Approximately 19% of the US population resides in rural areas, and face significant disparities regarding cancer screening, incidence, and mortality (e.g., increased incidence rates and later stages of diagnosis of cervical cancer). These disparities are at least partially attributed to rural-specific barriers to healthcare, including cultural norms, financial constraints, limited services, insufficient public transportation, and clinician and facility shortages. Lesbian, gay, bisexual, transgender, queer, and other sexual and gender minority individuals (LGBTQ+), are also a significant proportion of the population and frequently experience health and healthcare disparities. LGBTQ+ *cancer* disparities are less well-documented, due in part to lack of specific data collection and research, but the literature and our teams' work indicate that LGBTQ+ may experience increased risk due to more frequent risk factors, inadequate knowledge of prevention, and less use of healthcare services (e.g., cervical cancer screening). LGBTQ+ individuals in general experience healthcare-related stigma, are less likely engage with healthcare on a routine basis, and have difficulty finding affirming and culturally competent care. These barriers become compounded among rural LGBTQ+ where stigmatizing experiences may be exacerbated by more frequent conservative values and policies, there is increased impact of distance and lesser care availability, and compounding lack of affirming provider availability. Ultimately, the relatively few studies exploring cervical cancer risk among LGBTQ+ indicate that screening rates are in decline; sexual minority women have lower odds of a Pap test and/or receipt of cervical cancer screening and have lower levels of awareness of HPV risk factors, vulnerability, and prevention; and transmasculine individuals are less likely than cisgender women to access/adhere to cervical cancer screening. **Our preliminary data** indicates that many LGBTQ+ assigned female at birth (AFAB) in IL have not been vaccinated against HPV and/or are not up-to-date with cervical cancer screening (HPVvac/CCscr).

The Information-Motivation-Behavior (IMB) model has been successfully used to address HPVvac/CCscr by increasing knowledge, skills and motivation which in turn increases HPVvac/CCscr intent and receipt – but not to our knowledge specifically among rural LGBTQ+. The model has however been successfully been used to address other facets of LGBTQ+ health (e.g., HIV risk reduction). A further complication regarding rural area interventions is the relatively low population density. To reach larger numbers of individuals, there is increasing use and reliance on social media- and internet-based participant engagement and intervention. A couple remote means of intervention have been successfully used to increase knowledge and intent regarding HPVvac/CCscr; and large-scale, online engagement in HIV risk reduction is a funded by the NIH.

Here, we propose to use IMB model elements as a framework for intervention to address HPVvac/CCscr among (largely rural) LGBTQ+ AFAB by increasing individual information, skills, and behavior via an online engagement with sources of information and peer encouragement. We will also assess individual healthcare satisfaction, and compare HPVvac/CCscr knowledge and intent, and healthcare satisfaction, between LAGBT+ AFAB recruited across central IL to those from a specifically affirming clinic in Springfield. This proposal thus leverages our experiences with online and in-person outreach and engagement, and LGBTQ+ affirming primary care. This proposal has two specific purposes.

Aim 1: Implement and evaluate an online intervention to increase HPVvac/CCscr knowledge and intent
The purpose is to explore the degree to which our online intervention can influence HPVvac/CCscr knowledge and intent among central IL rural-urban LGBTQ+ AFAB. Recruitment will be operationalized and tested via two methods: 1) entirely online and social media-driven (n=100); and 2) in-person peer engagement (n=50).

H_1 – *Participants recruited via social media will significantly differ from those recruited in-person by important demographic factors such as race, age, and insurance status.*

H_2 – *The online intervention will significantly increase information (knowledge) regarding HPV/CC knowledge measures.*

H_3 – *For those lacking HPV vaccination and/or non-adherent to CC screening guidelines, the online intervention will significantly increase reported intention to become vaccinated and screened*.

Aim 2 – Evaluate Gender Equity clinical care among LGBTQ+ AFAB The purpose is to determine if care in a clinic specifically designed to be affirming and respectful of LGBTQ+ needs results in greater HPVvac/CCscr knowledge and intent, and increased healthcare satisfaction versus individuals receiving standard care.

H_4 – *GE participants will report significantly higher clinical satisfaction scores compared to Aim 1 participants at other standard of care clinics*