Development and Implementation of a Hybrid Wheelchair Workshop for Clinicians in International Settings

Yohali Burrola, M.S., Mary Goldberg, PhD
International Society of Wheelchair Professionals

International Seating Symposium
March 6-9, 2018
Vancouver, BC, Canada

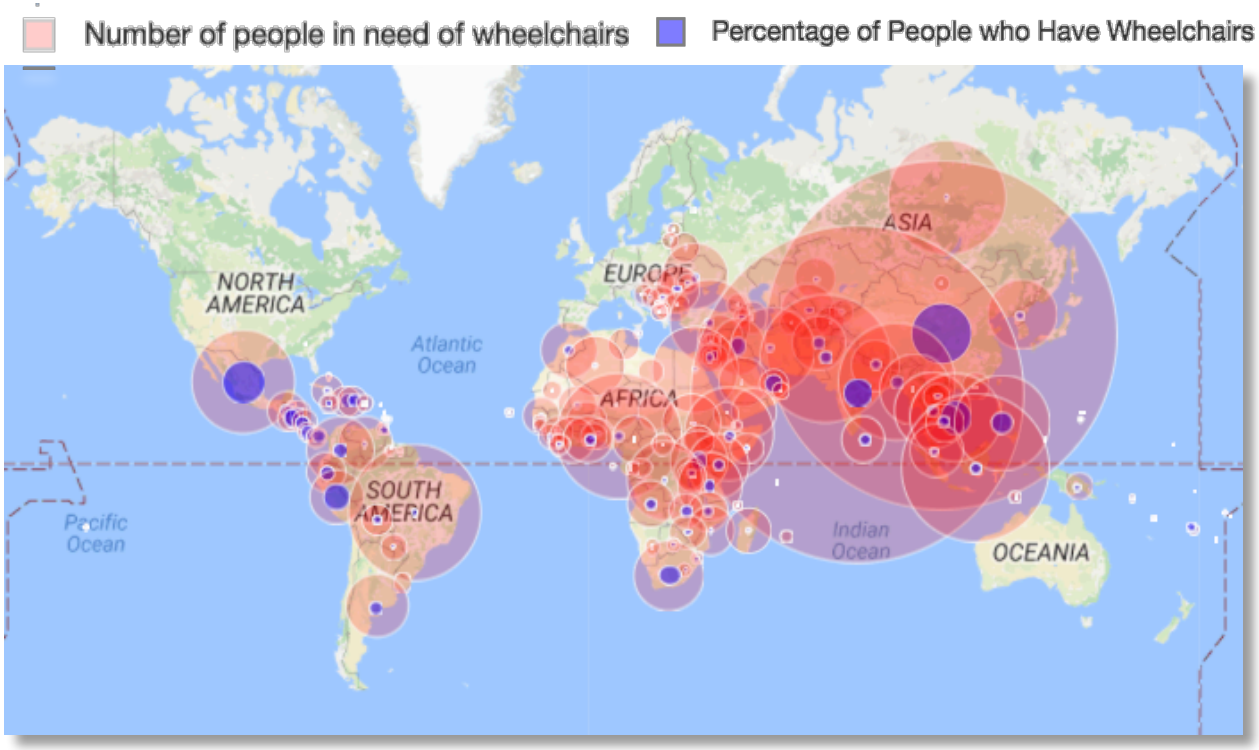
Ability Meets Mobility

Yohali Burrola-Méndez, **Mary Goldberg**, Jon Pearlman

ISWP International Society of Wheelchair Professionals
USAID FROM THE AMERICAN PEOPLE
ADVANCING PARTNERS & COMMUNITIES

Wheelchair Sector Worldwide

- **112 million people** require a wheelchair.
- Only **5-15%** have access.
- **96 million** people are in need.



Inappropri

Seconda impact

Figure 3-4. WHO (201

[6] Wheelchair se

bility and Rehabilitation. 2005
ckage - Basic level. WHO.2012.
t on Disability 2011. WHO. 2011.

Disparities in health outcomes

Justification

- Wheelchair users in **low/middle-income countries** are at high risk of developing **secondary complications** and **premature death** due to improper wheelchair provision by untrained clinicians[1,5-7]

Hypothesis

- Flexible training methodologies could increase the number of clinicians trained and prevent secondary complications in wheelchair users.

[1] Guidelines on the provision of manual wheelchairs in less resourced settings. WHO; 2008
[5] Mukherjee G. Disability and Rehabilitation. 2005
[6] Wheelchair service training package - Basic level. WHO.2012.
[7] World Report on Disability 2011. WHO. 2011.

