Statistics on Clinical Activities and Practices of Cervical Cancer Clinics in Kenya, and beyond

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Disclosures

- All authors own stock in MobileODT
- JM, CP, DL receive some salary from MobileODT
- DL sits on MobileODT's Board of Directors

Cervical cancer challenges in LMICs

Lack of infrastructure

- No national cancer registries
- Little information on number of patients, diagnoses, treatments by geographical region
- Lack of access to higher level screening and treatment modalities
- Lack of expert practitioners

Human Resource Deficiencies

- Lack of adequate training
- Absence of supervision
- Limited availability of experts

Operational and policy decisions are difficult for

- Clinical networks and hospitals
- Aid organizations
- National governments

EVA System and Image Portal

Mobile Colposcope

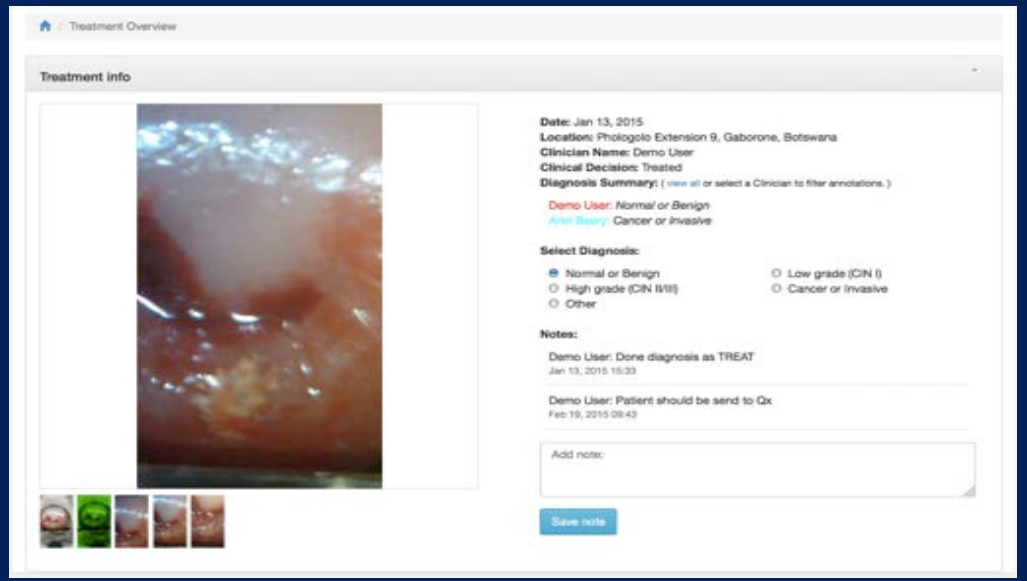
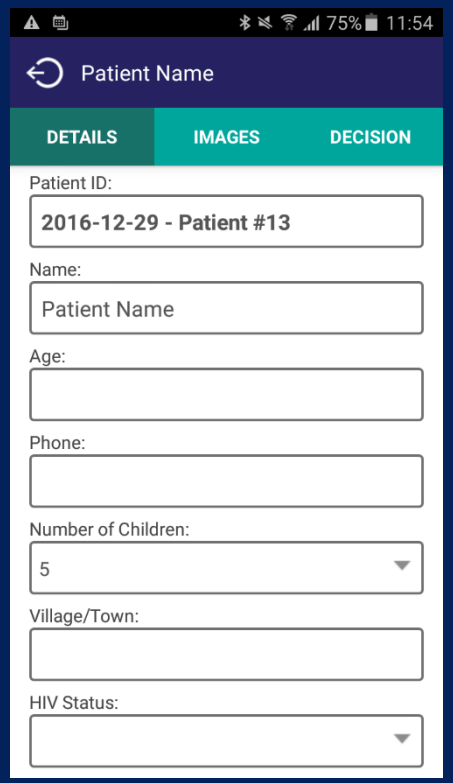


