

# **MOBILE DIAGNOSTICS FOR CERVICAL CANCER**

## **MILESTONE 2: NEEDS ASSESSMENT**

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# Cervical Cancer in Zambia

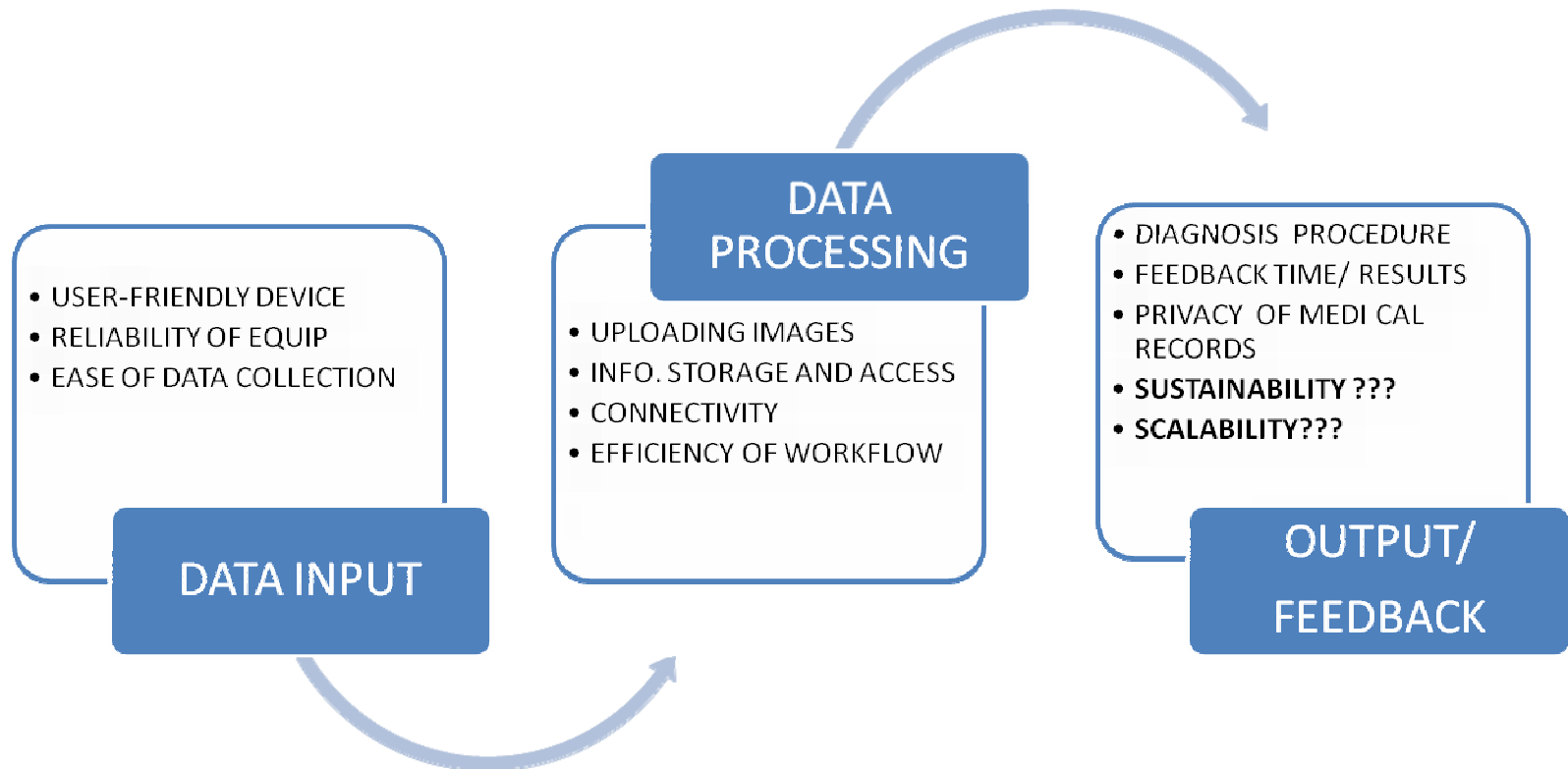
- ✓ Increasing at an alarming rate
- ✓ #1 killer of women in Zambia
- ✓ Approximately 30,000 women have been treated in the last 2 years out of 4.5 million

