

Can You Hear/See Me Now? Connectivity for Telecolposcopy in Rural/Remote Nicaragua and Honduras

Emma McKim Mitchell, PhD, RN¹; Michelet McLean, MA; Shernai Banks, BA², Danielle Morrone, BS²; Imani Marks-Symeonides, BS²; Danielle Morrone, BS², Charlotte Pitt, BS² & Brian Dunn³

1. University of Virginia, School of Nursing, Charlottesville, VA, Assistant Professor
2. University of Virginia, School of Nursing, Clinical Nurse Leader Students
3. University of Virginia, Karen S. Rheuban Center for Telehealth, Charlottesville, VA

Background

Cervical cancer is a preventable cancer, however, in rural Nicaragua and remote Honduras it is the leading cause of women's cancer deaths.

Cervical cancer can be prevented through:

- Primary: education and HPV vaccination
- Secondary: Pap/HPV screening and VIA
- Tertiary: colposcopy

Colposcopy is a resource intensive procedure requiring expensive equipment and healthcare provider expertise. Limited resources and cost in Nicaragua and Honduras hinder prevention efforts.

Specific Aim

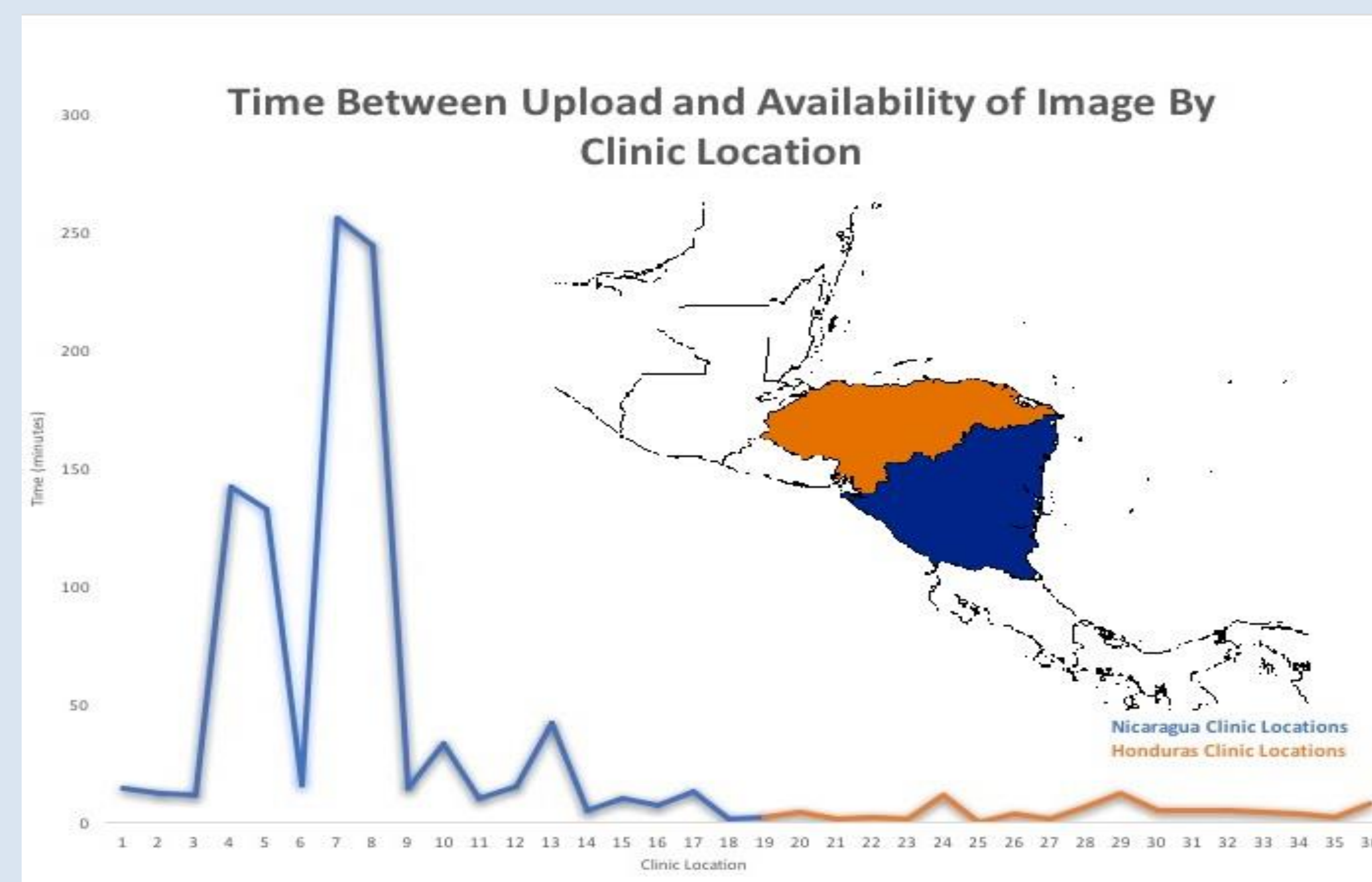
This project tests the feasibility and acceptability of using telecolposcopy while exploring the care continuum of cervical cancer from prevention to treatment.

