STRENGTHENING PARTNERSHIPS TO PREVENT THE SPREAD OF DISEASE

Alyssa Strouse, MPH
Adult and Adolescent Immunization Coordinator

Sarah Davis, MA
Hepatitis A Coordinator

Michigan Department of Health and Human Services
Division of Immunization
Overview of public health

Michigan Care Improvement Registry (MCIR)

Infectious diseases

- Hepatitis A
- Hepatitis B
- Hepatitis C
- Influenza
- Measles

Partnerships

Take action!
PUBLIC HEALTH OVERVIEW

• Public health promotes and protects the health of people and the communities where they live, learn, work and play.
• Public health works to prevent disease and injury.
• Public health saves money, improves quality of life, helps children thrive and reduces human suffering.
MDHHS Mission

MDHHS provides opportunities, services, and programs that promote a health, safe and stable environment for residents to be self sufficient.

MDHHS Vision

Develop and encourage measurable health, safety, and self-sufficiency outcomes that reduce and prevent risks, promote equity, foster healthy habits, and transform the health and human services system to improve the lives of Michigan families.
Division of Immunization Mission

The mission of the Immunization Program is to minimize and prevent the occurrence of vaccine preventable diseases within our state.

Division of Immunization Vision

The vision of the Immunization Program to work to implement effective strategies and strengthen partnerships with our stakeholders to eliminate vaccine preventable diseases in Michigan.
VACCINES: A GREAT PUBLIC HEALTH ACHIEVEMENT

Vaccines given to children born between 1994-2016 will prevent:

- 381 million illnesses
- 24.5 million hospitalizations
- 855,000 deaths
- 1.65 trillion in total societal costs

Vaccines are one of the greatest public health achievements of the 20th century, second only to clean water.

CDC updated data from previous article: Benefits from Immunization During the Vaccines for Children Program Era – United States, 1994-2013. MMWR. 25 April 2014
MICHIGAN CARE IMPROVEMENT
REGISTRY (MCIR)
MICHIGAN’S IMMUNIZATION INFORMATION SYSTEM (IIS) - MCIR

Created to collect reliable immunization information and make it accessible to authorized users

MCIR benefits health care organizations, schools, licensed childcare programs, pharmacies and Michigan citizens by consolidating immunization information from multiple providers into a comprehensive immunization record

- Reduces vaccine-preventable diseases
- Reduces over-vaccination
- Assists in outbreak control

Improving Healthcare in Michigan
MCIR — A BRIEF HISTORY

Childhood registry since 1998
Lifespan registry since 2006
OVER 11 million persons
▪ 2.7 million children
▪ 8.2 million adults
OVER 140 million total vaccination records
OVER 6 thousand active provider sites
On an average day there are 275,000 patient records accessed in MCIR
▪ On busy days requests can exceed 2,000,000

www.aimtoolkit.org/docs/mcir-adults.pdf
INFECTIONOUS DISEASES
HEPATITIS A VIRUS (HAV)

Highly contagious, vaccine-preventable (acute) liver infection

Incubation period – illness can appear **15 to 50 days** after exposure

Illness not specific for hepatitis A

Likelihood of symptomatic illness directly related to age

- Children generally asymptomatic, adults symptomatic
- Symptoms include: fever, fatigue, nausea, loss of appetite, jaundice, stomach pain, vomiting, dark urine, pale stools or diarrhea

MOST IMPORTANT: Hepatitis A infection can be prevented with a safe and effective vaccine!
TRANSMISSION OF HAV

Ingestion of fecal matter, *even in microscopic amounts*, from:

- Touching objects or eating food that someone with hepatitis A infection handled
- Close, person-to-person contact with a person who is infected
- Use of recreational drugs, whether injected or not
- Sexual contact with someone who has a hepatitis A infection

Adapted from MDHHS Communicable Disease Division slides
RISK FACTORS FOR HEPATITIS A

Those at increased risk for Hepatitis A:

