Norfolk and Suffolk
Integrated Care Board

Penicillin Allergy Assessment in Primary Care and community services (for Adult Patients)

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Purpose

This guideline has been developed to provide a framework for primary care and community-based clinicians who may be considering addressing potentially inaccurate penicillin allergy labels in appropriate patients in their practice. This document has been adapted from a regionally prepared document and is approved by Norfolk and Suffolk ICB.

Background

A label of penicillin allergy is carried by 5.9% of the general population[1]. Around 95% of patients are incorrectly labelled when tested[2]. A penicillin allergy label can be associated with increased morbidity, increased length of hospital stay, greater healthcare costs, and increased rates of methicillin resistant Staphylococcus aureus (MRSA), *Clostridioides difficile* (*C difficile*), and vancomycin-resistant Enterococcus (VRE) infection. This may be due to use of alternate antibiotics to beta-lactams.

Despite this clear association with harm, penicillin allergy testing is a scarce resource in the NHS[3]. Testing is currently performed by allergists and immunologists working in specialist clinics and is consequently limited to select patient groups[4]. The provision of de-labelling at scale is therefore only possible with the engagement of clinicians who are not trained in allergy or immunology.

This guideline refers to the assessment of penicillin allergy without skin testing. In some patients, the allergy history may indicate that there is no increased risk of allergy compared with that of the baseline population risk. In this group, no allergy testing is required before removing the allergy label.

Clinical presentation of penicillin allergy is variable and dependent on the immunological mechanism. Type 1 hypersensitivity/ immediate IgE mediated reactions occur within 6h (typically 1h) after drug administration but can occur up to 4 days into a course (accelerated/immediate). These reactions have features ranging from life-threatening anaphylaxis to urticarial angioedema, bronchospasm/wheezing and laryngeal oedema. Type 4 hypersensitivity/ non-immediate reactions (non-IgE) occur >1h to several days after administration and could range from cutaneous or mucosal reactions to multisystem involvement.

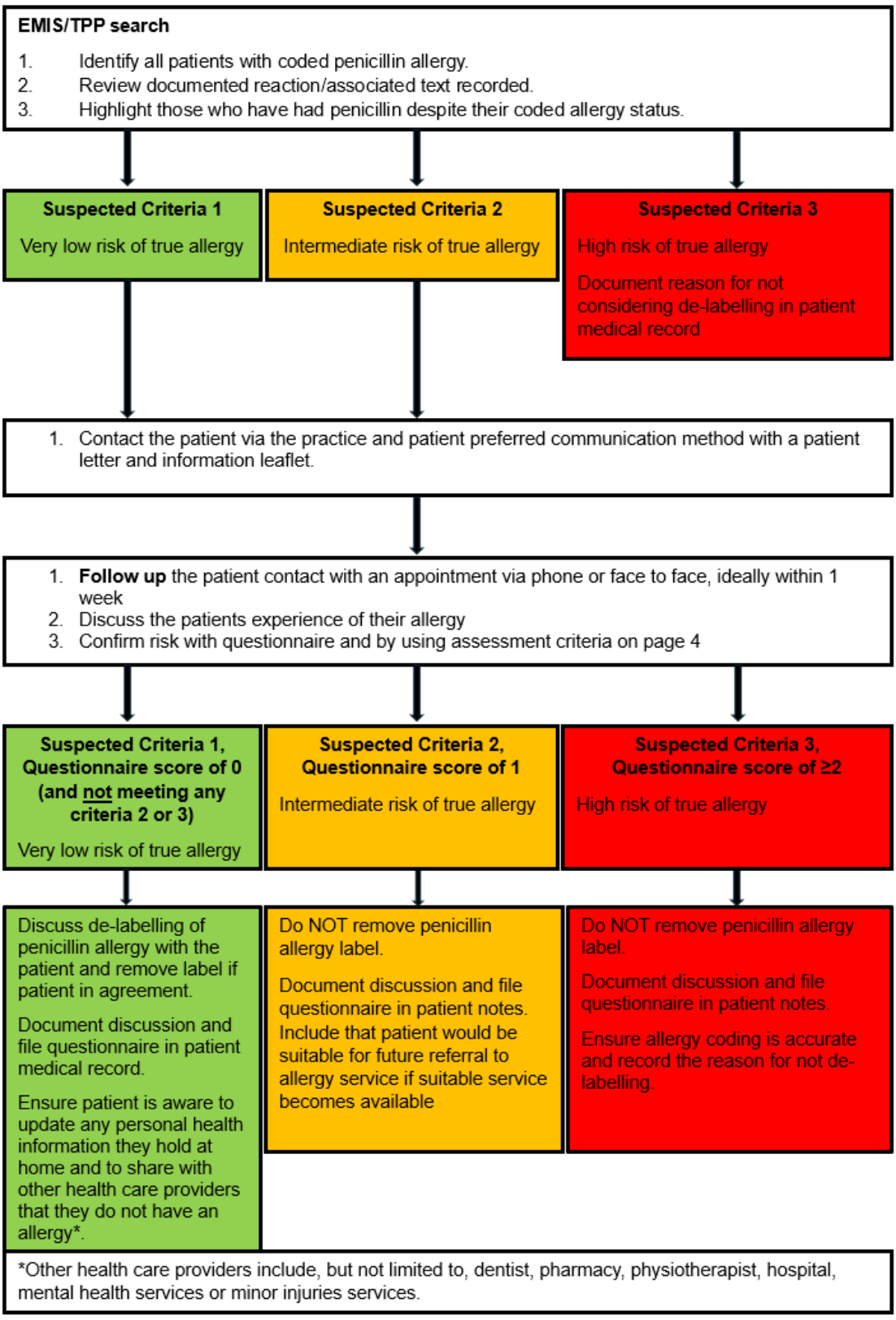
This guideline is aimed at de-labelling ‘low risk’ penicillin allergies. These include non-specific reactions such as mild CNS effects (headache, confusion) or GI effects (diarrhoea, nausea, vomiting)

