

## Getting the Prosthetic Upper Limb Functional Index (PUFI-2) into clinical use: examining international clinicians' experiences using the new web-based version of the measure.

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### Background

- The Prosthetic Upper Limb Functional Index (PUFI) is a **parent and child questionnaire** that measures children's prosthesis use in bi-manual activities.
- It was created and validated over 25 years ago here at Holland Bloorview.
- In the last decade, the PUFI's international usage has declined due to outdated content and software incompatibility.
- The PUFI was recently updated by our PUFI team (with co-creation help from children) as a **web-based measure** (PUFI-2) via the secure REDCap platform.
- PUFI-2 translations are in Swedish, Spanish, Russian, Japanese, and Dutch

### Research Question/Objective

To understand international clinicians' experiences implementing the PUFI-2 with children and parents in real-world practice, and its potential impact on pediatric prosthetic-based care.

### Methods

- Qualitative descriptive study:** Four international clinician participants who had used the PUFI-2 for two months completed an experience survey and then participated in a Zoom interview to describe their user experiences.
- Qualitative content analysis approach:** Interview transcripts and comments from the survey were analyzed using line-by-line coding.
  - Codes were sorted into categories and then combined into subthemes that contributed to major themes.
- We expect to interview four more clinicians in the coming months.

### Results

- Two main themes with subthemes were developed from the data:
  - Theme 1: Factors promoting PUFI-2 use**
    - Helps inform care
    - Flexibility for virtual/hybrid/in-clinic delivery
    - Has concise instructions for parent/client completion
    - Adaptable for modifications in clinical use
  - Theme 2: Factors posing challenges to PUFI-2 use**
    - Getting the right technology platform – is the REDCap platform the best option?
    - Optimizing parent/client engagement in PUFI-2 completion
    - Needing time set aside for clinician training and implementation

### Funding

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## Factors promoting PUFI-2 use

"Sometimes the information that was shared through the [PUFI-2] was about activities that we normally would not be talking about in the clinical appointment. So it did give me more insight into how the [child] is doing things at home that I may not have asked specifically." (Clinician P07)

"...my idea was to send the survey to the [parent/child] before or after their appointment. So they can take their time to fill this out and it helps in terms of the timing of our appointments, you know? It makes things a little bit more efficient, and then I can review their scores on my own time and call them to arrange a discussion about the summary, so I think for clinic efficiency, it worked best to have them complete it remotely" (Clinician P16)

"I really enjoyed having the pictures and the descriptions and I think those are really helpful for people to understand what you mean by any of the parts of the task" (Clinician P07)

"I think children can relate more because they see a real person" (Clinician P02)

"When I sent the [parent /child] an email with the link, I also asked them if they had any troubles or questions they could email or contact me, and I haven't received any questions or feedback." (Clinician P02)

"I think the map I've created is a good foundation, but through the process of testing PUFI-2 with families, I'd like to add a few more process details to the map. I think for our clinic, it will be the role of the OT (me) to implement the PUFI-2. In my opinion, the prosthetists are just way too busy to integrate this into their practice and historically, it has been the OT role." (Clinician P16)



## Factors posing challenges to PUFI-2 use

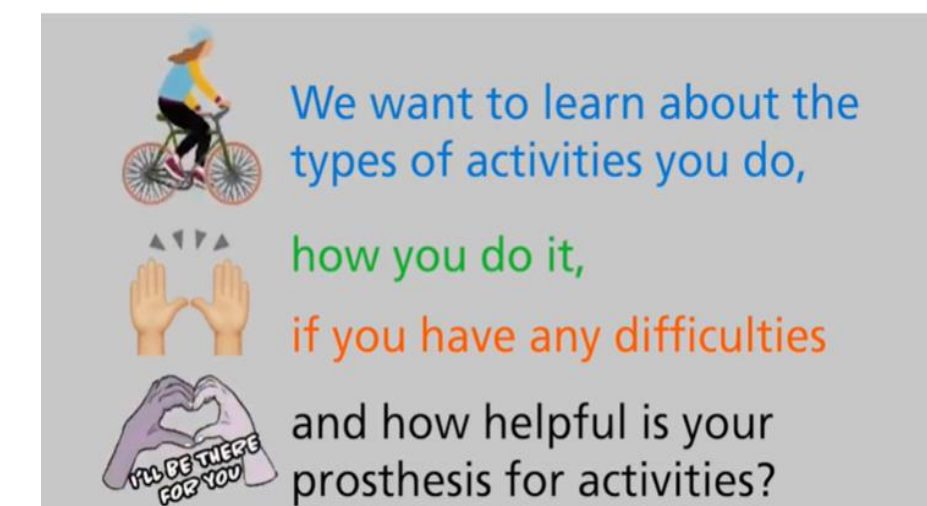
"We need a little bit more time for this in our whole team to implement this and get them all on board." (Clinician P02)

