Title	Using Pharmacy Automation to Improve Service Delivery in a High-Volume HIV Treatment Facility
Organisation	Helen Joseph Hospital, Gauteng Province in partnership with Right to Care NGO
Innovation	The implementation of robotic automation to support pharmacy dispensing services at Helen Joseph Hospital's Thembalethu Clinic is the first in the public sector in South Africa and is an opportunity to demonstrate the value of automation in implementing best practices for the delivery of pharmaceutical services in high volume facilities. The project comprised implementation of a robotic automated dispensing system, integrated with a pharmacy management information system (PMIS), to enable automated dispensing of prescriptions, control of inventory and management reporting. The project also involved integration of PMIS with the TherapyEdge (TE) clinical management system, already being used by doctors in the clinic, to allow the electronic transfer of patient and prescription data to the pharmacy as well as facilitate operational activities within the clinic such as booking patient visits. Integration of the PMIS with the ET clinical management system also allows pharmacy personnel to access patient clinical data to support prescription validation and improve patient counselling and monitoring. An important additional objective of this project was to reduce the reliance on paper-based system within the clinic. The project was divided into two phases: the first phase covered the development of the interface between an ADS service (a ROWA automated dispensing system) and a PMIS (TriMed Pharmacy Management Information System), and implementation of the integrated solution within the clinic pharmacy. The second phase of the project comprised of the electronic interfacing of the first phase outcome with the TE clinical management system. Splitting the larger project into two delivery phases provided the advantages of isolating the technical risks of the respective project phases and achieving quick results with minimal impact on patient service delivery.
Impact	The following improvements were observed as a result of this solution: • Patient waiting times at the pharmacy were reduced from 3 - 5 hours to 18 minutes for routine medication collection visits. • Doctors in the clinic are able to write electronic scripts, which are linked directly with the pharmacy dispensing system, using cloud technology. • Medicines are automatically dispensed and are available for handover by pharmacy staff when patients arrive at the pharmacy. • The system eliminated the loss of stock due to possible theft and expiry, resulting in significant savings by the hospital. • Medication stock-outs were eliminated. • Patient counselling and adverse event monitoring was significantly improved, leading to improvements in patient adherence and clinical outcomes. • Inventory reports providing full accountability of stock are readily available.

	• Medicine picking, labelling and dispensing errors were completely eliminated.