Specific Aims

- Implement and evaluate the **Hybrid Course Workshop** at an international conference with a representation of physical therapists (PT), occupational therapists (OT), and prosthetics and orthotics (P&O).

Methods

- Quasi-experimental, pre- and post-assessment design.
  - Oaxaca, Mexico, 7th Forum United Frontiers.
- Study guided by stakeholders input.
- Convenience sampling method.
  - PTs, OTs, P&Os, from international settings

Training Methodology

Methods

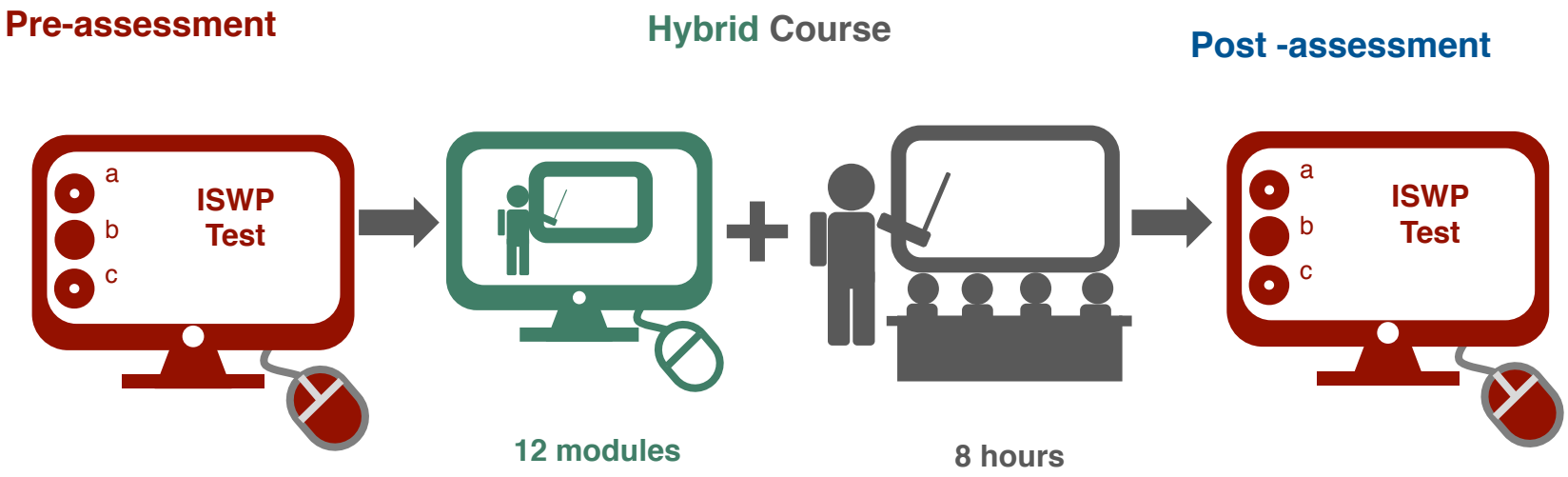


Figure 1. Hybrid Pre-Conference Training Methodology

Hybrid Training Course Structure

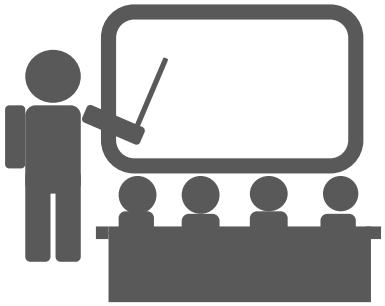
50 %

50 %

A. Core Knowledge & Wheelchair Service Steps

A.1: Wheelchair users
A.2: Wheelchair services
A.3: Wheelchair mobility
A.4: Sitting upright
A.5: Pressure sores
A.6: Appropriate wheelchair
A.7: Cushions
A.8: Transfers
B.1: Referral and appointment
B.2: Assessment
B.3: Assessment interview
B.4: Physical assessment

B. Wheelchair Service Steps



B.5: Prescription (selection)
B.6: Funding and ordering
B.7: Product (wheelchair) preparation
B.8: Cushion fabrication
B.9: Fitting
B.10: Problem solving
B.11: User training
B.12: Maintenance and repairs
B.13: Follow up
B.14: Putting it all together