"I would mention the motivation is the very first hard issues for most of the patients. I mean, the test itself does not take extremely long time, but it looks long for the parents.... And it's not only engagement in the test, **it's a general engagement in rehabilitation**, in upper limbs prosthesis, so it's not like a PUFI-2 issue, it's common issue of motivation for getting rehabilitation help" (Clinician P06)

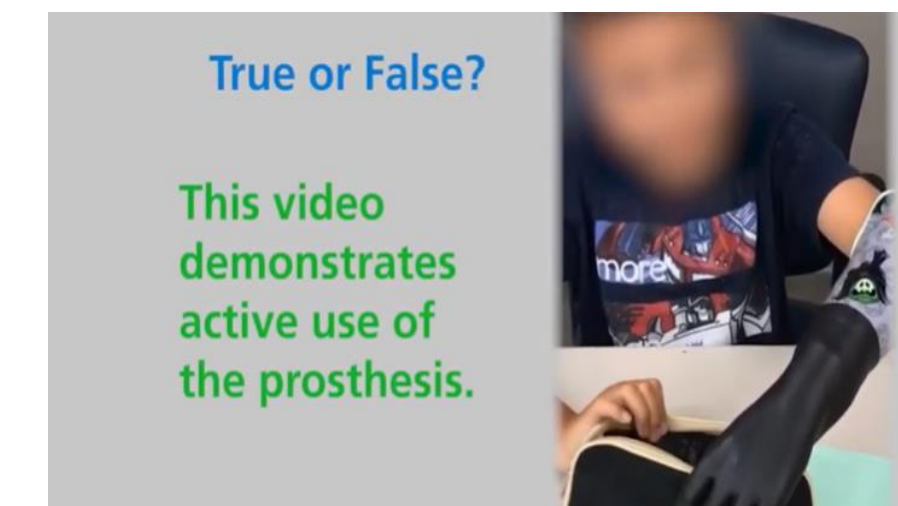
"I really like the PUFI-2... but am reluctant to say I would use it regularly. It is possible with more use, I will become more comfortable with REDCap as a platform, but it is cumbersome and time-consuming to see the results from the assessments" (Clinician P07)

"I'm not quite sure what to do with the responses in how the answer help me in give me advice, or help me in treatment, or whatever." (Clinician P02)

