

Electronic Prescribing:

Briefing for Pharmacists



Introduction

Electronic prescribing (ePrescribing) systems can help improve the safety and efficiency of healthcare by aiding the choice, prescribing, administration and supply of medicines.

The safety and effectiveness of ePrescribing systems depends on all staff groups being actively engaged in their development and use.

Benefits of ePrescribing include:

- Prescribers accurately and clearly enter complete medication orders.
- As they do this the system can provide relevant patient information, for example on allergies, as well as details about drugs. ePrescribing systems can also offer advice or warnings as prescribing takes place.
- Prescription data can be stored securely and communicated to other members of the healthcare team without the risk of paper records being lost.
- Pharmacists can access drug orders remotely using the computer, and check and amend as required.
- Nurses who administer medicines have clear and legible medication orders. The system may help them to prepare for drug rounds, confirm the identity of patients, and record administration.
- Medication records can be accessed remotely by healthcare professionals.

Not all ePrescribing systems fully support all these aspects of medicines use, but most do to some degree.

ePrescribing systems provide a full audit trail and the data they hold allow many innovative uses that can help in medicines management and support a culture of reflective practice.

ePrescribing is a powerful and important innovation for the whole care team. When ePrescribing projects are being planned it is important that all healthcare professional groups are involved and that they remain involved as the system comes into use.

A successful initial implementation is the start, not the end, of running a successful system.

Pharmacists have an essential role in checking that patients' prescriptions are clear and clinically appropriate.

Ensuring appropriate use of medicines and their timely supply, communicating with patients about their medication and supporting the care team are all essential parts of pharmacists' work. ePrescribing systems can help in all these activities and pharmacists have a professional role as intelligent advocates for ePrescribing. Equally, they have a professional role to ensure that ePrescribing is safe, efficient and supports patient care.

Pharmacists usually take a major role in the planning and development work that precedes an ePrescribing implementation. Their knowledge of medicines, experience of technology and participation in the multidisciplinary team gives pharmacists an important role in ensuring that medication use is safe before ePrescribing is introduced, and safer still during and after the implementation.

Pharmacists have long experience with computers, for example for stock control or using robots to automate aspects of the physical handling of medicines dispensing. These technologies, often challenging at first, bring great benefits, but their effect is largely contained within the pharmacy.

ePrescribing systems are different. They directly affect how medicines are used in clinical settings and how data on medicines is captured and shared between healthcare professionals. For this reason ePrescribing systems inevitably change the way that pharmacy staff carry out their clinical work, and offer new opportunities to develop their professional role.

The experience of pharmacists in most trusts that have implemented ePrescribing is that after the inevitable stresses of the change from paper to computer, ePrescribing systems

perform well for most patients, and most medicines, most of the time.

Among the positive aspects that pharmacists report are: fully completed and legible prescriptions that require fewer interventions, no chart chasing, more opportunities to interact with other care providers and with patients and improvements in the way that discharge prescribing is handled.

But pharmacists also report that once ePrescribing is implemented and in use, their attention turns to new issues such as how to prescribe difficult medicines such as sliding scale insulin or heparin, how to implement and perhaps enforce prescribing policies, establishing order sets (bundles of medicines that are available as a single prescribed item) and how best to use the new opportunities for information retrieval, audit and research.

Clinical Decision Support

ePrescribing systems provide various degrees of clinical decision support (CDS) to help prescribing and administration of medicines. CDS ranges from the very basic - access to a drug dictionary – to the more complex, such as checking medication orders against patients' laboratory results.

CDS can be roughly divided into two areas: decision constraint, stopping people doing daft things, and decision support, guiding and informing users.

Initial ePrescribing implementations will usually have limited decision support – focused mostly on constraints – but, with experience, more active support, warnings and context-specific guidance can be added.

Pharmacists' participation in planning the move to ePrescribing



Pharmacists have much to contribute when planning a move to ePrescribing. Among the important issues that need to be addressed are:

- How the software to be used is selected, set up and tested, and how data is transferred from the old (probably paper-based) system to the new.
- How the implementation will be phased, where it should start and how it will be accomplished safely.
- How training (initial and ongoing) will be organised.
- What support services pharmacists will give during the initial implementation phase and throughout the life of a system.
- How pharmacists' work should change, on wards, in clinics and in the pharmacy.
- What the back-up and recovery procedures should be, given that computers can and do stop working.
- How the data generated by ePrescribing can be used to improve medicines management.

ePrescribing systems can contribute to better healthcare

Reduction in the risk of medication errors as a result of:

- More legible prescriptions.
- The requirement for complete medication orders.
- Alerts for contra-indications, allergic reactions and drug interactions.
- Useful guidance for both inexperienced and experienced prescribers.

Process improvements as a result of:

- Improved communication between different departments and care settings.
- Reduction in paperwork-related problems - fewer unavailable or illegible drug charts.
- Clearer, and more complete, audit trails of medication administration.
- Data made available for analysis, including audit and research.

ePrescribing projects naturally divide into three phases: before, during and after implementation

Before is about establishing what is to be done, bringing the right people together and mobilizing appropriate resources. In almost all cases this is undertaken by a multi-professional steering group or project board where, together with doctors, nurses, managers and IT specialists, pharmacists must be active participants.

The project must start out by generating the vision of what ePrescribing will achieve and how it will contribute to the hospital's broader strategy. The most direct argument in favour of ePrescribing is that it makes medicines use safer and can potentially reduce the rate of medication errors and



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adverse drug events (ADEs). This may be true, but ePrescribing can also make some medication errors far more visible – such as missed or late doses. For this reason it is important that some audit data is collected before ePrescribing implementation, to allow sensible comparisons to be made and support an informed debate. For example, ward pharmacists could collect data on missed doses and prescribing errors both before and after implementation.

Pharmacists will also take a substantial role in preparing and undertaking the training of staff who will be using the new system. This has to be the right kind (active, focused on essentials, almost on the job), given at the right time (shortly before use begins) and given using the same system (hardware and software) as will be used in practice.

Setting up ePrescribing software requires many detailed decisions to be made about exactly how the medicines use processes should be organised. As ePrescribing systems are planned and put to work,

other healthcare professionals will look to pharmacists to offer professional support as such decisions are made. Drug data files, which are the basis for many of the benefits of ePrescribing, must be set up and checked. This work may take several months.

During the change over period from paper-based prescribing to ePrescribing, special care is needed to support people as they start to use the new system, and special care needs to be taken to ensure that the safety of care is monitored and maintained. If safety concerns are raised then they must be swiftly addressed. At the time of change-over, extra staff will need to be available round the clock to transfer data to the new system, offer support to new users and deal promptly with issues as they arise.

Some changes that are possible with ePrescribing will need to be thought through carefully. It may be tempting to do all screening from the pharmacy, or even a terminal at the end of the ward, but are there still enough opportunities to interact with patients and to identify those patients who most need one-to-one discussions with the pharmacist? Will the pharmacist still be seen as part of the ward team, have good relationships with nursing and medical staff and observe other patient-related issues, such as the set-up of IV medicines, insulin charts etc?

At the time of change-over from paper to computer, pharmacists will need to be actively engaged with their clinical colleagues,



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explaining how the new system works, monitoring safety, dealing with problems as they arise and supporting others who are new to the system and may take a bit longer to complete their tasks.

After, when ePrescribing is established and in use, it still needs to be actively supported and managed. For example, as new staff join they need to be trained, given log-in rights and supported in their initial use. New features will also be introduced over time and software will be upgraded. For example, new levels of clinical decision support to help

in prescribing or administration of medicines may be introduced some time after the initial roll-out.

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As ePrescribing comes into use, the ways that things are done will change. For example, prescribers will have more information available as they write orders, prescribing and screening will be possible away from the ward and more prescribing policies can be introduced and enforced. As people accommodate and react to these changed circumstances, pharmacists and other users of the ePrescribing system will need to monitor what happens.

Sometimes, changes will be clearly beneficial to all, but on other occasions there will need to be a careful judgement made as to what is the right practice and how strongly it should be enforced. Certainly the computer should never be allowed to prejudice the safety of care. But equally, neither should opportunities to improve practice by changing the way that medicines are managed be avoided for fear of change itself.

With experience, pharmacists and other healthcare professionals will find that some tasks are not as easy to do as they could be, or that some aspect of the routine of medicines administration could usefully be

changed. A good ePrescribing support team will be eager to hear about such requests and insights. Their job will be to continue to adapt and develop the ePrescribing system to gain extra benefits in terms of medicines management as well as patient safety and patient care.

ePrescribing in hospitals

This briefing is one of the outputs of a project commissioned by NHS Connecting for Health (NHS CFH). The project involved gathering experiences and opinions from people in a number of hospitals in England who had been part of the implementation of ePrescribing systems. The ideas presented here are based on the actual experiences of NHS staff who have worked on ePrescribing implementations.

A copy of the full report and briefings aimed at other staff groups can be found at: www.connectingforhealth.nhs.uk/eprescribing

Any comments or queries about the briefings or report should be directed to the ePrescribing programme at NHS CFH at eprescribing@nhs.net



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