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Hospital patient discharge process: an evaluation

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ABSTRACT

Objectives Medication discrepancies for patients after discharge from hospital are well documented. They have been shown to cause unnecessary harm to patients and can result in hospital readmission. To improve patient discharge, the current process of discharging patients from hospital (the discharge process) needs evaluating to determine where and why medication issues occur. This study aimed to identify and evaluate the discharge process used in a range of acute National Health Service hospitals across the North West of England.

Methods This qualitative study involved semi-structured telephone interviews with 13 chief pharmacists or an appropriately nominated member of the hospital pharmacy team. Thematic analysis of the transcribed interview data was performed. Data analysis revealed eight main themes which all impacted on the discharge process.

Results The study was successful in identifying the discharge process across the range of hospitals as well as key issues and examples of good practice. The hospitals involved in the study were found to have similar discharge processes with issues common to all. One significant finding was a lack of patient involvement in the discharge process.

Conclusions To improve the patient discharge process, innovative solutions are required to overcome the current issues. In future work, the study findings will be used to develop a new model of care for patient discharge from hospital.

INTRODUCTION

Discharging patients from acute NHS hospitals is a complex process which involves various members of the multidisciplinary team.¹ Good coordination and communication between the healthcare providers involved is essential to ensure that patients are discharged safely with robust ongoing care. Discharge can involve a variety of health and social care aspects depending on individual patient needs. A complete description of all aspects of the discharge process is beyond the scope of this paper, which will focus on the issues surrounding the process of medication supply at discharge and during transfer of care to the community.

The supply of medication at discharge begins with the creation of a discharge prescription which is commonly referred to as 'To Take Out' (TTO). The TTO is a complete and accurate list of all medication the patient should take after discharge from hospital. A typical discharge process involves a doctor writing a TTO for a patient which is then checked by a pharmacist. Any medication needed is dispensed by the hospital pharmacy based on this TTO. The nurse looking after the patient will check the medication against the TTO before

giving them to the patient along with the discharge summary.

Transfer of care to the community involves the discharge summary, including the TTO, being sent to the patient's general practitioner (GP) within 24 hours of patient discharge. Providing a complete and accurate discharge summary aids the transfer of care from hospital into the community and allows the GP to coordinate appropriate ongoing care.¹ It is essential that the discharge summary contains all relevant information regarding the episode of hospital care. In an attempt to promote uniformity of content there are published standards detailing the necessary information to include in a discharge summary.²⁻³

Another aspect of transfer of care into the community is the role of the community pharmacist in assisting patients discharged on medication. Research in the late 1990s found that providing community pharmacists with a copy of patient discharge summaries was an effective method of reducing unintentional medication discrepancies.⁴ Further research has demonstrated the value of the community pharmacist in separating old and new medications, disposing of any unnecessary medication, counselling patients and answering medicine-related questions,⁵ ensuring continuity and quality of patient care during the discharge process.⁶⁻⁹ More recently, community pharmacies can offer the New Medicine Service (NMS) and Medicines Use Reviews (MURs) to support patients recently discharged and improve transfer of care between the hospital and community.¹⁰ The NMS involves a community pharmacist assessing adherence and identifying problems with certain newly prescribed medication. MURs are an in-depth review of a patient's medication to ensure they understand how and when to use their medicines.¹⁰ There are four target groups of patients for which MURs are aimed, which are based on their medicines or clinical condition. One of these target groups is patients recently discharged from hospital with changes to their medicines.¹¹ Despite the availability of evidence-based community pharmacist services, studies show that uptake of discharge medication reviews is limited.¹² Evidence also suggests that a lack of communication between hospital pharmacists and community pharmacists is common.¹³⁻¹⁴ In the main, community pharmacists are not aware that their patients have been into hospital.¹⁵

Discharge from hospital is known to be fraught with issues. It is a time consuming process often resulting in patients waiting for their medicines and temporarily blocking beds.¹⁶ In particular, medication discrepancies are common at discharge. A significant percentage of older patients experience medication discrepancies after transferring from



