

Is there a role for supplementary prescribing in a computerised ICU?

Supplementary prescribing presents specific problems when applied to the critical care setting, not least the difficulty in obtaining consent. In this article, **Rob Shulman** discusses practical solutions within the context of a large unit that has recently instituted electronic prescribing

Following publication in 1999 of the Department of Health's "Review of prescribing, supply and administration of medicines",¹ the DoH announced plans to introduce supplementary prescribing for pharmacists, nurses and midwives in 2002. Supplementary prescribing is defined as "a voluntary prescribing partnership between an independent prescriber (a doctor or dentist) and a supplementary prescriber (a pharmacist, nurse or midwife) to implement an agreed patient-specific clinical management plan with the patient's agreement".² It is intended to provide patients with quicker and more efficient access to medicines and to make the best use of the skills of trained pharmacists, nurses and midwives.

Although supplementary prescribing was envisaged for chronic disease management, it opens an avenue for pharmacist prescribing in the intensive care unit (ICU). Prescribing for ICU patients is complex. Optimising drug therapy requires account to be taken of organ dysfunction, fluid status, drug compatibility, monitoring, sampling and interpreting plasma levels, formulary status and local prescribing guidelines.

Increasingly, there needs to be a full understanding of the intricacy of electronic prescribing via the clinical information management system (CIMS). The pharmacist considers these factors to be important and uniquely applies the attention to detail that these issues require.

A review paper has examined pharmacists' contributions to critical care in a number of areas including clinical outcomes such as improved compliance with guidelines and improving economic outcomes.³ Cost savings were achieved by rationalising drug therapy, avoiding drug errors, following best practice with proven clinical benefits and clarifying prescriptions. The paper concluded that pharmacists have established themselves as integral members of the ICU multiprofessional team. This view is borne out by the NHS Modernisation Agency critical care programme, which states that "clinical pharmacists should be an integral part of the critical care team to ensure safe and effective drug therapy".⁴

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Ward round decisions not actioned

The proposed change to permit the ICU pharmacist to prescribe was designed to address the current problem whereby some decisions agreed at the ward round were actioned incorrectly or not at all and many departmental guidelines were not followed. Evidence was collected from the base unit, over a 21-month period, that these occurred frequently with effects that could compromise patient care. This particular problem may be unique to this ICU because the ward round is conducted virtually with a data projector in a seminar room and plans actioned at a later point.

Despite agreeing to many actions to optimise drug therapy, ICU doctors of various grades and levels of experience often fail to action decisions agreed at the ward round. The reason for this appeared to be forgetfulness mainly, lack of understanding or, on a busy

day, that these actions were not considered to be a priority. This presents an interesting juxtaposition: only the doctor can prescribe yet in many cases the doctor cannot understand, remember or does not view these changes as a priority for action. Generalisations must be approached with caution but this appears to reveal a clear difference in the views of pharmacists and doctors. The pharmacists' main focus is drug-related (in the context of the whole patient) whereas the doctor takes a more multiperspective approach. If one were setting up a system from scratch, one would empower those who "care" most about something happening, to have the power to make it happen: in this case, to give pharmacists prescribing rights. Thus one can see why pharmacists might be keen to take opportunities to prescribe.

Pharmacist prescribing is a logical extension to the current role of checking and op-

