



Polypharmacy, Co-Morbidity and Interventions **Practice Based Audit 2014/15**

Executive Summary

Background

The audit was completed by 79 pharmacies and 911 polypharmacy interventions were recorded. Patient level data was collected for two weeks with a suggested maximum of 20 interventions; five pharmacies collected 20 or more interventions. Data was collected about polypharmacy interventions to support patients who were prescribed six or more medications. Pharmacy teams made an average of 12 polypharmacy interventions in the two week audit cycle (range between 1-27 interventions).

In addition, interventions were recorded relating to how many medications were prescribed for specific long term conditions with the aim to explore co-morbidities and associated medicines burden.

The audit template was adapted from the Pharmacy Voice intervention template (2014/15); Hertfordshire LPC audit had a specific focus on polypharmacy.

Maximising the potential of Community Pharmacy services in Hertfordshire

Transfer of Care

Patients (n=57) received interventions associated with transfer of care issues (ie. discharge from hospital). The most frequent reason for the intervention was because a drug required was not on the prescription (n=13) and about dosage instruction (n=11). Pharmacy teams contacted the prescriber to resolve transfer of care issues on 35 (61%) occasions.

MURs and NMSs

Patient adherence issues accounted for 95 interventions and the most frequent clinical prescription interventions were 'about dosage instructions' (n=97, 10.6%) and 'about medication strength' (n=85, 9.3%). This indicates that patients may benefit from targeted polypharmacy Medicines Use Review and New Medicines Services to maximise compliance by improving informed adherence.

Repeat Dispensing

The most frequent types of 'general intervention' were those associated with 'drug required was not on the prescription' (n=179, 19.6%), 'supply and availability' (n=134, 14.7%), 'regular repeat medication (not PRN) not synchronised' (n=96, 10.5%) and 'unrequested item on the prescription' (n=74, 8.1%). The results suggest that patients who are prescribed six or more medicines may benefit from utilising the repeat dispensing essential service.

Access to patients' medication record from GP practice

Pharmacy teams were able to resolve 12.5% (n=114) of all polypharmacy issues using patient medication records (n=114). Practice staff were contacted on 381 occasions (41.8%) and prescribers were contacted to support on 353 (38.7%) interventions. This indicates that pharmacy teams need support and additional information to resolve polypharmacy issues. Access to the Summary Care Records may improve community pharmacist's ability to resolve these issues without contacting practice staff.

Primary Care staff in GP surgeries and CP practices would benefit from being able to resolve polypharmacy issues without interruptions of daily workload.

Actions for Community Pharmacies

The audit suggests that a polypharmacy specific Medicine Use Review intervention should be developed or that a more frequent review may be required to develop informed adherence. Just under half of the adherence issues were resolved between the pharmacist and patient (n=44, 49%).

Pharmacy teams should develop a marketing strategy to maximise the benefit of commissioned services including Medicines Use Reviews. Only 21.2% of polypharmacy patients had received this service in the previous six months and 8.6% had received a New Medicine Service in the previous six months.

Actions for commissioners to consider

Polypharmacy services could be developed to support improved informed adherence.

The audit has established that co-morbidities may increase the polypharmacy medicines burden and medicines optimisation services delivered by community pharmacists should be embedded into the integrated care pathway.

Polypharmacy services could include repeat dispensing with the aim to reduce medicines wastage.

In addition, co-morbidity and polypharmacy specific MURs could be developed to target specific patient groups. Priority groups could include patients with diabetes and cardiovascular disease and those who with respiratory and cardiovascular disease.



Introduction

Prescriptions are presented at community pharmacies for medicines to be dispensed. Community pharmacies offer a range of NHS services of which dispensing is an essential service within the Community Pharmacy Contractual Framework and is offered by all pharmacies. During the dispensing process pharmacy teams may identify issues that need to be resolved to ensure that the medicines optimisation principles¹ of effectiveness, safety and patient experience are maximised.

Previous research has established that prescribing errors are minimised by safe systems in General Practice, however there is a lack of data associated with polypharmacy. For this reason Hertfordshire Local Pharmaceutical Committee (LPC) conducted a base line audit to explore polypharmacy interventions with the aim to inform the policy process and future service developments.

