Pharmacy Practice and the Michigan Immunization Registry: Results from a Multi-Organizational Collaborative Study

Jeff Goad, *Chapman University*
Albert Bach, *Chapman University*
Pharmacy Practice and the Michigan Immunization Registry: Results from a Multi-Organization Collaborative Study

By ALBERT BACH, Pharm.D; JEFF GOAD, Pharm.D; KAREN LUONG, Pharm.D candidate 2018; MELISSA SANDOVAL, Pharm.D candidate 2018; HUY TRAN, Pharm.D - Chapman University School of Pharmacy, Irvine, Cali.

Immunization information systems (IIS) gather data on patients’ immunization records from a variety of immunization providers in the hopes of compiling a complete record for continuity of care and public health planning. These systems also serve as data management and clinical decision support systems with tools and processes to support the delivery of immunizations and as well as state and local immunization rate monitoring. These systems have been shown to enhance vaccine collaboration and communication among providers, facilitate public health monitoring and increase immunization rates.¹ Michigan law currently requires all immunization providers in the state to report administered vaccines to the Michigan Care Improvement Registry (MCIR), Michigan’s IIS, for patients less than 20 years of age. However, immunization providers are also strongly encouraged to document in MCIR all vaccines administered to adults as well.

The American Pharmacist Association (APhA), the Michigan Pharmacists Association and Chapman University School of Pharmacy are currently working on a Centers for Disease Control and Prevention (CDC) Cooperative Agreement in the states of California and Michigan focused on exploring challenges, opportunities and best-practices regarding pharmacy and pharmacist implementation of the National Vaccine Advisory Committee (NVAC) Adult Immunization Standards and the Immunization Neighborhood. The 2013 NVAC Standards for Adult Immunization Practice call for all providers, including pharmacists, to assess immunization status, recommend vaccines, administer or refer for vaccination and document. The IIS is undoubtedly crucial to fulfilling this standard, but best practices for pharmacies need improvement.

The project with APhA and the CDC involves five pharmacies in Michigan and six in California. For this article, we will focus on Michigan data. The five pharmacies selected include chain and independent from different locations around the state. The initial phase of the project was to identify the number of pharmacy-administered vaccines reported to MCIR.

Figure 1 presents the percentage of pharmacy-administered vaccines that were reported to MCIR for the five Michigan community pharmacies for the period of June 1, 2015, to May 31, 2016. The percentages were calculated by dividing the number of vaccines in MCIR listed as being administered by that pharmacy over the number of vaccines the pharmacies recorded in their pharmacy dispensing system. Except for the chain pharmacy, all of the independent pharmacies manually entered vaccine doses given into MCIR. Most vaccine types administered at the five pharmacies were reported over 90 percent of the time to MCIR with the exception of the pneumococcal polysaccharide vaccine (PPSV23), typhoid, pneumococcal 13-valent conjugate vaccine (PCV13) and Japanese encephalitis vaccines. With a total of 4,593 vaccines administered over the year from the five pharmacies, 99.2 percent of those vaccines were reported to MCIR. Influenza vaccines have a reporting rate of over 100 percent because not all of the pharmacies entered administered doses into their pharmacy dispensing system, but did report those administered doses to MCIR. It is unclear why some vaccines were reported less than 100 percent of the time to MCIR, but may indicate that while pharmacies are entering those vaccines in their pharmacy computer system, they are not always entering them into the registry.
IMMUNIZATION UPDATE

In addition to reporting to the IIS, NVAC also recommends as a standard of immunization practice to ensure that receipt of vaccination is documented in the patient’s medical record between providers. It is important to determine how primary care providers (PCPs) would like to receive notice of vaccines administered at the pharmacy and what they do with the immunization information they receive. In addition, PCPs were asked about their willingness to provide pharmacist access to their electronic health record (EHR) to document vaccinations received in the pharmacy. Figures 2 and 3 shows survey data from primary care providers in Michigan (n=8) to these questions. A majority of providers preferred to receive notice that their patients had received vaccines from the pharmacy via fax or reported electronically to their EHR (Fig 2). It is not clear whether pharmacy reporting directly to the provider’s EHR is something that the providers are currently using.

Figure 3 indicates that all PCP respondents either strongly agreed or agreed that pharmacists should document vaccinations in the IIS and query the IIS before administering vaccines. Overall, PCPs trusted pharmacists to vaccinate their patients. When asked about the PCP’s willingness to allow pharmacists access to their electronic health record system, a majority of them strongly disagreed or disagreed to allowing full access to the EHR of mutual patients, but were more agreeable to allowing access restricted to immunization and medication information in the EHR. Interestingly, while PCPs strongly agreed that pharmacists should enter vaccine doses administered into the IIS, they are less inclined to check this system for immunization records.

The goal of this project was to bring all demonstration pharmacies up to 100 percent matching of pharmacy administered vaccines in the IIS through iterative changes resulting in best practices for all pharmacies nationwide. Gathering this data and revisiting the demonstration pharmacies will help to identify best practice models for pharmacy to contribute to and access the IIS and communicating with other providers about immunizations administered in the pharmacy.
APhA educational materials and tools developed for this project can be accessed through the following links:

- **Free APhA Home Study Continuing Education Modules**

References: