1) Protocol Title

A Randomized Controlled Trial of Women Involved in Supporting Health (WISH), a Peer-Led Intervention to Improve Postpartum Retention in HIV Care.

2) Objectives

This study proposes to:

1. Conduct formative research to ready intervention materials which will be used in a RCT.

2. Perform an RCT to test the efficacy of a peer-led, behavioral intervention, WISH, designed to improve retention in HIV care and viral suppression at 1 year postpartum.

Hypothesis 1a: Women in the WISH intervention arm will achieve a higher rate of retention in HIV care.

Hypothesis 1b: Women in the WISH intervention arm will achieve a higher rate of viral suppression.

3. Evaluate whether theoretical variables (self-efficacy, social support, self-regulation, outcome expectancy, and depressive symptoms), measured using validated survey tools, mediate intervention effects on outcomes.

3) Background

Despite significant progress in the reduction of perinatal transmission of HIV,[1] there has been less attention to retaining women living with HIV (WLH) in care in the postpartum period. Retention in care particularly affects black and Hispanic women as they are disproportionately affected by the HIV epidemic in the United States (U.S.).[2] In our preliminary work, we used HIV surveillance data from the Philadelphia Department of Public Health to examine the HIV care continuum of 561 women, 78% of whom were black, during pregnancy and up to two years postpartum (2005-2011). We found that only 38% of women received HIV care within 3 months after delivery, and retention remained poor at 1 (39%) and 2 (25%) years postpartum.[3] Poor maternal retention in care also occurs in Mississippi,[4] Georgia,[5] and New York,[6] demonstrating that this break in the HIV care continuum is widespread. Retaining WLH in care positively impacts their well-being and health postpartum and for years to come, which promotes not only their health but that of their newborns. Therefore, our long-term goal is to decrease HIV disparities by increasing WLH's retention in care in the postpartum period.

Presently, there are a limited number of evidence-based interventions aimed at improving retention in care for WLH. Through a critical review of research literature, we found that interventions to improve retention in care have been implemented in low-resource countries, but studies in high-resource countries are lacking.[7] In sub-Saharan Africa, the use of

peers has resulted in significantly higher maternal retention and viral suppression compared to standard of care.[8-10] Peers are WLH who remained engaged in HIV care postpartum, and provide education and support to WLH in the prenatal and postpartum periods. We conducted a series of qualitative interviews with WLH in the U.S. to evaluate factors contributing to poor retention in care postpartum, and to assess the acceptability and feasibility of a peer intervention in meeting women's needs. We found women's primary motivation to engage in prenatal care is to keep their infant healthy, but that many of them experience significant life challenges that impede their ability to engage in care postpartum. However, they expressed great interest in receiving support from a peer to motivate sustained engagement in care postpartum.

We propose to test the efficacy of a theory-driven peer intervention, based on the integrated model of health behavior. The peer intervention, Women Involved in Supporting Health (WISH), is designed to increase self-efficacy, social support, self-regulatory behaviors, and outcome expectancy in order to improve retention in care and viral suppression postpartum. The intervention will consist of three face-to-face prenatal sessions, starting in early third trimester, and two face-to-face postpartum sessions scheduled up to three months postpartum. The prenatal sessions focus on knowledge that will address barriers to outcome expectancies and self-efficacy, and the postpartum sessions build on outcome expectancy and knowledge to develop skills tailored to adherence to antiretroviral therapy and engagement in HIV care. Between the sessions, the peer and the WLH will communicate via text messages, phone calls and/or video chat. In year 1, we will refine intervention materials for maximum usability with a small subset of WLH in preparation of a multi-site randomized controlled trial (RCT). The RCT will take place across Center for AIDS Research sites in Philadelphia, the District of Columbia, Atlanta, and Birmingham, where HIV infection rates remain disproportionally high among black and Hispanic women. After the RCT began, additional sites in Charleston, Bronx, Houston and Miami were added at different time points to enhance participant recruitment. A total of 160 pregnant WLH will be randomized to either WISH or an attention-matched health-awareness control group. Primary and secondary outcomes include retention in HIV care at 1 year postpartum, defined as having ≥1 visit with an HIV provider in each 6-month interval of the postpartum year with ≥60 days between clinic visits; and viral suppression at 1 year postpartum, defined as having a HIV viral load (VL) ≤ 200 copies/mL using the last available VL at the end of the postpartum year.

The impact of this research will be the development of the first evidence-based peer intervention to address the pressing need to improve postpartum retention in HIV care and viral suppression of WLH in the U.S.

4) Inclusion and Exclusion Criteria

The participants will be WLH receiving care in clinics affiliated with one of the four CFAR sites. Inclusion criteria are to be:

1) age≥16,

2) a WLH in the 2nd or 3rd trimester of pregnancy,

3) able to provide informed consent including HIPAA authorization to access protected health information,

4) able to read and speak English, and

5) having access to a cell phone.

