

Practice Based Audit

2012/2013

An audit carried out by members of Pharmacy Voice within 2,773 community pharmacies looking into the use of the medicines methotrexate, warfarin & lithium.

CONTENTS

Executive Summary	2
Introduction	3
Method	3
Results	4
Audit Results Discussion	5
Patient Record Book	5
Blood testing	6
Confirmation of blood test without a patient record book	6
Toxicity	7
Referred to a prescriber	7
Recommendations	8
Review of the process for recording patient dosage information	8
Treatment is being adequately monitored.	Error! Bookmark not defined.
It is vital for pharmacists and GPs to continue to work together	8
Appendix 1	9

Executive Summary

This is a report of the Pharmacy Voice audit which collected information on the use of the medicines methotrexate, warfarin and lithium across 2,773 pharmacies in England and Wales.

Currently, a patient record book system is in place for each of these three medicines. The purpose of this patient record book is to record information about blood tests including when the patient's blood levels were last checked and provide information regarding dosage for the patient and their GP and pharmacist. The information is important for the pharmacist and GP in order to help ensure that the patient is receiving the correct dosage level of their prescribed medicine.

The results seem to suggest that this patient record book approach is not working as intended and requires a review. This may be through amending the current system in place or introducing new ways of collecting this information, as part of a menu of options, such as a smartphone app. Almost 50% of patients taking methotrexate and over 20% of patients taking warfarin and lithium claim they do not have a patient record book and, of those who do have a book, over 40% (58% for methotrexate) do not bring it with them to the pharmacy when having their prescription dispensed.

Our audit also demonstrated that patients are not always receiving their important blood tests at the appropriate times. These are used to confirm the dose of their medication and pharmacists are playing an important role in identifying these patients and referring them for those tests. In addition, pharmacists are finding that approximately 1% of patients across the three medicines may be exhibiting signs of toxicity. Total referrals for further investigation are running at just under 2%.

While the patient record books have a place, the results indicate that due to the high incidence of patients not using the patient record booklets as intended, pharmacist interventions with patients can play an important role in ensuring that treatment is being properly monitored.

Unchecked, some patients identified in this study as exhibiting signs of toxicity might have required hospital investigation in due course. If 10% of patients had required such an investigation as an inpatient, we estimate that pharmacists and their teams may have prevented over £300,000 of unnecessary costs from the actions identified in this audit.

Introduction

The contractual framework for pharmacy in England and Wales requires each pharmacy complete two types of audit each year over a total combined period of 1 week. The first audit is completed at the request of the PCT (now Area Team) and the second is a practice based audit conducted by the pharmacy on a topic of their choosing. Pharmacy Voice has worked with pharmacy owners to develop an audit which could be carried out on a large scale across a number of companies and types of pharmacy to gather results that can be used to gain a picture of an issue at a national level. This is the second audit that Pharmacy Voice has carried out in this way; the first looked at the prescription interventions that pharmacists and their teams make as part of their everyday practice (<http://www.pharmacyvoice.com/resource/community-pharmacy-delivering-improved-outcomes-for-patients-in-the-new-nhs>).

The focus in this audit on medicines subject to close monitoring was determined through consultation with Pharmacy Voice members. Maintaining and improving patient safety is a crucial factor in operating any pharmacy and Superintendent Pharmacists, owners and their pharmacists are constantly looking for ways in which learning can be used to enhance pharmacy processes and procedures.

In choosing this topic for audit, Pharmacy Voice members noted that the National Patient Safety Agency had introduced a number of patient record booklets (sometimes known as passports) over a number of years as information reached it of the problems that were occurring with these drugs. However, during our discussions, it became apparent that the implementation of the patient record books may need to be reviewed and that on many occasions pharmacists were not getting to see the books before a supply was made as the patients did not have them with them. The patient record books had been designed to try to prevent patients suffering from the toxic effects of their drugs so there was a question, if the record books were not being used as intended, whether patients were being protected or not.

Method

21 companies participated in this year's Practice Based Audit providing results from a total of 2,773 community pharmacies. Results were collected via a survey sheet, filled out for any patient visiting the pharmacy to collect methotrexate, warfarin or lithium. The survey filled out for each patient presenting a prescription for one of the three medicines asked the following questions:

- Did the patient say they DO NOT have a patient record book?
- Did the patient carry their patient record book with them?
- Had the patient had a blood test within the allocated timescale for that medicine?
- If the patient did not have a patient record book, could they confirm that they have had a recent blood test AND whether they know they were within their target range?
- Was the patient exhibiting signs of toxicity?
- Was the patient referred to the prescriber (in relation to their medication therapy)?

