



# Assessing the Impact of SMS Behavioural Nudges on Hypertension Medication Adherence Among Dakar's Urban Poor: A Policy Analysis for Senegal

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## Abstract

Hypertension is a leading cause of morbidity and mortality in Senegal. Low medication adherence remains a significant barrier to control, especially among the urban poor in Dakar. Mobile health (mHealth) interventions, such as SMS behavioural nudges, present a potential low-cost policy solution. This policy analysis assesses the effectiveness of an SMS-based behavioural nudge intervention on hypertension medication adherence in Dakar's urban poor communities. It evaluates the intervention's feasibility, acceptability, and potential for integration into Senegal's national non-communicable disease (NCD) strategy. The analysis synthesises evidence from a review of pilot studies and programme evaluations of SMS nudge interventions in comparable low-resource settings. A stakeholder analysis was conducted, and policy options were evaluated against criteria of cost, scalability, and equity. Evidence indicates that tailored, interactive SMS reminders can positively influence medication-taking behaviour. Reviewed programmes showed an average increase in self-reported adherence of approximately 15-20 percentage points for intervention groups compared to controls. Identified barriers include variable digital literacy, mobile phone access, and message fatigue. SMS nudges are a promising and scalable tool to support hypertension management in Dakar. Their effectiveness is contingent upon careful design to ensure cultural relevance and to mitigate practical barriers faced by the target population. 1) Pilot a culturally adapted, two-way SMS nudge programme within existing community health structures in Dakar. 2) Integrate the intervention with parallel improvements in medication supply chains and patient education. 3) Establish a monitoring framework to evaluate long-term clinical outcomes and cost-effectiveness to inform potential national scale-up. mHealth, behavioural nudges, hypertension, medication adherence, health policy, Senegal, urban health, non-communicable diseases. This analysis provides evidence-informed policy options for integrating an SMS nudge intervention into Senegal's NCD strategy, with a specific focus on improving hypertension outcomes for a vulnerable urban population.

**Keywords:** *mHealth, Sub-Saharan Africa, medication adherence, behavioural nudges, policy analysis, hypertension management, urban poor*



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