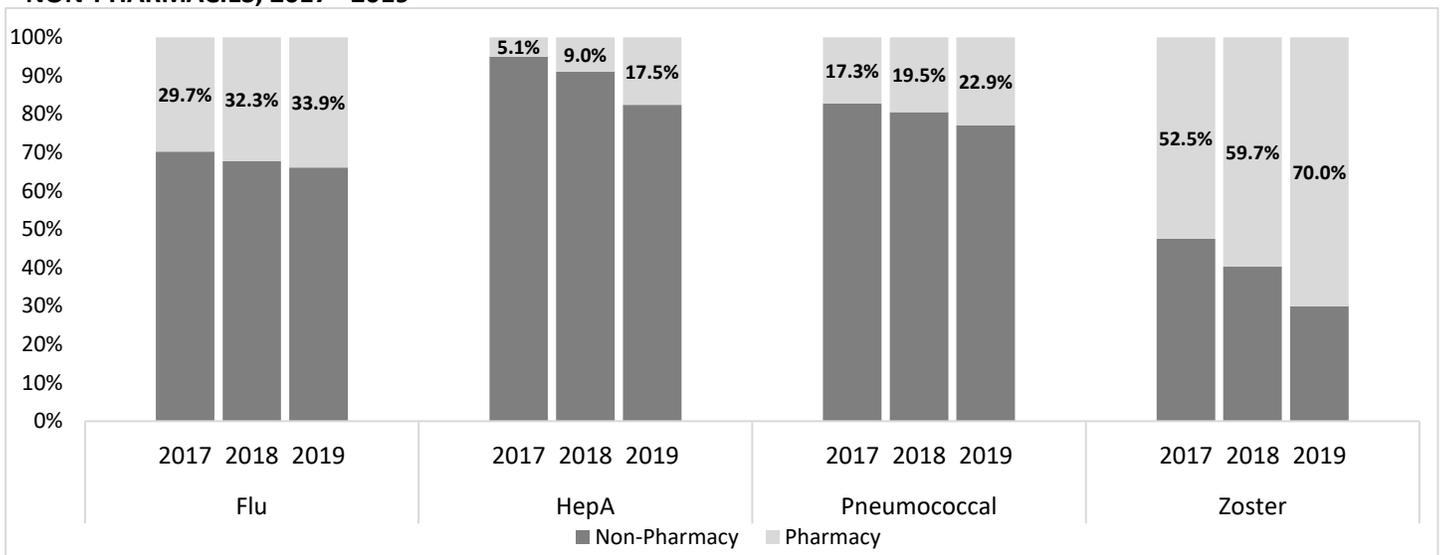


This Pharmacy White Paper was created through the partnership between the Michigan Pharmacists Association (MPA) and the Michigan Department of Health and Human Services (MDHHS) Division of Immunization. This resource uses data reported to the Michigan Care Improvement Registry (MCIR) to discuss the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

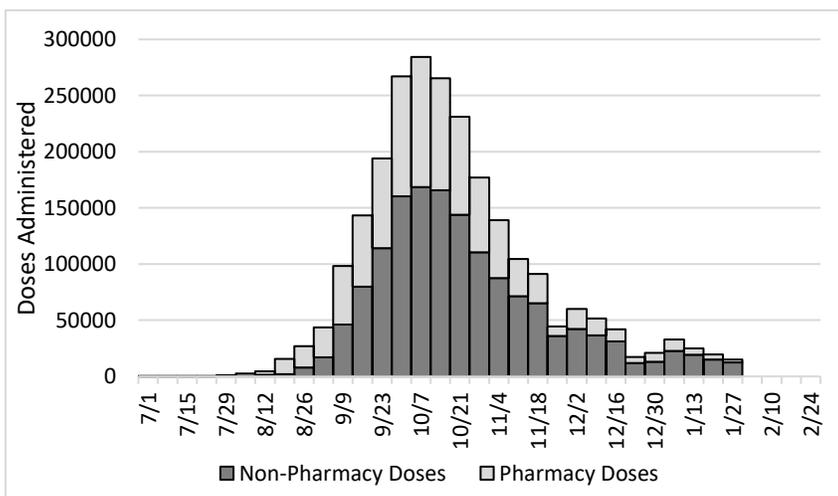
Immunizations provide protection against vaccine-preventable diseases including measles, influenza, shingles, pertussis and pneumonia. However, adult immunizations remain largely under-utilized in the United States and Michigan. While factors like complex immunization schedules and uncertain insurance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

