



# CALLED TO HELP AND HEA

BY WHITLEY HILL

U-M physicians and nurses take Michigan medicine to developing countries – and in the process remember why they practice medicine in the first place

In 1964, Susan Thoms, M.D., then a high school student at the Liggett School in Detroit, attended an event she's never forgotten: the screening of a documentary film about the hospital ship Hope that sailed to underprivileged countries to deliver medical care to those in need. "It's still vivid in my mind," says Thoms, clinical assistant professor in the Medical School's Department of Ophthalmology and Visual Sciences. "I thought, 'I want to do that someday.'"

The idea haunted Thoms throughout medical school and the early years of her practice. "I vowed that by the time I was 50 I would do some kind of trip." In 1996, when she turned 49, Thoms contacted several organizations that facilitate medical trips for physicians. Within a week, See International called to ask if she'd be interested in taking a laser to Mongolia; she didn't hesitate. Thoms accompanied the laser to the hospital in Ulaan Baatar and instructed Dr. Chimgee Chuluuhuu in its use. Since then, it has saved the sight of hundreds.

Last year, Thoms returned to Mongolia through Orbis, an international organization that seeks to end preventable blindness by the year 2020. The group's Flying Eye Hospital Plane brings top surgeons, staff and state-of-the-art equipment directly to underprivileged countries. But other Orbis missions have different goals. For her 2004 trip, Thoms was joined by

Theresa Nairus, M.D. (Residency 2001, Fellowship 2002), clinical instructor in ophthalmology and visual sciences. The pair's charge: to set up Mongolia's mentoring program, Cyber-Sight, created to save vision while providing critical educational enrichment to physicians who are desperate to learn.

Though deeply devoted to helping people in their country, Mongolian ophthalmologists — along with physicians in most developing countries — simply do not have the advanced education and technical training of their American counter-parts. Explains Nairus, "These doctors have no college education prior to attending medical school, and they study ophthalmology for only one year." Cyber-Sight establishes a high-tech mentoring relationship between indigenous and American physicians. Nairus and Thoms took digital cameras and computers to the Mongolian capital of Ulaan Baatar and instructed local ophthalmologists in their use. Today, the Mongolian doctors can photograph a patient's eye, send the image and their questions to a Web site, and hear back

from a participating American physician within 48 hours.

But the trip also had educational and clinical elements. Thoms trained Dr. Enkhmaa Purev to perform modern cataract surgery. Nairus took three corneas donated by the Eye Bank Association of America so that she could train local physicians to perform a transplant. Working closely with Dr. Munkhtsetseg "Muugii" Tsrendash, Nairus saw 60 patients over three days; 30 were candidates for a cornea transplant. Twenty-seven were turned away. ▶

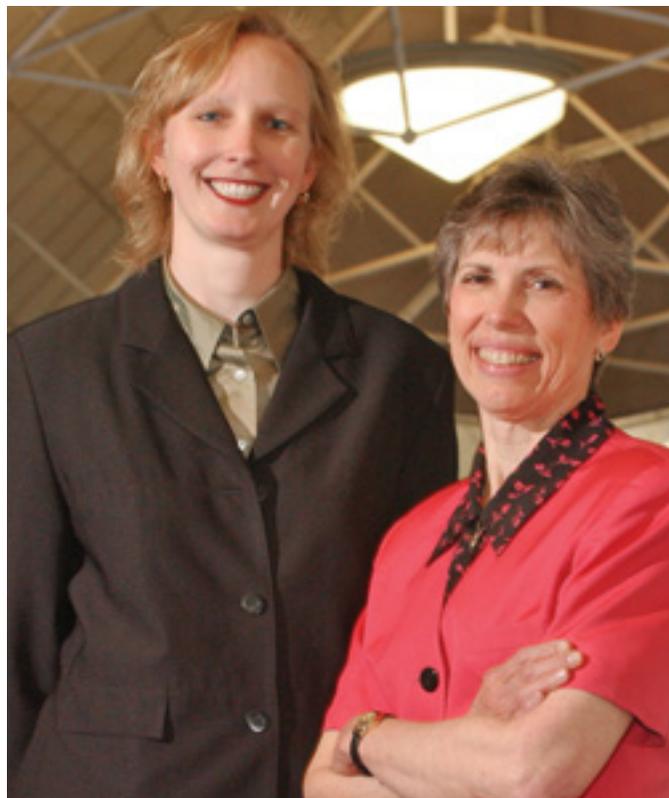


Photo: Martin Voet

Theresa Nairus and Susan Thoms

“I had to be very selective about who could get the most use out of a cornea for the longest time,” says Nairus. “One 16-year-old boy showed up three days in a row, in a suit, hoping to be picked.” The boy, unfortunately, lived too far away to receive the follow-up care that would have improved his chances for success, and could not be chosen.

