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FROM MONOTHERAPY TO ACT: A MALARIA TREATMENT SUCCESS STORY IN CÔTE D'IVOIRE

In 2005, the World Health Organization (WHO) changed its guidelines for treatment protocols for malaria, advocating that traditional monotherapies be replaced by an artemisinin-based combination therapy (ACT) to destroy p.falciparum. This evolution in treatment was due in some part to concerns that contined use of oral artemisinin-based monotherapies ccontributed to the development of resistance to artemisinin derivatives, rendering one of the most effective tools in the response to malaria useless.

Since then, Côte d'Ivoire, where malaria is endemic virtually across the entire country and about 3.5 million children under age 5 and 1 million pregnant women are exposed annually, has worked diligently to effect a strategy to replace all monotherapy with ACT. This diligence has been even more remarkable in the context of instability that has afflicted the West African state since 2002, with periodic flashes of conflict and outright civil war.

Now, nearly a decade later, even the health centers in the most remote parts of the world's leading producer of cocoa are stocking ACTs on their shelves.

"We didn't have too many difficulties with the transition process; those who were carrying monotherapies gradually phased them out and within two years, they had the time and ability to order ACT," said Dr Mamadou Silué, from the national malaria program: a Global Fund principal recipient since 2010.

Nearly $175 million of $232 million in signed Global Fund grants has been disbursed in Côte d'Ivoire, and the country is in the process of developing a concept note to access $118.7 million allocated under the new funding model (NFM).

Accepting a new way to respond to an old scourge

According to the UN Children's Fund (UNICEF), Ivorian children are routinely exposed to malaria as many as six times per year — the figures for adults are comparable. So when the change was initiated, the Global Fund grant was primarily used to help change behaviors around treating an old and familiar disease with a new and different regime.

The first phase of the Global Fund-supported response went to training: some 5,000 health workers and 1,200 community health agents were given extensive support in learning how to use rapid diagnostic tests (RDT) and how to administer the new drug regime.

These tests helped to quickly establish a parasitological diagnosis within minutes — critical in areas where laboratory services were, and continue to be, non-existent. The grant also underwrote $10 million in commodity purchases: drugs, diagnostic tests and other critical elements for all of the country's 83 health districts.

That influx of Global Fund support enhanced services already in place since 2006 under the auspices of the non-governmental organization Care, itself a Global Fund PR. A careful, community-based approach to changing behavior and teaching people to trust the new drugs was initiated by Care in what Dr Aliou Ayaba, head of the Fund's programs for Care, said "was easier for the community than for the community health workers. Sick people do what they are told, and take the treatments they are offered. It was more the health workers who had to adapt, but fundamentally, there were no real challenges in implementing a new national policy."

By the end of 2006, 19 of the country's health districts had adopted the new regimen. By 2008, there were almost no monotherapies left in Côte d'Ivoire.

Supply chain challenges

By rights, this should be the end of the story — a successful transition to the right therapy and improved adherence to the best possible treatment for an insidious and perennial problem. Except that civil conflict, a lack of resources and a decimated infrastructure has left the country's supply chain in tatters. The problem is most acute in the remote regions, north in the area once controlled by rebels and west in the forested zones where lawlessness continues.

The health center in Doké, in the country's west, is a good example. "For two months we were without even a single dose of adult ACT, so we replaced it with [another drug, Coartem] but even that was running out quickly. We are also routinely running out of ACT for kids under 5," said Dr Gbesse N'Cho.

The empty wooden shelves at the Djouroutou health center are another stark reminder of the stock-out situation. Health care providers here are meticulous about counting and recounting stock, running out of virtually everything almost as soon as it comes in but somehow always finding one more dose of ACT somewhere to treat their patients. Stocks may have always run low since completing the transition to ACT, but somehow they never run out.

On the Liberian border in a town called Tai, it's not the drugs that are lacking but the RDT, said nurse Paulin Gbahi. "We ran out once last year, but it didn't last for too long," he said.

In order to make stock-outs as rare as monotherapies, Care in 2012 began to implement a system for village-based consultations for those Ivorians who live more than 5km from a health facility. "About 30% of the population lives in these zones, and we found that there are a lot of kids living in these areas whose fevers go above 40 degrees and a lot of pregnant women who simply cannot travel the distance to get the

drugs they need," said Dr Ayaba.

This has meant that, even though ACTs are made available for free by the Ivorian government, they are not reaching populations in need. A national health survey conducted in 2011-2012 showed that half of pregnant women who should have been treated for malaria were not. And among children under age 5 with high fevers who should have been tested and treated for malaria, only one in five received the right regimen.

With Global Fund support, the new national public pharmacy is hoping to change those figures in time for the next national health survey. Plans are in place to construct, and stock, new regional warehouses with ACT and RDT to limit stock-outs and promote better adherence. A first warehouse is set to open in Bouaké, the country's second largest city, by 2015.

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