

# BEST PRACTICE IN PHARMACY MANAGEMENT

## Introduction Of Ward-Based Pharmacy Teams At Harrogate And District NHS Foundation Trust

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### Summary

This paper:

- outlines how ward-based pharmacy teams were introduced
- describes the operation of an electronic prescribing and administration system
- identifies the benefits of the new system
- summarises the reduction in time that occurred when dispensing TTOs.

### Introduction

Harrogate and District NHS Foundation Trust (HDFT) is the principal provider of hospital services to the population of Harrogate, the surrounding district and north Leeds. In addition, a wide range of community based services covering the Harrogate and District locality are also provided, with some services covering the whole of North Yorkshire. The Trust's overall catchment population is approximately 900,000.

Further to a review of processes, including feedback from patients, the department decided to change working

practices to provide reliable and effective ward-based pharmacy teams.

Medicines are an integral component of delivering care at HDFT, which spends approximately £10m per annum on medicines with the wards administering 1.7 million doses per annum. Whilst medicines management across HDFT is relatively good, further improvements can be made:

- Medicine incidents are around 10% of the total incidents reported across HDFT and feature in the top 5 most common HDFT reported incidents.
- HDFT has recently had several high profile cases of security breaches relating to medicines.
- NHS inpatient surveys recognise that only 60% of patients are adequately counselled and informed about the side effects of their medication.
- The slow supply of medicines at discharge (i.e. 'To Take Outs' or TTOs) is a regularly reported concern/complaint by patients.

### Aim

The HDFT pharmacy seeks to build on established and integrated ward-based

services to develop dedicated ward-based pharmacy teams for inpatient areas. This is being achieved through service improvement, process redesign, devolvement of the resource for inpatient areas and the employment of remote technology and mobile dispensing units.

HDFT operates an electronic prescribing and medicines administration system (ePMA), which consists of:

- an electronic form of a patient's medicine chart
- a pharmacy dispensing and labelling system (Ascribe), which communicates with the ARX robot within the dispensary
- the Integrated Clinical Environment (ICE) electronic discharge system for the dispensing of TTOs.

There is also access to 'SystemOne', which links into patient medicine records and four mobile pharmacy dispensing units situated on two surgical and two medical wards. The aim is to ensure that each element of this technology is used to its best advantage.

Each ward-based pharmacy team includes a pharmacist, pharmacy technician and pharmacy support worker.

*"... only 60% of patients are adequately counselled and informed about the side effects of their medication."*



*The transition to being fully active on the wards was welcomed by the pharmacy team.*

The team is responsible for medicines management issues on that ward and works seamlessly with nursing and medical staff.

## Benefits

The new service endeavours to:

- supply all medicines (discharge prescriptions, stocks and inpatient supply) in a timely manner
- improve the counselling and provision of advice and education to our patients
- provide front line clinical/pharmaceutical advice to clinicians
- further develop the clinical review of medicines at admission, during the inpatient stay and at discharge
- improve the safe and secure handling of medicines
- develop medicines self-administration programmes for our patients
- reduce medicines waste in clinical areas.

## Feasibility

The project initially required a sound business case to obtain support and commitment from stakeholders, including the Executive Board, to drive the plan forward.

Areas on the wards regarding where the mobile pharmacy dispensing units could be placed were identified and ward staff were consulted about the new service.

Pharmacy staff were introduced to the new way of working in a presentation and the opportunity was provided to enable any concerns to be addressed. The expertise of existing staff was used to introduce and develop extended roles. A medicines management training and competency programme for the pharmacy support worker was written and the pharmacy technicians undertook training in drug history taking.

A pilot scheme was undertaken on a surgical/trauma ward. The audits undertaken before and after included:

- the time taken for medicines to be ordered, dispensed, checked and put into a patient's locker
- the time taken for discharge prescriptions to be dispensed, checked and ready for discharge
- the adjustment in stock holding and any cost saving made through recycling
- feedback of nursing and patient experience by means of a questionnaire.

Further data was gathered and processed as the project advanced.

## Timescale

The roll-out of the new service began shortly after five additional mobile pharmacy dispensing units had been purchased.

