

Women in HIV Cure-Related Research Speakers Notes

	Slide 1:
WHRC F	
n in HIV ed Research	
	Slide 2:
search Collaborative	Who is the WHRC? We are! As of July 2019, there are 23 WHRC members, most of whom are pictured here.
	The WHRC is a cross-network working group of the Legacy Project comprised of women who are leaders in women's health and HIV from around the United States. With community and staff representatives from all five NIH-funded HIV/AIDS clinical trials networks, this group provides culturally appropriate guidance and leadership in development, implementation, and dissemination of information about HIV research focused on and responsive to the needs of cisgender and transgender women and girls in the United States. The WHRC works to raise the visibility of issues related to HIV in women in the US and promote awareness of scientific research for women in disproportionately impacted communities.
WHRCT	Slide 3: Here's where current WHRC members are located.
esearch Collaborative	The WHRC focuses on advocating for HIV research with women living in the United States but operates with a comprehensive awareness of the potential for American women to benefit from HIV research that is being conducted internationally. To that end, WHRC's focus is domestic, but its interests are both global and optimistic.

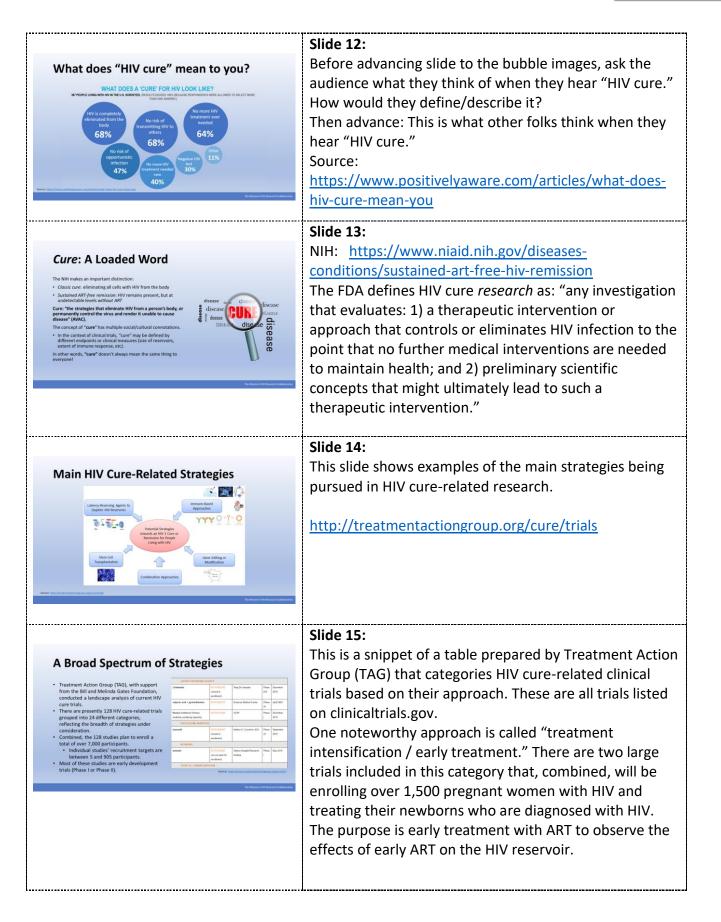
 Presentation Overview 9. Women & HIV 9. Owene in HIV Cure Research 9. Women in HIV Cure Research 9. Opportunities to Get Involved 	Slide 4:
Women Play Vital a Role in HIV Cure Research	Slide 5: Play video: https://www.youtube.com/watch?v=JdgN1nd4Dvc
	 The WHRC is proud of all the women who contribute to HIV cure research as well as HIV research overall: All 5 NIH-funded research networks are led / co- led by women as Network Principal Investigators / Chairs Network Directors Laboratory Center Principal Investigators Statistical and Data Management Center Principal Investigators Women's Health Inter-Network Scientific Committee Advocates Front desk Managers Recruiters
Women & HIV	Slide 6: No notes.
	Slide 7: 19.2 million women estimated to be living with HIV globally. About one in four PLHIV in the US is a woman.

