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## Beyond The Sentimental Cliche: How Local Communities Impact Residents And Shape Public Opinion

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BEYOND THE SENTIMENTAL CLICHE: HOW LOCAL COMMUNITIES IMPACT  
RESIDENTS AND SHAPE PUBLIC OPINION

KATE BRUNK

108 Pages

The Trump administration has recently established a rule that will prohibit abortion services providers from receiving Title X funds for the non-abortion family planning services they provide. Little public opinion research has focused on family planning and reproductive health topics outside of abortion. I find statistically significant experimental evidence that increasing perceptions of local need for a local reproductive health clinic caused subjects to be more supportive of federal reproductive health funding for local clinics. I did not find statistically significant correlational evidence that objective measures of poor reproductive health at the county level influence public opinion on federal reproductive health funding. Using geographic information systems (GIS), I assess which communities are most at risk of being negatively impacted by poor reproductive health if they were to have a misalignment of perceived need for such services.

**KEYWORDS:** communities, localities, public opinion, reproductive health, abortion, federal funding, federal programs, Title X, geographic information systems, GIS, United States

BEYOND THE SENTIMENTAL CLICHE: HOW LOCAL COMMUNITIES IMPACT  
RESIDENTS AND SHAPE PUBLIC OPINION

KATE BRUNK

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BEYOND THE SENTIMENTAL CLICHE: HOW LOCAL COMMUNITIES IMPACT  
RESIDENTS AND SHAPE PUBLIC OPINION

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## CONTENTS

	Page
ACKNOWLEDGMENTS	i
TABLES	v
FIGURES	vi
CHAPTER I: INTRODUCTION	1
CHAPTER II: LITERATURE REVIEW	7
Predicting Support for Federal Reproductive Health Funding	7
Community's Influence	8
Self-Interest	11
Perceptions	16
Conclusion	17
CHAPTER III: EXPERIMENTAL ANALYSES	19
Experimental Design	19
Demographics of the Sample	21
Results	23
Efficacy of Treatment	23
Hypothesis Tests	24
Discussion	31
Conclusion	34
CHAPTER IV: ANALYSES OF OBJECTIVE MEASURES	35
Research Design	36
Support for Federal Funding for Reproductive Health Services	36
Support for Overturning <i>Roe v. Wade</i>	43
Regression Models	44

Results	46
Support for Federal Funding for Reproductive Health Services	46
Support for Overturning <i>Roe v. Wade</i>	49
Conclusion	52
CHAPTER V: GEOGRAPHIC INFORMATION SYSTEMS ANALYSIS	54
Mapping High-Risk Communities	55
Conclusion	73
CHAPTER VI: CONCLUSION	74
REFERENCES	78
APPENDIX A: SURVEY EXPERIMENT SURVEY FLOW AND ITEMS	93
APPENDIX B: SAMPLE CHARACTERISTICS FROM SURVEY EXPERIMENT	100
APPENDIX C: DESCRIPTIVE STATISTICS FROM SURVEY EXPERIMENT	102
APPENDIX D: KAISER FAMILY FOUNDATION SURVEY QUESTIONS	103
APPENDIX E: SELECTED DESCRIPTIVE STATISTICS FROM KAISER FAMILY FOUNDATION DATASET	105
APPENDIX F: HIGH-RISK COMMUNITIES	106

## TABLES

Table		Page
3.1	Predicting Support for Federal Funding for Hypothetical Clinic	25
4.1	Predicting Public Opinion on the Importance of Federal Funding for Reproductive Health Services	46
4.2	Predicting Public Opinion on Overturning <i>Roe v. Wade</i>	49

## FIGURES

Figure		Page
3.1	Difference of Means Test by Treatment Group on Perception of Need for Hypothetical Health Clinic	24
3.2	Clarify Predicted Values for OLS Regression Predicting Support for Federal Funding for Hypothetical Clinic that Does Not Offer Abortion Services	27
3.3	Clarify Predicted Values for OLS Regression Predicting Support for Hypothetical Clinic that Offers Abortion Services	29
3.4	Mean Support for Federal Funding for the Hypothetical Clinic, by Treatment Group and by whether the Clinic Offered Abortion Services	30
3.5	Paired Difference of Means Test by Clinic Items on Treatment Group	31
4.1	Margins Predicted Values: Support for Federal Reproductive Health Funding	48
4.2	Clarify Predicted Values: Support for Overturning <i>Roe v. Wade</i>	51
5.1	Poverty Rates by County (2016)	57
5.2	Estimated Live Teen Birth Rates by County (2015)	58
5.3	Rates of Chlamydia per 100,000 by County (2016)	59
5.4	Rates of Gonorrhea per 100,000 by County (2016)	60
5.5	Rates of Primary and Secondary Syphilis per 100,000 by County (2016)	61
5.6	Indicator of Poor Reproductive Health by County	65
5.7	Percent of Votes in 2016 General Election for Donald Trump by County	66
5.8	Counties at Highest Risk of Impact if Perceptions of Need for Reproductive Health are Misaligned	67
5.9	Title X Service Sites (Nov 2018)	71
5.10	Title X Service Sites (Nov 2018) in Counties at Highest Risk of Impact if Perceptions of Need for Reproductive Health are Misaligned	72

## CHAPTER I: INTRODUCTION

The Title X National Family Planning Program financially supports public health facilities and nonprofit clinics in the US that provide family planning and reproductive healthcare to all who need it with an emphasis on serving low-income individuals. Services covered by Title X funding include a broad range of contraceptive methods, education and counseling, sexually transmitted infection (STI) testing and treatment, HIV testing, breast and cervical cancer screening, and pregnancy diagnosis and counseling. Title X funds cover or subsidize the cost of family planning and related preventative health services for individuals whose family incomes are at or below 250% of the federal poverty line. Over the past decade, these federally subsidized reproductive health services have been disproportionately used by women (92%) and those who live at or below the federal poverty line (69%) (Fowler et al. 2018). In 2017, there were more than 3,800 service sites that offered Title X subsidized family planning and related health services to more than four million clients, 90% of whom qualified for reduced fee or no-fee services (Fowler et al. 2018).

There is evidence that the need for Title X remains high. While the number of unintended pregnancies in the US has decreased in recent years, 45% of pregnancies remain unintended and, in some states, more than 50% of pregnancies are unintended (Guttmacher Institute 2012). Additionally, large gaps exist among women from different demographic backgrounds. While fewer than 40% of pregnancies were unintended for white women, wealthier women, and women over 30, more than 50% of pregnancies among women of color, teens, low income women, and women in their early twenties were unintended (Finer and Zolna 2016; Guttmacher Institute 2012). Moreover, more than 50% of adolescent girls and 40% of adult women who are at risk of

unintended pregnancy are not using the most effective contraception methods or even moderately effective methods (Gavin et al. 2017).

Additionally, the record number of STI cases reported in 2016 and 2017 prompted the Centers for Disease Control and Prevention to release information to the public underscoring the danger of these infections to become resistant to current treatments (Centers for Disease Control and Prevention 2018). They emphasized the need for frequent screening and early detection to avoid severe adverse consequences of untreated infections and the spread of the infection to others (Centers for Disease Control and Prevention 2018).

Furthermore, a significant amount of research has underscored the negative health and social outcomes to individuals that result from a lack of access to reproductive health care (Gipson, Koenig, and Hindin 2008; Herd et al. 2016; Wendt et al. 2012). Unintended pregnancy and STI contraction can lead to increased rates of physical and mental illness (Hall et al. 2017). Unintended births can also result in negative health outcomes not only for the mother and child (Gavin et al. 2017; Herd et al. 2016; Wendt et al. 2012) but also for the child's siblings (Lordan and Frijters 2013). Other research has indicated that lack of access to reproductive care can also negatively impact economic health at the state and national levels (Frost et al. 2014; Sonfield et al. 2011); one study indicated that the net national savings in 2010 from subsidized reproductive health services was \$13.6 billion (Frost et al. 2014).

The health and social costs experienced by individuals impacted by unintended pregnancy and STIs and the economic costs experienced by the state and federal governments can all put a strain on community vitality and resilience (McAslan 2010). Location-based community resilience is defined as a community's ability to experience and cope with change

and crisis through reliance on its physical capital, informational capital, and social capital (McAslan 2010). Communities that have inadequate resources to provide their residents with knowledge about and access to reproductive health services are less resilient. Residents who experience unintended pregnancy and STIs face diminished physical and mental health and that hinders their ability to contribute to their communities and enhance community resilience. Additionally, as rates of unintended pregnancy, STI prevalence, and other indicators of diminished reproductive health increase, states and the federal government have to direct funding to programs that respond to these concerns. Because treatment is more costly than prevention (Frost et al. 2014), it could reduce the discretionary funding for grants to local governments that communities rely on to provide essential services to their residents (Center on Budget and Policy Priorities 2018).

New rules and proposed legislation, however, could make it more difficult for individuals to access prevention and treatment services for reproductive health. National-level Republican officials have promoted legislation that would eliminate funding to any reproductive health service providers that offer abortion services (Associated Press 2018; Mali 2018). The Trump administration has issued a rule that will eliminate Title X funding to any providers that offer abortion services or referrals and is scheduled to go into effect in May 2019 (Office of Population Affairs 2019). Although federal funding, including Title X funds, cannot be used to cover the costs of abortion services, supporters of the proposed legislation and rule argue that federal funding is indirectly supporting abortion services because many of the providers that offer these services rely on federal funding and Medicaid reimbursement to cover the costs of the

other services they provide, thereby enabling the clinics to keep their doors open to offer abortion services (Gordon Earll n.d.).

The effects of cutting federal funding to clinics that also offer abortion services could be far reaching and have the greatest impact on low-income women's access to family planning and reproductive health services (Sobel, Rosenzweig, and Salganicoff 2018; Sobel, Salganicoff, and Frederiksen 2019). Federal reproductive health subsidies enable lower-income individuals to access contraception, breast and cervical cancer screenings, and STI preventative, screening, and treatment services that would otherwise be inaccessible to many of them (Fowler et al. 2018; Frost, Gold, and Bucek 2012; Guttmacher Institute 2012). One analysis indicated that, if funding were cut from providers who offered abortion services, the network of Title X providers would be dramatically decreased and the remaining providers would be unlikely to provide the same variety of timely services to fill the need created by such a policy (Hasstedt 2017). New providers that do not offer abortion services may be able to fill the gap over time or perhaps existing providers of abortion services would reconsider offering those services. It is unclear, however, how long it would take to achieve the same level of service even with such changes. Planned Parenthood, for example, provided 41% of the contraception services funded by Title X clients in 2015 (Hasstedt 2017), and they have pledged to continue offering the same information and services despite the new rule (Planned Parenthood 2019), which will require them to discontinue operating as a Title X provider.

While there is evidence of a partisan difference on this issue, a large number (49%) of self-identified Republicans (Princeton Survey Research Associates International 2017), who typically oppose many types of individual welfare spending (Pew Research Center 2017), do

support federal funding for non-abortion reproductive health services provided by Planned Parenthood, an organization that has been politicized because of its nationwide presence and provision of abortion services. Although this is a significantly lower rate than support among Democrats (92%) and Independents (69%) (Princeton Survey Research Associates International 2017), it shows a gap between national-level Republican rhetoric about providers like Planned Parenthood and public support for ensuring members of their communities have access to reproductive health services even when that means providing funding to clinics like Planned Parenthood. This evidence indicates that perhaps there are factors beyond cues from political elites that are influencing public opinion on reproductive health and reproductive health care access.

Through an experiment and correlational analysis, I test the hypothesis that community-level factors positively influence opinion on federal reproductive health subsidies. There are two specific sub-hypotheses that I test. The first is that, as perception of the need for reproductive health services at the local community level increases, individuals should perceive greater risk to themselves and those around them, leading to more support for public solutions to address it, like federal funding programs. The second sub-hypothesis is that, as objective measures of poor reproductive health indicators at the community level increase, individuals in those communities should perceive a greater risk to themselves and those around them, leading to more support for public solutions to address it, like federal funding programs.

In the next chapter, I describe what previous research has suggested are the ways that communities can influence the views and behaviors of their residents, and I build a theory for the role in which communities likely play an influential role in public opinion formation on federal

reproductive health funding. In Chapter III, I test whether the way individuals perceive need in their communities influences their policy opinions through a survey experiment. In Chapter IV, I assess whether objective measures of community need predict public opinion on reproductive health issues. Applying the results of the analyses described in Chapters III and IV , I create US maps indicating which communities are most likely to be negatively impacted by poor reproductive health in Chapter V. Finally, I conclude with a summary of my findings and what it means for policy makers, activists, and other researchers in Chapter VI.

## CHAPTER II: LITERATURE REVIEW

Public opinion on federal funding for reproductive health care has received little to no previous attention from academic researchers. In this chapter, I explain my theory for why community-level factors should be an important predictor of support for such funding. I draw from previous research to explain the ways in which communities and community-level factors influence political behavior and beliefs. I then turn to self-interest as a theoretical framework for the mechanism through which community-level factors could influence public opinion on this topic. I end the chapter with a description of the ways in which perceptions of community, which are not always aligned with objective reality, are important to consider.

### **Predicting Support for Federal Reproductive Health Funding**

Few, if any, published studies have quantitatively assessed public opinion on federal family planning subsidies. Even topics tangentially related to federal reproductive health subsidies, like teen education and insurance coverage of family planning services, have received little attention from academics. In a public opinion survey conducted in 2003, a majority of Americans supported family planning services being required in health care coverage, with women of childbearing age, liberals, and Democrats reporting rates of support over 90% (Grammich, DaVanzo, and Stewart 2004). A study of public opinion of adolescent family planning education published in 1984 suggested that, while all subsets of subjects were generally favorable towards educating teens about family planning, older adults, Catholics, and unskilled or semi-skilled workers were less supportive of family planning education for teens (Mercier 1984).

Studies focusing on public opinion on abortion, on the other hand, are numerous and suggest that educational attainment, religious beliefs, and ideology among other factors are strong individual-level predictors of support for abortion access (Lizotte 2015; Pacheco and Kreitzer 2016; Strickler and Danigelis 2002). One study of a dataset from 1984 collected in South Bend, Indiana even attempted to explore the way in which interpersonal interactions within social networks can impact views on abortion even though the complexities and direction of influence can be difficult to measure and uncover (Kenny 1993). The results of the two-stage least squares model in this analysis suggested that the views of those with whom subjects had the most intimate relationships, e.g. spouses and close friends, had a strong influence on the subjects' views on abortion (Kenny 1993).

Research on public opinion on federal reproductive health or family planning subsidies has been seemingly limited if not nonexistent. Since the new Trump administration rule will enact sweeping changes to the Title X program, it has become an important policy topic for both Republicans and Democrats (Associated Press 2018; Mali 2018). Understanding public opinion on this topic could become more important for activists and policy makers. I assert that factors beyond individual-level variables impact public opinion on support for federal reproductive health funding. My study not only includes analysis of demographic and other individual-level factors as controls, but it also assesses the extent to which local communities influence public opinion on federal reproductive health subsidies.

### **Community's Influence**

While communities need not be place based (Bhattacharyya 2004), by communities, I mean localities that have defined territories and which foster a sense of solidarity among

residents. Being a "New Yorker" is a well-known example of how a locality can foster a sense of identity among the individuals who live there. For some, that solidarity may not have as much resonance as other parts of their identities, but localities create senses of solidarity through even mundane mechanisms, like locality-based tax payers or locality-based commuters facing the same traffic or infrastructure challenges.

Research on contextual effects have often defined community by the geographical space that is administered by governmental units (Baybeck 2006; Dyck and Gimpel 2005; Huckfeldt and Sprague 1995; Pearson-Merkowitz and Dyck 2017). Others, especially within the context of racial threat, have focused on allowing the individual to define the geographic boundaries of their communities for themselves (Cho and Baer 2011; Moore and Reeves 2017; Wong et al. 2012). Through a pilot survey of 62 subjects, Wong et al. (2012) find that subjects' perceived community does not fit within the boundaries of communities defined by government units, and they suggest that using census information based on those government-defined communities may eliminate information that contributes to the "contextual effect." For example, if an individual perceives their community to be only their neighborhood and their neighborhood is the community unit that most influences their beliefs and behavior, then placing their beliefs and behavior in the aggregate context of their county may yield misleading results. Others who evaluated the individual-defined community versus the government-defined community, however, found that objective measures within the government-defined community boundaries were better predictors of subjective perception of community populations of racial minorities than the objective measures within the individual-defined community (Velez and Wong 2017).

While this debate is unresolved, the government-defined community was the best option I had when analyzing existing datasets.

Some of our most meaningful interactions happen at the community level. We spend most of our time in the communities we live and work in, and those communities are crucial to our personal knowledge and experience (McLeroy et al. 1988; Putnam and Feldstein 2003). The community context is related to political behavior. One study among a sample in Tallahassee, Florida found a positive correlation between the sense of community one feels and one's likelihood of voting in local elections and engaging in political discussion (Anderson 2009).

Social norms and pressure experienced at the community level can also influence political participation and voting. Communities made up of individuals who value political participation and establish it as a community norm can motivate whether and which types of political actions one takes (Anoll 2018). One study indicated that social pressure to vote can increase turnout (Murray and Matland 2014).

Through objective community-level measures, communities can also provide space for experiences that influence the issues and social problems one is aware of. Residents of British Columbia, for example, were more likely to engage in individual- and group-level political action on environmental issues when they lived in areas with more extractive industries, like mining and forestry (Blake 2001). Demographic changes at the community level can spur shifts in public opinion when issues are framed in relation to the social groups at the root of the change; destabilizing increases in immigrant populations is a prime example (Hopkins 2010).

Another mechanism through which objective community measures can influence political opinion is outlined in the context-cue interaction approach. According to this theory, policy

opinion is largely based on lived experiences of social interactions for those who are not involved in politics or have strong political identities, like party identity or ideological identity (Dyck and Pearson-Merkowitz 2014). For those that do have a defined political identity, however, cues from political elites moderate the effect of personal contact (Dyck and Pearson-Merkowitz 2014). Researchers who applied this concept to the issue of gun control found that this theory was substantiated among a sample of 1,000 Americans weighted to achieve a representative sample (Pearson-Merkowitz and Dyck 2017). The gun control study used ordered logit models with an interaction term of rates of violent crime per capita and party identification to measure the context-cue relationship between these factors. Their results showed that the level of support for gun control measures among strong Republicans, leaning Republicans, and strong Democrats were not influenced by the rates of violent crime in their counties, but these crime rates did positively influence Independents' and leaning Democrats' level of support (Pearson-Merkowitz and Dyck 2017).

These mechanisms, like social pressure and the context-cue approach, are ways in which communities can influence the beliefs and behaviors of their residents. For the issue of support for federal funding for reproductive health services, though, I suggest that self-interest provides a strong mechanism through which communities influence policy opinion.

### **Self-Interest**

Some scholars argue that self-interest has a diminutive impact on political opinion and behavior. Some assert that self-interest is important when a policy impacts individuals in a large and very clear way (Huddy, Sears, and Levy 2013). Others find that self-interest is not an important predictor of policy preference when it is defined in terms of short-term gain and that

symbolic predispositions, like party and ideology, are stronger predictors of political opinion (Lau and Heldman 2009). The authors of *The American Voter Revisited* go so far as to say that there is a scholarly consensus on the fact that "a personal stake in the outcome of a controversy over policy has little, if any, impact on a person's issue preferences" (Lewis-Beck et al. 2008, 197).

An analysis of longitudinal, cross-sectional data, however, suggested both economic driven self-interest and ideological beliefs are important predictors of economic policy opinion (Jæger 2006). A cross-national survey of 21 European countries suggests that ideological beliefs and self-interest can interact to influence political beliefs about government responsiveness (Rosset, Giger, and Bernauer 2017). Using the basic human values models, Goren et al. (2016) link self-interest and ideology as strong correlates; in their analysis the "transcending self-interest" value is correlated to liberalism and the "conservation" value is correlated to conservatism.

The more importance people attach to transcending self-interest on behalf of others, the stronger their preferences for the liberal label, a generous welfare state, ameliorative racial policies, cultural progressivism, political tolerance, and dovish foreign policy... The more individuals prioritize respect for tradition, deference to convention, and social order, the stronger their preferences for the conservative label, smaller government, racial self-help, culturally conservative policies, political intolerance, military power, and foreign policy unilateralism (Goren et al. 2016, 995).

While this model labels the value associated with liberalism as "transcending self-interest" and labels values associated with conservatism as "conservation," the correlated policy positions they

cite for both the transcending self-interest value and the conservation value could, in fact, be associated with self-interest more broadly defined by other scholars.

Evolutionary psychologists, like Weeden and Kurzban (2014), argue that, when self-interest is viewed beyond short-term economic interests, it can exert an important influence on political attitudes. Self-interest should include "various kinds of material and nonmaterial gains, over shorter-term and longer-term horizons" (Weeden and Kurzban 2014, 40). This self-interest approach accepts that, while party identification and ideology can be important factors that contribute to opinion, self-interest can also have an important influence on attitudes towards certain issues (Weeden and Kurzban 2014; 2017). The issues that should be influenced by self-interest include those that have broadly desired societal goals, tangible implications for the individual, and competitive social significance (Weeden and Kurzban 2017).

Reproductive health has these characteristics that suggest that self-interest is an influencer. Society widely shares the goal of being healthy and values individuals who are healthy (Office of Disease Prevention and Health Promotion 2019a) and reproductive health is an important part of an overall healthy life (Office of Disease Prevention and Health Promotion 2019b). Reproductive health has very tangible impacts on individuals. Reproductive health related infections or illness and pregnancy can have major impacts on the lives of the people experiencing them (Centers for Disease Control and Prevention 2018b; Newton and McCabe 2008). There is also societal competition attached to reproductive health outcomes. Those living with incurable STIs and those who experience nonmarital pregnancy may be stigmatized by others (Mollborn 2009; Morris et al. 2014). While self-interest at the individual level is likely a

factor influencing public opinion on reproductive health care and public funding for it, self-interest can also come from the social network level (Weeden and Kurzban 2014).

