

This Pharmacy White Paper was created through the partnership between the Michigan Pharmacists Association (MPA) and the Michigan Department of Health and Human Services (MDHHS) Division of Immunization. This resource uses data reported to the Michigan Care Improvement Registry (MCIR) to discuss the valuable contributions of pharmacies to adult immunizations.

Immunizations provide protection against vaccine-preventable diseases including measles, influenza, shingles, pertussis, and pneumonia. However, adult immunizations remain largely under-utilized in the United States and Michigan. While factors like complex immunization schedules and uncertain insurance coverage pose challenges to adult vaccination, it is essential for adults to obtain these vaccines in order to have protection against potentially deadly illnesses.

Pharmacies help address potential gaps in adult immunization by offering convenient locations, extended hours of operation, vaccines without an appointment, and a shorter waiting time. Over the years, pharmacies have reported more vaccines administered to the MCIR. **FIGURE 1** shows their increased contribution to the adult immunization neighborhood.

FIGURE 1. PERCENTAGE OF SELECT ADULT IMMUNIZATION DOSES REPORTED TO THE MCIR BY PHARMACY AND NON-PHARMACY SITES, 2017 - 2019

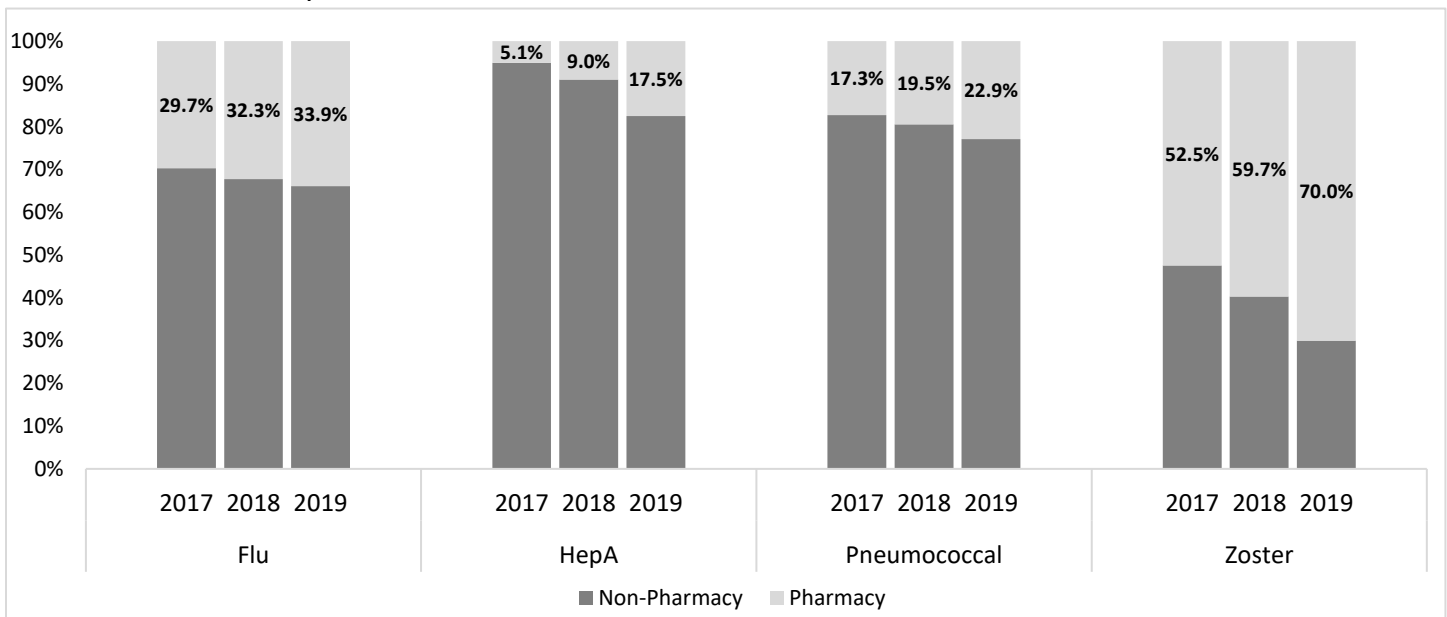
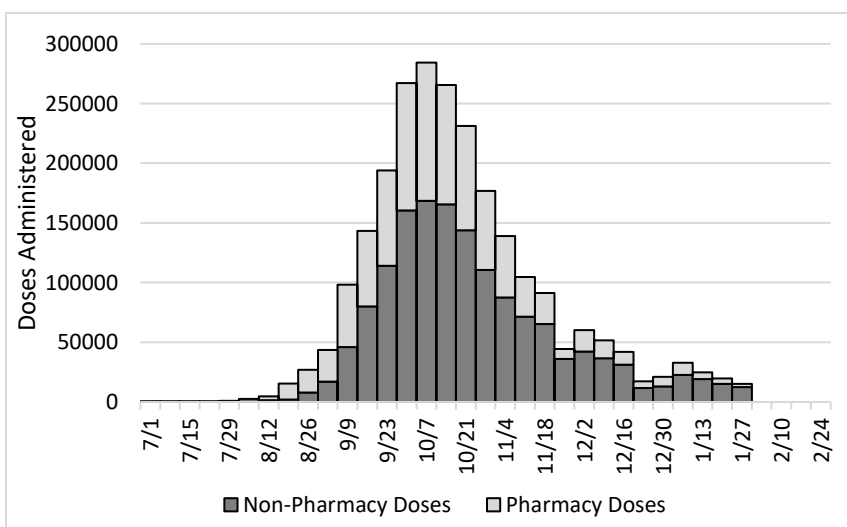


