Artificial Intelligence Research Could Empower Pharmacovigilance in Sub-Saharan Africa

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Introduction

SSA health systems require capacity building.

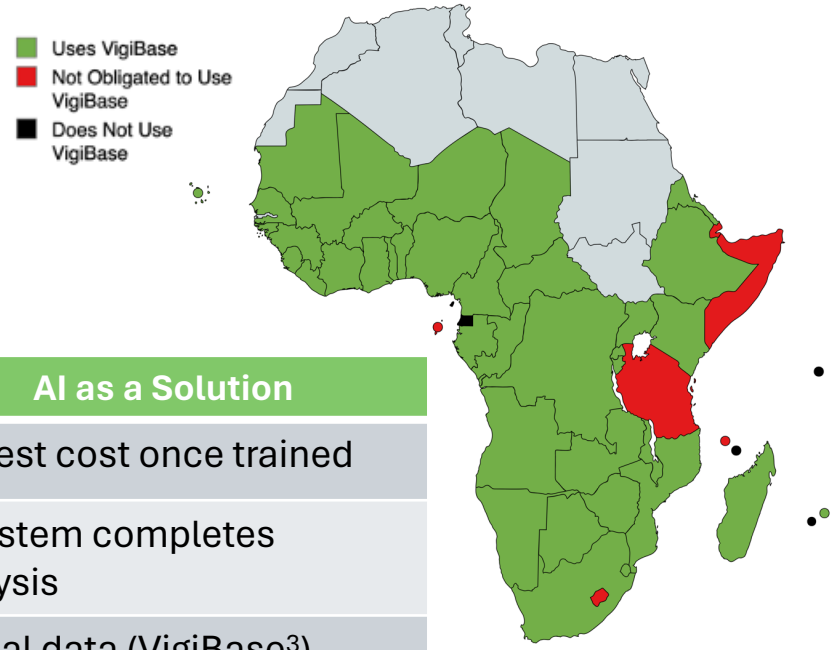
Need for Active PV in SSA
- Not in controlled setting of clinical trial
- High rates of ADRs

This project evaluates AI as a solution to current barriers and cooperation with HIC as mutually beneficial.

Methods

- Literature review
- Collective case study
  - 10 SSA LIMC
  - 7 Western HIC

Cost of Preventable ADRs (USD/year)	
U.S. Alone	810 M [3,4]
Global Average	152 M[4]
FDA PV Budget	
42.5 M[1]	
Cost of Development Chat Gpt3	
3.2 M	



Barriers	AI as a Solution
Lack of funding	Modest cost once trained
Clinicians lack time and training	AI system completes analysis
Sample size	Global data (VigiBase[3])

Discussion – Collaboration with HIC

Capacity Building
- Developing technical infrastructure suitable for HIC and LIMC

LIMC Increases Data Available for Training AI
- Systems not yet mature enough for widespread implementation
- Practical experience with implementation would provide valuable foundation
- Need numerous cases to test model's accuracy

Cost-Benefit Analysis
- HIC donors already provide substantial funding to medication supply
- GPT3 cost = 3.2 million
- Average HIC ADR Cost/Year = 152 million
  - HIC can take on cost of training, still saving
- LIMC PV budget pays for microchips

Conclusion

Financing active PV via AI is mutually beneficial to HIC and SSA LIMC. Better detection of ADRs would provide a return on investment.

This case study demonstrates a critical and economically justifiable role for active PV in protecting the health of the public.

Literature Cited

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