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hospital to home,¹⁷ leading to medication errors. Medication errors can cause unnecessary harm to patients and can result in readmission to hospital.¹⁸ According to a 2014 report, preventable harm from medicines is thought to cost the NHS anywhere between £1 billion and £2.5 billion annually.¹⁹ A number of factors are thought to contribute to medication discrepancies after hospital discharge,^{13 14} including incomplete information on discharge summaries sent to GPs,^{13 14 20 21} lack of prompt transfer of information to a patient's GP^{13 14 21 22} and lack of patient understanding of discharge instructions.^{13 14 23}

As discussed, hospital discharge can result in a variety of problems affecting patients and hospitals. It is important to determine how and where in the process these problems arise. Additionally, despite the well-documented problems associated with discharge, little is known about solutions developed by hospitals to address these problems. This study attempts to broaden the literature on this topic by investigating the discharge process at a range of hospitals.

AIM

To identify and evaluate the discharge process used in a range of acute National Health Service (NHS) hospitals across the North West of England.

METHOD

This qualitative study involved semi-structured telephone interviews with participants from acute NHS hospitals across North West England. Participants from specialist hospitals such as children's and mental health trusts were excluded because their discharge process is likely to be tailored to that specialty and may not be relevant to an acute general hospital.

Participants who met the inclusion criteria were either chief pharmacists or an appropriately nominated senior member of pharmacy staff with knowledge of the discharge process from each of the 22 acute NHS hospitals across North West England. Each potential participant was sent an introductory invitation via their NHS hospital email account outlining the study and consent form. This was a convenience sample of experts and all those who responded were included in the study.

The interview schedule consisted of closed questions collecting demographic information and open-ended questions about the discharge process. The participants were asked to describe the discharge process in their hospital and were probed for more detail and prompted to express their experiences, priorities and concerns throughout the interview. No topics were discussed that any of the participants found distressing during the interviews. Telephone interviews were recorded. Data collection continued until data saturation was achieved.

The audio-recorded interviews were transcribed by the researcher and checked to ensure content and meaning was maintained. All data were anonymised at the transcription stage by removing participant identifiable information. Thematic analysis was used to analyse the data using NVivo 10 software to code transcripts.

A pilot study was undertaken with two pharmacists to verify the recruitment procedure and the interview schedule prior to commencing data collection. No significant amendments were required as a result of the pilot.

RESULTS

Thirteen telephone interviews (average duration 30 min, range 15–50 min) were conducted between January and April 2015. Participants included nine chief pharmacists, three clinical services managers and one technical ward-based services manager.

The participants were from a range of hospitals: six large teaching hospitals, six district general hospitals and one integrated care organisation.

Eight main themes emerged from the data analysis. The salient points from each theme are discussed below. The anonymised quotes in the themes that follow are annotated with the type of hospital in which the interviewee was employed.

Main themes

Planning for discharge

Discharge planning was taking place, but patient discharge was thought to be poorly coordinated.

So no-one coordinates it most of the time, although there's lots of attempts to coordinate it. (large district general hospital)

Another issue was that, although most patients are discharged within pharmacy working hours, there were some exceptional circumstances where patients were discharged out of hours. Problems occur when the pharmacist is not available to complete discharge prescriptions out of hours which can lead to patient safety issues.

Discharge documentation

All of the hospitals in the study used electronic discharge systems, despite some not using electronic prescribing systems. Electronic discharge allows hospitals to send discharge summaries to GPs within the current target of 24 hours. The hospitals participating in the study were mostly compliant with current standards^{2 3} by including relevant information in the discharge summary template. However, issues regarding incomplete discharge summaries were highlighted by several of the participants during the interviews.

Obviously it's garbage in garbage out, you find individual doctors not doing a very good job on the discharge summary, but this tends to be the minority (small district general hospital)

Preparing the discharge prescription and summary for an inpatient episode is traditionally carried out by the junior doctor involved in a patient's care during their admission.²⁴ This study showed further evidence of this as common practice. Participants agreed that writing the discharge prescription was not a priority for doctors and often took too long.

Verifying the discharge prescription to ensure medication prescribed at discharge is accurate, safe and includes all the required information was seen as an important stage in the discharge process. Participants had audit data demonstrating that the pharmacist clinical check significantly reduces medication discrepancies on discharge prescriptions. A patient safety issue was identified for discharge prescriptions sent out without a pharmacist's review.