Thoms and Nairus plan to continue their work in Mongolia and value the opportunity to share knowledge with physicians in developing countries. The physicians they worked with were all women — 75 percent of Mongolian doctors are female — and they impressed the American doctors deeply. “They’ve

learned to work with limited resources, and they do a very good job.” Nairus is working with the Mongolian doctors she now regards as friends to set up an eye bank so that no one who needs a cornea — like a persistent teenage boy wearing a suit — has to be turned away.

Photo: Martin Viet



Virginia Nelson

**“If I can help one child, well, that helps one child. But if I can teach doctors in developing countries, that helps many children.”**

—Virginia Nelson, regarding her work in Africa

Virginia Nelson, M.D., a clinical professor in physical medicine and rehabilitation in the Medical School, recently completed her fourth trip to Africa with CURE International, an organization which establishes and operates teaching hospitals in the developing world to aid disabled children and their families. Nelson has visited hospitals in Kenya, Uganda, and Malawi, working closely with doctors as well as patients. Nelson, like Nairus and Thoms, seeks to make the greatest impact possible when she undertakes a medical mission.

“CURE’s philosophy, and also mine,” she says, “is that if I can help one child, well, that helps one child. But if I can teach doctors in developing countries, that helps many children.”

Some of this teaching is practical — protocols for treating children with a wide variety of physical disabilities — and some of it reflects the need for wide shifts in a culture’s way of thinking about disability. “This is such a new idea in Africa, and in much of the developing world,” says Nelson, of the view that disabled children have both potential and a place in the fabric of society. “People with disabilities have just been put in the back room or left to die.”

In February of this year, Nelson traveled to Malawi, along with two U-M residents and others, to spend three weeks at the newly opened Beit Trust CURE International Hospital in Blantyre, “a very nice, clean city,” says Nelson. Still, while the facilities were pleasant, the team had their work cut out for them.

“We went in as consultants,” Nelson says. “The physicians had no clue what a rehab doctor does. Their cast room needed to be organized. They wanted us to look at some length-of-stay data and chart organization and administrative structure. We did some teaching of physicians and nurses in the burn unit at nearby Queen Elizabeth Central Hospital, and some morning rounds with the pediatricians there. It’s very

interesting. The surgeons did not recognize cerebral palsy, or rickets. They'd just say, "This kid has a crooked leg."

It's not only physicians who feel called to help and heal thousands of miles from home. In 2004, four Holden Neonatal Intensive Care Unit (NICU) nurses traveled to a small town in Honduras, and they came back changed and charged.

Nurse Brenda Hershberger learned of an Ohio-based relief organization called International Services of Hope/Impact which has sponsored medical and

humanitarian aid throughout the world since 1958. In 2003, a Toledo orthopaedic surgeon named Glenn Carlson and his wife, podiatrist Kim Carlson, had traveled to Danli, Honduras, as part of the program and performed 19 operations in one hectic week. The couple was ready to return to Honduras but needed a nursing staff. Hershberger and her coworkers signed on and spent months raising the funds to go. In August of last year, the team arrived in Danli and almost immediately the tiny Clinicas San Lucas was mobbed with people.

"One of the patients was 19, a single mother of two who had slipped in the

mud and broken both bones in her forearm five days before we came," recalls Hershberger. "She took a bus for three hours and got dropped off at the clinic. We put pins and screws in her arm from donated kits and were able to put her arm back together."

In one week, the team saw over 200 patients and performed five surgeries. They gave out back braces, vitamins and antibiotics — and delivered hundreds of plastic buckets filled with food throughout the town and outlying areas. But for every patient they were able to help, there were many more they could not, given the limitations of time and equipment. Then they met four-month-old



Photo: Martin Voet

"I watched those doctors as they just ran from patient to patient and I thought, 'If we had just one more doctor, how many more we could see!'"

—nurse Brenda Hershberger, who plans to pursue an M.D.

Arianna. "The child had total anomalous pulmonary venous return," says Hershberger, "an uncommon heart defect in which the blood vessels go to the left side of the heart instead of the right. Doctors in the capital had told the mother that her baby was going to die. She came to us hoping there was something we could do. Well, we work with Dr. Bove!" Edward L. Bove, M.D. (Residencies 1977, 1979), the Helen F. and Marvin M. Kirsh Professor of Cardiac Surgery, head of the Section of Cardiac Surgery and director of the Pediatric Congenital Heart Program at C.S. Mott Children's Hospital, is a renowned pediatric cardiac surgeon and an internationally recognized expert on hypoplastic left heart syndrome. ➤

Brenda Hershberger, R.N. (center), with two of the nurses who traveled to Honduras with her, Marie Ahkao, M.S.N., N.P.P. (right), and Tamara Christensen, R.N. (left)

The nurses got busy slicing through the “tons of red tape” that prevented the child from leaving Honduras. They committed to raise \$10,000 if the U-M would cover the rest of the cost of Arianna’s surgery. Back in Michigan, they raised funds aggressively. And, in late December 2004, mother and child arrived in Ann Arbor where Bove and assistant professor of cardiac surgery Richard G. Ohye, M.D., repaired Arianna’s heart. Two weeks later, the infant was back home and doing well.