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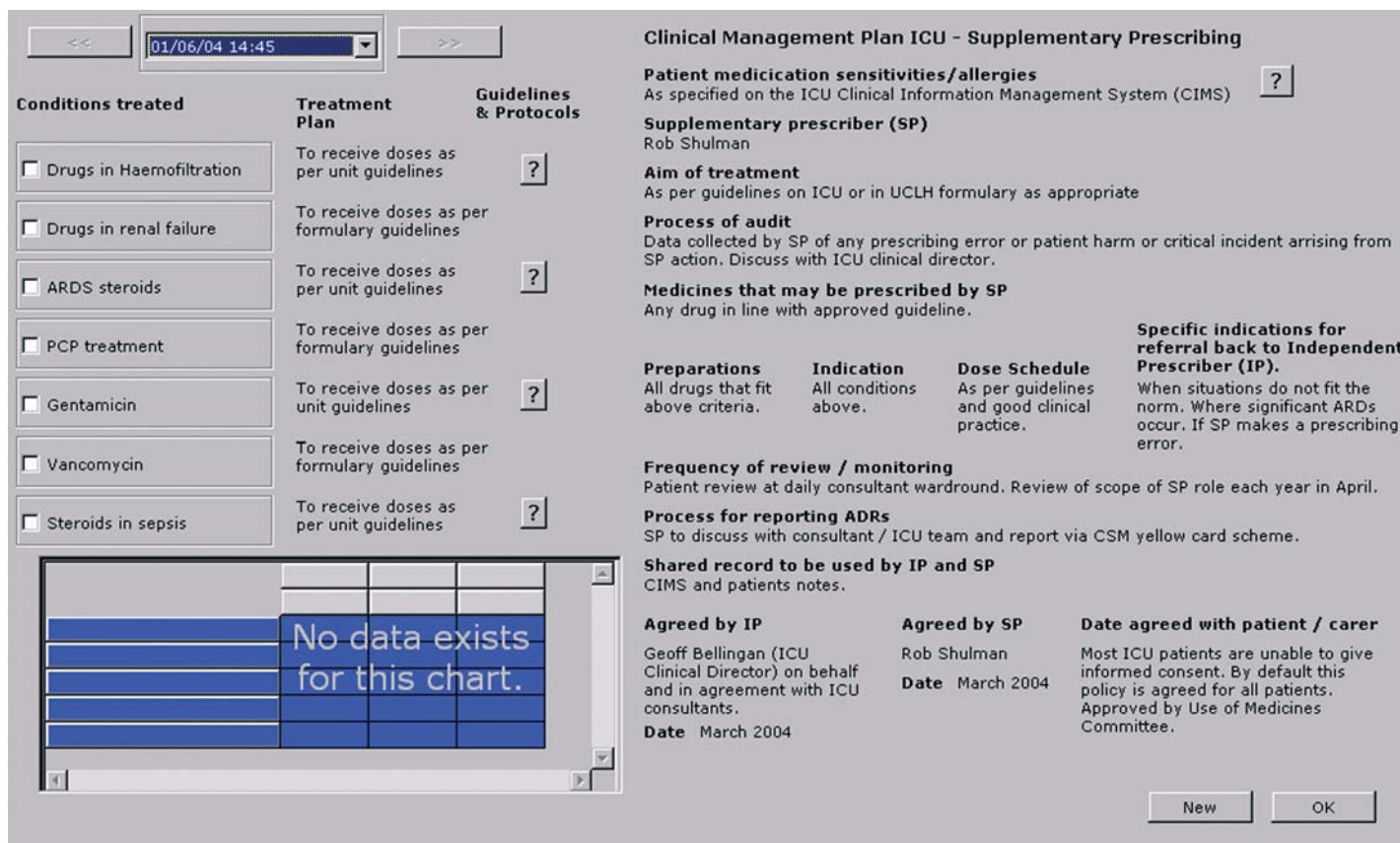


Figure 1: A new CIMS screen was devised that could record all the necessary information required by the Department of Health, but with tick boxes that could be specific to the patient with hotlinks to the relevant protocols

timising drug therapy. Health care professionals will always test the boundaries of what is possible and creatively respond to opportunities.⁶ Although pharmacist prescribing was not seen as the holy grail of career development, it was viewed as a tangible, high profile enhancement of the current role.

Areas for supplementary prescribing

There are several areas that can be considered as suitable for supplementary prescribing in intensive care units. These include:

- Drug dosing haemofiltered patients (as per formulary guidelines)
- Septic shock steroid regimen (as per unit agreement)
- Acute respiratory distress syndrome steroid regimen (as per unit guidelines)
- Gentamicin/vancomycin therapy (as per unit guidelines/as per template)
- *Pneumocystis carinii* pneumonia treatment (as per formulary guidelines)
- Drug dosing in renal failure but not haemofiltered (as per formulary guidelines)
- Prevention of deep vein thrombosis
- Prevention of stress ulceration
- Prescribing of total parenteral nutrition

Preparing clinical management plans

One of the fundamental principles behind supplementary prescribing is that the prescribing is carried in accordance with a clinical management plan (CMP) agreed by the independent prescriber, the supplementary

prescriber and the patient.² While the Department of Health is quite flexible on the layout of this, they insist that each CMP includes certain headings and should be kept in the patient notes. This would prove extremely time-consuming in the base ICU environment, where 1,500 patients per year are seen.

In addition there is a move away from paper records in the ICU. The CIMS is available at each bedside to record all patient-specific monitoring that would previously have been recorded on paper charts. The prescribing is also electronic and there is a plan to institute the full multidisciplinary patient notes on to this system. Thus the introduction of a paper CMP could be seen as a backward step.

A new CIMS screen was devised that could record all the necessary information required by the Department of Health, but with tick boxes that could be specific to the patient with hotlinks to the relevant protocols (Figure 1).

This could be criticised for not actually being entered in patients' notes. In answer to this, it could be countered that in the days before the CIMS, all the daily monitoring charts were stored in patients' notes. Now this information is not stored in the notes but is retained in the CIMS and can be easily retrieved and is in line with the Government's information technology strategy.⁵ By the same token the CMP can be accessed virtually and thus is arguably more accessible than the patient notes.

Patient agreement

Initially it was not envisaged that supplementary prescribing could apply to the ICU scenario because it requires patient agreement,² and ICU patients, being critically ill, are often sedated and ventilated.

