

IIS Functions: Using the Michigan Care Improvement Registry (MCIR) to Drive Outreach and Education



Authors | Jacklyn Chandler, MS; Cristi Bramer, MPH; Adam Hart, MPH; Courtney Londo, MA
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1 Introduction

The Michigan Care Improvement Registry (MCIR) is a state-wide, population based IIS. It was implemented in 1998 for health care providers to track children's vaccinations. Since 1994, The MCIR has been continually populated with birth records.

Per the Michigan Public Health Code, health care providers are required to report vaccine doses to the MCIR within 72 hours of administration, for children aged less than 20 years.

Since 2006, the MCIR has been a lifespan registry. While Michigan health care providers are not mandated to report adult vaccinations, the Michigan Department of Health and Human Services (MDHHS) strongly encourages use of the MCIR for adults and monitors ever-increasing reporting to the registry.

As of February 2017, over 7 million adults have a MCIR record and 58.5 million individual vaccines have been recorded in MCIR for adults. With more providers playing a role in adult vaccinations and in reporting data, Michigan has the capacity to measure progress, identify areas for improvement, and develop targeted educational interventions.

For example, the Michigan Vaccination Snapshot for Urgent Care was distributed to explain the increasing role and critical opportunity urgent care settings have in immunizing patients: recognizing the 59 percent increase in the number of urgent care facilities that report adult vaccines to MCIR in the past 5 years.

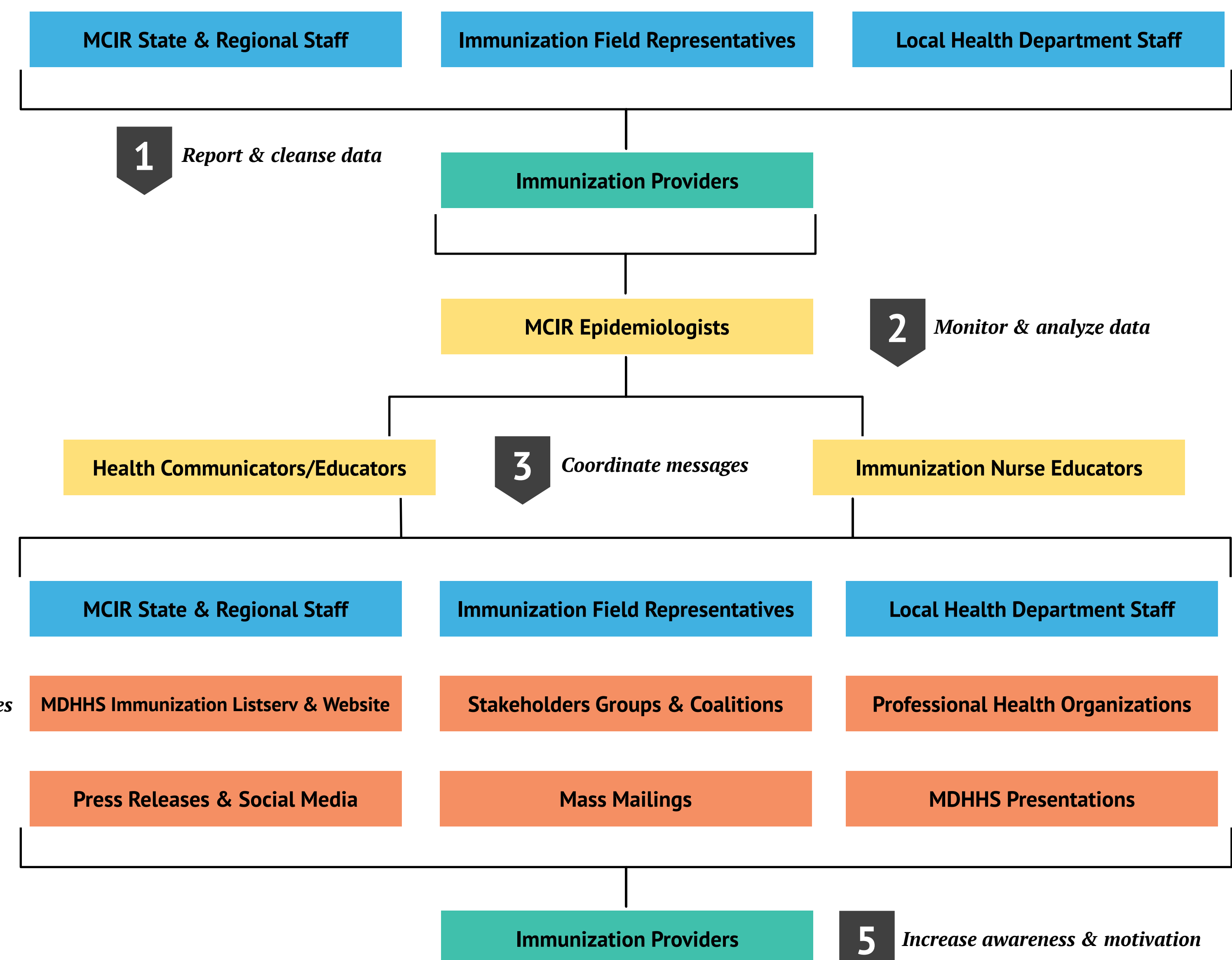
Additional examples of data-driven interventions include: press releases, continuing education modules, newsletter articles, white papers, and report cards.

