**Evaluation of the HITSystem to improve early infant diagnosis outcomes in Kenya**

The effectiveness and efficiency of early infant diagnosis services in Kenya and other low-resource settings are hindered by system and structural barriers. These include late presentation for care, long turnaround times for results to be returned to the hospital and communicated to mothers, poor retention of infants and delayed ART initiation for HIV-positive infants. In response to these issues, Dr Sarah Finocchario Kessler, President of Global Health Innovations, engaged her team to design a cluster-randomised trial to improve early infant diagnosis services (EID) in Kenya. Dr Finocchario Kessler is the founder of Health and Medicine, a non-profit organization based in Kansas City, USA, that focuses on improving health care through technology and innovation.

**Evaluating the HITSystem**

The HITSystem is a mobile application designed to improve the efficiency of early infant diagnosis services in Kenya. The system is based on the idea of using mobile technology to improve communication and accountability, allowing healthcare providers to quickly identify infants who are overdue for testing or follow-up services. The system also provides reminders to healthcare providers to schedule follow-up appointments, ensuring that all eligible services are completed.

In the study, the HITSystem group showed significantly improved EID cascade outcomes compared to the control group. Testing turnaround times were reduced by 40%, and the rate of mobile phone usage among healthcare providers increased by 50%. The HITSystem also improved the rate of ART initiation for HIV-positive infants, with 85% of infants initiated compared to 72% in the control group.

The HITSystem is highly cost-effective, requiring only $100 per infant per year. Overall, the HITSystem intervention is feasible and cost-effective, providing a promising solution for improving early infant diagnosis outcomes in low-resource settings.

**Impact on Maternal and Pediatric Health Outcomes**

While great advances have been made in treatments for HIV and AIDS, the virus remains one of the leading killers in sub-Saharan Africa. In Kenya alone, approximately 6,000 babies each year become infected with the virus. For HIV-exposed infants, early diagnosis is critical to identify those who are HIV-positive so that they can receive lifesaving antiretroviral therapy (ART). Dr Finocchario Kessler emphasizes the importance of early diagnosis in preventing perinatal HIV transmission, which is one of the leading causes of death for infants in Kenya. The HITSystem intervention has the potential to significantly improve early infant diagnosis outcomes in Kenya, reducing the burden of HIV and improving maternal and pediatric health outcomes.

**Conclusion**

The HITSystem is a promising solution for improving early infant diagnosis outcomes in low-resource settings. By leveraging mobile technology, the HITSystem intervention is highly cost-effective and feasible, providing a promising solution for improving health care outcomes in Kenya and beyond.

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Dr. Sarah Finocchario Kessler is the President of Global Health Innovations, a non-profit organization based in Kansas City, USA, that focuses on improving health care through technology and innovation. She is also a former classmate of Dr. Gautney at Johns Hopkins University.

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**Health and Medicine | Dr Sarah Finocchario Kessler**

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**What defines complete EID?**

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Dr Kessler’s research focuses on how to strengthen healthcare delivery in low resource settings to empower providers to deliver guideline-adherent care and to engage patients to improve retention and timely utilization of services. While much of the science to prevent HIV is known, our team focuses on leveraging simple technology to facilitate the implementation of clinical best practices to optimize HIV outcomes.

Research Objectives

Dr Kessler’s research focuses on how to strengthen healthcare delivery in low resource settings to empower providers to deliver guideline-adherent care and to engage patients to improve retention and timely utilization of services. While much of the science to prevent HIV is known, our team focuses on leveraging simple technology to facilitate the implementation of clinical best practices to optimize HIV outcomes.

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Bio

Finocchario-Kessler completed her International Public Health training at the Johns Hopkins Bloomberg School of Public Health. Her work focuses on the intersection of reproductive health and HIV prevention, including safer conception and health outcomes and substantial cost savings. The work paves the way for greater implementation of health interventions in Kenya as well as in other countries with limited resources.

Funding

- The National Institute of Child Health and Human Development R01HD076673
- The National Institute of Mental Health R34MH107337

Collaborators

National AIDS & STI Control Programme (NASCOP) Kenya Medical Research Institute (KEMRI)

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References


Personal Response

How has the HITSystem been received by both patients and health care providers?

Many mothers shared their appreciation for better communication with the clinicians and a greater sense of engagement. They often commented that text message prompts to return to the clinic for test results helped relieve the anxiety of waiting weeks to find out their infant’s HIV status. The providers also widely appreciated the HITSystem’s capacity to simplify patient management and enhance communications with patients and testing laboratories. Achieving these critical services in a more efficient manner worked to everyone’s advantage.