

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

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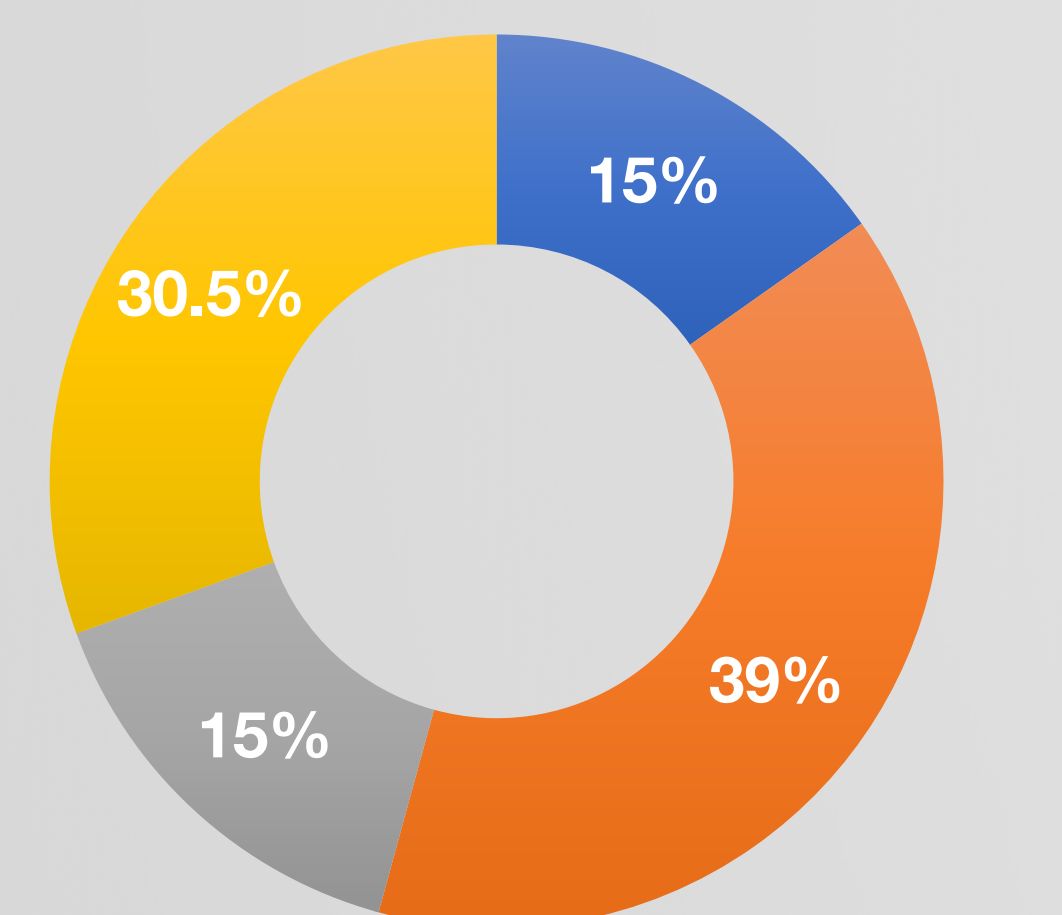
## BACKGROUND

- 84% of new cervical cancer cases worldwide occur in low- and middle-income countries<sup>1</sup>
- 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

Barriers to Cervical Cancer Screening Reported by Women in Peru (n = 29)



- 2016-17:** Global Value Chain analysis of the Pocket Colposcope introduction in Peru<sup>2</sup>
  - 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

Fig. 2: Results of survey distributed to women at the La Liga Contra el Cáncer clinic in Lima, Peru

## RESEARCH OBJECTIVES

**2018-19 GOAL:** To create a road map 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.

- CLINICAL ACCEPTABILITY:** Assess patient and provider attitudes to evaluate clinical acceptability of the Pocket Colposcope
- MARKET ANALYSIS:** Build an understanding of the market for the Pocket Colposcope
- POLICY FRAMEWORK:** Assess opportunities and barriers to implementing the Pocket Colposcope in the context of regulation, reimbursement, and ethical and liability concerns

## 1. CLINICAL ACCEPTABILITY

To assess patient/provider attitudes about the cervical cancer screening paradigm and Pocket Colposcope, we designed three surveys to be implemented at the Duke 1J Gynecological Clinic and community clinics in NC.