The project commenced on two wards (one surgical and one medical). The next medical ward followed a month later and it was then planned to introduce subsequent wards over the

## Results

Stock 'top-up' figures have been reduced by 10%. By allowing the ward-based team to take responsibility for the ward medicines service, savings have been made by a decrease in the amount of stock kept and by careful consideration of what should be included on the stock list. Savings by recycling medicines are almost £1,000 a month per ward and waste has been considerably reduced.

The number of TTOs provided at ward level increased to almost 100%, with the only exceptions being if it was necessary to dispense a controlled drug or a compliance aid, in which case the team would return back to base for completion.

Table 1 shows that, on the surgical ward where 64 prescriptions were audited over a four week period, almost all the TTOs were dispensed at ward level with 63% of medicines coming from the patient's locker, 31% being dispensed from the mobile dispensing unit and 6% of the medicines not being required by the patient. On the medical ward, where 18 prescriptions were audited over a four week period, all the TTOs were dispensed at ward level with 82% of medicines coming from the patient's locker and 18% being dispensed from the mobile dispensing unit.

The time taken for patients to receive their medicines for discharge was significantly reduced. The time measured was from when the pharmacist had

next 6 months with the program being determined by the time taken to train staff and annual/summer leave.

It was anticipated that a full roll-out to all the wards would be completed within a year.

## The Experience

The transition from working in the dispensary to being fully active on the wards was welcomed by the pharmacy team and their level of job satisfaction increased accordingly.

The pharmacy team concentrated on providing a familiar service to the ward, with the pharmacist focusing on medicine reconciliation, the pharmacy technician undertaking the medicine supply and checking patients' own medicines and the pharmacy support worker providing a 'top-up' service for the ward's stock.

Discharge prescriptions started to be dispensed from the mobile dispensing unit by the pharmacy support worker and be accuracy checked by the pharmacy technician within the first week. This progressed to include inpatient medicines. By using the ePMA system it was possible for the pharmacy technician to produce worksheets for the pharmacy support worker to use when dispensing. By checking the drugs immediately and placing them in the patient's locker, they were available for the patient either to self-administer, if enrolled on the self-administration scheme, or for the nurse to administer.

The pharmacy team could be more selective regarding which medicines to dispense into the patient's locker as adjustments could be made quickly and easily using the mobile dispensing unit. Pre-packs were used more at discharge if the patient required them rather than issuing a range of medication that may not be needed.

The pharmacy support worker began taking responsibility for all the stock, including bulk fluids and dietary feeds. Stock levels became leaner with recycling and waste management becoming more efficient as the pharmacy support worker became aware of medicine usage patterns.

As the patients' medicines were put directly into the bedside lockers, having them ready for discharge was straightforward. Any additional supply or relabelling was carried out on the mobile dispensing unit.

The need to re-dispense medicines when patients transferred wards was avoided by also transferring the patients' medicines. The security of medicines was much improved as the pharmacy team put the stock orders and the inpatient medicines away.

Members of the pharmacy team spent more time discussing medication with patients, who became more aware of the pharmacy team being part of the general workforce.

Location	All medicines ready on ward	Dispensed in pharmacy by technician	Using mobile unit	Patient drug in locker	Not required by patient	Dispensed in pharmacy
Pre ward team	88.6%	17.4%	na	82.6%	0	13%
Surgical team	98.5%	0	31%	63%	6%	1.5%
Medical team	100%	0	18%	82%	0	0

Table 1: Location where TTOs were dispensed

clinically checked the TTO to having the medicines dispensed, checked and ready for the patient to take home.

Table 2 shows that, on the surgical ward where 23 prescriptions were audited over a one week period, the turnaround time for a TTO varied from 25% completed in less than 5 minutes (all medicines ready in the locker) to 82.5% taking less than 90 minutes. On the medical ward, where 9 prescriptions were audited over a one week period, the TTO prescriptions took an average of 45 minutes to prepare with 7 minutes being the fastest turnaround time.

Medicines were placed into patients' lockers earlier than when the worksheet had been dispensed and checked within the department and the porter had been responsible for delivery.