We expect over 95% of WLH at the sites will meet these criteria. WLH of all races will be included, though given the racial/ethnic distribution of the HIV epidemic in these cities, the large majority will be black and Hispanic. Women who plan to relocate outside the country within the year following delivery will be excluded. Treating physicians who are PIs or Co-Is will inform potential participants about the study. The site coordinator will follow-up with those indicating an interest to provide more information, obtain consent to be screened, and screen them for eligibility. The site coordinator will schedule eligible women who agree to participate for the first visit. Eligible women who do not want to participate will be asked to share why they do not want to participate and to report their age, race, education, and employment status so we can compare eligible participants and nonparticipants.

☐ *Adults unable to consent*
☒ *Individuals who are not yet adults (infants, children, teenagers)*
☒ *Pregnant women*
☐ *Prisoners*
☐ *Not Applicable*

This study will involve participants who are pregnant. The study poses minimal risk to pregnant women and their unborn children.

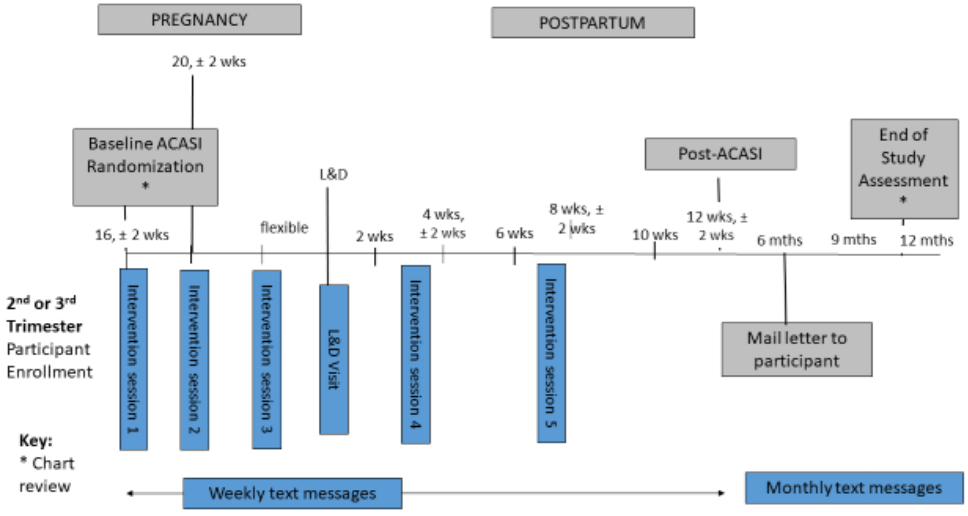
5) Study Timelines

The recruitment of pregnant women for the formative research to further refine the WISH intervention and pilot test intervention materials, will begin after the Office of Research approves this protocol. During the formative research, intervention materials will be tested with the target population and the feedback received will be used to improve the format, duration, clarity and usefulness of the materials to assure understanding by the participants. Additionally, data collection instruments will be developed and pilot tested. Recruitment for the RCT itself will start in month 9 of Year 1. The one-on-one sessions with the facilitator will start

in pregnancy and continue up to three months postpartum. Each individual woman will be however asked to provide consent to access their medical records for baseline outcome data (up to 1 year before pregnancy) and up to 1 year postpartum, at which point primary and secondary outcome data will be collected, namely retention in HIV care at 1 year postpartum and viral suppression at 1 year postpartum. The study will last for 5 years and recruitment of participants will be completed by the third quarter of Year 4 to assure that all participants are followed up to 1 year postpartum. The study will follow the timeline in the table below:

Activity	**Yr 1**				**Yr2**				**Yr3**				**Yr 4**				**Yr 5**			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Formative research																				
Finalize intervention and logistics																				
Hire and train peers																				
Recruitment and randomization																				
Intervention implementation																				
Chart review																				
Data cleaning and analysis																				
Dissemination																				

The timeline for the sessions, relative to recruitment, randomization and the ACASI (baseline and post-intervention) are listed below. Participation will last for a maximum time of 18 months for each participant, from 6 months before delivery up to a year after delivery. Each session will last approximately 1 hour.



6) Study Endpoints

Specific outcome measures to address the study aims are as follows: Primary outcome: Retention in HIV care at 1 year postpartum: We will operationalize retention using the definition the US DHHS developed and the National Quality Forum endorsed. It consists of having ≥1 visit with an HIV provider in each 6-month interval of the postpartum year with ≥60 days between visits. The site coordinator will gather the information from the participants' chart at baseline and 12 months postpartum.

Secondary outcome: Viral suppression at 1 year postpartum is defined as having a VL ≤ 200 copies/mL using the last available VL up to 180 days before the end of the postpartum year. The site coordinator will abstract the VLs from the electronic medical record along with the date of lab collection. Secondary measures for viral suppression will include sustained suppression, defined as having a VL≤ 200 copies/mL during the entire postpartum year (to take into account viral blips).

