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A Stakeholder-Selected Implementation Strategy Bundle Improves PrEP Implementation for Women Seeking Maternal and Child Health Services in Western Kenya

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Background: Women remain at substantial risk for HIV acquisition during pregnancy and breastfeeding due to changes in biological and behavioral factors. Although PrEP has been recommended as safe and effective during pregnancy by the WHO and Kenyan government, barriers still exist in its delivery in sub-Saharan Africa. Integration of PrEP during antenatal care in maternal and child health (MCH) clinics remains sub-optimal.

Methods: Between May 2023 and November 2023, we conducted a difference-in-difference study, comparing the 3-month periods before and after implementation, in 8 facilities (4 intervention and 4 comparison) in Western Kenya. We piloted a bundle of 3 implementation strategies selected by stakeholders to enhance delivery: use of PrEP educational materials (illustrated flipbooks, wall charts, FAQ posters), PrEP health talks in waiting bays, and dispensing PrEP in MCH. Absolute changes were evaluated in PrEP penetration, PrEP fidelity, client PrEP knowledge & satisfaction, and timeliness (waiting and service times). Health providers completed a cross-sectional online survey assessing acceptability and appropriateness of the implementation strategies.

Results: A total of 1,821 clients participated in exit surveys (909 in intervention; 912 in comparison

periods) and 768 clients participated in time and motion surveys (384 in intervention; 384 in comparison periods). Significant improvements were observed in PrEP penetration, PrEP fidelity, PrEP offer, and client PrEP knowledge ($p < 0.05$) while non-significant changes were noted in client satisfaction, client waiting and service times. PrEP penetration increased by 20.9 percentage points ($p < 0.001$), PrEP fidelity increased by 32.9 percentage points ($p < 0.001$), PrEP offer increased by 9.5 percentage points ($p < 0.001$), and client PrEP knowledge increased by 0.91/7 total points ($p < 0.001$) in intervention sites compared to comparison sites. We observed non-significant changes in HIV testing (+8.7%; $p = 0.224$), client satisfaction (+0.04/24 total points; $p = 0.791$), service time (+0.17 minute; $p = 0.162$) and waiting time (-0.43 minute; $p = 0.108$) in intervention vs comparison facilities. The implementation strategy bundle was rated highly by the healthcare providers (appropriateness: 20/20; acceptability: 20/20).

Conclusion: A stakeholder-selected implementation strategy bundle that included educational materials and job aids, PrEP health education in waiting bays, and dispensing PrEP in MCH improved PrEP implementation outcomes without affecting client satisfaction, service and waiting times.

