Refer-to-Pharmacy: benefits and early outcomes

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Refer-to-Pharmacy is an electronic tool that facilitates rapid referral of patients from the hospital pharmacy team to community pharmacists. This article discusses the implementation of Refer-to-Pharmacy in East Lancashire Hospitals NHS Trust and the benefits and outcomes seen so far.

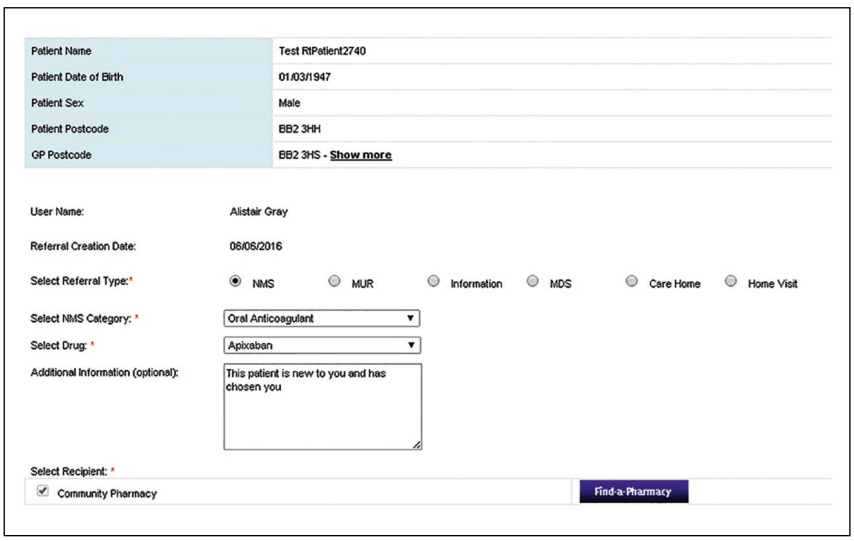

Figure 1. Selecting a reason for referral using Refer-to-Pharmacy

Fifty per cent of people do not take their medicines as intended.[1] This can lead to poor quality of life or admission/readmission to hospital. Community pharmacists are ideally placed to help patients improve their medicines adherence, especially when a patient leaves hospital with many medicine changes. However, it is difficult for a community pharmacist to identify which of their patients needs this support. This changed when Refer-to-Pharmacy launched in East Lancashire Hospitals NHS Trust (ELHT).

Refer-to-Pharmacy is an electronic tool that facilitates rapid referral from the hospital pharmacy team to eligible patients' community pharmacists for either a postdischarge medicines adherence consultation (New Medicine Service (NMS) or medicines use review (MUR)), or to update a patient's medication record (PMR) with changes made in hospital to improve safety.

The concept developed during ELHT's participation in a Royal Pharmaceutical Society (RPS) programme to improve transfer of care.[1] At that time, NHS England commissioned the NMS,[2] which has been shown to improve medicines adherence by 10 per cent,[3] and postdischarge MURs,[4] which deliver a three-fold return on investment through reduction in medicines waste, fewer emergency department attendances and reduced readmissions.[5]

NICE's medicines optimisation guidance recommends the sharing of discharge letters with community pharmacists.[6]

How Refer-to-Pharmacy works in hospital

While pharmacists and pharmacy technicians conduct their daily ward duties, they naturally identify eligible patients for referral. They gain consent, log into the web-based Refer-to-Pharmacy application and select the patient through a link to the hospital's patient administration system (PAS), which immediately populates the referral with all patient details. They then select a reason for referral: NMS, MUR, care home resident, monitored dosage system (MDS; *aka* blister pack),

information only or home visit with the local medicines support team (see Figure 1). Find-a-Pharmacy helps identify the desired pharmacy either from an interactive list or from an interactive map, such as Google Street View (see Figure 2).

A referral can be made from admission to discharge, taking about 20 seconds and making it feasible to refer *every* eligible patient. For consultation referrals, the patient is shown an information film on their bedside TV to raise their understanding of poor medicines adherence and how community pharmacy can help them. This can be viewed at www.elht.nhs.uk/refer. For information referrals, a hospital admission notification is immediately sent to the community pharmacist so they can pause planned dispensing to reduce unintended medicines waste.

The referral sits in limbo until the PAS indicates discharge. Refer-to-Pharmacy automatically sends a notification to the community pharmacist, prompting them to log in and accept/manage the referral.

How Refer-to-Pharmacy works in community pharmacy

When a community pharmacist logs into their account, they view their pending referrals (see Figure 3), and they either accept or reject each referral. Rejection is rare and requires the hospital to either refer to another pharmacy or abort the process.

On accepting the referral, the pharmacist gains access to the full electronic discharge letter, including diagnostic information and a list of the current medicines regimen. For information referrals, they update the PMR; if there are discrepancies on future prescriptions, they contact the prescriber to determine if these are deliberate or unintended. For consultation referrals, they contact the patient and arrange for a mutually convenient time to meet.

A process and/or clinical outcome are eventually captured by the system ensuring an audit trail – and much research potential. An overview of how Refer-to-Pharmacy works is shown in Figure 4.