7) Procedures or Methods Involved

The study will utilize a RCT design. After the screening visit, we will use computer-generated random number sequences to randomly assign the WLH to the WISH intervention or the attention control arm. The site coordinator will implement the random group assignments using a site stratified, permutated block sequence of sealed, confidential envelopes the study biostatistician created in advance. The random assignment to either the WISH or attention control arm will be explained to the participants in the consent form. Once randomized, WLH will receive the WISH intervention or the attention control as indicated by the random intervention assignment. In a similar fashion, peers will be randomized on day 1 of training to either implement the WISH intervention or the attention control. This will be done to limit contamination across study arms.

At each site, 2 WLH who had favorable outcomes during pregnancy and postpartum, overcame various life challenges, are reliable, have great communication skills, and would be willing to share their HIV status with other WLH will be recruited to serve as peers. Potential candidates identified by these criteria will be approached and offered an opportunity to interview with the site PI and coordinator. Each study site will be asked to select 2 peers based on level of interest of the woman to serve as a peer, on references from past employment, her reputation in the community and the clinic (assessed by providers or CAB members) and based on the woman's performance during her job interview. A script presenting scenarios with difficult clinical cases will be shared with each site to be used as a guide during the interview. The selected peer will need to be available for the week of training and be willing to work part-time. Previous peer certification will not be required as the candidates will receive intervention specific training that will cover required skills for the

position. In a 7-day training held centrally in Philadelphia to ensure consistency and fidelity of the intervention across sites, facilitators of the WISH intervention and facilitators of the attention-control intervention will learn their intervention, practice implementing it, receive feedback from each other, as well as the peer trainers, and investigators, and create common responses to issues that may arise during implementation. The training will be conducted by peer trainers who have extensive experience training health educators for HIV behavioral interventions. The training will cover study design, the goals and theoretical framework of the curriculum, and facilitator skills. We will stress the importance of implementation fidelity and client confidentiality. We will certify the facilitators upon successful completion of the training, and only those certified will work. To ensure that there are enough peers in case of turn over, we will train more peers that we expect to hire and will hold an annual training where skills will be refreshed for people already trained and provide an opportunity for training of new peers. The site coordinator will serve as the quality-assurance monitor of the intervention. She will meet with the peers before each session, ensuring that all required materials are present and reiterating any specific points to be emphasized in the session, including time management, and adherence to the curriculum. The facilitators will complete process measures to document fidelity of implementation. At the end of each session, the site coordinator will meet with the peer to debrief them, addressing any concerns and providing suggestions to address any implementation issues.

WISH includes 3 prenatal sessions, lasting 45 minutes to 1 hour each, and 2 postpartum sessions. The prenatal sessions start in early 2nd to early 3rd trimester to allow 3 sessions between 16 weeks (+/- 2 weeks) and up until delivery to account for WLH who might have a premature delivery. Each session is delivered on an individual basis and consists of structured educational content followed by unstructured conversation, allowing the WLH to ask questions and actively engage in formulating her plan to be retained in HIV care. The goal of the prenatal sessions is to introduce WISH, foster bonding, and address outcome expectancies and self-efficacy regarding retention in HIV care postpartum. The postpartum sessions build on outcome expectancies and self-efficacy to develop skills for ART adherence and engagement in HIV care. The face-to-face contact will occur primarily at the clinic where the WLH goes for HIV or OB care; alternatives include local CBOs, and Vsee video chat, a video conferencing platform, which can be used on computers, tablets, and phones whether Android or iPhone. After the COVID-19 pandemic, many sessions were conducted via Zoom to be aligned with new policies requiring reduced face-to-face contact with clients except when clinically necessary. Outside of the structured sessions, the peer will communicate via weekly mobile text messages to inquire about how the woman is doing, remind her to take her ART, remind her of clinic appointments, and provide support. If any issues arise, the peer will follow-up by phone or

video chat. The peer will record mobile phone communications with the WLH in a study log. Half of study participants will be randomized to a health awareness attention-matched control group. The purpose of having the attention-matched control instead of standard of care is to test the specific effect of WISH by controlling for the effect of receiving attention from the peer. The control arm will have the same number of sessions and text messages. The content of the sessions will be on parenting.

We will use ACASI to collect self-report data at baseline and post intervention at month 3 postpartum. The baseline and post intervention ACASI will assess clinical variables including adherence to ART, timing of HIV diagnosis (before or during pregnancy), number of years living with HIV, the WLH partner's HIV status, and her partner's awareness of her HIV status. In addition, they will assess IPV, substance use, stigma and discrimination, housing instability, and other social determinants, and socio-demographic characteristics, including age, race/ethnicity, multiparity, education, employment status, and information on disclosure of HIV status. The post intervention ACASI will also contain questions on acceptability and satisfaction of the intervention.

All procedures including the consenting process, the baseline and post-intervention ACASI questionnaires, and the educational sessions can be conducted virtually in the event that an in-person visit is not safe or feasible. The consent form will be built into Redcap and can be virtually signed by the participant. The ACASI questionnaires will be conducted using the Qualtrics software.