Each company collected these results over a suitable 2 week period between October 2012 and March 2013. The responses for each company were collated to generate an aggregated list of results.

Results

The aggregate results from the 2012/2013 Practice Based Audit collected by 2,773 community pharmacies, covering 48,164 patients, are set out in the table:

	Methotrexate	Warfarin	Lithium
Number of patients presenting a prescription for a high risk medicine	9,569	27,761	10,834
Number of patients who say they DO NOT have a monitoring booklet	4,417 46%	6,323 23%	2,534 23%
Number of patients who had their monitoring booklet with them	2,167 42%	12,681 59%	4,721 57%
Number of patients that have had a blood test within the timescale	8,025 84%	24,212 87%	9,365 86%
If no monitoring booklet available, the number of patients who can confirm that they have had a recent blood test AND know whether they are within their target range	6,067 82%	14,544 96%	5,576 91%
Number of patients exhibiting signs of toxicity	132 1.3%	199 0.7%	94 0.8%
Number of patients referred to the prescriber (in relation to their high risk medication therapy)	247 2.6%	357 1.2%	162 1.4%

This study collated the results from 2773 pharmacies across England and Wales. Had all pharmacies completed a similar two week audit, in a patient population in excess of 200,000 taking one of these three medicines, more than 50,000 would say they do not have a record book, almost 1,800 would be identified as possibly exhibiting signs of toxicity, and over 3,000 would be being referred for further investigation. A substantial number of patients are either unaware of the importance of their record book or have never been given one.

Audit Results Discussion

Patient Record Book

The number of patients visiting community pharmacies who do not have a patient record book seems to be relatively high (figure a). Overall, around 30% of patients across all 3 medicines do not have a patient record book. Of 27,761 patients taking warfarin, 6,323 (23%) say they do not have a patient record book. This is of concern where these patient record books are used to schedule blood tests and provide a note of the correct strength of a medicine. Of 9,569 patients taking methotrexate, 46% did not have their patient record book. The current system does not appear to be being implemented as intended.

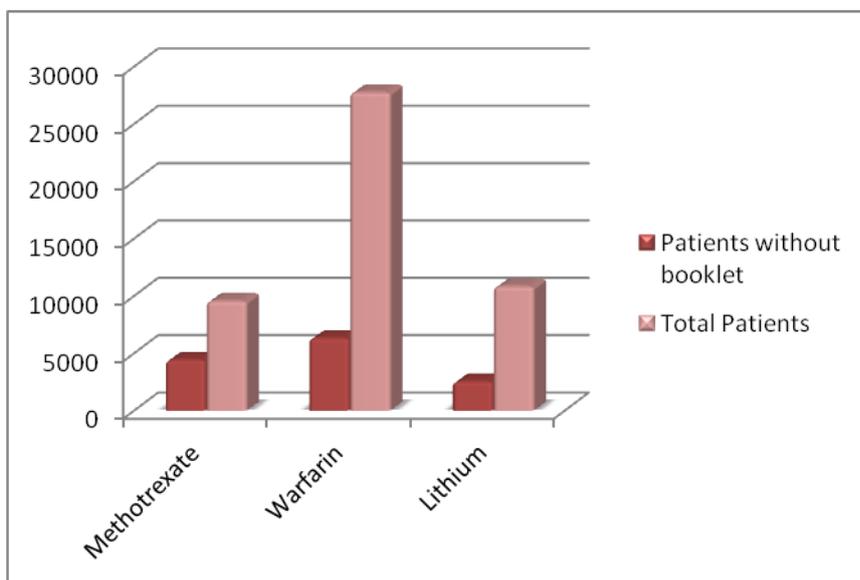


Fig a

Of those who do physically possess a patient record book, only 59% of them, in the case of warfarin, are bringing the book with them to the pharmacy. There is a similar situation with 57% of patients taking lithium bringing their book to the pharmacy and, worryingly just 42% of patients prescribed methotrexate having their book with them.

As a consequence we have found that, of all patients taking methotrexate, only 23% of them can present a record book in the pharmacy at the time of dispensing. The figures for the other two drugs are slightly better at 46% and 44% for warfarin and lithium respectively. This is shown in figures b, c and d below.

