**Background** The drug-drug interaction (DDI)-checking function of an electronic medical record (EMR) is helpful but is also a distraction, firing too many warnings and triggering alert fatigue. Anecdotally, hospital staff ignore warnings in over 50% of cases. Additionally, there are a number of commonly used DDI-checking databases available.

**Purpose** What is the concordance of DDI databases when evaluating identified high-risk interactions alerts on an EMR system? Can the number of alerts be safely downgraded to alert fatigue?

**Material and methods** Comparison of DDI-checking databases: Stockley’s Drug Interactions in the UK and Lexicomp (Lexi), Micromedex (MDX) and Facts and Comparison (Facts) in the USA.

Based on their review, 477 interactions were recommended to be downgraded to moderate risk. These 477 interactions were further evaluated by a USA-based senior pharmacist utilising the DDI-checking databases of Lexi, MDX and Facts to identify the severity of the interaction. The agreement across all three databases, as well as between each database, was analysed. Descriptive statistics analysed the difference between the ratings and agreement in each database with the Chi square and an alpha set to 0.01.

**Results** Of the 477 interactions evaluated, Lexi, MDX and Facts, agreed on the rating only 17.8% (85/477) of the time. Of these 85 interactions, 68 (80%) were no interaction/none reported, 2% (2/85) were considered a moderate interaction and 18% (15/85) were considered a major interaction. However, for moderate interaction (4% versus 16%, p<0.00001) and major interactions (23% versus 55%, p<0.00001) MDX had a higher rate of agreement with Lexi compared to Facts. All three databases were significantly different from Stockley’s (p<0.001).

**Conclusion** There are a number of DDI-checking database tools available for the clinician to utilise. The interaction checker in an EMR seems to over-alert what it considers highly significant interactions. Based on common DDI-checking databases (in the UK and USA), the concordance of results is very low. This study highlights the need for checking multiple sources and critically evaluating the impact of the DDI before taking action, either to consider downgrading an alert from the EMR or for managing the individual patient case.

**REFERENCES AND/OR ACKNOWLEDGEMENTS**

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