Patient Identification

Patients can either be identified through completion of searches via electronic systems (proactively) or during presentation for suspected infection, at GP practice or community based clinic, or be an inpatient in a community/mental health setting.

Patients should be assessed as per the penicillin allergy de-labelling flowchart below when identified via a search.

Penicillin allergy de-labelling (PADL) flowchart



Penicillin allergy assessment criteria

Criteria 1 (very low risk)
De-label without testing

- Gastro-intestinal symptoms (nausea, vomiting, diarrhoea)
- Mild neurological symptoms (headache, confusion, mood disorders)
- **Mild** renal impairment
- Secondary infections (candida, *C difficile*)
- Family history of penicillin allergy
- Patient has had the index penicillin since their label was put on the system with no allergic reaction (confirm with patient).

Criteria 2 (moderate risk)

- Unknown reaction
- Diffuse or localised rash with no other symptoms more than ONE hour post dose
- Non-specific rash in childhood

Potentially suitable for direct oral penicillin challenge in the future if a service becomes available in Norfolk and Suffolk ICS.

Criteria 3 (high risk)
Not suitable for de-labelling

- Collapse requiring resuscitation
- Itchy rash/urticaria (hives) – consider showing pictures of an urticarial and maculopapular rash to patient for confirmation
- Blistering or peeling of skin
- Oral/genital ulceration
- New wheeze
- Swelling of lips/tongue/eyes (angioedema)
- Moderate/severe renal dysfunction
- Liver dysfunction

Where patients are identified during a consultation, clinic setting or inpatient stay:

Give all patients the penicillin allergy leaflet to read (appendix 4). Use patient questionnaire (appendix 1) to assess penicillin allergy with patient.

Score based on questionnaire (appendix 1) and criteria	Recommended action
0 and meeting criteria 1 above	• De-label with patient consent and document clearly • From community services, write to GP (see appendix 3) to confirm de-labelling, include a copy of patient questionnaire. Provide a copy of the letter to the patient to share with other healthcare providers • If resident in a care home send communication to the care home manager (appendix 3 template) • Provide written confirmation for patient to show other healthcare professionals (appendix 3 template)
1 or meeting criteria 2 above	• Do NOT remove penicillin allergy label • Within Norfolk and Suffolk ICS there is currently no penicillin allergy testing service. Discuss with the patient and document that the patient may be suitable for testing in the future if the service were to become available, and include a copy of patient questionnaire. • From community services, share the questionnaire with the GP.
≥2 or meeting criteria 3 above	• Do NOT remove penicillin allergy label • Ensure allergy details are recorded on the patient records and label remains on the patient record, include a copy of the patient questionnaire.

Patient transfer of care for patients who have been de-labelled

If a patient, who has been de-labelled, is discharged to the GP practice from an episode of care by another healthcare provider with a penicillin allergy noted on their documentation, please contact the provider to confirm any intentional change in status.

Please ensure that patients that have been de-labelled by the GP practice are advised to take their letter to all other healthcare providers to share the change in their allergy status.