Given that, ideally, record books should be available to pharmacists to confirm the necessary patient monitoring is in place before medicines are supplied, we would suggest our figures indicate that there needs to be a review of the patient record book process.

Methotrexate

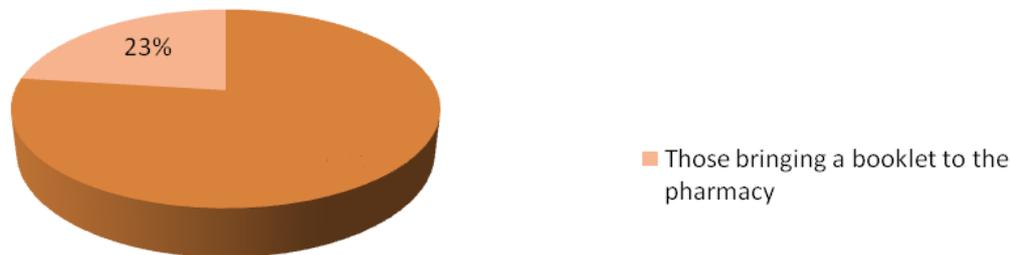


Fig b

Warfarin

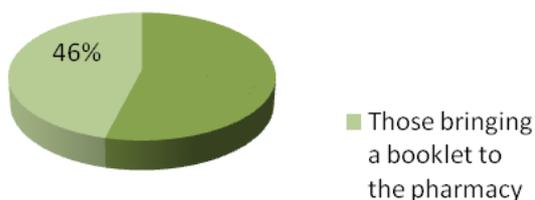


Fig c

Lithium

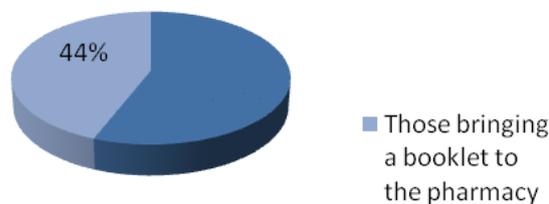


Fig d

Blood testing

Reassuringly, the number of patients who had or confirmed they had had a blood test within the correct time scale was relatively high; 84% for methotrexate, 87% for warfarin and 86% for lithium. However, this still means that a large number of patients – over 6,500 in our 48,000 cohort, may not be having their tests conducted appropriately. This suggests that more could be done by healthcare professionals to ensure that the pathways for these patients are effective as they can be.

Pharmacy clearly has a key role to play in identifying patients who have not been monitored at the appropriate time and making sure that their treatment remains safe and effective. The presence or absence of the patient record book appears to be unconnected to this.

Confirmation of blood test without a patient record book

The vast majority of patients without their patient record book were able to state that they had a blood test recently and were within their target range. This is highlighted in fig e below. While patients were able to confirm their blood tests without their books, this required a positive intervention by the pharmacist, which may be useful as a starting point for a conversation, but we would suggest that patient care would be improved if the appropriate documentation was recognised as useful by all parties, including patients, as central to their effective medicines management.