8) Data Banking

Data collected with ACASI and from medical chart review will not be banked for future use. Study data will be kept until the end of the study and data analysis. As per university data retention policy, study data will be retained for 7 years after the final analysis and closure of study. After that time has elapsed, the data will be shredded, and all computer files erased.

9) Data Management

The analysis of the primary outcome, retention in care at 12 months postpartum, comparing WISH with the health-awareness control intervention will be evaluated using a logistic regression modeling framework, adjusting for site. Analysis of viral suppression at 12 months postpartum will be evaluated using the same analytic strategy, as employed for the primary outcome, namely a logistic regression modeling framework, adjusting for site. The mediation analysis will be accommodated using multivariable logistic and linear regression models, as appropriate, for the primary and secondary outcomes. Specifically, we will use logistic regression models to determine intervention effects on each binary outcome (1^0: retention in care (yes/no) and 2^0: viral

suppression (yes/no), both at 12m postpartum). The moderator of the intervention effect will be explored, again, using a logistic modeling framework. Specifically, moderation will be determined to be present if the 'intervention X moderator' interaction term is significant in multivariable logistic regression models that also include the main effects of both intervention and the putative moderator. The moderator/outcome combination will be considered independently, and all models will be adjusted for site.

The PI and co-Is will be responsible for ensuring the integrity of the research procedures. All project investigators and research staff are required to complete the CITI training. Data will only be shared from the secondary sites to the primary site at the University of Pennsylvania. All data will be shared through a secure File Transfer Protocol and will be stored on encrypted computers that will be password protected. All project protocols involving secondary data and analysis are subject to review and approval by the University Institutional Review Board (IRB). In order to minimize risk and ensure the quality of the data, staff will receive ongoing training. Any breaches of protocol will immediately be reported to the PIs, and in the case of breach of confidentiality or other potential adverse events, the event will be reported to the IRB within 5 days, as required by the IRB. Any breaches of protocol or breach of confidentiality, and any potential adverse events will also be reported to National Institutes of Health within 5 days. This would include situations where data collection reveals a situation that necessitate the need to break confidentiality from the peer in cases of child abuse, suicide, or homicide observed or reported by the study participant. The study team will be trained on handling sensitive situations. Events will be immediately reported to the PI, the appropriate authorities, and an adverse event report filed with the IRB. Referrals for social or clinical services will be provided when appropriate.

All data will be used for research purposes only, and no names or identifying information will be included in research reports, publications, and presentations. If participants decide to withdraw from the study, the data collected up to that point will be maintained but no more data will be collected from them. Data analysis and reporting will be done only in the aggregate. The data quality control process associated with data processing will consist of the following stages: participant registration, participant consent confirmation, data validation, and data auditing. A random 5% of the data in each wave of data collection will be subjected to database auditing throughout the trial. The data quality control processes will also be utilized to help identify, correct, and clarify any inconsistencies and inaccuracies in the data.

Study data will not be entered in the medical record. Data from the ACASI questionnaires will be stored in REDCap and the information abstracted

from the medical chart review will be entered in REDCap, which is a secure web application for managing and storing data. Data in REDCap will be connected to the participant ID, no names or other personal identifiers will be entered in the database. The database will be encrypted, and database administrator will ensure that only appropriate and authorized personnel are able to view, access, and modify trial data. Modifications to data will be performed in a manner that documents data modification, user access associated with modification, data associated with modification, and values before modification. The database administrator will also be responsible for optimizing database performance, reliability, and backup. External, unauthorized access to data will be prevented through cooperative efforts of the database administrator and network and systems administrators. Measures will be employed through network firewall technologies to prevent unauthorized external access to data repositories.

10) Provisions to Monitor the Data to Ensure the Safety of Subjects

A data monitoring committee will be established to ensure the safety of subjects. The committee will develop the randomization protocol and data management procedures manual, set up and monitor the data collection systems at each clinical site, train the site data managers to ensure that data collection, storage, and transfer procedures are followed, problem-solve the inevitable problems that are likely to emerge with the systems during the life of the study, and oversee analyses of the large volume of data that will be generated in this study.

11) Withdrawal of Subjects

Subjects' participation in the study is completely voluntary. Women in the study can terminate their participation at any time. If participants withdraw from the study, they will be asked their reason for withdrawing from the study. A script will be used outlining that the purpose of asking reasons for withdrawal is not to coerce the participant to remain in the study but rather to monitor conditions that might be making it difficult for subjects to stay enrolled in order to address them. The study investigators might also deem participants ineligible to continue the study based in lack of compliance to protocol or other clinical reason. All discontinuations will be recorded.