It is recognised that 'tick box' quantitative data may fail to capture patient specific stories, therefore pharmacists were invited to describe one polypharmacy intervention in depth.

Method

Pharmacy teams were invited by Hertfordshire LPC to complete the polypharmacy audit as their annual practice audit. Pharmacy interventions have been explored in the past, however the polypharmacy is emerging as a policy stream that could be informed by local audit². The aim of the audit was to take a two week snap shot between November 2014 and February 2015 to explore and establish a base line of polypharmacy interventions.

Audit guidance³ was sent to all community pharmacies in Hertfordshire, and data collection forms were completed by participating pharmacies. Data was collated and analysed by the Hertfordshire LPC professional team.

Results

Data was collected from 79 pharmacies, representing 37% of all 243 community pharmacies in Hertfordshire (excluding wholly internet and mail order pharmacies).

Co-morbidity and associated medicines burden

- 39.4% of patients were prescribed at least one medicine to treat diabetes and the mean number of medicines prescribed to treat this condition was 2.4 (SD=1.4) with a range of 1-15 items.
- 77.2% of patients were prescribed at least one medicine to treat cardiovascular disease and the mean number of medicines prescribed to treat this condition was 3.3 (SD=1.6) with a range of 1-12 items.
- 31.6% of patients were prescribed at least one medicine to treat respiratory disease and the mean number of medicines prescribed to treat this condition was 2.0 (SD=1.1) with a range of 1-8 items.
- 85.36% of patients were prescribed at least one medicine to treat conditions other than cardiovascular, diabetes or respiratory disease and the mean number of medicines prescribed was 3.70 (SD=3.0) with a range of 1-18 items.

¹ Picton, C & Wright, H. (2013) Medicines Optimisation: Helping patients to make the most from medicines. Royal Pharmaceutical Society, London

² Duerden, M., Avery, T. & Payne, R. (2013) Polypharmacy and medicines optimisation. Making it safe and sound. The Kings Fund, London

³ <http://www.hertslpc.org.uk/community-pharmacy-contract/essential-services/audit/audit-201415/> (accessed 8.7.15)

Co-morbidities identified during the audit associated with prescribed medicine are summarised below

- 43.4% of patients who were prescribed at least one medication to treat cardiovascular disease were also prescribed at least one medication to treat diabetes
- 30.7% of patients who were prescribed at least one medication to treat cardiovascular disease were also prescribed at least one medication to treat respiratory disease

- 85% of patients prescribed at least one medication to treat diabetes were also prescribed at least one medication to treat cardiovascular disease
- 30.1% of patients prescribed at least one medication to treat diabetes were also prescribed at least one medication to treat respiratory disease

- 37.5% of patients prescribed at least one medication to treat respiratory disease were also prescribed at least one medication to treat diabetes
- 75% of patients prescribed at least one medication to treat respiratory disease were also prescribed at least one medication to treat cardiovascular disease

Interventions

Data analysis identified 911 interventions; the types of interventions are presented in Figures 1 and 2 below.

The data differs from the audit data collected by Pharmacy Voice where 'documentation' related interventions accounted for just over a quarter of interventions (25.3%), merging all Hertfordshire 'documentation and regulatory' interventions accounted for 111 interventions (12.2%). The Hertfordshire data included Electronic Transfer of Prescriptions related intervention and identified that this service had an associated workload and accounted for 65 interventions (7.1%). Further work is required to explore this issue.

Figure 1: Volume of interventions made during two week period (pharmacies n=91)