Methodology

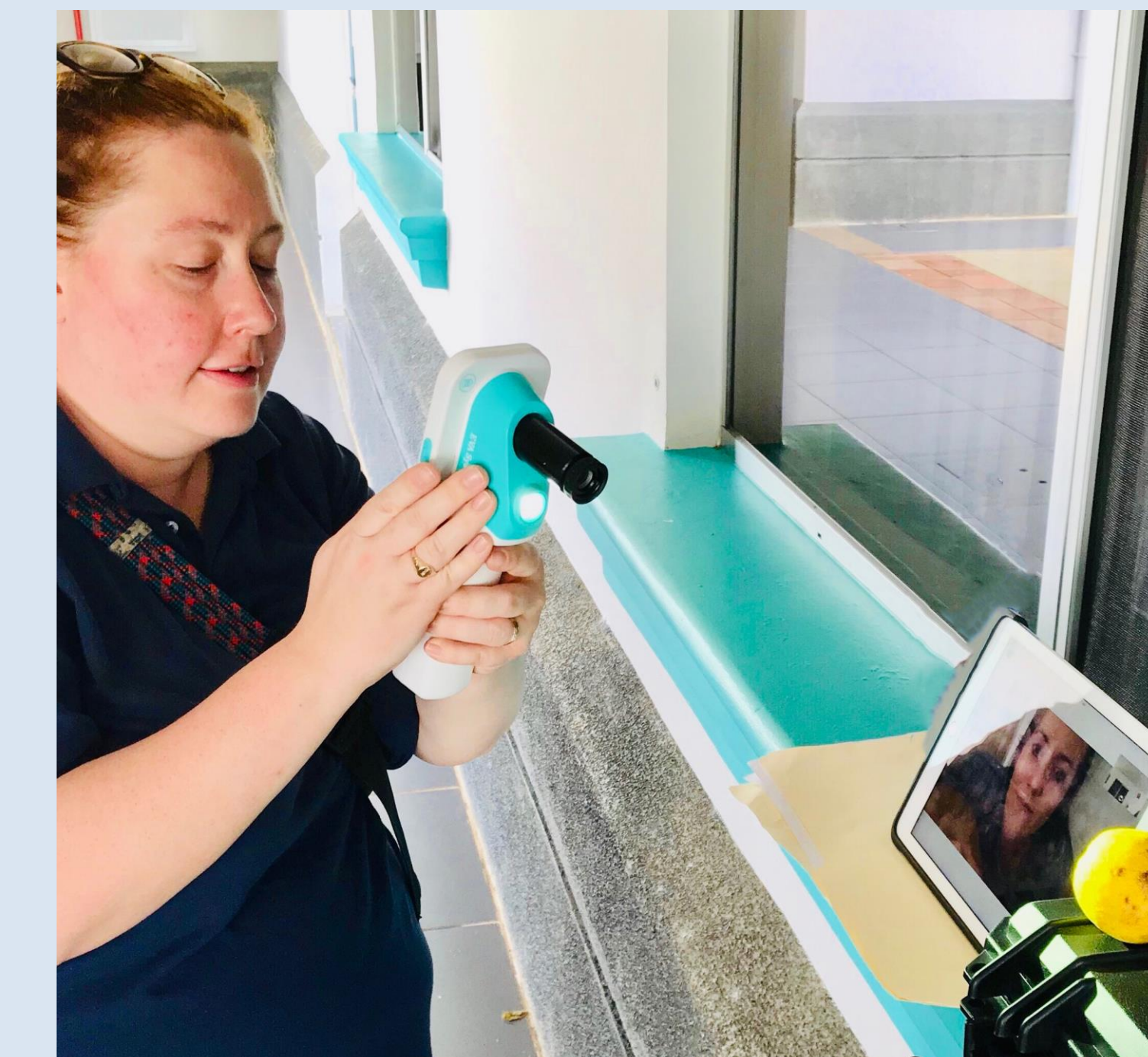
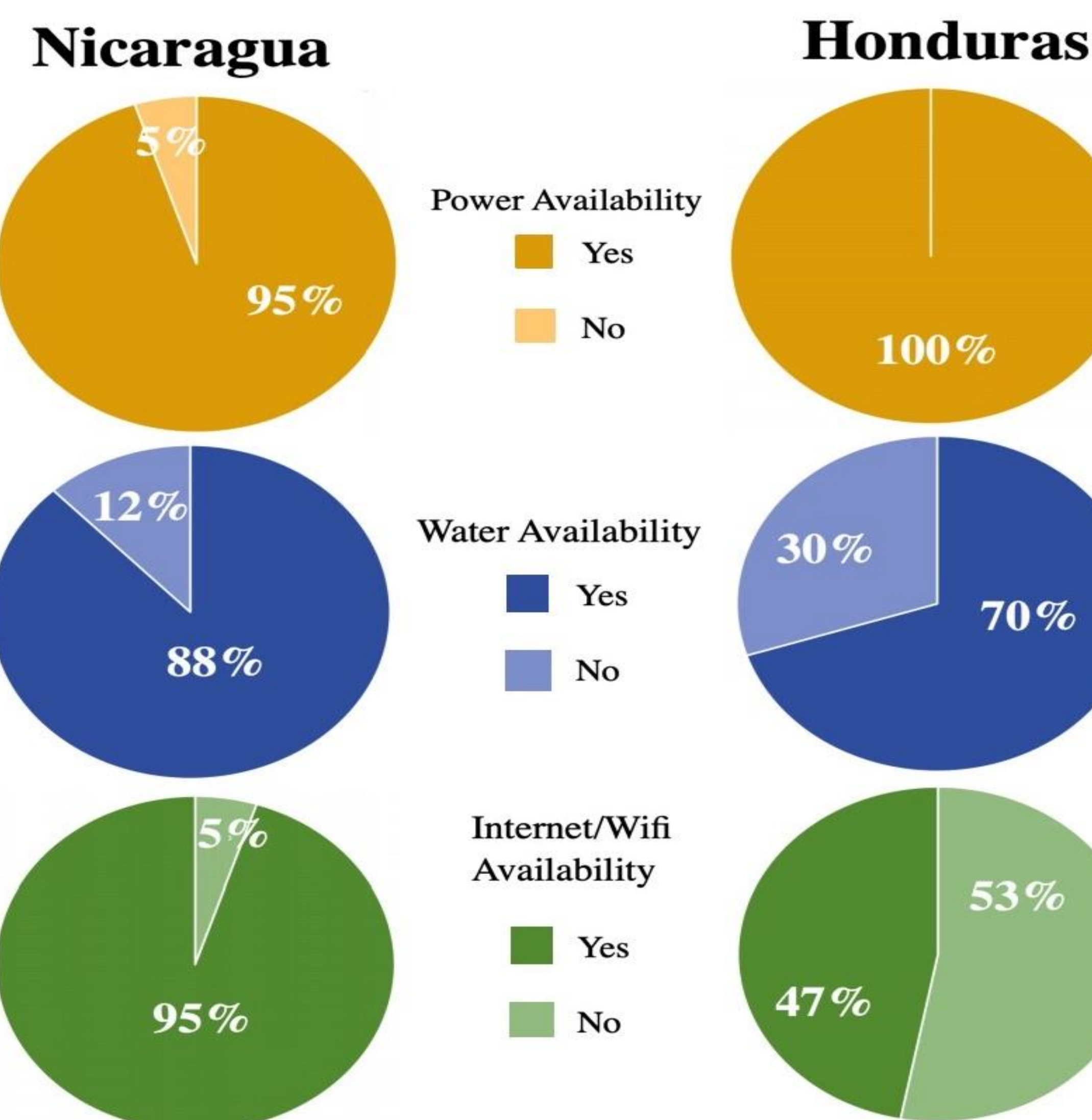
- This model was based on a cell-phone centered telecolposcopic device, MobileODT EVA System.
- Collaborated with the UVA Karen S. Rheuban Center for Telehealth and host sites in Nicaragua and Honduras to find and present a connectivity strengths and limitations model of telecolposcopy.
- A comprehensive needs assessment related to primary, secondary, and tertiary prevention of cervical cancer, as well as testing the connectivity metrics for telecolposcopy.
- The connectivity metrics were collected using Cisco Jabber software and the MobileODT EVA System. An average of three to four photos and one video were taken at 28 clinic locations and uploaded to the MobileODT cloud-based portal.
- The average time between media upload and availability on the MobileODT portal by country was analyzed.
- Connectivity specifications and limitations were noted for each site.
- Through a systematic environmental scan, clinic characteristics including power, Internet/Wifi availability and water access were documented.

