Out of the Dirt: A Ugandan Wheelchair Delivery Project

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In the villages of Masindi, Uganda, there are not enough wheelchairs for the adults and children who need them. Without access to wheelchairs, all individuals with mobility limitations must crawl along village dirt roads or be inappropriately and unsafely carried for mobility. Skin abrasions, fungal infections, and injuries from falls are common secondary health conditions witnessed as a result of this crawling and carrying.

Many individuals in need of wheelchairs are affected by polio. Although Uganda has had no reported polio outbreaks since October of 2010 because of vaccination programs, previously infected individuals continue to demonstrate permanent mobility limitations and the need for wheelchairs.

Despite the widespread need for wheelchairs, there are no social safety nets to assist adults or children in Uganda with securing one. And adults and children who need a wheelchair are too poor to purchase one. The average cost of a very basic wheelchair in Uganda is at least \$163 dollars, while the average monthly



income of Ugandans in the Masindi region is \$83 dollars. Downstream effects of lack of wheelchair access include unemployment, poor education, and less supportive networks.

One simple solution to address the health and societal participation problems is supporting wheelchair access and delivery for adults and children with mobility limitations. But barriers, of course exist, including 1) demand for disability services surpasses supply, 2) absence of social assistance programs for individuals with disability, and 3) poverty.

Motor bike transporting RoughRider wheelchair following wheelchair delivery to a polio survivor. Motor bikes and bicycles are common forms of transportation in Uganda.

For almost ten years, teams from the Medical University of South Carolina (MUSC) have tried to address these barriers by collecting five to seven used, manual wheelchairs and imported them into Masindi, Uganda during medical mission trips that occur in collaboration with OneWorld Health (OWH) (www.oneworldhealth.com). Using a quarterly, medical mission, mobile clinic model, OWH interprofessional healthcare

teams practice across a variety of villages in Masindi, Uganda with the goal of improving health outcomes of the Ugandan people.

Noting the need for wheelchairs in Uganda during these mission trips, MUSC faculty and students have attempted to develop solutions. Although, these wheelchairs have definitely filled a void for adults



Holly Knapp, SPT, measuring the leg of a Ugandan polio survivor.

and children with mobility impairments, four concerns consistently arise:

◆ Used, imported wheelchairs cannot not meet the specific needs (e.g., wheelchair size, pressure relief cushions) of the individuals being served and may cause additional harm (e.g., pressure wounds, fall from a wheelchair that lacks a seat belt);

• Used wheelchairs imported from high resource countries, like the United States, do not address the challenging terrain of Uganda;

• Mission teams never have enough used, imported wheelchairs to serve all the adults and children needing wheelchairs; and



Cindy Dodds, PT, PhD, (sitting) and Holly Knapp, SPT, assessing the arm motion and strength of a polio survivor.

• Importing used wheelchairs is not a sustainable method of providing wheelchair access, delivery, and repair to adults and children with disability.

Uganda needs an average of 4,464 wheelchairs per district in each of its 127 districts. District authorities estimate that there are approximately 500 wheelchairs within each district, of which 75% are imported. Wisely, the Ugandan government recognizes that these wheelchairs are too generic and not based on the user's specific needs, posing health and safety concerns. These imported wheelchairs may also have a negative impact on in-country wheelchair production and delivery.

To address this wheelchair shortage issue, MUSC faculty and students have developed a project to build capacity towards sustainable access and delivery of RoughRider (RR) wheelchairs for adults and children with mobility limitations in Masindi, Uganda. The RoughRider wheelchair was specifically developed for use in low resource and rugged countries like Uganda. This wheelchair is easily assembled, comes in six sizes, has adjustable seating that allows for the fitting of individual postures, and utilizes bicycle tires that can be repaired or are available in Uganda. In May of 2019, MUSC faculty and students carried out the first-ever wheelchair seating and mobility clinic in Masindi, Uganda at OWH's Masindi Kitara Medical Center. Using the World Health Organization's Wheelchair Service Training documentation (www.who.int/disabilities/technology/ wheelchairpackage/wstpintermediate/en), four adults and two children were evaluated for and provided with individualized wheelchairs. The health condition of three of these six individuals was polio. In addition to delivering wheelchairs, MUSC faculty and students assessed wheelchair mobility operation, provided individualized mobility training, and discussed basic wheelchair cleaning and repair.

In May of 2020, MUSC faculty and students will return to Masindi, Uganda to carry out a larger wheelchair seating and mobility clinic with a goal of delivering 100 RoughRider wheelchairs. Importantly, they will also begin educating Ugandans in wheelchair assembly and Ugandan physical and occupation therapists in wheelchair assessment. Creating sustainable wheelchair access and delivery in Masindi, Uganda over the next five years is the ultimate goal.

For more information on this project, contact Cindy Dodds, PT, PhD at doddscb@musc.edu or watch this video: https://vimeo. com/user101992039/review/354722413/d61d55a641

If interested in donating, please visit on fundraising link through OneWorld Health: https://bos.etapestry.com/fundraiser/ OneWorldHealth/wheelchairproject/

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