Survey #	Setting	Target Audience	Purpose
1	Community clinics in North Carolina	Patients who are not currently using Pocket Colposcope	<ul style="list-style-type: none"> <li>Assess patients' barriers to cervical cancer screening/care</li> <li>Gauge patients' care preferences</li> </ul>
2	Community clinics in North Carolina	Providers who are not currently using Pocket Colposcope	<ul style="list-style-type: none"> <li>Assess providers' experience/training in colposcopy and willingness to learn to use new colposcopy device</li> <li>Evaluate providers' attitudes toward image counseling</li> </ul>
3	Duke 1J Gynecological Clinic	Patients enrolled in clinical trial for Pocket Colposcope	<ul style="list-style-type: none"> <li>Assess patient preferences between Pocket Colposcope and traditional, state-of-the-art digital colposcope</li> </ul>

## 2. MARKET ANALYSIS

To evaluate the market opportunity for the Pocket Colposcope, we calculated the serviceable obtainable market (SOM), serviceable available market (SAM), and total addressable market (TAM).

Serviceable Available Market (SAM) Breakdown<sup>3</sup>

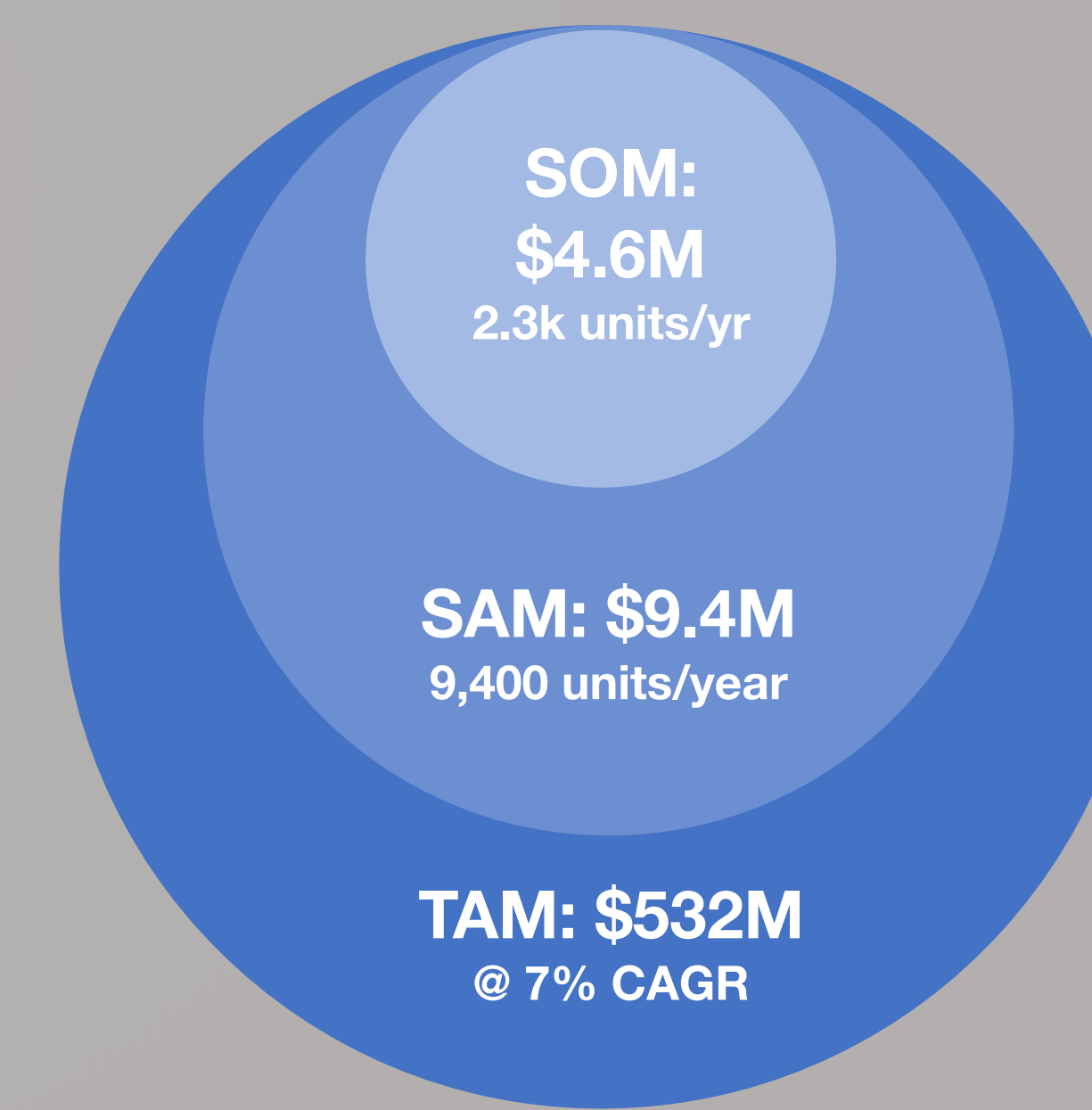


SAM/SOM Revenue Trends

Industry Report #'s (BCC 2013)	2018	2019	2020	2021	2020
Serviceable Available Market	\$9.4M	\$10.1M	\$10.8M	\$11.6M	\$12.4M
# Units / Year	9,400	10,100	10,800	11,600	12,400
Price (\$) / Unit	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000
Serviceable Obtainable Market	Calculated at 25% Penetration Rate				

