How to reduce preventable harm from medicine allergy — a pilot study

Allergic reactions that occur in patients with known allergies represent a serious and preventable adverse drug event. Mark Stone, Sally Tomlin and Mike Wilcock describe a joint initiative between the NHS and the pharmaceutical industry that aims to address this issue.

It has been estimated that 4.2 per 1,000 hospital patients have drug allergies; severe anaphylactic reactions occur in approximately 0.2 per 1,000 hospital admissions and mortality from allergic drug reactions in hospital is around 0.09 per 1,000 hospital admissions.1

In primary care, it has been found that nearly 80 per cent of emergency department visits for antibiotics-associated adverse events were the result of allergic reactions.2

Allergic reactions that occur in patients with known allergies represent a serious and preventable adverse drug event. Reducing preventable harm to patients with a known allergy to a medicine is one of the seven priorities for action identified by the National Patient Safety Agency.3 In particular, a significant number of these adverse incidents (some of which have resulted in severe harm or death) involve patients with a known penicillin allergy being prescribed, dispensed or administered a penicillin-containing medicine. Locally, across the south west, incidents have occurred where drugs, such as co-amoxiclav, have been prescribed and administered to patients allergic to penicillin and we suspect that not all of these incidents are reported to the National Reporting and Learning Scheme.

Threats identified by the NPSA as contributing to allergy-related harm include the failure of the people prescribing and administering medicines to be aware of a patient’s known allergy, even when it is documented, and the nature of the drug involved. For instance, inadequate drug allergy recording has been demonstrated in a secondary care setting,4 although it has been proposed that the hospital pharmacist may have a role in improving allergy documentation.5 In primary care, it has been shown that GPs’ stated knowledge and use of patient safety features on their computerised clinical systems is suboptimal, with some erroneously believing that their computers would warn about potential contraindications, such as drug allergy status.6

It is acknowledged that many patients who recall a reaction to penicillin are unsure of specific details and, even when evidence supporting true penicillin allergy is absent, are nevertheless labelled as “penicillin allergic” by many clinicians. It has also been reported that 80 to 90 per cent of all patients reporting a penicillin allergy are negative for penicillin allergy when assessed by skin testing, meaning that penicillin is withheld from many patients who could safely receive it.

In summary, preventable harm arising from medicines allergy may be caused by:

- Organisations or individuals not taking allergy recording seriously enough
- Problems with the systems used to record allergy status
- Healthcare professionals’ lack of knowledge about the patient (or information not documented in the right place)
- Lack of knowledge by patients about their own allergy status and how important this is to their care
- Lack of medicine knowledge by prescribers (or other healthcare professionals)
- Compound names that do not indicate they contain penicillin (eg, co-amoxiclav)

To seek to address a number of the above issues, we participated in an initiative involving joint working between the NHS in the south west and the pharmaceutical industry under the auspices of the Association of British Pharmaceutical Industry Outreach Programme. This initiative resulted in the design, implementation and evaluation of a project looking at reducing the number of errors happening to patients when a medicine, to which they have a known allergy, is prescribed, administered or dispensed. Through the pooling of resources and expertise, the project also demonstrated the benefits of joint working between the NHS and the pharmaceutical industry.

A focus group was held with members of the public to gauge their understanding of medicines allergy and to ascertain their thoughts on how to raise awareness of medicines allergy. The group identified that the general public seem to have a good understanding of the significance of allergies in relation to food (eg, shellfish and nuts) and stings (eg, bee and wasp stings), but a poor appreciation of allergic reaction in relation to medicines. The focus group also recognised that individuals need to be aware of any significant allergies they have and be empowered to bring this to the attention of staff in all healthcare settings. The individual is the one constant factor irrespective of where healthcare is delivered (eg, GP, district nurse, community pharmacy, hospital, dentist or out-of-hours service). This has recently been recommended in guidelines advising that patients should be made aware they are responsible for future avoidance of the culprit drugs.

As part of an iterative approach to developing an effective intervention, the feasibility of community pharmacists obtaining an

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accurate medicine allergy status during a medicines use review and communicating it with general practice was tested. Although this was a relatively small scale element of the project, it did highlight poor understanding of medicine allergy by patients. It suggested that such discussions were valued by patients and it showed high levels of discrepancy between pharmacy and GP records but, in a busy community pharmacy, this interaction with patients was prohibitively time-consuming.

The findings outlined above, particularly regarding the importance of patient understanding and empowerment, informed further small tests of change. Materials to enable patients to discuss their medicine allergy with everyone who prescribes, dispenses or administers a medicine to them were developed. Likewise, a referral letter whereby allergy status can be communicated between GPs and community pharmacists was designed. These campaign materials were then trialled in a hospital pharmacy and two community pharmacies. For this pilot, the pharmacist, when dispensing an antibiotic, carried out a brief intervention, asking if the patient had ever experienced problems with penicillin. If patients had experienced problems in the past, they were questioned to ascertain if they were likely to have experienced a true allergy. Those deemed to have a true allergy received an information leaflet and patient-held card. Those with a claimed allergy status, which, on questioning, was unlikely, were given an information leaflet. Where appropriate, a patient’s permission was sought to communicate this information to his or her GP. More truly allergic patients were identified in the hospital rather than in community pharmacies. Patient feedback was positive about the campaign materials and patient-held card.

Details of the campaign have been shared with the NPSA. There has been input into national work on developing guidelines for information technology suppliers to the NHS so that the safety of clinical systems can be improved. Further roll out across the southwest in both primary and secondary care is currently being discussed (eg, in primary care trusts via public health campaigns or community pharmacy audits).

Campaign materials have been shared through professional networks, and greater awareness of medicine allergy and information about the project has been shared with the local media through a press release, which resulted in newspaper and local radio coverage. The final stages of the project will be to make the materials publicly available on a website for those wishing to use them or adapt them for local use, and to provide information to an appropriate website, such as the Anaphylaxis Campaign (www.anaphylaxis.org.uk).

References