



LIFE CHANGING
ADVENTURES
in HIV Prevention

This work is not just about making a microbicide, it's about training young scientists. The MTN will go away, but the people who have developed into skilled investigators will not go away. They are going to continue to light the path moving forward.

- SHARON HILLIER

Since the Microbicide Trials Network (MTN) began its journey in 2006, the network's global family has contributed in countless meaningful ways to stop the spread of HIV. Many people have grown up with the MTN. As the network evolved, so did they – personally and professionally – creating memorable experiences as well as lifelong relationships. While the MTN will end its official tenure as a National Institute of Allergy and Infectious Diseases (NIAID)-funded network in November 2021 (though its current studies will continue until completed), there is much to celebrate. From alliances with staff from NIAID's Division of AIDS, FHI 360, the Statistical Center for HIV/AIDS Research and Prevention (SCHARP) and MTN-affiliated research sites, to partnerships with advocacy organizations all over the world, there are a multitude of people to acknowledge and inspiring stories to share. Here are a few of them. (See also, [The Mighty Women of MU-JHU.](#))



Thes Palanee-Phillips and her mentor, Jared Baeten, celebrate the fact that they will be conducting the HOPE open-label study of the dapivirine ring in 2016, Cape Town, South Africa.

Learning to swim

Starting out as a medical scientist doing laboratory work in HIV, Thes Palanee-Phillips, PhD, MMed, MSc, never imagined she would one day be co-leading a global study in HIV prevention and working on a daily basis with international leaders in the field.

In 2004, Dr. Palanee-Phillips (Thes), now director of clinical trials at the Wits Reproductive Health and HIV Institute (Wits RHI) in Johannesburg, South Africa, was a post-doctoral fellow in molecular virology in Durban when she received a set of blood samples from twins born to an HIV-positive mother. The tests revealed that one of the babies was also HIV positive. Thes, also lab director at Wits RHI, vividly recalls grappling with how the mother would receive the results of these differing tests, and the impact on the fate of the family. It was a pivotal moment, and the first time she thought about exploring the other side of the laboratory bench.

Around this time, the late Professor Gita Ramjee, PhD, executive director of the HIV Research Prevention Unit (HPRU) of the South African Medical Research Council, had a position open for a study coordinator under the guidance of Roshini Govinden, PhD, now a senior lecturer at the University of KwaZulu-Natal. “When I was interviewed for the position, I didn’t know anything about clinical trials other than that the acronym ‘GCP’ stood for Good Clinical Practice, but I said I would be willing to learn,” says Thes. Despite her lack of experience, both Gita and Roshini appreciated her passion, and she was hired.

Thes learned nearly every step in the clinical trials process from her early experiences with Gita and Roshini. “Gita gave me a lot of guidance and support, and she also threw me into the deep end a number of times,” Thes laughs, recalling one story in particular when Gita took her and a colleague to an abandoned building in Isipingo, on

the outskirts of Durban. Even though it was dilapidated and had no electricity, Gita matter-of-factly delivered the news that if they wanted to run a trial, they’d have to design the site from scratch. They would need to see to its complete design, renovation and transformation into a clinical research site (CRS) in a limited timeframe. (The Isipingo CRS continues to be a site for NIAID-funded HIV research today.)

“Working with the HPRU taught me that being thrown in the deep end can teach you otherwise untapped survival skills,” she says. “I am grateful for the nurturing investment in my growth by both Gita and Roshini. They instilled in me a strong work ethic through example.” After about five years, Thes was ready to leave Durban and took a technical advisory position in Johannesburg with Helen Rees, OBE, MBBChir, MA, DRCOG, DCH, executive director of Wits RHI, when the VOICE study – testing two different antiretroviral approaches to HIV prevention in cisgender women – was about to start. Thes became very involved in vaginal microbicide studies and was subsequently selected by the MTN Executive Committee to serve as co-chair of the ASPIRE and HOPE studies of the dapivirine vaginal ring. (Thes is now a member of the MTN Executive Committee.)