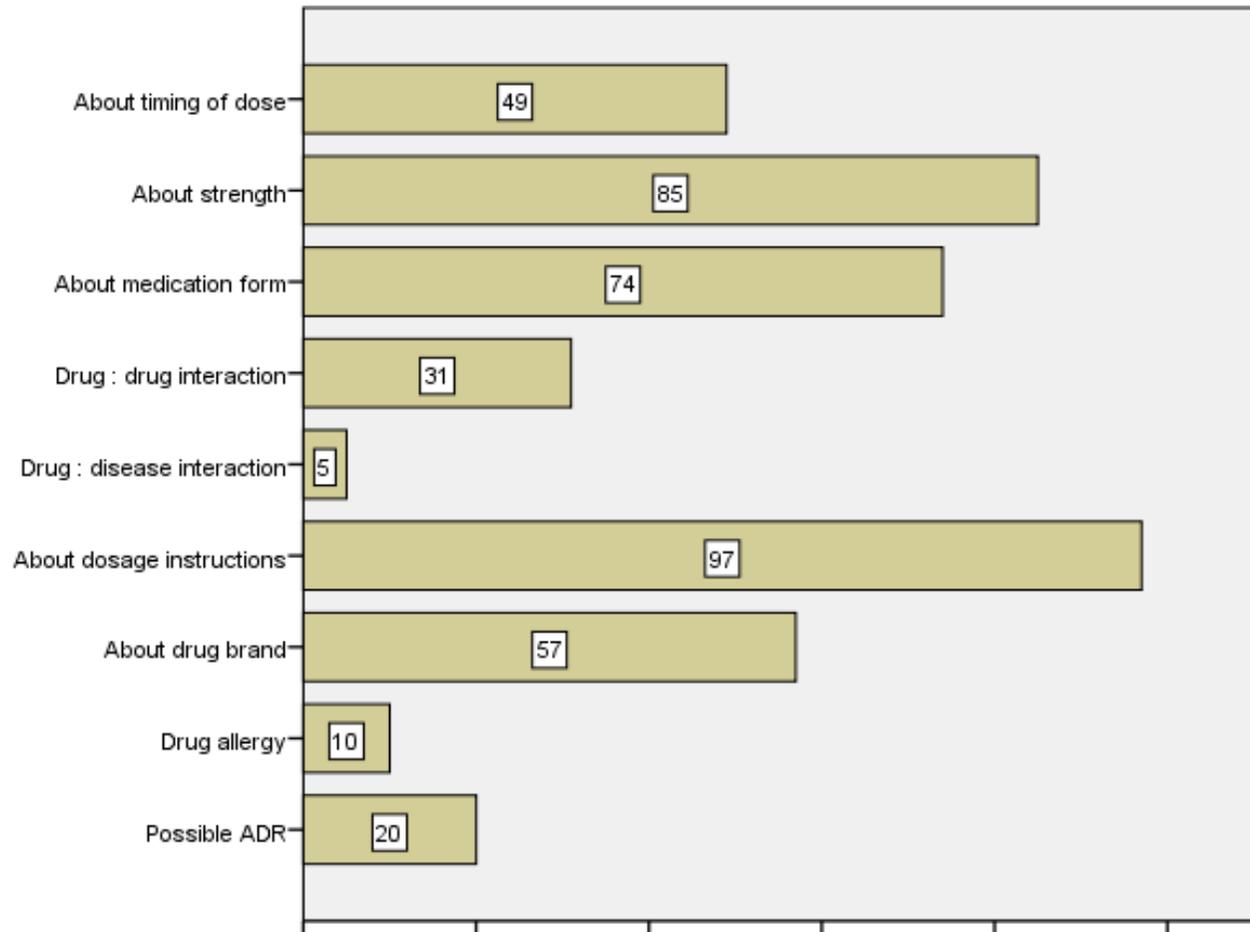
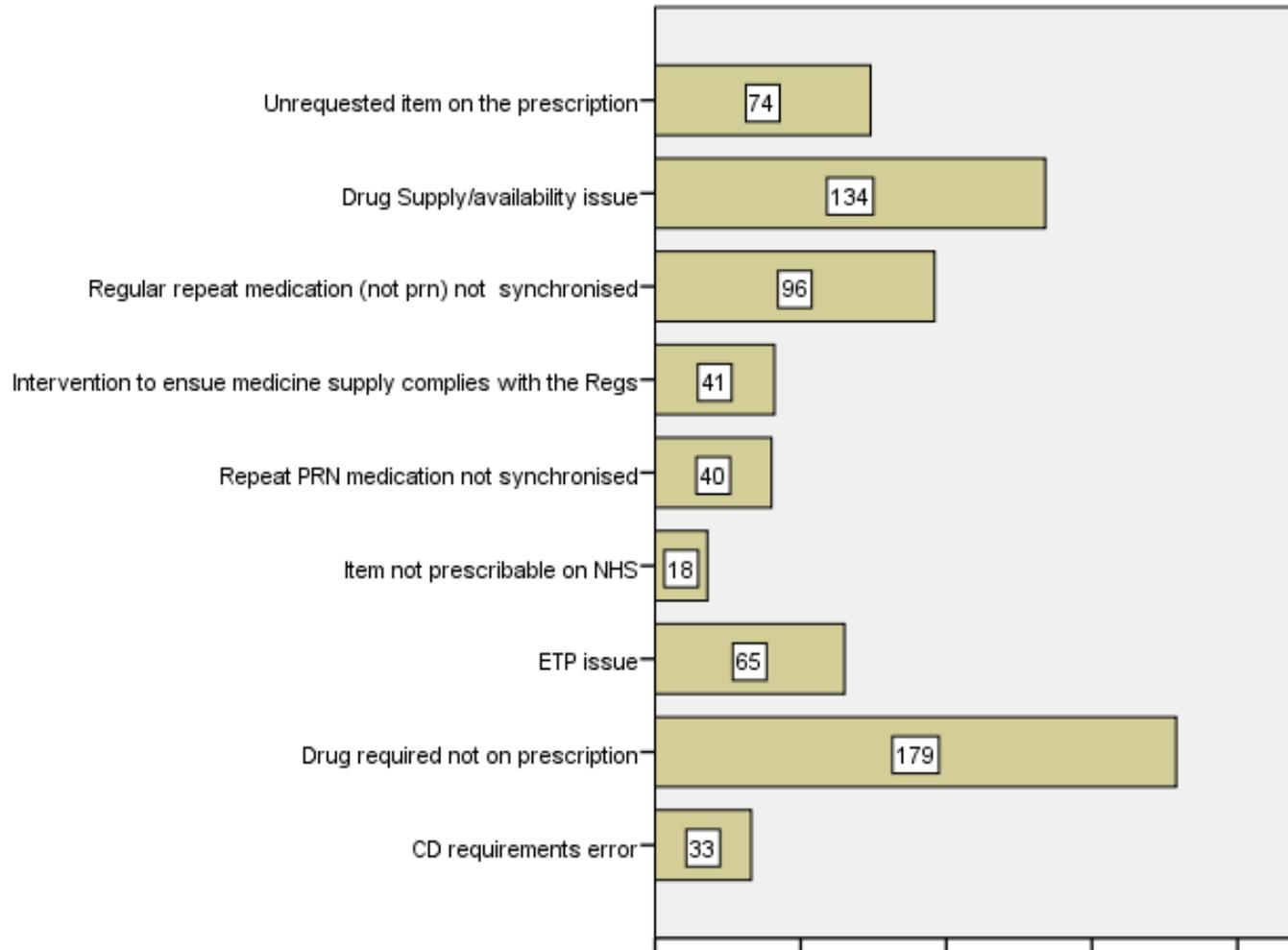