Community-level self-interest is an outgrowth of individual-level self-interest (Weeden and Kurzban 2017). Humans have evolved to live in social groups and, as illustrated by realistic group conflict theory (Sherif 1961; Turner, Brown, and Tajfel 1979) and social identity theory (Brewer 1999; 2007), interactions between groups are often marked by competition for resources or prestige. The social tools humans use to build strong connections among their social networks enable them to act towards common goals and accomplish more together (Weeden and Kurzban 2014, 39). This important human characteristic means that not only is individual self-interest important but group-level interest must also be considered as a factor influencing public opinion. Group-level interest or "inclusive interests" are those in which one's family or broader social network experience tangible and intangible benefits in the short and long term regardless of if the individual directly benefits (Weeden and Kurzban 2014, 40).

If we apply those same characteristic requirements that indicate that an issue would be influenced by self-interest to the inclusive interest level, reproductive health fits because, as a community-level issue, it has widely shared goals, tangible implications, and competitive social implications. Individuals would be motivated to support efforts to reduce indicators of poor reproductive health in their communities to reduce the threat posed to them and their families through the health threat of STI contraction and the greater need for supportive social services for families who experience unintended pregnancy (Power to Decide 2019b). Reducing indicators of poor reproductive health happens on a broad level. There are national initiatives aimed at reducing rates of unintended pregnancy (Power to Decide 2019a) and STI prevalence

(National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention, Centers for Disease Control and Prevention 2014). Given the stigma and negative outcomes listed above associated with STI prevalence and unintended pregnancy, communities have a stake in reducing rates of these indicators in order to avoid the notoriety of being published on lists like "Top 20 U.S. Cities with the Most STDs" (BlackDoctor.org Staff 2018).

The need for reproductive health care also has very tangible impacts on communities and has larger social ramifications. Community health resilience is the concept that health in a community is a primary component of building a community's ability to successfully "withstand, adapt to, and recover from adversity" (US Department of Health and Human Services 2015). Communities with a high prevalence of reproductive health indicators reduce the health and fiscal well-being of a community and increase vulnerability in the face of emergencies and disasters (McAslan 2010). Resilient communities, those with healthy residents and strong social infrastructure, have a competitive advantage in attracting economic opportunity and earning prestige (U.S. Economic Development Administration n.d.).

Although community-level factors can shape self-interest and inclusive interest, individuals who are unaware of the risk posed by or the benefits that could result from those factors may inaccurately assess their self- and inclusive interests in various policy opinions. Additionally, because public opinion is one factor that drives public policy and expenditures (Caughey and Warshaw 2018), the ways in which individuals perceive their communities, then, could be a more important factor than the realities of their communities.

## **Perceptions**

Our perceptions of ourselves, our communities, and of other communities or regions are not always aligned with objective measures of reality. Using data from the "Midlife Development in the United States" study, Gleib, Goldman, and Weinstein (2018) found that individuals' perception of their economic circumstances and prospects, especially among working class non-Latinx whites, was sometimes more dire than their objective measures indicated. Newman, Shah, and Lauterbach's (2018) analysis of the 2016 Cooperative Congressional Election Study responses, on the other hand, found that perceptions of local income inequality were aligned with objective measures and that those with the lowest incomes had perceptions most aligned with the objective reality.

In the realm of health, individuals in Appalachia were likely to perceive themselves to be healthy even when objective measures indicated that they were in poor health (Griffith et al. 2011). Research on Ohio health care workers' perceptions of the health and environmental realities in Appalachian Ohio versus non-Appalachian Ohio indicated that even those professionals whose work is most aligned with these topics had misperceptions of some of the actual negative environmental indicators that impact the health of residents in Appalachian Ohio (Morrone, Kruse, and Chadwick 2014).

Research on perception of the threat from local environmental factors found that perception of threat was the strongest predictor of engagement in environmentally friendly practices, like recycling, water conservation, and reducing driving (Baldassare and Katz 1992). Another study found that perception of the size of the racial and ethnic minority populations in one's local community distorts beliefs about the size of minority populations nationwide; in the

regression analysis of responses to the 2000 General Social Survey, perception of the local minority population was a stronger predictor of overestimating the number of minorities in the US than the objective percent of the minority populations in the local community (Wong 2007).

Several studies have assessed the disparities between objective measures of crime rates and perceived levels of crime. In a correlational study of perceived crime rates and personal victimization of crime, researchers found that, in Australia, there is a gap between perceived crime rates and actual crime rates with perceived rates being higher; additionally, perceived crime rates in one's locality was a negative predictor of life satisfaction even when controlling for personal victimization from crime (Ambrey, Fleming, and Manning 2014). Perceptions may also impact policy opinions on criminal punishment. Findings from a correlational study in England suggest that perceptions not only of higher local criminal activity but also perceptions of a negative economic outlook had a positive influence on support for more punitive criminal justice policies (King and Maruna 2009).

Ultimately, objective measures of community can influence political behavior and beliefs, but perceptions of community can also play an important role in policy opinion. Self-interest and inclusive interest are defined by what individuals believe will lead to material and non-material gains for themselves and those close to them, so their perceptions should be considered important factors, especially since those perceptions may not be based on objective measures of reality.

## **Conclusion**

Studies on public opinion on reproductive health related programs have been very limited (Grammich, DaVanzo, and Stewart 2004; Kenny 1993; Mercier 1984) and have not included

analysis of public opinion on federal reproductive health subsidies. Communities and our perceptions of them can shape our self- and inclusive interests, which influence our behaviors and beliefs; yet the specific contexts and the extent of that impact on public opinion has not been widely explored. Reproductive health is an issue that aligns well with Weeden and Kurzban's (2014) concept of inclusive interest and this suggests that community-level factors should influence policy opinion on reproductive health issues. My research and analysis in the next chapters will examine to what extent community-level indicators of deficient reproductive health increase support for federal funding for reproductive health subsidies. Chapter II tests the influence of perceptions, and Chapter III tests the influence of reality through objective measures of poor reproductive health at the community level. I expect that, as perceptions or objective indicators of poor reproductive health at the community level increase, support for federal reproductive health subsidies will increase.

## CHAPTER III: EXPERIMENTAL ANALYSES

In the prior chapter I explain why public opinion on federal reproductive health funding should be influenced by community-level factors and perceptions of those factors. In this chapter, I assess how subjects' perceived community need for reproductive health care, using rates of unintended pregnancy and STIs as indicators, influences their support for federal funding for a reproductive health clinic. Because the national debate about the Title X program has become linked to Planned Parenthood and abortion services (Associated Press 2018; Mali 2018), I also assess how perceived community need impacts support for federal funding for a clinic that offers only non-abortion reproductive health services and a clinic that offers privately paid for abortion services in addition to the other reproductive health services.

### **Experimental Design**

Through an online survey experiment conducted in February 2019, I collected data through the Qualtrics survey platform to test these hypotheses.<sup>1</sup> The Qualtrics algorithm randomly assigned subjects to one of two treatment groups in the survey. Subjects received the following prompt:

Imagine that you lived in a community that might establish a new health clinic that would offer only nonabortion reproductive health services such as birth control and prevention and treatment of sexually transmitted diseases. The community has very [low/high] rates of unplanned pregnancy and sexually transmitted diseases.<sup>2</sup>

All subjects were then asked three questions. The first post-treatment item asked "How much do you think your hypothetical community would need this new clinic?" They could select

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<sup>1</sup> The Illinois State University Institutional Review Board approved this survey design under study number IRB-2018-634.

<sup>2</sup> See full text of survey along with the survey flow in Appendix A.

from the following options: no need, low level of need, moderate level of need, high level of need, and very high level of need. This was a dependent variable in my analysis, and I constructed a five-level variable based on this five-point scale.

The second post-treatment item asked "How much would you oppose or support this clinic receiving federal funds?" They were given the following options: oppose strongly, oppose moderately, oppose slightly, neither oppose nor support, support slightly, support moderately, and support strongly. This was also a dependent variable in my analysis, and I constructed a seven-level variable based on this seven-point scale.

The third post-treatment item asked "How much would you oppose or support this clinic receiving federal funds if the clinic offered abortion services paid for by private funds?" They were given the same seven options from oppose strongly to support strongly. This was also a dependent variable in my analysis, and I constructed a seven-level variable based on this seven-point scale.

Based on these three post-treatment items, I anticipate the following:

- Hypothesis 1: Subjects' perceived level of need for the hypothetical health clinic will have a positive relationship with their support for federal funding for the hypothetical clinic.
- Hypothesis 2: Compared to subjects asked to imagine that their community has very low rates of unplanned pregnancy and sexually transmitted diseases, subjects who are asked to imagine that their community has very high rates of unplanned pregnancy and sexually transmitted diseases will indicate greater support for federal funding for a new health clinic that would offer only non-abortion

reproductive health services such as birth control and prevention and treatment of sexually transmitted diseases.

- Hypothesis 3: Support for federal funding for the hypothetical clinic will be lower if the hypothetical clinic offered abortion services that would be paid for with private funds.

Two attention check questions followed the post-treatment questions. The first attention check assessed whether the subjects had paid attention to the manipulation in the initial vignette and could remember it by asking them to indicate what the passage stated about rates of unplanned pregnancy and sexually transmitted diseases. In order to hinder any bias introduced by those not paying attention and simply selecting the top answer, there were two different orders for the answer options for this question with the second order being a reverse of the first order, and subjects were randomly shown one of the two options. 90% of subjects passed this attention check. The second attention check simply checked if the subjects were reading the prompts. It asked them to select pregnancy test from a list of five options the order of which was randomized. 99.5% of subjects passed this attention check. 89% of subjects passed both attention checks.

### *Demographics of the Sample*

There were 865 test subjects who were recruited through the Prolific survey platform.<sup>3</sup> Power calculations indicated that I could achieve 80% power to detect a 0.20-standard deviation difference between the two treatment groups with 865 subjects. The responses from those who

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<sup>3</sup> Prolific connects researchers willing to provide compensation for survey completion with survey subjects around the world. Subjects create a profile on Prolific that includes information that enables Prolific to match subjects with surveys for which they qualify. Prolific subjects may have received notice of their participation eligibility through a Prolific recruitment email or they may have simply seen the survey listed on their available studies page on the Prolific platform.

failed the attention checks, therefore, should not have an influence on the results large enough to cause concern. While I used the Prolific platform to recruit and compensate subjects, the survey was implemented on the Qualtrics platform. Along with responses to the survey items, Qualtrics also recorded subjects' IP addresses, location latitudes, and location longitudes in order to check for duplicate or non-independent responses.

After dropping the nine responses that did not accept the informed consent and the one response that timed out after only accepting the informed consent, I generated the variables indicating responses that had non-unique Prolific IDs, IP addresses, and latitude and longitude combinations. There were 4 responses that had non-unique Prolific IDs. Specifically, there were two pairs of responses that were non-unique based on Prolific ID. Prolific IDs are unique to each user so there should be no duplicates unless the same user completed the survey twice. I dropped the response for each pair that started the survey at the later time as recorded by Qualtrics. After dropping these two responses, I had 865 observations and all Prolific IDs and all IP addresses were unique in the dataset. There were 129 responses, 15% of the total responses, that had a non-unique latitude and longitude combination. I kept all of these duplicate location responses because duplicate location coordinates could occur when subjects use computers in the same area that another subject has used to complete the survey.

All subjects were prescreened by Prolific on the following items: 18 years old or over, residing in the US, had completed 10 or more Prolific surveys, and had a 97% or higher acceptance rate for their previous Prolific survey completions. Prolific recruited these subjects by sending out email invitations to eligible subjects and listing the study as available to eligible subjects on their Prolific dashboards. Subjects were offered \$0.49 in compensation for

participating in the study.<sup>4</sup> The median completion time was two minutes and twenty-five seconds. The rate of compensation for the median completion time was \$12.17 per hour. The sample was skewed liberal and Democrat. Democrats made up 60% of the sample while only 18% think of themselves as Republicans and 22% think of themselves as Independent, unaffiliated, or "other." Additionally, 65% think of themselves as liberal; 19% think of themselves as conservative; and 16% think of themselves as moderate or middle of the road.<sup>5</sup>

## **Results**

I conducted the statistical analyses using Stata 14 software (StataCorp 2015), and I used R to produce the graphs (R Core Team 2018). All p-values in the results are from two-tailed tests, and all variables were either dichotomous or coded on a 0-to-1 scale.<sup>6</sup>

### *Efficacy of Treatment*

The results of the experiment in figure 3.1 indicate that the manipulation of the treatment successfully influenced subjects' perceived need for the hypothetical health clinic; the mean level of perceived need in the low rates condition was 0.461 with a standard deviation of 0.221 and was 0.827 with a standard deviation of 0.212 in the high rates condition ( $p < 0.001$ ).

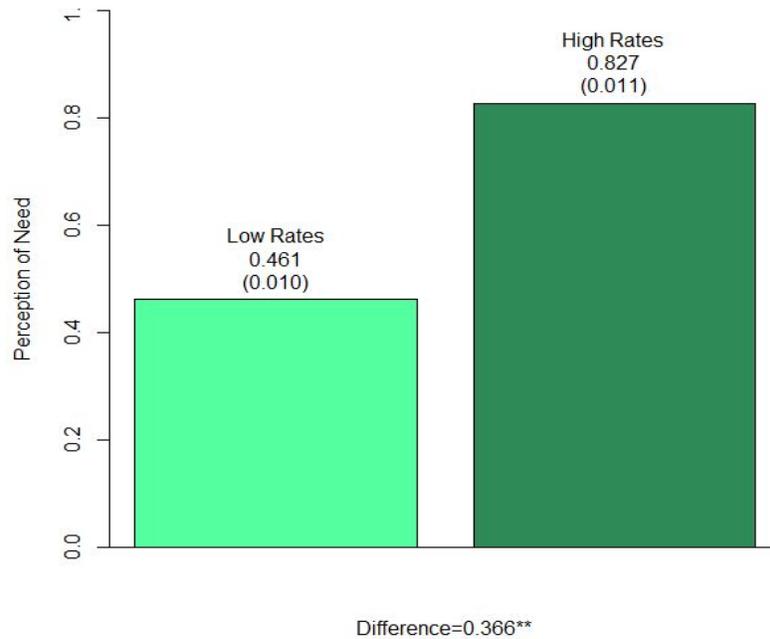
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<sup>4</sup> Subjects had the right to refuse compensation but no subject who accepted the informed consent refused payment. The individuals who rejected the informed consent and who timed out did not request compensation.

<sup>5</sup> See Appendix B for more sample characteristics.

<sup>6</sup> See Appendix C for selected descriptive statistics.

**Figure 3.1 Difference of Means Test by Treatment Group on Perception of Need for Hypothetical Health Clinic**



Note: Column values are treatment group means with standard errors in parentheses. N= 458 for Low Rates and 407 for High Rates. DV has five levels and is coded as perceived need for a hypothetical reproductive health clinic where 0 is no need and 1 very high need. +:  $p < 0.10$ ; \*:  $p < 0.05$ ; \*\*:  $p < 0.01$ . I used R to construct this graph (R Core Team 2018).

### *Hypothesis Tests*

As indicated in Hypothesis 1, I anticipated that subjects' perceived level of need for the hypothetical health clinic would predict their level of support for federal funding for the hypothetical health clinic and that the relationship would be positive. To test this correlational hypothesis, I ran an ordinary least squares linear regression on all responses. I chose a linear regression because the dependent variables, support for federal funding for the clinic that did not offer abortion services and for the clinic that did offer abortion services, were measured on 7-point Likert-type scales. While the values on the scales are a categorical representation of the amount an individual opposes or supports federal funding for the hypothetical clinic, the

underlying concept is continuous.<sup>7</sup> To reduce the effect of the treatment on these correlational results, I also conducted separate analyses for each treatment group to test this hypothesis. The dependent variable in this regression was the variable representing support for federal funding for the hypothetical health clinic offering non-abortion reproductive health services. The independent variable was the perceived need variable. I included all demographic variables as control variables in this analysis.<sup>8</sup>

**Table 3.1**  
**Predicting Support for Federal Funding for Hypothetical Clinic**

Variable	All No Abortion Offered	Low Rates Treatment No Abortion Offered	High Rates Treatment No Abortion Offered	All Abortion Offered	Low Rates Treatment Abortion Offered	High Rates Treatment Abortion Offered
Perceived Need for Reproductive Health Services	0.418** (0.028)	0.551** (0.046)	0.510** (0.061)	0.156** (0.031)	0.192** (0.053)	0.146* (0.063)
Subject Is Female	0.029 (0.015)	0.050* (0.023)	0.004 (0.020)	0.029 (0.017)	0.017 (0.024)	0.042+ (0.025)
Subject Identifies as Latinx	0.028 (0.030)	0.079 (0.048)	-0.009 (0.037)	0.039 (0.035)	0.078+ (0.045)	0.008 (0.052)
Subject Is Living in the US only Temporarily	0.014 (0.049)	0.001 (0.077)	-0.012 (0.058)	-0.075 (0.067)	-0.117 (0.095)	-0.034 (0.108)
Subject Has Insurance Coverage	-	-	-	-	-	-
Subject Does Not Have Insurance Coverage	-0.020 (0.024)	-0.033 (0.032)	-0.014 (0.036)	0.038 (0.026)	0.086* (0.034)	-0.029 (0.037)
Subject's Insurance Coverage (Refused)	-0.036 (0.100)	0.005 (0.042)	-0.280** (0.033)	0.322* (0.126)	0.268 (0.177)	0.407** (0.054)
Subject Is a Democrat	-	-	-	-	-	-
Subject Is a Republican	-0.034 (0.032)	-0.010 (0.048)	-0.042 (0.039)	-0.130** (0.043)	-0.132* (0.058)	-0.121+ (0.063)
Subject Is an Independent	0.008 (0.020)	0.028 (0.029)	-0.022 (0.026)	-0.052* (0.026)	-0.069+ (0.039)	-0.035 (0.034)

Table Continues

<sup>7</sup> The results of the models shown in table 3.1 were consistently significant and positive for the relationship between the perception variable (IV) and the support for federal reproductive health funding variable (DV) when reported analyses were re-estimated using ordinal logistic regression.

<sup>8</sup> I also ran this analysis with the exclusion of party identification and ideology because the relationship between party identification and the dependent variable and between ideology and the dependent variable is less certain. An individual, for example, might be more supportive of federal funding for reproductive health access because they identify with the Democratic Party or consider themselves a liberal. Another individual may identify with the Democratic Party or consider themselves a liberal because they support federal funding for reproductive health care access and they see the Democratic Party or liberals as more aligned with their own policy position. The significance and direction of the relationship between perceived need (IV) and support for federal funding for the clinic (DV) remained in the regressions that excluded party identification and ideology.

Table 3.1, Continues

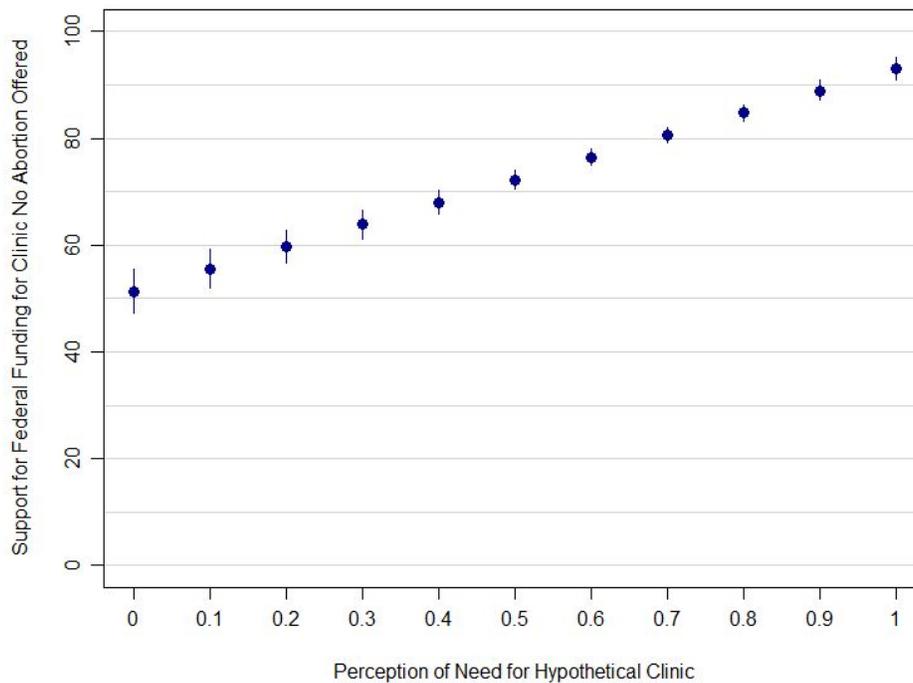
Variable	All No Abortion Offered	Low Rates Treatment No Abortion Offered	High Rates Treatment No Abortion Offered	All Abortion Offered	Low Rates Treatment Abortion Offered	High Rates Treatment Abortion Offered
Subject's Ideology Very Liberal to Very Conservative	-0.183** (0.042)	-0.282** (0.063)	-0.066 (0.050)	-0.548** (0.052)	-0.538** (0.074)	-0.572** (0.072)
Subject's Age	0.014 (0.046)	0.008 (0.066)	0.017 (0.060)	-0.078 (0.047)	-0.117+ (0.066)	-0.040 (0.066)
Subject Identifies as White	-	-	-	-	-	-
Subject Identifies as Black	0.021 (0.026)	-0.001 (0.043)	0.053+ (0.031)	-0.098** (0.037)	-0.196** (0.057)	0.009 (0.044)
Subject Identifies as Asian	-0.034 (0.029)	-0.035 (0.038)	-0.044 (0.043)	-0.042 (0.030)	-0.052 (0.032)	-0.019 (0.055)
Subject's Race (Other/Multiple Races/Refused)	-0.043 (0.033)	-0.113* (0.054)	0.016 (0.037)	-0.048 (0.037)	-0.102* (0.051)	-0.005 (0.054)
Subject Did Not Complete High School	-0.062 (0.048)	-0.025 (0.080)	-0.037 (0.055)	0.029 (0.072)	-0.148** (0.044)	0.145* (0.066)
Subject Has a High School Degree	0.009 (0.026)	-0.014 (0.038)	0.041 (0.032)	-0.035 (0.034)	-0.066 (0.050)	-0.011 (0.047)
Subject Has Some College Education	0.005 (0.020)	-0.040 (0.029)	0.054* (0.026)	0.023 (0.022)	0.042 (0.029)	-0.003 (0.034)
Subject Has a 2-Year Degree	-0.001 (0.028)	0.000 (0.041)	0.021 (0.036)	0.013 (0.030)	0.029 (0.045)	0.000 (0.040)
Subject Has a 4-Year Degree	-	-	-	-	-	-
Subject Has Graduate Degree	0.043* (0.021)	-0.002 (0.030)	0.076** (0.027)	0.047 (0.025)	0.029 (0.035)	0.064+ (0.036)
Constant	0.553** (0.029)	0.562** (0.038)	0.404** (0.058)	0.844** (0.031)	0.850** (0.042)	0.834** (0.059)
R <sup>2</sup>	0.30	0.35	0.29	0.42	0.46	0.41
N	864	458	406	864	458	406

Note: This table represents the results of a correlational analysis of my survey sample. Cell values are OLS coefficients with robust standard errors in parentheses. DV has seven levels and is coded as support for federal funding for reproductive health services where 0 is oppose strongly and 1 support strongly. +: p<0.10; \*: p<0.05; \*\*: p<0.01.