Overcoming barriers

Funding

This was initially sought from a Department of Health innovation fund. However, the timescales proved unfeasible so the bid was withdrawn.

Instead, a business case was presented to ELHT's Information Management and Technology board, and to the main boards of Blackburn with Darwen and East Lancashire CCGs. Tripartite funding was agreed, with additional investment provided by software developer Webstar Health.

Training

Success depends on referring *every* eligible patient, and these patients then receive an excellent service from their community pharmacist. It took two months to train all (100+) ward-based pharmacists and pharmacy technicians. The software is user-friendly, so the main focus was identifying patients' eligibility for community pharmacy services.

Community pharmacists were provided with online training materials, and the Centre for Pharmacy Postgraduate Education (CPPE) was engaged with to provide evening training sessions covering interpretation of discharge letters and honing consultation skills. The CPPE also provides online training.[7] The recently published second edition of the *Clinical Pharmacy Pocket Companion* supports the referral process with practical tips on medicines optimisation for both hospital and community pharmacists from leading experts.[8]

Lancashire's local pharmaceutical committee (LPC) has supported implementation with their special projects technician chasing up pharmacies that appear not to be acknowledging referrals in a timely manner.

Early results

A series of reporting tools is about to be deployed allowing detailed drill-down to demonstrate the ultimate value of Refer-to-Pharmacy. These include: clinical outcomes, indication of waste medicines reduction, and the effect on readmissions by linking ELHT live data with Refer-to-Pharmacy data. The University of Manchester's School of Pharmacy is performing a service evaluation of the scheme that will be published in due course.

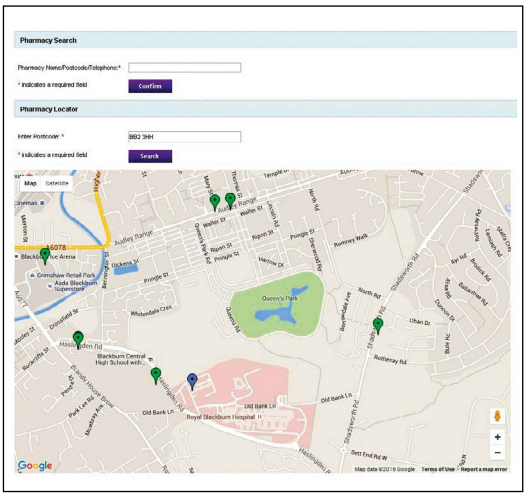

Figure 2. Find-a-Pharmacy can identify a pharmacy from an interactive list or map, for example Google Street View (blue pin is the patient; green pins are pharmacies)

Currently, only high-level data is available. Table 1 shows a breakdown of Refer-to-Pharmacy referrals between go-live (29 October 2015) and 24 May 2016 in ELHT.

Readmissions to medical wards, for the *same* indication, at 28 days between January–April fell from 4.0 per cent in 2015 to 2.5 per cent in 2016, or 70 fewer patients. However, other factors will have affected the readmission rate; 1675 patients were referred in that period into programmes that have been shown to reduce readmissions.

Figure 3. Example of a community pharmacy view of a pending referral in Refer-to-Pharmacy

These early signals show that Refer-to-Pharmacy is positive for the health economy as a whole and it is worth considering what it means to the different groups affected (see Table 2).

What does it cost?

A Refer-to-Pharmacy server takes data from the PAS and discharge letter systems, so interfaces need to be built. These are dependent on a Trust's IT infrastructure, so a definitive cost can only be made following a scoping meeting with an IT department (typically, it is expected to be between £8,000–£12,000). There is also a monthly maintenance charge to cover systems support and local developments.

These costs pale into insignificance when compared with the benefits of Refer-to-Pharmacy. Only a few less patients not being readmitted will claw back initial investment. For example, in the Carter review published in February 2016, the cost of an average elective inpatient stay was calculated at £3,500.[9]