12) Risks to Subjects

The risks associated with participation in this study are minimal. Considering probability and magnitude, they are not greater than are the risks ordinarily encountered in routine prenatal care for WLH. During the ACASI assessments, the questionnaires may upset them. However, the tools to be used have been validated and have been previously used in

similar populations. Because they will be told that the questionnaire includes questions of a sensitive nature, they will be prepared for the nature of the questions in advance during the consent procedure. They will also be told that they can choose not to answer questions that they are uncomfortable answering. Another issue that sometimes arises with questionnaires is discomfort around literacy and knowledge. The use of the ACASI system may help ameliorate some anxiety and discomfort normally evoked during face-to-face data collection of sensitive questions. In addition, data collectors and other staff will be trained to alleviate and respond to participant discomfort. Participants may be embarrassed by self-disclosed information shared during the intervention sessions. Although the intervention protocols do not instruct the trainers to ask participants to reveal sensitive personal information, it is possible that participants will elect to reveal such information. Breach of confidentiality regarding HIV serostatus resulting from participation in this intervention may cause participants some level of psychological, social, or financial distress. In order to minimize such risks that might exist in this study, extensive staff training, data collection procedures, and supervision protocols will be devised. Project staff will be trained to be sensitive to the needs of the participants, and to be alert to a participant's need to opt out of all or part of the study. Participants will be helped to find counseling or other assistance, if needed. Research staff will receive initial and ongoing training in the following: research ethics and confidentiality; study protocols; emergency procedures; mandated reporting procedures; as well as general recruitment and enrollment techniques specific to the study's priority populations. All research investigators and staff are required to have CITI training.

13) Potential Benefits to Subjects

The benefits of participating in this study far outweigh the risks. The risks are minimal. In contrast, the potential benefits are great. The participants will benefit from this research by learning about the benefits of viral suppression, which include to decrease the risk of HIV transmission to her infant and partner(s) during pregnancy, and postpartum for future pregnancies. The peer will help study participants identify barriers to adherence to ART or care engagement during pregnancy and the postpartum period and brainstorming on solutions to addressing these barriers. In addition, study participants will receive information on programs and services available to them in their community.

14) Vulnerable Populations

This research will involve pregnant women. The study poses minimal risks to pregnant women and their unborn children and will not differ from those associated with a regular prenatal care appointment.

15) Multi-Site Research

This is a multi-site study for which Florence Momplaisir, MD MSHP is the lead PI at University of Pennsylvania. The other sites are Drexel University Emory University, University of Alabama at Birmingham, and MedStar Health Research Institute. To increase recruitment after the COVID-19 pandemic began, amendments were submitted to and approved by the IRB to add additional study sites. The University of Miami was added as a referral site following IRB approval on November 1, 2021. Montefiore Medical Center was added as a recruitment site following IRB approval on January 14, 2022. The Medical University of South Carolina was added as a recruitment site following IRB approval on April 26, 2022. Baylor College of Medicine was added as a recruitment site following IRB approval on February 20, 2024. Co-Investigators at these sites will be in charge of supervision and overall management of study activities. All sites involved in this study have agreed to comply with the NIH Policy on the Use of sIRB for Multi-Site Research.

16) Community-Based Participatory Research

Not Applicable.

17) Sharing of Results with Subjects

Not Applicable.

18) Setting

The study will take place across clinical sites in Philadelphia, Pennsylvania, Washington, DC, Atlanta, Georgia, and Birmingham, Alabama. Recruitment will take place at prenatal care clinics at the Women's Center for Positive Living, MedStar Washington Hospital Center (Washington DC), the Helen O. Dickens Center for Women's Health of the Hospital of the University of Pennsylvania, the Drexel Women's Care Center and the Temple Comprehensive HIV Program (Philadelphia PA), the Grady Infectious Diseases Program (Atlanta GA) and in the Family Clinic and the 1917 Clinic (Birmingham AL). To increase recruitment, OB/GYN clinics at the Medical University of South Carolina, Montefiore Medical Center, and Baylor College of Medicine were added as recruitment sites. In addition, the University of Miami clinic served as a referral site by distributing study flyers to eligible women, who were instructed to contact the study team in Philadelphia if interested in participating. Recruitment, consent, and study visits will take place in private locations at these sites or virtually.

19) Resources Available

The study will take place across four Center For AIDS Research (CFAR) sites: two in the Mid-Atlantic region and two in the South. The Mid-Atlantic CFARs include the University of Pennsylvania and Washington

DC CFARs. In Philadelphia, we will recruit WLH at the Helen O. Dickens Center for Women's Health of the Hospital of the University of Pennsylvania, the Temple Comprehensive HIV Program and the Drexel Women's Care Center prenatal care clinics. In Washington DC, we will recruit WLH at the Women's Center for Positive Living, MedStar Washington Hospital Center. Study sites in the South include the Emory and University of Alabama (UAB) CFARs. Participant recruitment at Emory will take place in the prenatal clinic of the Grady Infectious Diseases Program and at UAB, in the Family Clinic and the 1917 Clinic. These clinics care for WLH from hard to reach communities, including women from rural areas. All four recruitment sites are funded by the Ryan White Care Act, which provides comprehensive HIV, primary care and women's health as well as case management. Each clinic schedules care of pregnant WLH on a specific day of the week, which will facilitate recruitment. The model of care for delivery of prenatal and HIV care differs across study sites: the Philadelphia and Atlanta clinics use a one-stop-shop model with prenatal and HIV care integrated in the same clinic; in contrast, the Washington, DC and Birmingham clinics deliver prenatal and HIV care separately. To enhance recruitment after the COVID-19 pandemic, additional recruitment sites were added at the Medical University of South Carolina, Montefiore Medical Center, and Baylor College of Medicine, where participant recruitment took place through affiliated OB/GYN clinics. In addition, the University of Miami served as a referral site by distributing study flyers to eligible women.