FIGURE 2. INFLUENZA DOSES REPORTED TO THE MCIR BY PHARMACIES AND NON-PHARMACIES, BY WEEK, 2019-2020



- Pharmacies play a critical role in influenza vaccination in Michigan, reporting 34% of adult influenza vaccines to the MCIR during the 2018-2019 influenza season and 39% so far this season.
- Influenza activity typically peaks between December and February, but activity can last as late as May. **FIGURE 2** illustrates the need for providers to extend the influenza vaccination season. Providers should continue to offer and encourage vaccination as long as influenza viruses are circulating and unexpired vaccine is available.
- In conjunction with other prevention strategies, an annual vaccine is the best form of protection from influenza.

Pharmacies & Immunizations in Michigan

VACCINE PREVENTABLE DISEASE OUTBREAKS IN MICHIGAN

Vaccination programs in the U.S. have eliminated or significantly reduced the incidence of many vaccine preventable diseases. However, in recent years, outbreaks have occurred in the U.S., and unfortunately, in Michigan. Beginning in August of 2016, a hepatitis A outbreak in Michigan is at 920 cases. In March 2019 an outbreak of measles resulted in 42 cases, the highest number of cases in Michigan since 1991, when 65 cases were reported. These outbreaks highlight the need for high vaccination to stop vaccine preventable diseases from becoming common again. Pharmacies play an essential part in administering routine vaccinations as well as outbreak response.

MEASLES OUTBREAK KEY POINTS:

- The 42 cases occurred in Southeast Michigan: 40 in Oakland county, one in Wayne county, and one in Detroit.
- Infected individuals ranged in age from 8 months to 63 years, with the majority being adults.
- **FIGURE 3** shows the great value of pharmacies during the outbreak response, with pharmacies reporting over 20% of adult MMR vaccines to the MCIR during the outbreak and in the 2 months immediately after the outbreak.
- In 2019, over 1,000 pharmacies reported a dose of MMR vaccine and over 12,000 pharmacy doses were reported to the MCIR.

FIGURE 3. MEASLES CASES VS MMR VACCINE DOSES ADMINISTERED AND REPORTED TO THE MCIR FOR ADULTS 18 YEARS AND OLDER, BY NON-PHARMACIES AND PHARMACIES, BY WEEK, MICHIGAN, 2019