Pharmacies are conveniently located within the community. With the increased accessibility pharmacies provide, including extended hours of operation, vaccines without appointments and shorter waiting times, pharmacists help address gaps in adult immunization. Over the years, pharmacies have reported vaccines administered to the Michigan Care Improvement Registry (MCIR). While reporting of adult immunization doses to the MCIR is not required, it is strongly recommended. Although data reported in this White Paper does not reflect all adult immunizations administered at the pharmacy level, in recent 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 PHARMACIES AND NON-PHARMACIES, 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 percent of adult influenza vaccines to the MCIR during the previous 2018-2019 influenza season and 39 percent so far during the current 2019-2020 season.
- Influenza activity typically peaks between December and February, but activity lasts 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 the influenza virus is 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

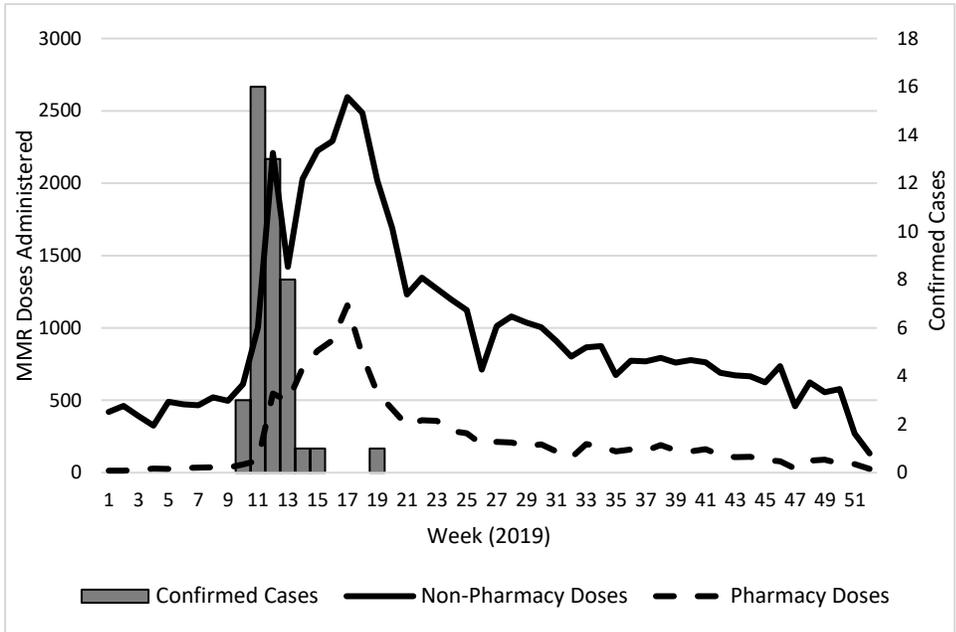
## VACCINE PREVENTABLE DISEASE OUTBREAKS IN MICHIGAN

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. Since the outbreak began in August of 2016, Michigan has reported 920 cases of hepatitis A. 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 an increase in vaccination rates. Pharmacies play an essential part in administering routine vaccinations as well as outbreak response.