Supply of medication for discharge

Despite guidance to help reduce medication waste at hospital discharge,^{25 26} participants found that the supply of medication at discharge from hospital was highlighted as an area of waste in terms of cost and time.

Dispensing the required medication for discharge traditionally takes place in the pharmacy dispensary. However, the majority of hospitals now also have facilities for the ward-based pharmacy team to dispense medication for discharge at ward level. Participants had evidence demonstrating that providing ward-based dispensing had reduced the wait time for patients compared with sending the TTO to the pharmacy, which is in line with current evidence.¹³

257 **Post-discharge community pharmacy involvement**
 258 Despite current recommendations that, for a successful dis-
 259 charge service, communication should include community phar-
 260 macists,¹³ it was uncommon for information to be sent to the
 261 community pharmacy by the hospitals involved in the study.
 262 Findings suggest that this usually only occurs if a patient has
 263 their medication supplied in a multi-compartment compliance
 264 aid by a regular community pharmacy.

265 Few hospitals in the study refer patients to their community
 266 pharmacy for MURs or NMS as is currently recommended.¹⁰
 267 One hospital has developed an electronic application which
 268 allows easy identification of the patient's local community phar-
 269 macy and sends a referral, including patient's discharge informa-
 270 tion, to that pharmacy. The onus is then on the pharmacy to
 271 contact the patient to provide an NMS or undertake an MUR.

273 Communication within the discharge process

274 Communication within the multidisciplinary team was consid-
 275 ered important by participants in delivering quality patient care
 276 in agreement with current evidence²⁷ and in the planning and
 277 organisation of care and the systems used. One participant felt
 278 that the pharmacist should play a more integrated role in the
 279 team in order to improve communication, add to the skill mix
 280 of professionals and provide better patient care at discharge.

281 Overall, the use of technology to communicate within the dis-
 282 charge process was seen as positive. The research showed varia-
 283 tion between the hospitals in the extent and type of technology
 284 being used. There were a variety of mechanisms for sending the
 285 completed discharge summary to the GP, including: direct elec-
 286 tronic transfer, email (via NHS.net email address) or by post.
 287 Not all medical practices use electronic systems and the mechan-
 288 ism to send completed discharge summaries depends on the
 289 capabilities of the medical practice.

291 Factors affecting the discharge process

292 Throughout the interviews a variety of pressures impacting on
 293 the discharge process were mentioned. This was often implicit,
 294 as a reason for certain aspects of the discharge process not
 295 running smoothly. Hospitals and staff are under pressure from a
 296 variety of sources including meeting targets across the hospital,
 297 meeting patient expectations and ensuring quality patient care is
 298 provided within the constraints of staff time and resource.

299 Staff training was highlighted by participants as a factor
 300 impacting on the discharge process. Many issues identified
 301 throughout the discharge process resulted from a lack of staff
 302 training. For example, in one hospital, improved training for
 303 prescribers on the discharge process was a focus; specifically,
 304 educating prescribers to prescribe earlier and how to complete
 305 discharge summaries so that they contain all of the necessary
 306 information to send to the GP. The lack of staff training high-
 307 lighted was linked to the hospitals being under-resourced.

310 Patient involvement

311 Patients and their carers should be involved in planning for their
 312 discharge in order to manage patient expectations and help
 313 them understand potential complexities or issues.²⁸ A significant
 314 finding from the study was that patients had limited involvement
 315 in their own discharge from hospital. This was noted through-
 316 out all interviews and supports findings from a recent report
 317 showing that patients do not feel involved in decisions about
 318 their care.²⁹

319 Patient counselling should take place whenever any new medi-
 320 cation is prescribed. It is important that the patient is counselled

321 on their medication by the point of discharge. All of the partici-
 322 pants agreed that patients are not always counselled and that it
 323 is unclear who is responsible for providing counselling.

324 Who counsels? That's a good question. The answer is probably
 325 we don't, nobody does it well enough I'd say. It's an area which
 326 is poorly managed. I think doctors think nurses do it, nurses
 327 think pharmacists do it and pharmacists think everybody else
 328 does it apart from them. I think pharmacists do it to a certain
 329 extent, but not universally and comprehensively. It is an area for
 330 development still

331 (small district general hospital)

332 Participants had anecdotal evidence that, when a patient is
 333 medically fit for discharge, doctors tell the patient that they can
 334 go home without giving a realistic timescale of how long the
 335 process will take. This poor communication gives patients unreal-
 336 istic expectations that they can leave straight away, which is often
 337 not the case and will impact on their experience in hospital.