Hershberger says she’s a different person from the one who first arrived in Honduras. The 43-year-old mother — and grandmother — is took her MCAT boards in April. “I want to go to medical school,” she says. “I watched those doctors as they just ran from patient to patient and I thought, ‘If we had just one more doctor, how many more we could see!’”

The Holden NICU nurses are heading back to Danli later this year.

**T**he rate of spina bifida and other neural tube disorders in Guatemala is the highest in the world, according to the International Federation for Spina Bifida and Hydrocephalus. While there is a clear genetic basis for this, another factor is believed to be the prevalence of fumonisin, a toxin caused by corn mold. When ingested, fumonisin builds up in the body and blocks the absorption of folic acid — critical to fetal development. In countries like Guatemala, where poverty is rampant, corn is often improperly stored, grows moldy, and is eaten by people for whom the concept of wasting food is incomprehensible. The U-M’s Project Shunt was created to help Guatemalan babies and children born with neural tube defects.

In 1997, Nick Boulis (Residencies 1995 and 2001) was a U-M neurosurgery resident trying to figure out how to link his passions for medicine, health and human rights. After graduating from Yale in 1988, and before entering Harvard Medical School, he had done human rights work in Haiti and relief health care in Nicaragua, Costa Rica, and the Dominican Republic. He recalls, “I had always wanted to do relief work in Latin America, but I didn’t know how to do it as a neurosurgeon.”



Photo: Courtesy Nick Boulis

**Nick Boulis with 3-and-a-half-month-old Guatemalan patient Bryan and Bryan’s mother. Bryan underwent surgery to repair a congenital skull abnormality.**

The answer came to him in the form of Kathy Kentala, then a U-M trauma nurse. Kentala had worked with a relief organization called Healing the Children, which has branches in 14 states. She asked Boulis if he was interested in going to Latin America to work on hydrocephalus cases.

“I said, ‘absolutely,’” says Boulis, who today serves as associate staff physician for the Center for Neurological Restoration at the Cleveland Clinic. “I began long term work with Healing the Children. I raised money for a fact-finding mission, to see if this was even feasible. I got \$3,000 from Elekta and Cordis — neurosurgery device companies — and arranged to fly to Guatemala to hook up with the Pediatric Foundation of Guatemala. I spent a week evaluating patients in the foundation clinic — mostly kids with neural tube defects (hydrocephalus, spina bifida and tethered cord syndrome).” An anesthesiology resident and operating room nurse joined him to tour local hospitals where the foundation had hosted missions in the past, to determine what would be needed to deliver quality care. “We all

reached a conclusion that yes, this was something we wanted to do and that it was absolutely an ethical thing to do.”

Ethical? In fact, the debate about the appropriateness of such expeditions has only recently died down. “Is it ethical to go there and implant a ventricular peritoneal shunt and then leave?” muses Boulis rhetorically. The availability of follow-up care, which patients receive treatment and which do not, the economic impact of the program, the safety of relief workers in areas of instability — these issues and more have demanded discussion. “Whenever we as a First World country intervene in the Third World, we have to ask ‘Can we do this in a culturally sensitive fashion?’ Instead of going there and saying, ‘Gosh, we’re from the U.S. and we’re going to fix everything for you.’”

Boulis returned to Ann Arbor and began to “beg, borrow or steal” for the trip to Guatemala. “All we would have there was a ward,” he recalls. “A room with a table, and maybe a light. Shunts, gauze, saline solutions, cautery, sutures, suction instruments, the equipment to sterilize —



Photo: Courtesy Karin Muraszko

“The mothers come to you off the backs of trucks having ridden down mountains, carrying their children, smelling like wood smoke.”

—Nick Boulis, who founded Project Shunt as a U-M resident

Three women look on from a boat in the lake district in Guatemala, where Muraszko’s team traveled on one of their missions.

none of that existed, or we couldn’t count on it.” Medical supply and shunt companies agreed to donate equipment and shunts. Boulis learned that the Detroit Veterans Administration had closed its Allen Park hospital and the building was abandoned with all its equipment intact. With permission to take whatever he needed, he loaded it all into his Chevy Blazer and stored it in his basement. At the end of the year, his basement was filled with surgical equipment which Healing the Children then shipped to Guatemala.

