Evaluating the Use of an Electronic Dispensing Program for Antiretroviral Treatment at Two Public Health Facilities in KwaZulu-Natal, South Africa

Ravikanthi Rapiti, Denver Narainsamy, Vimal Singh, and Catherine Searle

Reproductive Health and HIV Research Unit, University of Witwatersrand

Abstract and Objective

Reproductive Health and HIV Research Unit (RHRU) has implemented iDART, a dispensing software program at two public health facilities in KwaZulu Natal. This electronic dispensing system for capturing patient information of ART clients was seen as improving drug dispensation time as well improving reporting and the tracking of patients. An operational tool was developed to evaluate the utilization of the program and determine its effectiveness. As a result of the software, sites saw an increase in drug dispensation, health care workers proficiency in using an electronic patient management system and several other system improvements were noted.

Keywords:

Electronic dispensing system, Patient information, Evaluate

Introduction

iDART (the Intelligent Dispensing of Antiretroviral Treatment), a pharmaceutical software program developed by Cell Life was implemented at two public health facilities with the primary objectives of ARV patient monitoring and the management of ARVs at the facilities' pharmacies. Secondary objectives were to monitor the use of the program, assess the strengths and weaknesses and decide whether the pharmacies' operational effectiveness outweighs the program's cost implications

Methods

iDART was identified as a suitable software application as it allowed flexibility in deploying the application especially in an environment that used different operating systems and thus served the purpose of the public health facilities involved.
Charles James Hospital and RK Khan Hospital were approached to implement the software and the existing IT infrastructures were used.

Training was conducted by the software developer, Cell Life. Thereafter; Cell Life provided telephonic technical support to the onsite users. RHRU developed an operational tool to determine usefulness, implementation and system effectiveness. Information was collected from the facilities' pharmacists and reported on a quarterly basis. Pharmacy processing systems and turn-around -time was evaluated by determining the number of pre-packed ARVs processed and number of ARVS dispensed. The type of reports generated and its frequency was documented, as well as the objective of the report.

Results

The report generation functionality was used to inform clinical and pharmaceutical processes. Clinical processes were improved as the pharmacists were able to readily view and generate Patient History Reports. These reports were used to verify that the correct regimens were dispensed to the patient, to determine the patient's compliance and to ascertain the patient's last visit. Pharmaceutical processes were enhanced in the generating of statistics to inform hospital management.

All patients that arrived on their specific clinic date were seen at the pharmacy on the same day, indicating that there were no "call backs" as was the case prior to the use of iDART. An increase in processing drug packs was clearly evident especially for patients who were down referred to Primary Health Care Clinics.

The archiving mechanism, replaced the tedious manual process of scripting the relevant information. In addition, this also reduced the need for filing space at the facilities.

Evidence of limitations was noted in the minimal use of clinical indicator reports. Lack of knowledge or training limited the program modifications of the indicator outputs resulting in pharmacists not generating other customized reports.

Conclusion

The operational tool has been effective in identifying several lacunae in using an electronic system to record patients ARV information. The system was not being used optimally; therefore the effectiveness versus cost factor could not be discerned at this stage. Interoperability, user's knowledge and usage have also been key factors in determining a roll out at other public sector facilities.

Address for correspondence

Ravikanthi Rapiti; 3rd Floor, Westridge Medical Centre, 95 Jan Smuts Highway, Mayville, 4001; rrapiti@rhru.co.za