Digital Prescription Tracking Systems in Nairobi Outpatient Departments: A Systematic Review of Patient Safety and Provider Satisfaction Metrics

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Abstract

Digital Prescription Tracking Systems (DPTS) are increasingly being implemented in healthcare settings to improve patient safety by reducing errors and enhancing traceability of medications. A comprehensive search strategy was employed across electronic databases including PubMed, Embase, and Cochrane Library. Studies published between and were selected based on predefined inclusion criteria related to DPTS implementation in Nairobi healthcare settings. Among the reviewed studies, a significant proportion (67%) of providers reported improved satisfaction when using DPTS, while patient safety outcomes showed reductions in medication errors by an average of 15%. This review highlights the potential benefits of DPTS in enhancing both provider and patient experiences within Nairobi's outpatient departments. Further research should explore longer-term impacts and cost-effectiveness of DPTS, as well as implement strategies for addressing initial user resistance. Model estimation used $\hat{\{\theta\}} = argmin\{\theta\}\, sumiell\left(yi, f\theta(\xi)\right) + \lambda lVert\theta rVert\, 2^2$, with performance evaluated using out-of-sample error.

Keywords: *African healthcare, Digital prescription tracking, Electronic medical records, Patient safety metrics, Provider satisfaction surveys, Clinical workflow integration, Evidence-based medicine*

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