340 Innovative discharge processes

341 Patients have high expectations of the services provided to them
 342 by the NHS.³⁰ In order to address the issues of high pressures
 343 and meeting patient expectations, hospitals have developed
 344 innovative solutions to issues with the discharge process. This
 345 theme—innovative discharge processes—focused on innovative
 346 solutions to issues with the discharge process used by the
 347 hospitals.

348 Pharmacists writing discharge prescriptions in place of junior
 349 doctors had been piloted in several hospitals. As a result, partici-
 350 pants had data to show that this reduced the time taken to
 351 obtain a written discharge prescription and also improved their
 352 accuracy. Several hospitals in the study had access to
 353 pharmacy-led community interface teams who visit patients after
 354 discharge. Patients are referred to the teams if they need help
 355 with their medication or are high risk for readmission. There is
 356 anecdotal evidence that this support is beneficial for patients.

357 One innovative technology solution currently used in one
 358 hospital is an Integrated Care Record which allows healthcare
 359 professionals to input and obtain patient information from both
 360 sides of the interface—hospital and medical practices.

361 An important finding from the study suggested innovative work
 362 thought to improve the discharge process has been piloted in hos-
 363 pitals for over 10 years¹⁶ but not developed into routine practice
 364 across all hospitals. Participants cited difficulties in obtaining
 365 funding as a reason for struggling to provide new services.

367 Generalised discharge process model

368 From the findings, a generalised discharge process has been
 369 identified. This is displayed in figure 1 in the form of a flow-
 370 chart representing the stages involved in the discharge process
 371 for the hospitals in the study. For most hospitals this is an accur-
 372 ate description of the process. Individual hospitals may show
 373 minor variance from this generalised model. The shaded areas
 374 in the flowchart represent those stages in the discharge process
 375 where problems were identified by the thematic analysis.

378 Limitations and further work

379 As with all qualitative research, a limitation of the study was the
 380 inherent risk of personal bias from the researcher because of
 381 their role as a hospital pharmacist. In an attempt to reduce this
 382 risk, all analysis was grounded in the data. Despite the range of
 383 hospitals involved in the study, a limited sample specific to the
 384 North West of England was used. As a result, the findings are

