Use of mHealth technology to improve quality of care and child health services in Nairobi’s Kibra slum

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Introduction

During January 2019 – April 2020, we piloted a project in Kibra urban slum area in Nairobi County, Kenya, to improve the availability and use of quality child health services delivered by health care providers, specifically focusing on private health care providers (PHCPs).

We used an innovative mHealth clinical assessment and treatment platform, to improve knowledge, skills, and practice.

Aim

Our pilot project aimed to determine if using the mHealth clinical assessment platform, coupled with supportive supervision and community awareness raising activities, would lead to improved knowledge and practice among health care providers (HCPs) for the assessment, diagnosis and treatment of sick children, with a focus on childhood pneumonia and dehydrating diarrhea – the two biggest killers among children of 2-59 months of age.

Training

11 Master Trainers on IMNCI from MOH
Two training batches – April 2019 and October 2019
In total, 117 health care providers (clinical officers, nurses and pharmacists) were trained:
- 95 received formal training;
- 22 received on-the-job training
In total, 89 HCPs were users of the mHealth platform at the time of the endline assessment.

Methods

We collaborated with the Langata/Kibra sub-county health management team
Adopted MEDSINC content to the Kenyan context
Trained selected health care providers and equipped them to use MEDSINC (the digital mHealth platform) for assessment, diagnosis and treatment of sick children.
Baseline (in February 2019) and Endline (March 2020)

Results

The users of the mHealth technology demonstrated –
- Improved knowledge of danger signs for sick children
- Better management of childhood illness, especially diarrhea and pneumonia
- Increased dispensing of Amoxil DT (versus more costly antibiotics) for treating childhood pneumonia
- Improved compliance to follow IMNCI guideline for child’s health assessment, diagnose and manage sick children
- Positive usability and acceptability findings

Results revealed the ability of our used mHealth technology to improve users’ adherence to IMNCI protocol, and skill to identify danger signs
Engaging community health workers is crucial to inform community about when/where to seek care

While only 5% of health care providers correctly identified all three danger signs at baseline, 46% of them answered correctly at the endline

Challenge

High turnover of staff in some facilities and motivation by job on the job training
Health care providers are inclined to dispense revenue-enhancing drugs
Ensuring internet access to upload data may have difficulties
Recent impact of COVID-19 on MEDSINC use/reporting
Some HCPs found the platform is time-taking, and thus got discouraged from using it consistently, although we found the average time taken per assessment by the platform was 7-9 minutes

Lessons Learned

- Results revealed the ability of our used mHealth technology to improve users’ adherence to IMNCI protocol, and skill to identify danger signs
- Engaging community health workers is crucial to inform community about when/where to seek care

Context

- Poor access to quality health services in urban slums is a global challenge.
- Globally, a billion people live in urban slums – most with limited access to public sector health services. Kibra, Kenya’s largest slum, is no exception.
- Kibra’s slum is the largest slum in East Africa, home to nearly 300,000 people
- Typically, care is first sought from private health care providers (PHCPs) – especially small clinics and chemist shops (often preferred because they are close-by, have more convenient hours, and offer more respectful care).
- The care these children receive is often substandard, or even harmful.
- Most PHCPs are not trained to follow WHO’s integrated management of newborns and childhood illness (IMNCI) guidelines.

Focus of activities/Intervention:

- To enhance the knowledge and skills of HCPs on the use of the mHealth technology, and to ensure their compliance to IMNCI guidelines for assessment, diagnosis and treatment of sick children;
- To establish stronger linkages between participating HCPs and sub-county health department for supportive supervision, monitoring, and reporting;
- To ensure HCPs’ access to quality drugs;
- To assess the usability and acceptability of the digital clinical assessment tool.

The project was made possible through support from private patrons (doctors’ group in Upstate New York, USA).
We gratefully acknowledge collaborative support from the Langata/Kibra sub-county health management team, and Ministry of Health, Nairobi, Kenya.

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Use of mHealth technology developed by THINKMD

- It is a well-enabled browser-based mHealth platform
- Facilitate non-physician health workers (specifically frontline health care providers) in child health assessment using the same logic and approach as physicians do.
- This platform has proprietary platform logic and is guided by World Health Organization (WHO) recommended IMNCI algorithm.
- As a result, it creates WHO’s IMNCI compliant assessments, triage, treatment, and follow up recommendations.

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