The results, shown in the first and fourth results columns of table 3.1, support this hypothesis. A subject's perceived need in the hypothetical community for a reproductive health clinic was positively correlated to how much they supported federal funding going to the hypothetical health clinic regardless of whether the hypothetical health clinic offered abortion services or not (no abortion offered p<0.001; abortion offered p<0.001). As subjects' perception of need in the hypothetical community for the clinic increased, their level of support for federal

funding for the clinic also increased. Subjects' perceived need for the clinic had a greater point estimate of correlation to their support for federal funding for the clinic that offered non-abortion reproductive health services than any other variable in the analysis. In the case of the clinic that offered abortion services, there was statistically significant evidence both that subjects' perceived need for the clinic was positive but that subjects' ideology exerted a greater point estimate of effect on their support for federal funding for the clinic than their perceived need for the clinic. The ideology scale was a based on a seven-level variable with zero being very liberal and one being very conservative. As subjects' reported ideology increased on the scale, i.e. became more conservative, their support for federal funding for the clinic decreased.

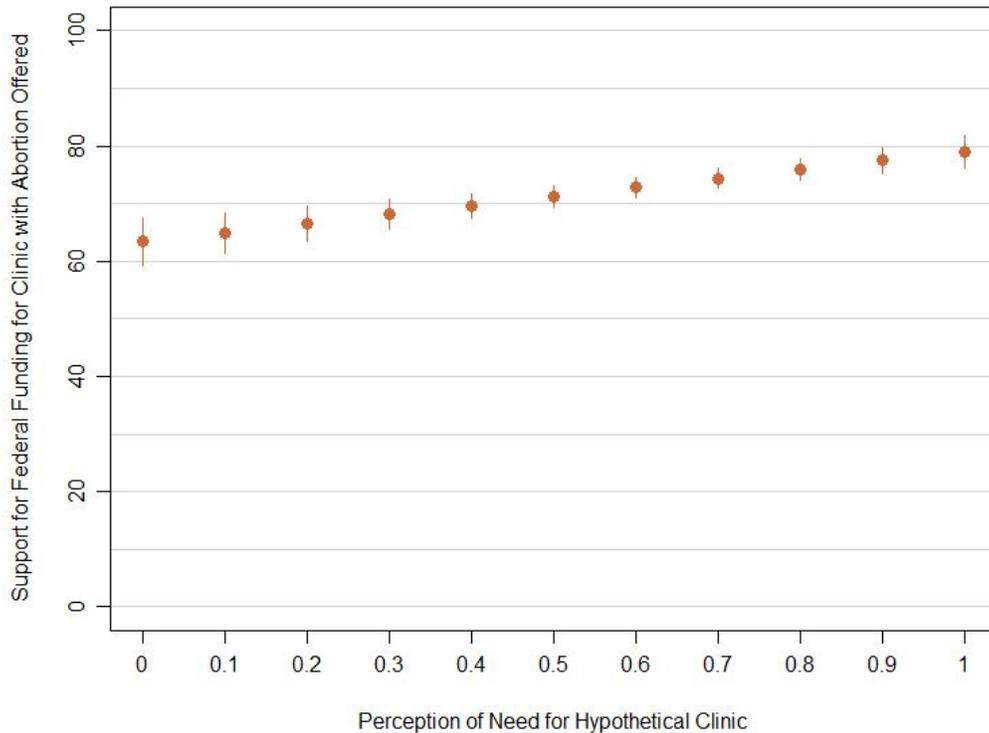
**Figure 3.2 Clarify Predicted Values for OLS Regression Predicting Support for Federal Funding for Hypothetical Clinic that Does Not Offer Abortion Services**



Note: This figure represents the results of a correlational analysis of all subjects in my survey sample. Points represent Clarify predicted values and bars represent 95% confidence intervals (King, Tomz, and Wittenberg 2000; Tomz, Wittenberg, and King 2003). I used R to construct this graph (R Core Team 2018).

Figure 3.2 and figure 3.3 show a graphic representation of Clarify predicted values indicating the correlation sizes of perceived need on support for federal funding for the hypothetical clinics among all subjects (King, Tomz, and Wittenberg 2000; Tomz, Wittenberg, and King 2003). One can see that as subjects' perception of need for the clinic increases, their support for federal funding for the clinic providing non-abortion reproductive health services increases more dramatically than their support for the clinic that offers abortion services. The results of a test of seemingly unrelated estimation on these two means indicated that there was evidence of a statistically significant difference between the two means ( $p < 0.0001$ ), which means that the relationship between perception of need for the clinic and support for federal funding for the clinic varied by whether the clinic offered abortion services.

**Figure 3.3 Clarify Predicted Values for OLS Regression Predicting Support for Hypothetical Clinic that Offers Abortion Services**

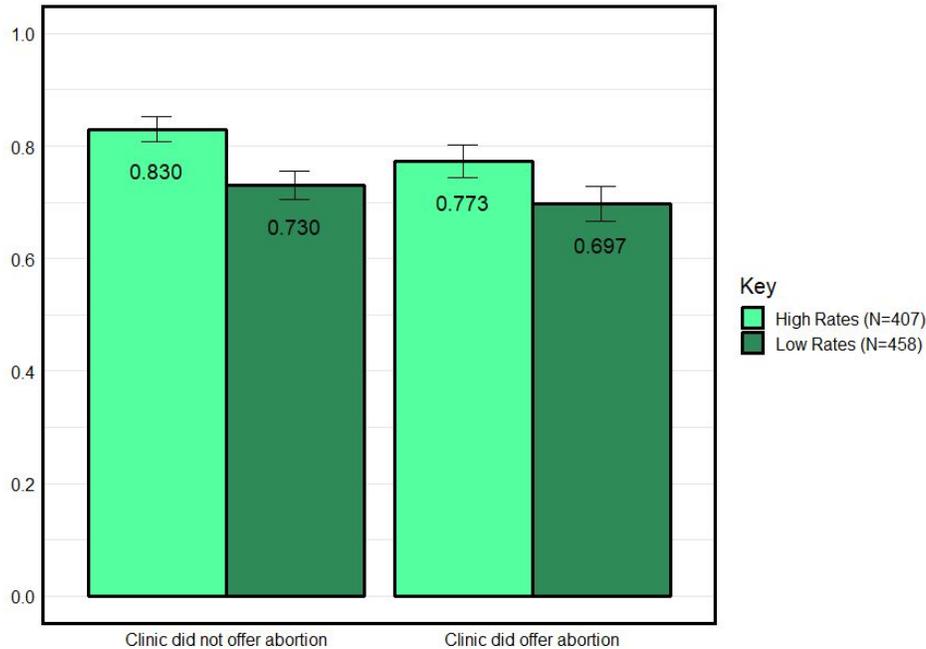


Note: This figure represents the results of a correlational analysis of my survey sample. Points represent Clarify predicted values and bars represent 95% confidence intervals (King, Tomz, and Wittenberg 2000; Tomz, Wittenberg, and King 2003). I used R to construct this graph (R Core Team 2018).

To test Hypothesis 2, I conducted an unpaired difference of means test not assuming equal variances for the variable representing support for federal funding for the hypothetical clinic offering only non-abortion reproductive health services by treatment group to assess whether the treatment affected this variable. To explore whether the treatment also affected support for the hypothetical clinic that offered abortion services, I ran an unpaired difference of means test by treatment group not assuming equal variances for the variable representing this item. Figure 3.4 shows that subjects in the high rates treatment group indicated higher levels of

support for federal funding for the hypothetical clinic regardless of whether the clinic offered abortion services or not (no abortion offered  $p < 0.0001$ ; abortion offered  $p = 0.0006$ ).<sup>9</sup>

**Figure 3.4 Mean Support for Federal Funding for the Hypothetical Clinic, by Treatment Group and by whether the Clinic Offered Abortion Services**



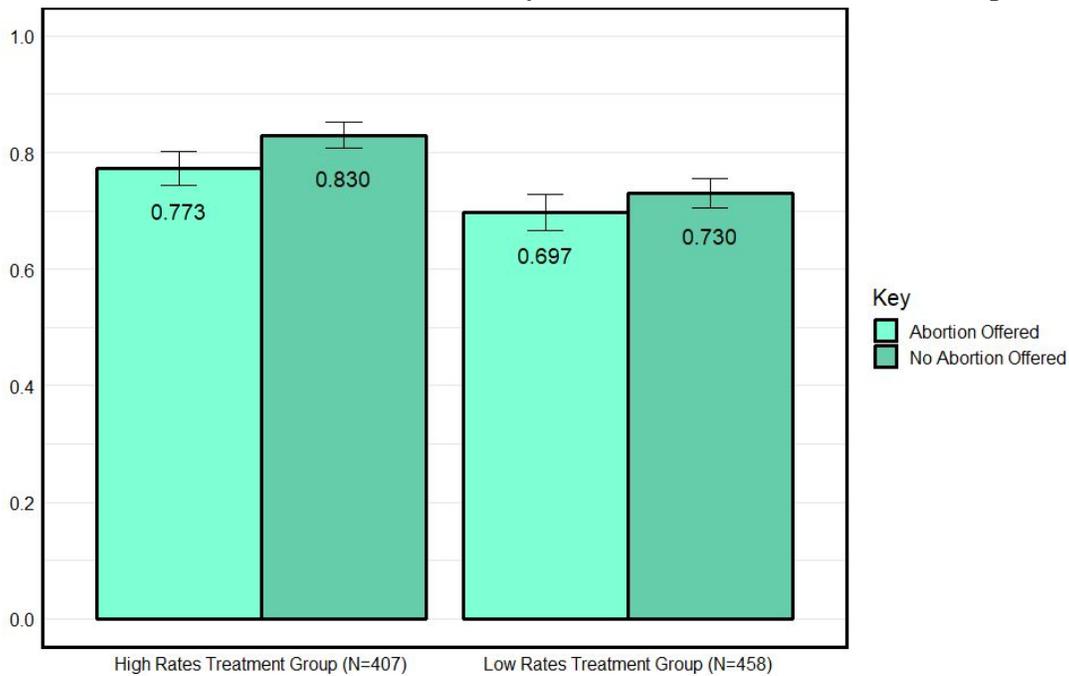
Note: Column values are treatment group means of responses to two items that all subjects were asked. Braces represent the standard errors. DV has seven levels and is coded as support for federal funding for reproductive health services where 0 is oppose strongly and 1 is support strongly. For support for the clinic that did not offer abortion services, the difference in support between the high rates treatment group and the low rates treatment group was 0.100 ( $p < 0.0001$ ). For support for the clinic that did offer abortion services, the difference in support between the high rates treatment group and the low rates treatment group was 0.076 ( $p = 0.0006$ ). I used ggplot2 to construct this graph (R Core Team 2018; Wickham 2016).

To test Hypothesis 3 and assess whether subjects' level of support for federal funding for the hypothetical health clinic was lower if the clinic offered abortion services paid for by private funds than when the hypothetical clinic did not offer abortion services, I ran paired difference of means tests for the variables representing support for federal funding for the non-abortion

<sup>9</sup> I ran a seemingly unrelated estimation test to assess whether the difference between the treatment groups for the "No Abortion Offered" clinic (-0.100) and the difference between the treatment groups for the "Abortion Offered" clinic (-0.076) were different from one another, which would indicate that the effect of the treatment was different for the non-abortion item than it was for the abortion item. The results indicated that the null hypothesis that the two differences were the same could not be rejected (coef=0.024, SE=0.021,  $p = 0.256$ , CI= -0.018 - 0.066).

reproductive health services offering health clinic and support for federal funding for the clinic that also offered abortion services. In order to alleviate any bias caused by the treatment, I ran two versions of this test. One limited responses to the low rates treatment group and one limited responses to the high rates treatment group. The results in figure 3.5 indicate that in both tests levels of support for federal funding for the hypothetical clinic were lower if the clinic offered abortion services than when it did not (low rates difference  $p=0.0206$  and high rates difference  $p=0.0003$ ).

**Figure 3.5 Paired Difference of Means Test by Clinic Items on Treatment Group**



Note: Column values are treatment group means with braces representing the standard error. DV has seven levels and is coded as support for federal funding for reproductive health services where 0 is oppose strongly and 1 is support strongly. Among the low needs treatment group, the difference in support between the clinic that did not offer abortion and the clinic that did offer abortion was 0.033 ( $p=0.0206$ ). Among the high needs treatment group, the difference in support between the clinic that did not offer abortion and the clinic that did offer abortion was 0.058 ( $p=0.0003$ ). I used ggplot2 to construct this graph (R Core Team 2018; Wickham 2016).

## Discussion

The results of this experimental survey provide evidence to support all three hypotheses posed at the beginning of this chapter and, thereby, supporting my underlying theory. Subjects

who perceived higher need in the hypothetical community for a clinic offering reproductive health services indicated higher rates of support for federal funding for the clinic supporting Hypothesis 1. Perception of need for the clinic in the hypothetical community exerted the greatest point estimate of influence on how much subjects supported federal funding for the non-abortion providing clinic than any other variable in the analysis, including party identification and ideology supporting Hypothesis 2. While perception was also a positive predictor of support for federal funding for the clinic that did offer abortion services, ideology exerted a greater point estimate of influence over support for federal funding for the clinic in this case supporting Hypothesis 3. Together, these results suggest that access to reproductive health care when individuals perceive a high community need for it is not seen as a politicized issue by the sample. With the addition of abortion services provision by the clinic, however, ideological beliefs become a stronger predictor of support for the clinic receiving federal funds.

Importantly, subjects who read that rates of unintended pregnancy and sexually transmitted infections were very high in their hypothetical community indicated greater levels of support for federal funding for the clinic even if it were to offer abortion services than those who read that the rates of unintended pregnancy and sexually transmitted infections were very low in their hypothetical community. This trend was the same for support for the clinic offering only non-abortion reproductive health services with the low rates treatment group having a lower overall mean of support for federal funding for the clinic than the high rates treatment group. This suggests that manipulating public perception on the local need for reproductive health care access can strongly influence public opinion on federal funding.

Although the reduction in support for federal funding for the clinic that would provide abortion services compared to the one that would not was small among each treatment group, this reduction could possibly be amplified in reality if there was political protest against a clinic that offered abortion services that exerted greater influence than simply reading that abortion services would be offered. When serving a community where subjects perceive the need for reproductive health services is high, though, they are likely to receive more support from the public for federal funding for their services than those serving a community where subjects perceive the need reproductive health services is low.

Ultimately, this study indicates that perception of need in one's own community can play an important role in whether subjects support federal funding for reproductive health care access. People care about whether a clinic offers abortion services and show less support for a clinic that does offer it, but they tend to want people to have access to reproductive health care if they perceive that their community has a high need for it regardless of if that means federal funding going to clinics that offer abortion services.

There are some limitations to the generalizability of the findings in this study though. Democrats, liberals, and white people were oversampled in this study, and the sample was not nationally representative. The sample also skewed towards younger subjects with seniors being undersampled. These factors undermine the generalizability of the results.

Future studies should address these weaknesses and could explore to what extent these effects hold when the need for reproductive health care is put in a context beyond the community, like at the county, state, regional, or national levels. Another focus for future research could be exploring how personal experience with access to reproductive health care

impacts perception of community need for it. Assessing whether the type of public funding or the level of government it comes from affects support could offer more important information about this issue. Conservatives and libertarians tend to oppose federal spending, so future research could analyze whether support increases when the public funding is from the state or local level.

## **Conclusion**

Previous research on the ways in which communities impact their residents suggests that community-level factors and perceptions of such factors can influence beliefs and behaviors (Baldassare and Katz 1992; Wong 2007). I hypothesized that, as individuals' perceived need for reproductive health care services in their community increased, their support for federal reproductive health subsidies would also increase. Through a survey experiment of 865 adults in the US, I tested this hypothesis. The results suggest that there is statistically significant evidence that perceived need for reproductive health services is positively correlated with support for federal reproductive health funding and, while that support decreases when abortion services are linked with accessing reproductive health care, the relationship remains positive. A correlational OLS regression analysis suggests that there is statistically significant evidence that ideology is a stronger predictor of support for federal reproductive health subsidies when abortion services are linked with accessing reproductive health care. Given these results, the role that communities and community-level factors play in influencing public opinion deserves further investigation.

## CHAPTER IV: ANALYSES OF OBJECTIVE MEASURES

In the last chapter, my results showed that manipulating perceived need for reproductive health services to be higher in a hypothetical community positively influenced support for federal reproductive health funding. Manipulating perceptions in a hypothetical community has the benefit of not contending with objective measures of community-level indicators of poor reproductive health. While perceptions and reality are not always aligned (Ambrey, Fleming, and Manning 2014; Wong 2007), objective community-level indicators of poor reproductive health could exert important influences on policy opinion in their own right. In this chapter, I assess the relationship between objective community-level measures of need for reproductive health services and support for federal reproductive health subsidies.

Using data from the Kaiser Family Foundation's (KFF) "Kaiser Health Tracking Poll June 2018" (2018) I conducted correlational analyses on the extent to which community-level indicators for poor reproductive health predict support for federal reproductive health subsidies. Because my experiment indicated that subjects were less supportive of clinics that offered abortion services, I also analyzed the relationship between these community-level indicators and support for overturning *Roe v. Wade*, the 1973 Supreme Court decision that affirmed that abortion access is a constitutional right. In June 2018, the KFF sponsored a survey of a nationally representative sample of 1,492 Americans on their views on a variety of health related and political topics ("Kaiser Health Tracking Poll June 2018" 2018). I anticipate that community-level indicators of poor reproductive health will positively correlate with support for federal reproductive health subsidies. I further hypothesize that such community-level indicators will also negatively correlate with support for overturning *Roe v. Wade*.

## Research Design

KFF conducted the survey June 11 - 20, 2018 via a random digit dial telephone sample of landlines and cell phones, including an oversample of pay-as-you-go cell phones. The survey was offered in English and in Spanish.

### *Support for Federal Funding for Reproductive Health Services*

For my analysis of support for federal subsidies for reproductive health services, I constructed my dependent variable from the survey responses to the following item "How important, if at all, is it to you that the federal government provides funding for reproductive health services, such as family planning and birth control for lower-income women? Is it very important, somewhat important, not too important, or should it not be done?" ("Kaiser Health Tracking Poll June 2018" 2018).<sup>10</sup> I based construction of this variable on the four-level scale indicated in the question text from should not be done to very important. I coded the 15 "don't know" and refused to answer observations for this variable as missing.<sup>11</sup>

My key independent variable was a variable representing community need for reproductive health services. Because there is no single variable that captures community need for these services, I chose to construct the community need for reproductive health services variable from three indicators: county-level prevalence of sexually transmitted infections (STI), county-level estimated rate of live teen births, and county-level rate of poverty. For my community-level prevalence of STI variable, I included rates of chlamydia, gonorrhea, and primary and secondary syphilis in this community need variable because the record number of STI cases reported in 2016 and 2017 prompted the Centers for Disease Control and Prevention

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<sup>10</sup> See Appendix D for full survey text for questions used in this study.

<sup>11</sup> See Appendix E for select descriptive statistics for this and other key variables.

(CDC) to release information to the public underscoring the danger of these infections to become resistant to current treatments (Centers for Disease Control and Prevention 2018a). They emphasized the need for frequent screening and early detection to avoid severe adverse consequences of untreated infections and the spread of the infection to others (Centers for Disease Control and Prevention 2018a). Additionally, using rates of all three STIs provides a more accurate measure of need for STI treatment and prevention than using only one of these rates. I used data on 2016 rates of chlamydia, gonorrhea, and primary and secondary syphilis from the CDC's National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention (National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention 2018).

