

# International Research & Training on Assistive Technologies for India

Supplement to NSF REU

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# Background

- Research area:
  - Assistive Technology (AT) design & tech-transfer methods
- Previous relationship: Indian Spinal Injury Center (ISIC)
  - Yearly state-of-the science & training workshops
  - One collaborative research project assessing AT needs of Indian wheelchair users
- Why this collaborative partner?
  - Specialty research & teaching hospital was necessary to coordinate IRB approval and help execute study
- Why this nation/region?
  - Tremendous need (~10 million) for mobility devices
  - Poised for change-- UN Convention Ratification
- Why the particular traveler?
  - Research interest on AT design & tech-transfer methods for developing countries

# Motivation of Research

- UN Convention on Rights of Persons w/ Disabilities
    - 118 signatories, 7 ratify including India (since late 2006)
- Convention mandates that member states:
- Assure users have choice of high-quality, low-cost AT
  - Engage in R&D to improve AT devices and provision
- Current Situation
- Poor-quality devices
  - Wide range of design & tech-transfer approaches
    - Poorly documented and rarely assessed.
- No evidence-based approaches to help meet mandate



# Experience



- Logistics & Living Conditions
  - what worked:
    - Abundant services (transportation, hired help, etc.)
  - challenges:
    - Coordinating logistics: housing, transportation, language training, day-to-day requirements.
    - Climate influence on research and daily life.
- Research and Professional Environment
  - what worked:
    - Support from ISIC was critical for IRB and execution of research.
  - challenges:
    - Coordinating research in active clinical setting
    - Training research assistants to perform study according to protocol.

# Future Work

- New Topics: long-term collaborative research projects
  - Monitor AT use with datalogger & evaluate user performance
    - Pilot study under IREE will be continued by ISIC & Pitt researchers.
  - Longitudinal outcome study of AT recipients
    - 2 year study continued by ISIC clinicians and Pitt students after returning from India.
- Preparation:
  - Leverage international studies resources at University of Pittsburgh

# Impact on Research

- Did IREE sponsored work improve research quality: yes
  - Immersion in culture
    - Provided more accurate view of the context in which AT is provided and used.
    - Provided realistic training environment for international development research.
  - Duration
    - Allowed for comprehensive human subjects research study to be performed
      - Improved external validity of results.

# The Future

- How will you leverage this IREE grant to sustain the collaboration?
  - Publications will build evidence-based approaches for design & tech-transfer of AT.
  - Supports efforts by USAID & WHO on WC provision
  - 2<sup>nd</sup> year topics build long-term collaborative studies, allowing students to support ISIC efforts from US
- Future Funding
  - NIH Fogarty International
  - NIDRR International Funding (past funding)
  - USAID

# Questions