2 Methods

Michigan achieves data-driven interventions due to the contributions of many team members:

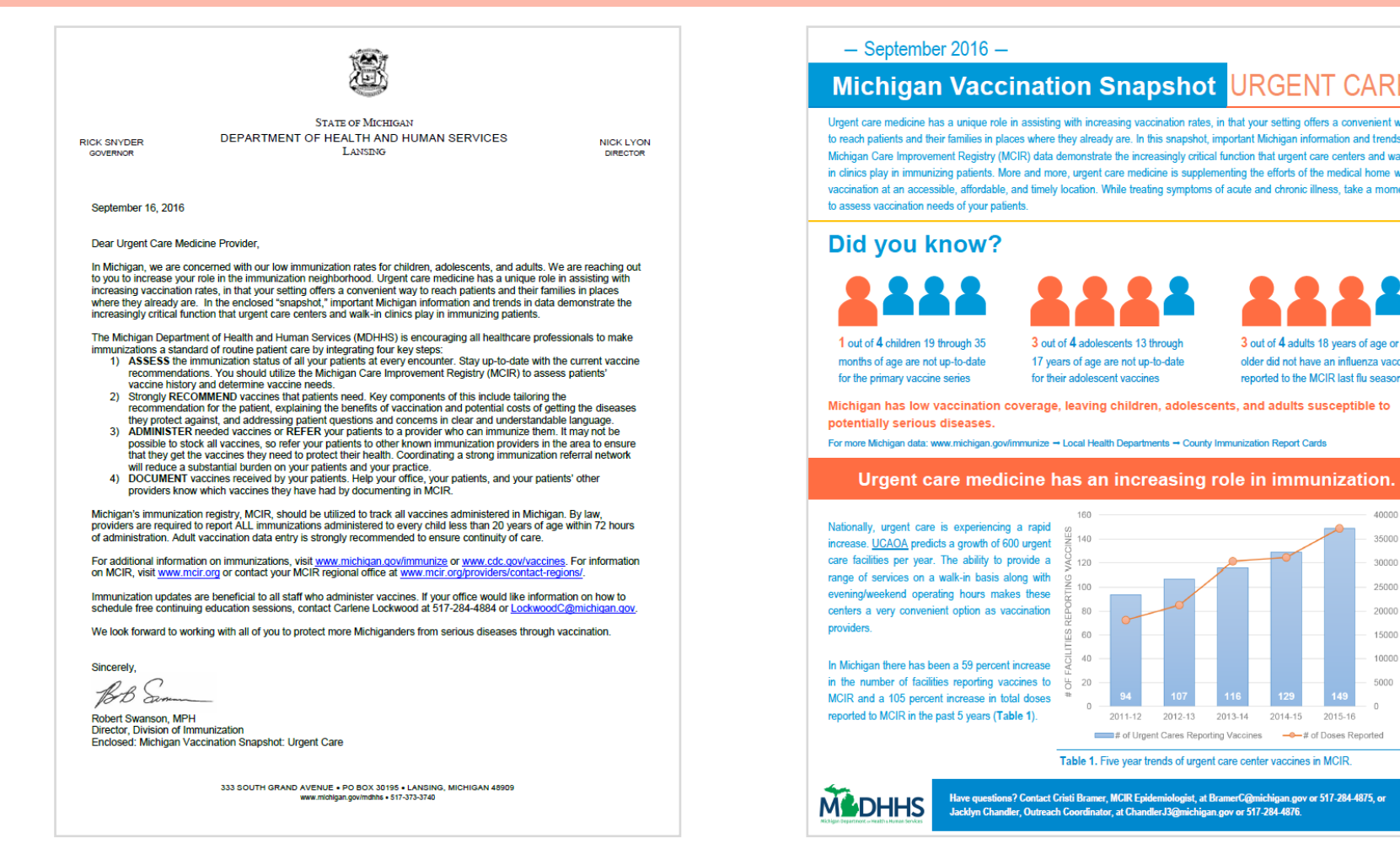
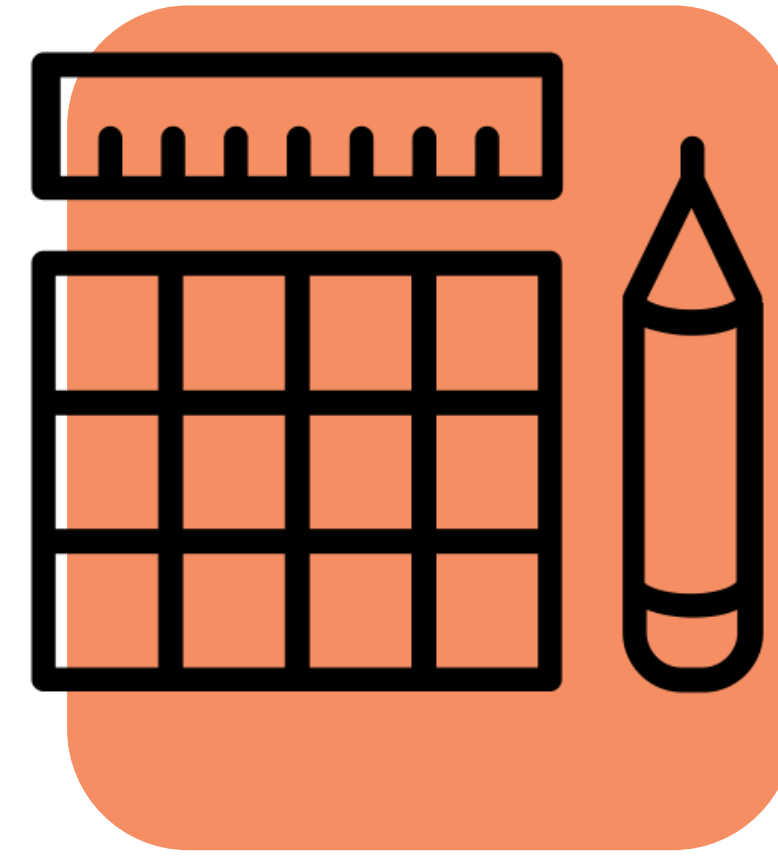
- MCIR Staff who enroll health care providers, offer Helpdesk support, and test/onboard sites for HL7 2-way messaging.
- Immunization Field Representatives and Local Health Department staff who interface with immunization providers in MI.
- MCIR Epidemiologists who pull MCIR data into SAS and generate reports.
- Health Communicators/Educators who translate data and reports into educational pieces.
- Immunization Nurse Educators who provide clinical guidance on vaccine administration and management, and the immunization schedules and ACIP recommendations.

Below is the Michigan 'algorithm' for how we report & analyze data, coordinate & distribute messages, and ultimately work to increase awareness of Michigan's vaccination coverage rates and motivate collective action.