Early on, Boulis asked Karin Muraszko, M.D., now chair of the Department of Neurosurgery, to lead the medical team. Muraszko said yes. “She trusted this midlevel resident and was willing to go to a country where war had just ended two years before!”

In 1998, the physicians of Project Shunt performed 18 surgeries in Guatemala, with no mortalities. Says Boulis, “The mothers come to you off the backs of trucks having ridden down mountains, carrying their children, smelling like wood smoke. When we first got there, they lit fireworks and gave us a standing ovation. People had been waiting all night for us to arrive. We operated non-stop, ate and slept very little.

“It was one of the most powerful experiences we had ever had.”

Boulis left Michigan in 2001, but continues his involvement with Project Shunt. “Every year it becomes harder to find the time, but when I get down there I realize that it’s the most important part of my career. When I think that it started with donated equipment in my basement

and a vague idea, it makes me so proud. It rejuvenates my spirit and makes me glad to be a doctor,” says Boulis.

Still primarily a resident-organized effort, the scope of Project Shunt has grown under Muraszko’s watch. In addition to the surgical component — nearly 200 operations since the project started — the team distributes vitamins for at-risk mothers and works closely with local physicians and surgeons. “We’ve trained and helped to train some pediatric general surgeons so they can take care of these kids,” says Muraszko. “The foundation now has a surgeon who can do some of these procedures. We spend time educating their nurses, doctors and pediatricians. We give lectures. And we work very hard with industry vendors to provide them with supplies — suture ➤



Photo: Courtesy Brenda Hershberger

A garbage dump in Danli, Honduras, where the poor went to look for food. Brenda Hershberger's team provided the locals with white 5-gallon buckets (shown) containing corn, dehydrated barley soup, or dehydrated chicken/rice meal.



Photo: Courtesy Nick Boulis

Angel, a patient of Nick Boulis' in Guatemala, rests in his hospital bed.



Photo: Courtesy Susan Thoms

Theresa Nairus and Susan Thoms take a much-deserved break from their clinical duties in Mongolia.

See more photos at [www.medicineatmichigan.org/magazine](http://www.medicineatmichigan.org/magazine).



Photo: Courtesy Virginia Nelson

Mothers hold their children tight as they wait to be seen by doctors at the CURE Bethany Crippled Children's Centre of Kenya, where Virginia Nelson practiced in February 2003. The porch functions as a waiting room for the clinic, which was held in a cramped room in an abandoned hospital with one light bulb and no running water. Nelson eventually started seeing patients on this porch, where there was more room and better light.



Photo: Courtesy Susan Thoms

Theresa Nairus screens an ophthalmology patient in Mongolia.



Photo: Courtesy Karin Muraszko

Karin Muraszko with a patient in Guatemala

materials, antibiotics, ointments, dressings and shunt materials. These are extremely expensive.”

But, she adds, the educational component of the mission goes both ways.

“Three neurosurgery residents go down each year with graded levels of responsibility. It’s a wonderful educational experience — they’re seeing a very complex spinal anomaly.” And, Muraszko adds, the profound limitations of the facilities force these young doctors to look at medicine in a new way. “What do they really need to get an operation done? Five thousand things? Or can you do a safe operation with less?”

In the United States, the surgeries the team does in one week would total, Muraszko estimates, between \$2-3 million. Yet the price tag for sending some of the world’s top doctors and nurses thousands of miles to operate on some of the world’s poorest — and most desperately ill — children, totals not quite \$30,000. Muraszko and Suresh Ramnath, clinical

instructor in neurosurgery, are currently the key fund-raisers for the project. “I don’t accept honoraria for lectures,” she says. “Instead, I just put them into Project Shunt.” Each year, she adds, the team brings back goods from Guatemala and sells them to raise money. Bake sales help, as do contributions from others in Muraszko’s department and elsewhere in the Health System.

**T**here’s something almost miraculously unifying about these missions. On one side: some of the world’s top physicians — people with years of expensive education and experience, people comfortable with the most advanced medical technology and familiar with the latest research, people who love their kids and would do anything for them. On the other side: people with little more than the clothes they’re wearing, people for whom any education at all is deemed a valued prize, people who work with simple,

“Almost everyone who has been on this trip has come away with the same reaction,” says Muraszko. “You remember why you’re a doctor.”

humble tools and grow their own food — people who love their kids and would do anything for them. On these missions, they meet in the middle and everybody wins.

“Almost everyone who has been on this trip has come away with the same reaction,” says Muraszko. “You remember why you’re a doctor.” 