Introducing a new method of providing wound care products

Susan Knight

With the advent of nurse prescribing, nurses now prescribe the majority of wound care products in the community, gaining greater responsibility for providing cost-effective evidence-based care. An enhanced understanding of how dressings interact with the normal continuum of wound healing is needed, as inappropriate dressing choice can impede healing, increasing workload and resulting in rising healthcare costs. This article examines how nurses in one primary care trust, in partnership with a wound care company, developed an online system for providing wound dressing products to the patient and wound care education to the nursing staff.

Background

The author is clinical lead nurse for a small team of specialist nurses (three tissue viability nurses [TVNs]), which was formed when three PCTs amalgamated in October 2006 as part of the DH plans for primary care (DH, 2005). Before this reconfiguration, the author had been responsible for all the tissue viability-related issues across the PCT from late 2003. During this time she developed a dressing formulary reducing the approximately 700 products available on the Drug Tariff to 70 recommended products. The aim was to improve patient outcomes by promoting the use of effective, appropriate dressing products and raising standards through implementing education on wound care.

Unfortunately, despite offering monthly two-hour educational sessions, improvement in wound care practice did not occur; attendance was low and adherence to the formulary was below the expected 75% set by the PCT.

In order to improve the situation, in autumn 2004 the author suggested adopting the ‘Isle of Wight scheme’, also known as ‘bulk supply of dressings’ (Squibb, 2004). This was met with hostility from staff, especially district nurses who felt this to be a retrograde step; deskilling them, preventing them using their prescribing qualification and would result in patients abdicating responsibility.
for their health. The author felt nurses needed time to consider the suggestion and therefore instigated a first dressing initiative (FDI) with the support of a dressing manufacturer. This provided a basic stock of dressings, ordered directly from a wholesaler, which community nurses would carry with them in specially provided bags. Community staff could treat new wounds or simple wounds requiring a maximum of three dressing changes, therefore negating the need for prescribed products. The original pilot was evaluated in April 2005 and rolled-out to all district nursing teams in early summer 2005. This scheme was later adopted by the other PCTs in the county. This scheme essentially reduced the so-called ‘car boot stock’, where nurses used leftover dressings from one patient on someone else, as Jerram (2006) points out this is ‘technical fraud’.

The FDI was partially successful; the scheme ensured that nurses had legally-obtained products available, but did not address the problems of formulary compliance or inappropriate dressing selection. Also, despite information available from PACT (Prescription Analysis and Cost), it was impossible to identify individual staff (district nurses, practice nurses and GPs) prescribing inappropriate large product quantities or outside the wound care formulary.

The population of the new amalgamated PCT is over 500,000 and expenditure on prescribed wound care products over 12 months was £1.2m (C. Batchelor, personal communication, September 7, 2007). Dressings were targeted as one area where cost-savings could be made. Although the author supported this, she believed changes should also streamline procurement of dressing products and be beneficial to both those providing and receiving care. Consideration should also be given to the local community pharmacists who are usually responsible for dispensing dressing products. A more pragmatic solution was therefore needed.

The implementation of a wound care formulary had not improved the situation and the FDI had only addressed part of the problem. So in April 2006, a simplified GAP analysis (a tool that helps an organisation to compare its actual performance with its potential performance), was carried out by the author and the PCT pharmacy advisor. This reviewed the position of dressing product procurement within the PCT and led to the development of a proposal to fundamentally change the existing system.

Elsewhere (such as in the Isle of Wight), similar issues had led to the development of ‘total stock purchase’ or ‘bulk supply schemes’ (TSP/BSS) (Figure 2). These entail the purchase of dressing products by the PCT directly from a wholesaler or from community pharmacists, therefore avoiding prescription and the legal implications of ownership. A detailed search of the medical literature was undertaken to identify the most relevant evidence to support any proposed change in practice, or rationale for a study (Parahoo, 1997). However, the search failed to identify any primary research; six articles related to alternative delivery methods, three were descriptive articles published in nursing and pharmaceutical press, and one news article related to the original project from the Isle of Wight. In view of the lack of evidence, the search was widened to ascertain if nursing knowledge on wound care management influenced prescribing and if education changed nursing choice of dressing products. The premise for this would be that if knowledge and education alone improved practice, this may provide an alternative to the proposed TSP/BSS scheme. Humphries (2005, p36) states that ‘clinical decision-making is a complex process influenced by many factors and not based on empirical evidence’.