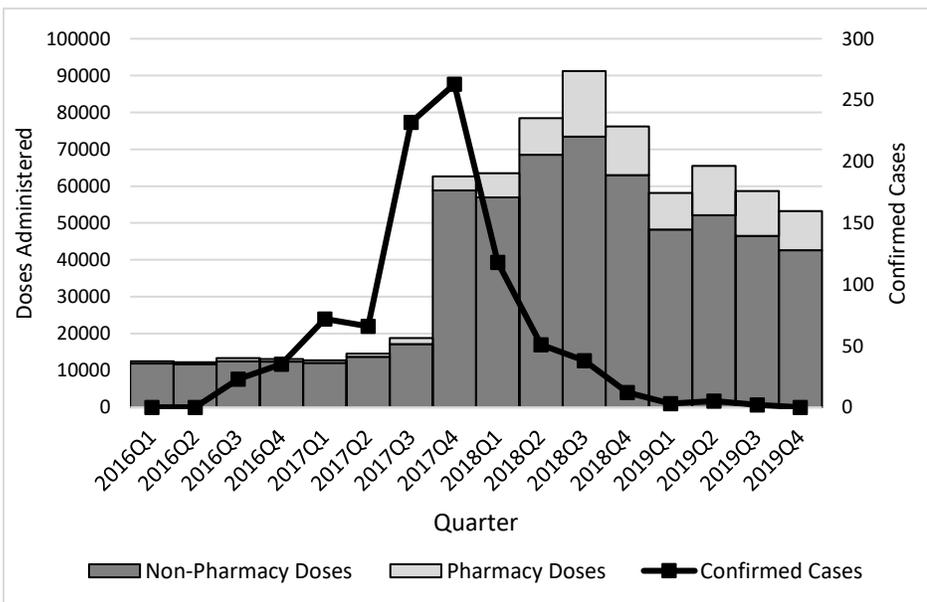
### MEASLES OUTBREAK KEY POINTS:

- 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 percent of adult MMR vaccines to the MCIR during the outbreak and in the 2 months immediately following the outbreak.
- In 2019, over 1,000 pharmacies reported more than 12,000 doses of the MMR vaccine to the MCIR.

**FIGURE 3. MEASLES CASES VS MMR VACCINE DOSES ADMINISTERED AND REPORTED TO THE MCIR FOR ADULTS 18 YEARS AND OLDER, BY PHARMACIES AND NON-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 PHARMACIES AND NON-PHARMACIES, BY QUARTER, JAN 1, 2016 – DEC 31, 2019**



### HEPATITIS A OUTBREAK KEY POINTS:

- The outbreak has a high hospitalization rate of 80 percent (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 ranked as the third highest provider of adult hepatitis A doses in 2019, behind family practices and local health departments.

For more information regarding the Michigan hepatitis A outbreak, visit: [www.michigan.gov/hepatitisaoutbreak](http://www.michigan.gov/hepatitisaoutbreak)