3 Measures

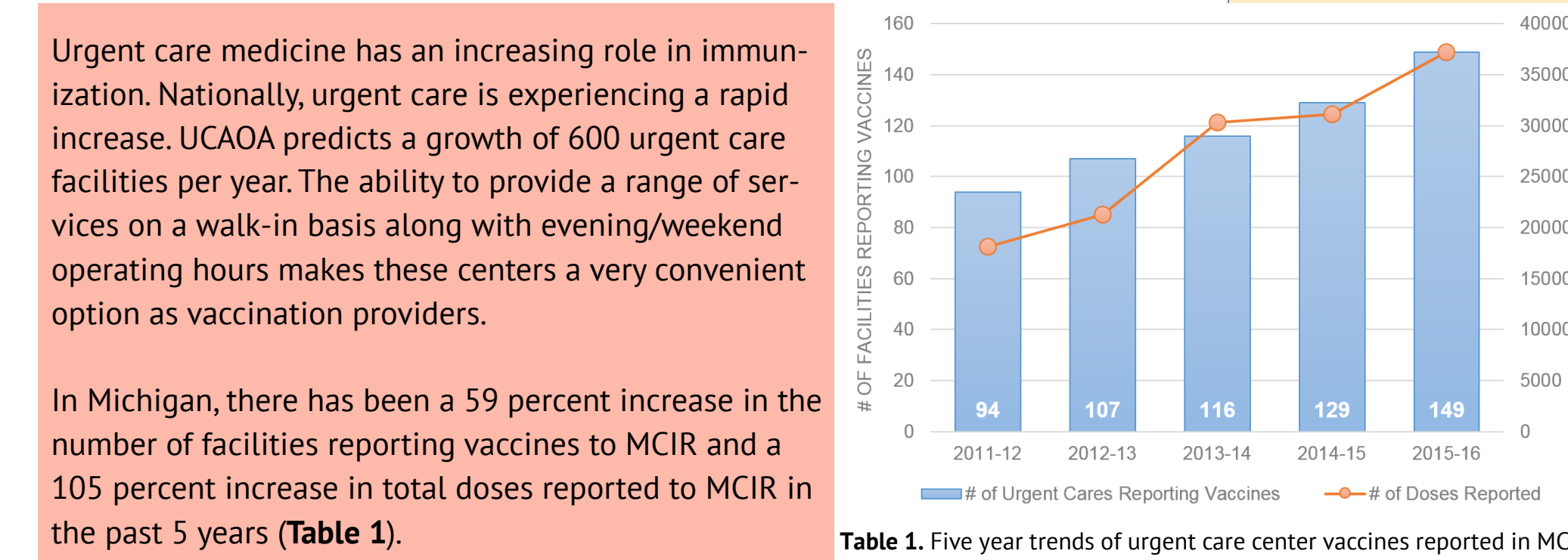
(1) Letter to Urgent Care Medicine with Vaccination Snapshot



Figures 1 & 2. The letter to Urgent Care Medicine and the enclosed Michigan Vaccination Snapshot: Urgent Care that were distributed to 231 urgent care facilities in a mass mailing in the fall of 2016.

Centralized Print & Mail:	No. Urgent Care MCIR Contacts	No. Return to Sender Letters	No. of Letter Able to be Resent
	249	23	5

Table 1. Five year trends of urgent care center vaccines reported in MCIR.



(2) The Adult Immunization Standards Sessions

1.0 contact hour (live), continuing education module, with a start date of April 2016

Learning Objectives:

- Discuss the impact of adult vaccination
- List the steps of the adult immunization standards
- Describe the burden of vaccine-preventable diseases
- Identify immunization disparities that exist among adults
- Discuss evidence-based strategies to improve immunization rates
- Recognize that adult immunization coverage in the United States & Michigan is low

Target Audience:

physicians, physician assistants, nurse practitioners, nurses, medical assistants, pharmacists, pharmacy technicians, and other health care personnel involved in adult immunizations.

Setting of Sessions:	No. of Sessions Held	No. of Participants	No. of Upcoming Sessions
In-office or Grand Rounds	11	138	-
Conferences	7	755	3
Webinars	5	188	1
Coalition Meetings	3	123	1
TOTALS	29	1,332	7

Referrals to Further Modules:

Adult Immunization Update	1	100	1
Family Medicine Update	2	28	-
Pediatric Update	-	-	1

Qualitative Feedback:

"This was an awesome topic. I was so impressed with the topic included practical application examples and I also like the topic of diversity being included."
-Physician, Internal Medicine

"I had not previously considered immunization as a method of antibiotic stewardship and will add this to my lessons to recommend"
-Nurse Practitioner, Geriatrics

How is the MCIR featured in the educational presentation?