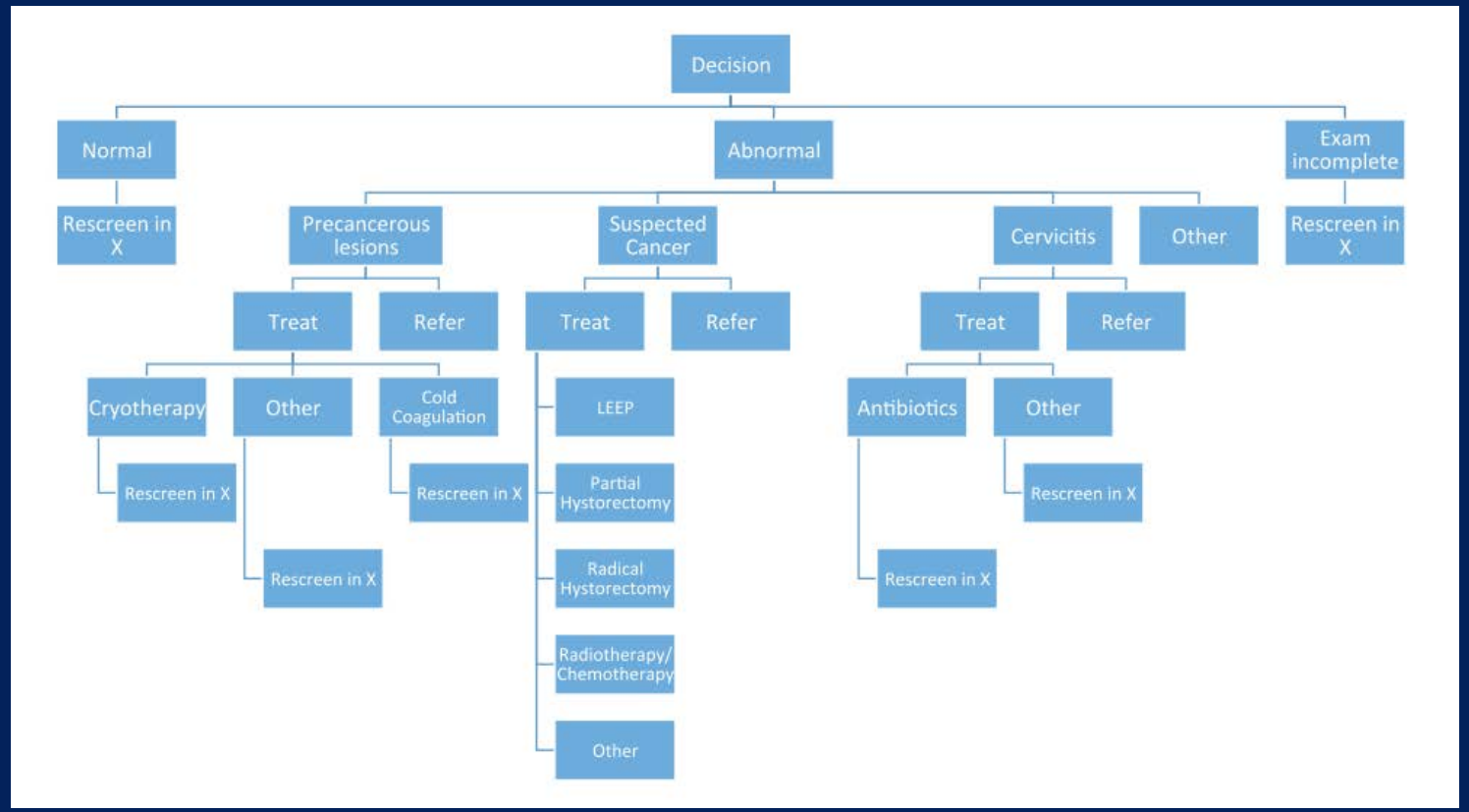
Image Portal

- Smartphone uploads information onto image portal
- Portal back end allows for tabulating statistics on imaging-related activities in cervical cancer clinics in LMICs
- Information can provide insight and help operational decision making