<section-header><complex-block><complex-block><complex-block><complex-block></complex-block></complex-block></complex-block></complex-block></section-header>	Racial disparities in the US where women of color— especially Black and Indigenous womenare the most affected group among all women. Only about half of cis women with HIV in the US have reached viral suppression (the same compared to all PLHIV in the US) The data are clear: if researchers develop a cure for HIV, it needs to work for women.
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<figure><figure><figure><figure><figure><figure></figure></figure></figure></figure></figure></figure>	Slide 9: HIV prevalence among trans women in the US is much higher than among the general population. Transgender women of color are disproportionately affected. Again, social and structural issues abound for transgender women—especially trans women of color. Jeffrey S. Becasen, Christa L. Denard, Mary M. Mullins, Darrel H.Higa, Theresa Ann Sipe, "Estimating the Prevalence of HIV and Sexual Behaviors Among the US Transgender Population: A Systematic Review and Meta- Analysis, 2006–2017", American Journal of Public Health 109, no. 1 (January 1, 2019): pp. E1-e8. DOI: 10.2105/AJPH.2018.304727. Accessed from https://ajph.aphapublications.org/doi/10.2105/AJPH.20 18.304727 21 Feb. 2019. (Charts created by Brian Minalga using data from above publication)



	Slide 10:
<figure><text></text></figure>	 Slide 10: Take-home message: Women need a cure for HIV. While all clients under Ryan White Care exceeded the 2016 viral suppression targets set by the US National HIV/AIDS Strategy, transgender women in Ryan White Care lag behind due to a variety of factors—largely social and structural factors involving stigma and discrimination that create barriers to viral suppression for transgender women. Considering the disproportionate impact of HIV on transgender women, HIV cure research must include and respond to the needs of transgender women. It should be noted that clients receiving Ryan White Care have much better outcomes than the general population of PLWH in the US. In 2014, viral suppression data available for transgender women with HIV outside of Ryan White, but we can infer based on these trends that fewer transgender women achieve viral suppression, inside or outside of Ryan White care. (Bar chart created by Brian Minalga using data from: Source: Centers for Disease Control and Prevention. Monitoring selected national HIV prevention and care objectives by using HIV surveillance data—United States and 6 dependent areas, 2015. <i>HIV Surveillance Supplemental Report</i> 2017;22(No. 2). http://www.cdc.gov/hiv/library/reports/hivsurveillance.
	html. Published July 2017. Accessed 30 May 2018.) Slide 11:
Overview: HIV Cure Research	

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A Major Investment by Participants Many of the studies in TAG's analysis require multiple study visits and at least one invasive multiple study visits and at least one invasive not least 32 require an analytic treatment • At least 32 require an analytic treatment • At least 30 require invasive procedures like	 Link to table: https://www.treatmentactiongroup.org/cure/tri Current as of Q3/4 2018. A survey was sent to the contacts listed in the studies clinicaltrials/gov entries. These contacts were Pls, core study team members. Slide 16: For more on equipoise in HIV cure research, see Dubé et al: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC576844 9/ Define terms ATI: Stopping regular HIV treatment to analyze the effect of the HIV cure strategy in question. Typically, therapy is interrupted until study participants reach a pre-determined viral load and/or CD4 count (at which point regular HIV treatment is re-initiated). Leukaphereses and aphereses defined as 'laboratory procedures where selected immune cells are separated out from the blood and the rest of the blood is returned to the veins.' Autologous transplants of stem cells defined as 'studies involving transplantation of your own ("autologous") stem cells.' Allogeneic transplants of stem cells defined as 'studies that involve a transplantation of someone else's ("allogeneic") stem cells.' Lymph Node Biopsy: tissue lymph nodes will be collected, probably from lymph nodes in groin Lumbar puncture aka Spinal Tap: cerebrospinal fluid (also known as CSF) will be collected from cisgender men and vaginal cells and fluid will be collected from cisgender women Gut biopsies : pieces of tissue will be taken from the gut
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Women in HIV Cure Research