In order to combine the rates of chlamydia, gonorrhea, and primary and secondary syphilis into one variable indicating prevalence of STIs, I used the principal component factor method in STATA to assess whether these three variables had a latent relationship among them. I then used Cronbach's alpha to create an index variable representing community prevalence of STIs based on these three rates. I chose the principal component factor analysis over other types of factor analysis because it provides an indication of how much of each variable is explained by common factors by assuming there is no unique variance among the variables (UCLA Statistical Consulting Group n.d.). I wanted to assess to what extent these variables loaded on one factor because I assumed that the three variables representing rates of chlamydia, gonorrhea, and primary and secondary syphilis represented one factor: prevalence of STIs in a community. The results of the principal component factor analysis indicated that the eigenvalue was above 1.0 for only one factor and that this factor explained 77% of the variance; this indicated that each STI variable loaded on one factor, thereby supporting my assumption.

I then combined these three variables into one variable that represented community-level prevalence of STIs by using Cronbach's alpha. Cronbach's alpha tests for internal consistency reliability by creating an index of values based on the input variables and assessing how closely the set of variables are related (Cronbach 1951). Running Cronbach's alpha on the county-level rates of chlamydia, gonorrhea, and primary and secondary syphilis variables returned an index with a scale reliability coefficient of 0.847. The scale reliability coefficient ranges from values of zero to one with those closer to one having greater reliability. The results, therefore, indicate that the index is fairly reliable and adequate to use in exploratory research (Cho and Kim 2015).

I used estimates of live teen births to construct the community need variable because, although the number of unintended pregnancies in the US has decreased in recent years, 45% of pregnancies remain unintended and, in some states, more than 50% of pregnancies are unplanned (Guttmacher Institute 2012). The county-level rate of unintended pregnancy, however, is not publicly available, so I chose estimates of live teen birth rates since nearly all teen pregnancies are unintended (Guttmacher Institute 2012) and good estimates are publicly available. For data on live teen births, I used 2015 estimates from the National Center for Health Statistics (National Center for Health Statistics 2018).

I chose to include the county-level poverty rate in the community need variable because the annual cost of raising a child is estimated to be over \$12,000 and the cost of accessing reproductive health care is expensive for those who lack health insurance (GoHealth Urgent Care 2017; Lino 2017; Planned Parenthood n.d.). These costs would put intense stress on individuals and families already living in poverty, so I concluded that communities' poverty rates would be one indicator of need for reproductive health services and subsidies to make them more

accessible to low income individuals and to give individuals more power to time and space pregnancies. I used data on county-level poverty rates from the 2016 U.S. Census Bureau Small Area Income and Poverty Estimates (US Census Bureau 2017).

Next, I ran a second principal component factor analysis on the county-level prevalence of STIs, estimated rate of live teen births, and rate of poverty. With only one eigenvalue above 1.0, the results indicated that these three variables loaded on one factor and suggested that this factor explained 62% of the variance. Because the variables loaded on a single factor, I used Cronbach's alpha to create a single variable from these three variables representing community need for reproductive health services. The index created from the variables for county-level rates of poverty, estimates of live teen births, and STI prevalence had a scale reliability coefficient of 0.677. While slightly below the generally accepted standard of 0.70, I chose to use the alpha index as my community need variable for reproductive health services nevertheless because I am conducting exploratory research and I determined it was the best tool for creating my community need variable using existing, real-world data. Additionally, some researchers argue considering the context of the research is important when determining if the value of a scale reliability coefficient is adequate for the specific project (Cho and Kim 2015).

My control variables included community-level and individual-level variables. I used five additional community-level variables as control variables for my analysis: county median age (US Census Bureau 2018), county percentage black (US Census Bureau 2018), county percentage Hispanic (US Census Bureau 2018), percentage of votes cast for Trump by county in the 2016 General Election (New York Times 2017; Politico 2016), and the state percentage of

BGLT individuals (Movement Advancement Project 2018).<sup>12</sup> I included county median age because it seemed logical that age may impact the need for reproductive health services, with communities that are older having a lower need for reproductive health services. I chose percentage black, percentage Hispanic, and percentage of BGLT individuals as control variables because the CDC notes that these populations are disproportionately affected by transmission of sexually transmitted infections (Centers for Disease Control and Prevention 2017, 2018b), so communities with higher percentages of these populations may also have a higher need reproductive health services. I included the Trump election variable because the research has shown that the ideologies of our communities can influence individual political behavior and beliefs (Blake 2001; Pearson-Merkowitz and Dyck 2017).

The individual-level control variables I used were sex, age, annual family income, identifying as black or African American, identifying as Hispanic or Latinx, and whether or not the individual subject had health insurance coverage. Sex, age, race, ethnicity, and income are all typical individual-level control variables and they are all very relevant to my analysis. I coded the sex variable as one for female and zero for male. Including sex as a control is important because women are more likely to use federal Title X subsidies to access reproductive health services than men (Fowler et al. 2018).

The age variable in the KFF data was coded as a continuous variable ranging from 18 to 96. Individuals who were 97 and over were coded as 97. The 32 subjects who refused to give their age were coded as missing. Younger adults, those under 30, are more likely to use Title X subsidized services (Fowler et al. 2018), so someone who is 25 is not necessarily less likely to

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<sup>12</sup> I eliminated Alaska from the 2016 election results data because its county equivalents do not align with voting districts.

use Title X services than someone who is 21, but someone who is 39 is less likely to use Title X services than someone who is 21. Because of this, I anticipate that age likely has a curvilinear relationship with support for federal reproductive health subsidies, not a linear relationship. I included an age-squared variable to ensure my model accounted for this.

The responses to the KFF survey item about annual family income were coded as a categorical variable and, in my analysis, I used dummy variables for each of the annual family income categories. I had an additional dummy variable representing the individuals who refused to disclose or did not know their annual family income.<sup>13</sup> Including annual family income is an important control because individuals with lower incomes are more likely to seek care at Title X funded clinics and are the clients who qualify for federal reproductive health subsidies (Fowler et al. 2018). I used the less than \$20,000 annual family income dummy variable as the reference category in my analysis for this reason.

I coded the race variable as one if an individual identifies as black or African American and zero if they identify as white, Asian, other, they do not know how they identify, or they refused to answer. I coded the ethnicity variable as one if a subject identifies as Latinx or Hispanic and zero if they do not or if they refused to answer. Race and ethnicity are important control variables because individuals who identify as black, African American, Latinx, or Hispanic are also disproportionately served by Title X clinics (Fowler et al. 2018).

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<sup>13</sup> Because 10% of responses for annual family income were coded as refused or "don't know" by the KFF, I also ran an alternative analysis by using the family income variable as a continuous variable and creating imputed values for the missing data. I created three iterations of imputed values based on age, gender, and educational attainment in order to alleviate any non-random bias introduced by the missing values. The imputations added 128 imputed annual family income observations to the analysis. This alternative analysis with the imputed values for annual family income did not change any major inferences of the independent variable compared to the analysis using dichotomous variables for the family income categories.

Although not a typical control variable, the health insurance coverage status is relevant to my analysis because lack of health insurance coverage could influence support for federal subsidies for reproductive health services. Those without insurance disproportionately benefit from Title X federal reproductive health subsidies (Fowler et al. 2018). I coded the insurance variable as one for individuals who have some form of health insurance coverage and zero for those who do not have health insurance coverage. Four subjects said that they did not know their health insurance coverage status and one person refused to answer. I coded those five observations as missing.

I would have included religion as an individual control variable, but data on subjects' religious affiliation was not available in the KFF dataset. I chose not to use three other common controls: relationship status, educational attainment, and party identification. I did not anticipate that relationship status or educational attainment would alter support for federal reproductive health subsidies.<sup>14</sup> Because the direction of the relationship between party identification and support for federal funding for reproductive health services is ambiguous, I did not include it in the model in order to alleviate any bias it could introduce.<sup>15</sup>

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<sup>14</sup> When running the regression with a dummy variables for relationship status, those who were married, cohabiting, widowed, divorced, separated, or "don't know" and refused were not statistically differently related to support for federal subsidies for reproductive health services as those who had never been married at  $p < 0.05$  and did not change the significance of the key independent variable or direction of the relationship between the independent variable and the dependent variable. I also ran the regression with dummy variables for educational attainment. Those with less than a high school degree and those with a graduate degree were statistically more likely than those with a four-year degree to support federal subsidies for reproductive health services at  $p < 0.05$ , but this did not change the significance of the key independent variable or direction of the relationship between the independent variable and the dependent variable. None of the other dummy variables for educational attainment were statistically differently related to support for federal subsidies for reproductive health services than those with a four-year degree.

<sup>15</sup> I did run an analysis of the model with dummy variables for party identification in order to explore the way that including party identification impacted the independent variable. I also included a dummy variable for subjects who refused to answer, said they did not know which party they identified with, identified with a different party, or refused to answer the question. I used Democrat as the reference category in my analysis. Including these variables did not change the direction of the relationship or the significance of the independent variable.

### *Support for Overturning Roe v. Wade*

For my analysis of support for overturning *Roe v. Wade*, I constructed my dependent variable from responses to the following KFF survey item "As you may know, the 1973 Supreme Court Case *Roe v. Wade* established a women's [sic] constitutional right to have an abortion. Would you like to see the Supreme Court overturn its *Roe v. Wade* decision, or not?" ("Kaiser Health Tracking Poll June 2018" 2018). I coded the variable representing responses to this question as one if subjects said "yes" that they supported overturning *Roe v. Wade* and zero if they said "no" they did not support overturning *Roe v. Wade*. I coded as missing the 59 observations that represented subjects who refused to answer the question or said that they "don't know." I used the same control variables as in the analysis of subjects' perceived importance of federal reproductive health subsidies but I added dummy variables representing educational attainment and relationship status.

People who have higher educational attainment are more likely to support abortion access and, therefore, would be less likely to support overturning *Roe v. Wade* (Pew Research Center 2018). In order to include educational attainment in my analysis, I created dummy variables representing the eight categories included in the KFF survey and one category representing the 14 subjects who said that they don't know or refused to answer the educational attainment question. In the analysis I used those with a bachelor's degree as my reference category.

Although I did not anticipate that relationship status would impact support for overturning *Roe v. Wade*, married women seek abortions disproportionately less than those who are single and not cohabiting (Guttmacher Institute 2018). This fact alone would not seem to impact whether or not a person supports access to abortion, especially since the relationship

status variable includes men and women. Since relationship status, however, may be correlated with other unobserved factors, like self-interest (Weeden and Kurzban 2014), that impact support for abortion access, I included it as a control variable for this analysis. For relationship status, I created dummy variables representing the six categories included in the KFF survey and one category representing the 12 subjects who said that they don't know or refused to answer the relationship status question. I had to exclude the dummy variable representing the subjects who said they did not know or refused to give their relationships status in the analysis of support for overturning *Roe v. Wade* though because of collinearity.

Because STI prevalence does not logically fit with a need for abortion access, I changed the community variable by using Cronbach's alpha to standardize and combine only the county-level estimates of live teen birth rates and county-level rates of poverty to create a community need variable for abortion access. First, I ran a principal component factor analysis on the estimated rate of live teen births and rate of poverty. With only one eigenvalue above 1.0, the results indicated that these two variables loaded on one factor and suggested that this factor explained 84% of the variance. Because the variables loaded on a single factor, I used Cronbach's alpha to create an index of values from these two variables representing community need for abortion access. This index had a scale reliability coefficient of 0.813, an acceptable level of reliability for exploratory analysis.

### *Regression Models*

Before running any regressions, I scaled each variable to be on a zero to one scale in order to more directly compare their coefficients in the analysis. I conducted a fractional logit regression with robust standard errors to analyze the item indicating support for federal funding

for reproductive health services. The dependent variable in this analysis is a four-level ordinal variable which would normally dictate the use of an ordinal regression to analyze the model. In order to assess whether the results of a fractional regression would indicate crucially different results than an ordinal model, I ran the same model as a generalized ordered logit and tested for violations of the parallel lines assumption to ensure a linear model would be acceptable. In the test of the parallel lines assumption, one control variable violated the assumption, the dummy variable representing an individual's annual family income being \$50,000 - \$75,000. The coefficient for this variable remains relatively stable across cut points of the generalized ordered logit. Additionally, it is not a key predictor variable in my analysis. Because the p-value of my key predictor variable, community need for reproductive health services, is similar and remains statistically insignificant across the linear and ordinal regressions, because the direction of the relationship between the dependent variable and independent variable in my analysis remains the same across the two regressions, and because linear models are more straightforward and easier to interpret, I chose the fractional regression model for this analysis. I used the margins command in Stata to interpret the effect size of the independent variable on the dependent variable.

Because the survey item on support for *Roe v. Wade* was framed as a yes-no question, I used a logistic regression for this analysis. I used the Clarify program in Stata to assess the effect size of the independent variable in this model (King, Tomz, and Wittenberg 2000; Tomz, Wittenberg, and King 2003)

## Results

### *Support for Federal Funding for Reproductive Health Services*

As shown in the first results column of table 4.1, there is not statistically significant evidence that the correlation between community-level need for reproductive health services and support for federal funding for reproductive health services is different from zero, controlling for other model variables. The results in the second results column in table 4.1 further indicates that, even in a bivariate analysis, which removes any influence of the other variables listed in the first results column, there is no statistically significant evidence to reject the null hypothesis that the relationship between the dependent and independent variables is zero.

**Table 4.1**  
**Predicting Public Opinion on the Importance of Federal Funding for Reproductive Health Services**

Variable Level	Variable	Support for Federal Reproductive Health Funding	
Community Level Variables			
	Community Need for Reproductive Health Services	0.409 (0.556)	0.429 (0.435)
	County Median Age	0.717 (0.605)	-
	County Percentage Black	-1.165* (0.559)	-
	County Percentage Hispanic	-0.320 (0.498)	-
	Percent of Votes Trump Won by County in 2016 General Election	-2.064** (0.425)	-
	State BGLT Population Density	-1.478* (0.620)	-
Individual Level Variables			
	Subject is Female	0.863** (0.114)	-
	Subject's Age	0.923 (0.961)	-
	Subject's Age <sup>2</sup>	-1.988 (1.216)	-
	Subject Has Insurance Coverage	0.296+ (0.173)	-
	Subject's Family Income (Less than \$20,000)	-	-
	Subject's Family Income (\$20,000-\$29,999)	-0.088 (0.266)	-

Table Continues

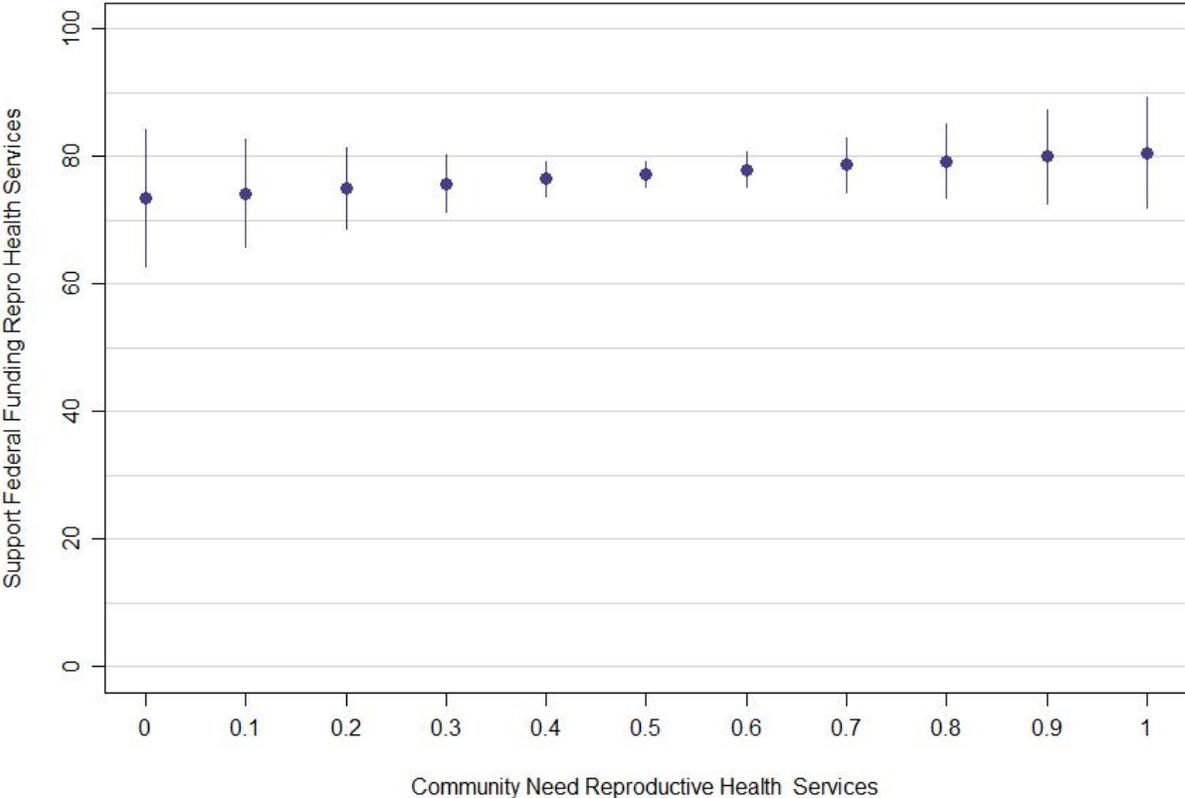
Table 4.1, Continues

Variable Level	Variable	Support for Federal Reproductive Health Funding	
	Subject's Family Income (\$30,000-\$39,999)	-0.114 (0.249)	-
	Subject's Family Income (\$40,000-\$49,999)	-0.493+ (0.256)	-
	Subject's Family Income (\$50,000-\$74,999)	-0.540* (0.238)	-
	Subject's Family Income (\$75,000-\$89,999)	-0.473+ (0.266)	-
	Subject's Family Income (\$90,000-\$99,999)	-0.500 (0.330)	-
	Subject's Family Income (over \$100,000)	-0.594** (0.219)	-
	Subject's Family Income (Refused/Don't Know)	-0.235 (0.258)	-
	Subject Identifies as Black	0.320 (0.228)	-
	Subject Identifies as Latinx	0.349+ (0.199)	-
Constant		2.004** (0.555)	0.906** (0.223)
R <sup>2</sup>		0.06	0.00
N		1439	1477

Note: Cell values are fractional regression coefficients with robust standard errors in parentheses. DV is a four-level variable coded as importance of federal funding for reproductive health services where 0 is don't think it should be done and 1 is very important. +:  $p < 0.10$ ; \*:  $p < 0.05$ ; \*\*:  $p < 0.01$ .

Figure 4.1 illustrates the effect size of the community need variable in this analysis, graphically indicating the relative stability of support for federal reproductive health funding across the spectrum of the community need variable. The wide confidence intervals in this figure also illustrate that the community need variable does not offer a precise estimate for the association between the dependent and independent variables. Although the association among this sample was positive and relatively small, the true association among the population could be either positive or negative and could be somewhat larger than the regression results indicate.

**Figure 4.1 Margins Predicted Values: Support for Federal Reproductive Health Funding**



Note: Points represent predicted values, and bars represent 95% confidence intervals. I used R to construct this graph (R Core Team 2018).

I constructed the community need for reproductive health variable from county-level prevalence of STIs, county-level estimated rates of live teen births, and county-level rates of poverty. Although those items would all indicate real-world need for reproductive health services, they are not strong predictors of an individual's perceived importance of federal funding for reproductive health services. Some of the control variables in this analysis were statistically significant predictors and indicate that other community and individual-level factors are strongly correlated with individuals' support for federal funding for reproductive health services. The variables that were statistically significant at the  $p < 0.05$  level are the county-level percentage of votes for Donald Trump in the 2016 General Election, the percent of the county population that

identifies as black or African American, percent of BGLT population at the state level, being female, having health insurance coverage, and having an annual family income of \$50,000 - \$75,000 or over \$100,000.

*Support for Overturning Roe v. Wade*

The results of this analysis were unexpected. I anticipated that community need would be a negative predictor of support for overturning *Roe v. Wade*. The surprising results, shown in table 4.2, indicate that there is statistically significant evidence that community need for abortion services has a positive association with support for overturning *Roe v. Wade* ( $p < 0.01$ ). This indicates that, as the need for abortion services in an individual's community increases, as defined by county rates of poverty and estimated live teen births, an individual is more likely to support eliminating women's constitutional right to abortion.