Appendix 1: Patient Questionnaire

Adapted from the PEN-FAST tool Trubiano, Jason et al 2020

Penicillin Allergy Assessment Criteria		
Have you ever been told you have a penicillin allergy?	Yes	No
• It is estimated that over 5 million people in the UK are incorrectly labelled as having a penicillin allergy. • These people unnecessarily miss out on the best and safest treatments for common infections, including chest, throat, sinus, inner ear, urinary tract and skin infections. • By completing this simple allergy screening questionnaire, it is possible to identify people who are not truly allergic to penicillin. • If you score zero, you can then discuss removing this label with your healthcare professional at the surgery (eg GP, pharmacist, pharmacy technician) • Patients that have had this label removed will then be able to take penicillin-based antibiotics to treat bacterial infections and avoid the risks associated with not being able to access these antibiotics.		

Tell us about your suspected allergy		
Did you experience, breathlessness, wheezing, lip/tongue swelling or collapse?	Yes (2 points)	No (0 points)
Did you experience a severe blistering or peeling of the skin?	Yes (2 points)	No (0 points)
Did you require treatment (eg antihistamines) for your reaction?	Yes (1 points)	No (0 points)
If you scored 0 points, please contact your GP surgery to discuss removing your penicillin allergy label with a healthcare professional.		

Did you experience any of these non-allergic symptoms?		
Did you experience nausea, vomiting or mild abdominal pain?	Yes	No
Did you experience headache, mild confusion, changes in your mood?	Yes	No
Did you get thrush or Clostridioides difficile infection after taking penicillin?	Yes	No
If you had these symptoms, they are common side effects to antibiotics and do NOT represent an allergy and do not score points.		

Appendix 2: Patient letter template

Practice Letterhead
Address
Tel
Email

<Patient Name>
<Patient Address>

<Today's date>

NHS no <NHS number>

Dear «PatientName»

Important information about your medication allergy status

In line with best clinical practice and local guidelines we are contacting some patients whose medical records currently suggest that they have a penicillin allergy. By completing a simple allergy screening consultation, it is possible to identify patients who are not truly penicillin allergic and then remove this label. We have attached an information leaflet that includes information about why this is beneficial to you if you are not truly allergic to penicillin.

Please contact the practice for an appointment with……..to discuss the details of your penicillin allergy/We will contact you with an appointment to discuss the details of your penicillin allergy (delete as appropriate)

Yours Sincerely

Add practice preference for this

(Copy of letter sent to care home manager) -delete if not relevant)

Appendix 3: Provider to GP, Health care professional or Care home communication letter example

Dear GP/Healthcare professional/Care home manager (delete as appropriate),

Re patient/resident (delete as appropriate) ***

Please note that we have de-labelled this patient's/resident's nominal allergy to ***

This has been done following an assessment using local guidelines as part of a national effort to improve records of adverse reactions to antibiotics as there is evidence that this may lead to better outcomes for patients and improve antibiotic stewardship. We have informed the patient of this.

In this case the patient was de-labelled on the basis of:

****delete the following bullet points as* appropriate ***

- history alone
- evidence of tolerating the medication having inadvertently been administered it

Based on this we can advise you that **there is no evidence to now support a "penicillin allergy" label.** We would be very grateful if you could remove this allergy label from your patient's medical record/resident's medication administration record and care plan. (delete as appropriate)

This information should be shared with other healthcare providers within your practice/care home.

The risk of allergic reaction to penicillin in a de-labelled patient is the same as that of the general population and **they can therefore receive penicillin antibiotics**. This is important for management of any future infections as penicillins are often recommended as first line therapy due to their effectiveness and lower risk of driving antimicrobial resistance.

Your patient/resident has also been informed that they can safely take penicillin based antibiotics in future.

Best Wishes,

Service provider

(Copy of letter to patient to share with other healthcare professionals) -delete if not relevant)

Appendix 4: Patient Information Leaflet - Penicillin allergy

BACKGROUND

Antibiotics are used to treat infections caused by bacteria. Since their discovery over 70 years ago, antibiotics have revolutionised modern healthcare and enabled us to treat and cure infections that were previously untreatable. However, many bacteria are becoming resistant to antibiotics which means in the future we may not be able to successfully treat many of the infections we can now as the antibiotics will no longer work. This is an international problem, and you may have heard about this in the news or on social media.

We therefore need to use the antibiotics we have carefully and choose the right drug for patients to treat their suspected infections. Different antibiotics work for different infections depending on where the infection is, and what type of bacteria we think is causing the infection.

WHAT IS A PENICILLIN?

A penicillin is an important type of antibiotic that can be used to treat many common infections. Penicillin antibiotics are often the first choice antibiotic for common infections like pneumonia, skin infections and tonsillitis. They are widely used both in hospital and in the community and examples include Phenoxymethylpenicillin (Penicillin V), Amoxicillin, Flucloxacillin, Pivmecillinam and Co-Amoxiclav.