Results

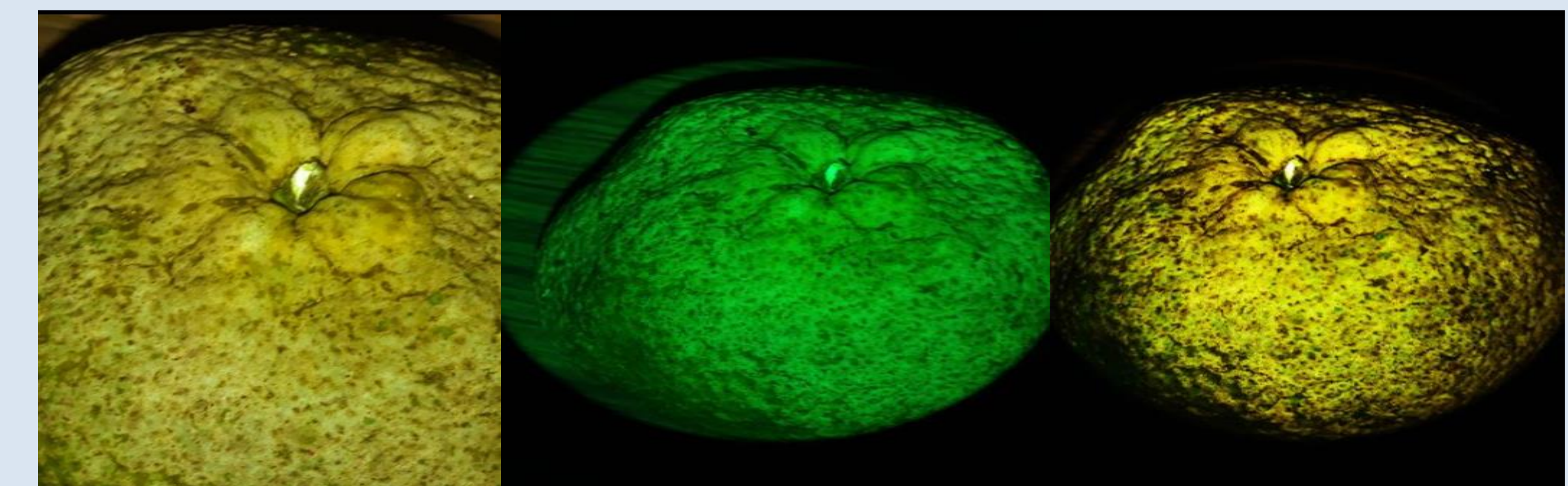
The study found the mean time from upload in Honduras was 2.60 minutes (range 0-11) and 54.72 minutes in Nicaragua (range 5-255). The sites tested in Honduras had 4G LTE connectivity and Nicaragua had 3G. Most sites did not have Internet available and some did not have reliable electricity or water access.



Clinic Characteristic Considerations for Implementation



Left: Use of the portable MobileODT EVA System to take photos and videos of citrus in lieu of a patient's cervix to demonstrate and ensure a high level of detail is transmitted to the portal. Below: Images taken in Nicaragua and retrieved from portal.



Discussion

Data collected will be utilized to determine the feasibility of using telecolposcopy with this cell-phone centered device, within the context of currently established systems for cervical cancer prevention.

Selected References

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