

Clinical Information for General Practitioners: The encrypted emailed discharge summary

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Abstract

Background: The Geelong Hospital has implemented a clinical information system, known as CORDis, using Filemaker Pro database. This clinical information system delivers an inexpensive clinical tool that produces faxed discharge summaries and faxed outpatient letters, faxed EMD attendances, electronic PBS scripts, clinical audit and registrar logs. The general practitioner community in the Barwon Health region has requested the move to emailed discharge summaries. CORDis was readily able to produce a HL7 message for the discharge summary. A review of the currently available enterprise encrypting and emailing systems was undertaken. A pathology system was chosen (Equery), as there was a good track record in delivering electronic results with a minimum of set up time. The emailed discharge summary was easily incorporated into the GP's electronic health record.

Methods: There are 200 GPs in the Barwon Region and approximately 70 practices. A core group of IT literate general practitioners was surveyed to determine what criteria would be useful to form a good electronic summary. It was concluded that:

1. HL7 or PIT encoding would be essential to allow for seamless importation of the summary into the GP's electronic health record
2. Encryption implementation needed to be relatively easy to manage.

HL7 was chosen as the wrapper for the message as it is widely accepted if a little unwieldy to implement. Encryption, message storage, message sending and message logs was handled by Equery 2.0. Equery utilises 80-bit encryption and will be upgraded to PKI 128 bit encryption within the next 12 months.

The project was led by JU, General Practitioner Liaison Officer for Barwon Health, and supported by JS / DW / PK. The HL7 implementation was coded by PK. The encryption software and general practitioner software interface was implemented by JU.

The Equery software was easily configured within a 4 hour period with 40 mail boxes for the 40 practices set up. The generated electronic keys for each practice were copied to floppy disk for later set-up in the practices.

A total of five general practices were involved (Encrypted and HL7 formatted) as well as two specialist physicians (Encrypted only) in the initial pilot phase. The practice receiving software was set up on site for the general practitioners. The physicians required phone support for initial set up. A fax back audit sheet was given to all participants to monitor problems. All practices still received the faxed version during the pilot phase.

The pilot phase ran over a 4-week period. As there was high level of satisfaction, the project was extended to a further 35 practices over four months.

All fields in the faxed discharge summary were converted to the emailed format. There were some difficulties in formatting the medications, however, this was overcome with time

Findings: At present 70% of discharge summaries are produced via CORDis in Barwon Health. The remainder of discharge summaries are handwritten with variable results of delivery, legibility and appropriate content.

There was a very high level of general practitioner satisfaction with the emailed summary. The discharge summary including discharge medications and the outpatient letter, if arriving in time, are vital pieces of information and most general practitioners expressed a high level of interest in the emailed format.

Transmission logs kept in CORDis and Equery did show at the end of the pilot phase that there were only a handful of failed discharge summaries: both fax and electronic. This occurred because of the general practitioner contacts not being kept up to date in CORDis. A change of details had been made in the hospital master patient database and this was not synchronised with the CORDis contacts database. Geelong Hospital is now looking at setting up one database that is the owner of the general practitioner information and the other systems being updated by HL7 messages.

As the software developers for Filemaker Pro were onsite it was very easy to rectify minor HL7 issues as they occurred.

The emailed discharge summary was handled without any problems by the general practitioner electronic health record software.

Conclusion: CORDis and Equery both proved very reliable during the pilot stage and later extended phase of the project. The emailed discharge summary put the details of a patient's hospital stay on the doctor's desk well before the patient turned up at the clinic. General practitioner satisfaction with the project was very high and it was recognised that medication errors would be reduced due to the greater legibility of the electronic discharge summary.

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