## WHAT HAS BEEN DONE SO FAR?

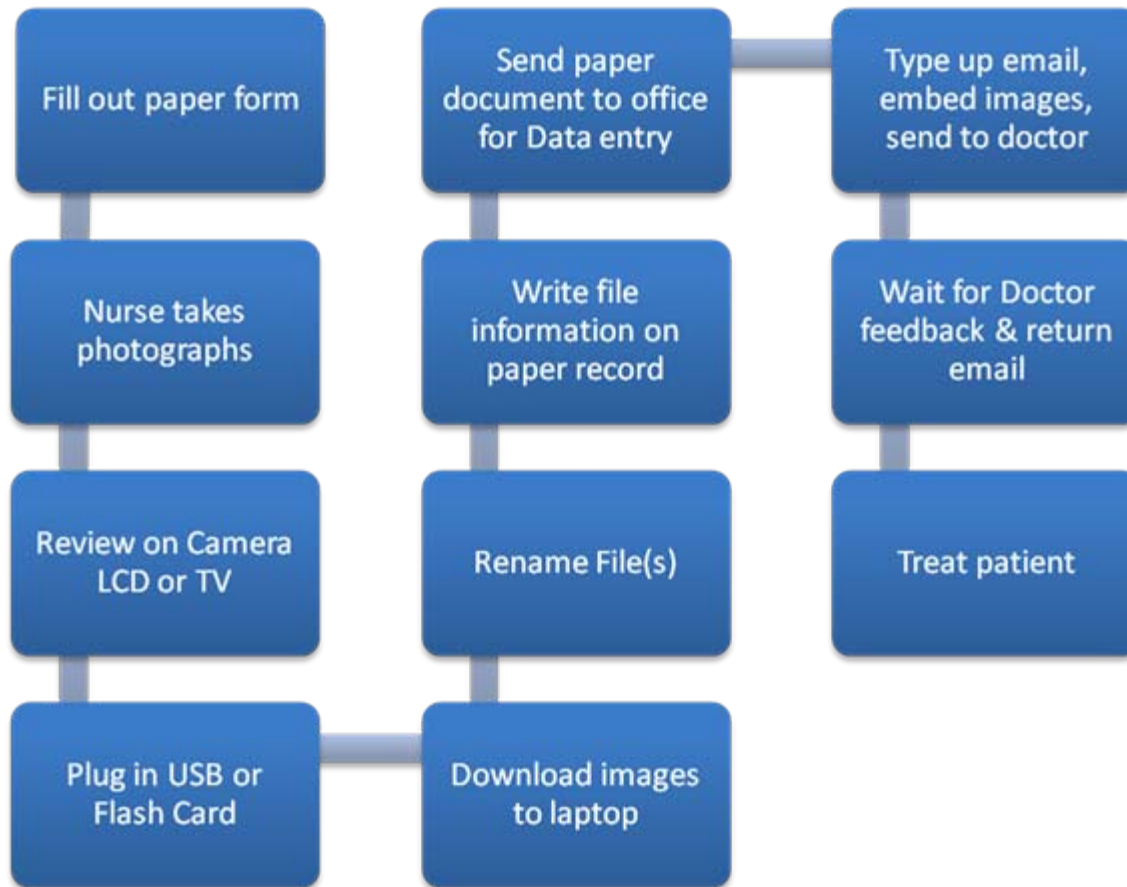


Map: CIA World Factbook

# FOCUS AREAS FOR SURVEY

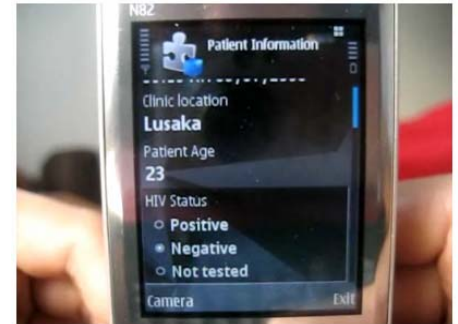


# CURRENT PROCESS FLOW



## PRESENT STATUS

- Solution is COMPLEX
  - Low bandwidth ( spotty connection in Zambia)
  - Functioning prototype tested has excessive User Confirmation ( Lengthy, annoying)
  - Nurses sufficiently satisfied with current image quality. e.g. Olympus camera 7 MP
  - Restriction to single image capture and transmission at a time
- Patient-ID-to-image indexing and matching currently done in a paper-based system
  - Work flow is complicated, slow
  - 11 pilot clinics but very few trained nurses
  - Cell phones are extensively used
  - Only 3 medical doctors at CIDRZ
  - **Small patient population** reached



# WHAT INFORMATION WE NEED?

## SAMPLE QUESTIONS.....

### FOR CIDRZ

- Sources of Funding? What's the Budget?
- How is population being reached? Campaigns? Ads?
- Long term goals? Sustainability initiatives?

