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Evaluating SMS Appointment Reminders to Reduce Default Rates in Multidrug-Resistant Tuberculosis Treatment: A Study from Kampala, Uganda

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Abstract

Multidrug-resistant tuberculosis (MDR-TB) remains a major public health challenge in Uganda, where high treatment default rates compromise disease control. Sustained adherence to complex, lengthy regimens is essential. In Kampala, missed clinical appointments are a primary factor in treatment default, but evidence on scalable interventions to improve attendance is limited. This working paper evaluates the effectiveness of a short message service (SMS) appointment reminder system in reducing default rates among MDR-TB patients in the Kampala metropolitan area. The primary objective was to determine the change in the proportion of missed appointments after implementing the intervention. A quasi-experimental study was conducted with patients enrolled in MDR-TB treatment at selected public health facilities. An intervention group received automated SMS reminders 24-48 hours before scheduled appointments, while a control group received standard care without reminders. Default rates, defined as missing two consecutive appointments, were compared between the groups over the treatment period. Operational data from patient records were analysed quantitatively. Preliminary analysis indicates a reduction in the default rate within the intervention group. The proportion of patients who defaulted was approximately one-third lower among those receiving SMS reminders compared to the control group. Feedback from a subset of patients suggested the reminders were perceived as a supportive and useful prompt. SMS-based appointment reminders appear to be a feasible, low-cost intervention for improving appointment adherence among MDR-TB patients in an urban Ugandan setting. This could support better treatment outcomes and reduced disease transmission. Further robust research, including a randomised controlled trial, is needed to confirm efficacy. Health policymakers should consider piloting and integrating such mHealth strategies into the national TB programme, with attention to data privacy protocols and technological access barriers. Multidrug-resistant tuberculosis, treatment default, appointment adherence, SMS reminders, mHealth, Uganda, Kampala. This working paper provides preliminary evidence on the utility of a low-technology mHealth intervention within a routine MDR-TB programme in Uganda, informing discussions on practical strategies to sustain patient engagement in care.

Keywords: *Multidrug-resistant tuberculosis, Treatment adherence, Sub-Saharan Africa, SMS reminders, Health systems research, Default rates, Kampala*

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