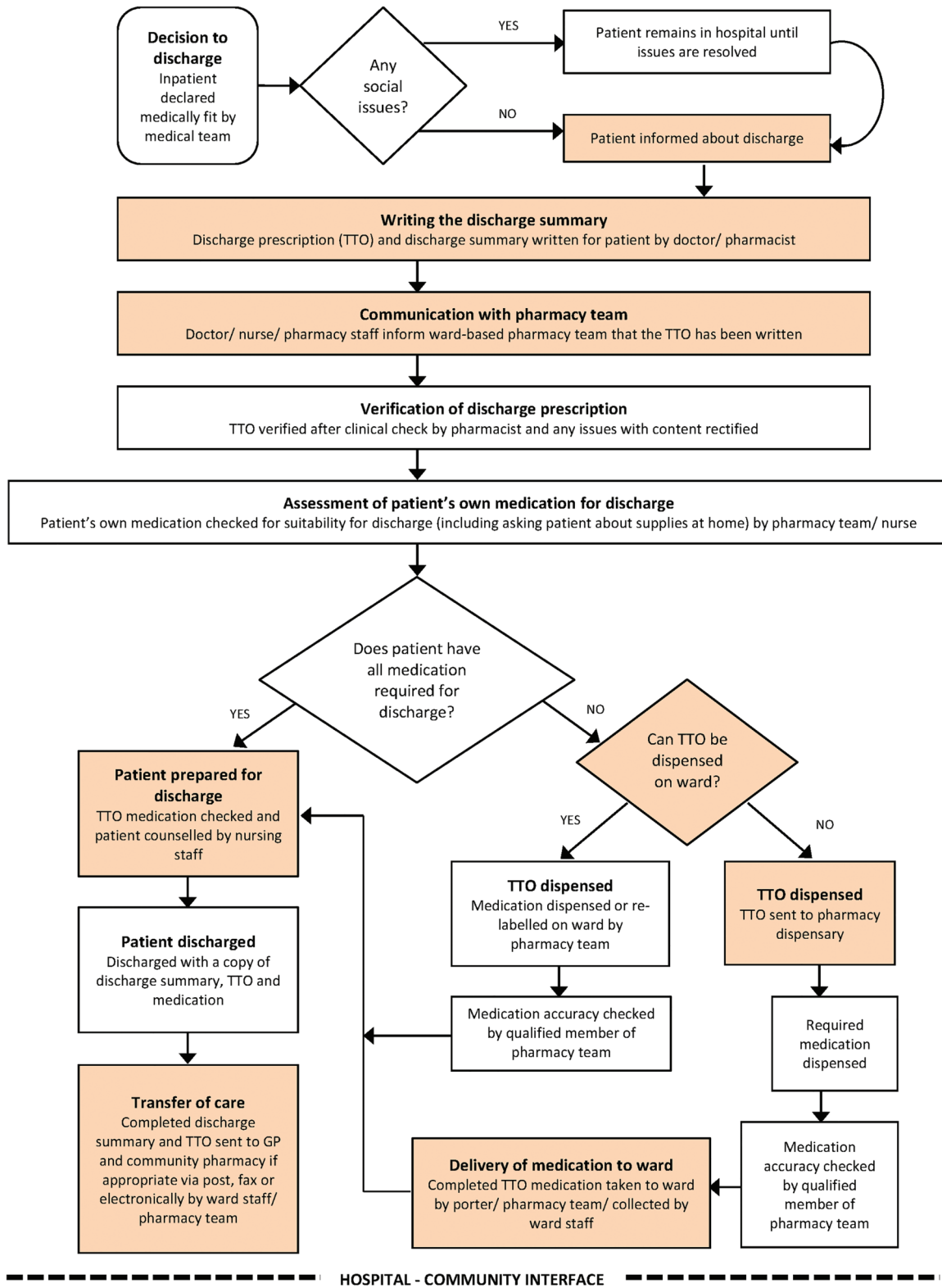


Figure 1 Generalised discharge process with shaded steps indicating where issues were thought to arise during discharge.

not generalisable to other regions and there may be variations in the discharge process across the UK.

The research was intentionally developed to gain a deep understanding of the discharge process from an operational perspective. As a result of this, the study provided a limited insight into the patients' perspective. The lack of patient involvement in the process was demonstrated, particularly with regard to communication and counselling. In view of this finding, further

work is being undertaken to assess the discharge process from the patients' perspective.

This study forms part of a larger research project to develop a new model of care for the discharge of patients from hospital back into the community, with the aim of providing quality care across the interface. The study findings, both positive and negative, will be used to inform the development of a new model for the discharge process.

CONCLUSION

This study is the first to identify and evaluate the discharge process in acute NHS hospitals across North West England. This research has identified that the hospitals in the study operate similar discharge processes. Furthermore, the findings revealed areas of the discharge process that worked well and highlighted areas where problems exist and their causes. This study builds on the existing knowledge of issues at discharge.

The study highlighted a number of significant findings, such as lack of staff training on patient discharge, lack of patient involvement in the discharge process and poor communication between hospital and community pharmacists.

Many of the problems highlighted by the study are longstanding and attempts have been made to overcome them. Most of the innovative solutions to these problems suggested by the participants were based on small-scale pilots and have not become part of routine practice. A new model of care is required to improve patient discharge from hospital, overcoming the current issues.

Key messages

What is already known on this subject

- ▶ Medication problems for patients after hospital discharge are well documented and can result in patient harm and hospital readmissions.
- ▶ It is important to determine where and why problems arise in the discharge process in order to improve patient discharge.

What this study adds

- ▶ A generalised discharge model has been described, along with common issues and examples of good practice, for acute NHS hospitals across North West England.
- ▶ Despite attempts to overcome problems at discharge, issues still arise and innovative solutions are required to improve patient discharge.

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Competing interests None declared.

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