

The recording of drug sensitivities for older people living in care homes

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WHAT IS ALREADY KNOWN ABOUT THIS SUBJECT

- Care home residents are a frail and vulnerable population who are at a high risk of adverse drug reactions.
- The recording of drug sensitivities is important to avoid the inadvertent prescribing, dispensing and administration of an offending drug to a sensitive resident.
- There have been no studies investigating the recording of drug sensitivities for care home residents.

WHAT THIS STUDY ADDS

- The recording of drug sensitivities for care home residents is suboptimal and there are large discrepancies between records.
- It is concerning that over 90% of sensitivities are not recorded on the care home medicines administration record.
- Systems improvements are required, including the sharing of drug sensitivity status with community pharmacists; this could be achieved by printing sensitivities on prescriptions.

AIMS

The aims of this study were to determine the recording of drug sensitivities of elderly care home residents, to describe the nature of sensitivities and to identify and describe discrepancies in the documentation of drug sensitivity status in general practices, pharmacies and care homes.

METHODS

A random sample of residents within a purposive sample of care homes (nursing and residential) was selected. A clinical pharmacist inspected the GP medical record, the medicines administration record, and the care home record for each resident to identify drug sensitivities and discrepancies between records and to describe the nature of the recorded sensitivities.

RESULTS

The records of 121 residents in 31 care homes were studied. Thirty-one (26%) residents had at least one documented drug sensitivity in one of the sources inspected, with 48 sensitivities in total recorded. There was no description of the nature of the sensitivities recorded in 39/48 (81%) cases. The number of sensitivities recorded on the medicines administration record, care home record and the GP record were 3 (6%), 29 (60%) and 35 (73%), respectively. Only two sensitivities were simultaneously recorded on all three records.

CONCLUSIONS

It was of concern that over 90% of drug sensitivities were not recorded on the medicines administration record which is the final checking document when administering medication. The reason for this was that the dispensing pharmacy was responsible for generating the medicines administration record; however, drug sensitivity status is seldom shared between the GP and the dispensing pharmacy. Printing sensitivities on prescriptions would help to resolve this.

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Introduction

A patient is deemed to be sensitive to a drug if they have had a previous adverse drug reaction to the drug, or to a similar drug. An adverse drug reaction is 'a response to a medicine which is noxious and unintended, and which occurs at doses normally used in man' [1]. Adverse drug reactions can be classified into two broad categories [2]. Type A (augmented) reactions are related to the pharmacology of the drug and are therefore, dose-related and predictable (e.g. hypotension with antihypertensive medication). Type B reactions are unrelated to the pharmacology of the drug and consequently are not dose-related. Type B reactions include immunologically-mediated reactions (allergies) such as anaphylaxis with penicillins [2].

If patients are administered medicines that they are sensitive to, then there is a risk of severe harm including death [3]. A report in 2004 by the UK Department of Health on improving medication safety in the NHS highlighted the potential harm of drug allergies and issued guidance to reduce risk [4]. This included that the allergy status should be documented on all hospital charts used for prescribing medicines to be visible at the point of prescribing, dispensing and administration, symptoms of any reported allergies should be documented and drug allergy should be recorded on the general practice computer in a way that will trigger an alert if an attempt is made to prescribe the offending drug [4]. However, there are no guidelines as to how drug allergies or other types of sensitivities should be recorded within care homes or community pharmacies.

The typology and description of the nature of drug sensitivities is important because some may be relatively minor and/or can be addressed by taking precautions, e.g. prescribing a lower dose, prescribing additional therapy, conducting biochemical monitoring, etc. However, in the case of true allergies, the drug is contra-indicated. The nature and severity of drug sensitivities is also important to ensure beneficial medicines are not unnecessarily avoided in the future.

Care home residents are old, frail and vulnerable and are more susceptible to adverse drug reactions and their consequences than other members of society due to altered pharmacodynamics and pharmacokinetics [2]. In addition, two-thirds to three-quarters of care home residents may have cognitive impairment and this may impede their ability to communicate problems with medicines to their carers [5, 6]. Consequently, the recording of drug sensitivities for this population is paramount to avoid the inadvertent administration of potentially harmful medicines. The recording of sensitivities in secondary care has been found to be suboptimal [7–12]. We were unable to locate any studies investigating the recording of drug sensitivities in primary care. This is the first study to investigate drug sensitivity recording for care home residents.