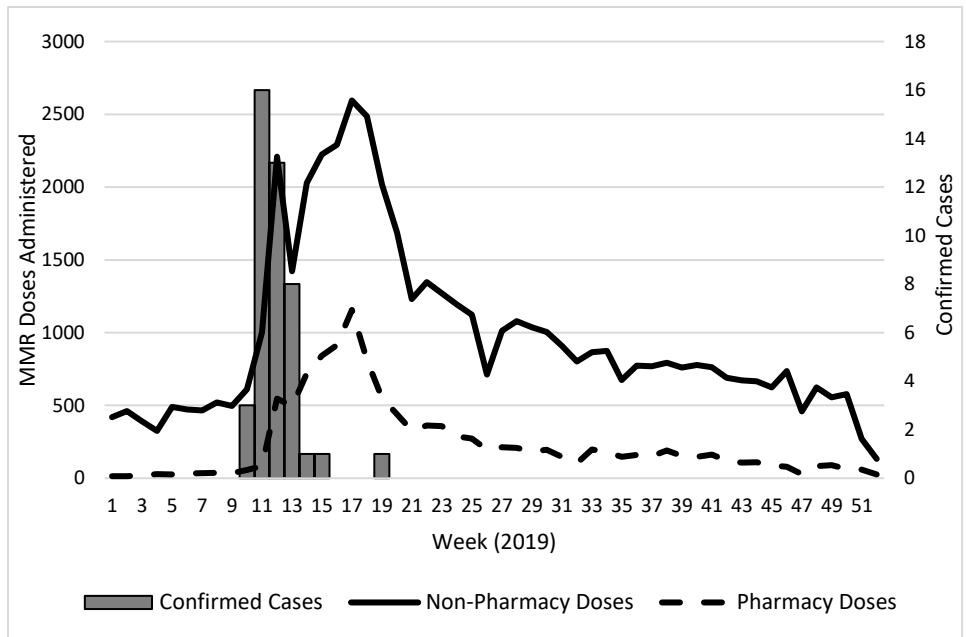
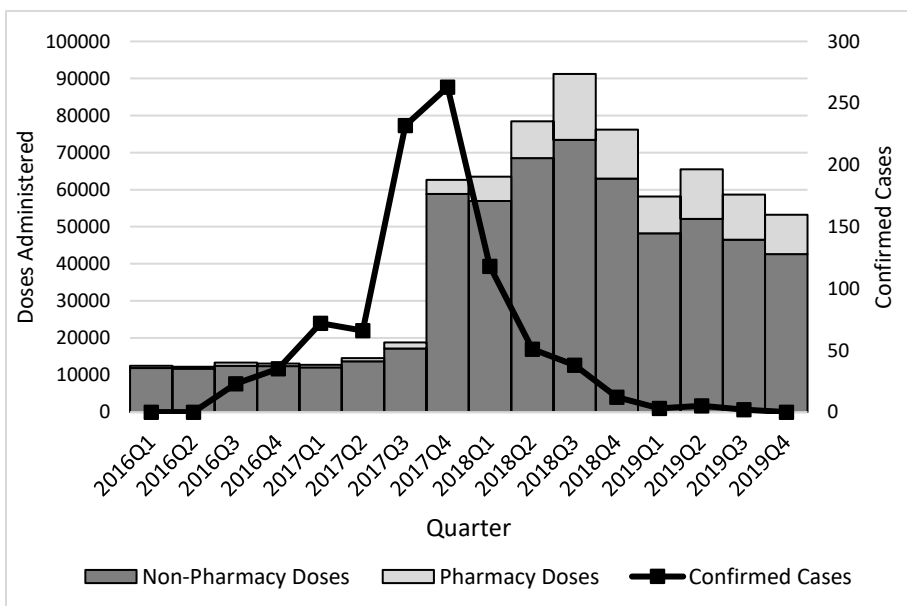


FIGURE 4. HEPATITIS A CASES VS HEPATITIS A DOSES ADMINISTERED AND REPORTED TO THE MCIR FOR ADULTS 18 YEARS AND OLDER BY NON-PHARMACIES AND PHARMACIES, BY QUARTER, JAN 1, 2016 – DEC 31, 2019



HEPATITIS A OUTBREAK KEY POINTS:

- The outbreak has a high hospitalization rate, 80% (738 cases) and 30 deaths as of February 5, 2020.
- While cases have slowed, with only 10 cases reported in 2019, **FIGURE 4** illustrates that hepatitis A vaccine doses continue to be administered in numbers higher than before the outbreak.
- In 2019, over 1,200 Michigan pharmacies reported at least one adult hepatitis A dose to the MCIR, totaling over 46,000 doses.
- Pharmacies are the third highest provider of adult hepatitis A doses in 2019, behind only family practices and local health departments.

