



## Clinical Update: March 2019

What is the clinical utility of definitive drug-drug interaction (DDI) testing?

Healthcare providers are under a constant time constraint to provide comprehensive services for new and existing patients on a day-to-day basis. The lack of time due to the providers' rigorous schedule has the potential to cause oversight of critical findings in patient charts such as missed diagnoses, pertinent allergies and DDIs.<sup>1</sup> The use of multiple over-the-counter medications can easily complicate a seemingly "straightforward" patient case. A study analyzing expenses associated with DDIs in non-cancer pain patients found that the six month median expenses were upwards of \$1,000 more per patient presenting with a DDI.<sup>2</sup>

Phase 1 of the DDI Effectiveness and Clinical Awareness Randomized-Controlled Trial (DECART) study demonstrated that participating healthcare providers were able to accurately identify that DDIs had contributed to a patient's self-reported adverse effects in less than 20% of simulated patient cases reviewed by the physicians.<sup>3</sup> Clinicians were provided resources (i.e., pharmacy medication reconciliation reports) to aid in the identification of DDIs; however, despite the ability to access this information, the study's results called into question whether utilization of this information to manage DDIs is truly common practice. The DECART study's second phase focused on the identification of DDIs after the introduction of a definitive test utilizing liquid chromatography tandem mass spectrometry (LC/MS/MS).<sup>4</sup> The study reported a ten-fold increase in DDI identification from phase 1, along with an increase in appropriate DDI management. The availability of clinically actionable results displaying interactions between ingested substances led to improved medication management and risk reduction strategies to reduce the incidence of downstream adverse events.

Following the identification of a DDI, it is important to accurately classify the severity level. A study of 15,000 patients identified more than 9,000 DDIs, with close to 11% considered severe or contraindicated.<sup>5</sup> The InterACT Rx™ test definitively identifies and classifies DDIs. The classification of interactions includes severity levels ranging from moderate to contraindicated. Moderate severity interactions are defined as instances that alert the provider to assess medication therapy and take action as necessary. Severe interactions require the provider to take action to reduce the risk of an adverse event. Contraindicated drug combinations indicate medications or substances that should not be co-ingested. In addition to classifying the severity of the identified interaction, InterACT Rx™ reports will include actionable information about the DDI to assist a provider in making clinical decisions.

Literature shows an increase in the costs reported and number of hospitalizations, provider office visits and emergency room visits following a DDI.<sup>2</sup> The findings of phase 2 of the DECART study support that merely supplying healthcare providers with educational materials does not significantly improve the identification and treatment of DDIs. Definitive DDI testing using InterACT Rx™ provides a solution to improve patient care and decrease the costs associated with the management of DDIs. There is a potential for substantial improvement in patient diagnoses, treatment and outcomes when definitive testing such as Aegis's InterACT Rx™ is used to provide clinically actionable results at providers' fingertips.

Please call our clinical team 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.

#### References:

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3. Peabody J, Acelajado MC, Robert T, Hild C, Schrecker J, et. Al. Drug-Drug Interaction Assessment and Identification in the Primary Care Setting. *J Clin Med Res.* 2018 Nov;10(11):806-814.
4. Peabody J, Tran M, Paculdo D, Schrecker J, et. Al. Clinical Utility of Definitive Drug-Drug Interaction Testing in Primary Care. *J Clin Med.* 2018 Oct 25;7(11).
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