenience as a major factor in their desire for medication abortion services on campus. For example, convenience denotes least distance traveled. For this student, offering medication abortion on campus would eliminate traveling over 40 miles one-way to the nearest city that offers services. However, when probed about participants' preference for first-trimester abortion method, (i.e., medication or aspiration abortion), earliest appointment availability, distance, and support to travel to an off-site clinic influenced their decision. To complicate matters further, if the above participant preferred an aspiration abortion, the nearest clinic was over 60 miles one-way by personal vehicle and would require a support person to accompany her to the appointment.

Lastly, participants acknowledged that abortion is a highly stigmatized and political issue. Some participants noted that a major concern for offering medication abortion on campus is the perceived resistance and lack of privacy. For instance, a CSU student encountered resistance and apathy from students and faculty when advocating for medication abortion at student health centers. She aptly described the different campus cultures and levels of acceptability of abortion among California public universities. Furthermore, some participants

were concern about the threat of protestors opposing abortion (including both on- and off-campus groups). Some student noted the need to be discreet for fear of being recognized by classmates. Yet other participants remarked that the student health center provides a variety of health services besides abortion, and other classmates cannot assume they are seeking a medication abortion.

*3.6. Topic 5: Student recommendations for provision of abortion-related services at California public universities*

Several participants discussed the lack of knowledge of current sexual and reproductive health services offered at the student health center and assumed they were not eligible to receive such services. Students emphasized availability of medication abortion provision on campus does not solely address access to sexual and reproductive health care. A few participants recommended California public universities can better support students by preventing pregnancy through education. As demonstrated by a UC student who expressed her frustration preventing a pregnancy and navigating an abortion:

> "Why isn't this [abortion] more accessible?" But the whole time I was also punching myself like, "Why were you so silly… or dumb, stupid, to get yourself into this situation in the first place?" I think the answer would be partially like I made a stupid decision, but also I wasn't that well educated about the contraceptives available to me.
> (UC undergraduate, obtained a medication abortion)

Availability of abortion services on campus is one component that increases access to sexual and reproductive health care. Although this participant defines accessibility as abortion provision, access to health care can be expanded to include information and knowledge. As exemplified by this participant's lack of knowledge of contraceptive options and services that could have prevented an unintended pregnancy.

A few participants recommended California public institutions can better support students seeking abortions by offering counseling and psychological services throughout the entire process for those who want it (e.g., decision-making process, abortion, and post-abortion). This was especially salient for students who had a history of mental health diagnoses or those who were isolated from social support. Although all UC and CSU students are guaranteed counseling and psychological services on campus, participants who tried to access these services to discuss navigating a pregnancy and abortion, did not receive the care they needed. Furthermore, other participants did not seek out counseling and psychological services because they were unaware that these services were an option for support, particularly since they had to seek abortion services off campus. One CSU student expressed the complexity of her experience and the potential benefit for supportive services on campus:

> [T]he biggest thing would have just been, accessing our counseling services, and making that connection that, like this was a traumatic experience for me. And I don't think that [I] actually processed that with a counselor ever.
> (CSU undergraduate, obtained a medication abortion)

In order to responsibly implement medication abortion at on-campus student health centers, participants reported that it would not be sufficient to offer the service on campus

without advertising it more broadly. Participants suggested ways to disseminate information about medication abortion beyond the student health center. For example, students recommended describing the availability of abortion care at orientation to all students regardless of gender, emailing student health center services, posting flyers in student spaces, and having student health center staff provide education related to abortion services at tabling events.

**4. Discussion**

In this study examining California public university undergraduate experiences obtaining an abortion and their perception of medication abortion provision at on-campus student health centers, students described four influences on their access to abortion and the future access to abortion on campus. First, students encountered institutional barriers on campus from California public university health services, which affected how students accessed abortion services and ultimately delayed care. Second, all students encountered barriers, and few reported facilitators when attempting to access first- trimester abortion services off campus. Third, barriers experienced from navigating abortion services off campus impacted students' academic performance and financial security. Fourth, UC and CSU students who obtained a first-trimester abortion were in favor of offering medication abortion at an on-campus student health center and increasing access to supportive services.

This is the first study to investigate college students' experience navigating abortion and a major contribution in the literature for college students' sexual and reproductive health care. Another strength of this study is the use of social media campaigns and remote interviews to facilitate outreach to students throughout California. For example, remote interviews provided more flexibility to meet the demands of students' schedules impacted throughout the day from class and work. However, some participants did not have a private and confidential space to hold the interview because of group and family living situations. These in-depth interviews with UC and CSU undergraduates represent a range of experiences to access abortion services that may be generalizable to college students in other states.