In the UK, care homes may provide personal care (residential homes), 24 h nursing care (nursing homes) or both. They are regulated and inspected by the Care Quality Commission and are assessed against national minimum standards, one of which pertains to the use of medicines [13]. The Care Quality Commission and the Royal Pharmaceutical Society of Great Britain produce guidance on the management of medicines in care homes [14, 15]. The National Service Framework for Older People states that people aged 75 years or older should have their medicines reviewed every 12 months, with those on four or more medicines requiring a 6-monthly review [16]. In practice, the majority of care home residents in the UK qualify for a 6-monthly medication review.

The objectives of this study were to i) determine the proportion of elderly care home residents with a documented drug sensitivity, ii) describe the nature of the documented sensitivity and iii) identify and describe discrepancies in record keeping of drug sensitivity status in elderly care home residents.

Methods

Ethical approval was obtained from the Central Office for Research Ethics Committee. A sub-sample of residents from one geographical area from the Care Homes' Use of Medicines study was identified. The Care Homes' Use of Medicines study was a major study of medication errors in UK care home residents [17]. Care homes were purposively sampled to obtain a diverse sample based on ownership, size and type of care provided (nursing, residential or both). Care home residents prescribed one or more medicines were then randomly sampled and included if they provided written, informed consent (assent was obtained from the next of kin for those lacking capacity).

A clinical pharmacist inspected three sources to determine for each resident whether they had a documented drug sensitivity: i) the medicines administration record, this chart is used to record the administration of each dose of a medicine to residents on the drug round, ii) the care home records, this is a paper-based record for each resident usually stored in the main office at the care home and iii) the general practice medical records, which were usually computerized. These records were then compared and any discrepancies were identified, recorded and tabulated. Information describing the nature of any documented sensitivity was also collected.

Results

One hundred and twenty-one residents from 31 care homes were included in the sample. Table 1 details demographic and drug sensitivity data. At least one drug sensi-

Table 1

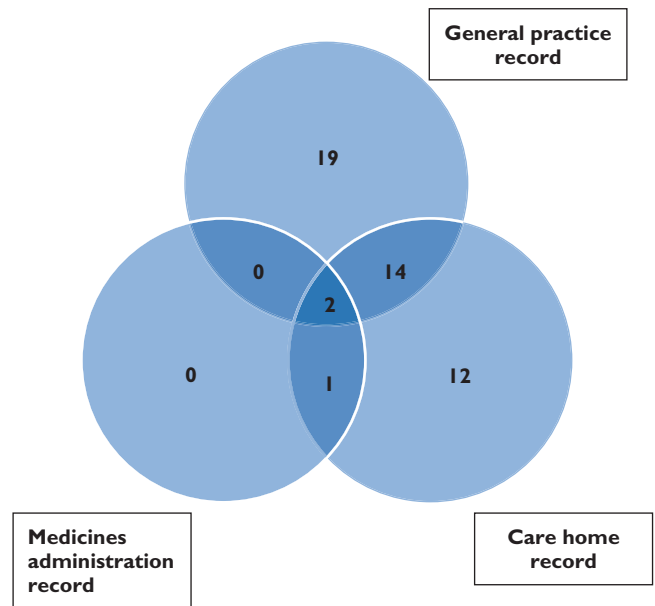
Demographic data and drug sensitivity status recording

Number of residents	121
Women, number (%)	84 (69%)
Age (years), mean (range)	85.0 (63–101)
Mean number of medicines prescribed (range)	6.8 (1–18)
Number of residents with a documented sensitivity (%)	31 (26%)
Number of residents with one documented sensitivity (%)	20 (17%)
Number of residents with two documented sensitivities (%)	8 (7%)
Number of residents with 3 or more sensitivities (%)	3 (3%)
Total sensitivities	48
Number of sensitivities documented on medicines administration record (%)	3 (6.3%)
Number of sensitivities documented in care record (%)	29 (60%)
Number of sensitivities documented in general practice record (%)	35 (73%)
Number of sensitivities and reactions recorded (%)	9 (19%)
Offending drug	Recorded reaction
Ibuprofen	Rash
Erythromycin	Rash
Omeprazole	Rash
Lisinopril	Lip swelling
Aspirin	'Red marks on legs'
Cephalexin	Diarrhoea and vomiting
Erythromycin	Vomiting
Diltiazem	Nausea
Paracetamol	Nightmares

tivity was recorded in one of the sources inspected in 31/121 (26%) of residents. There were 48 sensitivities recorded in total with 20 residents having one sensitivity recorded and eight, one, one and one residents having two, three, four and five sensitivities, respectively. Antibiotics accounted for 25/48 (52%) of sensitivities, aspirin/non-steroidal anti-inflammatory drugs (NSAIDs) 12/48 (25%), and other drugs 11/48 (23%).