**Table 4.2**  
**Predicting Public Opinion on Overturning *Roe v. Wade***

Variable Level	Variable	Support for Overturning <i>Roe v. Wade</i>	
<b>Community Level Variables</b>			
	Community Need for Abortion Services	2.105** (0.646)	2.377** (0.520)
	County Median Age	-1.163 (0.735)	-
	County Percentage Black	-0.696 (0.737)	-
	County Percentage Hispanic	-0.391 (0.640)	-
	Percent of Votes Trump Won by County in 2016 General Election	1.718** (0.579)	-
	State BGLT Population Density	0.360 (0.837)	-
<b>Individual Level Variables</b>			
	Subject is Female	-0.110 (0.153)	-
	Subject's Age	-0.242 (1.381)	-
	Subject's Age <sup>2</sup>	1.131 (1.600)	-
	Subject Has Insurance Coverage	-	-

Table Continues

Table 4.2, Continues

Variable Level	Variable	Support for Overturning <i>Roe v. Wade</i>	
	Subject's Family Income (Less than \$20,000)	0.194 (0.305)	-
	Subject's Family Income (\$20,000-\$29,999)	-0.270 (0.307)	-
	Subject's Family Income (\$30,000-\$39,999)	0.198 (0.331)	-
	Subject's Family Income (\$40,000-\$49,999)	-0.252 (0.316)	-
	Subject's Family Income (\$50,000-\$74,999)	-0.342 (0.372)	-
	Subject's Family Income (\$75,000-\$89,999)	-0.783+ (0.446)	-
	Subject's Family Income (\$90,000-\$99,999)	-0.221 (0.314)	-
	Subject's Family Income (over \$100,000)	0.074 (0.322)	-
	Subject Identifies as Black	-0.093 (0.277)	-
	Subject Identifies as Latinx	0.251 (0.248)	-
	Subject is Single	-	-
	Subject is Married	0.841** (0.250)	-
	Subject is Cohabiting	-0.157 (0.320)	-
	Subject is Widowed	-0.064 (0.368)	-
	Subject is Divorced	0.313 (0.332)	-
	Subject is Separated	0.945* (0.477)	-
	Subject Has Less than a High School Education	0.491 (0.474)	-
	Subject Some High School Education	0.589 (0.385)	-
	Subject is a High School Graduate	0.516* (0.224)	-
	Subject Has Some College Education	0.294 (0.239)	-
	Subject Has a 2-Year Degree	0.184 (0.252)	-
	Subject Has a 4-Year Degree	-	-
	Subject Has Some Graduate Education	0.328 (0.478)	-
	Subject Has a Graduate Degree	-0.208 (0.289)	-

Table Continues

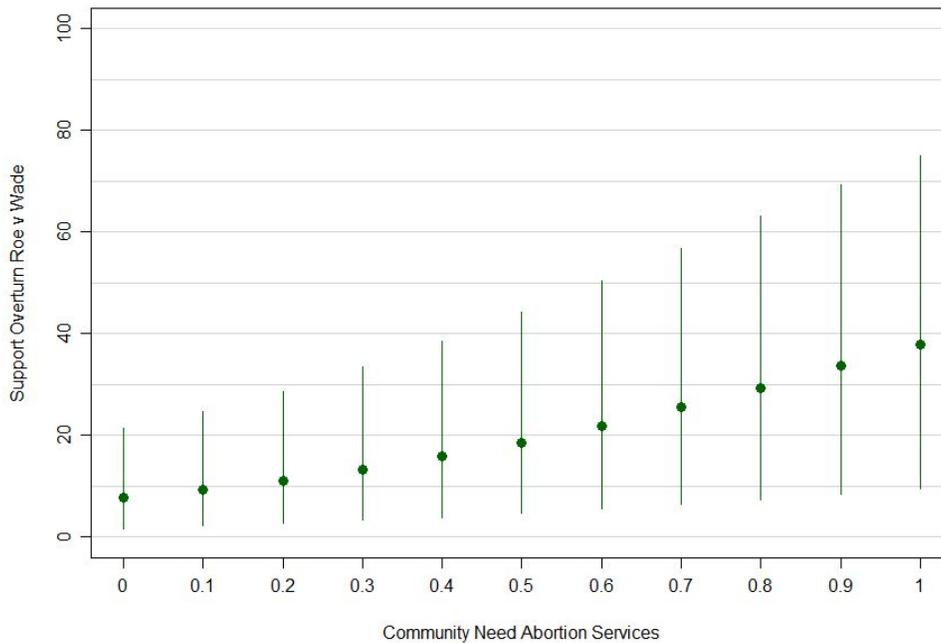
Table 4.2, Continues

Variable Level	Variable	Support for Overturning <i>Roe v. Wade</i>	
	Subject Education Attained (Refused/Don't Know)	0.729 (0.765)	-
Constant		-2.639** (0.698)	-2.047** (0.279)
Pseudo R <sup>2</sup>		0.10	0.02
N		1389	1433

Note: Cell values are logit coefficients with robust standard errors in parentheses. DV is a dichotomous variable coded as desire for overturning *Roe v. Wade* where 0 is would not like to see it overturned and 1 is would like to see it overturned. +: p<0.10; \*: p<0.05; \*\*: p<0.01.

To better contextualize this result, I calculated predicted probabilities of the variable representing support for overturning *Roe v. Wade* at different levels of community need. The results in figure 4.2 indicate that when all other variables are held at zero, a person who lives in a community with the highest level of need for access to abortion services is 30 percentage points *more likely* to support overturning *Roe v. Wade* than a person living in a community with low need for abortion services as defined by poverty rates and estimated teen birth rates.

**Figure 4.2 Clarify Predicted Values: Support for Overturning *Roe v. Wade***



Note: Points represent Clarify predicted values and bars represent 95% confidence intervals (King, Tomz, and Wittenberg 2000; Tomz, Wittenberg, and King 2003). I used R to construct this graph (R Core Team 2018).

The unexpected direction of the relationship between the community need variable and support for overturning *Roe v. Wade* could be from a spurious correlation. Underlying confounding factors that influence support for overturning *Roe v. Wade*, like cultural or religious beliefs, could be correlated with the community need variable. While it appears that community need is a strong predictor for support for overturning *Roe v. Wade*, it could be that the underlying factor that correlates with the community need variable would mediate the correlation between the community need variable and the support for overturning *Roe v. Wade* variable.

Although these analyses did not support my hypotheses, county-level data is likely not the best measure of "community." More geographically refined data at the town, school district, or census tract level may offer improved community-level measures if it is available in the future. The dynamic geolocation data that better maps individuals' likely interactions and associations may be another option in the future (Moore and Reeves 2017).

Additionally, poor reproductive health, specifically STI status and teen pregnancy, that I used in this study are typically taboo topics in the US. Since interactions with others in our communities can be how we become aware of information about our communities (Anderson 2009), the taboo nature of these topics may inhibit the sharing of that information among members of a community.

## **Conclusion**

The results of my survey experiment described in the prior chapter suggested that individuals' perception of need for reproductive health services in their communities positively influenced their support for federal reproductive health subsidies. I hypothesized that objective measures of poor reproductive health, like rates of poverty and live teen births and prevalence of

STIs, likely shape perceptions of communities so those objective measures should positively predict support for federal reproductive health subsidies. Through regression analysis of a 2018 nationally representative survey from the Kaiser Family Foundation ("Kaiser Health Tracking Poll June 2018" 2018), I tested this hypothesis. I found no statistically significant evidence that the correlation between a combined variable of objective measures of poor reproductive health and support for federal reproductive health funding was different from zero. I did find statistically significant evidence that the relationship between a combined variable of objective measures of need for access to abortion services and support for overturning *Roe v. Wade* was positive with a moderate effect size. The results suggest that objective measures of poor reproductive health and family planning at the county level are not strong predictors of public opinion on federal reproductive health subsidies.

## CHAPTER V: GEOGRAPHIC INFORMATION SYSTEMS ANALYSIS

One possible explanation for the analysis outlined in the last chapter providing no evidence to support my hypothesis that community-level factors influence public opinion on federal reproductive health funding is that perceptions of need for reproductive health and abortion access are misaligned with reality. In general, individuals may have limited access to information about objective measures of need for reproductive health services at the community level. They may assume there is little or no need for these services in their communities if they do not hear information about rates of STIs or teen pregnancy from local media. Because the topic of unintended pregnancy and STIs are taboo topics and are associated with societal stigma (Cates 2008; Hall et al. 2017), individuals may be less likely to share their experiences with others, even those close to them. These factors may contribute to a misalignment in perception of need for reproductive services in their communities.

There are negative consequences that could result from misperceived need. Individuals living in communities with high rates of STIs, for example, face increased risk of exposure to STIs and their friends and family members would face this exposure as well. A lack of affordable reproductive health services may mean that people may wait longer to access treatment and may experience higher financial and health costs as a result (Hull, Kelley, and Clarke 2017; K. J. Owusu-Edusei et al. 2013). At the community level, there are financial and health costs related to residents having poor reproductive health. Unintended pregnancies lead to increased need for supportive services for families like food, housing, health care, and child care subsidies (Frost et al. 2014) and on more reliance on public funding for birthing costs (Sonfield et al. 2011). Those who need treatment for STIs often miss work leading to associated labor and

economic costs (Owusu-Edusei et al. 2013). Overall, communities with poor reproductive health are less resilient, which means they will struggle to adapt in times of crisis and in emergency situations (McAslan 2010; US Department of Health and Human Services 2015).

### **Mapping High-Risk Communities**

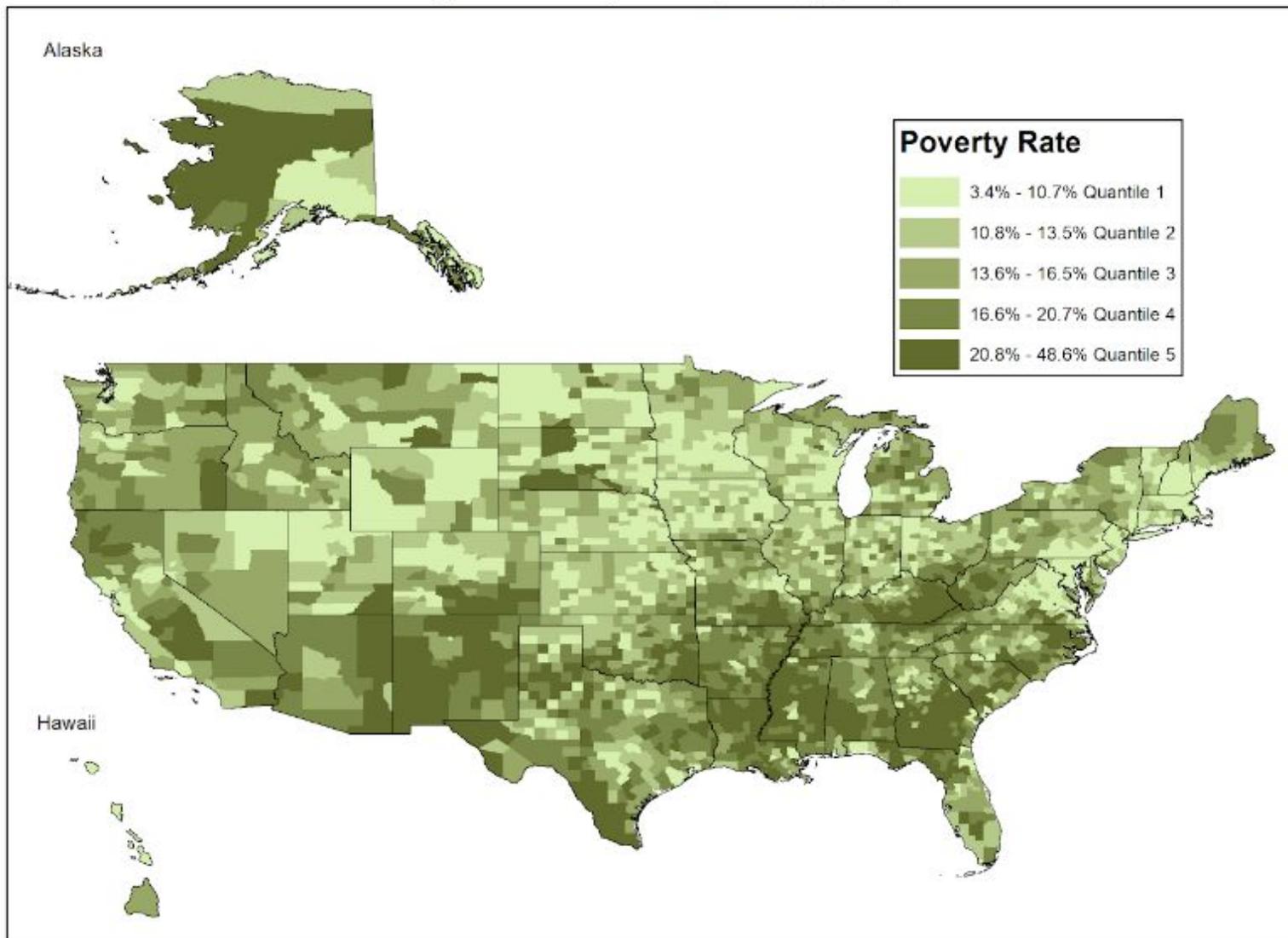
A misalignment of perceived need and actual need then could lead to increased risk of experiencing these negative impacts. The communities at greatest risk of experiencing these negative outcomes are those in which residents perceive the need for reproductive health services to be low when objective measures suggest that the real need is high. That risk could be compounded in areas where most of the civically engaged population is conservative. The danger would be less severe to those living in areas where the perceived need is high when the objective measures suggest it is low because, according to my survey experiment findings, those who perceive their community to have a high need are more likely to support public resources being spent to address the problem. The results of the quantitative analyses the previous chapters also suggested that those who are more ideologically conservative are also less likely to support federal reproductive health funding. Communities that are more conservative and have higher objective measures of poor reproductive health, therefore, would be most at risk from a misperception of need for these services.

In order to identify those communities that would be most negatively impacted by misperception of need, I used ArcGIS to map these indicators together to see where these circumstances overlap (ArcGIS 2018). Using the same county-level data used in the last chapter for poverty rates (US Census Bureau 2017), estimated live teen birth rates (National Center for Health Statistics 2018), rates of chlamydia, gonorrhea, and primary and secondary syphilis

(Centers for Disease Control and Prevention 2017), and the percentage of votes for Donald Trump in the 2016 General Election (New York Times 2017; Politico 2016), I created individual maps of each of those variables. I also created a map that shows the community need for reproductive health value for each county based on the combined variable for poor reproductive health that I used in the last chapter.

Figures 5.1, 5.2, 5.3, 5.4, and 5.5 show the individual variables used to create the combined variable representing community need for reproductive health services. Figure 5.1 maps the poverty rates by county across the US. It indicates that areas of the South and areas with higher indigenous populations, like Alaska and South Dakota, have clusters of counties with the poverty rates in the highest quintile. Figure 5.2 shows the estimated live teen birth rates at the county level across the US and shows that many areas of the South have high estimates, including much of the southern Mississippi Valley. Figures 5.3, 5.4, and 5.5 map out each of the STI rates, chlamydia, gonorrhea, and primary and secondary syphilis respectively, at the county level across the US. While there are some patterns in areas where rates of each STI is high, like southern California, the southern Mississippi Valley, and southern areas on the East Coast, there are other areas where the rates fluctuate across STI, like in east central Nevada and central Maine.

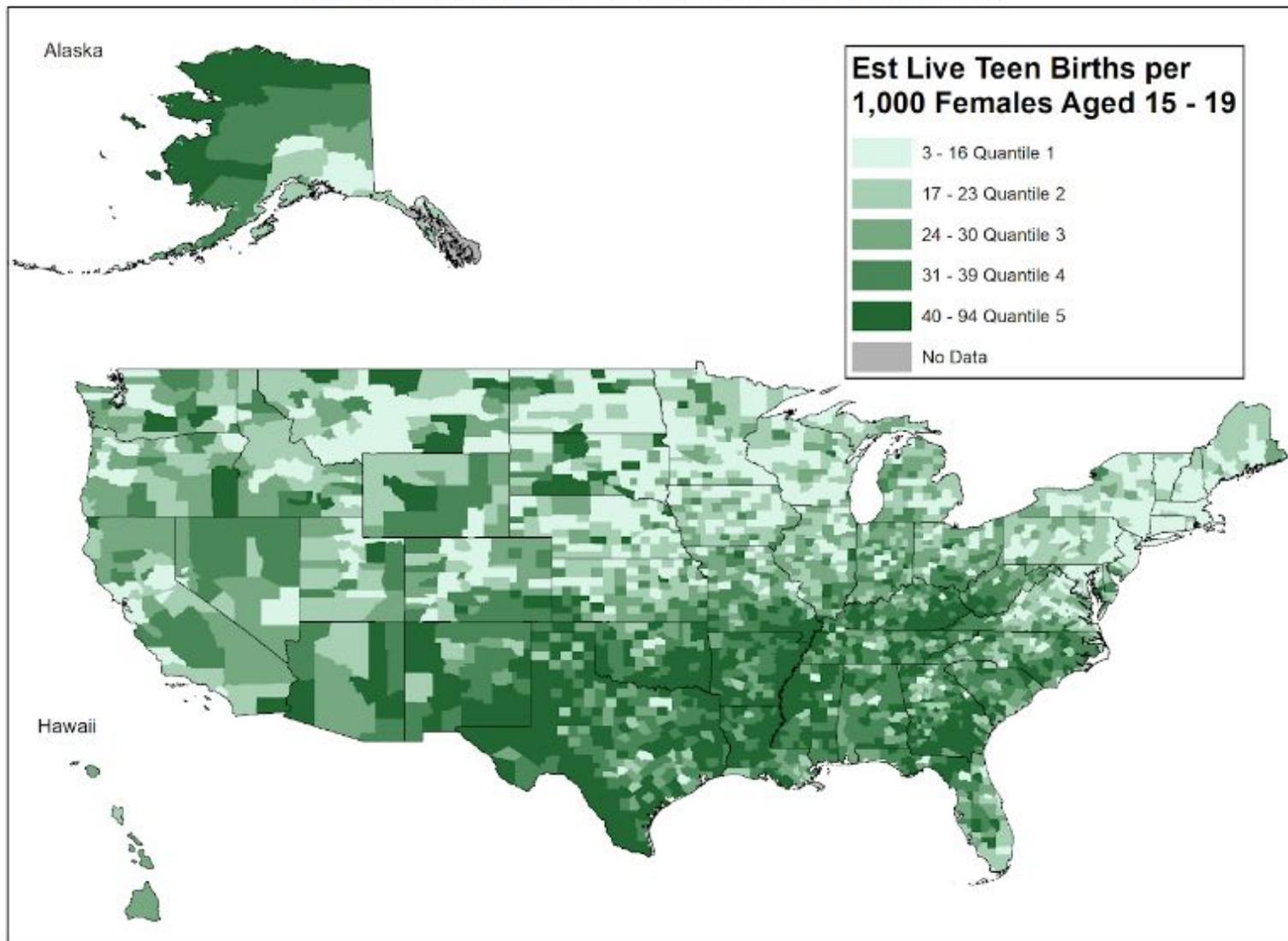
Figure 5.1 Poverty Rates by County (2016)



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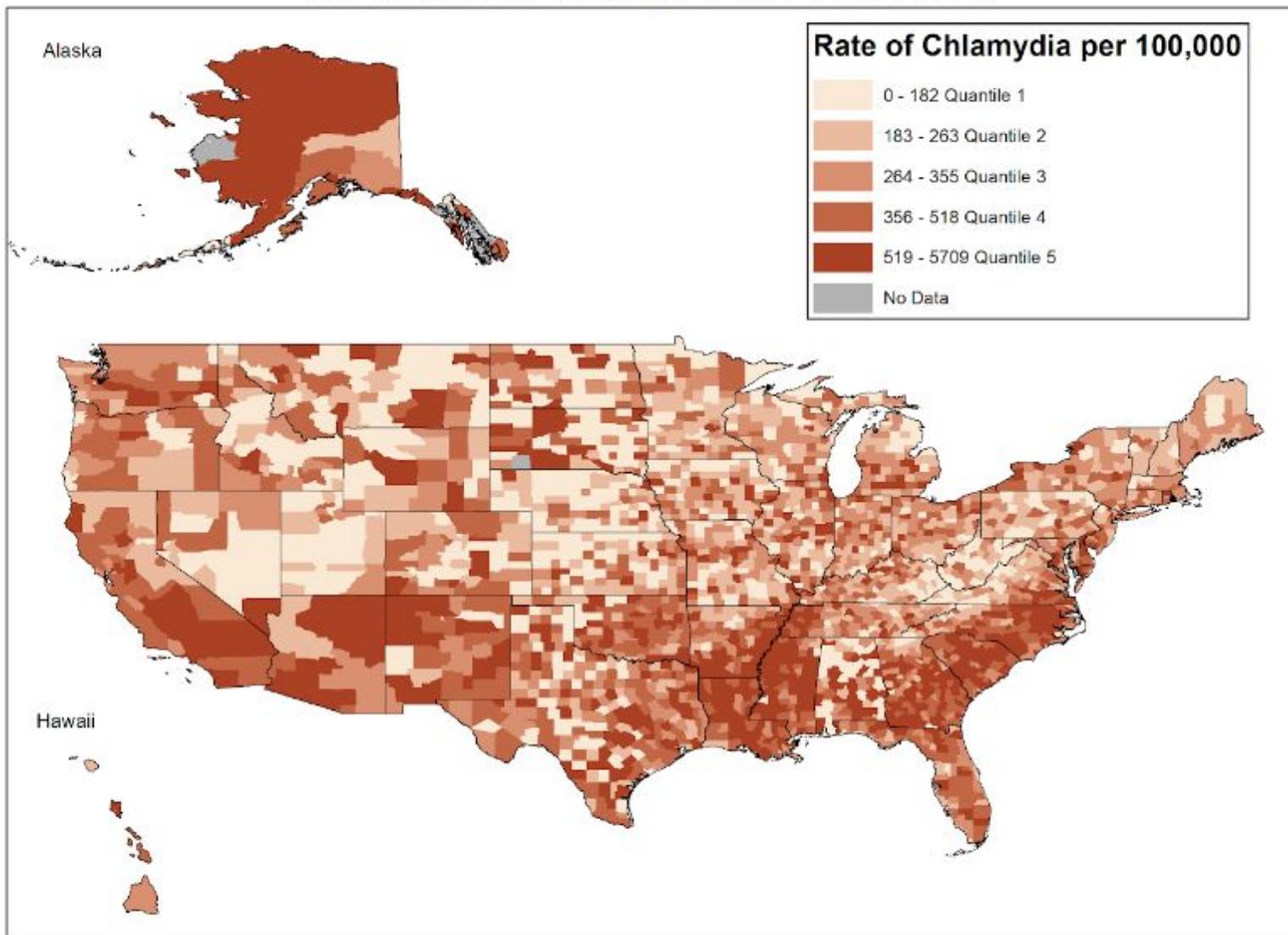
Note: Shapefiles from the Census Bureau were used to create this map (US Census Bureau 2010a, 2010b). Poverty rate data is from poverty rates from the U.S. Census Bureau Small Area Income and Poverty Estimates (US Census Bureau 2017).