Collecting information on CervDx App



New patient screen

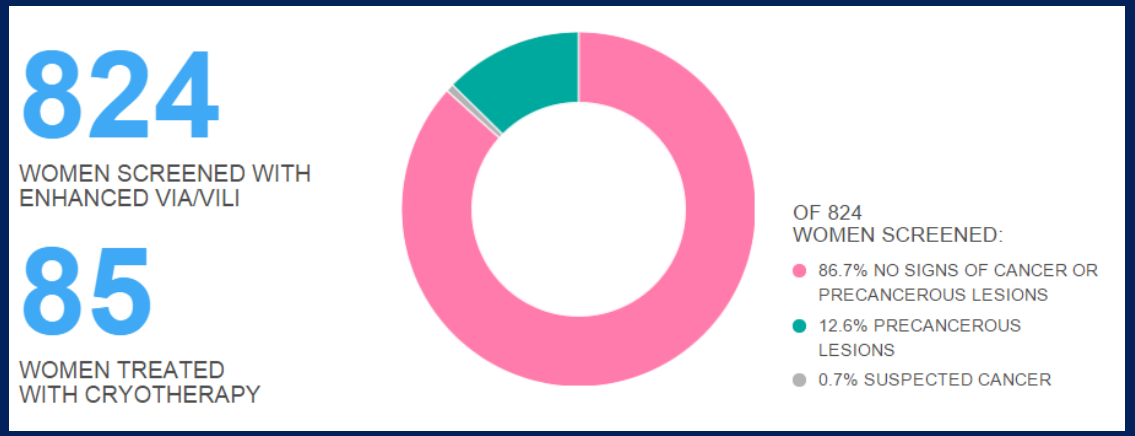


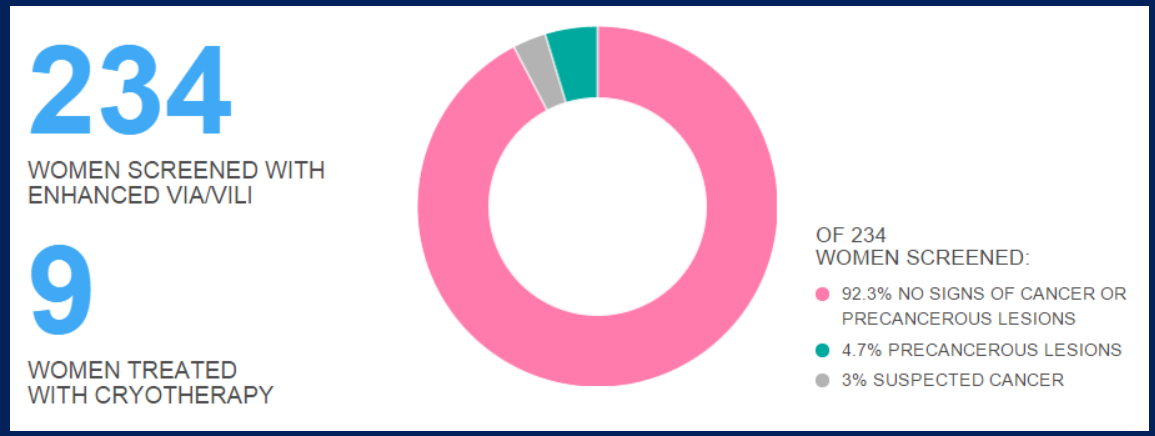
Decision Support Job Aid

Analyses

- Urban vs. rural screening camp
- Quality assurance
- In country supervisors vs. external review

Comparison of 2 screening camps





Screening camp 1, Central Nairobi

July 2015

85 patients (12.6%) have dysplasia

Screening camp 2, Nieri County

February 2016

9 patients (4.7%) have dysplasia

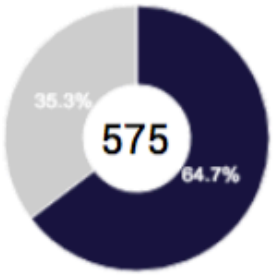
Screening camps were 100 km apart!