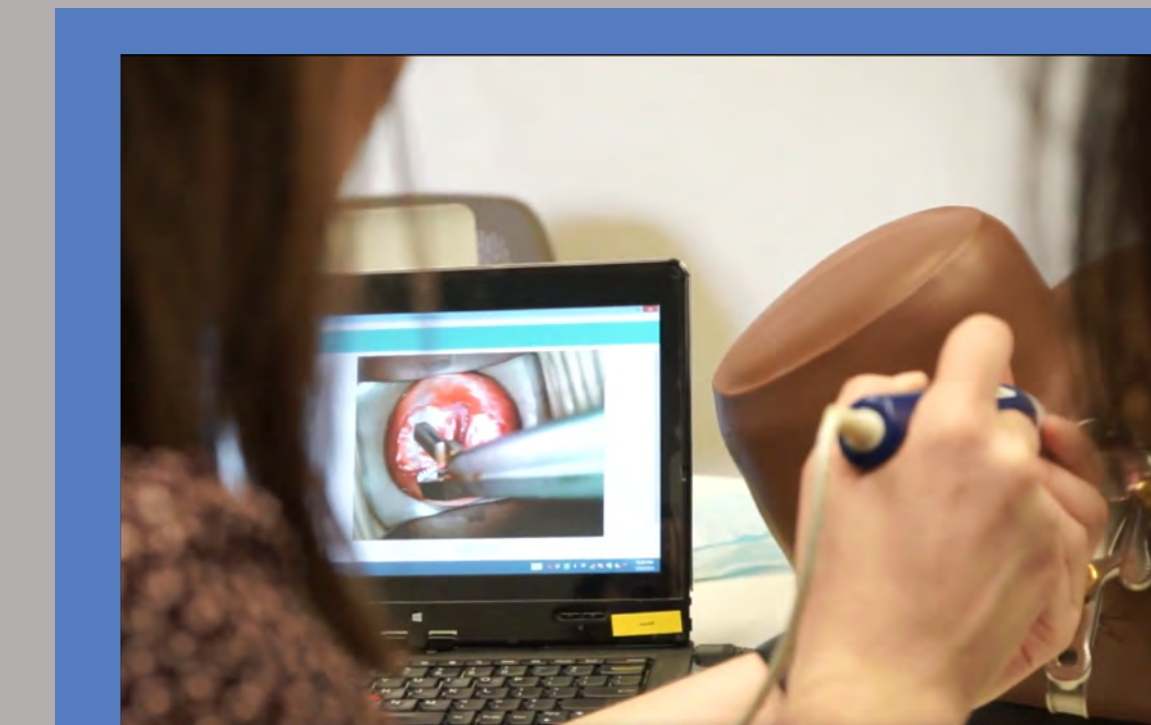
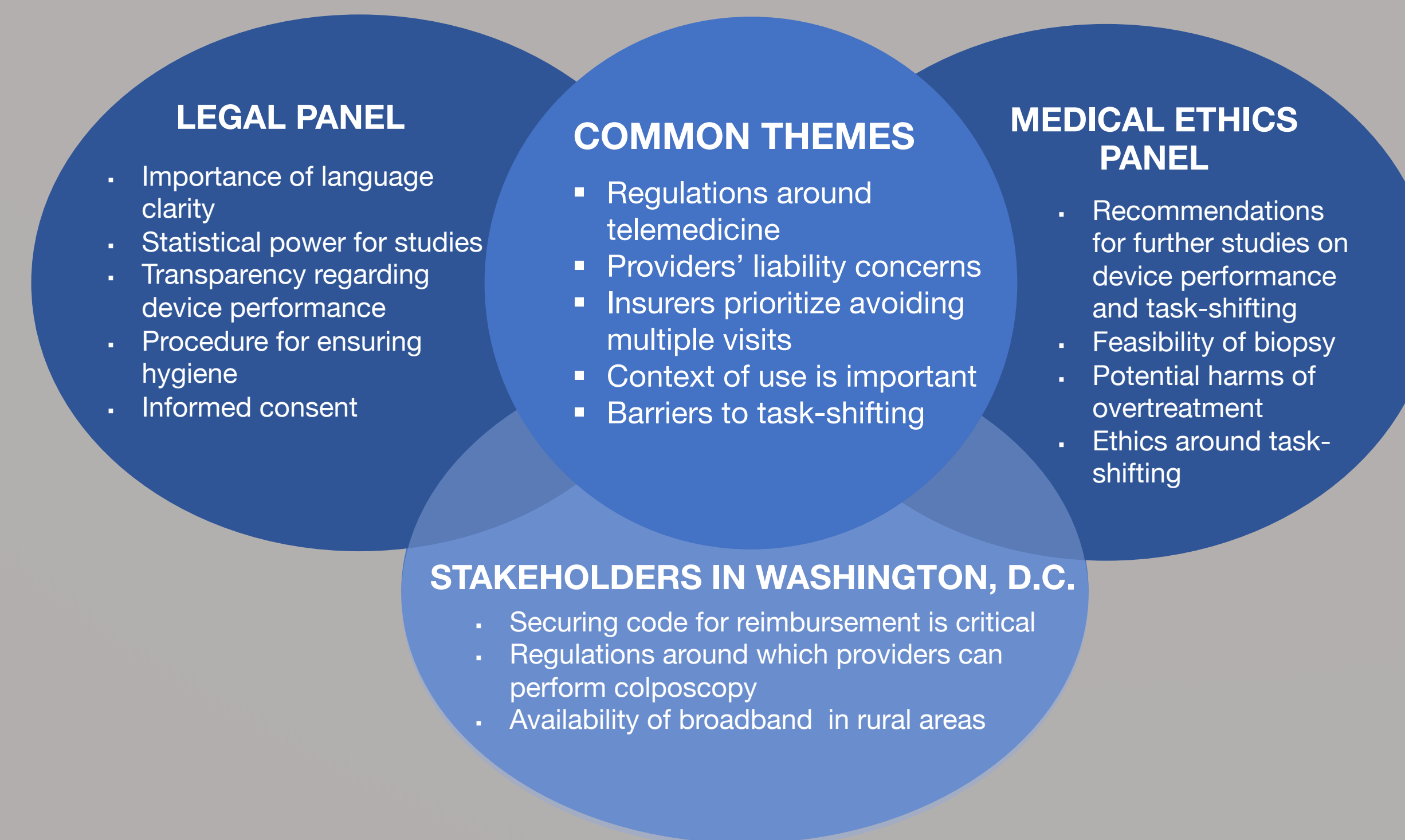
**Value Proposition for Provider:** New revenue stream by adding colposcopy

- Screening coverage at only 80.5% in the US<sup>4</sup>
- 10 procedures pays off device (OB/GYN avg. 72 procedures/yr)



