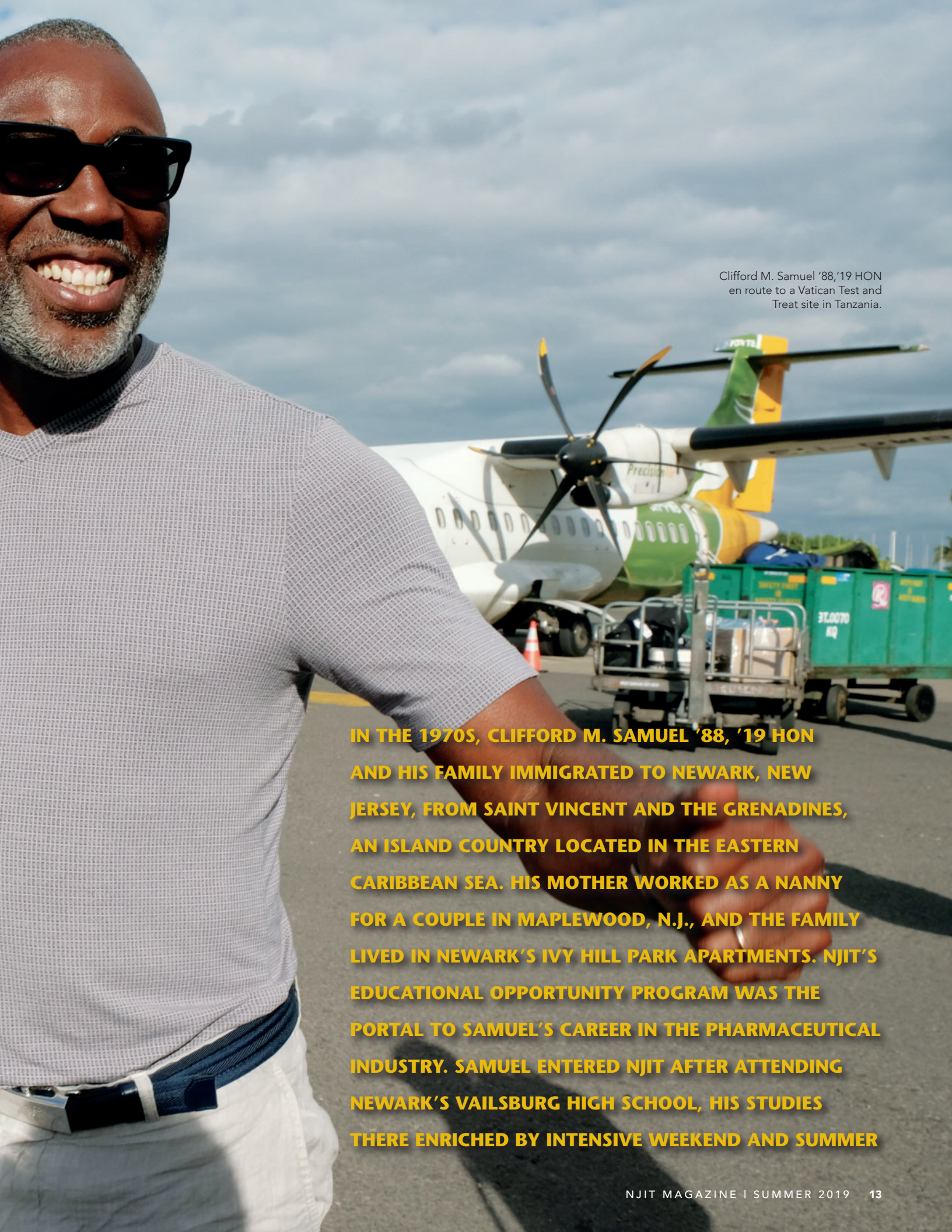




Improving Health Around The World



Clifford M. Samuel '88, '19 HON
en route to a Vatican Test and
Treat site in Tanzania.

IN THE 1970S, CLIFFORD M. SAMUEL '88, '19 HON AND HIS FAMILY IMMIGRATED TO NEWARK, NEW JERSEY, FROM SAINT VINCENT AND THE GRENADINES, AN ISLAND COUNTRY LOCATED IN THE EASTERN CARIBBEAN SEA. HIS MOTHER WORKED AS A NANNY FOR A COUPLE IN MAPLEWOOD, N.J., AND THE FAMILY LIVED IN NEWARK'S IVY HILL PARK APARTMENTS. NJIT'S EDUCATIONAL OPPORTUNITY PROGRAM WAS THE PORTAL TO SAMUEL'S CAREER IN THE PHARMACEUTICAL INDUSTRY. SAMUEL ENTERED NJIT AFTER ATTENDING NEWARK'S VAILSBURG HIGH SCHOOL, HIS STUDIES THERE ENRICHED BY INTENSIVE WEEKEND AND SUMMER

“REACHING THOSE AT THE ECONOMIC BASE OF THE PYRAMID IS CHALLENGING BECAUSE HEALTH IS NOT ALWAYS A STRATEGIC PRIORITY IN THESE COUNTRIES. ACCESS TO HEALTH CARE MIGHT BE AVAILABLE TO THE MIDDLE CLASS AND THE WEALTHY, BUT NOT ALWAYS TO THE POOR. IN MANY CASES, THE INFECTIOUS DISEASES ARE RAMPANT IN THESE POOR AREAS WHERE INDIVIDUALS NEED THESE MEDICINES THE MOST. SO THAT’S OUR FOCUS.”

- Clifford M. Samuel '88, '19 HON

instruction in math and science at the Stevens Technical Enrichment Program. Collectively, these experiences gave him the background necessary for successful completion of his bachelor's degree in mechanical engineering.