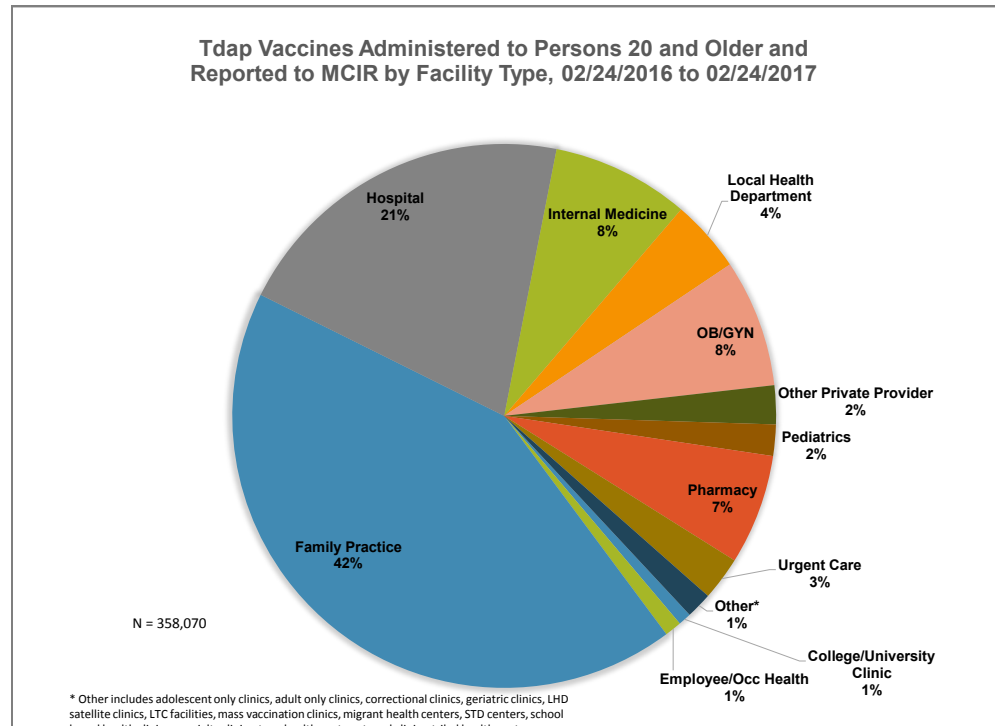


Figure 3. Slide from the Adult Standards Module depicting a chart of administered adult Tdap vaccine doses reported by facility type.