### PUFI-2 Introduction Video

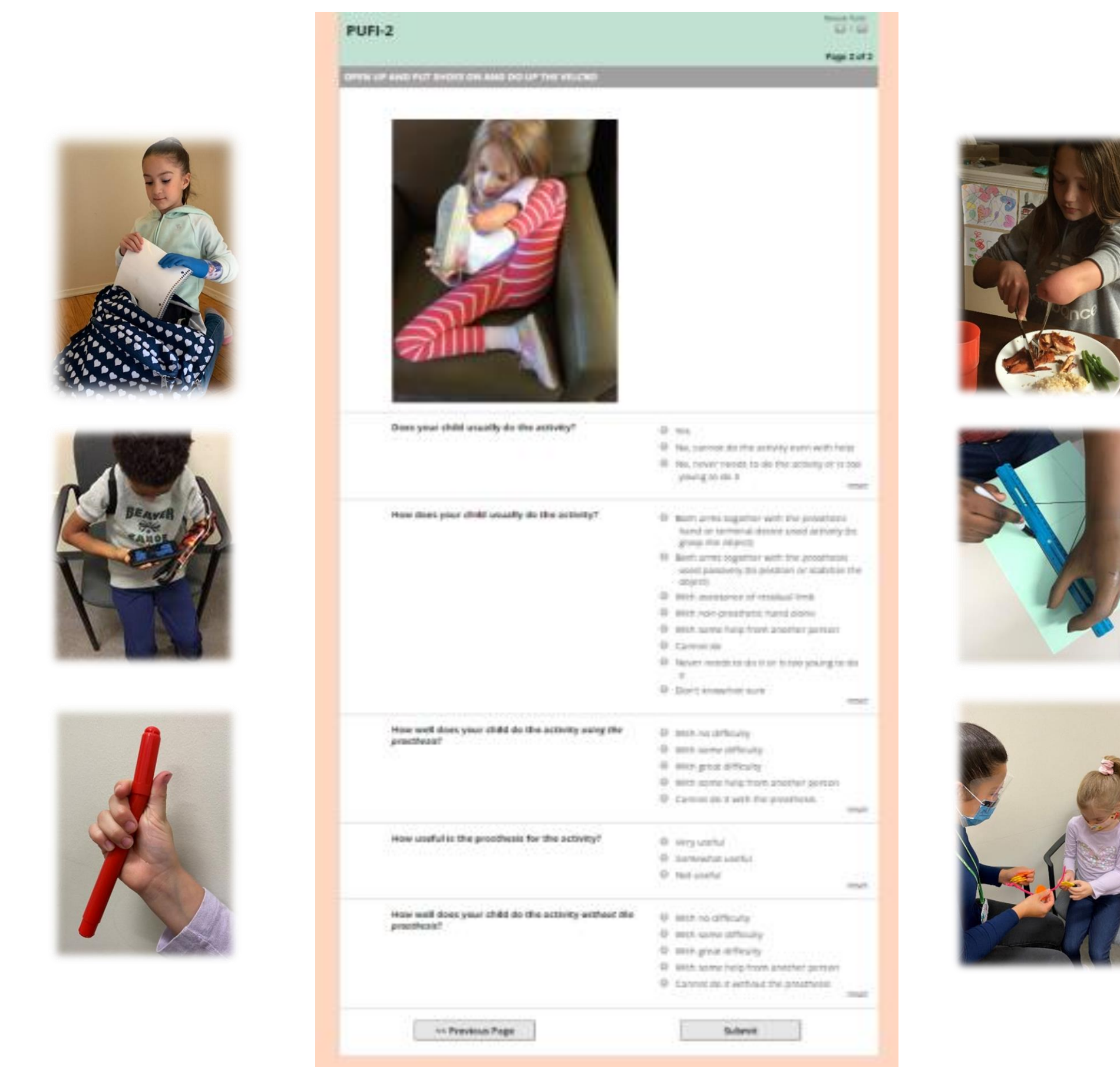


We want to learn about the types of activities you do, how you do it, if you have any difficulties and how helpful is your prosthesis for activities?



True or False? This video demonstrates active use of the prosthesis.

### PUFI-2 Visual Appearance, Sample Photos



### Discussion

The overall clinician experience was positive, and they were enthusiastic to use the PUFI-2, which was seen to be detailed, comprehensive, flexible in delivery location (in-clinic, remote, hybrid) and helped to inform goal-setting conversations with parents and children.

Technological challenges accounted for time-consuming restraints, and the REDCap platform and Excel spreadsheet results were not as user-friendly as hoped.

**Clinician participants' accounts and recommendations on PUFI-2 usability demonstrate the importance of exploring clinicians' accounts, as they will be the individuals to ultimately decide whether to use the PUFI-2 in their clinical practice.**

### Next steps

A 5-month follow-up is scheduled with the participants to explore longer-term use of the PUFI-2.

The research findings of the short and long-term implementation trials will be used to update the PUFI-2 to increase its user-friendliness and support stronger integration into clinical practice.

Creation of a healthcare APP to more easily capture and share the PUFI-2 results.