Quality assurance

Late Breaking results

- EVA units deployed at 2 clinics in Nairobi, Kenya
- Provider decision reviewed regularly by 2 local supervisors

575	203	2	8	91.7%
Reviewed cases	Insufficient for assessment	Underdiagnosed patients	Health providers	Overall agreement rate



Total reviewed patient cases

- 64.7% Clinically assessed (372)
- 35.3% Insufficient for clinical assessment (203)

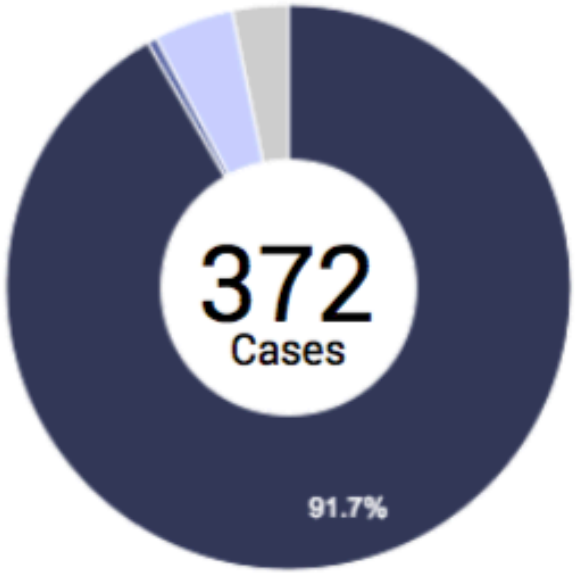
Quality assurance

Late Breaking results

- Local supervisor review

Agreement rate

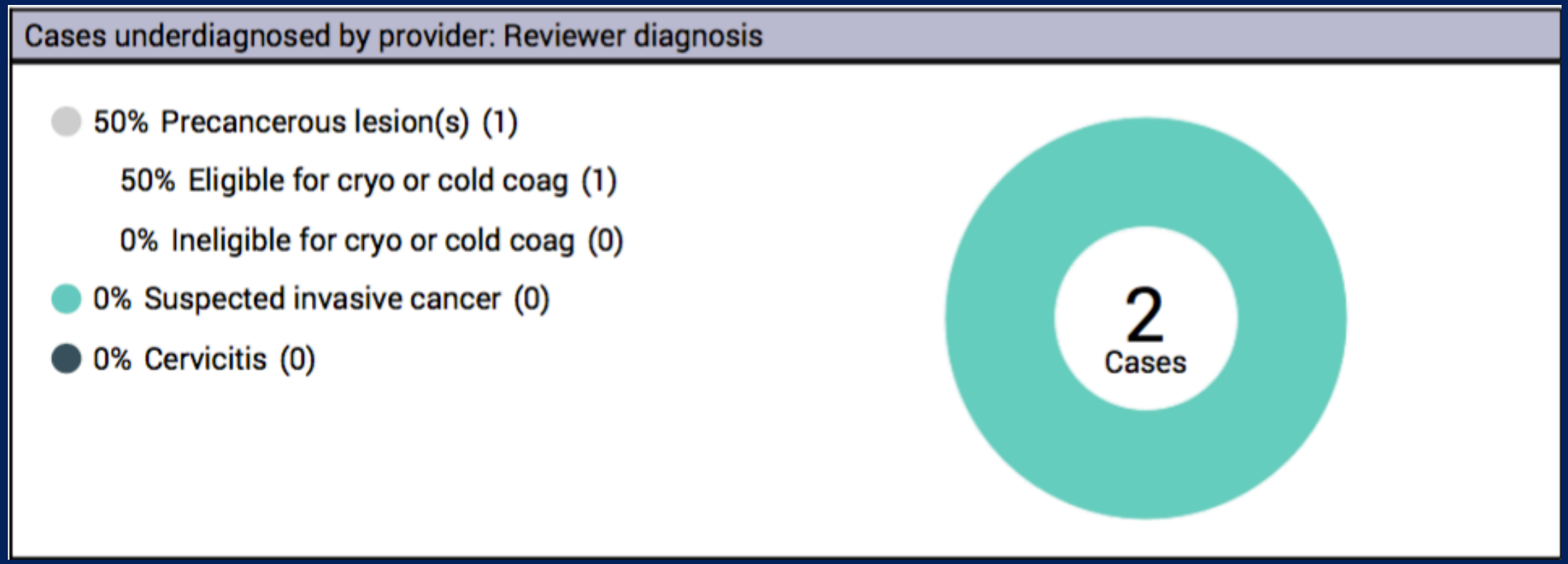
- 91.7% Provider in agreement with reviewer (341)
- 0.5% Provider underdiagnosed (2)
- 4.6% Provider overdiagnosed (17)
- 3.2% Provider did not record a diagnosis (12)



