



Implementation of a Pediatric Telemedicine and Medication Delivery Service in Haiti



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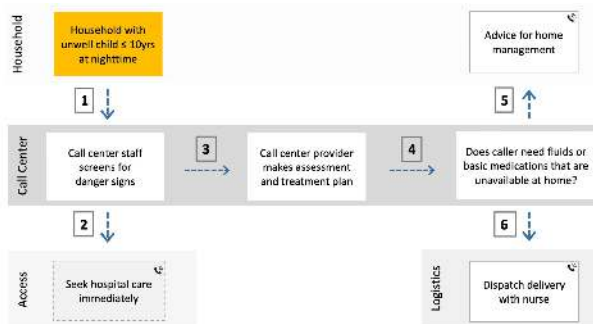
BACKGROUND

Improving healthcare access to marginalized populations is essential to meeting the UN Sustainable Development Goals. Conventional approaches to improve healthcare access where patients travel from households to centralized resources are challenged by economic, geographic, security and logistical barriers, especially at night. The application of telemedicine has considerable potential to overcome these barriers, however, provision of information without resources is of limited value. In response, MotoMeds, a pediatric telemedicine and medication delivery service (TMDS), was launched in Gressier Haiti as a pre-pilot to evaluate clinical safety and feasibility.

METHODS

The TMDS pre-pilot workflow was: (i) A parent of a sick child 10 years or younger called the call-center (6pm-5am). (ii) A TMDS provider used a clinical decision-support tool to triage the case as mild, moderate or severe. Severe cases were referred to emergency medical services. For non-severe cases, medical findings were gathered to generate an assessment and plan. (iii) For households within the delivery zone, a provider and driver transported medications/fluids to the child's home and the provider conducted a paired in-person exam as a reference standard to verify the call center assessment. Families outside the delivery zone received phone consult alone. All families received a follow-up call at 10-days. Data were analyzed for clinical safety, feasibility metrics and guideline/ workflow optimization.

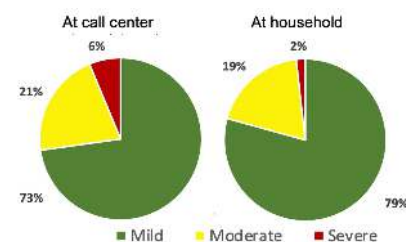
A. Telemedicine and medication delivery service workflow



RESULTS

- 391 patients were enrolled from September 2019 to January 2021.
- 347 (89%) received a household visit.
- At the call center most cases were triaged as mild or moderate (94%, n=358).
- Two percent of cases triaged as non-severe (n=6) were identified as having danger signs at the household and were referred to the hospital.

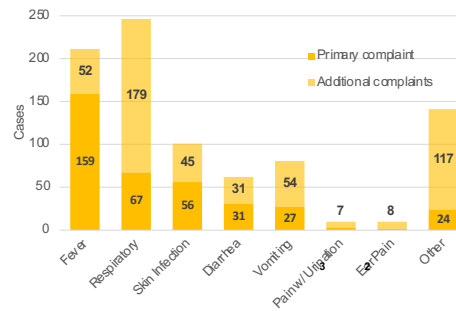
B. Case severity at call center and household



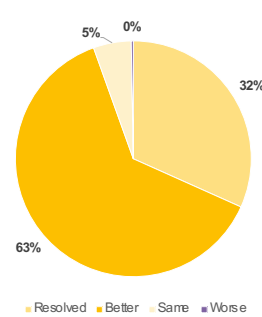
RESULTS CONTINUED

- The most common chief complaints were fever (n=159; 43%) and respiratory problem (18%, n= 67).
- Most severe cases (83%, n=20, 83) sought referred care.
- At 10-days, 95% (n=329) of cases reported their condition as "improved" or "recovered".
- Using the household exam as reference standard to evaluate severity assessment, the sensitivity and specificity of triage at the call center for mild and moderate severity were 95%(95%CI 91%-97%) and 72%(95%CI 55%-84%) and 76%(95%CI 57%-88%) and 94% (95%CI 90%-96%), respectively.
- The median call was 20 mins and time to arrival at household was 73 mins.
- Ninety-nine percent (n=302) of families rated the TMDS as "good" or "great".

C. Clinical reason for contacting TMDS



D. Clinical condition 10 days post enrollment



Conclusion

This study demonstrated that the TMDS was a feasible healthcare delivery model with high rates of improved clinical status at 10-days. In the future the TMDS will be configured for scalability and evaluated. Additionally, the TMDS will be adapted to settings outside of Haiti and piloted.

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