A limitation of this study design is we excluded students who obtained an abortion after 14 weeks, particularly since previous studies indicate these patients encountered more barriers that delayed care (Margo, McCloskey, & Gupte et al., 2016; Roberts, Gould, & Kimport et al., 2014; Upadhyay, Weitz, & Jones et al., 2013). Therefore, students who obtained an abortion before 14 weeks may differ from students who had an abortion after 14 weeks. This study may also be limited by recall bias since data was collected within 6 years of the event. Sampling bias may have occurred since a proportion of participants were recruited through bill sponsored events. Our study tried to account for recruitment with key stakeholders by simultaneously recruiting through academic and student activities listservs as well as social media. Lastly, the interviewer's positionality as a young person of color who attends medical and graduate school at a UC may have introduced interviewer bias. Although, the interviewer's positionality is also considered a strength since some participants shared those identities.

Legislation passed in 2019 mandates all California public universities to provide medication abortion at on-campus student health centers by January 1, 2023 (California State Legislature, 2019). Availability of medication abortion services eliminates barriers experienced by this study's participants, such as distance to the nearest clinic, navigating a new health care

system, and increasing continuity of care (Jaime MC et al., 2018; Raifman et al., 2018; Upadhyay et al., 2018). Conversely, increasing availability to abortion services is only one component of accessible care (AHRQ, 2019). Other components to increase accessible health care include insurance coverage, timeliness of care, and competent medical providers (AHRQ, 2019). Increasing knowledge about comprehensive sexual and reproductive health education, including medication abortion services, is necessary to eliminate institutional barriers. As recommended by participants, cost transparency and insurance coverage also needs to be addressed since several students' private insurance did not cover abortion and half of the participants used public insurance. All California public university students, irrespective of health insurance status, may use the on-campus student health center (UC, 2017). However, only some CSU campuses accept a public insurance option, which includes Family PACT to cover comprehensive family planning services (Raifman et al., 2018). Therefore, billing at student health centers should incorporate a public insurance model to increase access for students insurance who do not cover abortion or cannot afford to pay out-of-pocket.

Although the legislation only mandates medication abortion provision, some campuses have the capacity to offer aspiration abortion at the student health center (Raifman et al., 2018). Some students who preferred an aspiration abortion expressed wanting both medication and aspiration abortion services offered on campus. Often times, participants did not have complete autonomy over the choice of method for first trimester abortions because of appointment availability, distance to a clinic, and not securing a ride home. Therefore, these findings suggest that universities should be cautious about reinforcing limitations on a student's choice for abortion method if medication abortion is only offered. Notably, some students may prefer separating their healthcare from campus and travel to an off-site clinic. The student health center can still serve as a referral center that connects students directly to off-campus clinics, and facilitate supportive services on campus to ease their transition, including class accommodations and post-abortion mental health support.

Traveling off-campus to seek abortion services often siloed students' health care from student services on campus. The benefits of implementing medication abortion at student health centers potentially links students to on-campus resources such as academic services, counseling and psychological services, and emergency funds. Accommodations for academic and financial support can be facilitated discreetly between the student health center and supportive programs on campus. For example, students who missed class or coursework for a medical appointment are required to contact professors directly and disclose aspects of their health care from an off-site abortion clinic. Instead, student health centers, with permission from the patient, could help facilitate access to student services for academic accommodations. For example, participants could have benefited from an excused absence to manage an ongoing abortion that conflicted with class. Furthermore, students who miss work can be directed to resources for food, housing, and emergency loans. Although these resources are available at UC and CSU campuses, the university can only help students if they made are aware of these situations or if students are aware of these resources.

Although the study did not deliberately recruit for students with who became pregnant in a specific context, such as pregnancy after sexual assault or with mental health disorders, several participants spoke about these issues. California public universities are in a unique position to continue care with students who obtain an abortion on campus, especially students

who want counseling and ongoing support who experienced trauma from a sexual assault or dealing with a mental health disorder. Notably, the preponderance of rigorous research indicates that there is no causal relationship between having an abortion and subsequent suicidal ideation or depression (Biggs, Upadhyay, McCulloch & Foster, 2017; Gomez, 2018). However, college students can still be offered robust counseling services that address feelings of stigma and isolation while pursuing their education. Moreover, there is a national crisis regarding mental health services on campuses for the increase demand and improvement of services (Xiao et al., 2017). The unmet need for counseling and psychological services was illustrated by participants unsuccessful attempts to access these services.

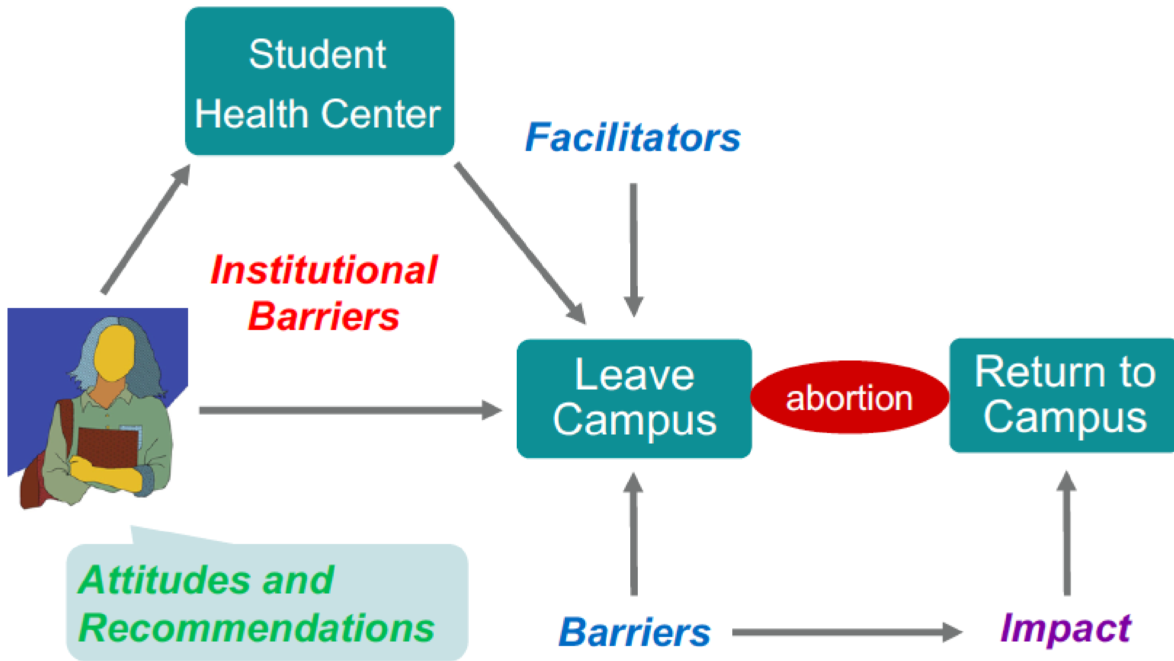
In conclusion, our study found that California public university undergraduate students experienced barriers and facilitators when seeking abortion services that impacted their academic and financial security. Another finding included perceptions and recommendations for medication abortion provision at on-campus student health centers. Future research needs to access the implementation of medication abortion services at California public universities. Also, future studies can be conducted about comprehensive sexual and reproductive health care on college campuses.

**Table 1.** Participant demographic characteristics, health insurance status, and sexual and reproductive health services obtained

| Table 1. Student characteristics | |
|---|---|
| Total | N = 15 |
| Age (years) at interview; median, range | 24 years (20 – 29) |
| 20-21 | 5 (36%) |
| 22-23 | 1 (7%) |
| 24-25 | 5 (36%) |
| 26-27 | 2 (14%) |
| 28-29 | 1 (7%) |
| Missing | 1 (7%) |
| Gender identity | |
| Cisgender woman | 15 (100%) |
| Race/ethnicity | |
| White/non-Hispanic | 2 (13%) |
| Latinx/non-White | 6 (40%) |
| Asian or Asian American | 5 (33%) |
| Other – Multiracial | 2 (13%) |
| CA public university attended as undergraduate | |
| California State University (CSU) | 6 (40%) |
| University of California (UC) | 9 (60%) |
| Student health center services (SHCs) for sexual and reproductive health | |
| Yes, used SHCs | 7 (47%) |
| No SHCs | 8 (53%) |
| Health insurance as a student | |
| Insurance provided by state | 3 (20%) |
| Student Health Insurance Plan (SHIP) | 1 (7%) |
| Private insurance | 11 (73%) |
| Paid for abortion services* | |
| Insurance provided by state | 8 (53%) |
| Student Health Insurance Plan | 1 (7%) |
| Private insurance | 5 (33%) |
| Out-of-pocket | 1 (7%) |
| Abortion method | |
| Medication abortion | 10 (67%) |
| Aspiration abortion | 6 (40%) |
| Children | |
| 0 | 14 (93%) |
| 1 | 1 (7%) |

*Payment does not include out-of-pocket costs, including co-pays, deductibles, prescription pain medications, and transportation

**Figure 1.** Pathway to first-trimester abortion services for California public university undergraduate students



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## Appendices

### 1. Interview guide

*Background Information*

1. Age
2. Gender
3. Race/Ethnicity
4. CA public university attendance at time of abortion
5. Health insurance status at time of abortion
6. Payment for reproductive and sexual health services
7. Payment for abortion services

*Reproductive and sexual health services*

1. What does your reproductive and sexual health services look like for you as a student?

*Medication abortion or aspiration abortion*

1. Could you tell me the circumstances and how you felt around the pregnancy for which you received an abortion?
2. [SHC Probe] Did you go to the student health center on campus to receive any services during this time? If so, what was that experience like?
3. How did you choose where to go for an abortion?
4. What was your preferred method, e.g., medication or aspiration abortion? How did you decide?
5. What were the different things that took up time getting an abortion?
6. Did you have support from someone or an organization? Support can mean many things like giving a ride, bringing you food, or providing comfort.

