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Role of Digital Technology and Real Time Analytics for Enhancing Quality and Coverage of Complex Public Health Interventions.

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Background: Role of digital intervention for improving the quality and coverage of healthcare intervention is poorly understood in developing countries.

Objective: To establish a data management system (DMS) and document the role of real time analytics for enhancing quality and coverage of complex public health interventions in remote rural area.

Study: This is an exploratory interventional study

Method: We developed and established DMS for real time data analysis for Stepping Stones Project, a cluster RCT aimed at improving ECD by enhancing the parental competencies and nutrition intervention. The data collected by peer mentors was entered weekly into electronic forms. Data was pushed to server on same day, was extracted & analysed for predefined key process indicators. We used STATA/MP Version 15 to generate the output for key indicators and discussed in weekly review meetings of key staff and monthly review meetings of Balsakhi. Gaps in intervention delivery were identified. Corrective actions were taken, and decisions were made based on how intervention was delivered. Additional measures such as training were taken for capacity building. Engagement of volunteer, feedback in weekly meetings, qualitative interviews or focus group discussion, other forms of data such as photos, videos and daily diaries were integrated for decision making and used to develop an implementation plan which continued throughout the project duration.

Results: The coverage of intervention was increased from 42.26% to 82.14%. We were expecting the sessions to be delivered effectively, the Balsakhi should have an engaging interaction with the caregiver for not less than 30 minutes. Numbers of Home Visit session lasting for less than 30 minutes reduced from 20% to 9%. 66% of the sessions were conducted on time (as per the preplanned scheduled), % visit conducted is improved from 30 to 66 at initial stage and finally, it improved by 80. We observed the quality of data collected by the Balsakhi also improved. Data error reduced by 40%, Diary writing skills of Balsakhi and quality of narrative improved. Earlier it was just a bullet point of the services delivered by them. There were some of the unexpected additional outcome as well; Active Participation of the male participation was increased from 3% to 33%.

Conclusion: The findings from this study shed light on the current situation, the opportunities, for real time analytics in improving complex public health intervention in remote and rural area.