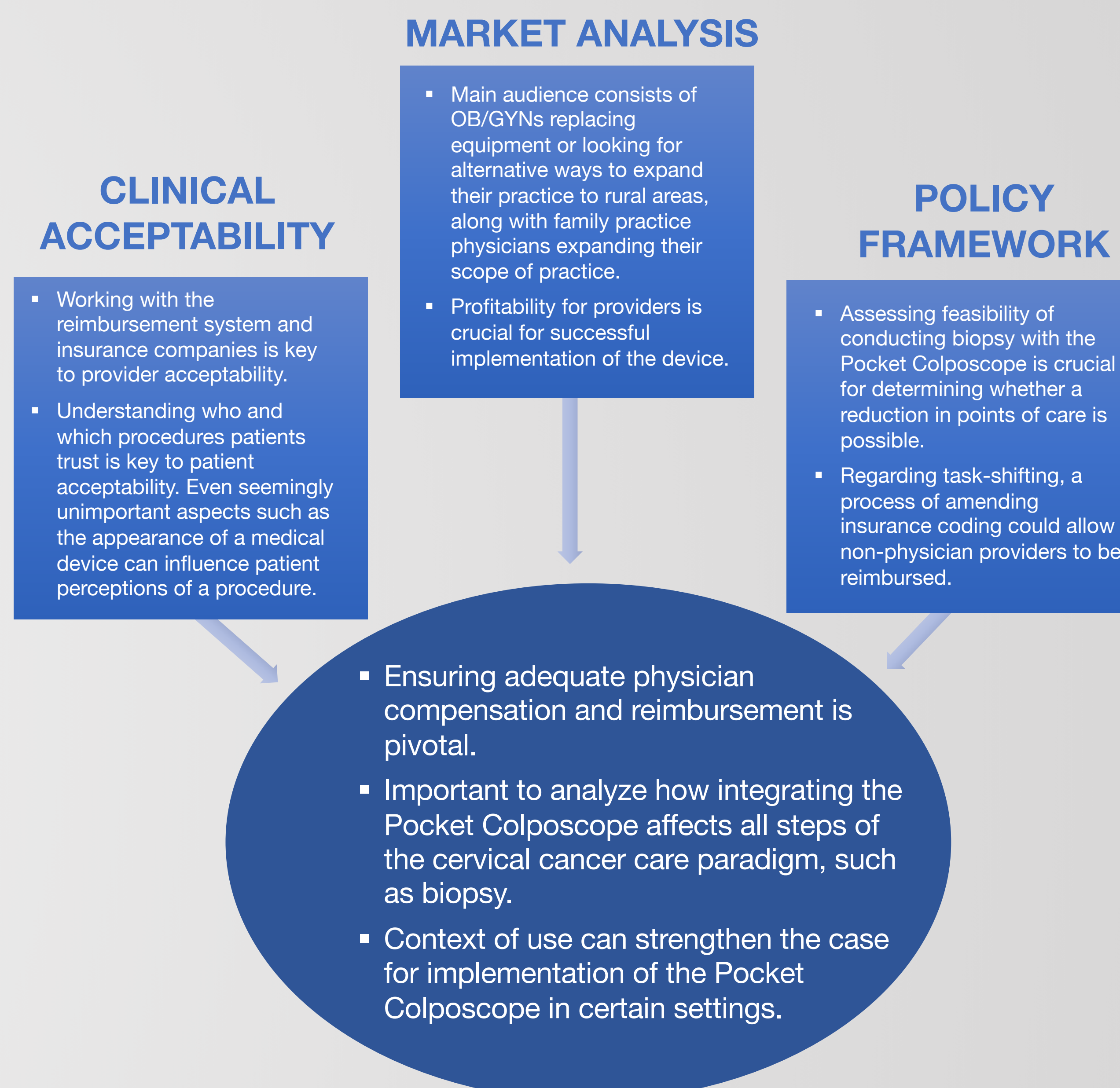
## 3. POLICY FRAMEWORK

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.



Preliminary results from a demonstration of biopsy with the Pocket Colposcope indicate that collection of a histopathology sample is feasible.

## RESULT: ROADMAP



## 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 in 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
- Analyze quantitative costing data to construct detailed curation of raw data

### 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
- Construct policy briefs on conventional cervical cancer screening/care paradigm

## REFERENCES

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