Figure 5.2 Estimated Live Teen Birth Rates by County (2015)



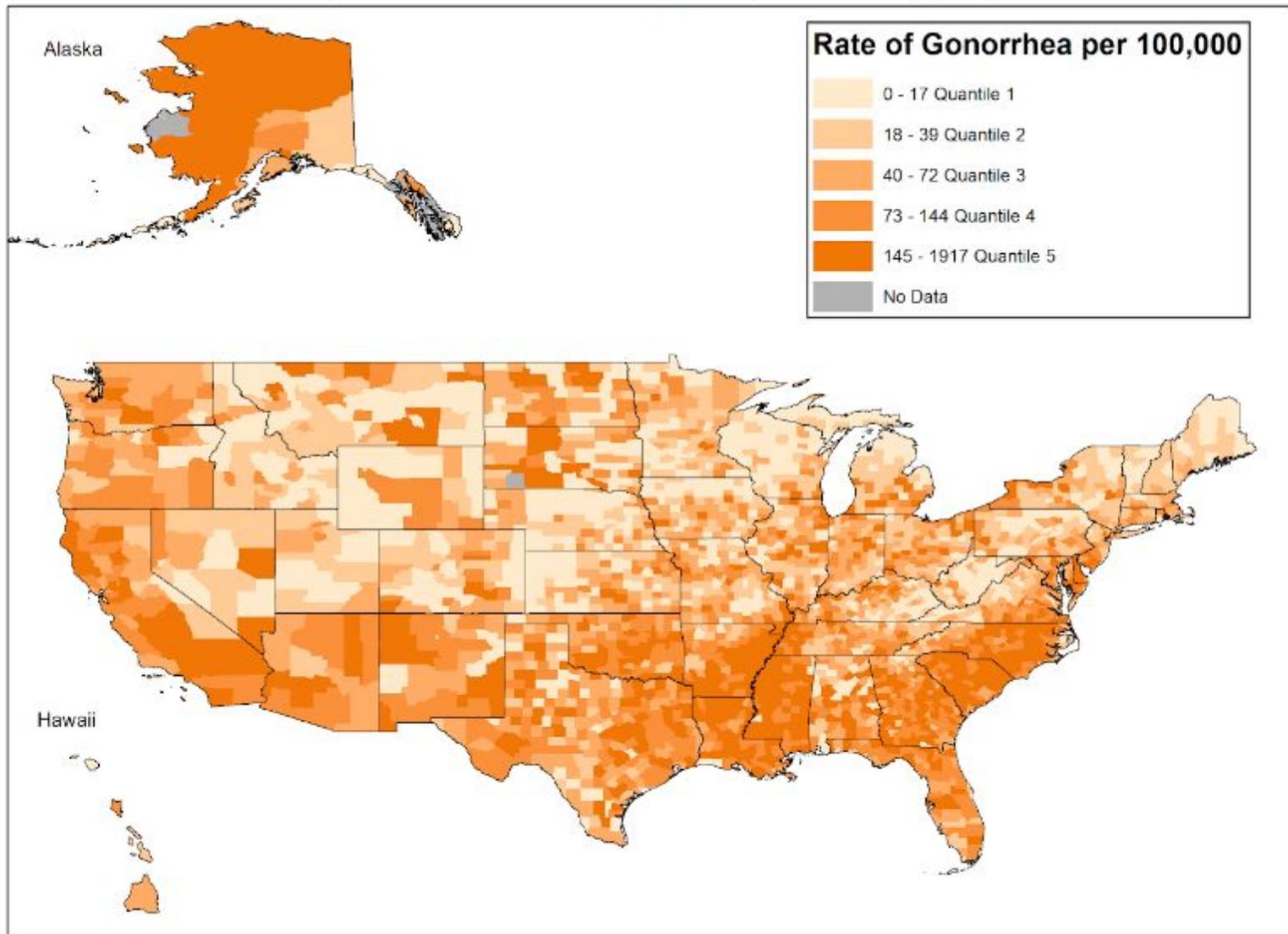
Note: Shapefiles from the Census Bureau were used to create this map (US Census Bureau 2010b, 2010a). Estimated live teen birth rate data is from the National Center for Health Statistics (National Center for Health Statistics 2018).

Figure 5.3 Rates of Chlamydia per 100,000 by County (2016)



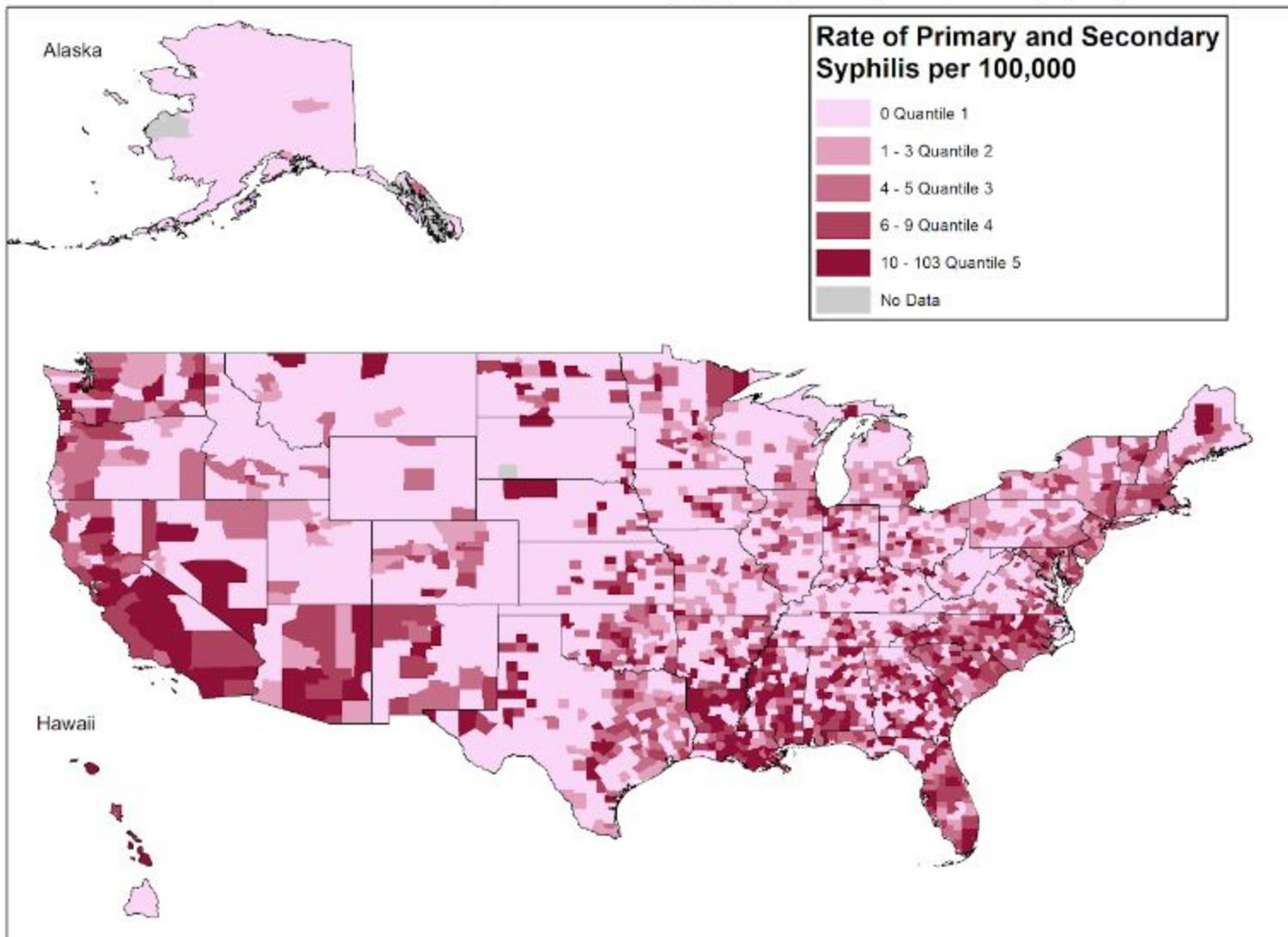
Note: Shapefiles from the Census Bureau were used to create this map (US Census Bureau 2010b, 2010a). Chlamydia rate data is from the CDC (Centers for Disease Control and Prevention 2017).

Figure 5.4 Rates of Gonorrhea per 100,000 by County (2016)



Note: Shapefiles from the Census Bureau were used to create this map (US Census Bureau 2010b, 2010a). Gonorrhea rate data is from the CDC (Centers for Disease Control and Prevention 2017).

Figure 5.5 Rates of Primary and Secondary Syphilis per 100,000 by County (2016)



Note: Shapefiles from the Census Bureau were used to create this map (US Census Bureau 2010b, 2010a). Primary and secondary syphilis rate data is from the CDC (Centers for Disease Control and Prevention 2017).

The counties in orange and red in figure 5.6 indicate the counties that have community need variable values of more than one standard deviation above the mean. The mean value of community need was 0.51 on a 0-to-1 scale with a standard deviation of 0.13. The majority of counties with poor reproductive health and, therefore, high need for reproductive health care are located in the South and in areas with higher indigenous populations, like Alaska, Montana, and South Dakota. The lower Mississippi Valley, Alaska, and South Dakota have clusters of the highest need counties, those in red.

Figure 5.7 shows percentage of votes for Donald Trump in the 2016 General Election by county. Because Alaska's voting precincts do not align with Alaska's county equivalents, I was unable to include Alaska's voting data in the preceding chapter. In this map, however, I was able to include the percent of votes for Donald Trump in the 2016 General Election by Alaskan state house districts and overlay the borders for Alaska's county equivalents to give a sense of what the data looks like for that state. This map shows that Donald Trump received relatively fewer votes in the 2016 General Election in many of the counties that have the highest need for reproductive care, like those the lower Mississippi Valley, South Dakota, and Montana.

Looking at the maps separately provides some information, but being able to pull out the specific counties that were most supportive of Donald Trump, indicating a larger conservative population, that also have a high community need for reproductive health value would provide more specific information for analysis. To do this, I selected counties where Donald Trump received more than 80% of votes cast in the presidential race in the 2016 General Election,

which is the top quintile, and where the community need variable was more than one standard deviation above the mean.<sup>16</sup> Figure 5.8 shows these results and two important factors stand out.

First, all of higher risk counties are geographically either in the South or in central and southern Appalachia. These areas are typically found to be more conservative and more libertarian, respectively, than other parts of the US (Black 2004; Woodard 2011); it is possible that ideology is again exerting an important influence on support and availability of public programs designed to improve reproductive health. Further investigation, however, would be needed to determine to what extent ideology and other factors may contribute to this geographic pattern. In general, those working on the issue of reproductive health access should note this trend and assess how it impacts their strategies for success.

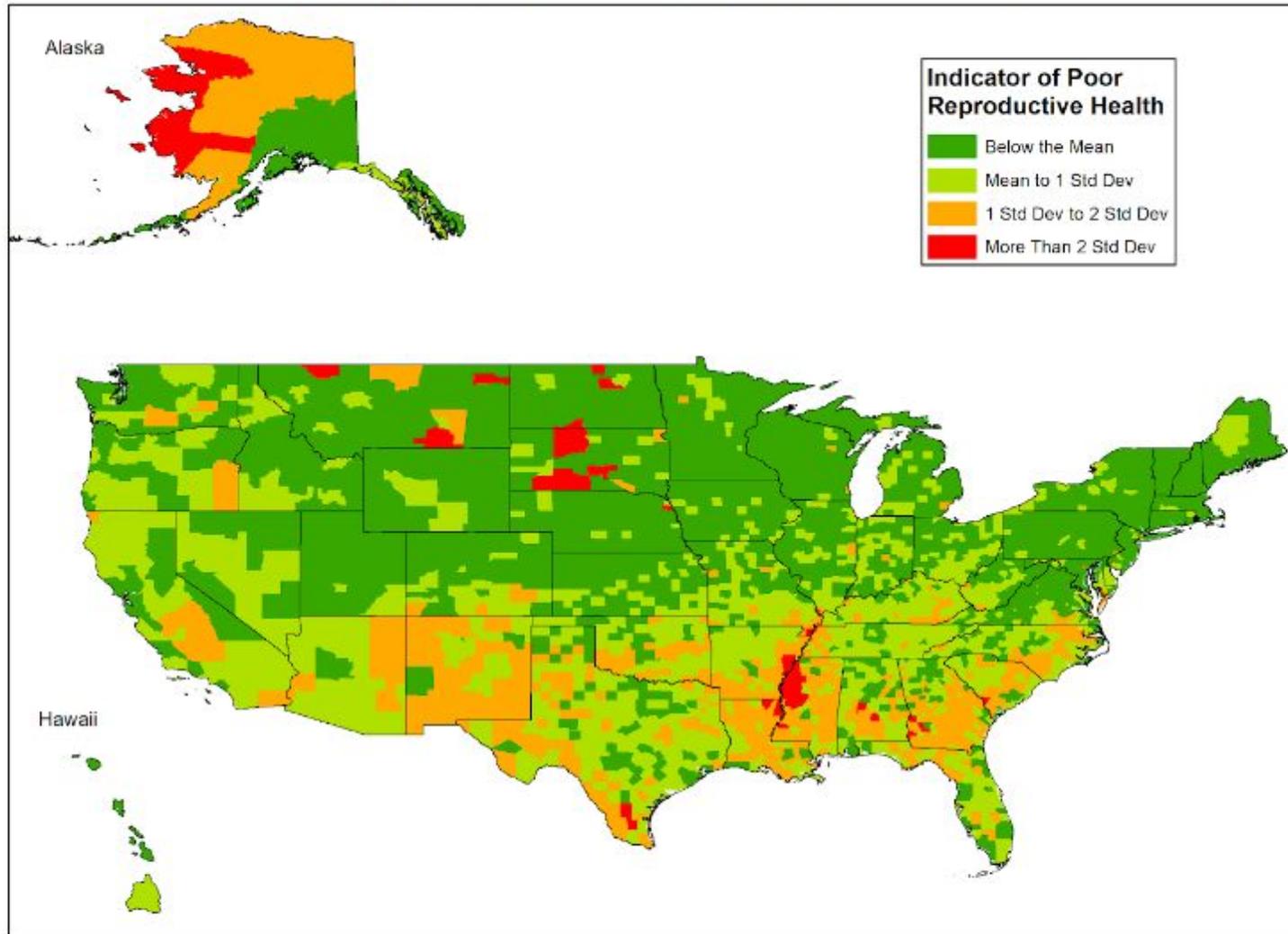
Second, while all of these high-risk counties had a high level of community need for reproductive health, none of them had the greatest level of need, e.g. community need variable values that were more than two standard deviations above the mean. In the last chapter, I found that as the percentage of votes for Donald Trump increased at the county level, a proxy for community-level ideological beliefs, individual level support for federal reproductive health funding decreased and support for overturning *Roe v. Wade* increased. When taken in context with these findings from the last chapter, the fact that none of the highest need counties (those in red in figure 5.6) were identified as high-risk counties (those in orange in figure 5.8) suggests that, if perception of need in the communities with the highest need is misaligned with reality, those wishing to implement publicly funded programs to serve this need in the highest need communities may face less ideological-based opposition than in the communities that have

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<sup>16</sup> See Appendix F for a full list of counties and their associated indicators of poor reproductive health.

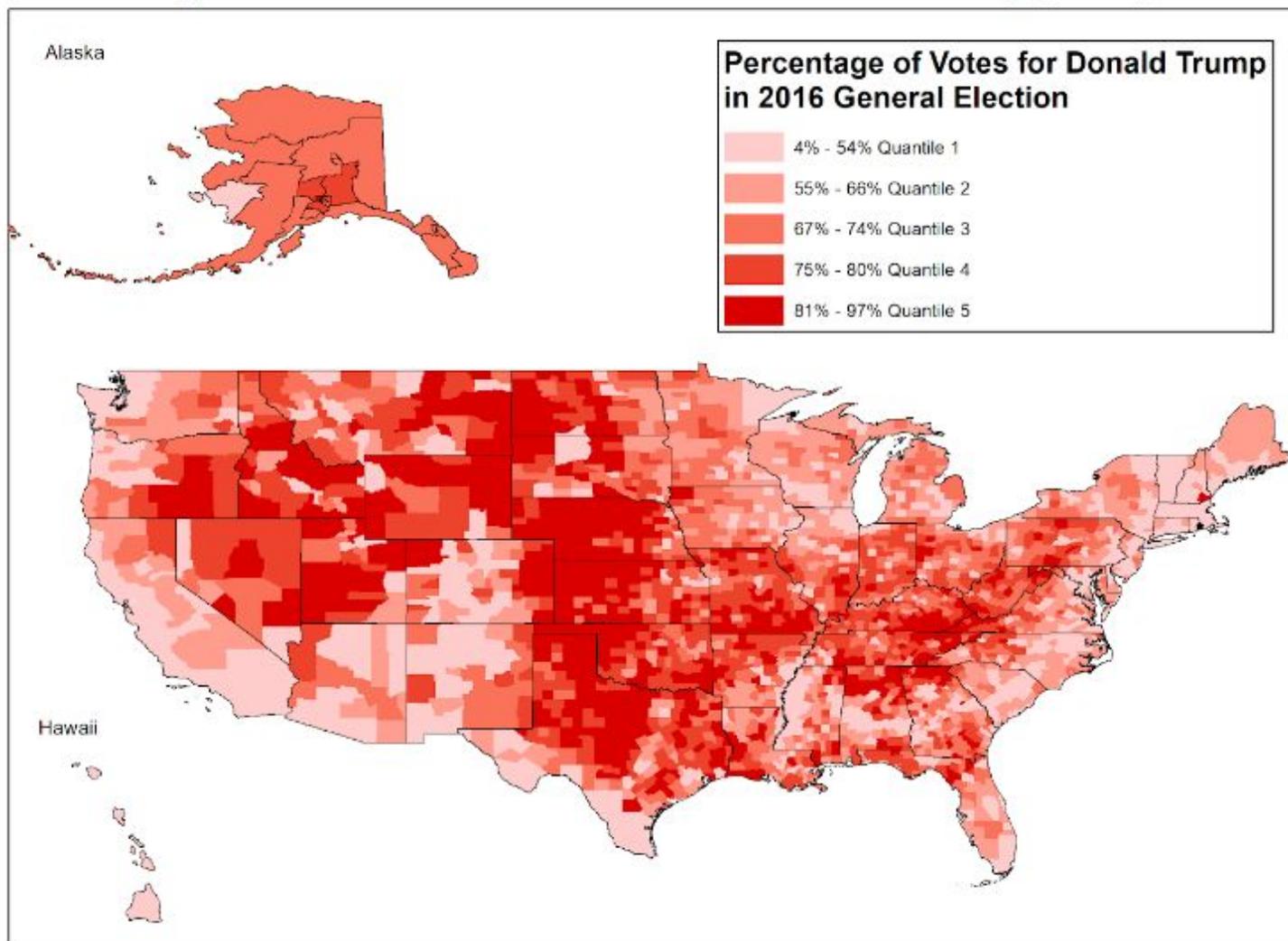
relatively lower need but are more ideologically conservative. For the communities in these high-risk counties that do face the greatest risk if perceptions are misaligned, community leaders, public health officials, or others hoping to implement publicly funded programs to better serve this need should take into account the ideologically-based oppositions they may face from these communities and adapt their strategies and messaging to be more inclusive of conservative values.

Figure 5.6 Indicator of Poor Reproductive Health by County



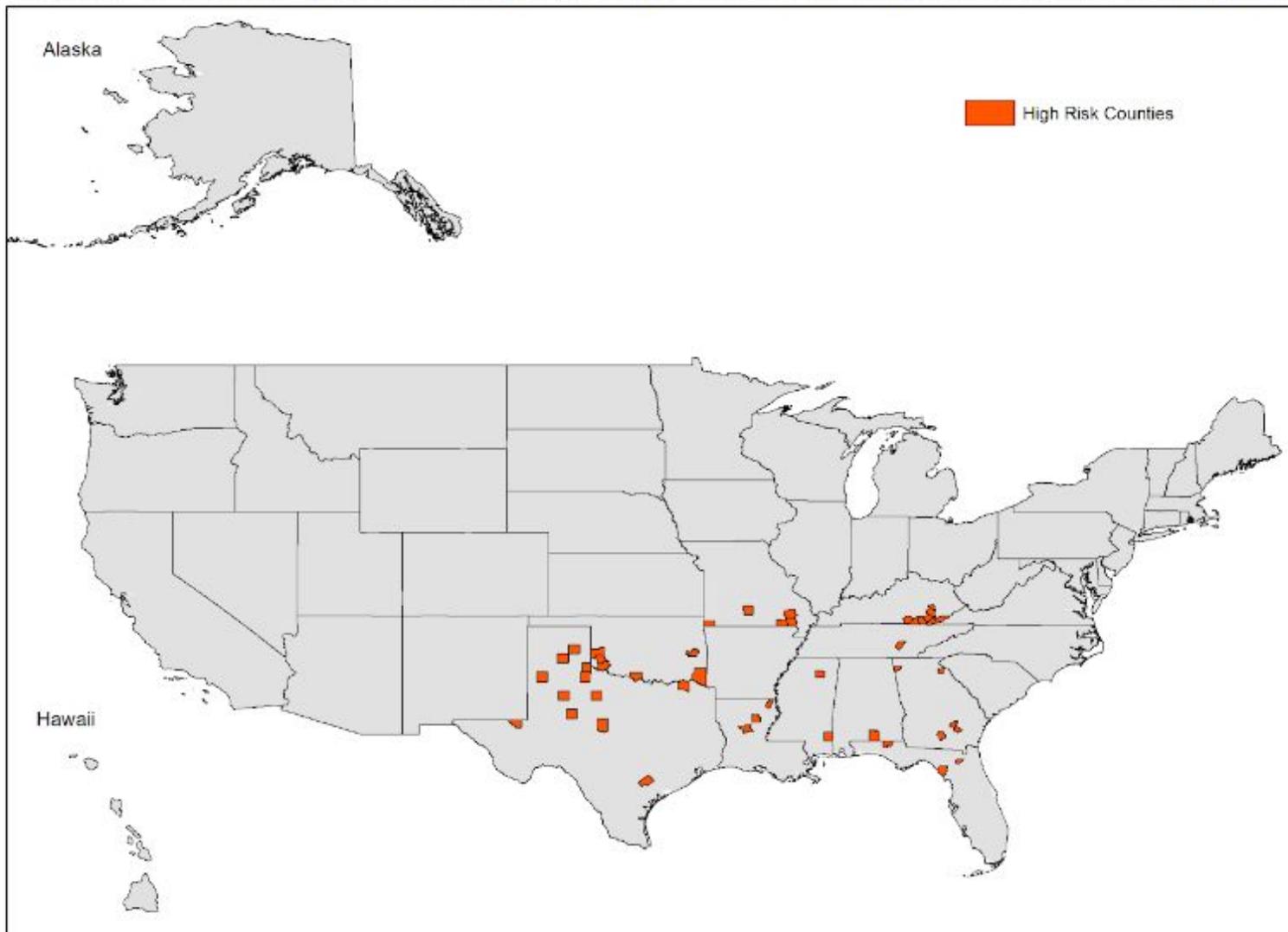
Note: I created the indicator from data on prevalence of chlamydia, gonorrhea, and primary and secondary syphilis from the CDC (Centers for Disease Control and Prevention 2017), estimated live teen birth rates from the National Center for Health Statistics (National Center for Health Statistics 2018), and poverty rates from the U.S. Census Bureau Small Area Income and Poverty Estimates (US Census Bureau 2017). I combined these variables into one estimator using Cronbach's (1951) alpha as described in previous chapter. Shapefiles from the Census Bureau were used to create this map (US Census Bureau 2010b, 2010a).