Thes counts Jared Baeten, MD, PhD, ASPIRE protocol chair, MTN co-principal investigator and a professor at the University of Washington, among those who have most deeply influenced her career growth. “Jared took me under his wing,” she says, exuding gratitude. “He always nudged me forward whenever I was apprehensive or doubted myself. He reminded me of my strengths and capacity.” It’s this nurturing kind of development and ongoing support, Thes says, that she tries to emulate herself. She credits Jared and two other mentors, Jennifer Balkus, PhD, MPH, of SCHARP, and Elizabeth Montgomery, PhD, of RTI International, for their support and encouragement in developing and publishing papers,



Allen Matubu at the University of Zimbabwe College of Health Sciences-Clinical Trials Research Centre, where he was recently named laboratory director.

which has also been vital to her professional development. She is also extraordinarily grateful to MTN principal investigator Sharon Hillier, PhD, particularly for her kindness, compassion and heartfelt support during times of personal and professional upheaval.

“These relationships are rare and formed over years of building trust and growing alongside one another,” she says of her mentors. “MTN is my home and the people, my family. It’s been my safe space where I have people who share a similar vision and values. Despite their academic achievements and leadership roles – and being many miles away – I relate to them and know they have my back. I will miss that most of all.”

Pathway to a PhD

When Allen Matubu, MSc, began working at the University of Zimbabwe College of Health Sciences-Clinical Trials Research Centre (UZCHS-CTRC) as a laboratory scientist in 2004, he was 22 years old. Fresh out of college, his first experience working on MTN protocols involved processing specimens. He was later assigned to work in the immunology department with flow cytometry, a process that allows HIV researchers to examine microscopic immune cells. By 2012, he had been promoted to senior quality assurance and control officer and had also successfully obtained a master’s degree in clinical epidemiology.

Dr. Sharon Hillier became acquainted with Allen on early MTN laboratory-related trips to Zimbabwe. “Allen just emerged as a young man who had a ton of promise,” she says. “Unfortunately, though, there really isn’t a path forward for African laboratory scientists like Allen to complete their doctoral degrees in-country for the

complex cellular work he had interest in. They have limited training capacity for applied laboratory techniques for cellular immune changes, so laboratory-trained researchers in this area are very rare.”

Fate seemed to step in when Sharon Achilles, MD, PhD, assistant professor at the University of Pittsburgh, received funding from the Gates Foundation in 2013 to explore the impact of contraceptives on the vaginal microbiome. She was looking for an African site for the study, and Sharon Hillier connected her with the team at UZCHS-CTRC.

The study, which became known as ZIM CHIC – Zimbabwe Contraceptive Hormone Induced Changes, included a sub-study to evaluate the impact of contraceptives on HIV markers within the genital tract that could predispose women to acquiring HIV. It would require complex specimen processing for flow cytometry using cytobrushes – specialized tools for obtaining cells in the cervix. Allen was selected by his mentor, Z. Mike Chirenje, MD, FCROG, principal investigator of UZCHS-CTRC and professor at the University of Zimbabwe, as the researcher for the job. Since this level of work was new for the site, Allen began to interact more closely with colleagues in the laboratory at Magee-Womens Research Institute (MWRI) in Pittsburgh, Pennsylvania, many of whom also work with the MTN. With encouragement from Mike as well as Roberta Black, PhD, and Jeanna Piper, MD, from DAIDS, Allen traveled to the U.S. to learn how to complete scientific assays using cytobrushes, first at the MWRI laboratory and later at a training center in San Jose, California.