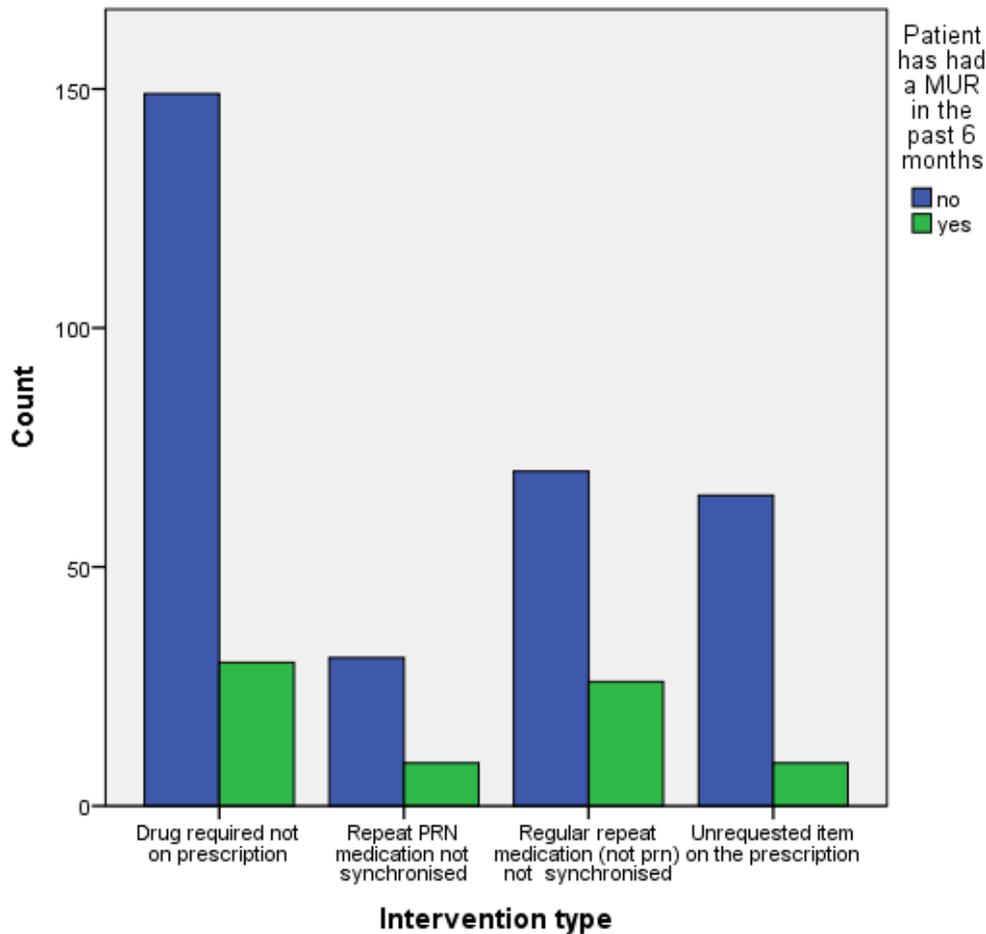