**Figure 5.7 Percent of Votes in 2016 General Election for Donald Trump by County**



Note: Because voting precincts in Alaska are not aligned with county equivalents, colors represent voting by state house districts and black lines represent county equivalent borders. Shapefiles from the Census Bureau and the Alaska Division of Elections were used to create this map (State of Alaska 2013; US Census Bureau 2010b, 2010a). Vote percentage data is from the New York Times (New York Times 2017), Politico (Politico 2016), and the Alaska Division of Elections (State of Alaska 2016).

**Figure 5.8 Counties at Highest Risk of Impact if Perceptions of Need for Reproductive Health are Misaligned**



Note: High risk was determined if more than 80% of votes in the 2016 General Election were for Donald Trump and the county's associated indicator of poor reproductive health was more than one standard deviation above the mean. Shapefiles from the Census Bureau were used to create this map (US Census Bureau 2010b, 2010a).

Because these communities do have high reproductive health needs and may be more likely to oppose publicly funded programs to serve this need if the community members perceive the need to be low, I also mapped out all Title X clinics to see if these counties are already being served by Title X funded providers. Figure 5.9 shows all Title X services sites as of November 2018.<sup>17</sup> The density of clinics is relatively high in much of the South and the East with fewer clinics in more rural, less populated states, like Wyoming, North Dakota, and Alaska.

The map in figure 5.9 also shows which service sites have the words "Planned Parenthood" in their names. While this does not offer a reliable measure of all Title X clinics that offer abortion services or referrals or of all Title X service sites that are subcontracted through Planned Parenthood, Planned Parenthood and its associated clinics are heavily politicized and have become a symbol in the debate about prohibiting Title X funded providers from offering abortion services or referrals within the same clinic that is offering Title X funded services (Gordon Earll n.d.; Mali 2018). Additionally, Planned Parenthood has publicly stated (Planned Parenthood Action 2019) that it will no longer be able to participate in the Title X program after the implementation of a Trump administration rule to enact these restrictions to this program (Office of Population Affairs 2019). For these reasons, I wanted to give a sense of where Planned Parenthood clinics are located. As figure 5.9 indicates, the Title X service sites with "Planned Parenthood" in their names are located largely in the Northeast, Midwest, and West Coast with some sites in other states like Florida, Montana, and North Carolina. One important detail that emerged on this map was that there are only four Title X service sites in Alaska and all of them are Planned Parenthood clinics. Alaska, a state with areas that has consistently high indicators for

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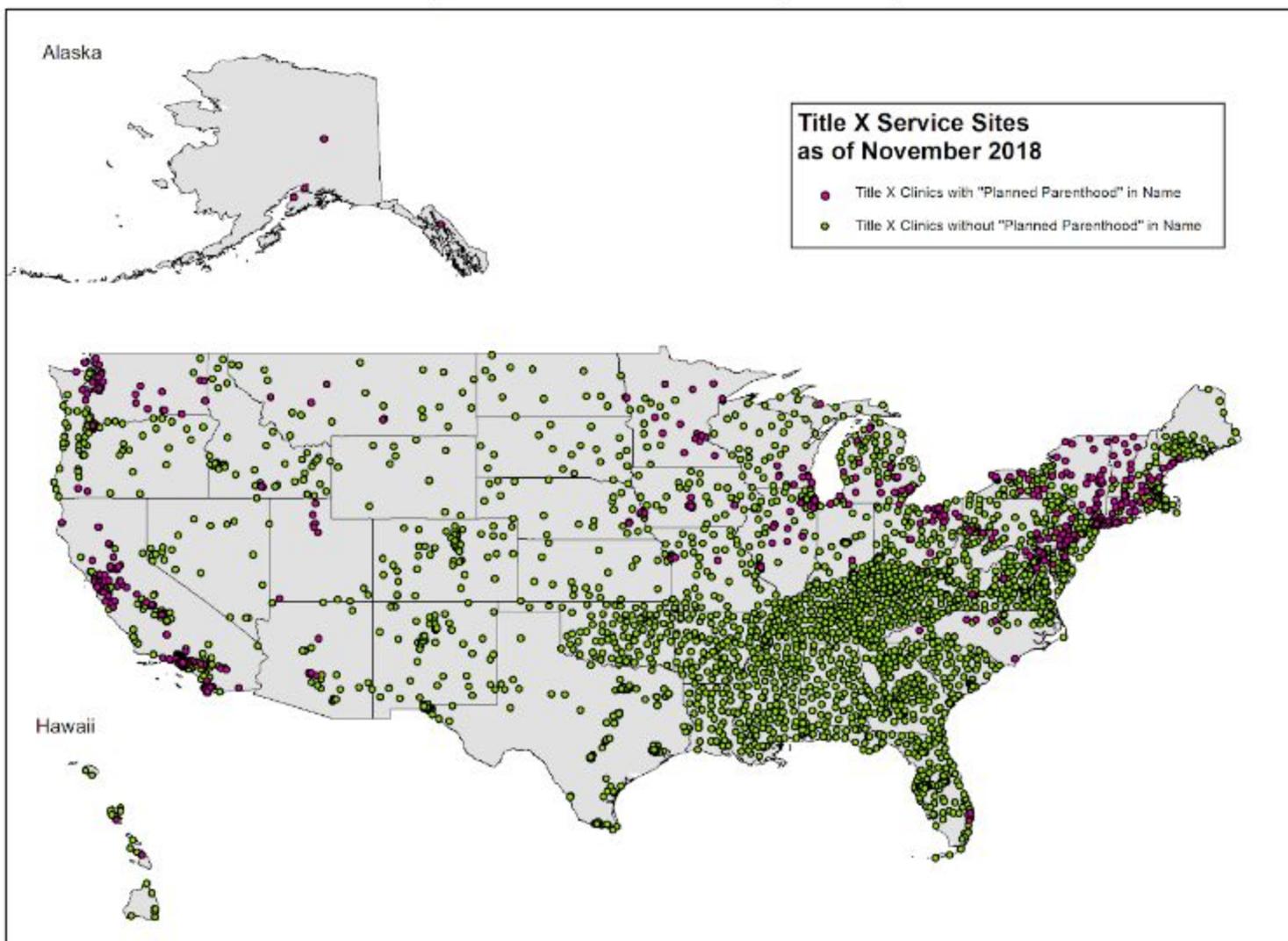
<sup>17</sup> The service site list can change on a monthly basis, and the Office of Population Affairs releases a directory of Title X services sites several times per year. You can find the most current directory at <https://www.hhs.gov/opa/title-x-family-planning/title-x-grantees/index.html>.

reproductive health, therefore, is likely to lose all of its Title X funded providers if new providers in the state do not join the Title X program. Admittedly, the sites for the Planned Parenthood clinics are not located in the areas of highest need, but the fact that Planned Parenthood was the only Title X provider in the state could be indicative of a reproductive health system in the state that is less equipped to serve low-income residents, and, therefore, less able to adapt to the Title X change.

Because the new Title X rule may have negative impacts on those communities that have been served by Title X providers that do offer abortion services or referrals (Sobel, Rosenzweig, and Salganicoff 2018), I also wanted to assess whether Planned Parenthood clinics were serving the high-risk communities (identified in figure 5.8) prior to the rule. Figure 5.10 shows the high-risk counties at the regional level along with the Title X services sites in the region. The map indicates that 30 of the 46 high-risk counties do have at least one Title X service provider in them with six counties having two Title X clinics each. None of the Title X providers in or near the high-risk counties are clinics with "Planned Parenthood" in the name. Further analysis of the Title X providers in these specific counties revealed that the vast majority (83%) of the the providers are county health departments. For these high-risk communities, then, the new Title X rule is less likely to negatively impact their existing access to reproductive health services since most of the clinics were county health providers. Further investigation, however, is needed to determine whether the non-county health department providers in these counties are negatively impacted by the new rule. For the 16 high-risk counties that had no Title X service provider prior to the new rule, future research may assess whether reproductive health services providers that

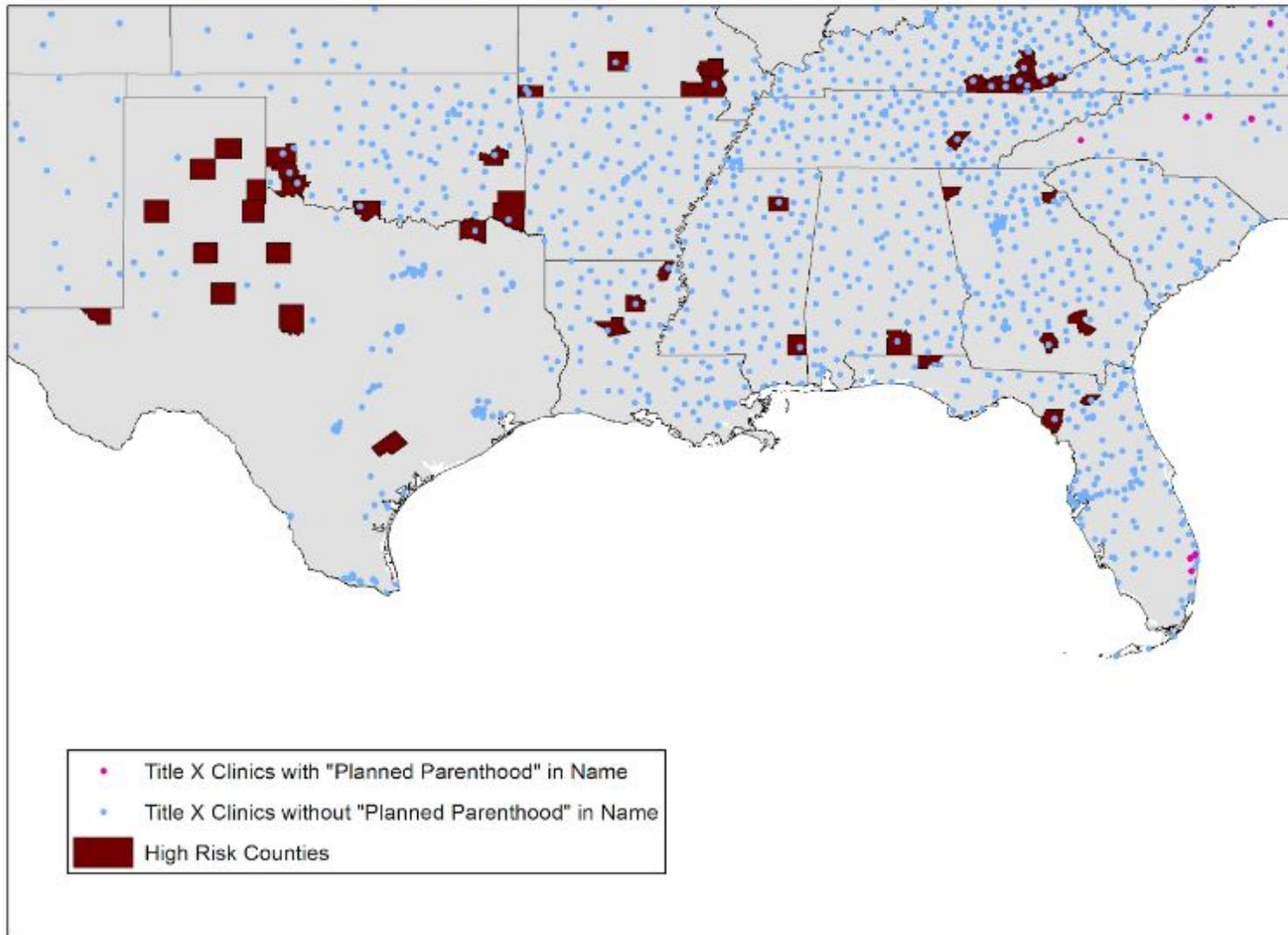
also offer abortion services, like Planned Parenthood, would have considered opening clinics in these communities if they would have had access to Title X funding.

Figure 5.9 Title X Service Sites (Nov 2018)



Note: Data for the Title X Service Sites is from the Office of Population Affairs (Office of Population Affairs 2018). Shapefiles from the Census Bureau were used to create this map (US Census Bureau 2010b).

**Figure 5.10 Title X Service Sites (Nov 2018) in Counties at Highest Risk of Impact if Perceptions of Need for Reproductive Health are Misaligned**



Note: Data for the Title X Service Sites is from the Office of Population Affairs (Office of Population Affairs 2018). Shapefiles from the Census Bureau were used to create this map (US Census Bureau 2010b, 2010a).

## **Conclusion**

Based on my analysis of the KFF data, communities with high levels of need for reproductive health services that are populated by residents who have a misaligned perception of the need could face challenges in addressing this need and this could have negative repercussions for the individual residents and the communities as a whole. Using GIS to geographically display and interpret the communities most at risk of being negatively impacted by a misalignment in perception of need for reproductive health services, I found that counties with the highest need for reproductive health are less ideologically conservative than counties that have relatively less need, and, therefore, face a lower risk due to misalignments in perception of need among their residents. I also found that all of the high-risk counties are located in the South and Appalachia and that 35% of these counties did not have a Title X service provider within its borders as of November 2018. For those high-risk counties that did have a Title X provider, the majority were county health departments and none were clinics that had "Planned Parenthood" in their names. This suggests that these high-risk counties will likely not face negative repercussions to reproductive health care access in the short-term associated with the new Title X rule changes.

## CHAPTER VI: CONCLUSION

The Trump administration has recently established a rule that will prohibit abortion services providers from receiving Title X funds for the non-abortion family planning services they provide. Little public opinion research has focused on family planning and reproductive health topics outside of abortion. I assert that community-level factors, such as rates of unintended pregnancy and prevalence of STIs, spark self-interest and inclusive interest among the public and when rates of indicators of poor reproductive health increase in their local communities, individuals become more likely to support federal reproductive health funding. Overall, my hypothesis was partially supported by my findings.

The results of my survey experiment in Chapter III tested and supported my first sub-hypothesis that perception of need for reproductive health services at the community level would positively influence support for federal reproductive health funding. There was statistically significant evidence in the survey experiment that my manipulation was successful and that subjects in the high rates treatment group were more supportive of federal reproductive health funding for the clinic described in the vignette. This suggests that increasing perceptions of local need for the clinic caused subjects to be more supportive of federal reproductive health funding for local clinics. Correlational analysis of this data also suggests that those who perceived higher need for a clinic to address the reproductive health issues of the community were more supportive of federal funding going to that clinic. There is an important nuance to this finding. Although those in the high rates treatment were still more supportive of federal funding going to the clinic that offered abortion services for private pay than subjects in the low rates treatment group, subjects in both the high rates treatment group and the low rates treatment

group were less supportive of the clinic receiving federal funding if it provided abortion services. For the abortion providing clinic, there was statistically significant evidence that individual ideology was a stronger predictor of support for federal reproductive health funding than perceived community need for a reproductive health clinic.

The results of my analysis of the KFF dataset did not support my second sub-hypothesis that, as objective measures of need increase, support for federal reproductive health funding would increase. There was no statistically significant evidence that the correlation between objective measures of county-level need for reproductive health care, measured by rates of poverty, estimated rates of live teen births, and prevalence of STIs, and support for federal reproductive health funding was different from zero. In the case of county-level need for abortion access, measured by rates of poverty and estimated live teen births, there was statistically significant evidence that, as community level need for abortion access increased, support for overturning *Roe v. Wade* also increased. While the latter could be a result of a spurious correlation, the percentage of votes for Donald Trump in the 2016 General Election was a strong predictor with support for federal reproductive health funding decreasing as percentage of votes for Trump increased and with support for overturning *Roe v. Wade* increasing as percentage of votes for Trump increased. This indicates that the relationship between ideology and partisanship should be more closely investigated in association with this topic.

Building off of my analysis of the KFF dataset, I used GIS to apply the results and analyze which counties would be most at risk of the negative impacts of poor reproductive health due to a misalignment of community perception of the need for reproductive health and the objective measures of need for reproductive health for that county. I found that the counties with

the poorest reproductive health by objective measures were less ideologically conservative than counties with poor but slightly less dire reproductive health. When taken in context with my findings from the last chapter, this suggests that those working to improve reproductive health through federally funded programs would face less ideologically-based opposition to their efforts in communities with the highest levels of need than in some of those with high but not the highest levels of need. Additionally, I found that all of the counties with high community-level need for reproductive health that are also most ideologically conservative are located in the South and in Appalachia. While 30 out of 46 counties had a Title X service site within its borders, 16 counties had no Title X provider within their geographic limits. Furthermore, of the high-risk counties with a Title X provider, none of the services sites had "Planned Parenthood" in their names and the majority were county health departments.

Ultimately, those who want to effect change in support for federal reproductive health funding should be aware that perceptions of need for reproductive health services at the local community level can be an important influencer. Policy makers who want to write policies that reflect the opinions of the public may consider how the need for this service is perceived among their constituency. Reproductive health care providers who seek support from the community may consider which services they offer and how they promote those services based on the perceived need among the community they serve. Activists engaged in reproductive health care access may seek to adapt their messaging to influence or respond to perceived community need for the service.

Additionally, this research suggests that perceptions of community-level factors can play an influential role in shaping public opinion. Exploring community-level factors among other

issues that fall into the definition of inclusive interest outlined by Weeden and Kurzban (2014; 2017) could help uncover whether the community-level influence is limited to support for federal reproductive health funding or if communities have influence on other or broader social and political issues.

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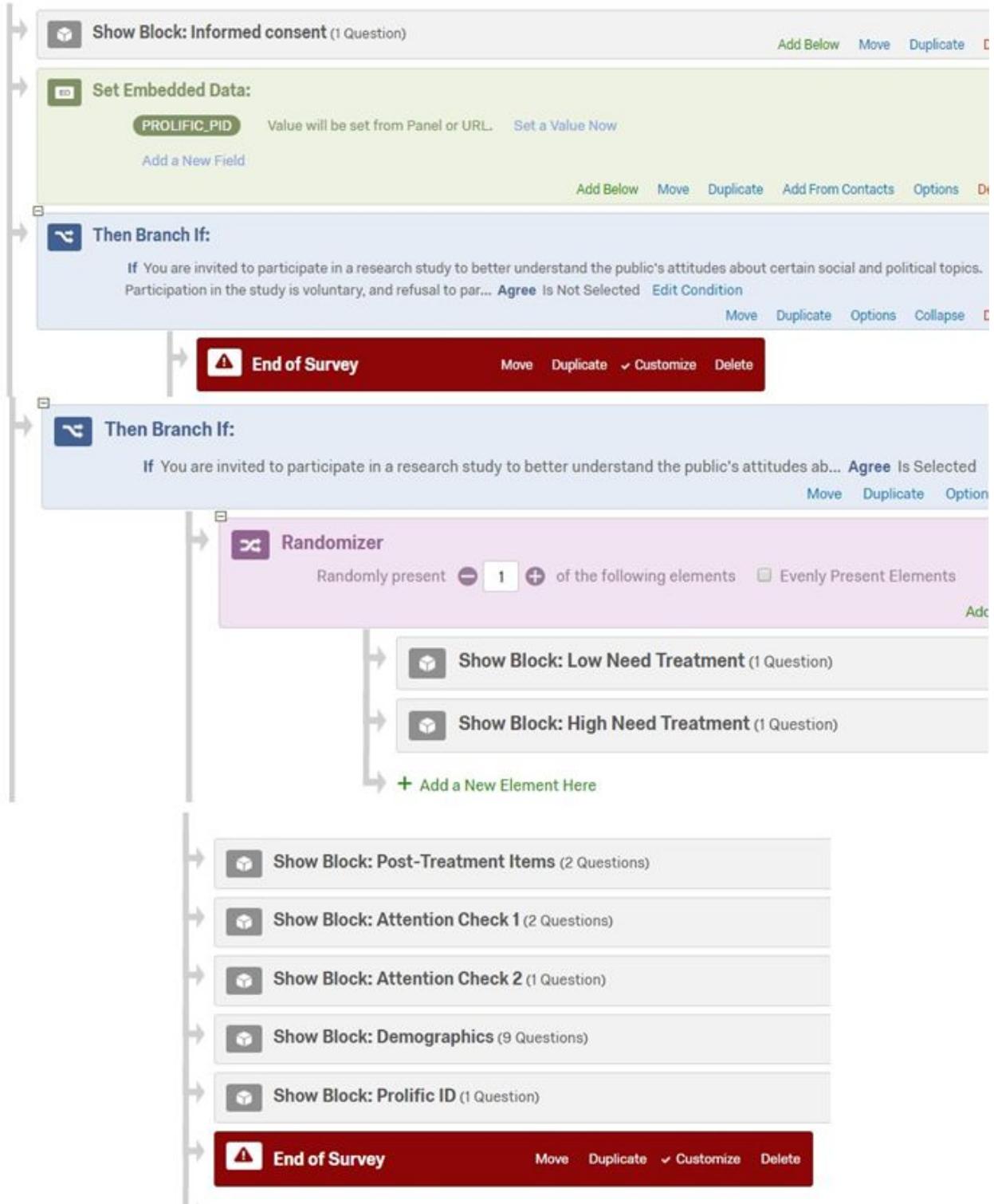
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APPENDIX A: SURVEY EXPERIMENT SURVEY FLOW AND ITEMS

IRB-2018-634: Survey Instrument  
Survey Flow



**Please note that all bold text in this appendix is not part of the survey and was not be seen by subjects.**

## **Informed Consent Block**

You are invited to participate in a research study to better understand the public's attitudes about certain social and political topics. Participation in the study is voluntary, and refusal to participate will involve no penalty or loss of benefits to which you are otherwise entitled.