Figure 2. Hybrid Pre-Conference Training Course structure and delivery method

Group's results: Knowledge

Table 1. Pretest and posttest scores of participants

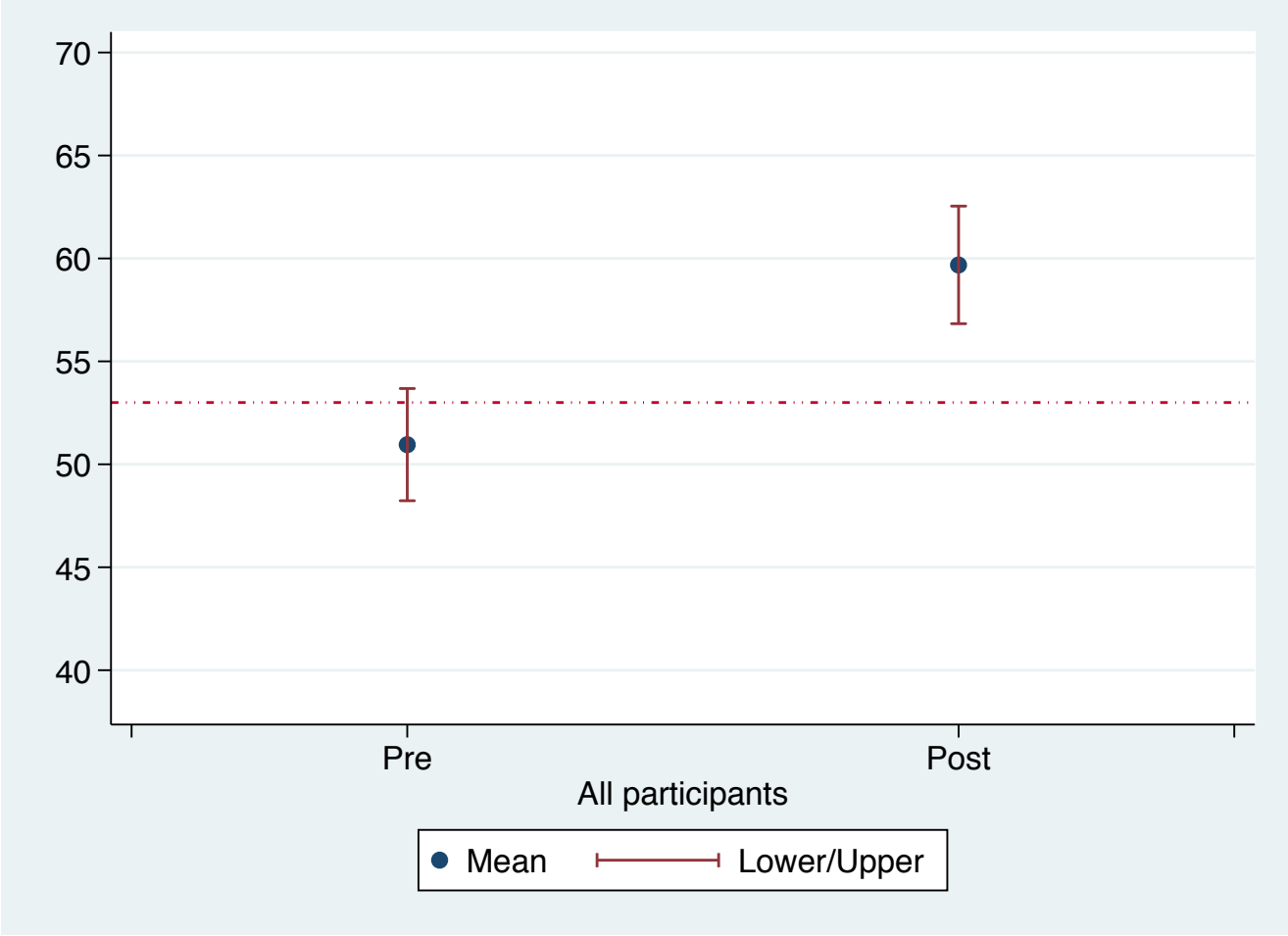
Profession	N	Pretest		Posttest		p-value
		Mean	Standard Deviation	Mean	Standard Deviation	
Total participants	22	50.95	6.15	59.68	6.44	<0.0001*