Figure 2: Volume of interventions made during two week period (pharmacies n=91)



Data was further analysed to explore the impact on prescription management (including medicines ordering) following a Medicines Use Review (MUR). Data analysis indicated a weak but significant association between MUR and medication ordering with fewer unrequested items on the prescriptions for those patients who had received the intervention ($\chi^2=3.9$, $df=1$, $p=0.028$).

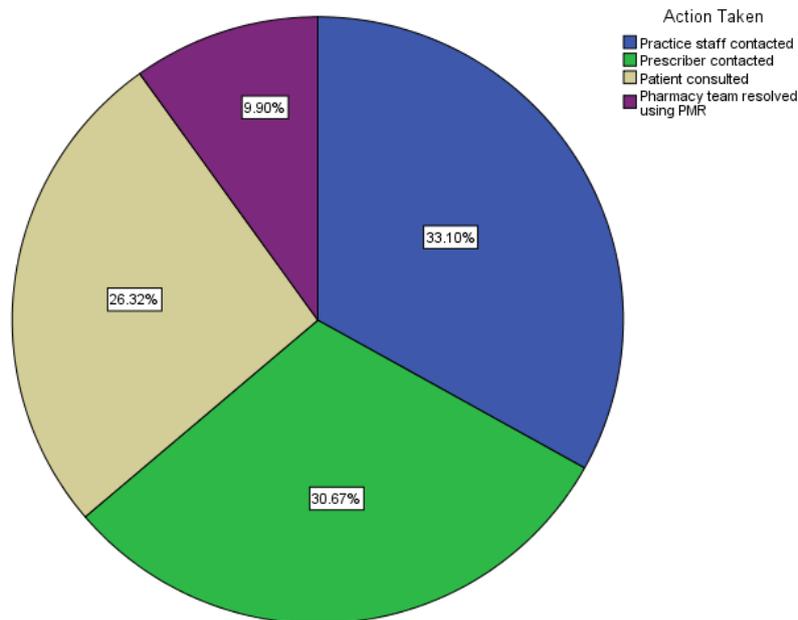
Figure 3: Intervention type and MUR service delivery (911 interventions)



It should be noted that the Hertfordshire data enabled multiple resolution options to be selected when indicating how an intervention was resolved. Audit data as displayed in Figure 4, highlights that pharmacy teams using the Patient Medication Record were able to resolve 114 (13.8%) of polypharmacy interventions. This is slightly higher than the Pharmacy Voice data (10.48%). There was a variation between disease areas, with 33% of respiratory disease, 74% of Cardiovascular disease and 35% of diabetes issues being resolved by pharmacy teams using the PMR suggesting that more support is required for both diabetes and respiratory disease areas.

