Pocket Colposcope: Analysis of Bringing Elements of Referral Services to Primary/Community Care


BACKGROUND

- 84% of new cervical cancer cases worldwide occur in low- and middle-income countries
- Three-visit cancer care paradigm (screening, diagnosis, treatment) is ineffective for low-resource settings, with high lost-to-follow-up rates at each stage
- Colposcope: device used to screen for abnormal cells in cervix
- Pocket Colposcope (Fig. 1): low-cost, accessible, and FDA-cleared device that rivals state-of-the-art colposcopes
- Bass Connections aims to investigate how to transform three visit cervical cancer care paradigm, with a focus on implementing the Pocket Colposcope

PREVIOUS RESEARCH

- 2016-17: Global Value Chain analysis of the Pocket Colposcope introduction in Peru
  - Identified key leverage points
- 2017-18: Assess patient & physician attitudes toward Pocket Colposcope in Peru
  - Conducted patient surveys (Fig. 2), focus group with midwives, & training sessions with physicians

RESEARCH OBJECTIVES

2018-19 GOAL: To create a roadmap on implementing transformative technologies into an innovative healthcare model to reduce cancer disparities, with a focus on cervical cancer and the Pocket Colposcope. This roadmap requires assessment of clinical acceptability, market for the Pocket Colposcope, and policy considerations.

1. CLINICAL ACCEPTABILITY: Assess patient and provider attitudes about the cervical cancer screening paradigm and Pocket Colposcope, we designed three surveys to be implemented at the Duke University Gynecological Clinic and community clinics in NC.

2. MARKET ANALYSIS: To evaluate the market opportunity for the Pocket Colposcope, we calculated the serviceable available market (SAM), serviceable available market (SAM), and total addressable market (TAM).

3. POLICY FRAMEWORK: The feasibility of performing biopsy was introduced as a major ethical concern and potential reimbursement barrier. To follow up on this finding from the medical ethics panel, we arranged a demonstration performed by an OB/GYN.

1. CLINICAL ACCEPTABILITY

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<tr>
<th>Survey</th>
<th>Setting</th>
<th>Target Audience</th>
<th>Purpose</th>
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<tbody>
<tr>
<td>1</td>
<td>Community clinics in North Carolina</td>
<td>Patients who are not currently using Pocket Colposcope</td>
<td>• Assesses patients' barriers to cervical cancer screening/care</td>
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<tr>
<td>2</td>
<td>Community clinics in North Carolina</td>
<td>Providers who are not currently using Pocket Colposcope</td>
<td>• Assesses providers' experience/training in colposcopy and willingness to learn new colposcopy device</td>
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<td>3</td>
<td>Duke Tj Gynecological Clinic</td>
<td>Patients enrolled in clinical trial for Pocket Colposcope</td>
<td>• Assess patients’ preferences between Pocket Colposcope and traditional, state-of-the-art digital colposcope</td>
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2. MARKET ANALYSIS

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<th>Serviceable Available Market (SAM) Breakdown</th>
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3. POLICY FRAMEWORK

- Legal panel: Importance of language clarity, need for further studies on device performance and reimbursement
- Common themes:
  - Regulations around telemedicine
  - Providers' liability concerns
  - Potential harms of biopsies
- Medical ethics panel: 
  - Recommendations for further studies on device performance and reimbursement
  - Feasibility of biopsies

FUTURE DIRECTIONS

- CLINICAL ACCEPTABILITY: Use IRB-approved surveys and in-depth interviews to evaluate patient and provider acceptability of the Pocket Colposcope in community care settings at low-income areas of North Carolina.
- MARKET ANALYSIS: Analyze cost efficacy in low-income community health settings by evaluating staffing models and efficiency levels from provider use of the Pocket Colposcope.
- POLICY FRAMEWORK: Determine what policy needs must be addressed to implement the Pocket colposcope in community care settings in NC and begin the transition to a decentralized model of cervical cancer screening/care.

REFERENCES


Acknowledgements
Marise Krieger, Libby Dotson, Christopher Lam, Daniel Harriman, Nimmi Ramanujam, Michael B. Waizkin, Christina Silcox, Megan Huchko, Mark McClellan, Yujung Choi, John Schmitt.
Lincoln Community Health Center, Planned Parenthood – Durham Health Center, La Liga Contra el Cáncer.