*paired t-test significant at the ≤0.05 level

Results by groups: Graph

Pass

Fail



N=22

Results by professions: Knowledge

Table 2. Pretest and posttest scores of participants grouped by profession

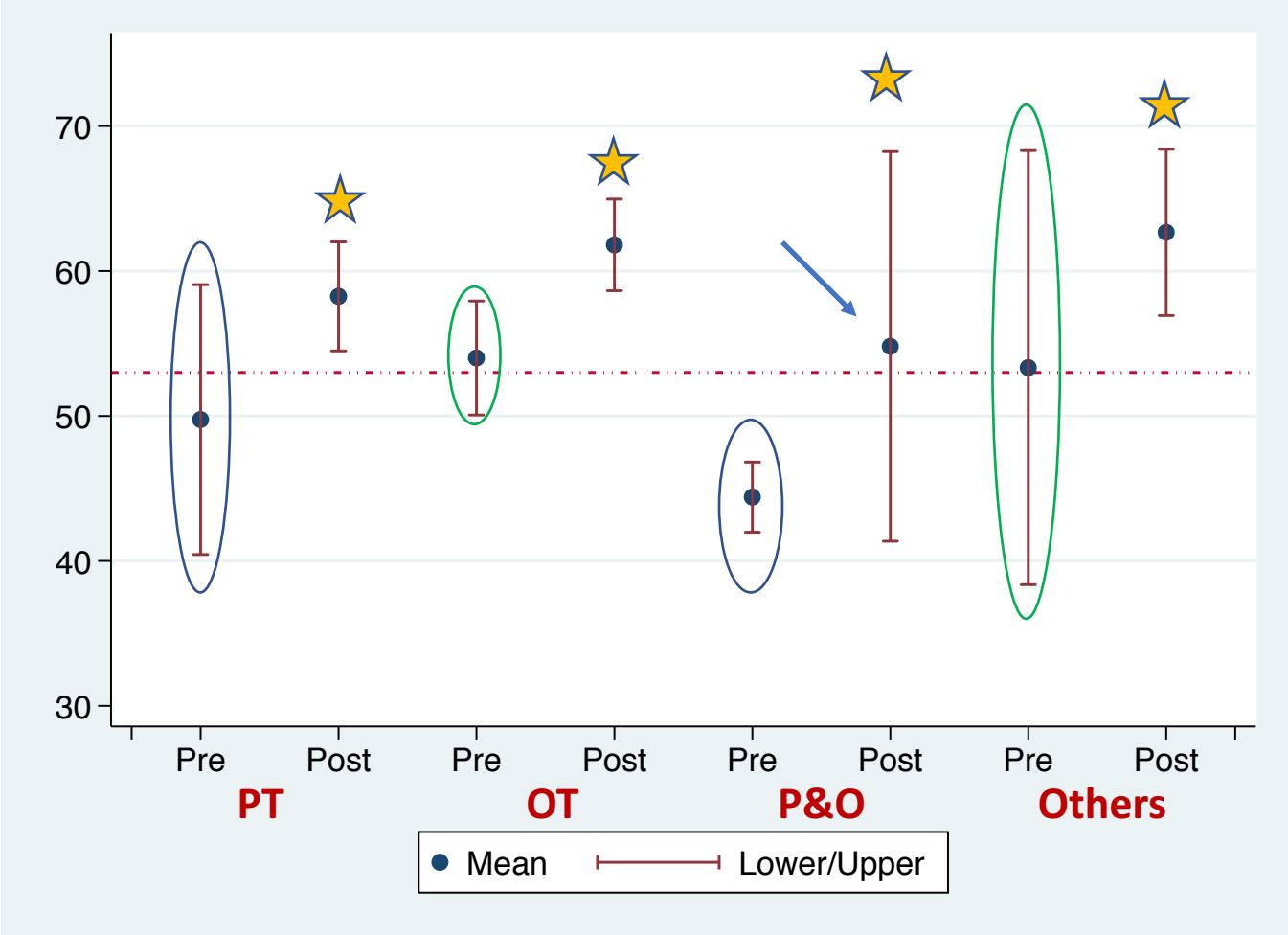
Profession	N	Pretest		Posttest		p-value
		Mean	Standard Deviation	Mean	Standard Deviation	
Physical Therapy (PT)	4	49.75	5.85	58.25	2.36	0.027*
Occupational Therapy (OT)	10	54	5.50	61.80	4.42	0.001*
Prosthetics & Orthotics (P&O)	5	44.40	1.95	54.80	10.83	0.070
Others	3	53.33	6.03	62.67	2.31	0.181

*paired t-test significant at the ≤0.05 level

Results by professions: Graph

Pass

Fail



N=22

Burrola-Méndez, Y et. al

Limitations

- Study design
- External validity
- Sampling method

Conclusions

- Hybrid Workshop proved to be an effective training methodology.
- International conferences seem to be a feasible venue to offer internationally recognized and standard training opportunities

Next Steps

- Develop and test other learning methodologies (online)
- Replicate the study in other international conferences.
- Increase the sample size.

Picture 1. Group's photo at the end of the training

For more information & to stay up to date!

- Membership
  - www.wheelchairnet.org
- Social Media
  - **@ISWPorg**
- Yohali.Burrola@pitt.edu