Dr. Momplaisir (PI) provides HIV care at the Hospital of the University of Pennsylvania. She has extensive clinical and health outcomes research experience in HIV and pregnancy. She is also involved regionally with the Philadelphia Department of Health's Fetal Infant Mortality Review and nationally with the Centers for Disease Control Elimination of Maternal Child Transmission of HIV infection Stakeholders Group. She also serves as an expert panel member in the Department of Health and Human Services (HHS) Perinatal HIV treatment guidelines. Dr. Momplaisir works closely with Dr. William Short, an Infectious Diseases specialist who provides HIV care to 30-40 mostly low-income, pregnant women at the Helen O. Dickens Center for Women's Health of the Hospital of the University of Pennsylvania. The Dickens Center uses an interdisciplinary approach to address the clinical and social needs of WLH.

Dr. Rachel Scott (co-I) is the director of the Women's Center for Positive Living in Washington DC where she provides obstetric (OB) care to 20-30 WLH per year. She is also Scientific Director of the Women's Health Research for MedStar and her research focuses on evaluating factors contributing to adverse outcomes in pregnant and postpartum WLH.

Dr. Anandi Sheth (co-I), is an HIV clinician researcher from the Grady Infectious Diseases Program at Emory, in Atlanta. She has extensive clinical and health outcomes research experience in HIV and pregnancy.

She provides HIV care in a Ryan White funded clinic caring for nearly 8,000 patients annually (22% women). In 2015, she started a multidisciplinary program for the care of pregnant and postpartum WLH in collaboration with **Drs. Martina Badell** (co-I) and **Marcia Holstad** (co-I). She cares for 50-60 pregnant WLH per year.

Dr. Aadia Rana, (co-I) is an HIV clinician researcher from UAB in Birmingham. She provides HIV care at UAB's 1917 Clinic which is the focal point for adult care in Alabama, providing care for 3,400 patients (~800 women). Pregnant WLH receive HIV care at UAB affiliated Ryan White funded clinics, the Family clinic and the 1917 clinic. The UAB Family Clinic provides HIV care for almost 300 adolescent and young adult women. An average of 30-40 pregnant WLH receive HIV care in these clinics per year.

Dr. John Jemmott, (co-I) is internationally recognized for his NIH-funded HIV behavioral intervention research with a diversity of populations, including black women, HIV serodiscordant couples, adolescents, and men who have sex with men. He has an excellent track record of research emphasizing the importance of behavior-change theory, tailoring to populations, methodological rigor, and disseminating efficacious interventions.

Dr. Allison Groves (co-I) has extensive experience in the development, implementation and evaluation of behavioral interventions for HIV prevention and care during the perinatal period. She has been involved in the formative research phase that has informed the development of this intervention and has been using qualitative methods for over ten years to inform intervention development and refinement in other studies. Additionally, she has assisted with quantitative analyses of an efficacy intervention to maximize South African women's support postpartum and has led numerous etiological studies to better understand HIV specific to the perinatal period. She is also currently the PI on a similarly designed intervention study to assess the impact of a postpartum peer support intervention on HIV risk and retention in care among adolescent mothers in South Africa.

Dr. Scarlett Bellamy (co-I) has specific and extensive experience in the analysis of data from cohort studies, longitudinal studies as well as design and analysis challenges of group/cluster randomized trials. She has authored or co-authored nearly 120 peer-reviewed manuscripts in the following: statistical methods; behavioral modification literature in HIV risk reduction, clinical investigations of HIV, cancer, cardiovascular health, physical activity and HIV medication adherence; adult lung injury and lung transplantation; and critical care. She will serve as Biostatistician and provide data analysis expertise for the Randomized Controlled Trial. Effective April 2024, Dr. Mary Putt replaced Dr. Scarlett Bellamy as the study Biostatistician.

Dr. Mary Putt is Professor of Biostatistics in the Department of Biostatistics, Epidemiology, and Informatics at the University of Pennsylvania Perelman School of Medicine, Senior Scholar in the Center for Clinical Epidemiology and Biostatistics, and Deputy Director of the Division of Biostatistics. She has extensive expertise in the design and analysis of clinical and observational studies and will serve as the study Biostatistician, providing statistical oversight and data analysis expertise for the randomized controlled trial. **Dr. Rodney Wright** (co-I) is a maternal-fetal medicine specialist and HIV clinician researcher at Montefiore Medical Center. He serves as Director of Obstetrics and Gynecology at the Wakefield Campus and Professor of Obstetrics and Gynecology and Women's Health at Albert Einstein College of Medicine. His clinical and research expertise focuses on HIV during pregnancy, prevention of perinatal HIV transmission, and maternal-fetal medicine. As co-Investigator at Montefiore Medical Center, he will oversee study activities and participant recruitment.

