



**Service Priorities and Programmes**  
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**A Unit-Dose Inpatient Drug Distribution Model**

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**Introduction**

To date, inpatient drug dispensing in Hospital Authority is largely a manual process, with limited capacity for unit-dose automated dispensing mode. Healthcare institutions in US, Europe, Japan and mainland China have used automation technology to aid dispensing process with great success. With this in mind, North Lantau Hospital (NLTH) Pharmacy Department has commissioned suitable pharmacy automation system aiming to steer a unit-dose individual patient dispensing service for inpatient wards.

**Objectives**

To provide a safe and efficient inpatient drug distribution process through the utilization of Automatic Medication Unit Dose Dispensing System (AMUDDS) and Smart Cabinet.

**Methodology**

Unit-dose dispensing is where medications, contained in single unit packages, are dispensed in as ready-to-administer form as possible. Unit-dose dispensing service was implemented in NLTH since September 2014. Interfaced with the Inpatient Medication Order Entry (IPMOE) module, the AMUDDS provides speedy and accurate oral solid packaging in the form of a ready-to-use dose unit for individual patient dispensing. The unit doses were automatically arranged in the order of administration time, facilitating nursing colleagues to perform drug administration. The AMUDDS was also used to generate ward stock oral solid medications in form of unit pack (one tablet/capsule per pack). Such unit packs were placed inside the Smart Cabinet to cater for the individual ward requirements. Equipped with a biometric ID system, the Smart Cabinet is a fully automated cabinet that provides end users with instant information and controlled-access to stock medication 24 hours a day, 7 days a week.

**Result**

Using the AMUDDS for individual patient dispensing, monthly percentage of

unit-doses dispensed from October 2016 to December 2017 was maintained at 76-82% of the total oral solid preparations. For after-hour pharmacy support, a total of 165 drug items (79 oral solid preparations, 61 injections and 25 external preparations) were placed in the Smart Cabinet to allow quick and accurate access to emergency items during pharmacy closed hours. Since October 2014, no medication incident was reported on drug administration. In contrast to a labour intensive process, the use of pharmacy automation is a safe and effective way to provide unit-dose inpatient drug distribution service.