Allen already knew he liked flow cytometry but didn’t realize the extent of its applications until he had the additional training, he says. This spurred his interest in using the methodology to pursue a PhD. Through discussions with Sharon Hillier and others at the MTN and DAIDS, the team came up with a plan to use flow cytometry to investigate the biological effect of hormonal contraceptives on immunity and risk of acquiring HIV. Allen has published some of this work in the *American Journal of Reproductive Immunology*, which he also presented at the 2018 HIVR4P meeting in Madrid, Spain. He is currently writing his dissertation.

“Something I will forever cherish and also really appreciate was Sharon arranging for me to give a mini presentation of my HIVR4P slides at the 2018 MTN Regional Meeting,” says Allen, who has recently been appointed laboratory director at UZCHS-CTRC. “She brought in Jared Baeten and Professor Chirenje. Presenting for those three research icons was a key moment.” It also gave him an edge, he says, in helping with his confidence, culminating in a successful presentation in Madrid and his first publication in late 2019.

A perfect landing

A self-described “newbie junior faculty member” in 2011, Ken Ho, MD, MPH, was trying to figure out his purpose in the world. In addition to being an assistant professor at

the University of Pittsburgh, he was an infectious diseases attending physician at the hospital when his mentor, Ross Cranston, MD, decided to step back from his duties as a safety physician for the MTN. Ken was excited, if not a bit overwhelmed, at the prospect of applying for the position and the time commitment it would entail. (He was, and remains, a competitive ice skater, which takes up a significant amount of his so-called spare time.) Still, something told him it was the right time, and he pursued the position and was selected to take on this new role.

A protocol safety physician until 2016, Ken was part of the MTN Leadership and Operations Center and responsible for protecting the safety of study participants. Part of MTN's Safety Monitoring and Reporting Team, safety physicians ensure that the network follows strict national and international procedures by reviewing summary safety reports, addressing concerns raised and conducting monthly reviews of safety data. Working in this capacity has given Ken a unique opportunity to learn about clinical trials on a global scale, as it often requires international travel, which he had done very little of before his work with the MTN.

Through this experience, Ken learned the anatomy of a clinical trial – how to build a protocol, train an international team, and ensure the protocol is conducted safely. “As a safety physician, you focus on how we answer scientific questions, with a lot of different people at the table,” says Ken. “Being able to witness that was really eye opening and such an important part of growth for me.”

Working as a safety physician also prepared Ken for his next leadership role within the network as protocol chair of the MTN-033 study – evaluating the safety and distribution of dapivirine gel when administered rectally as a lubricant. (Results are anticipated in early 2021.) “Being a safety physician was a perfect springboard for Ken to becoming protocol chair,” says Sharon Hillier. “He just really dived into it.”



Ken Ho competing in the 2018 U.S. Adult National Figure Skating Championships, at which he won a silver medal. Bethesda, MD.



Ken Ho presenting about MTN's rectal microbicide research agenda at the 2020 Annual Meeting in Bethesda, MD.

Ken is thankful to Sharon Hillier, who is like a mother figure to many, he says. “She always has our best interests in mind, and puts in the effort, time and energy. When you take a step back, it’s really quite impressive. I don’t know how she sleeps or does anything else.”

He is equally grateful to his current mentor, Sharon Riddler, MD, professor at the University of Pittsburgh, who along with Sharon Hillier, has helped to instill confidence. Both gave him gentle nudges, he says, that encouraged him to take chances professionally. “When you’re ready, they let you know that you’re ready. And, when you’re not, they tell you what you need to do to get to that point.”

In addition to his work at MTN, Ken has been appointed chair of the PrEP sub-committee for AIDS Free Pittsburgh, which he sees as an extension of his work at the MTN – where he says he learned the importance of listening to community voices and making sure those voices are incorporated into the research.

“One of the great things about the MTN is this network, which I compare to a family,” says Ken. “You can always find someone who will help you and give you the answer to the question you have. I think that’s why the MTN always felt so good. Even though I may feel small, when you’re with this group of people, you feel like so much more.”

- Clare Collins

Photos: Lisa Rossi (unless otherwise noted)