For more information regarding the Michigan hepatitis A outbreak, visit: www.michigan.gov/hepatitisaoutbreak

Pharmacies & Immunizations in Michigan

ZOSTER IMMUNIZATION: PHARMACY CONTRIBUTIONS

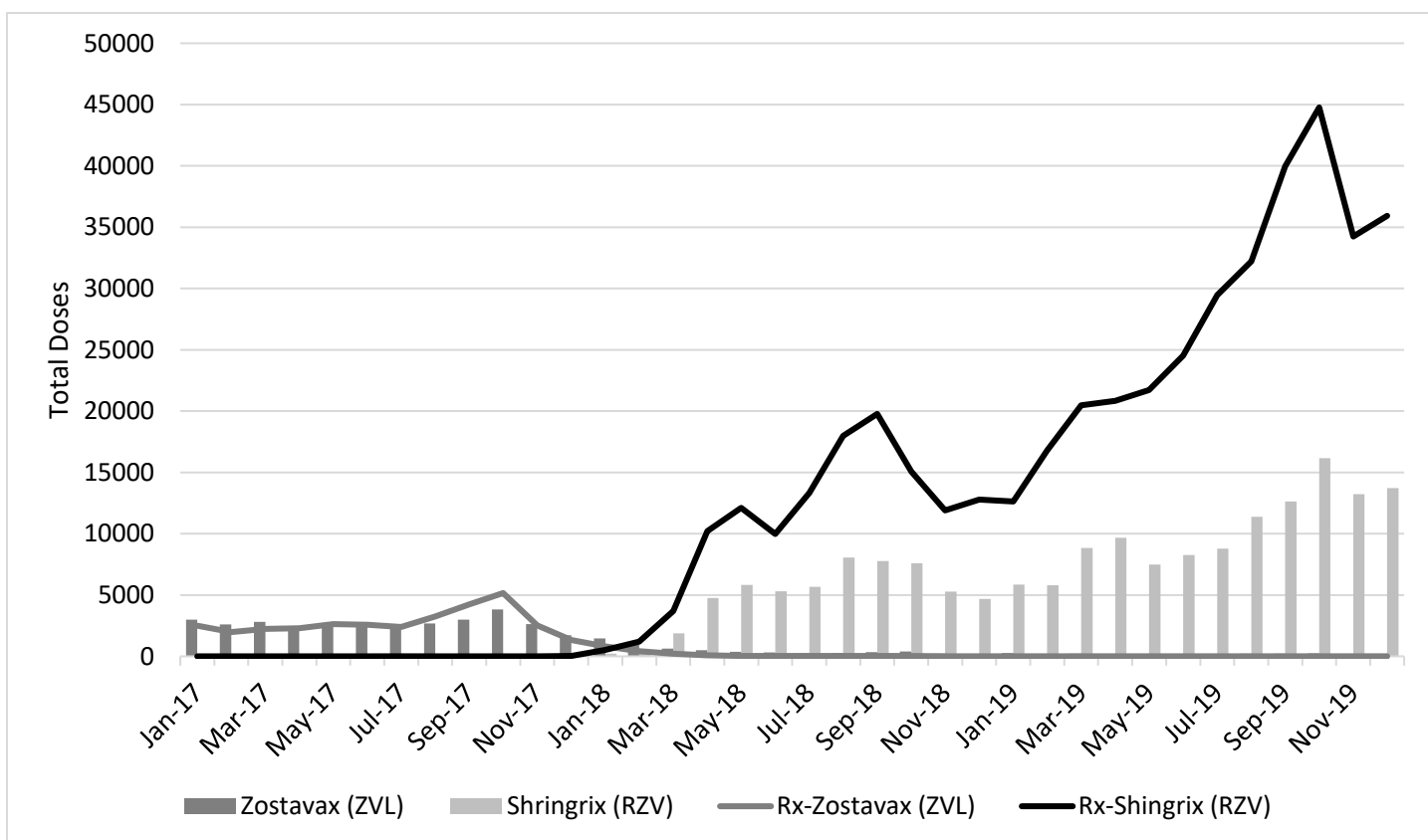
There are currently two vaccines licensed in the United States and recommended by the Advisory Committee on Immunization Practices (ACIP) to prevent shingles. A single dose of Zoster Vaccine Live (ZVL; Zostavax, Merck) has been in use for adults aged 60 and older since 2006 while the two dose Recombinant Zoster Vaccine (RZV; Shingrix, GlaxoSmithKline), separated by 2 to 6 months, has been in use for adults aged 50 and older since late 2017.

