Electronic prescribing and transfer/discharge summaries: a survey of UK cancer networks

By Emma Traer and Krishnaswamy Madhavan

Electronic prescribing was introduced into GP practices in the early 1990s in an attempt to improve accuracy and efficiency and should now be fully operational. Similar progress has not been made in hospital practice.

The Connecting for Health (previously National Programme for Information Technology) e-prescribing programme aims to improve patient safety by facilitating the development and delivery of electronic prescribing systems. Connecting for Health recently stated that implementation will be challenging and will require acceptance of new ways of working.

Working with the National Patient Safety Agency, Cancer Care Research, a report published guidelines recently on design-related safety features to be incorporated into electronic systems. This follows studies in hospitals in the UK where electronic prescribing systems are in place. Nationally, there is a range of systems, not all of which are compatible with each other.

A study in 2007, investigated the effectiveness of electronic prescribing in two UK hospitals. It found that electronic prescribing led to an overall reduction in prescribing errors in both hospitals. However, new types of error were identified at both sites, including prescribing into their clinical settings and to explore the benefits and difficulties that may have been experienced with the systems used. Our survey is a cancer-network facilitated review of the position of hospital-based electronic-prescribing systems in summer 2008: it is not current and there is no evidence to show that the systems are safe or robust. However, we believe that changes in the field of oncology could serve as a measure of change elsewhere and that the results of the survey could provide useful information for other areas of hospital medicine.

Methods

The survey was constructed in collaboration with an oncologist, a cytotoxicologist and the hospital IT project manager. The British Oncology Pharmacy Association website was used to identify the UK cancer networks.

A covering letter was devised outlining the aims of the survey, which was then e-mailed to all cancer network pharmacists, who were asked to cascade it to pharmacy contacts in each trust in the network. This was to ensure the whole of the UK had been surveyed.

A deadline of one month was given for return of survey, followed by a one-month extension. A reminder e-mail to non-responders followed. At this point half the cancer networks had responded. One further reminder was e-mailed to the remaining non-responding networks, leading to an overall response rate of 63 per cent.

Table 1: Do you complete transfer/discharge letters and ward drug cards/chemistry prescriptions manually or electronically, in the oncology department? (n=38 trusts)

<table>
<thead>
<tr>
<th>manually</th>
<th>electronically</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transfer/discharge letters</td>
<td>32 (84%)</td>
</tr>
<tr>
<td>Drug charts</td>
<td>35 (92%)</td>
</tr>
<tr>
<td>Chemistry charts</td>
<td>33 (87%)</td>
</tr>
</tbody>
</table>

Table 2: If you use an electronic system, is it integrated with those of the hospital pharmacy, the hospital system and GPs?

<table>
<thead>
<tr>
<th>Integrated with:</th>
<th>Pharmacy Hospital GPs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transfer/discharge letters</td>
<td>(n=12)</td>
</tr>
<tr>
<td>Drug charts (n=3)</td>
<td>7</td>
</tr>
<tr>
<td>Chemistry charts (n=12)</td>
<td>4</td>
</tr>
</tbody>
</table>

*Overlap due to trusts using manual and electronic systems concurrently

The authors

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Abstract

Aim

To establish the national position with regard to the incorporation of electronic transfer/discharge and electronic prescribing into clinical settings, particularly chemotherapy.

Design, subjects and setting

Questionnaire.

Subjects and setting

Cancer network lead pharmacists across the UK.

Results

Overall response was 63%. Results showed that there were electronic chemotherapy prescribing systems in 32 per cent of trusts that responded and the availability of general electronic prescribing in 8 per cent. Nationally, there was significant variability in the systems available and in their compatibility with other systems.

Conclusion

The need for electronic systems is urgent. Unless the approach to this is well synchronised there is a real threat that that the NHS will never develop high-quality hospital-based electronic systems.

One specialty where there is a compelling need for electronic prescribing and documentation is cancer chemotherapy services. According to independent think tank Reform, much chemotherapy prescribing is paper-based and prone to error. One of the key recommendations on quality and safety from the National Chemotherapy Advisory Group relates to information technology. It states: "Electronic prescribing has been shown to promote patient safety by reducing errors. It also facilitates collection of standardised data. Those chemotherapy services that do not currently use electronic prescribing should strongly consider doing so."

In our view implementation of electronic processes in the field of oncology could provide useful information for other specialties. We have therefore surveyed cancer networks across the UK to establish whether systems were in place and operational for the use of electronic prescribing and electronic transfer/discharge summaries. We aimed to establish the position nationwide in oncology, to gain insight into other specialties with regard to the incorporation of electronic transfer/discharge letters and electronic prescribing into their clinical settings and to explore the benefits and difficulties that may have been experienced with the systems used.

Our survey is a cancer-network facilitated review of the position of hospital-based electronic-prescribing systems in summer 2008: it is not current and there is no evidence to show that the systems are safe or robust. However, we believe that changes in the field of oncology could serve as a measure of change elsewhere and that the results of the survey could provide useful information for other areas of hospital medicine.
Results
A total of 24 out of the 38 cancer networks responded (63 per cent) and 38 trusts submitted completed surveys before the deadline (there were a number of trusts within each network). Responses were received from all four countries of the UK.

Where trusts had an electronic system in place, many appeared to use both manual and electronic types of system concurrently or when electronic systems failed (Table 1). Electronic chemotherapy prescribing systems were available in 32 per cent of trusts that responded and general electronic prescribing in 8 per cent (Table 1).

Of the trusts that had electronic systems, 30 per cent of electronic transfers/discharges were not integrated into pharmacy systems and 90 per cent were not linked to GP summary systems. The electronic prescribing used by one trust was integrated into the pharmacy and hospital systems (Table 2).

There were few responses to the question in Table 3. Many of the trusts using manual systems did not answer the question, although manual prescribing and manual transfers/discharges refer to handwritten versions and could have been answered by all trusts. Trusts using electronic prescribing had measures in place to ensure accuracy, as did most of the trusts using chemotherapy electronic prescribing. Most of the trusts using electronic transfer/discharge did not report having adequate measures in place to ensure accuracy.

When trusts were asked how many computers per patient they had on the wards on average trusts reported one computer for eight patients. However, in some trusts there were no computers on the wards.

When asked to name the systems used, respondents named 15 different systems. Many trusts used more than one system and had their own in-house electronic systems.

There were few responses when respondents were asked whether they were satisfied with their systems. The difference in satisfaction rates between electronic and manual systems seemed minimal.

However, overall, from respondents’ comments (see Panel), trusts do not seem to be entirely satisfied with electronic systems that are in place.

Discussion
The National Programme for Information Technology was created to modernise information technology across the NHS within a 10-year period, with an investment of £6.2 billion. In partnership with the National Patient Safety Agency, the NHS Connecting for Health’s overall aim is to promote safer working practices with the help of IT. In 2007, responsibility for delivery of the IT programme was transferred to strategic health authorities, all of which are working closely with NHS Connecting for Health to ease the transition.

According to independent think tank Reform, there is no coordinated national IT system in place to maximise the use of facilities across artificial administrative boundaries. Reform emphasised that most chemotherapy prescribing is paper-based, therefore prone to error that could have harmful or even fatal consequences. It is significant that the NpfIT did not have specific plans for electronic prescribing within oncology. Although many oncology-specific electronic prescribing programs are available, there is no national system to ensure these are adopted.9

The key points arising from the survey are:

- Nationwide electronic systems for transfer/discharge and electronic prescribing seem to be far from satisfactory.
- Electronic systems are beginning to be introduced in trusts, but there is no coordinated approach, so the integration of different systems may be problematic.
- There are issues of cost, staff training and lack of computers.
- Responders appeared to be biased towards the negative aspects of systems used, whether manual or electronic.

Although progress has been made locally, we have demonstrated in this survey a lack of uniformity with little, if any, national ownership of a national project.

The need for electronic systems is compelling and even urgent. Unless the approach to this is well synchronised there is a real threat that the NHS will never develop high-quality hospital-based electronic systems.

ACKNOWLEDGEMENTS We thank Ken Kennedy and Jane Mulreany, senior IT project manager, at Southend University Hospital NHS Foundation Trust for their input.

Responders’ comments
- Electronic prescribing systems should be capable of integrating with pharmacy robotic dispensing systems for transfers/discharges.
- Allergies and doses out of specification are not flagged up.
- The system is cumbersome: paper prescriptions are generated in quadruplicate from the electronic system.
- Doctors make errors because they do not use the system correctly.
- Not all drugs are on the system.
- Controlled Drugs are difficult to prescribe on the system as are decreasing doses of steroids.
- There should be built-in safety functions but there are not. Anything can be prescribed. The system relies on a second check by another person to spot errors.
- The system is not user friendly. It is clunky and difficult to use.
- It takes far too long to input information.
- There should be a way of linking it to other hospital systems: pathology and radiology.
- Medical staff can prescribe “off protocol”, therefore errors can be difficult to monitor.
- Electronic prescribing has the potential to avoid transcription and dose calculation errors, or errors in chemotherapy regimen interpretation such as cycle length and number of courses.

Table 3: Are there measures in place to ensure accuracy of electronic transfer/discharge letters/electronic prescribing? (n=34)

<table>
<thead>
<tr>
<th>Measures to ensure accuracy of:</th>
<th>Dosing</th>
<th>Drug interactions</th>
<th>Allergies</th>
<th>Recent changes</th>
<th>Other/s</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electronic transfer/discharge*</td>
<td>5</td>
<td>3</td>
<td>4</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Manual transfer/discharge*</td>
<td>10</td>
<td>9</td>
<td>10</td>
<td>11</td>
<td>2</td>
</tr>
<tr>
<td>Electronic prescribing*</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Chemotherapy electronic prescribing</td>
<td>7</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>3</td>
</tr>
<tr>
<td>Manual prescribing</td>
<td>5</td>
<td>5</td>
<td>4</td>
<td>5</td>
<td>0</td>
</tr>
</tbody>
</table>

* Overlap due to trusts using manual and electronic systems concurrently.

Table 4: Are you satisfied with your current system? (n=34)

<table>
<thead>
<tr>
<th>System</th>
<th>Satisfied?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yes</td>
</tr>
<tr>
<td>Solely manual</td>
<td>0</td>
</tr>
<tr>
<td>Solely electronic</td>
<td>0</td>
</tr>
<tr>
<td>Electronic ITAs</td>
<td>4</td>
</tr>
<tr>
<td>Manual ITAs</td>
<td>3</td>
</tr>
<tr>
<td>Electronic prescribing</td>
<td>2</td>
</tr>
<tr>
<td>Electronic chemotherapy prescribing</td>
<td>5</td>
</tr>
<tr>
<td>Manual prescribing</td>
<td>4</td>
</tr>
</tbody>
</table>

References