



THE WHEELS PROJECT

A TEAM OF OU RESEARCHERS AND STUDENTS BRING WHEELCHAIR MOBILITY RESEARCH TO KENYA AND RETURN WITH LESSONS OF THEIR OWN.

BY GINNIE GRAHAM

A grandmother in Kenya couldn't tether her grandson with muscular dystrophy inside their home while she worked the fields. It didn't feel right, even though it's a common practice in that country to keep children with disabilities safe.

The 9-year-old was abandoned by his father, who believed the child was cursed, and his mother wasn't able to care for him. The grandmother couldn't obtain a wheelchair and had few choices, often placing him nearby on the ground while she worked for hours.

Their lives changed when University of Oklahoma health care professionals with The Wheels Project arrived. OU students and faculty joined forces with a Kenyan nonprofit and wheelchair manufacturers to provide appropriate mobility for children with disabilities.

"Once the grandmother got her grandson's head upright in a wheelchair, others looked at him as a whole person," says Jessica Tsotsoros, associate professor of occupational therapy and director of The Wheels Project at OU-Tulsa's College of Allied Health.

"He was able to go to school and watch his friends play soccer. It changed his social life, and his grandmother worked to change the community. They realized he was not a curse, and the stigma fell away," Tsotsoros says. "The community no longer saw a child needing resources or taking money from society. He couldn't communicate verbally, but he did with his bright eyes. And all that was from a \$350 wheelchair."

The Wheels Project is a collaboration between multiple organizations to evaluate wheelchair performance and usage in developing international areas. OU conducts research for feedback to wheelchair providers, while nonprofit Bethany Relief and Rehabilitation International in Kenya makes connections to children needing services; the majority are associated with the Joytown Primary School for children with disabilities in the Thika District.

Students and professors from OU's College of Allied Health and the Department of Rehabilitation Sciences provide the fittings and therapy. The project and its assessment tools were established by Karen Rispin of ATCatalyst and Vicki Sheaffer at LeTourneau University in Longview, Texas. Tsotsoros was asked by Rispin to take over the project upon her retirement in 2018.



▲OU-Tulsa occupational therapy student Katlyn McDonald with a Wheels Project client in Kenya.

▲This young boy with spina bifida had only a run-down skateboard for transportation until volunteers cobbled together a wheelchair from spare parts. "The smile on his face is still clear as day to me," Jessica Tsotsoros says.

OU and Kenyan team members collaborate to adjust a Wheels Project chair. ▶





OU's inaugural Wheels Project trip was postponed due to COVID-19. The first group, which included nine students, went to Kenya last March.

"There is no other project like this in the U.S.," says Tsotsoros, who took a smaller group to Guatemala last summer. "The research component makes it different from other projects and more far-reaching for OU. It gives people a passion about something outside their everyday realm. Students can transfer their skills from the classroom and use them in a country where their help is needed."

Matt Willingham was in his second year of OU-Tulsa's physical therapy doctoral program when he joined The Wheels Project.

"This trip really opened my eyes to what being a physical therapist or other rehab specialist is all about," Willingham says. "At the end of the day, we aim to improve people's ability to live their lives to the fullest, whether it's improving a child's ability to access his home, community or school by adapting his wheelchair, as we saw in Kenya, or helping a patient get back to his passions in life after a total knee replacement in the States.

"In all situations, we are simply trying to help people. This is something I will keep in mind as a future physical therapist. No matter how difficult or complex a diagnosis or situation might be, I will remember the concept, 'How can I help this individual?' It really becomes that simple, in a sense."

The lesson hammered home as the OU team worked with a boy of about 6 years old who has spina bifida and relied on a skateboard and his arms to move.

"While this alone seems extremely difficult, it was even more remarkable seeing some of the terrain he had to navigate," Willingham says.

