National Patient Safety Alert

ROYAL PHARMACEUTICAL SOCIETY

Royal College of Physicians

RCGP Royal College of General Practitioners

NHS England

Harm from incorrect recording of a penicillin allergy as a penicillamine allergy

Date of issue:	20 November 2025	Reference no:	NatPSA/2025/006/NHSPS

This alert is for action by acute, community and mental health providers, health and justice services, primary care including nursing and care homes, general practice and community pharmacy.

This is a safety critical and complex National Patient Safety Alert. Implementation should be co-ordinated by an executive lead (or equivalent role in organisations without executive boards) and supported by clinical leaders in clinical informatics, immunology, pharmacy, medicine and nursing.

Explanation of identified safety issue:

There are reports of healthcare staff recording a patient's penicillin allergy as a penicillamine allergy in electronic prescribing systems. This look-alike sound-alike error risks a patient with a known penicillin allergy being administered a penicillin-based antibiotic and having a potentially fatal anaphylactic reaction.

'Penicillin' describes a group of broad-spectrum penicillin-based antibiotics. Penicillamine is a drug used to treat Wilson's disease and severe active rheumatoid arthritis – it is **not** an antibiotic.

Electronic prescribing systems assign allergy status in different ways and local configurations in trusts and other organisations may differ. The risk of this error is not specific to any one electronic prescribing system. It arises because clinicians are either presented with:

(i) an allergy page displaying drugs by drug name or group. 'Penicillin' is a drug group and therefore not an option in the 'drug name' search. Penicillamine will be the only option presented when 'penicill' is the search term; or
(ii) an alphabetical drop-down list of both drug names and groups: penicillamine comes above penicillin.

Through record sharing, an incorrect allergy status assigned in one care setting will potentially be spread across the health system.

A 3-year review of national incident data identified the death of a patient because of an anaphylactic reaction to a penicillin-based antibiotic. They were inadvertently prescribed this antibiotic because their known penicillin allergy had been recorded as penicillamine allergy on their GP record.

All other relevant incidents were recorded as low or no harm due to the work of healthcare staff to identify the issue before it became clinically significant.

Actions required

Actions to be completed as soon as possible but no later than 20 November 2026

At health system level

1. Primary and secondary care organisations should form a working group across an appropriate geographical area, chaired by an appropriate chief clinical information officer, to co-ordinate implementation of the following actions:
   a. Identify patients recorded as having a penicillamine allergy by running a report in relevant digital systems in primary and secondary care.
   b. Clinically review the accuracy of the allergy status and amend accordingly. NOTE A, B, C
   c. Ensure allergy records in electronic prescribing and related digital systems that record allergy status are updated.

To prevent reoccurrence:

2. **Secondary care** organisations should ensure allergy guidance and training cover safe recording of allergy status in electronic prescribing systems and related digital healthcare systems, including the need to check and correct allergy status on admission and discharge.[1,2]
3. **Primary care** should implement additional checks when staff (especially non-clinical staff) input allergy status into GP systems, eg consider the need for a clinical review if penicillamine is the stated allergen.
4. **All organisations** should work with digital system suppliers and user groups to develop and deploy additional built-in mitigations to reduce the likelihood of inadvertent recording of the wrong allergy, such as adding alerts and modifying search terms. Organisations should prioritise the safe deployment of upgrades to their digital systems where suppliers have developed effective mitigations and safety features. NOTE D, E
5. **The working group** should strongly consider producing regular reports on allergy status until assurance has been gained that the issue is resolved.

For further details see: https://www.england.nhs.uk/2025/11/harm-from-incorrect-recording-of-penicillin-allergy-as-penicillamine-allergy/

Failure to take the actions required under this National Patient Safety Alert may lead to CQC taking regulatory action

Additional information:

Notes:

A. Clinical review of patient's allergy status is essential as a minority of patients may have a genuine allergy to penicillamine. Additionally there is significant risk to assigning a penicillin allergy to a patient who is only intolerant of penicillins (i.e. does not have an anaphylactic reaction but experiences nausea or other symptoms) - around 6% of people's records carry a penicillin allergy label but up to 90–95% of these labels are thought to be inaccurate.[3] Patients with a penicillin allergy label receive alternative antibiotics resulting in; less effective management of serious infections and increased harm, length of hospital stay, NHS costs and antimicrobial resistance. Follow internal penicillin de-labelling policy where available.

B. Ideally, primary and secondary care should collaborate to review the accuracy of recorded allergy status, to avoid patients being contacted multiple times and to ensure changes to records are replicated across care settings.

C. If organisations believe they cannot complete the clinical review and associated actions in the timescale provided, they should inform and agree an action plan with their ICB.

D. Mitigations may include the addition of a local alert warning on selection of penicillamine allergy – for example: 'You have selected the drug **penicillamine**, which is **not** a penicillin antibiotic. Check if this is correct before adding to the allergy record'.[4]

E. NHS England has met with both First Data Bank and the Dictionary of Medicines and Devices team to determine if the issue can be addressed at the data source. However, doing this is constrained by individual local configuration and would not eliminate the risk. Discussions at a national level are ongoing with suppliers of electronic prescribing systems to improve allergy functionality and warning alerts.

Patient safety incident data:

The NRLS and LFPSE incident databases were searched for incidents reported to have occurred between 01 January 2021 and 31 December 2023 (3 years) involving the terms penicillin and/or penicillamine in the context of a recorded patient allergy.

The searches identified 315 reports (279 NRLS and 36 LFPSE reports) that with clinical review were deemed to be relevant to the patient safety issue. One of these incidents was fatal: a patient in a nursing home was prescribed penicillin for an infection, became acutely unwell after developing an anaphylactic reaction to the penicillin and subsequently died. The patient was known to be allergic to penicillin, but GP records inaccurately identified the allergy as being to penicillamine. All the other incidents were reported as low or no harm.

Other issues identified from the review of the data included:

- patients experiencing significant side effects such as rash, angioedema and anaphylaxis
- penicillin incorrectly prescribed or administered to an inpatient
- penicillin incorrectly supplied on discharge and incorrect information sent to GP

Initial enquiries have identified significant numbers of patients with a recorded penicillamine allergy status in both primary and secondary care, which would appear to be inaccurate given the known prevalence of allergy to penicillamine.

References:

1. NICE CG183. Drug allergy: diagnosis and management. 3 September 2014.
2. NHS England. Medication safety management v1.2. 3 March 2025.
3. Krishna et al. Multicentre observational study to investigate feasibility of a direct oral penicillin challenge in de-labelling 'low risk' patients with penicillin allergy by non-allergy healthcare professionals. J Infect. March 2024.
4. Cegedim Healthcare Solutions. Action required: penicillamine vs penicillin drug allergy recording.

Stakeholder engagement:

- MHRA
- Royal College of Physicians
- NHS colleagues in Scotland
- First Databank and ePrescribing system suppliers
- Royal College of General Practitioners
- Royal Pharmaceutical Society
- National Patient Safety Response Advisory Panel

Advice for Central Alerting System (CAS) officers and risk managers

This is a safety critical and complex National Patient Safety Alert. In response to CHT/2019/001 and CHT/2023/002 your organisation should have developed new processes to ensure appropriate oversight and co-ordination of all National Patient Safety Alerts. CAS officers should send this Alert to the executive lead nominated in their new process to co-ordinate implementation of safety critical and complex National Patient Safety Alerts, copying in the leads identified on page 1.