



UNC CFAR Newsletter

December 2017

IN THIS ISSUE

2017: CFAR Contributions & Reflections

The 9th IAS Conference on HIV Science (IAS 2017) on 23-26 July 2017 at the Palais des Congrès in Paris, France. This biennial gathering is the largest open scientific conference on HIV and AIDS related issues - bringing together a broad cross-section of more than 6,000 professionals from around the world to meet and examine the latest scientific developments in HIV-related research with a focus on moving science into practice and policy. The conference highlighted major advancements in understanding the intricate network of viral-host interactions, in better characterizing and targeting the HIV reservoir, and ways to tackle persistent HIV, as well as the interaction and synergies with other fields, such as cancer research and immune-based therapies.

The UNC CFAR was represented at the International AIDS Conference this year, with investigators presenting new data and participating in vital discussions with other leaders in the field. Dr. Angela Kashuba, Director, Clinical

Pharmacology and Analytical Chemistry Core, presented on "Drug levels in Animal Studies" and "Does Pharmacology support topical PrEP" Dr. Christopher Hurt, Co- Leader, pre-exposure prophylaxis (PrEP) Scientific Working Group, co-authored a poster on "Limited implementation of HIV pre-exposure prophylaxis among public health departments in North Carolina, United States.

The 11th Annual CFAR Social and Behavioral Sciences Research Network (SBSRN) conference in San Francisco, California. Following a long tradition of cross-CFAR collaboration, UNC CFAR members shared strategies with other behavioral and social scientists and attended panels on current topics in the behavioral sciences regarding HIV/AIDS.

The District of Columbia Center for AIDS Research (DC CFAR) hosted the 2017 National CFAR Meeting on November 1-3, 2017. The meeting brought together the leadership of and investigators from the 19 NIH-funded Centers for AIDS Research from across the country for a

series of scientific and administrative meetings.

The Developmental Core announced the 2017 Developmental Awardees. Traditional Developmental Awardees are Dr. Lauren Brinkley-Rubinstein, Dr. Jennifer Deese, Dr. Rainier Masa, Dr. Kimberly Powers, Dr. Samantha Meltzer-Brody, and Dr. Nora Franceschini. The Secondary Data Analysis (SDA) Developmental Awardees are Dr. Danielle Haley, and Dr. Andrea Knittel. **Featured spotlight on Nora Franceschini.** page 5

Community Spotlight on Jimmy Gibbs page 6

The 19th Annual World AIDS Day Symposium was held December 1, 2018. Page 7

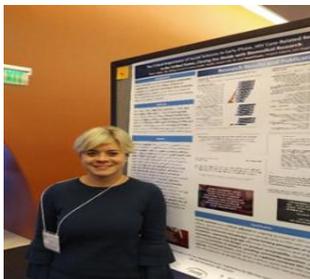
In October, members of the UNC CFAR attended the 11th Annual CFAR Social and Behavioral Sciences Research Network (SBSRN) conference in San Francisco, California. Following a long tradition of cross-CFAR collaboration, UNC CFAR members shared strategies with other behavioral and social scientists and attended panels on current topics in the behavioral sciences regarding HIV/AIDS.

UNC CFAR Social and Behavioral Sciences Core Director, Dr. Carol Golin, and Core Manager, Breana Castonguay, were invited to present the newly upgraded Social and Behavioral Instruments (SABI) database; a user-friendly online database that provides a "one-stop shop" to view and compare valid and reliable measures of 12 social and behavioral domains. Dr. Golin and Mrs. Castonguay conducted a live demonstration which highlighted unique features like the standardized outputs for each measure that provide survey items, response options, scoring information, reliability/validity, and citation information, including author permissions.

Dr. Kim Powers, Assistant Professor for the Department of Epidemiology and Dr. Karine Dubè Research Assistant Professor with the UNC Public Health Leadership Program were selected to attend the SBSRN Mentoring Day. Mentoring Day provides early career investigators an opportunity to meet with senior-level researchers to share research and receive one-on-one mentorship. The daylong orientation also provides a variety of seminars tailored to the mentees needs, including crafting a successful NIH grant, mechanisms for support for early career and transitional investigators, HIV research priorities, and a brief review of HIV prevention research.

Dr. Dubè was also invited to speak on the Cure and Social Behavioral Science Panel where she presented her research findings on, "Social Behavioral Research in HIV Cure."