# Pharmacies & Immunizations in Michigan

## ZOSTER IMMUNIZATION: PHARMACY CONTRIBUTIONS

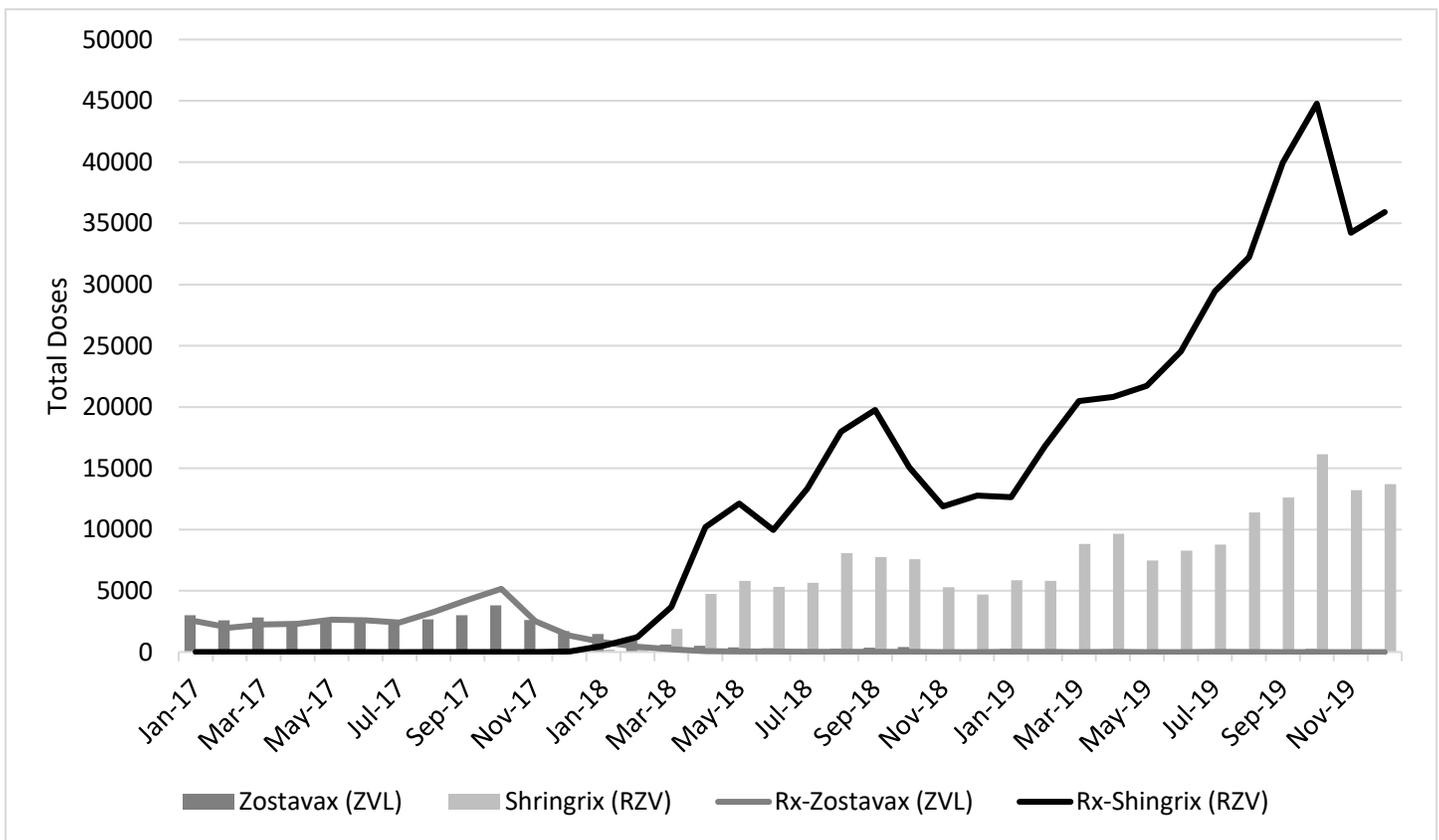
There are currently two FDA approved zoster vaccines: the single dose zoster vaccine live (ZVL; Zostavax, Merck) and the two dose (separated by 2 to 6 months) recombinant zoster vaccine (RZV; Shingrix, GlaxoSmithKline). ZVL has been in use for adults aged 60 and older since 2006 while RZV has been in use for adults aged 50 and older since late 2017. Both are recommended by the Advisory Committee on Immunization Practices (ACIP) to prevent shingles; however, RZV is the preferred vaccine.

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 a total of 455,294 RZV doses reported to the MCIR compared to 2,360 ZVL doses.