Decisions are made by considering many types of evidence including experimental evidence, expert opinion and patient preference (Sacket et al, 1996). Mayor (2007) argues that there are times when such phrases as ‘evidence-based practice’ are over-used with little actual thought as to whether the evidence is valid in the context it is presented. Evidence should not be ignored, but there are times when good quality evidence (randomised controlled trials and meta-analysis) are not available and therefore other types of evidence should be considered.

**Methodology**

The project plan

A proposal was drawn up and presented to the Professional Executive Committee (PEC) in July 2006. The main feature was to change the way wound care products were provided for patients in the community or attending their GP surgeries by implementing an internet-based computerised ordering system developed in conjunction with Coloplast, a leading dressing manufacturer, and consisting of a trust-approved list of dressing materials. This would be supported by on-line access to information on evidence-based wound management, best practice statements and educational opportunities.

Coloplast introduced the author to the computerised system following discussions on supply route changes. The system comprises access to a secure
The pilot did not show immediate savings, but did bring about a rapid reduction in overall wastage and waiting times for dressing products. They also found that continuity of care was improved and there was more discussion within the team regarding wound care.

Following successful completion of the pilot, a detailed roll-out project plan (Table 1) started in October 2007 with a presentation to the PEC for approval. The plan included training of stakeholders and the launch of an updated wound care formulary. The project started on week 42 (2007) with an initial meeting that included the author, pharmaceutical advisor and the company supporting the system. Initial meetings held with nursing teams were held from week 40 (2007), recruitment of nursing teams and community pharmacists were held from week 44–51 (2007). The plan was to ‘go live’ in December 2007 and to have a review of the project in April 2008.

**Ethical considerations**

No clinical governance or ethics issues were anticipated. Staff and patient details were not held on the system and each team had a personal user identification and password. The change agent (the author acted as the change agent in this project), other TVNs and the pharmaceutical advisor were the only people allowed to access the system at higher security levels and access details of ordering, deliveries and total product spend. The computer software was provided free of charge by the dressing manufacturer, who already supplied a number of products on the formulary. An exclusivity contract was not requested and the company had no influence on products included on the formulary.

**Implementation of change**

The company arranged training venues across the county, which the author and TV team attended along with the temporary project manager (representing the pharmacy team). Separate meetings were held for the local pharmacies (in the evenings) and the DN teams during the day (around late morning/early afternoon). At each meeting the need for change and the proposed system were discussed and presented. The company then arranged site visits (to DN bases and pharmacies) to illustrate the practical aspects of using the system and familiarise the teams. Additional meetings were arranged for those teams that felt they needed extra support.

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**Figure 2. Total stock purchasers’ bulk supply.**

The website link from trust-owned computers within GP surgeries and community nurse bases. To access the site, staff go to the webpage and enter the base-specific username and password. The first screen gives options and any news items. To order stock, they access the order screen and fill in the name of the person placing the order, then enter the number of items they want by scrolling down the formulary list. Staff are guided through the ordering system and are prompted to identify the local pharmacist the order needs to be dispatched to. They also receive details of how much they have ordered and the cost incurred. When the final button is pressed, the order is sent to the local pharmacist they have selected. The ordered products are usually delivered within 2–3 days to the base and, when receipt is acknowledged via the site, an electronic invoice is sent to Medicines Management for payment. Dressing products are stored at base and taken out by the team as needed.

The anticipated benefits of the proposal were easier access to dressing products for both nurses and patients, reduction in nursing time spent in writing/obtaining prescriptions and greater adherence to the wound care formulary. In the long-term the PCT could expect to see cost-savings with a reduction in overall wastage and possible retrospective bulk purchase discount from manufacturers.