Long-time UNC CFAR Community Advisory Board (CAB) member, Jimmy Gibbs attended the conference to represent the UNC CFAR community and network with other CFAR CAB members and investigators. (UNC CFAR Spotlight)



CFAR Social and Behavioral Sciences Research Network Conference in San Francisco October 24-26, 2017

KEYNOTE AND PANEL HIGHLIGHTS:

Keynote address: Getting to Zero: The Long and Winding Road – Judith Auerbach, PhD. Professor of Medicine, University of California, San Francisco

Ethnographic and Social Network Approaches- Emily Arnold, PhD, MPH, Associate Professor, Medicine/CAPS, University of California, San Francisco

UNC CFAR members look forward to the next SBSRN Conference in New York in 2018!





When we ask the client what matters most to them, it can be a good way to continue building rapport. This conversation can explore what the client really cares about and how these goals and values may guide their lives. And we also know that goals and values are aspirations, so there may be some discrepancy between where the client is currently (related to these goals and values) and where the client would like to be in the future. In a counseling session, if this exploration is done in a respectful and genuine way, it can lead to the motivation the client needs to move forward in creating change. [Read more](#)

Testing Antibodies to prevent HIV

The journal Science published a perspective on Oct. 6, by two leading HIV investigators highlighting the next frontier of HIV prevention – broadly neutralizing antibodies or bnAbs. Antibodies to HIV can be found in 25 percent of people living with the virus who are not on treatment, wrote perspective co-author Myron Cohen, MD...[read more](#)

UPCOMING EVENTS IN 2018

AIDS Quilt Coming to UNC

The panel will be on display in the Student Union from Jan. 10-31, 2018. Open to the public!

A special remembrance event will take place on Wednesday, Jan. 24, from 7-8 p.m. in the Carolina Student Union Atrium. Read more on page 7



Angela Kashuba, Director of Clinical Pharmacology Core presented on the biological reasons PrEP adherence might need to be higher and more consistent in women. It has been known for some time that intracellular tenofovir levels in the female genital tract after a single dose of tenofovir/emtricitabine are 100 times lower than in rectal tissue, and emtricitabine levels 50 times lower.

Studies in monkeys show that after repeated doses, tenofovir levels in the female genital tract actually reach levels considerably higher than in the rectum – but only by about the eighth day; peak drug levels are reached in rectal tissue after just one or two doses. Emtricitabine levels, on the other hand, never reach a level in vaginal tissues anything as high as in rectal tissues; even after eight days, levels in the vagina are seven times lower than in the rectum.

Dr. Kashuba advanced a possible biological mechanism behind this. The nucleoside reverse transcriptase inhibitor (NRTI) drugs like tenofovir and emtricitabine work by replacing the bases – the individual 'letters' in the DNA of HIV – with 'fake bases' that act as stop commands for further lengthening of the DNA chain. However, they have to compete with the real bases circulating in the blood and present in the cell.

Dr. Kashuba said that in vaginal tissue, levels of two natural bases, deoxyadenosine triphosphate (dATP), and deoxycytidine triphosphate (dCTP) are 50-100 times higher than they are in rectal tissue. In terms of the ratio of dATP to the PrEP drug, this is the same in both rectal and vaginal tissues, with 1.8 times more emtricitabine than dATP.

However, the ratio of tenofovir to dATP is about 350 times higher in rectal than vaginal tissues; tenofovir is 17 times higher than dATP in rectal tissues, but 20 times lower in vaginal. Drug levels of tenofovir and emtricitabine are both related to dATP and dCTP levels; the higher the natural base level, the lower the drug levels.

What this means is that optimal drug levels (i.e. ones that should guarantee 100% efficacy in preventing infection) both take longer to reach in the female genital tract and that some women never develop them. Optimal rectal concentrations of tenofovir

plus emtricitabine, taken together, could probably be reached in 100% of people by the second dose of Truvada whereas it takes seven doses of Truvada for 85% of women to reach optimal concentrations in vaginal tissue – some never do.

Furthermore, inside the cell, the optimal levels of intracellular tenofovir remain in rectal tissues for at least five days after the last dose of PrEP, and are still at 90% of optimum after ten days. In the vagina on the other hand, intracellular tenofovir levels start falling immediately and are at 85% of optimum after three days (emtricitabine levels fall much more quickly, within hours).