If you participate, you will be asked to fill out a 4-minute survey. You may skip any items or discontinue participation at any time without penalty. Upon submission of the survey, you will be redirected to Prolific to receive your completion code; we recommend that you keep a copy of this completion code and that you verify your Prolific ID in the survey. Responses for partial survey completions will be recorded and locked 4 hours after you start the survey.

Participating in the study has no foreseeable direct benefits for participants but could contribute to scientific knowledge. Foreseeable risks from participation include feeling discomfort or related feelings while reading or responding to certain items. Moreover, if the participant's responses become known there is a risk that this causes damage to the participant's social standing, financial standing, employability, or reputation.

To help detect non-independent responses, the Qualtrics platform used to collect data for this study will collect participant IP address and location latitude and longitude. While your data will be securely stored, it is remotely possible that a breach of confidentiality could occur and your responses could become known. To minimize this risk, access to the data at the Qualtrics site will be password protected, and participant identifiers will be deleted from any data made public. Data without identifiers might be shared and/or placed online or reported in theses, presentations, academic journals, or other venues.

You will be paid \$0.49 for participating. The IRS may consider these payments to be taxable compensation. Recipients of a research participant incentive payment may want to consult with their personal tax advisor for advice regarding the participant's situation. Any participant may choose to participate in the study without accepting the research incentive payment. Moreover, requests for compensation may be rejected if your Prolific ID does not appear in the collected data, if you complete the survey in less than 1 minute, or if you cancel your survey participation on Prolific; multiple submissions from the same Prolific ID may be rejected. After a certain number of rejections, Prolific may limit or remove the participant from the Prolific respondent pool.

Please direct questions about this study (Study IRB-2018-634) to Dr. L.J Zigerell at [ljzigerell@ilstu.edu](mailto:ljzigerell@ilstu.edu). For questions about research participants' rights and/or a research-related

injury or adverse effects, you may contact the Illinois State University Research Ethics & Compliance Office at 309-438-5527 or rec@ilstu.edu. If, during the survey, you feel distress or related feelings, you may call 2-1-1 for a referral to counseling services. We recommend that you save this statement.

Click "Agree" below if you are 18 years of age or older, are not currently within the European Economic Area, reside in the United States, and voluntarily agree to participate. Otherwise, click "Disagree."

Agree

Disagree

**Participants' Prolific IDs were recorded from their URL as part of the Informed Consent page and was later automatically embedded in the survey for them to confirm or change.**

**If "Agree" was not selected, participants saw the following message.**

As you do not wish to participate in this study, please return your submission on Prolific by selecting the 'Stop without completing' button on the Prolific studies page.

**If "Agree" was selected, participants were randomly assigned to either the "Low Rates Treatment" or the "High Rates Treatment."**

### **Low Rates Treatment Block**

1a) Imagine that you lived in a community that might establish a new health clinic that would offer only nonabortion reproductive health services such as birth control and prevention and treatment of sexually transmitted diseases. The community has very low rates of unplanned pregnancy and sexually transmitted diseases. How much do you think your hypothetical community would need this new clinic?

No need

Low level of need

Moderate level of need

High level of need

Very high level of need

### **High Rates Treatment Block**

1b) Imagine that you lived in a community that might establish a new health clinic that would offer only nonabortion reproductive health services such as birth control and prevention and treatment of sexually transmitted diseases. The community has very high rates of unplanned

pregnancy and sexually transmitted diseases. How much do you think your hypothetical community would need this new clinic?

- No need
- Low level of need
- Moderate level of need
- High level of need
- Very high level of need

**After moving through either the Low Rates Treatment Block or the High Rates Treatment Block based on their random assignment, all participants were shown the "Post-Treatment Items Block."**

### **Post-Treatment Items Block**

2) How much would you oppose or support this clinic receiving federal funds?

- Oppose strongly
- Oppose moderately
- Oppose slightly
- Neither oppose nor support
- Support slightly
- Support moderately
- Support strongly

3) How much would you oppose or support this clinic receiving federal funds if the clinic offered abortion services paid for by private funds?

- Oppose strongly
- Oppose moderately
- Oppose slightly
- Neither oppose nor support
- Support slightly
- Support moderately
- Support strongly

**After moving through the "Post-Treatment Items Block," participants were randomly presented one of the two questions from the "Attention Check 1 Block."**

### **Attention Check 1 Block**

4a) What did the passage about the hypothetical community indicate about the rates of unplanned pregnancy and sexually transmitted diseases in the community?

The rates were very low.  
The rates were average.  
The rates were very high.  
The passage did not mention rates of unplanned pregnancy or sexually transmitted diseases.

4b) What did the passage about the hypothetical community indicate about the rates of unplanned pregnancy and sexually transmitted diseases in the community?

The rates were very high.  
The rates were average.  
The rates were very low.  
The passage did not mention rates of unplanned pregnancy or sexually transmitted diseases.

**After moving through the "Attention Check 1 Block" item, all participants were shown the rest of the survey items.**

### **Attention Check 2 Block**

5) Select pregnancy test in the list below.  
**The order of answers for this item was randomized.**

pregnancy test  
STD treatment  
HPV vaccine  
hormone therapy  
blood test

### **Demographics Block**

6) What is your sex?  
**The order of "Female" and "Male" for this item was randomized and "Other" was always last.**

Female  
Male  
Other

7) Do you identify as Latinx, Latino, or Hispanic?

Yes  
No

8) Select each of the following that describes your race:

**The "Other" option was always last but the remaining answers for this item were randomized.**

White  
Black  
Asian  
American Indian or Alaska Native  
Native Hawaiian or Other Pacific Islander  
Other

9) Which is the highest level of formal education that you have completed?

Less than a high school degree  
High school degree or equivalent  
Some college, no degree  
2-year college degree  
4-year college degree  
More than a 4-year college degree

10) Are you living in the United States only temporarily?

Yes  
No

11) Please select the year you were born.

**Drop down menu only allowed a selection of year 1900 – 2001 or participant could leave it blank.**

12) Which of the following is your main source of health insurance coverage?

Plan through your employer or your spouse's employer  
Plan you purchased yourself  
Medicaid, Medi-CAL, or other plan sponsored by your state  
Medicare  
Plan through your parent  
I do not have health insurance coverage  
Other

13) Generally speaking, how do you think of yourself?

Strong Democrat  
Moderate Democrat  
Slightly Lean Democrat

Independent, None, Don't Lean, Other  
Slightly Lean Republican  
Moderate Republican  
Strong Republican

14) Generally speaking, how do you think of yourself?

Very liberal  
Moderately liberal  
Slightly liberal  
Moderate, Middle of the road  
Slightly conservative  
Moderately conservative  
Strongly conservative

### **Prolific ID Block**

15) Please verify your Prolific ID in order to receive compensation. Your completion code will be displayed on the next page.

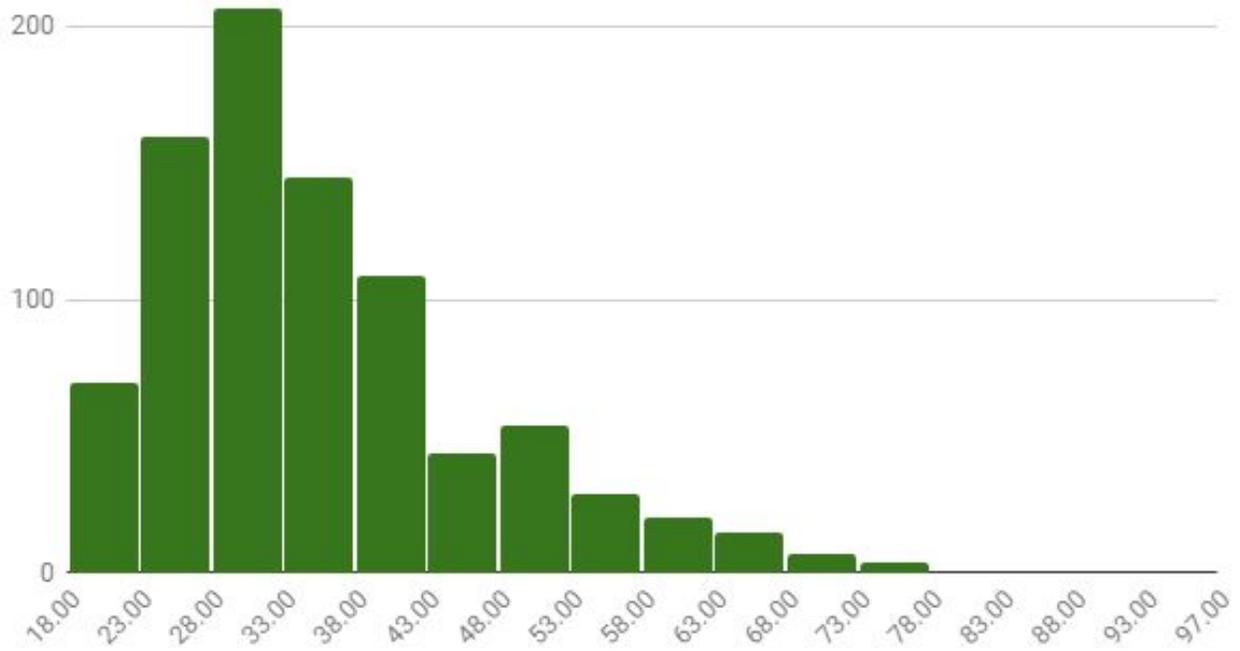
**Participant's Prolific ID was embedded in the editable text box for them to verify or change.**

**After submission, participants were redirected to Prolific and saw that their submission was successfully submitted and they saw a completion code that was automatically recorded by Prolific.**

APPENDIX B: SAMPLE CHARACTERISTICS FROM SURVEY EXPERIMENT

<b>Table B.1 Survey Experiment Sample Characteristics</b>		
<b>Description</b>	<b>N</b>	<b>%</b>
<b>Female</b>	427	49.4%
<b>Non-Female</b>	438	50.6%
<b>Latinx/Latino/Hispanic</b>	71	8.2%
<b>White</b>	685	79.3%
<b>Black</b>	61	7.1%
<b>Asian</b>	64	7.4%
<b>Other, 2+ Races, No Race Given</b>	55	6.4%
<b>Less than High School Education</b>	6	0.7%
<b>High School Graduate</b>	87	10.1%
<b>Some College Education</b>	233	26.9%
<b>2-Year College Degree</b>	83	9.6%
<b>4-Year College Degree</b>	307	35.5%
<b>Graduate School Degree</b>	149	17.2%
<b>Living in the US Temporarily</b>	20	2.3%
<b>Has Health Insurance Coverage</b>	736	85.1%
<b>Doesn't Have Health Insurance Coverage</b>	125	14.5%
<b>Republican</b>	154	17.8%
<b>Independent</b>	192	22.2%
<b>Democrat</b>	518	60.0%
<b>Very Conservative</b>	39	4.5%
<b>Moderately Conservative</b>	50	5.8%
<b>Slightly Conservative</b>	74	8.6%
<b>Moderate, Middle of the Road</b>	140	16.2%
<b>Slightly Liberal</b>	101	11.7%
<b>Moderately Liberal</b>	257	29.7%
<b>Very Liberal</b>	203	23.5%

**Figure B.1 Survey Experiment Histogram of Sample Age**



APPENDIX C: DESCRIPTIVE STATISTICS FROM SURVEY EXPERIMENT

<b>Table C.1 Survey Experiment Selected Descriptive Statistics</b>						
	<b>Variable</b>	<b>N</b>	<b>Mean</b>	<b>Standard Deviation</b>	<b>Min</b>	<b>Max</b>
<b>Low Rates Treatment</b>						
	Support Federal Funds for Non-Abortion Clinic	458	0.730	0.282	0	1
	Support Federal Funds for Abortion Clinic	458	0.697	0.337	0	1
	Perception of Need for Clinic	458	0.461	0.221	0	1
<b>High Rates Treatment</b>						
	Support Federal Funds for Non-Abortion Clinic	406	0.830	0.222	0	1
	Support Federal Funds for Abortion Clinic	406	0.773	0.312	0	1
	Perception of Need for Clinic	406	0.827	0.212	0	1
<b>Full Sample</b>						
	Support Federal Funds for Non-Abortion Clinic	865	0.777	0.260	0	1
	Support Federal Funds for Abortion Clinic	865	0.732	0.327	0	1
	Perception of Need for Clinic	865	0.633	0.284	0	1

## APPENDIX D: KAISER FAMILY FOUNDATION SURVEY QUESTIONS

This appendix lists the survey questions I used for my analyses from the Kaiser Family Foundation's (KFF) "Kaiser Health Tracking Poll June 2018" (2018). Text inside parentheses that is capitalized was not spoken aloud to subjects; this was for the interviewer's reference only.

As you may know, the 1973 Supreme Court Case Roe v. Wade established a women's constitutional right to have an abortion. Would you like to see the Supreme Court overturn its Roe v. Wade decision, or not?

How important, if at all, is it to you that the federal government provides funding for reproductive health services, such as family planning and birth control for lower-income women? Is it very important, somewhat important, not too important, or should it not be done?

Are you male or female?

What is your age?

Are you, yourself, now covered by any form of health insurance or health plan or do you not have health insurance at this time?

(READ IF NECESSARY: A health plan would include any private insurance plan through your employer or a plan that you purchased yourself, as well as a government program like Medicare or [Medicaid/Medi-CAL])?

Are you currently married, living with a partner, widowed, divorced, separated, or have you never been married?

(RANDOMIZE REPUBLICAN/DEMOCRAT)

In politics today, do you consider yourself a: (Republican), (Democrat), an Independent, or what?

(ASK IF INDEPENDENT/OTHER/DON'T KNOW/REFUSED (PARTY=3, 4, 8, 9))

(RANDOMIZE ITEMS IN SAME ORDER AS PARTY)

Do you LEAN more towards the (Republican) Party or the (Democratic) Party?

What is the highest level of school you have completed or the highest degree you have received?

Are you, yourself, of Hispanic or Latino background, such as Mexican, Puerto Rican, Cuban, or some other Spanish background?

What is your race? Are you white, black, Asian or some other race?

Last year – that is, in 2017 – what was your total family income from all sources, before taxes?

Just stop me when I get to the right category.

Less than \$20,000

\$20,000 to less than \$30,000

\$30,000 to less than \$40,000

\$40,000 to less than \$50,000

\$50,000 to less than \$75,000

\$75,000 to less than \$90,000

\$90,000 to less than \$100,000

\$100,000 or more

APPENDIX E: SELECTED DESCRIPTIVE STATISTICS FROM KAISER FAMILY  
FOUNDATION DATASET

<b>Table E.1 KFF Study Selected Descriptive Statistics</b>									
<b>Variable</b>	<b>N</b>	<b>Mean</b>	<b>SD</b>	<b>Min</b>	<b>Max</b>	<b>5th PCTL</b>	<b>10th PCTL</b>	<b>25th PCTL</b>	<b>50th PCTL</b>
Support for Federal Reproductive Health Funding	1477	0.76	0.344	0	1	0	0	0.67	1
Support for Overturning <i>Roe v. Wade</i>	1433	0.28	0.450	0	1	0	0	0	0
Community Need for Reproductive Health	3928	0.51	0.133	0	1	0.28	0.33	0.42	0.51
Community Need for Abortion Services	3928	0.54	0.147	0	1	0.29	0.35	0.45	0.55

APPENDIX F: HIGH-RISK COMMUNITIES

**Table F.1 Communities Most At Risk of Negative Reproductive Health Impacts Due to Misalignment in Perception of Need for Reproductive Health Services**

County Name	Poverty Rate	Est Live Teen Birth Rate	Gonorrhea Rate Per 100,000	Chlamydia Rate Per 100,000	Primary & Secondary Syphilis Rate per 100,000	Community Need Variable Value	Percent of Votes for Trump 2016 General Election
Knox County, KY	39.2%	52	41	463	0	0.75	85%
Childress County, TX	21.5%	60	268	607	0	0.74	88%
Greer County, OK	26.7%	54	148	478	0	0.73	82%
McCurain County, OK	25.7%	54	163	536	6	0.72	83%
Lamb County, TX	21.5%	54	157	426	22	0.72	80%
Garza County, TX	30.0%	48	94	390	0	0.72	84%
McCreary County, KY	39.3%	58	17	313	0	0.72	88%
Jeff Davis County, GA	23.9%	60	114	476	7	0.71	82%
Cottle County, TX	21.4%	45	0	701	0	0.71	85%
Union County, FL	24.7%	45	131	525	0	0.71	82%
Armstrong County, TX	10.8%	33	1233	3544	103	0.71	93%
Butler County, MO	22.0%	45	235	519	0	0.71	82%
Bell County, KY	38.7%	52	22	249	4	0.70	82%
Lamar County, TX	19.9%	47	233	613	0	0.70	80%
Berrien County, GA	22.3%	50	127	353	11	0.69	84%
Loving County, TX	13.3%	53	0	893	0	0.69	94%
Bledsoe County, TN	23.8%	33	138	1241	7	0.69	80%
Covington County, AL	19.6%	45	198	640	11	0.69	85%
Clay County, KY	42.1%	48	0	90	5	0.68	89%
Grant Parish, LA	21.5%	44	130	577	9	0.68	86%

Table Continues

Table F.1, Continues

<b>County Name</b>	<b>Poverty Rate</b>	<b>Est Live Teen Birth Rate</b>	<b>Gonorrhea Rate Per 100,000</b>	<b>Chlamydia Rate Per 100,000</b>	<b>Primary &amp; Secondary Syphilis Rate per 100,000</b>	<b>Community Need Variable Value</b>	<b>Percent of Votes for Trump 2016 General Election</b>
Caldwell Parish, LA	22.6%	48	160	310	0	0.68	83%
Dixie County, FL	25.4%	41	93	432	0	0.68	82%
Jefferson County, OK	22.2%	42	128	303	16	0.67	84%
Chattooga County, GA	20.1%	54	136	333	0	0.67	80%
Beckham County, OK	17.1%	60	97	522	0	0.67	87%
West Carroll Parish, LA	23.8%	38	53	461	18	0.67	85%
Whitley County, KY	29.3%	52	36	266	3	0.67	85%
Wright County, MO	24.2%	45	93	296	0	0.67	85%
Holmes County, FL	24.2%	48	52	367	5	0.67	90%
Pontotoc County, MS	18.4%	45	165	463	0	0.66	81%
DeWitt County, TX	18.2%	44	120	611	0	0.66	83%
Mitchell County, TX	21.6%	56	66	287	0	0.66	83%
Haskell County, TX	24.5%	37	139	314	0	0.66	82%
Bacon County, GA	22.9%	47	35	522	0	0.66	85%
Greene County, MS	24.1%	35	170	362	7	0.66	82%
Jackson County, OK	19.2%	46	215	551	4	0.66	80%
Ripley County, MO	27.7%	47	65	188	0	0.66	84%
Owsley County, KY	45.2%	44	22	90	0	0.66	85%
McDonald County, MO	21.4%	43	66	269	13	0.65	83%
Haskell County, OK	21.1%	46	86	335	0	0.65	81%
Wayne County, KY	26.9%	51	34	215	0	0.65	82%
Harlan County, KY	37.1%	57	11	123	0	0.65	87%

Table Continues

Table F.1, Continues

<b>County Name</b>	<b>Poverty Rate</b>	<b>Est Live Teen Birth Rate</b>	<b>Gonorrhea Rate Per 100,000</b>	<b>Chlamydia Rate Per 100,000</b>	<b>Primary &amp; Secondary Syphilis Rate per 100,000</b>	<b>Community Need Variable Value</b>	<b>Percent of Votes for Trump 2016 General Election</b>
Coleman County, TX	20.1%	49	72	360	0	0.65	89%
Franklin County, GA	21.4%	45	94	377	5	0.65	85%
Wayne County, MO	26.0%	43	52	261	0	0.65	83%
Gray County, TX	19.4%	58	43	362	0	0.65	90%

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