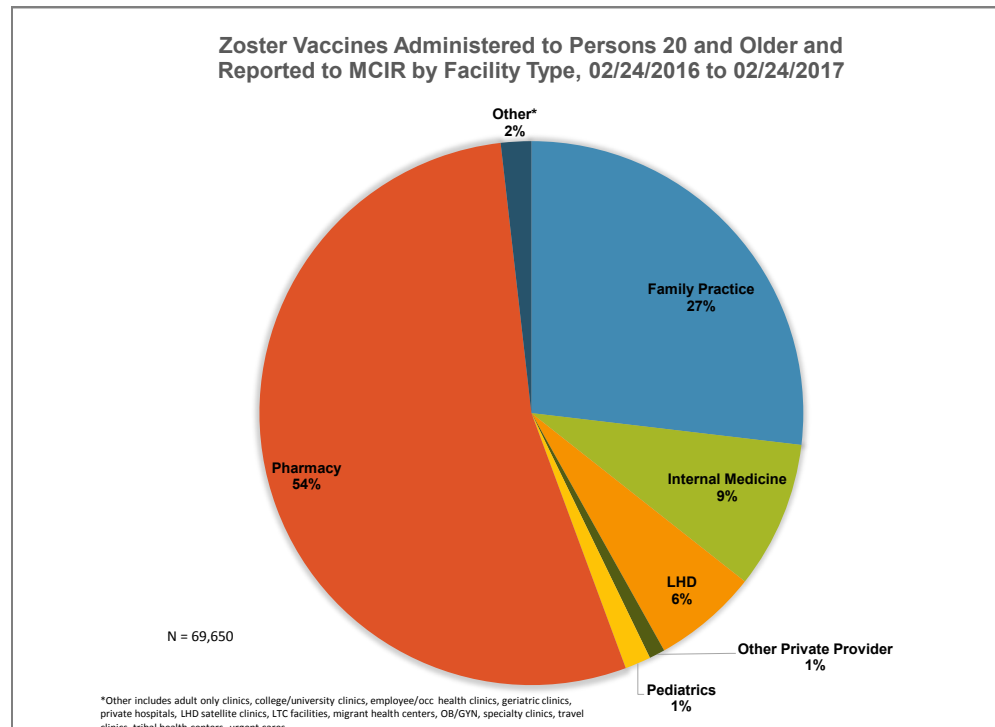


Figure 4. Slide from the Adult Standards Module depicting a chart of administered adult zoster vaccine doses reported by facility type.

MCIR is for adults, too!

- Expanded to include adults in 2006
- Strongly recommend reporting for adult identification
- Over 7 million adult patients have a MCIR record
- Over 5.8 million individual vaccines have been recorded in MCIR for adults
- Over 1,400 large chain, small chain and independent pharmacies reported over 725,000 vaccinations to MCIR from July 1, 2015 through June 30, 2016

Figure 5. Slide from the Adult Standards Module highlighting the features of the MCIR and the available data and educational flyer.

(3) Quarterly Immunization Report Cards: By County-Level Report & By Health Center Site-Level Report

	Report 1 Dec. 31, 2013	Report 2 March 31, 2014	Report 3 June 30, 2014	Report 4 Sept. 30, 2014	Report 5 Dec. 31, 2014	Report 6 March 31, 2015	Report 7 June 30, 2015	Report 8 Sept. 30, 2015	Report 9 Dec. 31, 2015	Report 10 March 31, 2016	Report 11 June 30, 2016	Report 12 Sept. 30, 2016	Report 13 Dec. 31, 2016	Report 14* Mar. 31, 2017
Adults (MCIR num./Census denom.)	23.8	25.9	28.0	29.5	31.1	32.5	34.2	35.7	37.2	38.8	40.4	42.0	43.5	45.0
1+ Tdap (19-64 yrs)	23.5	24.2	24.7	26.0	28.1	27.7	27.9	26.0	27.5	29.5	29.9	31.3	33.2	34.6**
1+ PCV13**	14.3	14.8	15.1	15.9	17.5	17.9	18.2	18.6	19.9	21.1	21.5	22.4	23.5	24.3

*Indicates a change in how rates are measured on the report card
**Indicates a change from reporting 1+ PCV13 and 1+ PCV13 for adults to reporting Pneumo Complete (60+ yrs)

