

System Matches Lab Values, Medications to Catch Adverse Events

Computerized order systems may help prescribers and pharmacists catch interactions that could lead to adverse drug events, but hours of manual labor may be required to recognize potential errors once the patient starts a medication.

To catch an adverse drug event after the patient receives the medication would require a pharmacist or physician to review the patient's chart, a time-consuming task—if hospitals even dedicate staff time to do that.

“If you are relying on a pharmacist or doctor to notice anything, that could take hours to manually review,” says **John Russillo, RPh**, clinical pharmacy coordinator at Mt. Diablo Medical Center in Concord, CA.

The Minneapolis, MN–based VigiLanz Corp. developed the Dynamic PharmacoVigilance system to monitor a patient's lab values and compare them to the patient's medications, which can help identify potential adverse drug events. Hospitals can develop their own rule sets to identify a potential adverse reaction, and an alert will notify the pharmacist to the problem, says VigiLanz Chief Executive Officer **David Goldstein, MD**.

Reduce adverse drug events

VigiLanz launched the Dynamic PharmacoVigilance system in June at the American Society of Health-System Pharmacists Summer Meeting in Boston, Goldstein says. Goldstein notes that the system differs from computerized physician order entry (CPOE).

“This is significantly different from what's out there,” Goldstein says. “There is nothing monitoring the drug once it gets through CPOE.”

The VigiLanz system will interface with a hospital's existing computer system, Goldstein says. When it compares a patient's pharmacy file with the lab files, it can generate alerts if necessary to recommend the pharmacist or physician raise or lower the drug dose, discontinue the drug, order another lab test, or take other actions.

With a limited set of rules outlining how to compare lab values to medications, the system can reduce adverse drug events by 25%, says Paul Lentz, the company's business development and sales director. With a full set of rules, that reduction could go as high as 50%, he says.

Prioritize actions

Faulkner Hospital in Boston piloted Dynamic PharmacoVigilance for VigiLanz and has used the system for nearly 18 months, says **John Poikonen, PharmD**, a medication safety pharmacist at Partners HealthCare, Faulkner's parent system.

The hospital has the ability to determine which rules it should create to monitor lab values based on the patient population, Poikonen says. The pharmacy and physicians can set up a system to prioritize alerts, allowing them to sort out which ones are real and which may be false positives, he says.

"It helps you work through what your priorities are," Poikonen says. "You can say, 'This is happening on this patient, so this is what I'm going to do.'"

Safety at a fraction of the cost

A CPOE system may cost a hospital between \$3 million and \$8 million and take two to three years to see any benefits, Lentz says. VigiLanz charges hospitals based on bed size, but a 150-bed hospital would spend about \$46,000 each year for Dynamic PharmacoVigilance, he says.

Every facility must pay a one-time \$47,000 installation fee. VigiLanz maintains all the necessary hardware and software, with the typical installation taking 90 days, Lentz says.

Improve JCAHO compliance

The VigiLanz system can also help hospitals with JCAHO compliance, Lentz says. Hospitals can document intervention details, showing the intervention and the outcome for the patient, he says.

Organizations can also document potential adverse drug events, which is helpful for reporting errors, Lentz says.

Use with CPOE

Although VigiLanz has yet to work with CPOE manufacturers, the system could complement a CPOE tool. The hospital of the future may have room for both technologies, Lentz says.

"We see the optimal hospital in the future to have a CPOE system with a [Dynamic PharmacoVigilance] system that can monitor labs," Lentz says. "The system is only as good as the hospital's willingness to listen to it and use it."

But technology—CPOE or lab monitoring systems included—is only a piece of the solution, Poikonen says.

"It's one of the many strategies to reduce adverse drug events," Poikonen says. "You can't just plug it in and all the adverse drug events go away. It's not going to happen."

Editor's note: For more information, visit www.vigilanzcorp.com.

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