NIH Revitalization Act of 1993

- NIH policy: women and minority groups must be included in all NIH-funded clinical research unless a clear and compelling rationale establishes that inclusion is inappropriate.
- The inclusion of women must be addressed in research proposals, including the composition of the study population in terms of sex/gender and racial/ethnic group.
- ences are strongly encouraged in results for all publ
- men of childbearing potential should not be routinely excluded
- - shall ensure that the trial is carried out in a manner sufficient to provide for valid analysis of whether the variables being studied affect women differently than other subjects. shall conduct or support outreach programs for the recruitment of women of the studies.
- ble to Phase III and pivotal Phase II and IV studies.

Slide 18:

Slide 17:

By congressional act, the NIH requires that women and minority groups are included in all NIH-funded clinical research. It's not only important to include women in HIV cure research from an epidemiological standpoint or because it's "the right thing to do"; it's also the law. But are women being included in HIV cure research? Spoiler alert: by and large, they are not. The reasons for women's exclusion from HIV cure research are varied and often unclear, but we will look at some of the reasons in this presentation.

Bullet 2: the policy language is written as it appears ("sex/gender and racial/ethnic group"). The WHRC advocates for the use of sex AND gender as well as racial AND ethnic group, since sex and gender are not the same and race and ethnicity are not the same. It's important to capture all four demographic categories, and we will get to important reasons why later on.

Bullet 3: A recent publication came out called "Low-rate of sex-specific analyses in presentations at the Conference on Retroviruses and Opportunistic Infections (CROI) meeting, 2018: Room to improve." The study, which was conducted and authored almost exclusively by women (including WHRC members and affiliates), showed that only about half of the oral abstracts in their analysis included the distribution of the study sample by sex, and another 10% mislabeled sex as "gender." Only about a guarter of these abstracts presented sexstratified analyses or sex-delineated outcomes. Only 8 of the remaining presentations (12%) provided an explanation for why sex stratification was not presented.



	Last bullet: Importantly, most current HIV cure trials are Phase 1 or Phase 2. Of the 128 trials in TAG's online listing of cure-related trials, 75 (59%) are Phase I and 38 (30%) are Phase II. So it's significant that the Act's scope is limited to Phase III and pivotal Phase II and IV studies. Source: https://grants.nih.gov/grants/funding/women_min/guid elines.htm Additional resources: History of women's inclusion in clinical research: https://orwh.od.nih.gov/toolkit/recruitment/history ORWH website: https://orwh.od.nih.gov/about NIH Diversity statement (investigators, etc): https://grants.nih.gov/grants/guide/notice-files/NOT- OD-18-210.html Women in the biomedical workforce: https://extramural-diversity.nih.gov/diversity- matters/women-workforce
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	9∕ PrEP: some studies are now suggesting that cis and trans women's adherence to oral PrEP must be higher than cis men's adherence in order to be fully protective. Hormonal differences are thought to be one factor affecting this, with one study even suggesting that further research is needed to see if transgender women on hormone therapy may benefit from a higher dose of one of the drugs in oral PrEP than is currently prescribed to all (Cottrell ML et al. Clin Infect Dis 2019 Apr9, "Transgender Women on Tenofovir Have Lower Tenofovir Diphosphate Levels in Rectal Tissue").
So, are women included?	Slide 21: Back to the TAG analysis of the 128 cure-related studies. Clearly we are failing to include women as outlined in
Image: Sector	 the NIH Revitalization Act. TAG's analysis found information about participants' sex for only 44 of the 128 studies. 1 study enrolled women exclusively, which should be applauded The mean female enrollment in the 25 studies that enrolled male and female participants is 28% (median 11%). When look only at studies that enrolled adults (removing studies that enrolled infants/children who acquired HIV