WHY HAVE I BEEN GIVEN THIS LEAFLET?

You have reported side effects or a possible allergy to penicillin. This means that you will not be given antibiotics which contain penicillin. However, we know that less than 1 in 1000 patients (less than 0.1% of patients) have a true allergy to penicillin. Sometimes patients are told they have an allergy when in fact they have simply experienced side effects to the antibiotic such as nausea, vomiting, diarrhoea, or an unpleasant taste. Sometimes people are told they have an allergy because a family member has an allergy to penicillin. A family history of penicillin allergy does not increase the risk of having a penicillin allergy yourself.

WHY IS THIS IMPORTANT?

Penicillin antibiotics are very effective and are often used first to treat many infections. If we can't use penicillin then we have to use alternative antibiotics that are often less effective, have more side effects, and are often more complex antibiotics that we need to save for the most serious infections, overuse of which will make them ineffective. For most people, an allergic reaction will be an unpleasant mild skin reaction or rash that develops slowly after several hours or days of taking the medicine. Sometimes a more severe reaction can occur called anaphylaxis. Anaphylaxis is extremely rare but can be life threatening.

I HAVE HAD A RECORDED PENICILLIN ALLERGY FOR A LONG TIME. WHY SHOULD THAT CHANGE NOW?

Penicillins are very effective treatments for many infections including skin and chest infections. They are also commonly used in patients having a surgical procedure. Being unable to take penicillins may put you at a disadvantage especially if you are admitted to hospital with a severe infection.

WHAT ARE THE BENEFITS TO ME OF FINDING OUT WHETHER I AM ALLERGIC TO PENICILLIN ANTIBIOTICS?

Removing the penicillin allergy label from your record means you can be given penicillins when you really need them. It also means you will have more treatment options if you have an infection or require antibiotics before an operation.

WHAT ARE THE RISKS OF BEING LABELLED PENICILLIN ALLERGIC?

Research shows that people with a documented penicillin allergy (true or not) have worse healthcare outcomes when compared to the general population. These include:

- Longer hospital stays.
- Higher chance of hospital readmission
- Increased risk of surgical wound infection
- Increased risk of severe infections such as *Clostridioides difficile* (C.difficile) and methicillin resistant Staphylococcus aureus (MRSA)
- Increased risk of intensive care admission
- Increased risk of death

WHAT CAN I DO ABOUT IT?

If you have been incorrectly labelled as having a penicillin allergy, then you are missing out on the best and safest treatments for common bacterial infections and are unnecessarily subject to the above risks.

We are in the process of contacting some patients whose medical records currently suggest that they have a penicillin allergy. By completing a simple allergy screening questionnaire, it is possible to identify patients who are not truly penicillin allergic and then remove this label. If you currently consider yourself to have a penicillin allergy but feel that this might not be accurate, then please contact your GP practice to discuss this.

Appendix 5: Step by Step guides for EMIS/SystmOne

Recording information

A template recording spreadsheet is available here. Data%20collection-%20Penicillin%20allergy

Clinical system searches

Please see below for information regarding searches for the clinical systems. The searches also contain a second search to identify patients that have had their penicillin allergy documented for more than 10 years, and have had a prescription for a penicillin generated in the last 10 years. It is recommended to review these patients in the early stages as any recent penicillin exposure will guide their assessment.

EMIS search

Please see the search located on the ICB sharepoint folders:

For Suffolk practices please go to RAP 2026-27 - OneDrive

For Norfolk and Waveney practices please go to Prescribing Quality Scheme 2026-27

Download the search file and save to your computer.

Import to the EMIS web clinical system.

Run the searches listed to identify patients who have an active penicillin allergy on their clinical record.

SystmOne penicillin allergy search step by step guide

Patients need to be identified by a search and it depends how the patient's allergy status is recorded.

To identify patients in SystmOne you will need to find the searches that have been uploaded to the clinical system. For the location please see below for each area within the ICB.