The PEC board agreed to run a six-month (2006/2007) pilot study evaluation in two surgeries utilising the new system.

**Pilot study**

The two teams involved received training and decided which items they would order from the formulary and how much stock would be held. They were not pressurised to start immediately; team one had been involved in previous projects and decided to order on the first day but team two delayed the onset for several weeks.

In evaluating the pilot, the author did take all aspects of experience and prescribing history into consideration. The pilot did not show immediate savings, but did bring about a rapid reduction in prescribing on FP10 and instant adherence to the formulary. Despite initial doubts, the district nursing (DN) team rapidly adapted and became champions of the system; finding a reduction is wastage and waiting times for dressing products. They also found that continuity of care was improved and there was more discussion within the team regarding wound care.

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Roles within the project team
The project team comprised six people (Table 2).

Overcoming resistance
While planning the current project, the author held meetings with her line manager and the pharmacy advisor to discuss how implementation could be achieved without creating more resistance. Changes were implemented incrementally, minimising district nurses’ fears about losing autonomy and ability to prescribe; involving resisters to change is an accepted method of managing change processes (Kotter and Schlesinger, 1979).

The main difficulties for the project came from the local pharmacy committee. They advised their members not to join the scheme. This meant that initially the number of local pharmacies available to fill the orders was quite restricted. Minor problems came from the temporary project manager who had never worked in the NHS and therefore found it difficult to comprehend how the NHS worked. Also, when project approval was finally given, the pharmacy team had changed and the project was to be supported by a new pharmacy advisor with no knowledge or experience of the project.

Evaluation strategy
Evaluation of the change process is necessary at all stages to ensure that the expected outcomes are being achieved, even in the early stages (Sullivan and Decker, 2001; Cork, 2005). The author obtained information from stakeholders as necessary, comparing prescribing costs and ordering data from the project computer programme. She expected to see greater formulary compliance evidenced by reductions in written prescriptions. However, not all prescribing areas were included within this project, for example, nursing homes, community hospitals, podiatry and some other PCT sites and the expected reduction was not initially evident. Therefore, visible cost savings in the short and medium term could not be assessed and a full economic evaluation would need to be done later.

A formal evaluation of the total stock purchase/bulk supply initiative took place after six months (Table 3). This is a
was difficult and the author was unable to participate. These practices order dressings directly from wholesalers and may already have discounts in place as part of their overall purchasing plan, which includes medications, dressings and prescribable devices. This may change as practices realise the extent of lost income generation as the district nurses now order through an independent community pharmacist rather than via the surgery; therefore diverting income away from the surgery.

Meeting aims and objectives
The initial aims and objectives of the author and TVNs (Table 4) differed slightly from those of the temporary project manager and the PCT. The PCT wanted an immediate 10% discount to help cover the cost of VAT. This was to be deducted by the accounts department of the PCT on presentation of electronically delivered invoices from the independent community pharmacies. This immediate discount caused problems with the independent community pharmacies as their profit margins were affected and was the major reason for the lack of support from the local pharmacy committee who felt that their members would lose out financially with the new system. They also felt strongly that financial savings would not be realised as, for legal reasons, the PCT would have to pay VAT on all products purchased.

The long-term objectives were an increase in nursing knowledge of dressing products and appropriate usage and a reduction in overall costs through over prescribing and product wastage. The PCT also planned to obtain a further retrospective discount from the dressing manufacturers based on the number of units ordered through the scheme. However, this may be difficult for the PCT to achieve as many of the companies are reluctant to give this extra discount as their products are already discounted to the wholesalers.