In October of 2017, RZV was given preferential recommendation by the ACIP because of its higher efficacy and slower waning immunity, though ZVL may still be used in healthy adults 60 years and older. RZV quickly overtook ZVL in the number of doses administered during the early months of 2018, as shown in **FIGURE 5**. Furthermore in 2019, there were 455,294 doses of RZV reported to the MCIR compared to 2,360 doses of ZVL.

MCIR RZV 2019 Key points:

- Pharmacies are the top reporters of RZV vaccines, reporting 70% of all zoster doses to the MCIR in 2019.
- In 2019 alone, 310,488 adults aged 50 and older have at least one RZV dose reported to the MCIR, with almost 73% of those adults obtaining their dose from a pharmacy.
- The overall median age of RZV series initiation was 67 years of age, while the pharmacy median age of initiation was 69 years of age.
- 42% of those initiating the 2-dose RZV series have completed it, with 78% of those individuals completing the series entirely at pharmacy locations.
- For those completing the RZV series, the median interval between the first and second dose was 11 weeks.

FIGURE 5. ZOSTER DOSES ADMINISTERED AND REPORTED TO THE MCIR FOR ADULTS 50 YEARS AND OLDER BY VACCINE AND MONTH, BY PHARMACIES (Rx) AND NON-PHARMACIES, MICHIGAN, JANUARY 2017 - DECEMBER 2019



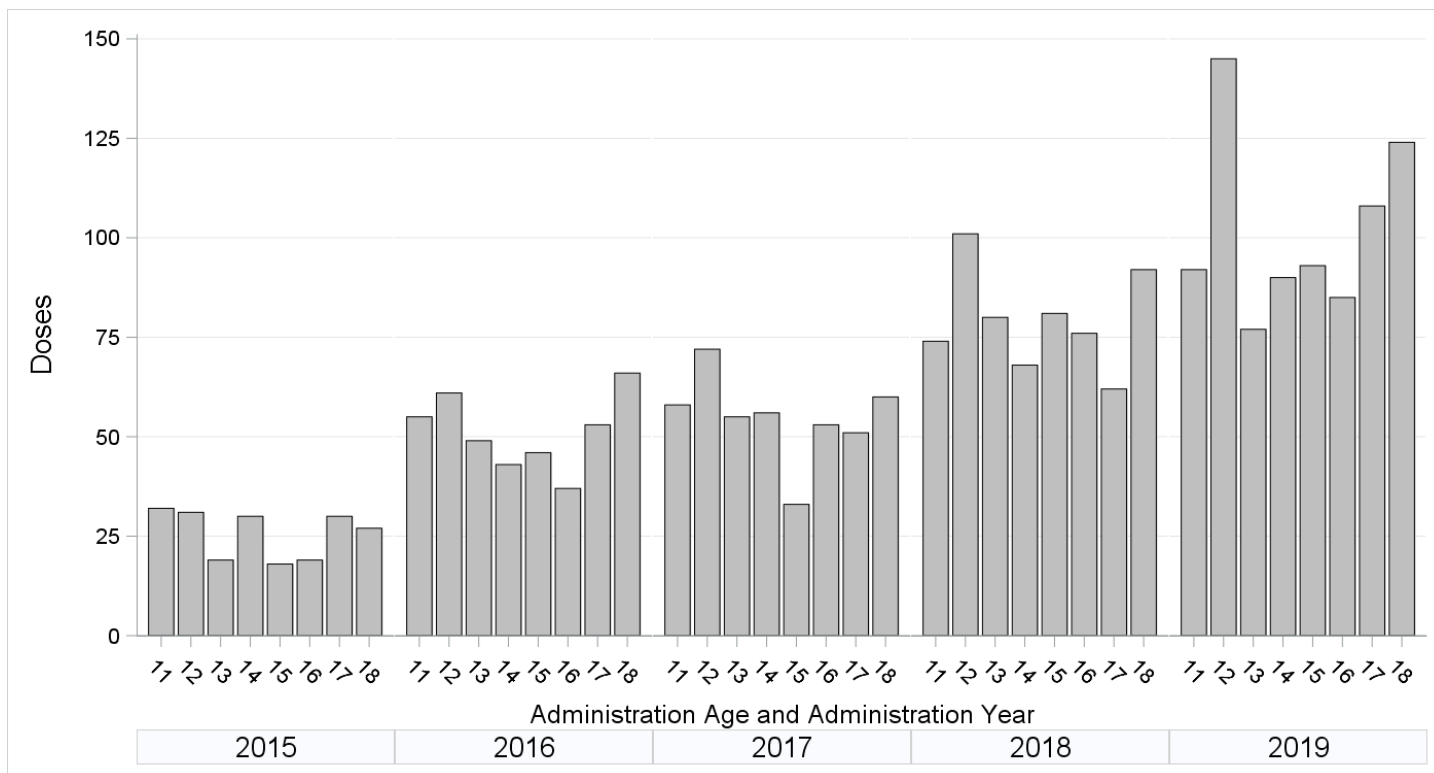
As a reminder, the MCIR assesses and forecasts zoster vaccines and can help determine when a patient needs zoster vaccine. If you have questions, please contact your MCIR region at <https://www.mcir.org/providers/contact-regions/>.