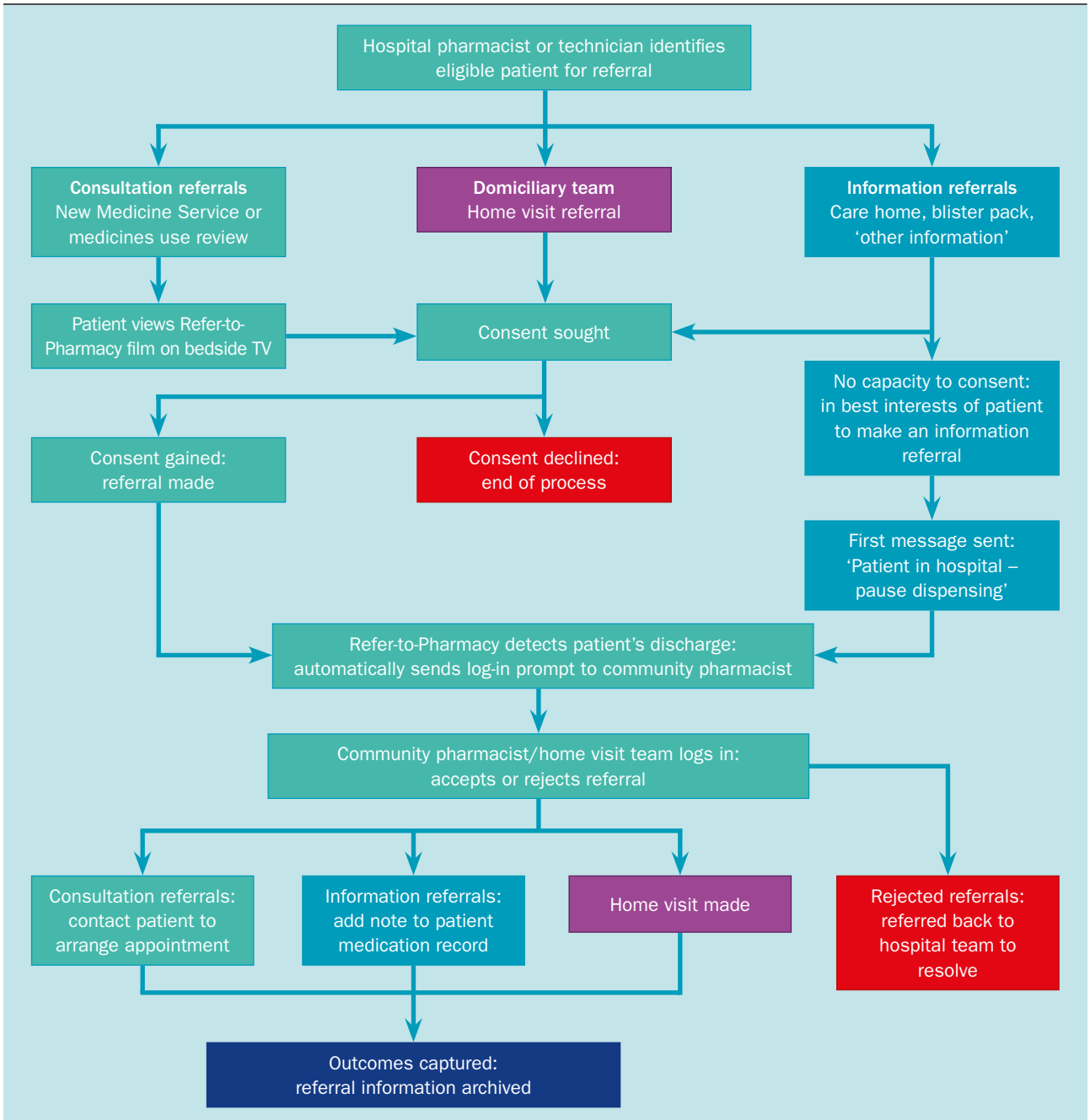

Figure 4. Overview of how Refer-to-Pharmacy works

Referral type	Number
Total referrals	**2067**
Monitored dosage system, *ie* patients using blister packs	856
Medicines use review	502
New Medicine Service	317
Information only	230
Care home residents	162

Table 1. Breakdown of the number of Refer-to-Pharmacy referral subtypes (between 29 October 2015 and 24 May 2016)

- **Patients** are better supported in terms of medicines safety and adherence. Their perception of community pharmacists will change so they may be a first port of call for medicines-related issues rather than unnecessarily attending general practice or A&E, especially during periods of high demand for the health service
- **Community pharmacists** are now hard-wired into the discharge pathway. They have an opportunity to interact with recently discharged patients in a way that utilises their clinical skills, and build trusting relationships with their patients/customers that was not previously possible
- **GPs** want their patients to get the best from their medicines and stay healthy at home; Refer-to-Pharmacy facilitates this through the timely provision of clinical information to a previously underutilised clinical resource
- **Hospitals and commissioners** want to see a reduction in readmissions and through effective medicines optimisation demonstrate a reduction in the cost of medicines through less wastage
- **The hospital pharmacy team** are finding the system saves them time, *eg* what was a five-minute phone call to a pharmacy to communicate changes to a monitored dosage system now takes 20 seconds

Table 2. Benefits of Refer-to-Pharmacy to different cohorts of people

Conclusion

The early signs indicate that Refer-to-Pharmacy is making a positive difference. The challenge lies in creating the demand for this to spread to other health economies. This process has already started with sessions at conferences and meetings and through social media (Twitter, Facebook and e-newsletters), and the RPS has supported the scheme by producing a Referrals Toolkit to help health economies implement such solutions.[10] The North West Coast Academic Health Science Network (AHSN) has produced a report examining Refer-to-Pharmacy and comparing it with the only rival system, in order to demonstrate Refer-to-Pharmacy's utility and benefits.[11]

Refer-to-Pharmacy is a pioneering programme and several locations around the UK are at various stages of evaluating Refer-to-Pharmacy, or are coming close to implementation.

The initial interest usually comes from a hospital pharmacy department, commissioners or an LPC. All these parties will need to be involved to facilitate successful deployment.

With new reporting tools about to come on-stream, an outpatient module, and further developments that may include direct messaging to GPs, this should stoke demand for Refer-to-Pharmacy to spread and so help more patients get the best from their medicines and stay healthy at home.

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Declarations of interests

None to declare.

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