Quality assurance

Late Breaking results

- Local supervisor review

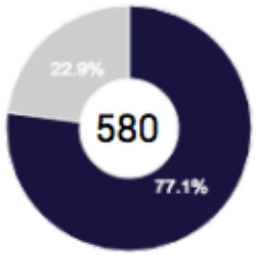


Reviewing the reviewers

Late Breaking results

- Review of providers by local supervisors repeated by US-based senior expert
- Expert review saw provider decisions but not local reviewer decisions

580	133	17	8	82.6%
Reviewed cases	Insufficient for assessment	Underdiagnosed patients	Health providers	Overall agreement rate



Total reviewed patient cases

77.1% Clinically assessed (447)

22.9% Insufficient for clinical assessment (133)

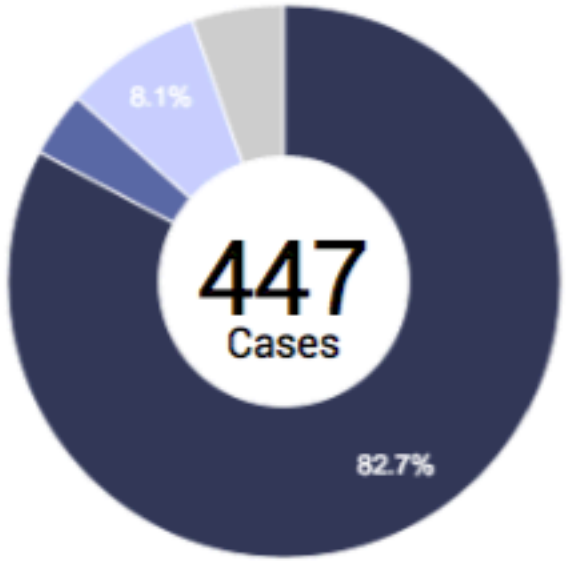
Reviewing the reviewers

Late Breaking results

- Review by US-based expert

Agreement rate

- 82.6% Provider in agreement with reviewer (369)
- 3.8% Provider underdiagnosed (17)
- 8.1% Provider overdiagnosed (36)
- 5.4% Provider did not record a diagnosis (24)



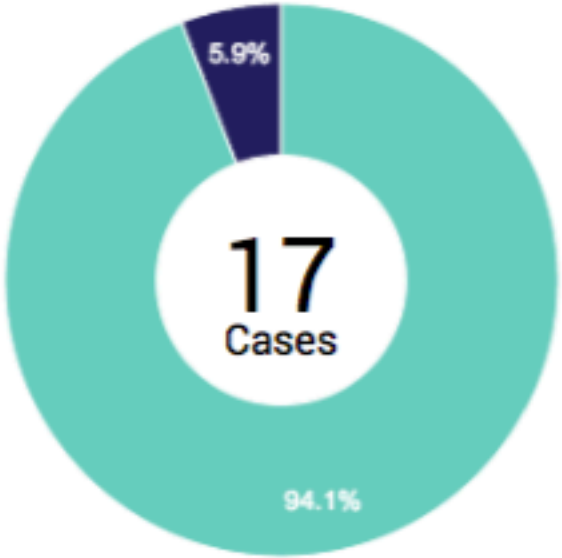
Reviewing the reviewers

Late Breaking results

- Review by US-based expert

Cases underdiagnosed by provider: Reviewer diagnosis

- 94.1% Precancerous lesion(s) (16)
  - 88.2% Eligible for cryo or cold coag (15)
  - 5.9% Ineligible for cryo or cold coag (1)
- 5.9% Suspected invasive cancer (1)
- 0% Cervicitis (0)



Reflections

- **Data presented as a case study**
- Proof of concept of mhealth tool for remote expertise bringing direct impact abroad
- Capacity building for cervical cancer programs cannot focus solely on providers but also trainers and supervisors need further supervision
- Data driven feedback for retraining supervisors completed
- Next steps:
    - There is already a third reviewer corroborating this data
    - Optimize oversight in LMICs using low cost telemedicine