- Men who have sex with men (MSM)
- People currently homeless or in transient living
- People who use illegal drugs
- People recently in jail or prison
- People with underlying liver disease*

*Note: people with underlying liver disease (e.g., cirrhosis, hepatitis B, or hepatitis C) are at increased risk of having poor outcomes if they are infected with hepatitis A.
# Michigan Hepatitis A 2016-2019 Outbreak Summary

<table>
<thead>
<tr>
<th>Epi Summary for Hepatitis A Cases in Michigan* for Confirmed Cases Referred August 1, 2016 — September 25, 2019†</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2nd Half CY2016</td>
<td>58</td>
</tr>
<tr>
<td>1st Half CY2017</td>
<td>138</td>
</tr>
<tr>
<td>2nd Half CY2017</td>
<td>495</td>
</tr>
<tr>
<td>1st Half CY2018</td>
<td>169</td>
</tr>
<tr>
<td>2nd Half CY2018</td>
<td>50</td>
</tr>
<tr>
<td>1st Half CY2019</td>
<td>8</td>
</tr>
<tr>
<td>Q3 CY2019</td>
<td>2</td>
</tr>
</tbody>
</table>

## Total # of Cases (by Onset)

- Total: 920
- Primary Confirmed Cases w/ Outbreak Strains: 568
- Primary Confirmed Cases w/out sequencing: 263
- Secondary Confirmed Cases: 89

### Cases by Gender

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>20 (34.5)</td>
<td>49 (35.5)</td>
<td>171 (34.5)</td>
<td>59 (34.9)</td>
<td>17 (34.0)</td>
<td>1 (12.5)</td>
<td>-</td>
<td>318 (34.6)</td>
</tr>
<tr>
<td>Hospitalized</td>
<td>50 (86.2)</td>
<td>117 (84.8)</td>
<td>392 (79.2)</td>
<td>136 (80.5)</td>
<td>36 (72.0)</td>
<td>6 (75.0)</td>
<td>-</td>
<td>738 (80.2)</td>
</tr>
<tr>
<td>Min Age  (years)</td>
<td>24</td>
<td>21</td>
<td>&lt;1</td>
<td>2</td>
<td>24</td>
<td>25</td>
<td>-</td>
<td>&lt;1</td>
</tr>
<tr>
<td>Max Age  (years)</td>
<td>83</td>
<td>86</td>
<td>90</td>
<td>87</td>
<td>75</td>
<td>69</td>
<td>-</td>
<td>90</td>
</tr>
<tr>
<td>Median Age (years)</td>
<td>44.5</td>
<td>42.5</td>
<td>40</td>
<td>36</td>
<td>40</td>
<td>49</td>
<td>-</td>
<td>40</td>
</tr>
<tr>
<td>Deaths, n (%)</td>
<td>4 (6.9)</td>
<td>9 (6.5)</td>
<td>11 (2.2)</td>
<td>5 (3.0)</td>
<td>1 (2.0)</td>
<td>0 (0.0)</td>
<td>-</td>
<td>30 (3.3)</td>
</tr>
</tbody>
</table>

---

Data source: Michigan Disease Surveillance System, MDHHS.

Report is a preliminary ad hoc analysis. Information to be considered DRAFT.

Michigan Hepatitis A Outbreak website (updated bi-weekly):

[www.michigan.gov/hepaoutbreak](http://www.michigan.gov/hepaoutbreak)
Since March 2017, CDC has been assisting multiple state and local health departments with hepatitis A outbreaks
- Ohio: 3,336 cases as of Sep. 23, 2019
- Indiana: 2,122 cases as of Sep. 27, 2019

The hepatitis A vaccine is the best way to prevent HAV infection.
- One dose of single-antigen hepatitis A vaccine has been shown to control outbreaks of hepatitis A and provides up to 95% seroprotection in healthy individuals for up to 11 years.1,2.

