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Evaluation and Stewardship of Artificial Intelligence Solutions for Health: Lessons Learned from USAID/India

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BACKGROUND / INTRODUCTION:

Recent years have witnessed a proliferation of artificial intelligence (AI) solutions in the health sector. While AI solutions for health have the potential to generate novel insights for policymaking and support other health system goals, they also pose unique challenges including algorithmic biases and elevated cybersecurity risks. Ministries of Health, donor agencies, and other stakeholders must evaluate the potential benefits of AI solutions against their risks and pathway to scale.

OBJECTIVES:

To reflect on recent years of experience with AI across the health portfolio of the United States Agency for International Development (USAID) in India. To propose a framework of analysis for AI investments in health.

METHODOLOGY:

Drawing on lessons learned from case studies from India the authors present 5 overarching lessons learned. A framework of 7 questions serves to evaluate future potential AI for health applications.

RESULTS / MAJOR FINDINGS (Case Studies):

AI Media Scanning for Disease Surveillance

Cough Sound Analysis for TB Screening

Prediction of TB LTFU Patients

Decision Support Tool for Community Health Officers

CONCLUSIONS / LESSONS LEARNED:

1. The best partnerships involve local actors - not just as a source of data, but as active co-creators.
2. Flexibility is key - we rarely know in advance how well models will work or what insights we might learn from the data.
3. The training data must be representative of the target population, and data privacy and security of this data set is critical.
4. The AI solution must connect to a wider package of traditional interventions and clinical workflows.
5. AI in health involves a long journey from concept, to prototype, to pilot testing, to validation, and post- deployment maintenance.

POLICY RECOMMENDATIONS:

Seven question framework for policy-makers and implementing partners to evaluate potential AI products:
1. Does the AI solution have a significant advantage over traditional algorithms?
2. Will AI predictions address a problem that, if resolved, will result in improved health system functioning?
3. Does a data set exist to train the AI product, and is it representative of the product's future target population?
4. Once the product is deployed, are the requisite data inputs for the AI product feasible to collect from the target population?
5. Will the predictions offered by the AI product be trusted by patients, health workers, and system managers?
6. Are there local partner organizations who can co-create the AI product?
7. What are the pathways to scale for the AI product?

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