Although the original plan had involved the independent community

| Table 2 |
| Project team members |
| Members | Role |
| Author/project manager | Supporting District nurse and practice nurse teams across her own area, District nurse and practice nurse teams across the PCT, Facilitator |
| Temporary project manager (appointed by pharmacy) as facilitator | Link between pharmacy advisor/pharmacy team and author, Communicating with LPC and independent community pharmacists, ~ joining the scheme, ~ 10% discount, Provide spreadsheets (recording training of district nurses, practice nurses and independent community pharmacists) |
| TVNs (North and South), as facilitators | Supporting teams in their areas, Representing author at meetings if required |
| Private sector company, as facilitators | Visiting independent community pharmacists, district nurse and practice nurse teams to set up programme, Continual support during training and set up period, Supporting author |

Preliminary review of a project that will need to be developed further before tangible cost benefits can be identified. Although minor adjustments have been made to the electronic dressing formulary (e.g. stock ordering quantities), no additions to the formulary were made during this period. Ordering was monitored through data on the computer system and prescribing data was only available from the procurement hub (the procurement hub works within the SHA to improve purchasing power and also monitor prescribing). The reduction in prescribing between Q1/Q2 and Q3/Q4 was a result of the implementation of the project. Unfortunately, the information provided by the hub lacked details of individual prescribers, and was only provided in quarterly blocks. Therefore, although our intention had been to launch in late September (end of Q3), the launch was delayed until the beginning of December; thus, comparison of the data was difficult and the author was unable to assess the reduction in prescribing accurately.

Effectiveness
Although there were problems with insufficient independent community pharmacist cover for the whole of the county, the implementation met very few dissenters from the community teams. A number of practice nurse teams required more support from the author and the company in the form of advice and extra training. The practice managers in general understood the proposal and supported the change. However, practice managers in dispensing practices (GP surgeries that serve communities with no access to local community pharmacists) needed time to consider whether there would be any advantage in joining the scheme.

The PCT has approximately 66 surgeries and the total stock purchase/bulk supply system now has 123 individual accounts, meaning that there is approximately 97% coverage. At this time the remaining 3% are made up of dispensing surgeries. The district nurse teams working at these surgeries are on the system but the practice managers have advised their practice nurses not to participate.
pharmacists, it is possible for products to be supplied direct from a wholesaler. This could not be implemented immediately as the possible value of dressing products involved would require the process to be put out for tender. The author feels that the PCT and pharmacy team may prefer this as larger discounts would be available. However, the delivery times would be difficult to guarantee, which could increase the risk of large amounts of stock being ordered by some teams or products being prescribed by those teams with little or no storage space.

With implementation of the project, the nursing teams had immediate access to all the evidence-based information (Table 5). News items and training information is uploaded onto the system regularly so that the teams were aware of educational opportunities. Training on some of the dressing products was arranged following requests from practice nurses. Formulary compliance is estimated (at the time of writing) to be greater than 85%, an increase of at least 10%.

Nurses report that they are spending less time writing prescriptions and are happy with the system. Fewer problems occur when the district nurses (as nurse prescribers) are away, therefore there is more continuity of care for the patients. The main problems centre on product delivery, as the independent community pharmacist cover was reduced in part of the county following initiation. This meant that the promised delivery time of 48 hours was sometimes delayed prompting teams to stockpile dressings. Careful monitoring and remedial advice on appropriate stock levels was required. This intervention has only been partially successful and highlights the need for further education.

Delays in payment to the independent community pharmacists initially caused problems and several withdrew from the project. Communication with the pharmacy advisor (responsible for arranging payment) proved difficult and this threatened the collapse of the project in one particular area of the PCT. Eventually, a small independent community pharmacy chain was able to provide cover for these areas, providing 18 of the 29 community pharmacists across the county.

In order to prevent damage to the project, solutions to problems had to be found quickly. Contacts were utilised and where necessary, the tissue viability team used their experience to persuade community nurses that the project could actually make things easier in everyday practice once the system was established. The breadth of the formulary allayed nurses fears; they could see that it was non-prescriptive and as professionals they could still influence clinical decision-making.

Policy implications

The provision of total stock purchase/bulk supply system does not influence the national agenda as the legislative framework to extend nurse prescribing and improve patient access to treatment such as medication (as outlined in The NHS Plan, DH, 2000; 2002) is already in place. However; the scheme may influence policy and service development within the PCT.