Dr. Gweneth Lazenby (co-I) is an obstetrician-gynecologist and HIV clinician researcher at the Medical University of South Carolina (MUSC). She is Director of the Gynecology and Maternal HIV Clinics at MUSC and holds appointments in the Departments of Obstetrics and Gynecology and Medicine. Her clinical and research expertise focuses on maternal HIV, sexually transmitted infections, and reproductive infectious diseases. As co-Investigator at MUSC, she will oversee study activities and participant recruitment.

Dr. Jennifer McKinney (co-I) is a maternal-fetal medicine specialist at Baylor College of Medicine. She is Assistant Professor of Obstetrics and Gynecology and specializes in high-risk pregnancies, infectious diseases in pregnancy, and maternal-fetal medicine research. As co-Investigator at Baylor College of Medicine, she will oversee study activities and participant recruitment.

Site Coordinators: coordinators at each site will coordinate implementation of the protocol, oversee administrative and research activities including recruitment, retention, patient contact, data entry, data management, patient registration, preparation of IRB protocol submissions, renewals and amendments, and ensure regulatory documents are filed properly and assist with the preparation of the manuscripts and dissemination efforts under the immediate supervision of the PI and co-Is at their respective sites.

Facilitators: will be employed to perform the planned Intervention or control sessions with enrolled study participants who are randomized to either arm. This includes 5 study visits; 3 visits during pregnancy and 2 during the postpartum period. This individual will work closely with the Site Coordinator at their site and the PI and co-Is to ensure continuity of implementation of the study, troubleshoot with the Site Coordinator to

help ensure retention of enrolled participants in the study. She will participate in staff training prior to start of recruitment and will travel to the participants' home when required by the study protocol.

Data Manager: will serve as the database administrator for the trial and will be responsible for providing and documenting appropriate user access to the study database and preventing data security problems, including unauthorized internal access to data, external access to data, and malicious intent to destroy data and systems.

20) Prior Approvals

Not Applicable.

21) Recruitment Methods

Recruitment will take place at prenatal care clinics at the Women's Center for Positive Living, MedStar Washington Hospital Center (Washington DC), the Helen O. Dickens Center for Women's Health of the Hospital of the University of Pennsylvania, the Temple Comprehensive HIV Program and the Drexel Women's Care Center (Philadelphia PA), the Grady Infectious Diseases Program (Atlanta GA) and in the Family Clinic and the 1917 Clinic (Birmingham AL). To increase recruitment, additional recruitment sites were added at OB/GYN clinics at the Medical University of South Carolina (MUSC), Montefiore Medical Center, and Baylor College of Medicine. In addition, the University of Miami clinic served as a referral site. Treating physicians will inform women about the study; these physicians are either PI or co-Is in this proposal, and experts in the fields of HIV and women's health. If open to learning more about the study, the site coordinator will follow-up in person on the same day and inform potential participants about the study, obtain consent to be screened, and screen for eligibility to participate in the trial. The goal is to obtain informed consent the same day, however participants can be consented at any point during pregnancy. Eligible and consented people will be scheduled for the baseline visit. Eligible women who refuse to participate but agree to provide a reason for that refusal, will be asked to give reasons for refusing and to report their age, race, education and employment status, to compare eligible participants and non-participants. The participants will be informed that they will receive up to $100 monetary compensation for participating in the trial over the 6-month period. The amounts will be divided as follows depending on the visits completed:

Visit	*Amount*
Visit 1: Baseline ACASI + Educational Session 1	$25
Visit 2: Educational Session 2	$10
Visit 3: Educational Session 3	$10
Visit 4: Educational Session 4	$20
Visit 5: Educational Session 5	$20
Endline ACASI	$15

22) Number of Subjects

This RCT will recruit 260 pregnant women across all sites. Estimates demonstrate that randomizing 260 (130 per intervention) women to each intervention will ensure 80% power to detect an odds ratio of 2.27 (0.45 vs. 0.65 retention in control and WISH, respectively; or an absolute difference of 20%), conservatively assuming 10% attrition for the primary outcome: retention in care at 12m postpartum. These estimates are for 2-sided likelihood ratio tests of the null hypothesis (e.g., no difference in retention in care) at an alpha level of 0.05. Similarly, this sample of 260 (rounding) women will ensure 80% power to detect an odds ratio of roughly the same magnitude (2.27-2.33) for the secondary outcome of interest: viral suppression at 12m post-partum, again, based on baseline data in this population indicating around 30% suppression at 12 months.

Addendum: Due to the prolonged pause in recruitment caused by the COVID-19 pandemic, we fell behind our original recruitment targets. Consequently, with guidance from Dr. Putt, the study biostatistician, we revised our recruitment goals based on an updated power analysis.

Power calculations are based on a two-group test of proportions.

