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Can non-allergy health workers safely delabel reported penicillin allergies using an antibiotic allergy assessment tool? - A multicentre study

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Background: False penicillin allergy labels can be potentially hazardous to patients. Most penicillin allergy labels can be safely removed following risk stratification and formal drug challenge. These de-labelling strategies have been limited to specialist allergy and infectious disease services.
Aims: To determine whether non-allergy specialist health-care workers can use an antibiotic allergy assessment tool (AAAT) to correctly phenotype and manage reported penicillin allergy.
Method: Non-allergy health-care workers in three UK hospital were emailed online questionnaires and asked to assign the allergy phenotype and management recommendation for eight vignettes of real cases reporting a penicillin allergy using the AAAT. In one hospital participants were randomised into two groups: one group was directed to use the AAAT whilst the second group had no decision tool. Participants were assigned an average score for correct allergy phenotype, management and a major error rate.
Results: Use of the AAAT across the eight vignettes significantly improved the average score for assigning correct phenotype (6.7 vs 5.2 $p < 0.001$), management choice (7.1 vs 5.7 $p < 0.001$), and major error rate (0.6 vs 1.6 $p < 0.001$). Participant performance with the AAAT was generalizable across all three hospitals. Despite use of the AAAT 35-40% of participants made at least one major error.
Conclusion: The AAAT significantly improved health worker performance in phenotyping and choosing correct management for reported penicillin. However, even with the AAAT, there remains a risk of potentially hazardous management choices highlighting the need for formal allergy training to expand penicillin allergy assessment services.