Timeline of Resources: Q4 2013 to Present

No. of Counties: 83 + City of Detroit

No. of Local Health Dept. (LHDs): 45

No. of Quarters Distributed: 14

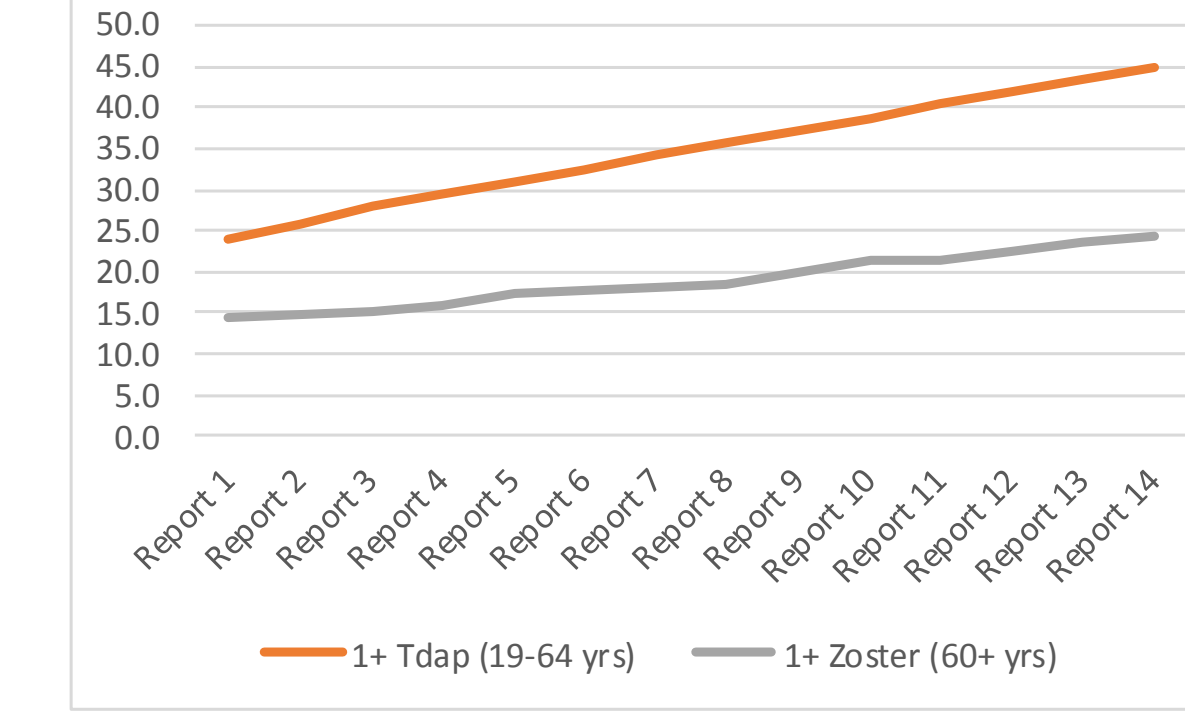
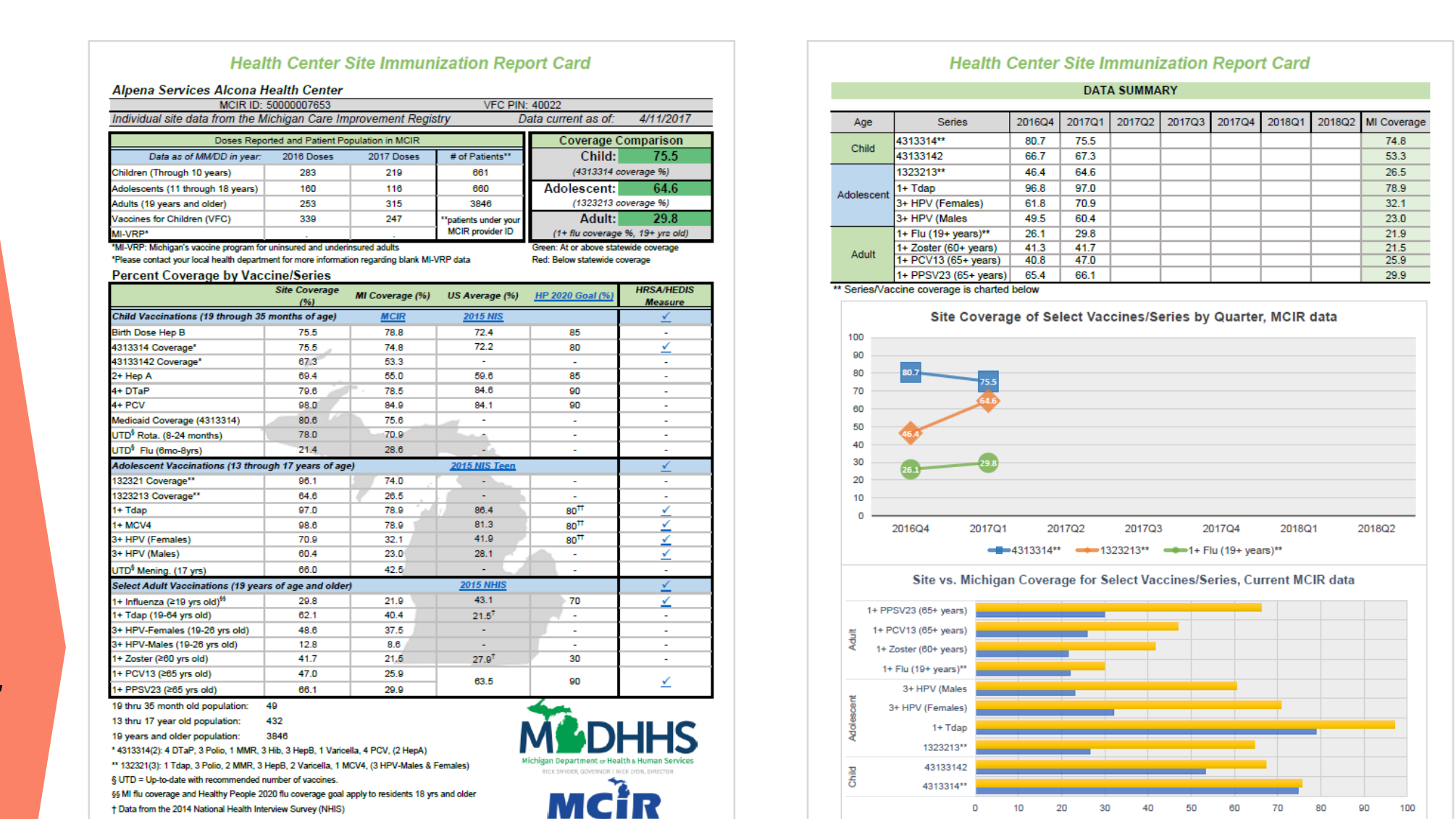


