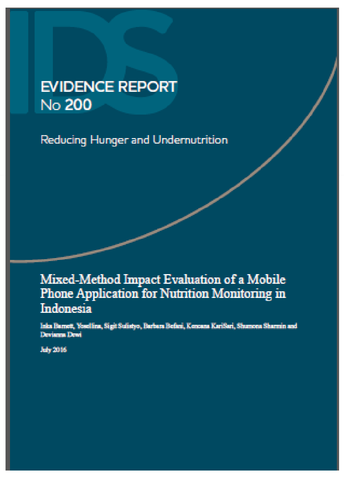

Mixed-Method Impact Evaluation of an mNutrition application in Indonesia

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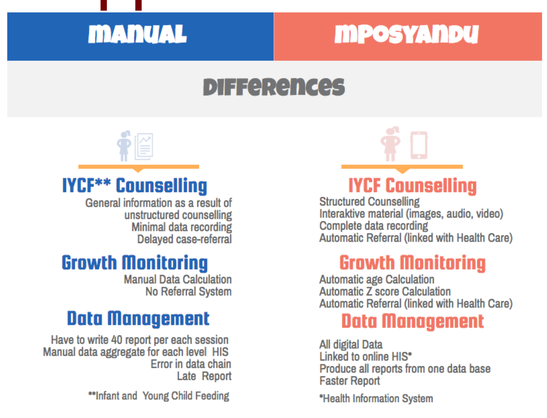
Background

- External evaluation
- Posyandu = Indonesian Community-based Health Care Delivery Unit
- Intervention = Growth Monitoring and Promotion

mPosyandu Mobile Application

- Dimagi CommCare application
- Smart phones; Android platform
- Growth monitoring: case registration, anthropometric data collection, z-score calculation, nutritional status and growth velocities, data transfer and aggregation, visual feedback
- Nutrition counselling: supports assessment & analysis of underlying reasons for child undernutrition, provides tailored messages



Evaluation Methods

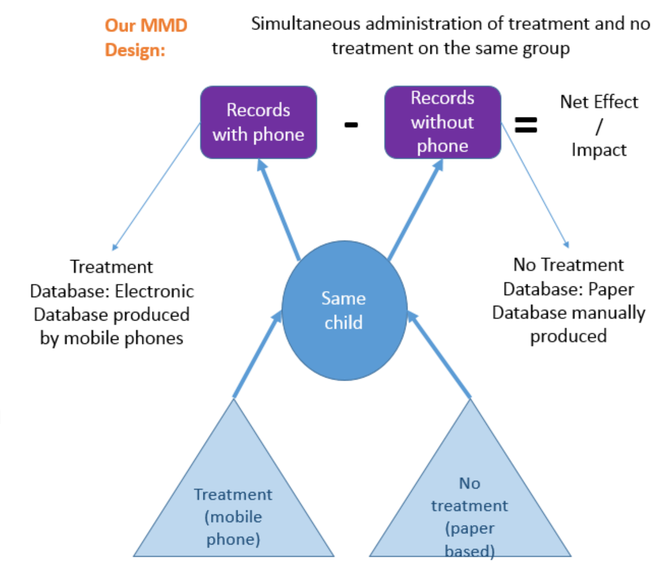
Objectives

1. Examine the impact of the mobile phone application on growth monitoring processes:
   - Impact on data accuracy including nutritional status classification
   - Impact on timeliness of submission of aggregated nutrition data
   - Impact on responsiveness of CHW cadres' feedback-giving
2. Assess the impact of the mobile phone application on the quality of home-based nutrition counselling

Methods

Mixed methods using realist approach: multi-site case study design, Mill's method of difference as underlying causal inference, process tracing

Mill's Method of Difference



Limitations

Study sites, 14 posyandus (growth monitoring teams) pre-selected by World Vision therefore random selection not possible and sample not considered representative.

Mobile solution deployed in parallel to paper-based system due to government regulations.

Acknowledgement & For More Info

This evaluation was supported by UKAID.

For more information about the World Vision Indonesia programs, contact Dr Yosellina Xu Yosellina@wvi.org

This evaluation report can be downloaded from https://www.ids.ac.uk/publication/mixed-method-impact-evaluation-of-a-mobile-phone-application-for-nutrition-monitoring-in-indonesia

Results

Data Accuracy

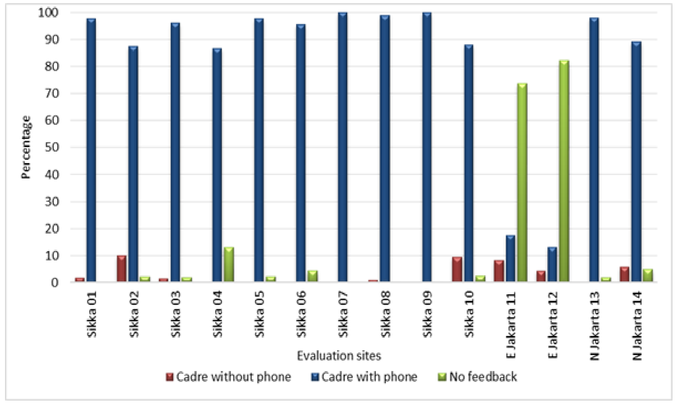
- Those CHW cadres not using application misclassified 1 in 3 children; most incorrectly categorized as 'normal weight' when they were mildly underweight
- Application improved accuracy 80% (95%CI (75.9-83.1), p=0.005) compared to traditional plotting
- Effect of mobile application use was most pronounced when CHW cadres were: younger and/or less educated; had limited training and supervision for using manual GMP system

Timeliness

- Data submission using mobile application was on average 52 hours (2.1 days) faster than paper-based reporting (95% CI (24.2-79.4 hours), p=0.005)
- Mobile application accelerated the nutrition data collection process (e.g. quicker retrieval of child's details, growth monitoring status calculation)
- Overall length of each session increased with the introduction of the mobile application, mainly because CHW cadres were more likely to provide feedback and counselling to caregivers
- Caregivers also actively requested feedback when CHW cadre used application.

Counseling Technique

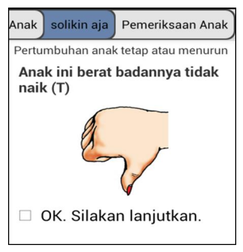
Use of mobile application significantly increased propensity for giving feedback, especially in Sikka and North Jakarta (p=0.005)



Discussion

Value-add of mHealth

- CHW cadres believe that nutritional status calculation using phone is more objective and may therefore be perceived by caregivers as less judgmental and possibly shaming → CHW cadres are more likely to provide feedback when giving service while using phone vs. without phone
- Relative to paper-based system, caregivers are more engaged and want to see visual feedback (thumb-up/down) → Mothers more likely to trust counselling advice



Challenges

- Solution needs to address use case for repeat counseling of same caregiver (not possible during evaluation timeframe)
- Some CHW cadres and caregivers felt that reading from the screen distracted from the counselling process and impeded rapport
- CHW cadres & caregivers expressed concern regarding data loss & data security
- Use of solution together with mandated paper-based system was cumbersome during peak patient flow periods
- Unanswered questions around cost model and scalability

Since completing this evaluation, World Vision Indonesia has made the following enhancements:

- QR code for searching
- Added early childhood development screening component
- Migrated the data to Government's server

Healthy children for a healthy world