Is your patient at risk for an adverse drug event (ADE) due to a drug-drug interaction (DDI)?

According to the National Institutes of Health (NIH), drug-drug interactions (DDIs) occur when multiple substances (drug or non-drug) are ingested and the effects of one or both of the substances are impacted. Appropriate identification and mitigation of interactions — which are known to be significant, preventable causes of adverse drug events (ADEs) — is important to clinical practice as patients may suffer from adverse effects or therapeutic failure secondary to DDIs.[1,2] Providers at various points in patient care most often rely on medication reconciliation in tandem with clinical decision support tools to assist in the identification of DDIs. Unfortunately, published findings continue to demonstrate the limitations in these processes. The prevalence of DDIs within the general medical population remains alarmingly high, and this can often be attributed to medication discrepancies, defined as a lack of agreement between a patient's electronic medical record and their self-reported medication use, or inappropriate overriding of pertinent interaction alerts during the medication use process.[3-18]

Aegis Sciences Corporation recently published a retrospective study titled "Characterization of drug-drug interactions in patients whose substance intake was objectively identified by detection in urine". This article corroborated the concerning findings of other publications through characterization of the occurrence of DDIs based on definitive determination of recently ingested substances. The study, which focused primarily on patients being treated for chronic pain, addiction, and/or treatment of mental illness, found that 38% of over 15,000 patients meeting inclusion criteria had at least one drug-drug or drug-substance interaction identified between two recently ingested substances based on verification of their ingestion via InterACT Rx™ testing. Of even greater concern is the fact that around 11% of the DDIs identified were deemed as either severe or contraindicated based on their capability of contributing to significant adverse reactions or other potential safety hazards for the patient co-ingesting the interacting substances. Polypharmacy, defined as recent ingestion of five or more substances being defintively identified in a patient's urine specimen, appeared to be the most significant driver of DDIs. Polypharmacy patients, irrespective of their age, were four times more likely to have a DDI identified and five times more likely to have a severe or contraindicated DDI identified. Although the Centers for Disease Control (CDC) reports that approximately 12% of the US population self-reports use of five or more medications concurrently, this study found that a significantly greater percentage of patients met this criteria when assessing objective data on ingested substances.[19,20]

Based on the findings discussed above, it appears that a significant number of patients continue to be impacted by DDIs despite being cared for by providers that regularlry utilize accepted medication reconciliation practices and adhere to meaningful use standards for certified health information technology. Additionally, the results of the study demonstrates advantages of characterizing the rates of interactions based on objectively obtained data to allow for a better understanding of the true prevalence of DDIs in chronic pain, behavioral health, and addiction populations. As a healthcare provider, it is important to continue to seek out new information regarding DDIs as well as assess the use of new methods for identifying and mitigating DDIs in practice. Utilization of objective, clinically beneficial tools such as InterACT Rx definitive testing to resolve DDIs and prevent subsequent ADEs can add considerable value to current medication reconciliation practices, especially when treating polypharmacy patients that suffer from multiple co-morbid disease states.

Please call our clinical scientists at 1-877-552-3232 if you require additional information.

NOTICE: The information above is intended as a resource for health care providers. Providers should use their independent medical judgment based on the clinical needs of the patient when making determinations of who to test, what medications to test, testing frequency, and the type of testing to conduct.

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