### MCIR RZV 2019 Key points:

- Pharmacies are the top reporters of RZV vaccines, reporting 70 percent of all zoster doses to the MCIR in 2019.
- In 2019, a total of 310,488 adults aged 50 and older have at least one RZV dose reported to the MCIR, with approximately 73 percent 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 percent of patients initiating the 2-dose RZV series have completed it, with 78 percent of those patients completing the series entirely at pharmacy locations.
- For patients 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**



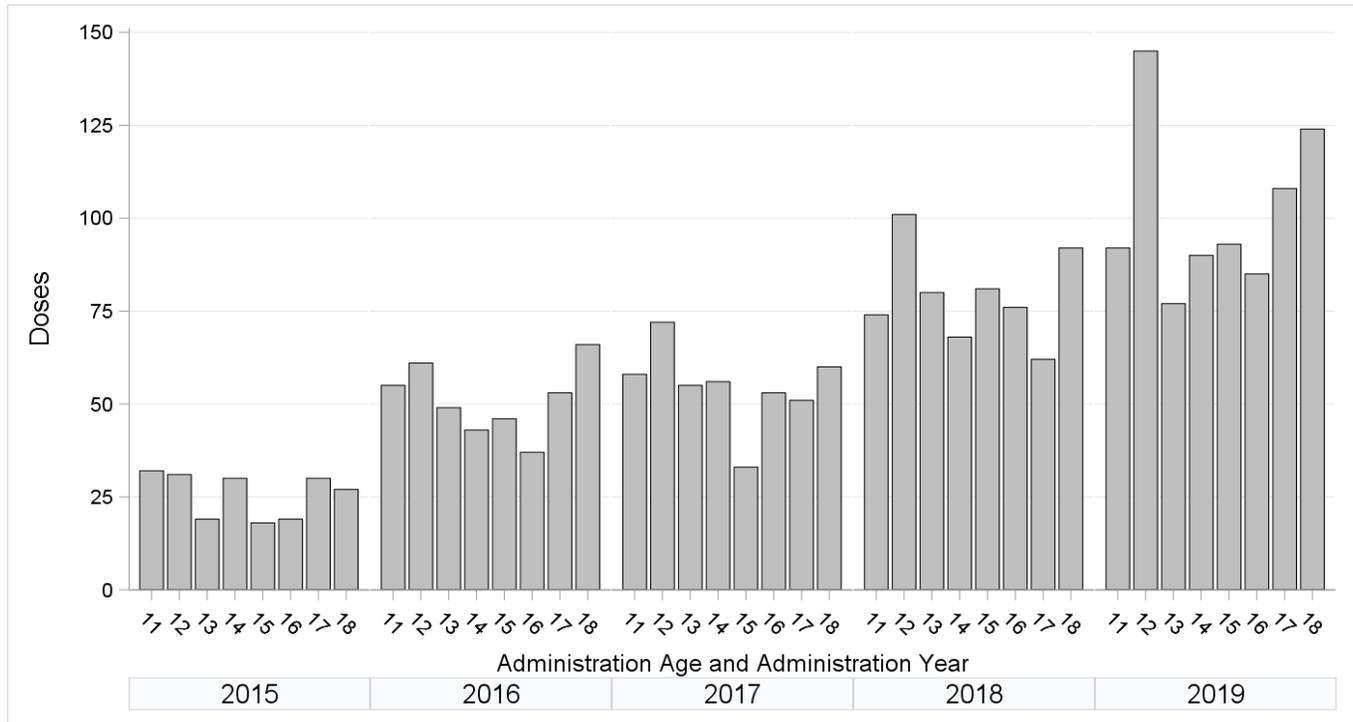
As a reminder, the MCIR assesses and forecasts zoster vaccines and can help determine when a patient needs zoster vaccine. If you have questions, please contact your MCIR region at <https://www.mcir.org/providers/contact-regions/>.

# 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 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 data to the MCIR through pharmacy management or electronic health record software (TABLE 1). A VXU message contains the demographic and vaccination data that is sent to the MCIR. Currently, over 1,000 Michigan pharmacy sites utilize this messaging method.

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 the registry, then responds to the query, indicating whether the patient was found. It also 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](mailto: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](mailto: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](mailto:kuoj1@michigan.gov) if you have questions.