### FOR NURSES

- Time spent during process? Current Challenges?
- Clinical Process description? How many images at a time?
- # patients per day? Per hour?
- Specialization of roles?
- Patient follow ups?

### FOR DOCTORS

- Feed back Mechanism?
- # patients diagnosed per day? Time spent on 'call'?
- Process workflow? Improvements?
- Effectiveness of Image Quality?

- Must get **IRB approval** to conduct the surveys!
- Working with partners in Zambia to deploy surveys (paper form)
- Conduct more intensive in-person interviews if members travel to Zambia
- Language is not an issue b/c English is the official language.

### **Other Sources of Volunteers:**

- Community based healthcare workers e.g.
  - Lusaka family health trust
  - Bwafwano community organization
  - Churches health association of Zambia.
- Medical Students from University e.g UNZA university

# Mobile Service Providers

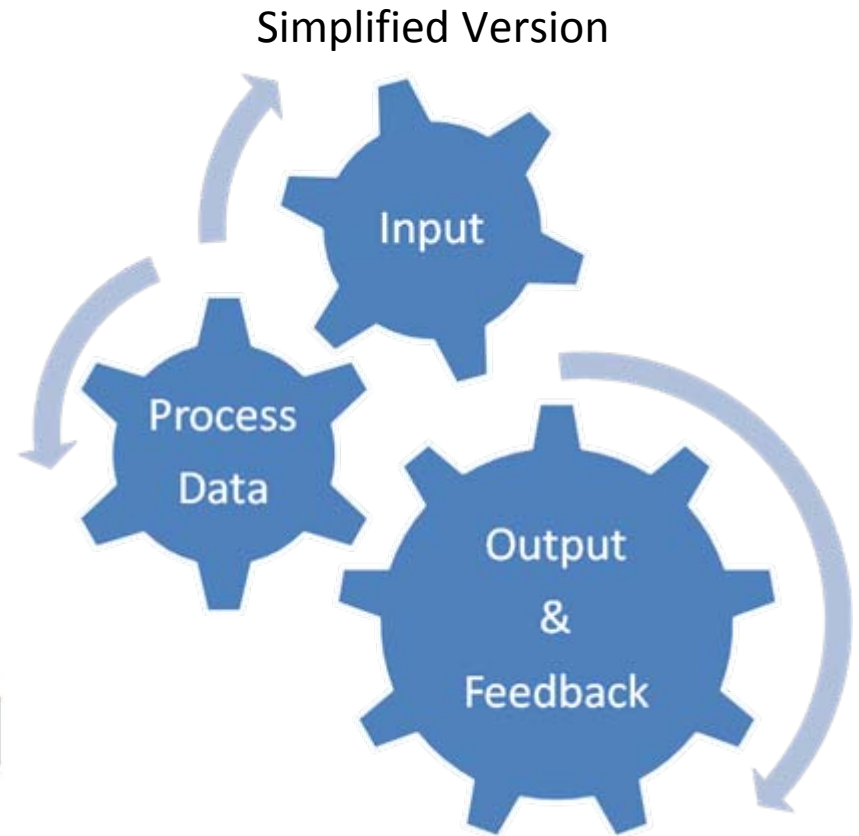
- MTN, Cell Z, CELTEL are Main MSP's
- The GPRS mobile Internet service was launched by CELTEL in late 2006 and covers all areas in Zambia where CELTEL operates.
- The access speed ranges from 30 to 160 kbps. To use GPRS one needs to have a PC-card (ZMK 950,000) or USB-card (ZMK 1,170,000).
- Cost of usage are ZMK 1,600/ MB and one can also purchase bundles of 100 MB for ZMK 85,000
- Post paid 1,600/MB Pay at the end of the month based on usage in MB



# Proposed Improvements



Courtesy of OpenMRS.  
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# Questions/ Suggestions!



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MAS.965 / 6.976 / ES.S06 NextLab I: Designing Mobile Technologies for the Next Billion Users  
Fall 2008

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