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USAID'S HEALTH EVALUATION AND APPLIED RESEARCH DEVELOPMENT (HEARD) PROJECT

Standards Working Group Meeting Recap December 8, 2021

The ISWP Standards Working Group met by conference call on Wednesday, December 8, 12:00-1:30 p.m. U.S. Eastern Standard Time/17:00-18:30 GMT. This provides a meeting recap. Actions items and individuals responsible are shown in bold/underline.

Next call: Wednesday, March 9, 2022, 12:00 p.m. U.S. Eastern Standard Time/17:00 GMT.

- 1. ISWP Update:** ISWP continues to be in a transition phase and is working with the Founding Board, chaired by David Constantine, Motivation, to set up the new entity which will be in place in early 2022. ISWP hired an executive search firm to hire a new executive director.

Additional USAID funding has been awarded through March 30, 2022 through UNOPS. The Founding Board recently reviewed current ISWP activities and identified additional programs/services which would be included in a future funding request. ISWP representatives are meeting with USAID on December 10 to discuss next steps related to future funding.

ISWP representatives also met recently with ATScale, which is a pooled funding mechanism through several donor agencies including USAID, to discuss collaborating on projects related to wheeled mobility. There may be additional funding through ATScale as there is alignment related to strengthening standards and making informed decisions related to product purchases.

- 2. Wiki and Wheelchair Testing Centers:** The third Wheelchair Testing Centers meeting took place on November 10 with presentations by Bill Ammer, Ammer Consulting, on static and impact testing, and Dean Mubaiwa, Shonaquip SE, on double drum testing. The meeting recording is available here: <https://wheelchairnetwork.org/kb/meeting-recordings/>

Anand Mhatre is working on a new project, called KickStart, with Mobility India, Assistant Participative Products and the University of Pittsburgh to: 1) establish a test lab at Mobility India using drawings which are shared in the Wiki; and 2) test a new tilt pediatric chair in the test lab in India followed by a field trial to see how it works for families and children. The RESNA International Special Interest Group hosted a webinar recently which served as the project kickoff; 50 people attended.

International Society of Wheelchair Professionals
6425 Penn Avenue, Suite 401, Pittsburgh, PA 15206 USA
<https://www.wheelchairnetwork.org>

The next Wheelchair Testing Centers' meeting is on February 9, 2022, 9:00 a.m. U.S. Eastern Standard Time/14:00 GMT.

- 3. Caster Testing:** The manuscript for bushings versus bearings study is ready to be submitted to the *Journal of Rehabilitation and Assistive Technologies Engineering* (RATE). Testing for the time to failure study is ongoing. The ISO international caster standard was approved as a Final Draft International Standard (FDIS).
- 4. Rolling Resistance Testing:** The University of Pittsburgh held a series of webinars on wheelchair product standards in November. The November 5th session focused on rolling resistance and its impact on wheelchair users. The webinar also demonstrated a rolling resistance data visualization tool. Polling during the webinar generated results shown below.

Webinar: 86 participants

Give Thanks for Standards
Free State of the Science Webinars
every Friday in November leading up to Thanksgiving

Friday, Nov. 5 | 12:30-1:30 PM ET

WHEELCHAIR ROLLING RESISTANCE AND ITS IMPACT ON WHEELCHAIR USERS
Learn from a panel of experts how wheelchair Rolling Resistance impacts wheelchair users, how it can be measured, and how it can be minimized. Panelists include: Dr. Sam Peartman, Dr. Ching-Wei Dr. Rachel Cohen, Holly Johnson-Done and Sofia Nam.

Register: <https://bit.ly/3m5m1a4/register/3E8acu2taiaf#d2v7KaBamQPF5aDd0Y>

Poll results ~ 58 responses

- 53% clinicians
- 12% suppliers
- 12% manufacturers

Think about RR?

- Always 26%
- Often 33%
- Sometimes 29%

What do you use to minimize RR

- 69% lighter WC
- 55% pneumatic tires
- 51% forward axle

Would this tool be useful in your context?

- Yes (82%)
- No (18%)

Interested in assisting with development?

- Yes (15)

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Next steps involve conducting interviews and focus groups to obtain more input on the tool.

Regarding testing, the ISWP team is validating the precision and accuracy of rolling resistance testing, including performance on the top of the drum. Also need to establish way to measure residual load.

- 5. Power Assist Device:** Keyner Gonzalez, UEIA University, Colombia, presented a device for wheelchair propulsion with fellow students Mariana Castro and Isabella Gonzalez. Sofia Gonzalez Estrada designed the product which the current student group built. The goal of the device is to increase independence and improve overall health with a reduction in repetitive injury, is easy to attach and adjust on different wheelchairs, and is made of commercially available products, and created for about US\$100. Standards Working Group members congratulated the team on its work and suggested getting feedback from

wheelchair users so it is part of the final report.

6. Power Options for Manual Wheelchairs in Less-resourced Settings: Norman Reese, LeTourneau University, reported that a senior student design team is working with Beeline, which has a factory in Guatemala, on a wheelchair called the Bumblebee and pediatric chair, HoneyBee. Students were challenged to add a low-cost power adaptor to convert a manual wheelchair to a power chair. The team tested an adapter for tilt in space for the pediatric wheelchair. The team also presented a test dummy calibration chair, made mostly of wood, which Norm is documenting for the Wiki page. There are local factory workers who are wheelchair users who are providing their feedback on the ability to manufacture there as well as usability. The team will return to do testing and stress analysis. The team built the prototypes in the U.S. the same way they would be built locally (e.g., C&C laser that can only make 3/16" with low-carbon steel).

7. Next Call: Wednesday, March 9, 2022, 12:00 p.m. U.S. Eastern Standard Time/17:00 GMT

Participants:

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|---|---|---|---|
| ✓ | Bonnie Gonzalez, Free Wheelchair Mission | | Andy Maynard, Mobility Worldwide |
| | Ben Judge, GRIT | | Carlos Galvan Duque, Universidad Iberoamericana |
| ✓ | Keoke King, Participant Assistive Products | ✓ | Isabel Bolívar, Universidad Iberoamericana |
| | Daniel Martin, Shonaquip | | Marjelle Scheffers, BambooAbility |
| ✓ | Shona McDonald, Shonaquip | | Anand Mhatre |
| | Matt McCambridge | ✓ | Jon Pearlman |
| ✓ | Norman Reese, LeTourneau University | ✓ | Nancy Augustine |
| | Chris Rushman, Motivation | ✓ | Holly Wilson-Jene |
| ✓ | Don Schoendorfer, Free Wheelchair Mission | ✓ | Stephanie Vasquez |
| | Scott Walters, Mobility Worldwide | ✓ | Keyner Gonzalez, UEIA University |
| | Eric Wunderlich, Latter-day Saint Charities | ✓ | Isabella Gonzalez, UEIA University |
| ✓ | Jack Fried | ✓ | Elia Bernabeu Mira |
| | Bob Appleyard | ✓ | Jim Watson, CIC |
| | Laura Ramirez | | Mariana Castro Medina |

Prepared by: ISWP Pitt Team