

With ETHIOPIA

The U-M reaches around the world



It was a chilly Saturday in Ethiopia when Semgn, a 30-year-old mother of one, began to worry that her life was in danger. Health workers at a clinic near her home in West Shoa had just diagnosed severe hypertension late into her second pregnancy, and she was promptly shuttled to the emergency room at St. Paul's Hospital in the capital city of Addis Ababa. It was a bewildering experience for Semgn, but on Tuesday

— following a failed induction, a spinal anesthetic and a successful caesarian section — she is relaxing in St. Paul's postnatal room with a tiny newborn at her side, swaddled in light blue. Rainy season is underway, but a burst of late-morning sunshine lights up the whitewashed windows as Semgn reflects on her delivery.

“When I was sent from the clinic to the hospital, I was nervous. I thought I might die,” she says in Amharic, Ethiopia's

BY JACEY FORTIN
PHOTOGRAPHY BY MICHAEL TSEGAYE AND AUSTIN THOMASON

NOTE: In Addis Ababa, Ethiopia, a person's name consists of a given (first) name and a second name, which is usually their father's given name, rather than a consistent family surname. Therefore, when using a single name to refer to a person who lives in Ethiopia, it is most common to use the person's given name, rather than their second name, to avoid confusion.

Alana Pinsky, 22, a second-year U-M medical student, and Ferid Abbas Abubeker, M.D., 28, a third-year St. Paul's OB/GYN resident care for an Ethiopian mother and her newborn in the postnatal ward at St. Paul's.



national language. “But once I got here, I was comfortable.”

Sitting beside her is Ferid Abbas Abubeker, M.D., a resident in gynecology and obstetrics at St. Paul’s Hospital Millennium Medical College. On the lapel of his white coat is a pin depicting two flags. One bears Ethiopia’s national colors of green, yellow and red; the other has the U-M’s block M.

Ferid credits U-M faculty with helping St. Paul’s doctors and medical students learn to prioritize treatments for emergency room patients. In Semgn’s case, that meant getting the young mother into the labor ward in time to prevent any serious complications.

That’s just a small example of U-M’s wide-ranging work in Ethiopia. For three years, Michigan faculty members, researchers and fellows have been making the 7,000-mile trip to Addis Ababa to help train faculty and students at St. Paul’s and other institutions. Ferid himself is three years into a residency program that would be nonexistent in its current form were it not for the ongoing partnership between U-M and the Ethiopian Ministry of Health.

The pin on his lapel, says Ferid, was a gift from Senait Fisseha, M.D. (Residency 2003 and Fellowship 2006), associate professor of obstetrics and gynecology.

The Matchmaker

Ask any St. Paul’s faculty member about “Dr. Senait,” and you’ll hear her praises sung. She was instrumental in cementing the partnership between U-M and the Ethiopian Ministry of Health, a task that is ongoing and unrelenting. Her work can be as complicated as helping universities develop curricula for brand new courses of study, or as mundane as arranging rides for visiting U-M faculty members. Her inbox is constantly pinging with messages from internationally renowned American doctors, high-level Ethiopian government officials and medical students on both sides of the Atlantic.

“There’s so much to do, and you want to get involved in everything,” she says. “So for me, that’s the biggest challenge. I wish I could be in 20 places at the same time.”

Senait left Ethiopia shortly after finishing high school. That was in 1989, a time of political change in the country. The Derg, a communist government known for persecuting political opponents and exacerbating the terrible famine of the 1980s, was faltering amid widespread discontent and a slowdown of Soviet support. Rebels overthrew the Derg in 1991, and the coalition they established remains Ethiopia’s ruling party to this day.



For visiting U-M faculty members, the difference between American and Ethiopian health care facilities like St. Paul’s (pictured above and on page 31) is stark.

But Senait didn’t leave for political reasons; she traveled to the U.S. with every intention of returning. “Partly from growing up witnessing the burden on women in our community, I’ve always been interested in women’s health,” she says.

After completing a joint M.D. and J.D. program, she began her OB/GYN residency at U-M. Her schedule was tight, but she traveled to Ethiopia whenever she could to meet with medical professional and government officials.

That networking paid off in 2011 when Ethiopia’s then-health minister, Tedros Adhanom Ghebreyesus, Ph.D., traveled to the U.S. to accept a humanitarian award, and Senait invited him to visit U-M. By that time, the university had already spent decades collaborating with medical schools and health officials in Ghana, and Tedros asked U-M to launch a similar partnership in Ethiopia. That was in March; in April, a U-M delegation traveled to visit St. Paul’s Millennium Medical College.

Making Waves

From the day it first opened its doors in 2007, this medical school had been unique.

“It started as a school with a different path; a pathfinder in its own right,” says Tedros, who became Ethiopia’s Minister of Foreign Affairs in 2012. “Teaching that combines theory and practice can really help students to grasp more, to understand their subject, to



gain skills.”

The school quickly became a focal point for U-M.

“St. Paul’s was a medical school only teaching undergraduate students,” says Zerihun Abebe, M.D., the school’s provost. “When Senait came here, she didn’t just bring herself. She brought this big ‘M’. And, with Michigan, now there are residency programs in gynecology, general surgery, radiology and internal medicine.”

Additional residency programs in ophthalmology and anesthesiology and fellowships in cardiology and nephrology are in the pipeline, as is a plan to start a renal transplant program at the hospital. That will be a huge step forward for the country, which currently has no surgeons able to perform the operation. But with U-M’s capacity-building help, the goal could be achievable within months, says Jeffrey Punch (M.D. 1986, Residency 1992), the Jeremiah and Claire Turcotte Professor of Transplantation Surgery.

“Kidney transplantation is a highly technological undertak-

ing,” he says. “But it has been done by other neighboring countries in Africa, and I believe it can be done in Addis.”

St. Paul’s is far from the only beneficiary of U-M’s partnership with Ethiopia. The Addis Ababa Institute of Technology, for instance, has invited U-M engineering students to help with its work in biomedical technology. In rural areas where quality educators are scarce, U-M faculty members have offered their teaching services. At Addis Ababa University, U-M staff members are helping administrators design a new curriculum for a master’s degree in medical education. And at Black Lion, the country’s largest public hospital, U-M is setting up a research collaboration to study breast cancer.

U-M, too, is reaping incredible rewards from its work in Ethiopia. Students and faculty who make the trip see medical conditions they’d rarely come across in the United States – especially when it comes to mature diseases. Michigan faculty and students can read about these conditions in textbooks, says Zerihun, but seeing them in person is a whole different matter.

“When people come here – I’m not proud of it, but I’m only describing what’s on the ground – they see fully matured diseases,” he says. “They also learn how to diagnose, how to deal with patients, with few gadgets.”

The partnership also furthers U-M’s mission by cementing its place as a world-class academic institution whose reach extends far beyond Ann Arbor, says Punch, adding that the benefits at home are tangible.

“Clinical trials that wouldn’t be possible in the U.S. [due to a lack of patients] may be possible through our collaborations. Important advances can come from this work, and funding agencies know this, so they are willing to sponsor this work, as



Top (Left to right): Emilia Iglesias, 20, a U-M junior; Sunasia Echols, 19, a U-M senior; and U-M junior Ninette Musili, 19, work in the lab with at St. Paul's with Ethiopian lab technicians. **Bottom:** Senait Fisseha, M.D., (center) chats with Dr. Lia Tadesse and Dr. Zerihun Abebe at St. Paul's Hospital Millennium Medical College.

are pharmaceutical companies. The results help [the] understanding [of] diseases, which is a universal good, benefiting everything in the world, not just the populations being studied.”

One case in point is a recent anonymous grant of \$25.5 million, which was awarded to Senait based on her preliminary work integrating comprehensive family planning into medical education at St. Paul's. That money will go to establish a center for international reproductive health training at the U-M, which will help Senait to scale up reproductive health training in seven other medical schools in Ethiopia.

Defining Roles

U-M's exact mission in Ethiopia can be hard to pin down, but that's because its approach has always been flexible and needs-oriented. There is no playbook. Faculty on both sides of the partnership understand that American

health care practices can't always be replicated overseas, and that Ethiopia, Africa's second-most populous country, is up against some decidedly non-American challenges. Diseases like tuberculosis, malaria and HIV are far more prevalent here than they are in the West. A lack of resources often leads to supply shortages at health care centers. Patients in rural areas are sometimes unfamiliar with basic preventative measures they could take to improve well-being.

Addressing these problems is up to the government first and foremost, says Mengistu Hailemariam, M.D., advisor to the Ministry of Health. Ethiopia has already made great strides. A health care extension program has boosted access to basic care for millions of citizens in rural areas, and government surveys



show that mortality rates have decreased by 23 percent, and under-5 mortality rates by 28 percent, from 2005 to 2011.

But this Horn of Africa nation still needs good doctors. Many aspiring Ethiopian physicians head to the United States or Europe for study or work, and some of those who remain were educated according to outdated standards. In response, the government has invested heavily to establish new medical schools with fresh curricula. One of those was St. Paul's Millennium Medical College, which was the first to report to the Ministry of Health rather than the Ministry of Education.