“In the inner cities in the 70s, education wasn't a priority; what I got from NJIT was a quality education that allowed me to not only help my family in the U.S. financially, but those in the Caribbean as well,” Samuel recalled. “Also, the ability to apply engineering principles, thinking, concepts and knowledge to the work I do today is equally rewarding and, in my opinion, the best value for the money.”

Today, Samuel serves as senior vice president of access operations and emerging markets at Gilead Sciences, Inc., which he joined in 1996 as a member of the company's commercial organization, newly established at the time, to support the introduction of Gilead's first commercial product, Vistide. He now leads a team that makes Gilead's HIV/AIDS and viral Hepatitis B and C medicines available to patients in more than 140 countries, regardless of where they live

or their economic means. These countries include, among others, Mexico, Central America, the Caribbean, South America, all of Africa, South/Southeast Asia Pacific, parts of Eastern Europe and Central Asia. Among his achievements, Samuel has enabled the company to bring HIV/AIDS medicines to over 12 million patients in a cross section of countries defined as the developing world and emerging markets, countries classified as such based on their gross national income per capita, as well as disease burden.

“Reaching those at the economic base of the pyramid is challenging because health is not always a strategic priority in these countries,” Samuel explained. “Access to health care might be available to the middle class and the wealthy, but not always to the poor. In many cases, the infectious diseases are rampant in these poor areas where individuals need these medicines the most. So that's our focus.”

Under Samuel's leadership, Gilead has entered into a series of voluntary licensing agreements with 19 companies in China, India and South Africa, creating a competitive market for generic HIV and Hepatitis B drugs



LEFT: Clifford M. Samuel received an honorary Doctor of Science at NJIT's 103rd Commencement ceremony May 21, 2019. From left: Robert Cohen '83, '84, '87, vice president and chief technology officer, global research & development for Stryker's Orthopaedic Joint Replacement Division and vice chair, NJIT Board of Trustees; Clifford M. Samuel; and Stephen P. DePalma '92, chair, NJIT Board of Trustees. RIGHT: Clifford M. Samuel addressed the topic of "Sexual Violence and HIV" at the One Young World Summit in 2018.

that dramatically reduced prices and helped to deliver medicines to more than 14 million people in need. Starting in 2014, Gilead extended licensing agreements to 11 Indian manufacturers to scale up access to Hepatitis C treatments in 101 countries, including Egypt, India and Pakistan.

COMBATING THE EPIDEMIC

Following five years of declines, the annual number of new HIV diagnoses has remained stable in the U.S. since 2013. During 2016 and 2017, half of new diagnoses concentrated in 48 "hot spot" counties as well as Washington, D.C., and Puerto Rico.

An estimated 12 million people living with HIV in resource-limited countries receive antiretroviral therapies provided by Gilead Sciences, Inc. or one of its manufacturing partners. Headquartered in Foster City, Calif., Gilead is a research-based biopharmaceutical company that discovers, develops and commercializes innovative medicines in areas of unmet medical need.

On May 9, 2019, Gilead announced that it would donate Truvada for PrEP® to the U.S. Centers for Disease Control and Prevention (CDC) in support of national efforts to help prevent HIV and end the epidemic. This medication donation is among the largest ever in the United States and is part of Gilead's broader ongoing initiatives to help ensure that everyone who can benefit from PrEP is able to access it. Gilead will

provide the CDC with up to 2.4 million bottles of Truvada® annually for uninsured Americans at risk for HIV. Gilead's donation will support a greatly accelerated effort to reach these individuals, as well as create an opportunity for state and local partnerships to develop and implement protocols that are intended to ensure that uninsured people at risk for HIV are given access to PrEP at no cost.

Beyond the donation, Gilead's commitment to combating the HIV/AIDS epidemic includes the COMPASS (COMmitment to Partnership in Addressing HIV/AIDS in Southern States) Initiative™. COMPASS is a 10-year, \$100 million commitment to address the HIV/AIDS epidemic in the South through capacity building, mental health and trauma-informed care, and awareness and anti-stigma education.

LIVING THE AMERICAN DREAM

At NJIT, Samuel serves as a member of the Albert Dorman Honors College Board of Visitors. He was awarded the Edward F. Weston Medal for Professional Achievement by the university in 2010, which is presented to alumni in recognition of outstanding personal, professional and civic achievement, and commitment to the development of the university. On May 21, 2019, he received an honorary Doctor of Science at NJIT's 103rd Commencement ceremony.

In January 2019, Samuel was elected to the National Academy of Engineering "for innovations in supply chain management and manufacturing technologies central to delivering medication in developing countries." He currently is under consideration for induction to the American Institute for Medical and Biological Engineering for "pioneering new approaches to providing medicines in developing countries."

Samuel said that the most rewarding aspect of his career is the level of duality.

"I think the first is that I have this really cool job where I'm helping to bring medicines to people who need them," he explained. "These are life saving medicines. You either live or die of HIV, or you live or you die of liver cancer, which Hepatitis B and C lead to, or you die of fungal infections, as you do in a transplant — a liver transplant, a heart transplant...We have a drug that if taken appropriately prevents you from getting HIV. These are life saving medicines, and I have a really cool job that allows us to bring these medicines into countries that save lives. On our business card we have "Advancing Therapeutics, Improving Lives," and I really get to do the 'improving lives' piece. The other part — because there's a duality to it — is that I've been fortunate and blessed to be able to help my family climb out of an immigrant life, to really optimize what America is about. It's about individuals that can come from a small Caribbean island and pursue their dreams, give back and achieve things. I am living the American dream. I think that's fascinating as well." ■

Author: Christina Crovetto is editor of NJIT Magazine.