*Impact of pregnancy or abortion*

1. What was your experience like afterwards returning home or to school?
2. If becoming pregnant or getting an abortion affected your life as a student, how did it do so?
3. [Academics Probe] Did anything change with your classes or work?
4. [Social Probe] Did anything change with you relationships or friendships?

*Medication abortion offered at on-campus student health centers*

1. If medication abortion was offered at the on-campus SHC, would you have used it or gone elsewhere? What would be the benefits or concerns?
2. How can the university support students seeking abortions?

**Recruitment materials**
*All images designed by Kayla Lopez*

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- Adult (18+)
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- Having ever been pregnant while attending a CSU or UC
- If you agree to participate, you will be asked to take part in an interview that will last approximately 60 minutes.
- Consent to be audio recorded

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**The UC Berkeley - UCSF Joint Medical Program**
UC Berkely IRB #2018-05-11102
Principal Investigator: Ndola Prata, MD, MSc
Graduate Student Investigator: Jackie Castellanos

Instagram and Facebook interactive posts

Image 1

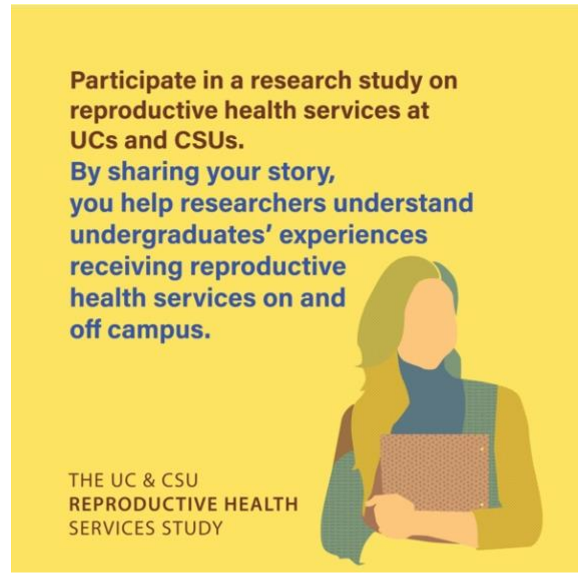


Image 2

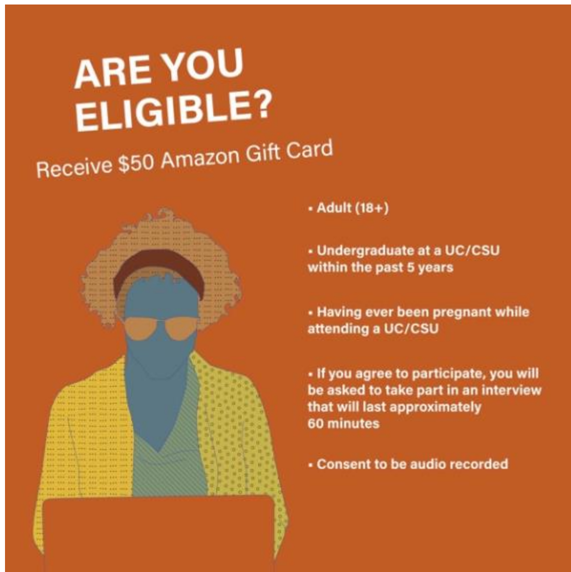


Image 3

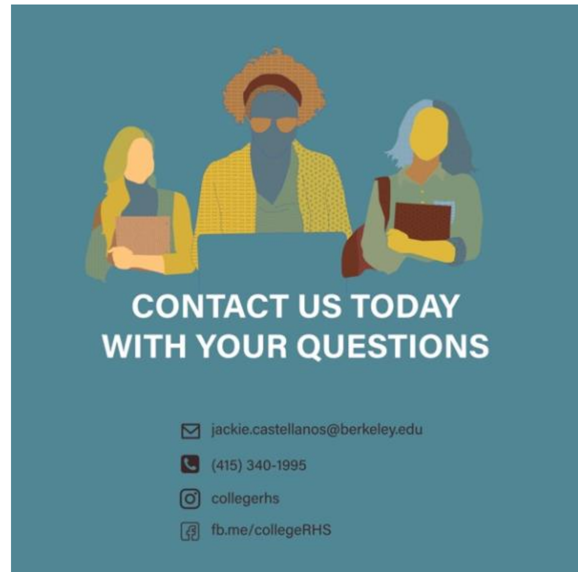


Image 4