Ipswich and East Suffolk area

Access the searches via, Reporting → Clinical Reporting → Norfolk and Suffolk ICB (East Suffolk GPs) → Medicines Management → Penicillin allergy delabelling

West Suffolk area

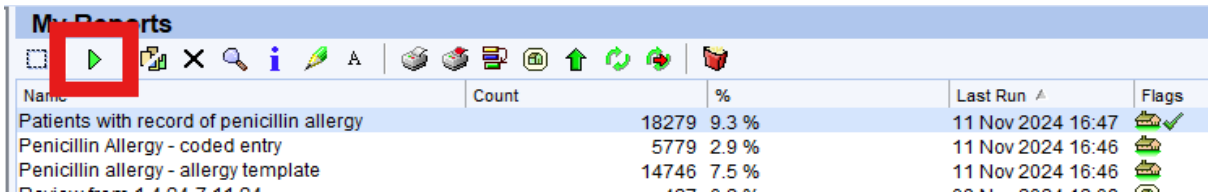
Access the searches via, Reporting → Clinical Reporting → Norfolk and Suffolk ICB (West Suffolk GPs) → Medicines Management → Penicillin allergy delabelling

Norfolk and Waveney area

Access the searches via, Reporting → Clinical Reporting → Norfolk and Waveney → Medicines Optimisation → PQS 2026 to 27 → Penicillin allergy delabelling

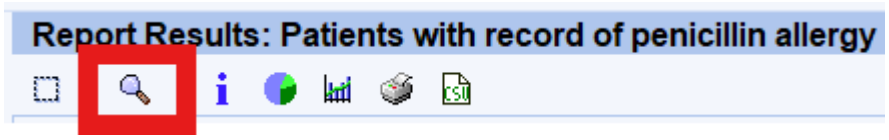
This will open the searches in SystmOne.

Find and highlight search required and click on the green arrow to run.



Click in next icon to the right of the green arrow to breakdown the results.

Select as shown below to get a list of patients (at practice level only).



Please see this linked document for information on how to further breakdown the SystmOne search results to support the reviews.

Systm1%20Search%20Breakdown%20Guide

Removal of allergy labels

If a patient is reviewed as suitable for the removal of their penicillin allergy label, or communication is received from another healthcare provider that a patient has successfully undergone a penicillin allergy de-labelling process, please follow the steps detailed below depending on which electronic system is in use.

Ensure that the questionnaire results and the discussion information are clearly documented in the patients' clinical record.

EMIS removal of allergy label

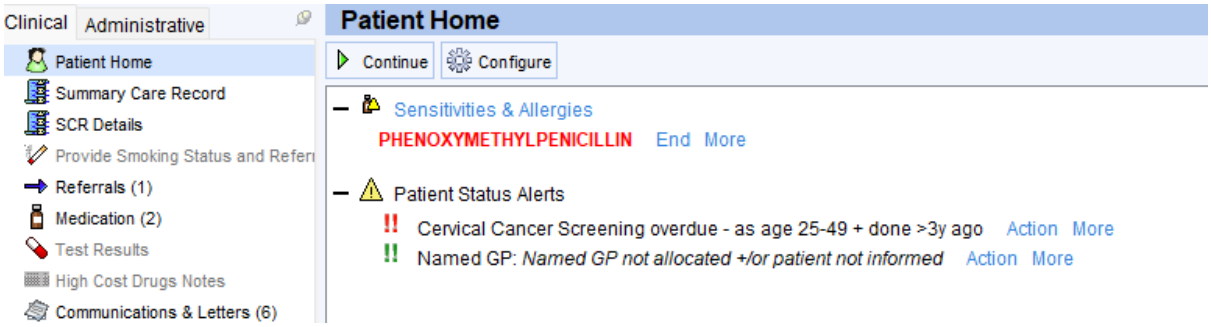
1. Instruction from external care provider is received at the practice or patient has undergone de-labelling in the GP practice based on history taking

2. Patient record opened

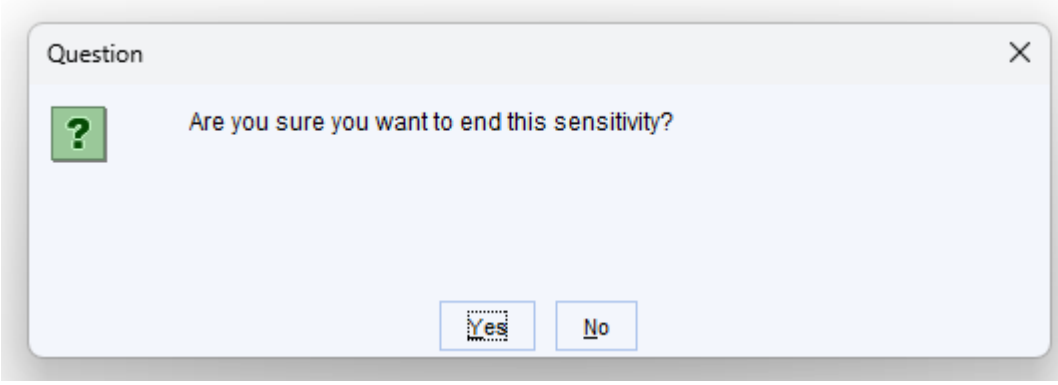
3. Click allergies
4. Click on named drug
5. Click on delete
6. Free Text record reason for deletion.
7. Save and close (Process takes approximately 2-3 minutes)