“For anything happening in St. Paul's currently, Dr. Senait's and the University of Michigan's support has been instrumental. We have seen tremendous change,” says Mengistu. “Those



Carrie Bell, M.D., teaches a room full of OB/GYN residents.

graduates are doing a really enormous job in the community. They understood before their graduation what the problems were like, because of their exposure to the new curriculum.”

But even these well-prepared graduates have a trying path ahead of them. At St. Paul’s – as at most health care facilities across the country – overworked staff struggle against a constant undercurrent of mayhem. Patients crowd the hallways at all hours, jostling to be seen by a tightly stretched medical team. Sometimes there isn’t enough blood available to treat severe injuries. Sometimes the elevators don’t work, forcing staff to carry patients up several flights of stairs. Sometimes supplies run out, leaving nurses without gloves, sinks without soap and bathrooms without toilet paper.

Systemic Differences

For visiting U-M faculty members, the difference between Ethiopian and American health care facilities is stark.

“Resources are a huge issue,” says Sue Anne Bell, Ph.D., an assistant research scientist at U-M’s School of Nursing.

It’s a busy Tuesday morning, and Bell is enjoying a quick macchiato at the hospital’s outdoor canteen before heading back to work. She has been a frequent U-M visitor to Ethiopia since the collaboration began and is also deeply involved with the Ghanaian partnership. At St. Paul’s she focuses on the hospital’s nursing team, which involves giving lectures, meeting with nurse managers and piloting a research study

on patient safety.

Bells’ husband, Jason Bell, M.D., an assistant professor of obstetrics and gynecology, is another of U-M’s most frequent visitors to Addis Ababa. Scarcity of resources is something he deals with regularly in his work with St. Paul’s OB/GYN department, and those experiences spill over into his teaching in Michigan, where he sees American medical students taking their supplies for granted.

“I think my residents sometimes get tired of me saying, ‘You’re wasting a suture! Why are you wasting a suture?’ They say, ‘Oh, you must have just gotten back from one of your trips!’”

Like Sue Anne Bell, one of Jason Bell’s many responsibilities at St. Paul’s is to deliver lectures. Usually he focuses on OB/GYN-related topics, but this morning was different. Bell had been called upon to enlighten residents – many of whom are shy about public speaking – on the art of presentation. In a bare-bones lecture hall beside the labor ward, he advised them on how to prepare an outline, make eye contact and quit the mumbling. The audience laughed when he admitted how hard it can be to keep a classroom’s attention.

“You are all residents, so you’re overworked, underpaid and have sleeping problems,” he said, singling out the half-awake people in the back row.

A Room of One’s Own

Aside from lectures, Jason Bell participates in surgeries, helps residents with research reviews and does his best to accommodate any requests from St. Paul’s faculty members.

On this trip, for instance, he brought several medical textbooks at the request of Balkachew Nigatu, M.D., St. Paul’s OB/GYN Residency Director.

“The leadership of the department has an idea where the department’s going,” Jason Bell says. “My goal is to work on projects that are mutually beneficial, that fit into everyone’s research goals.”

Those textbooks came in handy the following week, when the hospital inaugurated a quiet study room called the Learning Resource Center – an attempt to help residents, many of whom are swamped with service delivery, to focus on their research.

The day after the inauguration of the resource center, Balkachew opens the locked door – all the residents have keys – and surveys the setup. The walls smell of fresh paint, and they’re lined with new PCs and a few Mac computers, complete with slick, Bluetooth-enabled keyboards and massive flatscreens. The computers, along with some of the books lined up neatly in the



Above: Yeshiwondm Mamuye, 28, a microbiologist and chief medical laboratory technologist at St. Paul's works in the lab with Jason Bell, M.D. **Left:** Tedros Adhanom Ghebreyesus



cabinets above, were purchased with U-M grant funds.

"The residents should learn, not just give service," says Balkachew. "So that's why we want this room. Service is really demanding, but now they have resources and a place to read."

At his side is Carrie Bell, M.D., – no relation to Sue Anne or Jason Bell – who is on her fifth visit to Addis Ababa. She admires the brand new books and gleaming Macs for a minute before heading down the hall to deliver a lecture to a small group of OB/GYN residents.

34 Her topic is the placenta. In class, the students pay close

attention as Bell, a U-M assistant professor of obstetrics and gynecology, touches on everything from endometrium proliferation to decidual cells to prenatal pertussis vaccinations. She lightens the mood with stories about her experiences working in the West African country of Niger, where mothers were urged to bury their placentas to bring rain, and then recalls instances where women in the United States ate the organ for its health benefits. Subdued laughter ripples through the class, but Bell tells them that cultural practices like these – as long as they're safe – deserve respect.