Revised Primary Endpoint The detectable OR with 80 per group is 2.6, assuming 10% loss to followup, two-sided Type I error rate of 0.05, 80% power. This corresponds to 23% absolute increase in rates of retention from 45% to 68%. (OR=2.6)

Revised Secondary Endpoint Assuming a rate of 30% for a secondary outcome, we can detect an absolute difference of 23% improvement from 30% to 53% (OR=2.6)

23) Confidentiality

All data gathered through ACASI and electronic medical chart review will be stored by code number on secure, encrypted servers at the sites. Details for secure data transfer and storage between sites will be finalized by the study team prior to data collection. Only the study team key personnel who have completed all required trainings and obtained proper authorizations will have access to password protected data files and electronic medical records. Peer facilitators will not have access to the participants' medical records. The confidentiality of the information about participants will be maintained. No names or identifying information will be included in research reports. Participants' names will not appear on the questionnaires. Participants will be given code numbers. The list of code numbers and names will be kept in a password protected document on a secure, encrypted server accessible only to the PIs and site coordinators at each site. The training of the peers will also emphasize the importance of

confidentiality. First, it will emphasize that any personal information a participant may reveal should not be revealed outside the sessions and before working together the participant and the peer will sign a confidentiality agreement to respect the privacy of each other's information. Because of the emphasis placed on the importance of confidentiality during training and the confidentiality agreement that will be signed between the participant and the peer, we will assure that there would be no conflict of interest in cases where the peer and the participant know each other. If the peer knows a subject, the peer and the subject will remain paired as the training will have emphasized confidentiality in all cases even those involving a past relationship between peer and subject and that confidentiality should be kept even after a peer leaves the study. If a peer leaves the study, a new peer will be hired and trained in the same guidelines for confidentiality. The training of the site coordinator and data collection personnel will also emphasize confidentiality.

The University of Pennsylvania and Dr. Florence Momplaisir have received a Certificate of Confidentiality from the government which will help protect the privacy of research subjects. The certificate protects against the involuntary release of information about subjects collected during the course of this research. The researchers involved in this study cannot be forced to disclose any information collected in this study in any legal proceedings.

Study data will be kept until the end of the study and data analysis. As per university data retention policy, study data will be retained for 7 years after the final analysis and closure of study. After that time has elapsed, the data will be shredded, and all computer files erased.

24) Provisions to Protect the Privacy Interests of Subjects

Participants will be introduced to study staff at the time of recruitment. All study activities will be conducted in a private space in order to protect the subjects' privacy interests. For sessions conducted online, the peer will schedule with the client ahead of time and ask the client to be in a private space. Subjects will be informed of the nature of the ACASI questionnaires at the time of consent. Participants will be told that the objective of the study is to test the efficacy of a program to improve retention in care and viral suppression postpartum for WLH. They will be told that they are being asked to complete 5 face-to-face sessions with a peer, to provide access to their electronic medical charts to obtain viral load and clinic visit data during the course of the study, and to complete self-report questionnaires at baseline and 3 months postpartum. They will be told that some of the questions are sensitive and personal, including questions related to HIV status, drug and alcohol use. They will be told that their answers and personal health information will be confidential, that they will be given a code number, and that the data will be organized by their code number and not by their name. Participants will be told that

they are volunteering to be in the study and that they can elect not to participate or can withdraw at any time. The need for privacy when sending and receiving text messages from the peer facilitator will also be emphasized to the participant at the time of recruitment.

25) Compensation for Research-Related Injury

This research study will not involve any physical activity that may lead to injury, and therefore no compensation is planned for research-related injury.

26) Economic Burden to Subjects

There are no costs that subjects may be responsible for because of participation in the research and subjects will be compensated for their time to complete the ACASI assessments.

27) Consent Process

Informed consent will be obtained from all study participants after the nature of the study has been fully explained and is reasonably comprehended by the participant. A written consent form describing study procedures, potential risks and benefits of participation, and rights and responsibilities of participants will be given to each potential subject. Alternatives to participating in this study will be discussed in detail. The participants will also be reassured that their participation is voluntary, and that should they choose to decline, will still receive standard of care without prejudice. To document consent, signatures will be obtained from the subject, and an impartial witness if applicable.

Staff will be available to answer questions about the consent form while participants are reviewing it. All participants will be consented in a private room and if more time is needed before they can provide consent, the process can be rescheduled for another time. Participants will be able to bring the consent form to review and discuss with anyone they see fit. After signing the consent form, participants can request a copy of the form to keep for their records. The consenting process can be conducted virtually if an in-person visit is not safe or feasible. The consent form will be built into Redcap and can be virtually signed by the participant.

Non-English-Speaking Subjects

Not Applicable.

Waiver or Alteration of the Consent and Authorization Process (consent will not be obtained, required information will not be disclosed, or the research involves deception)

Not Applicable.

Subjects who are not yet adults (infants, children, teenagers)

Pregnant Women under the age of 18 may be recruited for this study. Pregnant minors are exempted from obtaining parental consent for research. The consent process for participants under 18 will be the same as for adults.

Cognitively Impaired Adults

Not Applicable.

Adults Unable to Consent

Not Applicable.