Dr. Christopher Hurt's poster presentation described the results of a statewide survey conducted in the spring of 2016 by a team from UNC, Duke, and the state Department of Health and Human Services to explore whether local health departments (LHDs) might be a good venue for providing PrEP to at-risk individuals. We asked all 85 LHD directors to complete the survey, and 56 (66%) responded. Nine LHDs were engaged in PrEP-related activities at that time, with 2 prescribing PrEP directly (we're now up to I think 5, total) and the rest referring out to local providers. Among the 54 LHDs not prescribing PrEP, cost, lack of formal protocols for prescribing, and a belief that LHDs weren't the best venue (that is, primary care or specialty clinics should do it) were the most commonly cited reasons. Forty-seven LHDs were not prescribing *or* referring clients for PrEP. They most frequently said that they didn't have anywhere to send clients for PrEP, their staffs were not knowledgeable about PrEP, or that they perceived they didn't have clients who could benefit. (That last one was obviously surprising, since these were health departments providing STI services.) Our conclusions from the survey were that focused training and education to demystify PrEP for LHD personnel was critical, but it was also important to keep building our referral network of local providers so that LHDs that did not want to take on PrEP services had reliable partners for referral nearby.



2017 National CFAR Meeting and Scientific Symposium

In keeping with the mission of the DC CFAR, the theme of this year's meeting was Conducting HIV Research in Partnership with Government and Community with a focus on the research response to the domestic HIV epidemic.



Meeting participants included the CFAR leadership and members, our numerous government and community partners, the NIH co-funding and participating Institutes and Centers, and HIV organizations in the DC area. Additionally, over 400 attendees participated in the CFAR Scientific Symposium on Thursday, November 2, 2017 at the National Academy of Sciences, which featured plenary talks by Dr. Anthony Fauci (NIH) and Dr. Eugene McCray (CDC) and four themed sessions: HIV Cure Research, The Urban Epidemic, Health Inequities and Aging and Co-Morbidities.

National CFAR Community Advisory Board Coalition



(NCCC) Annual Meeting

National CFAR Community Advisory Board Coalition (NCCC) Annual Meeting Held in Conjunction with the 2017 National CFAR Meeting

The National CFAR CAB Coalition (NCCC) Annual Meeting was held on October 31- November 1, 2017 in conjunction with the CFAR National Meeting and Scientific Symposium. The two-day event brought together representatives from 17 CFAR Community Advisory Boards from across the country for a business meeting, round table discussion with representatives from NIH, and several skills building sessions. Topics covered included: Best Practices, Integrated HIV Prevention and Care Planning and Opportunities for CFAR CABs; Community Engagement: Grassroots Strategies to Finding Your Own Solutions; Community Engagement and HIV Research in the District of Columbia; and Innovative Approaches to Disseminate Research Findings in Community Settings.

The UNC CFAR Strategic Community Engagement, Education, Dissemination (SCEED) Office Director, Caressa Harding and CAB representative, Jimmy Gibbs were invited to speak and coordinate two panels for the skills building workshops. Caressa Harding

presented a one minute rapid fire on the UNC CFAR CAB and spoke on Innovative Approaches to Disseminate Research Findings in Community Settings.

Caressa also represented the UNC CFAR on the Community Involvement panel at the CFAR Directors' Meeting. Jimmy Gibbs served as the moderator for the Innovative Approaches to Disseminate Research Findings in Community Settings.

Spotlighting Developmental Awardee: Dr. Nora Franceschini

How did you first get involved in HIV research?

I was an epidemiology student in 2004 and heard about the UNC CFAR cohort through a School of Medicine faculty. As a nephrologist, I was interested in knowing more about the rates and causes of acute renal failure in HIV outpatients. I met Sonia Napravnik and Joe Eron, who helped me to set up the study, and this collaboration led to two publications that are still clinically relevant and widely cited. I recently reconnected with Sonia and we started a new collaboration on pharmacogenetics.

What do you wish other people knew about your work or HIV research?

I am a genetic epidemiologist and my research focuses in identifying genetic factors associated with susceptibility to cardiovascular and kidney diseases. HIV patients are exposed to medications that affect lipids, blood pressure, adiposity, and are toxic to kidneys and liver; there is a potential for genetics to help to avoid some of these toxicities.

Tell me about someone who has influenced your decision to work with HIV.