The boy was not on a scheduled list of patients, but his family arrived based on word-of-mouth. The OU group scavenged



The Wheels Project brought nine OU students to Kenya in March 2022 to apply their skills through physical and occupational therapy services, wheelchair modifications and research.

through a utility shed for parts to build him a wheelchair.

"Everyone chipped in to make this chair as functional as possible for the boy. The smile on his face is still clear as day to me as he raced down the ramp with his new wheels. It was

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a great example of the immediate impact we all had on this family's lives," Willingham says.

The OU team spent its downtime playing modified games with the children. Upon the team's arrival at the city of Kimilili, a group of about 20 children grew larger throughout the day as they joined in a version of volleyball.

"There was nothing complex or complicated about it, but around the circle there was pure joy among both the kids and team members," Willingham says.

On the academic side, the trip's aspects of research and hands-on wheelchair modifications enhanced OU students'



The Wheels Project's impact is clear in a young client's reaction.

education, says Hailey Chamberlin, who joined the team during her last semester as a doctor of physical therapy student.

"It was cool to apply more of those skills we had acquired," Chamberlin says. "The international experience of working in a different culture with a language barrier provided an immersion you can't get in the States. It gave me a good perspective on life, in general.

"It showed me our access to medical resources is very broad in the United States compared to the resources Kenyans have, especially in certain areas of the country. It changed my outlook on what I can do there to help them."

Help sometimes came in unexpected ways.

Chamberlin and Reagan Collins, who was in her third year of studying occupational therapy, adjusted a wheelchair for a little girl named Faith, who was temporarily removed from her chair. While waiting, the students assisted her in walking by holding up her weight.

"She loved to walk and was moving nonstop," Chamberlin says. "It was laughter the whole time. It was fun to get to see her excited about life and walking. Seeing the difference in her and the work we did on the wheelchair was rewarding."

Tsotsoros says The Wheels Project puts OU on the fore-

front of wheelchair research, with participating students and faculty planning for presentations at national and international conferences in 2023. Data from wheelchair assessments also continue to be analyzed.

"This research provides manufacturers with information on how to improve the fit and durability of wheelchairs in low- to middle-income countries," Tsotsoros says. "The team's work brings OU's name to the international community and research and services to individuals in underserved areas."

The heart of The Wheels Project is that every person deserves mobility, says Lynn Jeffries, vice chair and associate professor of physical therapy at the OU Health Sciences Center's Department of Rehabilitation Sciences.

In Kenya, she says, caregivers put their loved ones on their backs like infants, though some children weigh as much as a full-grown adult. That reliance often stunts interactions with others.


"If children can push themselves into an environment or a caregiver can assist, that changes everyone's lives," Jeffries says. "We had moms talking about taking their kids to school, now that they can push them. Sitting in a chair also means it is more likely peers will come up to talk. Everyone should have the right to access mobility participation."

Mobility is sometimes just part of what the OU group provides.

Jeffries recalls that a 7-year-old boy receiving services was having difficulty with a bottle—his primary way of eating. He was often gagging or choking. Jeffries showed the mother how to support the boy's jaw and not lose as much formula.

"I was able to teach the mom—in one 15-minute conversation and modeling—a different way to nourish her child. That will hopefully allow the child to grow," she says. "It gave me the opportunity to remember, 'This is why I'm teaching what I teach.' It was also good for students to see I have a passion for this profession and that this is what I was trained to do."

Tsotsoros says OU's model provides a framework for replication and growth, including such projects as a worldwide database of research assessment tools. In hopes of expanding The Wheels Project, the nonprofit Wings Aloft was created in 2022. Its mission is to defray travel costs for OU participants and the purchase and distribution of wheelchairs in developing countries. The team's next trip is scheduled for May.

"This is something that brings students and faculty together," Tsotsoros says of The Wheels Project. "It's been exciting to see people from different disciplines and colleges enthusiastic about collaborating and to have OU's support. It's wonderful to see our work spread." 

Ginnie Graham is a writer and editor for the Tulsa World.