In Hertfordshire, pharmacy teams contacted practice staff on 381 (46.2%) occasions for polypharmacy interventions compared with the Pharmacy Voice data indicating 34.03%. Prescribers were contacted for 42.8% of polypharmacy interventions ($n=353$), compared with 35.17% Pharmacy Voice data. This suggests that polypharmacy has an increased workload burden for prescribers.

Figure 4: Resolution type (911 interventions)



Polypharmacy interventions resulted in an increased work burden across the primary care team. The audit established that pharmacy teams made contact with practice staff (n=381, 41.8%) and prescribers (n=353, 38.7%). Prescribers were contacted most frequently about drug supply issues (n=62), drug strength (n=54), drug required not on prescription (n=52) and about dosage instructions (n=51).

The most frequent polypharmacy intervention was about medication strength (n=54) but although the incidents were small, pharmacy teams always contacted the prescriber about potential drug disease interactions. In addition, the Hertfordshire data highlighted that pharmacy teams contacted prescribers for 71.4% of transfer of care interventions. Due to polypharmacy and comorbidities this patient cohort may benefit from a specific transfer of care service.

Patient Stories

Pharmacy teams were asked to describe an intervention in depth. The responses highlighted the value attributed to compliance devices. Further work is required to explore the needs of patients who need medicine support services including a formal care package.

One patient story highlighted how a pharmacist was able to support an upper limb amputee select an inhaler type that they could use.

Pharmacists were asked to rate the degree of harm associated with their intervention but most were unable to do this. There is a need to develop a rating and ranking scale that enables pharmacy teams to rate interventions in an accurate and reliable manner.

Discussion

The data highlights that polypharmacy increased the workload burden in primary care and that interventions require a team work approach. The proposed integration of pharmacy services with GP teams could include a specific polypharmacy role.

However, care should be taken to ensure that this development does not increase the primary care workload burden and that patients' experiences including continuity of care are considered.

Pharmacy teams were unable to resolve most polypharmacy interventions using pharmacy records. This reinforces the findings of the Transfer of Care Project (Lister Hospital CCU) conducted in 2012. This pilot project⁴ demonstrated that MURs and NMS could support the discharge process if community pharmacists had improved access to the patient record in particular to support transfer of care between settings. Local services should ensure that discharge planning adopts an integrated care approach that includes a written referral into community pharmacy services that includes a discharge summary. Further work should explore this issue.

The data suggests that polypharmacy services could consider co-morbidities, in particular for patients with diabetes and cardiovascular disease and those with respiratory and cardiovascular disease. Polypharmacy may be unavoidable when treating patients with complex needs but guidelines could be developed to inform safe de-prescribing if adherence is an issue. This could be a role of clinical pharmacists based in GP surgeries. Further work could identify how pharmacists could develop a polypharmacy scope of practice. This could be used to underpin the development of the formal education required to gain independent prescriber status.

The Pharmacy Voice audit report indicates that there should be an increased use of the Electronic Prescription Service (EPS) suggesting that it may mitigate some of the issues associated with illegalities with prescriptions. However the Hertfordshire audit data highlighted that EPS has an associated workload burden. Further work should explore these issues.

The Pharmacy Voice data indicated the intervention burden attributed to issues associated with supply and shortages of medicines. However, the Hertfordshire data that explored polypharmacy specific issues, identified prescription management and medicines adherence issues. This audit data highlights that polypharmacy has specific patient related issues that could be resolved by targeting community pharmacy interventions, including MURs and NMS.

⁴ Transfer of Care Pilot Project Lister Hospital on CCU at Lister Hospital. (2012) North and East Hertfordshire NHS and Hertfordshire LPC