Sonia was very influential in keeping me interested in HIV research. I also met several UNC ID faculty that were really awesome and knowledgeable, and provided a lot of feedback in my research.

What do you find most challenging and rewarding about your research experience?

In genetics, there is always new things to learn, from handling big data to implementing new statistical approaches, and one needs to interpret the results in the context of the biology. I find it challenging and full of opportunities. Collaborations are very important in this type of research and very rewarding when there is a good fit and complementary skills.

What would you tell someone who is thinking pursuing a career in HIV research?

I would suggest to learn more about the ongoing research by talking with the faculty and other students, to find projects that fit for your interest.

What lessons has your work life taught you?

Follow your interest and be persistent. Hard work and fun can coexist.

What do you do when you aren't doing research? I love travelling, hiking and kayaking.

I am volunteering in my son high school in the last 2 years and meeting all sort of interesting people.



Dr. Nora Franceschini, MD, MPH, Research Associate Professor in the Gillings School of Public Health, Department of Epidemiology. Her project Pharmacogenomics of anti-retroviral drugs: a pilot study

She is a nephrology-trained physician and a cardiovascular disease epidemiologist. Her research focuses on environmental and genetic determinants of hypertension, kidney and cardiovascular diseases in diverse and underrepresented U.S. minority populations who carry a high burden of chronic health conditions. This work includes gene discovery in American Indians, African Americans and Hispanics/Latinos, trans-ethnic genetic studies, and studies to characterize the social/environmental context in which genetic variants contribute to health conditions.

To learn more about the awardees [click here](#)

UNC CFAR Community Spotlight: Meet Jimmy Gibbs

What are your HIV/AIDS research interests?

I spend a lot of time working on housing and supportive services for people living HIV/AIDS. Housing is a major issue. Without housing, everything else falls apart.

How long have you been a UNC CFAR CAB member?

16 years.

What is your favorite thing about being a CAB member?

Being connected with everyone that does the same type of work that I do helps me balance my life better. It lets me know I am not alone in the work that I do. Sometimes I feel isolated, having done it for 30 years as a care giver, an advocate and a healthcare educator. The CAB meetings help me refresh and sit with others going through the same work. Coming to the CAB helps me continue to do the work that I am passionate about.

What were you most looking forward to at the SBSRN conference?

I was really excited about the UNC research being presented. I was looking forward to the SABI presentation and Dr. Dube's presentation. I was hyped about the number of projects going on at UNC. It lets the rest of the world know that we are a premier institution and that we have so many exciting projects going on right here that impact the world. This was an exciting year!

Which presentation or keynote were you looking forward to the most?

I was most looking forward to Dr. Susan Newcomer's presentation titled, "Response to the HIV Epidemic, Perspectives from a retired Project Officer." I was excited to hear about her perspective of 20+ years of actually working in the trenches of NIH and hearing how to navigate a large wealth of systems. Her keynote gave me hope that we can continue the work that she started many years ago. She left us a legacy

Jimmy represented the UNC CFAR CAB at the 2017 SBSRN. He has attended SBSRN for the past three years



19th Annual World AIDS Day Symposium December 1, 2018



The event was sponsored by the UNC Center for AIDS Research and the Institute for Global Health and Infectious Disease.

The featured presentations focused on HIV and Adolescents: Domestically and Internationally. To watch the morning session focused on HIV and Adolescents in the United States [click here](#). To view the afternoon session presentations about HIV and Adolescents in International Settings [click here](#).

Student Brings Panel of AIDS Quilt to UNC



As a freshman at UNC, Elizabeth Trefney remembers seeing a flyer publicizing a class about HIV/AIDS. The semester-long course is offered each spring by the UNC Center for AIDS Research (CFAR) and is open to all students. Past classes have focused on how the virus impacts the immune system, currently available treatments and the latest prevention strategies.

[Read more....](#)

A Remembrance Program/AIDS Quilt Viewing

Wednesday, January 24, 2018
7:00-8:00 PM

Carolina Student Union Lobby (Atrium)
3103 South Road
Chapel Hill, NC 27599

Guest Speaker:
Evelyn Foust, CPM, MPH
Branch Head
Division of Public Health,
Communicable Disease Branch N.C. Dept. of Health and Human Services

For more information, contact Caressa Harding
caressa_harding@med.unc.edu