SystmOne de-labelling step by step guide

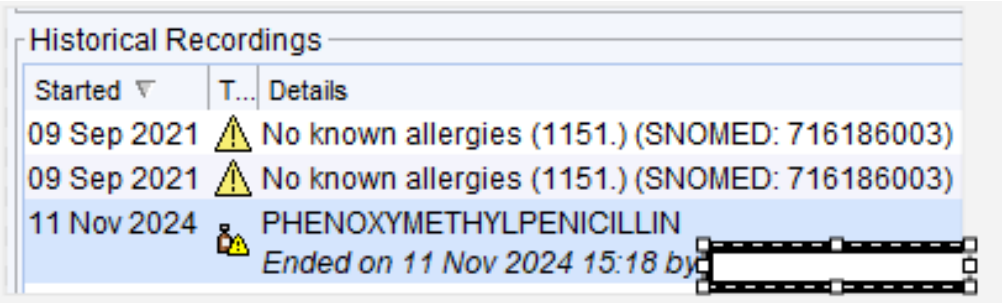
1. Open patient record in SystmOne – this will normally take you to the patient home screen. Allergy status will be displayed as shown below – and include any additional information such as what the sensitivity is e.g. causes rash etc.



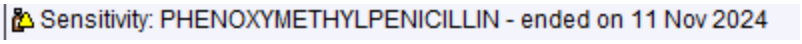
2. To proceed to removing the allergy label, click on 'End' and the following box pops up



3. Click Yes to end allergy – this will remove allergy from home screen and add it to Historical Recordings

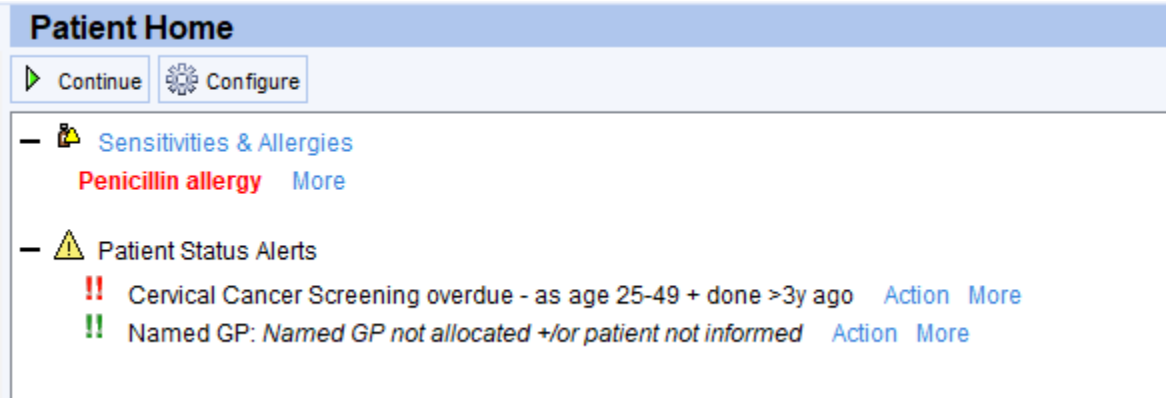


and the following entry is made in the tabbed journal

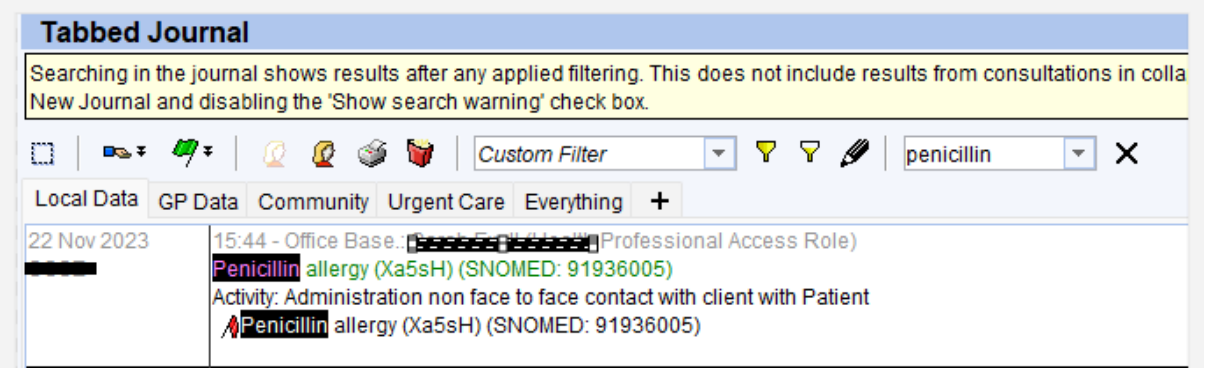


If the allergy has also been added as a CTV3 / SNOMED code then you need to take some additional steps.

