Mali Researcher Shows How To Reverse Brain Drain

Relying mainly on homegrown talent, Doumbo leads a network in Mali that does state-of-the-art studies of mosquito genetics, tracks drug resistance, and tests new vaccines

BAMAKO, MALI—On a bluff overlooking a flat Sahelian landscape, evening finds most offices empty at the University of Bamako’s Faculty of Medicine. But a few lights remain on in the Malaria Research and Training Center (MRTC), and three Ph.D. candidates wait to speak with the director, Ogobara Doumbo. He leaves in a few days for Geneva to present new research affecting World Health Organization (WHO) guidelines on malaria prevention for children. But he makes space in the lab to discuss with a visitor what makes MRTC a paradox.

Doumbo, in his mid-50s but still looking like a student, smiles faintly when he speaks about his protégés, who recently led a roomful of top West African scientists through a comprehensive research discussion. Only in Mali, he says, will you find a critical mass of African Ph.D.s, with no loss to brain drain.

Bamako, a capital city of dusty streets on the banks of the Niger River, is not a place you expect to find a world center for research. Serving one of the world’s poorest countries, Mali’s health system is stretched to the breaking point. Yet on this bluff known as Point G, with a colonial-era hospital from 1906, Doumbo has built MRTC and nurtured, by his count, five generations of researchers committed to solving one of the continent’s most intransigent problems.

Since co-founding MRTC with support from the U.S. National Institutes of Health (NIH) in 1992, Doumbo has led it into state-of-the-art research on mosquito genetics, vaccine testing, and drug resistance. Furthermore, MRTC supports a network of research-affiliated clinics throughout Mali in very basic village settings. Doumbo has cultivated this cadre for 15 years, what he calls “the bush doctor initiative,” to bring top-quality medical research and practice to villages. The conditions would seem ripe for comprehensive research discussion. Only in Mali, he says, will you find a critical mass of African Ph.D.s, with no loss to brain drain.

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Doumbo, a son and grandson of traditional healers, grew up in a Dogon village 965 kilometers northeast of the capital. He first rode in a car as a teenager in 1971, to take his secondary-school certification exam in the town of Bandiagara. He never intended to go into research. “I really wanted to be a doctor and to serve in the bush,” he says.

After obtaining an M.D. degree at the University of Bamako and finishing a residency in internal medicine at Point G, Doumbo began to practice in 1981 at a clinic at Sélingué, about 2½ hours south of the capital. There he aimed to win over local skeptics of Western medicine. The many C-section deliveries he performed were dramatic proof that his methods could save lives. “He was famous for being the guy who handled complicated obstetric labor emergencies and surgeries,” Plowe says.

In Sélingué, Doumbo found larger problems: river blindness, schistosomiasis, and malaria. “I saw a lot of people suffering,” he says. He realized he could have greater impact by recruiting more young doctors to help. He returned to his studies, earning an M.Sc. in tropical medicine from the University of Marseille studying under parasitologist Philippe Ranque and a Ph.D. in parasitology from the University of Montpellier.

Doumbo also saw a role for indigenous medicine. Pragmatically, he saw traditional healers as scarce health care providers already treating rural dwellers, often with useful local knowledge, and thought it better to gain them as partners. “The best way to promote traditional medicine is to show that both types of medicine can work together to resolve a public health problem. This is what we are doing with malaria.”

Choosing partners

Harold Varmus, Nobel laureate and now director of the U.S. National Cancer Institute, visited Mali when he was NIH director in 1997 and traveled to several remote villages. “Doumbo and his senior colleagues grew up in villages without electricity, worked hard
Doumbo has mastered the metaphors that get politicians’ attention. He compares malaria’s toll to three tsunamis every year and says: “Africa has lost a lot of Einsteins, a lot of Pasteurs, a lot of Bill Gateses because of malaria. And if you’re able to eliminate malaria, you will see it increase the general creativity in a country and the scientists will burn out and exit,” Ogutu says by e-mail. Mbacham has given responsibility to those Mbacham calls “generation F2, who now begin to have their own teams and success stories.”

One star of the younger generation is Abdoulaye Djimdé, who started at MRTC in 1993 after putting himself through the University of Bamako’s Pharm.D. program. Djimdé was managing a pharmacy in the mornings and volunteering at MRTC in the afternoons, Plowe recalls. Doumbo assigned the young pharmacist to learn a technique for identifying gene mutations and later, with Plowe, arranged for Djimdé to attend short-term training at NIH. Typically, a director would feel obligated to send a more senior technician, Plowe says, but Doumbo made an exception “for somebody who he thinks has that spark that’s going to lead to success.”

Plowe and Doumbo helped Djimdé get into a Ph.D. program at the University of Maryland, Baltimore. He returned to Mali in 1999 with a research plan and prospects for a grant. “That collaboration,” Plowe says, “led to a lot of good work published over the years.” Djimdé heads MRTC’s drug resistance unit and is the first person from West Africa to receive a Howard Hughes grant.

“It really is a meritocracy,” Plowe says, “which I think is unusual.”

As night falls with his Ph.D. students waiting, Doumbo describes the key factors for keeping talent: careful selection of staff from among the medical students, a mentor for each graduate student going abroad, and workshops on subjects such as grant-writingso they can find funding for research on their return. “Maliang don’t like leaving their country,” Doumbo says. “I never even ask them to come back. Never. I say, ‘It’s up to you if you want to join the team and help the population.’ But they all come back.” Varmus says the strategy works well, in part “because the students have a good place to which to return to do research.”

Doumbo’s emphasis on self-sufficiency, stemming from his own background in a remote village, may be a wave of the future. “I think we’re in a period in Africa where you can no longer centralize,” he says. “We have no choice but to go toward decentralization for all activities, to give responsibility to people.” In community-based medicine, people find their own solutions. “That’s why I’m confident that will be the future of Mali and the future of Africa.”

—DAVID A. TAYLOR

David A. Taylor traveled to Mali with support from the International Reporting Project.