Pharmacies & Immunizations in Michigan

INCREASES IN ADOLESCENT HUMAN PAPILLOMAVIRUS (HPV) VACCINATION BY PHARMACIES

While this white paper primarily covers adult immunization topics, it is worth noting the growing contribution of pharmacies to adolescent immunizations. The HPV vaccine helps protect against certain types of HPV that can lead to various cancers or genital warts. Over the past 5 years, pharmacies have increased the number of HPV vaccine doses administered from just 206 doses in 2015 to 814 doses in 2019 (**FIGURE 6**). Pharmacies are encouraged to continue expanding their vaccination efforts to protect against the spread of HPV infection and related cancers.

FIGURE 6. HUMAN PAPILLOMAVIRUS VACCINES REPORTED TO THE MCIR BY PHARMACIES FOR ADOLESCENTS AGED 11 THROUGH 18, MICHIGAN, 2015-2019



PHARMACIES, HEALTH LEVEL SEVEN (HL7) MESSAGE EXCHANGE, AND THE MCIR

Table 1. Pharmacies Participating in VXU and QBP* HL7 Messaging with the MCIR as of February 8, 2020

Corporate Pharmacies
CVS (318 sites)
Rite Aid (292 sites)
Walgreens (265 sites)
Meijer (125 sites)
Walmart (97 sites)*
Sam's Club (26 sites)*
Costco (16 sites)
Independent Pharmacies
Nash Drugs (3 sites)*
MSU Clinical Center Pharmacy (1 sites)
Hillsdale Market (1 site)
LaFave (1 site)
*sites participating in QBP messaging.

Across Michigan, pharmacies are employing HL7 VXU messaging to more efficiently and accurately submit immunization data to the MCIR through pharmacy management or electronic health record software (**TABLE 1**).

Additionally, participating pharmacies can query the MCIR using bi-directional HL7 Query by Parameter (QBP) messaging (**TABLE 1**). After an information system sends a QBP message containing basic patient demographic data, the MCIR attempts to match this information with the data stored in MCIR. The MCIR then responds to the query, indicating whether the patient was found, and provides information like demographics, immunization history, or available forecasts.

To participate in QBP, pharmacies must already be onboarded for VXU messaging. If your site is interested in participating in HL7 VXU messaging, contact the MCIR Help Desk by email at MDHHS-MCIRHelp@michigan.gov.

For more information on HL7 QBP messaging, please contact Sallie Sims, MCIR Query Coordinator with the MDHHS, by phone at 517-284-4880 or by email at SimsS7@michigan.gov.

Please contact Jeremy Kuo, Michigan Care Improvement Registry Epidemiologist with the Michigan Department of Health and Human Services, by phone at (517) 335-8159 or by email at kuoj1@michigan.gov if you have questions.