



**Service Priorities and Programmes**  
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**In-Patient Medication Order Entry (IPMOE) Interface with the Clinical Information System (CIS) Comes into Reality Through an End-To-End Testing**

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**Introduction**

Hospital Authority Information Technology (HA IT) worked with a Clinical Information System (CIS) vendor and confirmed the technical feasibility of the IPMOE interface in June 2016. This is the IPMOE one-way system interface for medication prescription and administration data in relation to the CIS. The communication between the two systems is based on the Health Level 7 (HL7) interface framework. Enterprise Application Integration ensures data conversion and that messages are sent from IPMOE to CIS simultaneously. Development of the interface was completed before January 2017. The testing site was located in Intensive Care Unit (ICU), North District Hospital (NDH). This abstract describes the process of conducting a User Acceptance Test of the Interface.

**Objectives**

An end-to-end testing process is conducted to verify that the messages from IPMOE are displayed correctly in the CIS Medication Administration Record with varying contents, including drug names (generic name/trade name), preparations, doses, routes and remarks, which meet the unit's specific requirements.

**Methodology**

The NDH ICU Workgroup of the IPMOE Interface was organized in October 2016. With joint efforts of HA IT members and the vendor in regard to the formatting of messages and mapping data from IPMOE, the User Acceptance Test was performed as scheduled, on 30th August 2017, with duration of one and a half days. Test items were designed to cover the major functions of the 'In-patient Prescription' and 'Drug Admin by Patient' of IPMOE in a real-world usage, including medication management of continuous and intermittent infusion, and medications with various routes and schedules. All testing was performed in a virtual environment. In this testing environment of IPMOE, doctors made medication order entries and nurses made administration record entries by using real patient drug profiles of our specialty. Eventually, two nurses performed a visual check of the ultimate appearance of medication orders and administration records in the CIS corresponding to different functions of IPMOE.

**Result**

A total of 46 test items were executed. Almost all items were correctly displayed in the Medication Administration Record, Medication Overview and Intake and Output Chart of CIS. Only 5 items had some problems with of their appearance in the medication order lines and administration records, all of which were resolved subsequently by the vendor. However, some limitations of the Interface were observed as follows: Firstly, some data were not sent from IPMOE to CIS, including 'Approval of verbal order', 'On-hold drug', 'Overdue drug', IPMOE icons display and proposed drug schedule. Thus, those data were not shown in the CIS. Secondly, regarding no volume interface having been made between IPMOE and CIS yet; the volume of bolus fluid and continuous infusion should be entered in the Intake and Output Chart manually. Live-Run is scheduled on 17th January 2018.