MediFind Marketplace App for Laboratory Services in Kenya

Application Development Using LOINC for Geo-Locating Quality Laboratories
MEDI>FIND - a marketplace app for lab services

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Access to high-quality and timely pathology and laboratory medicine (PALM) services are needed to support all healthcare systems. LMIC countries such as Kenya have a disproportionately large share of the global burden of disease but a disproportionately low share of PALM services that support and facilitate diagnosis and treatment.

We want to produce an app that will help patients find effective, high quality and affordable private lab services. We want them to be able to use the best labs so that high quality, well-priced labs thrive and succeed. We believe that this will drive the sector to focus on quality and offering the best service possible.

We want to collaborate with stakeholders in this space to create and drive this app forward and to ensure its success in improving labs in Kenya.
Problem 1 - public health patient

DESCRIPTION
Patients are commonly faced with limited services in public hospitals. They are given a ‘lab request’ document but lack knowledge and may make poor choices - doctors tend to recommend labs they can trust, but not to prioritise price. After trying to investigate price, TAT and availability, patients often become frustrated and opt not to test.

ISSUES
01 Price - mostly too high, insurance limited
02 Turn Around Time - not as advertised
03 Availability - wasted time seeking care
04 After assessment, decide can’t afford and so move ahead with ‘working diagnosis’
Problem 2 - private health patient

DESCRIPTION
Private healthcare users may still experience significant problems with labs. They may be limited in the labs they can choose due to insurance cover, but if they receive inaccurate results from poor quality labs, they can pursue the wrong treatment at great cost.

ISSUES
01  Insurance questions
02  Test price affordable…
03  But poor quality = wrong treatment, costs
04  Bad clinical outcomes, delay of appropriate care, additional treatments increase costs
Preliminary Market Summary

All users suffer effects – different classes of user experience different types of problem, but slow TAT, volatile/high pricing, and poor quality are issues for all users

Pseudo labs and fake results - In addition to low quality issues, users face being conned by pseudo labs who fraudulently offer tests they are not able to provide and labs who used untrained technicians who do not have basic skills

Non-clinician Guides – The Kenyan market suffers from a shortage of fully trained clinicians and so patients sometimes rely on lower-skilled staff for advice - pharmacists in particular.

Working diagnoses and Market Growth - A great number of patients decide to proceed under a ‘working diagnosis’ due to the problems they face in accessing good quality services. This marks a huge missed opportunity for the sector and a public health tragedy.
MEDI FIND MVP App Features

- Contact and Basic Lab Info
- Full List of Tests Available
- KMLTTB Category
- Quality Systems in Place
- KMLTTB License Updated
- Price for Top 25 Tests
- Turnaround Time
- Check Test Price and Availability
- Check Sample Receipt Process
- Facilitate Discussion with Doc
- Check Sample Procedure
- Confirm Test Appropriate

We aim to produce a simple, user-friendly, Minimum Viable Product version of the app so that we can test it and improve its functionality. We want to integrate KMLTTB’s license information and lab category info alongside quality information (SLPTA etc.) to allow the doctor, CO or nurse and their patients to make better choices about which labs they use.
Test Driving through the Database

- World Health Organization’s Essential Diagnostic in vitro List (WHO EDL)
- Neglected Tropical Diseases
- Kenyan Top Volume
- Aga Khan University Hospital Specific
Test Driving through the Database

- Change from a visual platform on a spreadsheet to a performance platform
  - Insert primary key
  - Insert columns to replace visual intent
  - Working columns inserted preserving original content
Test Driving through the Database

- Original data included:
  - Category
  - Formal Test Name
  - Test Description, Reasoning, Possible samples sourced from AACC LabTestsOnline
So Many Questions!

QUESTION: Is a 24H urine collection practical screening in Kenya? I would suspect a PT timing on random urine?

QUESTION: Is 1.5 Hr post the most typical stopping point in Kenya?

QUESTION: Are both MASS and MOLAR units of measure used in Kenya for CRP?

QUESTION: Would CSF be an outpatient collection?

QUESTION: This panel was created based on USA reimbursement case with CMS; is it appropriate to use for Kenya? Did someone check the required components?

QUESTION: Does Kenya offer the breath test?

QUESTION: This is the reflex culture after dipstick LOINC. There is a urine culture LOINC. Which is correct?

QUESTION: Chosen LOINC is the post-surgical report of the procedure. I believe you're looking instead for hematological, coagulation and biochemistry values on the patient PRIOR to the surgery. What is usually ordered?
Prototype database

- Added methodless CBC panel
- Options for UA reflex culture vs straight to urine culture
- Blood culture description from LTO included multiple organism possibility; bacteria, fungus, mycobacterium, virus --- went generic for now
- Opted for random urine collection terms
- Designed to accept laboratory specific information through a portal for catalogue, pricing and quality indicators
Next Steps per MediFind team

- There’s definite need for the app—no one we spoke to during testing had a clear idea of what price they’d pay, nor how to assess quality.
- We learned the need for capturing panels—so much is ordered by panel rather than individual.
- The EDL process has a lot of different actors engaged. We’ve made sure that several people SAGE IVD know importance of coding.
- [www.finddx.org](http://www.finddx.org)
- November 2019 2nd round application Gates Foundation
Diagnosis, the missing key to health

FIND is a global non-profit organization that drives innovation in the development and delivery of diagnostics to combat major diseases affecting the world’s poorest populations.

BY 2020 WE AIM TO: