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Managing Drug Interaction Alerts

Drug interaction databases are widely used to support medication safety in clinical practice. Despite their benefits, they often generate an overwhelming number of flagged interactions, most of which lack clinical relevance. Fewer than 10% result in observable effects, yet clinicians are expected to address each flagged warning. This situation leads to alert fatigue, where meaningful alerts are missed or disregarded due to a high volume of insignificant ones.

The inconsistent quality and quantity of interaction data across different databases further complicate decision-making. A focus group approach was therefore employed to develop a practical framework aimed at improving the management of database-detected drug interaction risks and supporting healthcare professionals in handling these challenges more efficiently.

The Challenge of Managing Database-Flagged Interactions
While clinical guidelines and regulatory recommendations provide advice on reporting drug interactions, they are not typically designed for bedside use. The lack of a universally accepted, streamlined protocol contributes to inconsistent management practices. Even though many interactions are preventable and rarely result in harm, ignoring alerts altogether is considered unprofessional. Supplement–drug and food–drug interactions, often overlooked in clinical databases, remain significant due to widespread patient use of these substances. Given the limited time and resources in most clinical environments, a tool that enables rapid, yet thoughtful, decision-making is essential. To address this, a qualitative study was conducted involving healthcare professionals and laypersons with experience managing high-risk medications. Participants discussed their approaches to handling flagged risks and evaluated a draft risk assessment framework.

Framework Development and Participant Feedback
Two focus group meetings were held with professionals from diverse fields such as family medicine, oncology, neurology and pharmacy, along with laypersons familiar with transplant or oncology care. Participants discussed clinically relevant interactions they had encountered and examined a draft framework designed to support decision-making. The initial tool included questions on whether interacting drugs were evidence-based, the severity and documentation of the interaction, the presence of confounding factors and the availability of safer alternatives.

Several participants raised concerns about ambiguity in the original questions, particularly around definitions of severity and documentation. It was agreed that any situation perceived as serious by either the clinician or the patient should be considered serious. Participants also suggested aligning the opening question with national protocols to ensure consistency. The order of recommendations was revised based on feedback to better reflect clinical priorities, and the presentation of monitoring was changed from a passive to an active process involving consistent follow-up.

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A revised version of the framework was presented during the second meeting. Changes included clearer wording, a restructured layout and improved alignment of decision branches. The updated tool focused more directly on evidence-based substitution and highlighted the need for personalised approaches based on the risk–benefit profile of each patient. Although visual constraints limited the extent to which active monitoring could be illustrated, direct monitoring was added as a critical element. Participants considered the revised framework more feasible and suitable for clinical application.

Implementation, Communication and Future Implications
Lay participants contributed important perspectives on patient communication. They expressed a need to be informed not only about the

existence of interaction risks but also about the symptoms to watch for and the likely outcomes. Participants agreed that education should be personalised but should retain consistent messaging. Professionals were encouraged to ask proactively about all substances taken, including herbal and over-the-counter products. Empathy and open communication were identified as crucial for fostering patient disclosure.

Although the framework was seen as potentially complex for general practice, participants proposed stratifying patients by risk level to guide prioritisation. Clinical pharmacists were highlighted as the most appropriate professionals to take responsibility for managing interactions. Some participants expressed concern that increased patient awareness could lead to heightened anxiety or nocebo effects. However, accurate and contextualised explanations were viewed as sufficient to mitigate this risk.

There was a shared view that the framework should be integrated into the education of healthcare professionals. Even if not followed strictly, it could serve as a cognitive support tool and improve clinical decision-making. Participants considered consistent use of the tool more important than rigid adherence, especially given the variability of patient needs and interaction mechanisms. The need for reporting interactions was also emphasised as a necessary part of risk management.

Although the focus group methodology provided valuable insights, limitations included the small sample size and the non-representative nature of participant selection. Remote participation, while increasing accessibility, reduced opportunities for natural dialogue. Additionally, the framework did not fully address the pharmacological mechanisms underlying interactions, which may result in some clinically significant risks being overlooked. Despite these limitations, participant feedback and the iterative development process led to a widely accepted and improved framework.

A concise and practical framework was developed to support the evaluation of database-detected drug interaction risks. Created through collaborative focus group discussions with healthcare professionals and patients, the tool offers a structured approach for managing alerts and reducing the impact of alert fatigue. While further validation is needed in clinical settings, the framework represents a meaningful step towards improving medication safety and decision-making in everyday practice.

Source: **European Journal of Hospital Pharmacy**

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