Table 3 shows that, for both wards where between 13 and 22 worksheets were audited over a two week period, on average 76% of inpatient dispensing was taking under 90 minutes for a worksheet (consisting of up to 10 items) to be dispensed, checked and put into patient lockers in comparison to only 5% before this new way of working.

### Comments from staff

Nurses commented that they had noticed the pharmacy team were spending longer on the ward and were available to give advice. They were happy that medicines were being put into the lockers. They rarely had to do this themselves and only when a patient was admitted out-of-hours. They also did not need to spend time putting stock away, which generally took between 30 minutes to 1 hour for

two members of nursing staff.

#### An e-mail from a ward sister indicated:

*"Just a quick note to express the staff's gratitude for the exemplary job . . . have done on . . . ward. The additional role of unpacking pharmacy deliveries has made an immediate improvement to the running of the ward. This week alone it has allowed the Nurse in Charge (NIC)/Sister to attend MDTs for long-term patients, greatly improving the patients' and families' faith in the Nursing and Medical teams as well as contributing to a clear management plan. It has also freed staff to provide basic nursing care, demonstrate a greater presence on the ward and speed up our discharge process. Not to mention the improvement in medicines safety and ward tidiness.*

Location	Average time per prescription	Quickest time	Longest time	Less than 90 minutes
Pre ward team	2 hours 8 minutes	36 minutes	7 hours 4 minutes	50%
Surgical team	1 hour 5 minutes	5 minutes	4 hours 48 minutes	82.5%
Medical team	45 minutes	7 minutes	1 hour 20 minutes	100%

Table 2: Time to dispense a TTO

Team	Time per worksheet on average	Per item	Worksheets taking less than 90 minutes
<b>Surgical</b>			
Pre ward team	4 hours 10 minutes	39 minutes	5%
Surgical team week A	1 hour 18 minutes	22 minutes	57%
Surgical team week B	54 minutes	15 minutes	82%
<b>Medical</b>			
Pre ward team	3 hours 32 minutes	26 minutes	0
Medical team week A	1 hour 27 minutes	14 minutes	85%
Medical team week B	1 hour 5 minutes	8 minutes	81%

Table 3: Time to dispense a worksheet

... has always been very conscientious in her work. Our stock levels are always accurate and appropriate and she is often aware of TTOs before the NIC! I have never known TTOs be processed or delivered as quickly or with as little fuss. In addition to this ... has streamlined and tidied the ward medicine cupboards, removing any non-stock items and generally organising us. I understand the IV fluid cupboard is next on the hit list.

I believe this duo technician/support worker approach is part of a trial process and I just felt that you should know that on ... ward at least it is extremely effective. Please pass mine and the rest of the staff's gratitude to ... "

**Doctors were also appreciative of the service. An e-mail captured their opinions as follows:**

*"I have certainly noticed a much greater presence on the ward, which is incredibly useful to doctors of all grades, with problems and queries being sorted out straight away face-to-face. The admissions meds are being completed much more reliably and more quickly, which obviously improves patient care and safety."*

Patients were undoubtedly having more contact with the pharmacy team

and were benefitting from counselling throughout their hospital admission.

When patients were questioned prior to the scheme commencing a number of negative responses were reported e.g.

Q: Have you met a pharmacy person today?

A: "No"

Q: How many times have the pharmacy team spoken to you?

A: "Not sure."

Q: What have they spoken to you about and what did they do?

A: "Someone in uniform put my medicines in the locker."

After the introduction of the ward-based teams, the feedback obtained was more promising. For example, when asked "Have you met and spoken to a pharmacy member of staff?", patients answered affirmatively. Other comments made included "Pharmacy has been very helpful" and "Can't fault anyone here - you are doing an excellent job". More importantly, patients could give examples of conversations about their medicines with reference to inhaler counselling, new and changed doses.

## Future Work

For the wards that have been involved, the project has proved to be a success for both the pharmacy team and patients, with all objectives being achieved. However, the completion of a full ward-based team service will take longer than anticipated.

The department is committed to build on what has already been achieved to ensure that pharmacy delivers an efficient and effective service as part of the multi-disciplinary team.

## Declaration of interests

- None

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