

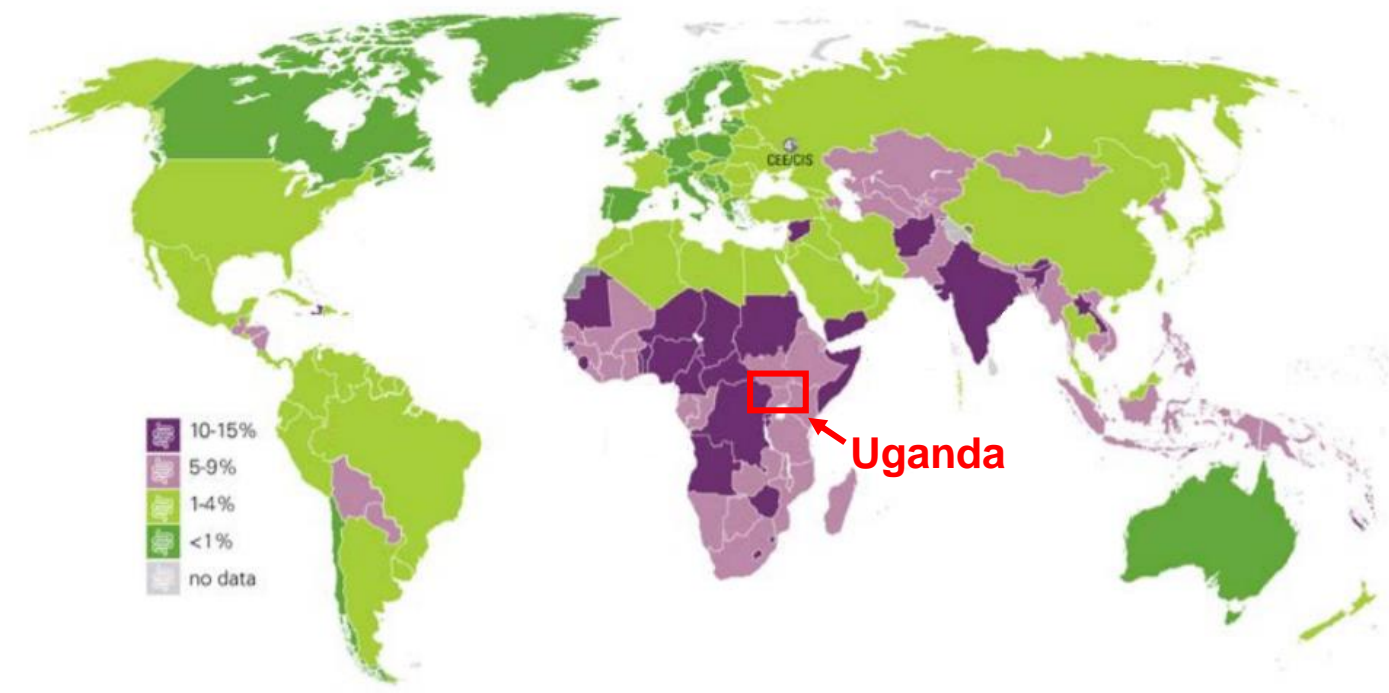
Evaluating the Long-Term Viability of the Oral Rehydration Tube in Rural Uganda

Jacob L. Dubner

University of Pennsylvania Colleges of Arts and Sciences, Class of 2021

Background and Motivations

Diarrheal diseases are the second leading post-neonatal cause of death for children under the age of five



Oral rehydration solution (ORS), a simple solution of salts and sugar, has been shown to significantly reduce mortality from diarrheal dehydration

- Estimated to reduce risk of death from diarrhea by up 93%
- Hailed by The Lancet as "potentially the most important medical advance of the 20th century"
- Requires 1:1 molar ratio of glucose to sodium for optimal efficacy
- Most commonly prepared with pre-measured packets of salt, sugar, and additional electrolytes
- Existing homemade preparations lack precision and perception of medical legitimacy to be commonly used within communities

Only 2 out of every 5 children with diarrhea are receiving ORS, and progress has been slow



The Oral Rehydration Tube ("ORTube") is a tool that is designed to allow individuals to prepare homemade ORS with precision and ease using the salt and sugar available in their own communities

ORTube



Research Question

Can the ORTube be integrated as a first-line of defense against diarrheal dehydration among Ugandan community health workers over a 12-month period?

Methods

September 2019

Distribution of 500 ORTubes among community health workers (CHWs) in the Mukono District of Uganda



February 2020

Focused-group discussions in villages with ORTubes to gather feedback and ensure that no unexpected outcomes had occurred



September 2020

Surveys and interviews to collect data on the integration of ORTubes as a first line of defense against diarrheal dehydration



Research Metrics

1. Does the CHW still have the ORTube?
2. Does the CHW prefer the ORTube over alternate methods of ORS preparation? If so, why?
3. How frequently does the CHW use the ORTube?
4. Can the CHW demonstrate the correct use of the ORTube?
5. Can the CHW describe the correct context in which they should use the ORTube?
6. Do ORS samples made by the CHW with the ORTube contain the intended concentrations of salt and sugar?

Preliminary Findings

Focused Group Discussions

In February 2020, focused group discussions were conducted among community health workers who had received ORTubes

CHW comments included...

- "I use the ORTube each time I receive a patient with diarrhea"
- "The people in the community are willing to drink the rehydration solution, and it has reduced the diarrhea cases in many villages"
- "It has helped those who can't afford buying ORS from the clinics"
- "We enjoy using them because they indicate the right measurements"
- "They are easy to use. [There are] no challenges using them"
- "ORTubes are very important"

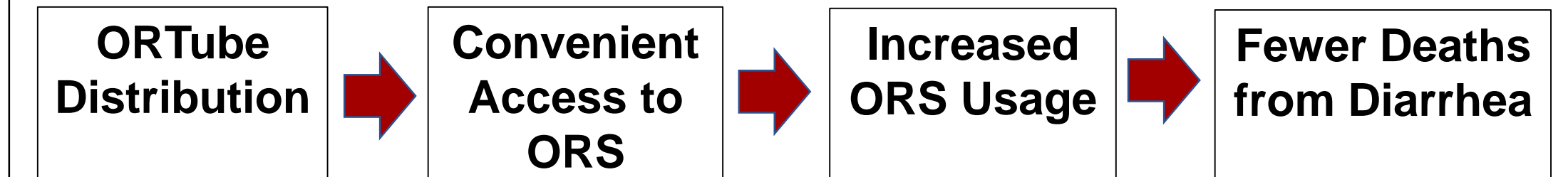
Ongoing Data Collection

150 Surveys on ORS Usage from CHWs with ORTubes

50 Interviews on ORS Usage from CHWs with ORTubes

50 Surveys on ORS Usage with CHWs without ORTubes

Potential Implications



Future Directions

- Complete analysis of results from surveys and interviews
- Continue to monitor communities with ORTubes to ensure safety of study participants
- Seek funding for additional ORTube research, development, and production
- Continue to safely distribute the ORTube throughout Uganda

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