Figure 6. Trends from the County Quarterly Immunization Report Cards indicate a steady increase in coverage rates for 1+ Tdap (19-64 yrs) and 1+ Zoster (60+ yrs) for MI adults.

Figure 7. A sample County Quarterly Immunization Report Card for the City of Detroit. This report card highlights data from the MCIR as of March 31, 2017.

Success of the County-Level Report Cards led to the pilot of the Site-Level Report Cards for Health Centers.



Figures 8 & 9. A sample Health Center Site Immunization Report Card. This report card highlights data from the MCIR as of April 11, 2017. The site-level report cards include a second page that summarizes the data and tracks report trends.

	No. of CHC Site Level Report Cards	No. of CHC Organizations	No. of Contacts Receiving Report Cards
2016 Q4 Data Report	52	20	99
2017 Q1 Data Report	67	22	164
Percent Increase from Previous Quarter	128.8%	110.0%	165.7%

4 Discussion

Despite remarkable evidence that vaccines significantly decrease the morbidity and mortality of serious diseases, adult immunizations are largely under-utilized in the United States and in Michigan. The 2015 Behavioral Risk Factor Surveillance Survey (BRFSS) estimated 57.7 percent of MI adults, ages 65 years and older, reported receiving an influenza vaccine within the past year, while an estimated 72.8 percent of this population reported ever receiving pneumococcal vaccine¹. A study that further analyzed BRFSS data found that reported receipt of influenza and pneumococcal vaccination were positively associated with receipt of Td or Tdap vaccination in adult populations².

Vaccines have greatly decreased or eradicated many infectious diseases that commonly harmed many infants, children, and adults. However, the viruses and bacteria that cause vaccine-preventable diseases (VPDs) still exist and can be easily passed on to people who are not fully protected by

vaccines³. The success of a vaccine in protecting communities depends entirely on the extent of vaccine coverage. With enough people immunized against a disease, it is difficult for the disease to get a foothold in the community.

The Michigan Department of Health and Human Services Division of Immunization's mission is to minimize and prevent the occurrence of vaccine-preventable diseases within our state. The vision of the immunization program is to work to implement effective strategies and strengthen partnerships with our stakeholders to eliminate vaccine preventable diseases in Michigan.

Michigan works to connect immunization providers to available state and national immunization coverage rates as well as highlight critical national benchmarks to work towards. We routinely publish and distribute data-

driven interventions and connect these interventions with available provider resources and best practices.

References:

1. MDHHS. (2016). Prevalence estimates for risk factors and health indicators. *Michigan Behavioral Risk Factor Survey - 2015*. Retrieved from http://www.michigan.gov/mdhhs/0,5885,7-339-71550_5104_5279_59424-134606--,00.html
2. Lu, P.-J. et al. (2016). National and state-specific Td and Tdap vaccination of adult populations. *American Journal of Preventive Medicine*, 50(5), 616-626.

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