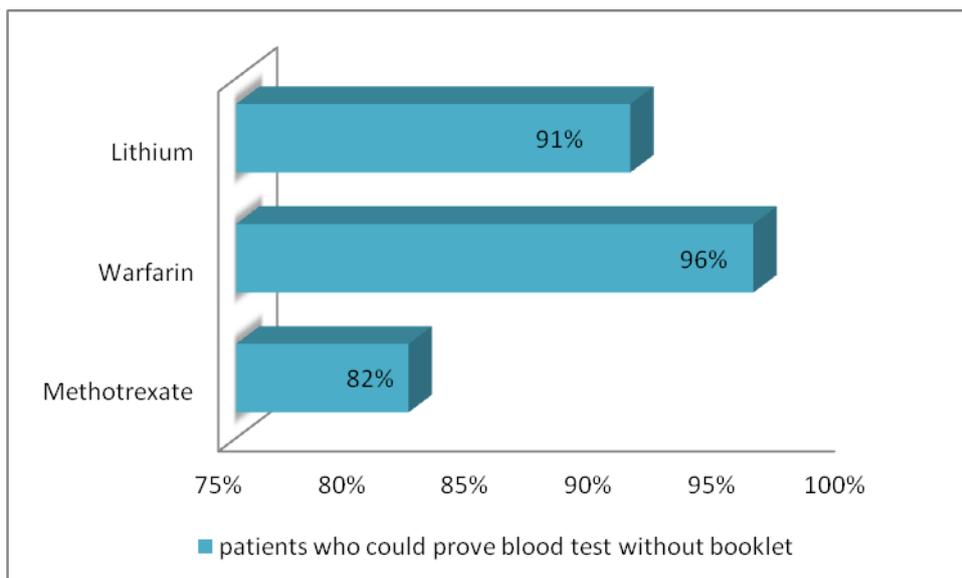


Fig e

Toxicity

Of 9,569 patients taking methotrexate, 1.3% were showing signs of toxicity. The numbers for warfarin and lithium are smaller, at 0.7% and 0.8% respectively.

The identification of these 425 patients requiring further investigation across the three medicines highlights an important role played by pharmacists within the care pathway, which could become even more effective through closer working with GPs.

We cannot know for certain, but we think it is not unreasonable to conclude that some of the patients who exhibited signs of toxicity would have required secondary care investigation if the signs had not otherwise been detected. If 10% of patients exhibiting toxicity had required a two day admission for titration, then using the NHS's 2010-11 Reference Cost publication we have calculated the potential cost of hospital treatment for the patient cohort covered in this audit is approximately £363,000 (See Appendix 1).

Referred to a prescriber

Of the total number of patients presenting a prescription, 2.6%, 1.2% and 1.4% (methotrexate, warfarin and lithium respectively) were referred to the prescriber for a variety of reasons including queries on toxicity issues and overdue monitoring tests.

Recommendations

Pharmacy Voice believes that as a direct result of these findings, a number of changes should be made to improve the process concerning the management of patients using these three medicines by community pharmacies.

Review of the process for recording patient dosage information

The aims and implementation of the patient record book scheme should be reconsidered. Large numbers of patients, even though they know what the patient record books are, do not bring them to the pharmacy (58% of those who know what their methotrexate book is did not bring one on their pharmacy visit). Almost all of the patients taking warfarin who did not have a book available (96%) were able to confirm that they are receiving blood tests appropriately and knew what their dosage instructions were. It seems to us that the purpose of the patient record book is poorly understood by patients. Pharmacy teams may not be routinely asking for the books at the time of dispensing and so patients are not used to bringing the patient record book with them. The same could be true at GP practices when repeat prescriptions are requested.

We also need to improve patients' understanding of the importance of the booklets. Patients need to know:

- 1) What the patient record book is for
- 2) What information the patient record book contains, and why that may be useful for the various health professionals responsible for different aspects of their care
- 3) How to obtain a patient record book should they currently not have one

If the patient record book schemes are to continue, we suggest there should be some investigation into other methods of recording blood testing information so the patient could choose which was most appropriate for them. As an example, recording via smartphone app would increase the likelihood of relevant information being easy to access when asked for.

Pharmacists and GPs working together to monitor treatment

Pharmacists provide a valuable service by checking patients are receiving blood tests at the correct intervals and looking for signs of toxicity. This audit provides evidence that, without the pharmacist, patients' signs of toxicity may have gone unnoticed. It highlights the need for GPs and pharmacists to work closely together.

Shared patient information is vital if pharmacist and GPs are to contribute effectively to the care of patients using these medicines. Pharmacists should be asking for a patient's record book to ensure that the patient is being monitored effectively and as an aid to pharmaceutical care. GPs should be checking and confirming the relevant information in the record book at the point of prescribing and as a means to effective monitoring.

Pharmacist access to the Electronic Care Record would help communication between the two professions and help maintain patient safety. It would enable pharmacists to check that blood tests were being carried out in a timely manner and whether dosage changes were occurring as a result of the testing activity. The alternative – the use of patient record books – are clearly not functioning as intended. We recommend this issue is revisited at the earliest opportunity.

Appendix 1

NHS 2010-11 Reference Costs:

A&E attendance = £100

Non-elective inpatient stay = £1400

Excess bed days = £260

If we assume that just 10% of patients exhibiting signs of toxicity would have attended A&E, were admitted and spent 2 extra days as an inpatient having their medication levels titrated then, excluding any costs of tests carried out, the cost of toxicity to the NHS could be estimated to be:

Methotexate = £113,120

Warfarin = £169,680

Lithium = £80,800

Total = £363,600