Bell also participates in surgeries and helps to create hands-on simulations so that medical students can practice their skills before dealing directly with patients. But she insists that although St. Paul's faculty and students have learned some things from her, the collaboration has enhanced her own work even more.

"It has been very humbling to come here, and every time, I gain a greater appreciation for how people care for women in a variety of ways," she says. "Learning new techniques keeps a teacher humble and open to new ideas."

Ways of Learning

U-M faculty members aren't the only ones making the trip to Addis Ababa; medical students and even undergraduates have been part of the collaboration.

On a Tuesday afternoon Ninette Musili

and Emilia Iglesias, both rising U-M juniors, and Sunasia Echols, a rising senior, are at the laboratory to observe and assist practitioners in diagnostics and point-of-care testing. But what they've learned goes far beyond medical care; they say the laboratory staff are adept at doing great work with few resources and that the doctors they work with are nothing short of inspiring.

"It's kind of amazing how much they do without access to all the things we have at home," says Musili. "At home you can go to the clinic, and they take your blood, they run all the tests, and before you know it the results are back. It's so smooth, you don't even think about it. But then you come here and you see the ingenuity they have with running the tests, making their own solutions – how much they do with what little they have."

Upstairs in the labor ward is Alana Pinsky, a U-M student in her second year of medical school. She's been in Addis Ababa for about two months conducting a needs assessment on safe conception services for HIV-discordant couples, which involved looking at infrastructure, talking to service providers and interviewing patients at the St. Paul's HIV clinic.

"This is my first time doing international research, and it's different from anything I've ever done," she says. "I've done some basic science research in a laboratory; I've done some clinical research on the computer. But this was a lot more about talking to people and finding out their opinions."

She, too, is just days away from heading back home. With her work almost finished, she's taking some time to shadow Ferid, who often leads groups of interns through rounds in the labor ward, gently quizzing them on patients' medical records as he checks up on recuperating young mothers.

A Medical Movement

The third-year resident is a good man to follow; he and six others make up the most senior batch of residents at St. Paul's. Before beginning the program, Ferid saw first-hand examples of the very problems Ethiopia and U-M are working to fix: a shortage of good physicians, a lack of specialized education and a dearth of good facilities in remote areas.

Typically, aspiring doctors study medicine during their undergraduate years and then spend at least two years as general practitioners – often in remote places – as mandated by the federal government. After that, physicians are free to enter into private practice. But those who want to gain expertise in a particular specialty can enter into a residency program instead.

Ferid did his two years of medical service in the Ogaden, an Ethiopian region bordering war-torn Somalia. His hospital in the rural town of Degehabur had a general surgeon, but no obstetrician. A 100-mile road connects Degehabur to the better health care facilities in the regional capital Jijiga, but it wasn't always accessible due to security issues.

"Sometimes the ambulance driver would say, 'No, I will not go there at this time,'" says Ferid. "But if you delay a cesarean section by one or two hours, you will see the consequences right there."

Ferid's experiences motivated him to specialize in obstetrics. Upon hearing that St. Paul's offered a uniquely modular program of study, he moved back to Addis Ababa in 2011. Several months passed before Ferid heard about the new OB/GYN residency program that U-M had helped launch. He took an exam and was accepted, though he had no idea what lay ahead.

"Personally I'd never had experience with that kind of partnership with a university abroad, so we didn't know what it was going to be like," he says.

Three years later, no one knows what it's like better than Ferid. He and other St. Paul's residents are at the forefront of a new generation of Ethiopian physicians, bolstered by just the right mix of training, research and hands-on experience. For this country of over 90 million people, programs like the one at St. Paul's Hospital Millennium Medical College could soon prove indispensable; and U-M itself has played an indispensable role in helping the program thrive. Since he was able to get a quality education in Addis Ababa, his hometown, Ferid has no plans to leave Ethiopia. That's one less physician lost to brain drain – something both the government and U-M can be proud of.

"St. Paul's is still one of the very few universities we have doing specialty training in obstetrics and gynecology," says Tedros. "The shortage is incredible, but they're addressing [it]. And doing that is not only going to help improve the services, but these guys graduating will also help by training others, so it will have a domino effect."

That's great news for Ethiopia, but the work is far from over. Senait's current project – one of many – is to come up with a charter of collaboration between U-M and its key partners in Ethiopia. It will involve much more than residency programs; her goal is to make St. Paul's and other institutions into well-established centers for service, research and training.

"We want to be here as long as we are needed," she says. "However long we are around, we want the partnership to be mutually beneficial." [M]