The number of sensitivities recorded on the medicines administration record, care home record and the general practice record were 3/48 (6%), 29/48 (60%) and 35/48 (73%), respectively (see Figure 1). Nineteen sensitivities were recorded in the general practice record but not in the care record, 13 sensitivities were recorded in the care record but not in the general practice record and only two sensitivities were recorded simultaneously on the medicines administration record, care record and the general practice record.

There was no description of the nature of the sensitivities recorded in 39/48 (81%) cases. Those that were recorded are shown in Table 1. Symptoms described included those that suggested true allergy (e.g. rash, lip swelling) and those that suggested non-allergic reactions (e.g. diarrhoea, vomiting).

**Figure 1**

The number of sensitivities documented in the different records (total sensitivities = 48)

Discussion

It is of concern that drug sensitivities were not systematically recorded for these vulnerable residents. Recording the reaction induced by an offending drug is important to be able to distinguish between serious allergic reactions and potentially less harmful reactions or intolerances. Unfortunately, computer systems (in general practice and in pharmacies) do not usually distinguish or have the facility to separate the different types of sensitivities. The section in which they are classified and coded is often 'allergies'. Some, but not all, general practice systems allow the coded sensitivity to have linked free text which can be used to describe the reaction. However, for four-fifths of sensitivities no details were documented. In those that were documented, however, it was often possible to understand the nature of the sensitivity.

There were large discrepancies between the different records inspected and it is particularly concerning that over 90% of sensitivities were not recorded on the final document used for recording the administration of medicines, i.e. the medicines administration record. In nursing homes, nurses are required to ensure that they do not administer a medicine to which a resident is allergic or intolerant of [18]. It is not clear how nurses in care homes are meeting this standard. There is no guidance or standards for care staff in residential homes with regards to checking drug sensitivities. The medicines administration record is generated by the community pharmacists' computer software using the patient medication record. It is clear that information on drug sensitivities is not shared by

the care home or general practice with the community pharmacy. This is compounded by the fact that care home residents are remote from the community pharmacy and less accessible, i.e. they do not visit community pharmacies and therefore they cannot be asked whether they have a sensitivity or not.

In general, community pharmacists infrequently visit the care homes they serve and from the results of this study, do not appear to be aware of the drug sensitivity status of residents. Another issue is the fact that care home residents may have medicines prescribed by visiting doctors (or other prescribers) who do not have access to the general practice records. These may include out-of-hours doctors, community psychiatric staff, dentists and geriatricians. An improvement in the system is required to ensure drug sensitivity status is documented on the medicines administration record to avoid the inadvertent prescription or administration of potentially harmful medicines. This requires the sharing of sensitivity information with the community pharmacy which will then need to record this on the patient medication record in order for it to be printed on the medicines administration record. This could potentially be achieved by all sensitivities being automatically printed on prescriptions issued by the general practitioner. This would need a fairly minor modification to general practice computer systems which could probably be made quite simply and without the need for legislation. It is hoped that it will also be possible to transfer this information electronically with the introduction of the electronic transfer of prescriptions. However, it should be recognized that the introduction of technology can facilitate the introduction of new errors.

Systems should also be in place for care home staff and community pharmacists to inform the general practitioner if they are aware of any sensitivities. Key to this is multidisciplinary collaboration and effective interprofessional communication. The education of prescribers, community pharmacists and care home staff regarding the recording of drug sensitivities is also important to address this problem.

Current guidance from the Royal Pharmaceutical Society of Great Britain and the Care Quality Commission does not state that drug sensitivities should be documented on the medicines administration record and this should be revised [19, 20]. Practitioners conducting medication reviews for care home residents should ensure that drug sensitivities, including their nature and severity, are documented in all relevant records. In addition, standards and criteria should be developed so that drug sensitivity recording can be audited in this setting.

Competing interests

None declared.

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