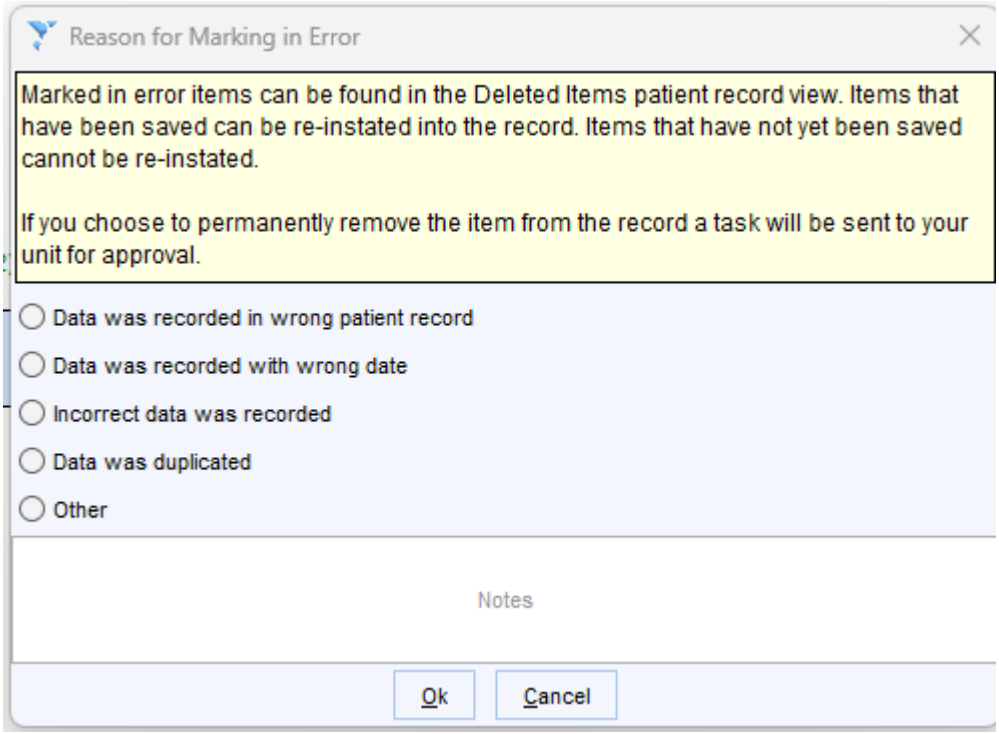
4. Home screen view is slightly different



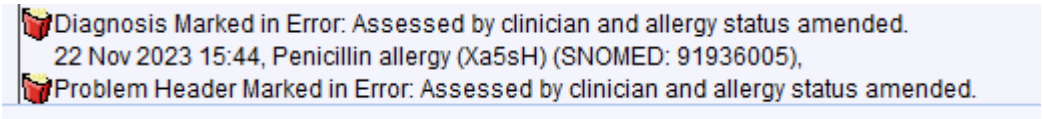
5. Find the original entry of the coded episode – use search to help



6. Select the entry and right click the coded entry – from drop down menu, select Mark in Error, following appears

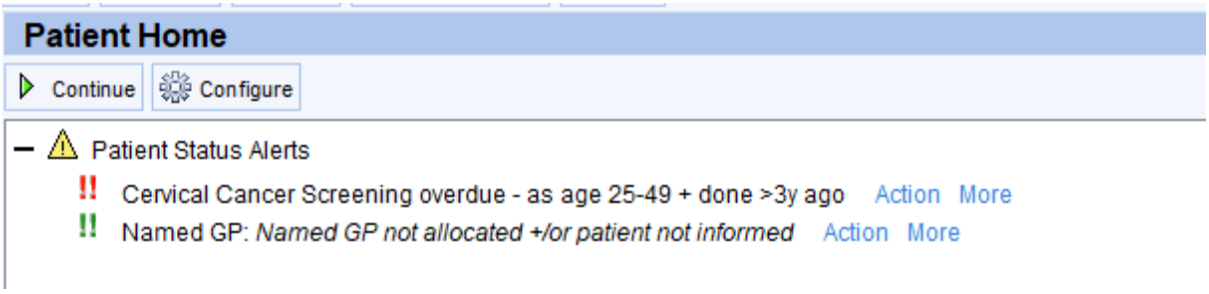


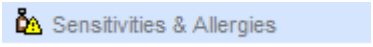
7. Complete as appropriate and click ok. Tabbed journal will now record the details entered above.