The implementation of this scheme has highlighted further changes that need to be made if all the aims and objectives are to be achieved (Table 6). This project has caused a major change in dressing supply within the PCT; but on its own will not deliver all the savings the PCT is aiming for.

The supply of dressing products by total stock purchase/bulk supply system provides a method of influencing practice providing that measures are put in place to identify training needs and providing professional development for staff members. Although training can be provided locally, attendance by nurses is problematic, training budgets are reportedly no longer ring-fenced and nurses are finding it increasingly difficult to obtain funding or time away from work to attend centres of higher education (Flanagan, 2003; Fletcher, 2007).

Conclusion

The early evaluation of this project suggests that the total stock purchase/bulk

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<tr>
<th>Table 3</th>
<th>Prescribing April 2007–March 2008 and TSP/BS December–July 2008</th>
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<tbody>
<tr>
<td>Prescribing (Q1 and Q2) April 2007–September 2007</td>
<td>Prescribing (Q3 and Q4) October 2007–March 2007</td>
</tr>
<tr>
<td>£712,519</td>
<td>£ 409,653</td>
</tr>
<tr>
<td>Total Stock Purchase/ Bulk Supply December 2007–March 2008</td>
<td>£ 334,328</td>
</tr>
<tr>
<td>Total Stock Purchase/Bulk Supply April 2008–July 2008</td>
<td>£334,328</td>
</tr>
<tr>
<td>Total Stock Purchase/Bulk Supply April 2008–July 2008</td>
<td>£ 390,513</td>
</tr>
</tbody>
</table>

Table 4
Initial aims and objectives

- Improved access to dressing products for patients and nursing staff
- Reduction in product wastage
- Reduction in the time spent in writing and obtaining prescriptions
- Improved access to evidence-based information:
  - Position documents
  - Policy documents and guidelines
- Greater adherence to the wound care formulary
supply system works and is well received by staff. Although there is evidence that levels of prescribing have been reduced, any savings that have been made are not so easily identified. It is generally accepted that the number and chronicity of wounds is increasing and therefore more dressing products will be required. Unfortunately, there is at present no easy way of identifying this and matching it with the expenditure. Additional changes will still need to be implemented if long-term objectives are to be achieved. These will need to include the extension of the scheme to other trust sites, and stricter control of non-formulary wound and repeat prescriptions of dressings. This will also require greater control of prescribing in the independent care sector; notably within care homes.

**References**


European Wound Management Association (2005a) Identifying criteria for wound infection. MEP Ltd, London


**Table 5**

Table 5: Documentation available on the system

<table>
<thead>
<tr>
<th>PCT guidelines and policy developments</th>
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<tbody>
<tr>
<td>Pressure ulcer prevention and management</td>
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<tr>
<td>Wound care</td>
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<tr>
<td>Leg ulcer management</td>
</tr>
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Position documents and guidelines

- Understanding compression therapy (European Wound Management Association (EWMA), 2003)
- Identifying criteria for wound infection (EWMA, 2005a)
- Management of wound infection (EWMA, 2006)
- Pain at wound dressing changes (EWMA, 2002)
- Nursing management of patients with venous leg ulcers (RCH, 2006)
- Lymphoedema bandaging in practice (EWMA, 2005b)
- Topical negative pressure in wound management (EWMA, 2007)
- Wound bed preparation in practice (EWMA, 2004)

PCT documentation

- Referral forms — chronic wound clinic, home visit
- Incident reporting — pressure ulcerations

**Table 6**

Table 6: Changes required

1. More cooperation between departments
   - Finance
   - Pharmacy team
   - Provider arm
   - Commissioning

2. Support from PCT managers
   - Training in all aspects of wound care
   - All new staff
   - District nursing team members to attend training every two years

3. Change provision of dressing supply in
   - Nursing homes
   - Residential homes
   - Community homes
   - Podiatry teams
   - Any other PCT sites that require dressings, i.e. mental health

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