	 perinatally), that percentage drops to 16% (range 3%-37%). For 18 of the 44 studies, enrollment (or enrollment-to-date) was 100% male. Two studies were limited to male participants but did not say why. The other 16 were not limited to male participants but only enrolled men. Given what we know about sex differences in HIV reservoirs, persistence, and disease progression, the field will need to increase female enrollment dramatically in future studies. We would never allow this if the numbers were reversed and women made up the vast majority of HIV cure participants. This is what we call systemic and institutionalized misogyny.
Participants' sex from TAG's Analysis	Slide 22: Here's another way to think about this. On the bottom of the screen are various HIV cure approaches being studied. The bars show how many women are included in studies of each category. It's wonderful that there are so many approaches to HIV cure under study, but we're missing out on how these approaches may or may not benefit women.
	The problem: we're only seeing "male" and "female." Where do transgender people fit into HIV cure research? Based on the data provided on these 128 studies, "male" refers to assigned male at birth. Survey respondents did not indicate that gender identity was collected in addition to sex. The two studies that were limited to male participants (as an inclusion criteria) did not provide a rationale for the sex-based exclusion criteria.

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	Slide 22.
<section-header><section-header><text><text><form></form></text></text></section-header></section-header>	 Slide 23: Protocols referring only to "male" and "female" participants are unclear; does this refer to participants who identify their gender as male/female, or does it refer to participants assigned male/female sex at birth? Protocols should use the terms cisgender and transgender as well as "assigned female/male at birth" to clearly define the study population. The two-step method for data collection is crucial for capturing accurate data. The NIH-funded HIV/AIDS clinical trials networks use the two-step method in all studies where they could reasonably expect that asking about gender identity would not put participants in harm's way. We miss important differences for transgender women if we miscategorize them as cisgender men or women (which are both likely miscategorizations if researchers don't use the two-step method). Theoretically, the 43 studies in TAG's analysis that enrolled participants assigned male at birth could have enrolled transgender women, but we can't know because gender identity was not also collected. The failure to collect gender identity demonstrates the structural discrimination that makes transgender people invisible in this research.
<section-header><section-header><section-header><section-header><text><section-header><section-header><section-header><section-header></section-header></section-header></section-header></section-header></text></section-header></section-header></section-header></section-header>	Slide 24: It IS possible to include women in HIV cure research! This is the one study in TAG's analysis with 100% enrollment of women (as an inclusion criterion). This study fits into the "latency-reversing agents" category of HIV cure-related research described earlier. First we need to know if we can reverse latency (or "wake up" the HIV that is "hiding" from the immune system), and

this study will help us to know more about reversing

Recruitment: The study team devised a number of plans in the event that women weren't enrolling, but women did enroll with enthusiasm. We applaud the ACTG and this study team and hope to continue seeing more trials

latency in cisgender women living with HIV.

focused on the unique biology of women.



	There are other trials in early stages of development seeking to specifically address the role of estrogen in the HIV reservoir in transgender women. We hope to see those studies move forward! More study-specific info: This is a randomized, open-label, exploratory study assessing the effects of tamoxifen exposure in combination with vorinostat compared to vorinostat alone on viral reactivation among post-menopausal women living with HIV with virologic suppression on ART. There is no analytical treatment interruption in this study.
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	Considering the biological differences we are aware of, there is clear scientific justification and necessity for cis and trans women's inclusion in cure research. Slide 26: There are many barriers between women and HIV cure research participation. We know little about barriers to women's participation in the context of an ongoing cure

<complex-block></complex-block>	study, but here are some examples from HIV research generally. Adapted from Sullivan PS et al. J Natl Med Assoc. 2007;99(3);24250. Gianella S et al. Journal of the International AIDS Society 2016, 19:20706
<section-header><section-header><section-header><section-header><section-header><section-header><image/><image/><image/><image/><image/><image/><image/><image/><image/><image/></section-header></section-header></section-header></section-header></section-header></section-header>	Slide 27: Slide credit: Kate Starr on behalf of the WHRC
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Recommendations for HIV Cure Research	Slide 29:

Slide 30:

Transgender Training Curriculum for HIV Research

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Use the 2-step method for data	Adultus Acces Acathics
collection Gender identity Sex assigned at birth	A stratuctor to thought formulation formulation for the strategy of the s
Always describe study populations accurately in protocols, publications, and other study documents	A setter to the Management and the Section and the off of the Section and
 Cisgender and transgender Assigned Male/Female/Intersex at birth 	No. 100 April 100 (100)

Recommendation 1: Take this training through the DAIDS Learning Management System.

https://daidslearningportal.niaid.nih.gov/

Five training modules were developed by a group of transgender and cisgender subject matter experts. The modules are intended for use by research staff and stakeholders across the NIH-funded HIV/AIDS clinical trials networks, but they can be used by anyone interested in HIV research and transgender communities. As of March 2019, the first two modules are available online; use the link above to create an account with the DAIDS Learning Management System and start the trainings. You can also access the additional resources listed on the slide to conduct inperson trainings and seek additional learning.

In addition to the training, you can access additional resources:

- PowerPoint presentation (for in-person training or just to have the slides for reference)
- Facilitator's guide (for in-person trainings)
- Exercises and answer keys (for in-person trainings)

• Handout of resources and publications Train your entire staff!

At the very least, researchers should be collecting data correctly and describing study populations accurately.

Reasons for not using the 2-step method should be explained in protocols since failure to collect both gender ID and sex assigned at birth compromises the accuracy of the data. Do not assume that the term "women" or "MSM" is enough information; include whether you're talking about cisgender or transgender women/MSM or both.



	Slide 31:
	These recommendations come from a meeting held in
Research Recommendations (continued)	Bethesda, MD in January 2018: Regulation of Clinical
 Reprioritize the vision of the NIH Revitalization Act Design studies with strategies relevant to cis and trans women Build sex- and gender-based analyses into protocols and statistical analysis plans 	Research Related to HIV Cure.
Require minimum enrollment for cis and trans women Report results by sex and gender (even with 0 women enrolled)	
Include social scientists to address issues related to women's enrollment and retention Pay attention to what women need and want Engage women and community members at all stages of HIV cure research	NIH Revitalization Act: enlarge its vision to include all
Actually enroll and retain women	phases of research, including animal research.
Source: Registries of Chical Neuron-Mediat to Mit Care marting in Kethnala, ND (January 2018)	Relevant strategies: Cure must fit into women's lives,
The Minney's Minney's Adultation	literally (in terms of biology) and metaphorically (in
	terms of social/structural factors that make women
	unique).
	Building sex/gender analyses makes it so you have to
	think about women.
	Minimum enrollment: this has been done in other
	studies. HPTN 083 is a good example where the protocol
	required that a minimum of 10% transgender women be
	enrolled. As of May 2019, that study has enrolled 12% transgender women! That's nearly 500 transgender
	women in this large HIV prevention study. We can do it
	in cure research too.
	Report results even when 0 women: we need to know
	when results are and are not generalizable to cis and
	trans women.
	Social science can help with all of this.
	Listen to women.
	Slide 32:
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Get Involved!	
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<section-header><section-header><section-header><section-header><section-header><section-header><section-header><section-header><section-header><section-header><section-header><section-header><section-header><section-header></section-header></section-header></section-header></section-header></section-header></section-header></section-header></section-header></section-header></section-header></section-header></section-header></section-header></section-header>	Slide 35: These are the two research networks primarily funded by the National Institute of Allergy and Infectious Diseases, National Institute of Child Health and Human Development, and National Institute of Mental Health that are leading the HIV cure research agenda. ACTG: <u>https://actgnetwork.org/</u> Has a Global Community Advisory Board or GCAB (<u>https://actgnetwork.org/node/223</u>) which helps to integrate community involvement in the research conducted by the network. Also has a Community Scientific Subcommittee (<u>https://www.actgnetwork.org/node/760</u>), which is part of the GCAB. The CSS strives to ensure that the ACTG scientific priorities reflect the pressing needs of PLHIV and to protect the interests of research participants in ACTG studies.



