

AI in the Clinical Setting

Ally Salim Jr

Inspired Ideas | Dr. Elsa



Healthcare Challenges in Tanzania

1:20,000

Tanzania's physician to patient ratio

- + 75% of physicians live in urban areas
- + Poor resources and lack of training for rural providers
- + Lack of specialists in the country
- + High patient loads & overworked doctors



DR ELSA™

Integrated, Intelligent Healthcare



@doctorelsa



@doctor_elsa

Dr. Elsa is an AI-powered
Health Assistant for
healthcare providers

About Dr. Elsa

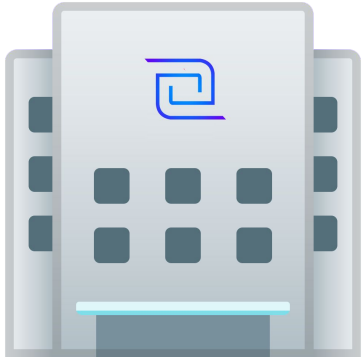
- Built for lower cadres healthcare workers at **village dispensaries and clinics**
- Provides healthcare workers with **symptom assessment, health decision support, & next steps recommendations**
- Supports **accurate data collection** and patient assessment according to national guidelines

About Dr. Elsa

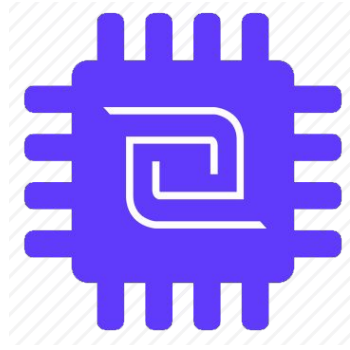
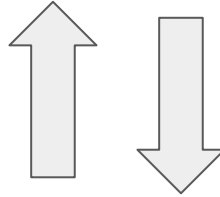
- Currently being tested for **pediatric populations** (ages 0-14) in **Bagamoyo, NCD's in Arusha, and Cervical Cancer in Dar Es Salaam.**
- **Goals:** Decrease misdiagnoses, decrease antibiotics misuse, decrease time and money spent in the care system while increasing healthcare worker credibility/confidence, and improve health outcomes

Workflow

Step 1
Patient goes to a
healthcare facility

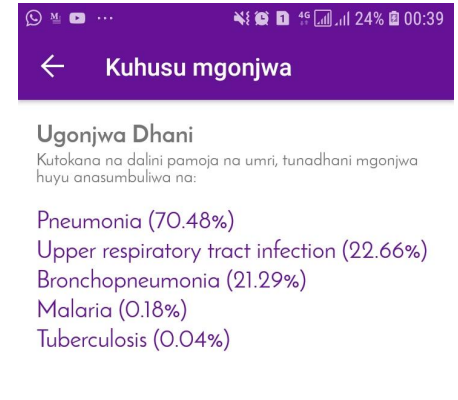


Step 2
Doctor enters patient details



Step 3
AI makes calculations in
background

Step 4
Evidence Based Decisions



Requirements & Considerations

Towards Standardization



**The technology is the easy
part.**

Data Challenges & Considerations

- Relevant, consistent, and high-quality data is **scarce**
- Acquiring data is **expensive and time consuming**, since most of it is currently in paper format
- The **heterogeneity of diseases and treatment options** from an East African context
 - Prevalence of diseases in different areas
 - How symptoms manifest in different areas and people
 - Language - umbrella terms used for different symptoms

Data Recommendations

- Standardization assessments should be inclusive of diseases and outputs that are **relevant to the tools being assessed**
- Treatment or triage recommendations must be **relevant to the tools being assessed**
- Standardization benchmarking tools, *if using AI*, must be trained on **relevant data**.

AI Performance Challenges & Considerations

- Standardize the definition of “Performance” in the clinical setting
- Requirement for the AI to exhibit **interpretability, explainability, and transparency** to healthcare workers and other stakeholders
- Incorporating **meta-data** such as clinicians suspicions and **patient background information** into the AI thought processes

AI Performance Recommendations

- **Direct and unrestricted access** to the government and its health ministries
- Develop **custom criteria** for AI decision judgement that includes condition seriousness, severity and proportionally disqualifies models based on the types of errors made.
- Discourage the use of **Black Box Models**.

Clinical Integration Considerations

- **Understanding health workflow** and how to implement in a fragmented system
- **Understanding the digital challenges** with implementation in areas with poor digital infrastructure.
- **Understanding the technology literacy rates** and ensuring tools are not cumbersome to use, leading to misuse.
- **Awareness of clinician over-reliance on digital tools** that might develop over time.

Clinical Integration Recommendations

- Ensure AI **performance is not affected by external factors** like execution environment and internet availability.
- Involve clinicians at both deployment and at specialist levels ***at every stage*** of development.
- Sensitize clinicians on **accountability** and the underlying technologies.

Thank you for your support!

Questions?

Ally Salim Jr

ally@inspiredideas.io

+255 766 439 764



**DATA COLLABORATIVES
FOR LOCAL IMPACT**