Requiring patient agreement has its ethical roots in the concept of respect for autonomy. Personal autonomy refers to a person's capacity to choose freely for himself or herself and to be able to direct his or her own life. This serves as an antidote to medical paternalism. The necessity for patient agreement is not the same as consent. Informed consent requires the individual to remember the information provided, comprehend the information and make a judgement about the information regarding their best interests.⁷

It is recognised that many factors may reduce the capacity of individuals to make a competent choice, including sedating drugs and cognitive incapacity, eg, confusion due to head injury. The legal and ethical status of patient agreement is less well defined.

Common law recognises an individual's right to have his or her bodily integrity protected.⁸ Medical interventions require consent, except in the emergency scenario. Medical interventions were traditionally viewed as meaning surgical procedures. This was viewed as "reasonable" by the medical community and thus justifiable by the Bolam principle.⁹ Now consent is required for all aspects of medical care.¹⁰ However, under UK health care law, no surrogate can act as a proxy for consent on behalf of an incapaci-

tated patient. So is treatment possible when the patient cannot consent to treatment? Intensive care is rarely an elective situation allowing the level of debate and discussion required. ICU patients are usually incompetent adults. In this situation the medical team may act in the "best interests" of the patients and out of "necessity". In deciding what may be in the patient's best interests the medical team may take the views of the next of kin on board. However, these discussions are more about whether to escalate or withdraw supportive care rather than whether to start a particular drug.⁸

Set against this background, can supplementary prescribing proceed in the critical care environment? This specific question was posed to the supplementary prescribing representative of the Department of Health in a informal question-and-answer session. The response offered was that one can use the defence of acting in the patient's best interests in the situation of necessity. Data are available that drug errors are common on the ICU. The guidelines agreed are based on the best data available. Implementation of these guidelines can be expected to provide superior health care provision to the patient. Thus it can be argued that supplementary prescribing is acting in the best interests of the patient. This deals with the unconscious patient, but what about the conscious?

In general on our ICU, issues such as changes in drug therapy are not discussed with the conscious patient. Consent discussions are undertaken for more elective invasive procedures, such as surgery. This approach is justified because the patients are critically ill and under enormous stress, and routine discussions about trivial matters would not be warranted and may be harmful to the patient. Generally their mental condition is fragile. This may be considered a paternalistic approach but appears to the staff to be utterly justifiable and is also adopted by others.⁸ Hence even in these patients it was argued that a pharmacist explaining the merits of supplementary prescribing and seeking agreement would not be suitable or indeed workable. Clandestine working in isolation from the next of kin was not desirable but also as they cannot give consent, so by the same token it was interpreted that they cannot give agreement for supplementary prescribing. It was decided not to seek patient agreement unless the patient was able to

communicate and was considered psychologically stable. This was approved by the local drug and therapeutics committee.

Is the patient the pawn in the interprofessional relationship?¹¹ It could be argued that this is an example of the battleground being fought for the sacred turf of prescribing. Patients, caught in the middle of this, are being denied their rights enshrined in law for agreement to supplementary prescribing. Not only patients, but also patients' advocates, looking after their best interests while they are critically ill, are also excluded from legitimate discussion, by professionals who think they know best.

The issue is more complex than at first sight. It can be problematic identifying who precisely is the next of kin. Some patients have several relations using the relatives' room. What if they say different things? How can one identify who is officially the next of kin? The next of kin actually has no legal right to consent. When the pharmacist is not on the ward the nurses would have to explain what supplementary prescribing is all about, which would be an added burden for them. The conclusion drawn appeared reasonable but did raise ethical dilemmas which reflected a somewhat paternalistic position which sits uneasily with current best ethical practice.

Discussion

This article has followed the progression of adding a prescribing arm to the ICU pharmacist's role in order to address medication errors, guideline compliance and implementation of agreed plans. Despite the fact that supplementary prescribing was envisaged to manage chronic disease states, the concept was adapted creatively to suit the critical care scenario. Many hurdles were overcome, including the necessity for patient agreement in the unconscious patient and a computerised CMP. Development of the new role benefited from refreshingly flexible leadership from the Department of Health, which was clearly keen to encourage pharmacists to develop supplementary prescribing. Direct resistance to the change from those who might have felt threatened was minimal, but did occur to some extent.

While changing roles, it is important not to lose sight of the fundamental values that underpin the profession. In nursing, where roles have been extended dramatically, concern has been raised that it may have lost

sight of "caring" responsibilities as a consequence of acquisition of knowledge, skills and status.¹² Care must be taken by supplementary prescribers not to "go native" by prescribing in a sloppy fashion.

It is clear that the scope of supplementary prescribing described here will not be suitable for all units. It was designed to address particular issues around doctors not implementing agreed drug-related plan at the base hospitals. This may be a unique problem, possibly due to having a non-bedside ward round and electronic prescribing. Other units may have other problems, which supplementary prescribing may be used to overcome. There is no "one size fits all" approach to successful supplementary prescribing.

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