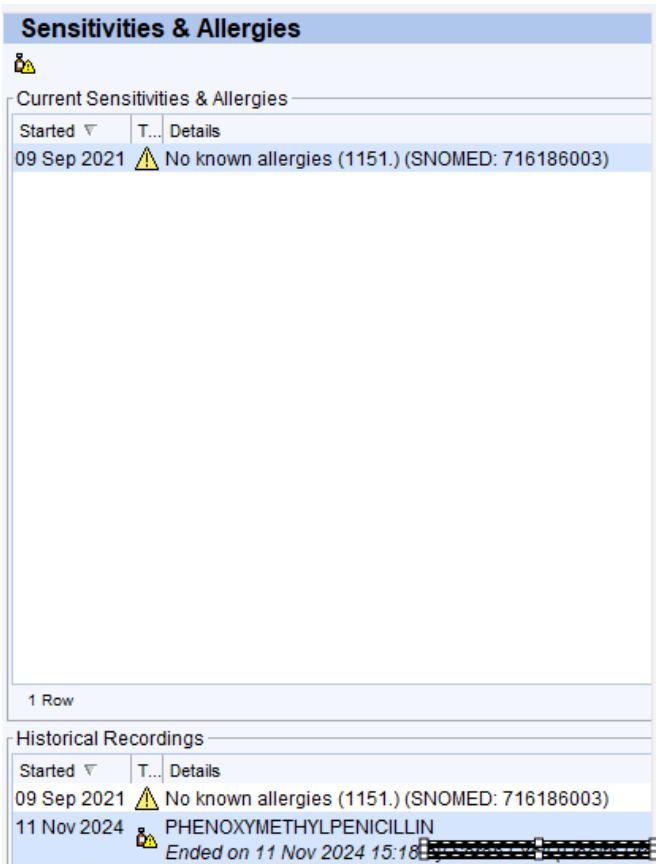
For either / both methods

8. Home screen no longer shows an allergy status.



9. Clicking on 

in the clinical tree will take you to the record



If you are unable to de-label from the GP record as the label has been added by another service eg MSK on to your system, please send them an error message with the details and instruction to de-label the patient.

National resources to support penicillin allergy de-labelling

2023 saw the very first Penicillin Allergy De-Labelling Awareness Day, on 28th September.

A series of national resources were released to support prescriber and can be accessed below (requires registration). Penicillin Allergy and Delabelling - Antimicrobial Resistance Programme - FutureNHS Collaboration Platform

Text message examples - Text%20Message%20Examples%20SNEE.c

Penicillin Video for GP waiting areas - Penicillin Video for GP waiting areas - Video of_ Penicillin Video for GP waiting areas.mp4

National webinar on penicillin allergy de-labelling in primary care NHS England EoE Webinar - Penicillin Allergy Delabelling in Primary Care-20250508_130112-Meeting Recording - Antimicrobial Resistance Programme - Futures

References

1. West RM, Smith CJ, Pavitt SH, et al. Warning: allergic to penicillin: association between penicillin allergy status in 2.3 million NHS general practice electronic health records, antibiotic prescribing and health outcomes. J Antimicrob Chemo. 2019;74(7):2075-2082

2. BSACI guideline for the set-up of penicillin allergy de-labelling services by non-allergists working in a hospital setting. Clin Exp Allergy. 2022;52:1135–1141

3. Royal College of Physicians. Allergy: the Unmet Need. The Lavenham Press Ltd; 2003. URL: http://www.bsaci.org/wp-content/uploads/2020/02/allergy_the_unmet_need.pdf Accessed 4/5/2022

4. National Institute for Health and Care Excellence Behaviour change: digital and mobile health interventions. 2020. Available at https://www.nice.org.uk/guidance/ng183 Accessed Feb 2023

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6. Rachel A. Patterson; Holly A. Stankewicz. Penicillin Allergy. StatPearls (Internet). National Centre for Biotechnology Information. https://www.ncbi.nlm.nih.gov/books/NBK459320/#:~:text=In%20patients%20who%20have%20previously,after%20the%20initial%20positive%20tes

7. Brayson J, et al. CATALYST: challenging antibiotic allergy status. J Antimicrob Chemother. (2023) :1241-1244

8. Scottish Antimicrobial Prescribing Group: SAPG. Penicillin Allergy De-labelling [online]. [accessed 24 June 2024]. Available from: https://www.sapg.scot/guidance-qi-tools/quality-improvement-tools/penicillin-allergy-de-labelling