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Research Director

Clinton Health Access Initiative Expands Health Care Reach with Help from SAS®

Industry

Health care

Business Issue

Treat as many HIV and malaria patients in developing countries in the most efficient way possible.

Solution

SAS helps CHAI produce forecasts and simulation models that are used to work with drug manufacturers and health ministries in developing countries.

Benefits

CHAI has negotiated lower drug costs, expanded coverage and helped developing countries understand how best to treat HIV and malaria with limited resources.

More than 90 percent of the 33 million people living with HIV/AIDS reside in developing nations with limited access to treatment. In 2002, the Clinton Health Access Initiative (CHAI) – at that time known as the Clinton HIV/AIDS Initiative – set out to change that by raising funds for treatment, negotiating lower drug prices and working with governments to improve health care delivery. CHAI uses SAS to produce simulations and forecasts that lead to lower drug prices and expanded coverage. As the organization grows, it is tackling other health-related problems with an analytical approach powered by SAS.

Successfully treating diseases like HIV, malaria and tuberculosis goes beyond buying drugs. In developing countries, clinic, laboratory and medical support staff availability are all critical factors. If philanthropic groups concentrate strictly on providing drugs, the limited medical resources in a developing country can be consumed by testing and treatment.

From its inception, CHAI wanted to look at these issues the same way a FORTUNE Global 500® company deploys resources or chooses a manufacturing facility – by using analytics. Attempting complex simulations in Excel just didn't work. "There are things we can do in SAS in a couple of minutes that would take a couple of hours in another program," explains Megan O'Brien, PhD, Research Director for CHAI's Center for Strategic HIV Operations Research. CHAI initially accessed SAS through partnerships

with universities and has since expanded its SAS use.

With SAS software, CHAI:

- Creates updated forecasts of anti-retroviral medicine demand for generic suppliers, successfully encouraging them to manufacture pediatric AIDS medications.
- Develops updated combination therapy forecasts to streamline the malaria drug market.
- Generated a new TB drug forecast that contributed to a recent price-reduction agreement with a major manufacturer.
- Created a global HIV treatment cost-driver analysis presented at the IAS Conference on HIV Pathogenesis, Treatment and Prevention.
- Shares forecasts and models with the United Nations Programme on AIDS and the World Health Organization.
- Develops treatment models in partnership with health ministries around the globe to best spend limited resources.
- Built simulations that look at how to best treat TB and HIV simultaneously. The model provides system-level cost savings projections to help government planners make decisions about program integration.

"We often find that without true cost and impact information people don't always make optimal decisions," O'Brien explains. Decision making is improved when donors, countries and medical

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providers understand the best- and worst-case scenarios and the trade-offs along the way. “SAS allows us to do the complex math in real time or very quickly. These are calculations that can't be done on the back of an envelope.”

In a country in Sub-Saharan Africa, for example, O'Brien recently worked with government officials to transition chronically ill patients from the outpatient services of a soon-to-be closed hospital to a government hospital. The government was concerned that closing one facility would overwhelm the other. “We used our simulation models to create a plan for adding staff and adjusting the patient flow that would allow the government hospital to absorb patients from the closing hospital without compromising their capacity,” O'Brien said.

In a clinic in the Caribbean, CHAI used SAS to show that precious primary care dollars didn't need to be spent on an expensive clinic expansion. The overcrowded clinic had drawn up plans for a large expansion, but the SAS model developed by CHAI showed a large amount of underutilized space. With smaller exam rooms and a redesigned

medical records storage system, the clinic could expand its waiting room without building a large addition.

Juggling Limited Resources

Limited resources are a significant barrier to effective HIV/AIDS treatment in developing countries. Even with donated medicines, these countries worry that distribution and lab costs will consume finite health resources, leaving primary and maternal care unfunded. CHAI models show countries how they can handle stepped-up HIV or malaria treatment plans without overwhelming existing medical capacity. In an African country, CHAI recently developed a model that showed how nurses could handle much of the routine HIV/AIDS treatment, freeing up physicians to concentrate on other high-priority needs and creating new capacity for treating patients.

“There is a lot of money coming in to pay for HIV and malaria drugs, but we don't want to forget everything else – diabetes, childhood diseases and maternal health. We want to make sure we don't weaken the overall health system just because we focus on HIV or malaria,” O'Brien explains.

CHAI is also using SAS to determine the cost-effectiveness of handheld diagnostic tools for checking blood samples for CD4 cells. These devices save on lab transportation costs and allow medical personnel to diagnose HIV and begin treatment with anti-viral medication in the same visit, reducing the risk that patients drop out of the system before they are able to access treatment.

“We're at the point where unavailable or inadequate information can become a huge barrier to delivering high-quality health care. In order to make good decisions and good investments in Africa and other developing countries, we need to handle and analyze data effectively. That's where SAS comes in,” O'Brien says.



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