Martin Delaney Collaboratory Programs & CABs (2016-2021)



Slide 36:

These 6 centers have also been funded by the NIH to focus on different HIV cure research questions. They each have a CAB.

NIH funded Martin Delaney Collaboratory programs for 2016-2021 (the 6 research teams)

- defeatHIV, Cell & Gene Therapy for HIV Cure
 - Fred Hutchinson Cancer Research Center, Seattle, WA
 - CAB: <u>http://defeathiv.org/2014/05/16/defeath</u> iv-cab-meetings/
- DARE, Delaney AIDS Research Enterprise
 - UCSF, San Francisco, CA
 - CAB:
 - https://www.daretofindacure.org/bios
- CARE, Collaboratory of AIDS Researchers for Eradication
 - UNC, Chapel Hill, NC
 - <u>https://delaneycare.org/</u>
- BELIEVE, Bench to Bed Enhanced Lymphocyte Infusions to Engineer Viral Eradication
 - George Washington University, Washington, DC
 - CAB: <u>https://believe.weill.cornell.edu/commun</u> <u>ity/about-cab</u>
- I4C, Combined Immunologic Approaches to Cure HIV-1
 - Beth Israel Deaconess, Boston, MA
 - CAB: <u>https://www.i4cacure.org/cab/</u>
- BEAT-HIV, Delaney Collaboratory to Cure HIV-1
 Infection by Combination Immunotherapy
 - Wistar Institute, Philadelphia, PA
 - CAB: <u>http://beat-hiv.org/community-advisory-board/</u>



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<section-header><section-header><image/><image/><image/><image/></section-header></section-header>	Slide 38: Video is 8:36 long. Recommend showing just a portion of it and referring people to the entire video if they'd like to see the whole thing. The most relevant parts are: 0:00 – 0:55 2:20 – 4:27 https://www.youtube.com/watch?v=jmaaMv1PalA
Get Informed Image: Constraint of AIDS Research /	Slide 39: amfAR: <u>https://www.amfar.org/cure/</u> <u>https://www.amfar.org/Cure-Research-Institute/</u> AmfAR has set a strategy to develop the scientific basis for an HIV cure by the end of 2020. The amfAR consortium and institute support HIV cure research and include news and resources on the topic. They also offer a CAB.
	More news resources: TAG: <u>http://www.treatmentactiongroup.org/cure</u> POZ: <u>https://www.poz.com/tag/cure</u> TheBody: <u>https://www.thebody.com/category/curing- hiv</u> IAS: <u>https://iasociety.org/hivcure</u> IAS also has a Stakeholders Advisory Group, Industry Collaboration Group, and International Scientific Working Group PA: <u>https://www.positivelyaware.com/</u>



	Slide 40:
Acknowledgments	
The Women's HIV Research Collaborative is grateful to the Division of AIDS at the National institute of Allergy and Infectious Diseases, part of the National Institutes of Health, for making HIV cure-related research possible by funding the vital work of Is HIV research networks.	
A special thanks to the following individuals who developed this training:	
Liz Barr, ACTG Community Scientific Subcommittee	
Karine Dubé, University of North Carolina-Chapel Hill	
Leah Franklin, University of Maryland	
Brian Minalga, Office of HIV/AIDS Network Coordination	
Julie Patterson, CWRU/UHC AIDS Clinical Trials Unit CAB, AIDS Funding Collaborative	
Kacle Sadorra, Office of HIV/AIDS Network Coordination	
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