For more information on nationwide hepatitis A outbreaks, visit https://www.cdc.gov/hepatitis/outbreaks/2017March-HepatitisA.htm

---

1. “Outbreak-associated” status is currently determined at the state level in accordance with each state’s respective outbreak case definition.
2. Outbreak-related hepatitis A deaths are defined at the state level in accordance with each state’s respective hepatitis A-related death definition. Some states are reviewing death certificates on a regular basis to actively find hepatitis A-related deaths, while other states are utilizing passive surveillance.
PROTECT YOURSELF AND GET VACCINATED AGAINST HEPATITIS A

For information on where to get vaccinated:

PROTECT YOURSELF AND GET VACCINATED AGAINST HEPATITIS A
FIND A LOCAL CLINIC NEAR YOU TODAY

HEP A CLINIC CALENDAR

WASH YOUR HANDS

MICHIGAN IS EXPERIENCING A HEPATITIS A OUTBREAK

www.michigan.gov/hepatitisaoutbreak

For more information about the hepatitis A outbreak and to find out where you can get your hepatitis A vaccine, visit www.michigan.gov/hepatitisaoutbreak
HEPATITIS B VIRUS (HBV)

Vaccine-preventable liver disease

Often asymptomatic

About 19,000 people get HBV every year
  • About 1 million carriers

Transmitted through:
  ▪ Exposure to blood or body fluids – virus lives up to a week
  ▪ Unprotected sex
  ▪ Babies can get HBV from an infected mother
    ▪ More than 24,000 women with HBV give birth every year
PROTECT YOURSELF FROM HEPATITIS B

Residents
- Don’t share personal items (toothbrushes, nail clippers, razors)
- Avoid body fluids or blood exposures of others
- Cover all cuts and sores
- Get hepatitis B vaccine

Staff
- Practice universal precautions and routine barrier precautions
  - Use gloves if blood or body fluids are present
  - Use bleach and water to clean up spills
- Get hepatitis B vaccine

To best protect yourself from HBV, get the hepatitis B vaccine!
HEPATITIS C VIRUS (HCV)

HCV causes inflammation of the liver

It can be acute or chronic

Often referred to as the “silent disease”

Overtime, chronic hepatitis C can cause severe liver damage

No vaccine available
How long does HCV live outside the body?

- On surfaces: 16 days or even longer
- In water: up to 21 days
- In a syringe: up to 63 days
- Cotton filter: 24 hours—48 hours, if wrapped in foil

HCV TRANSMISSION

• Hepatitis C transmission may occur when the blood of someone who has hepatitis C enters the body of someone who is not infected.

• Common modes of transmission:
  • Sharing injection and non-injection equipment (cookers, cottons, syringes, water, etc.)
  • Sharing personal care items (e.g., toothbrushes, razors, nail clippers, etc.)
  • Recipients of blood transfusions or organ transplants before 1992
  • From mother with hepatitis C to her child
  • Healthcare or occupational exposures (e.g., needlestick injury)
  • Unregulated and unsterile body art, tattooing, piercing
  • Unprotected sexual contact involving blood

• NOT spread through casual contact (e.g., kissing, sharing food or drink, hugging, shaking hands)
INFLUENZA (FLU)

Flu is a vaccine-preventable contagious respiratory illness caused by influenza viruses that infect the nose, throat and sometimes lungs.

It can cause mild to severe illness, and at times can lead to death.

Symptoms include abrupt onset of fever, headache, cough and sore throat.
- Only ½ of persons with flu develop classic clinical symptoms.

Healthy adults can be contagious beginning 1 day before symptoms develop and up to 5 to 7 days after becoming sick.

Complications of flu include bacterial pneumonia, ear infections, sinus infections and worsening of chronic medical condition such as congestive heart failure, asthma or diabetes.

The most important step to preventing flu is to get a flu vaccine each year!
INFLUENZA DISEASE BURDEN

Difficult to predict severity and timing

Rates of serious illness and death greatest in:
• Persons aged 65 years and older
• Children <5 years, especially children less than 2 years of age
• Persons with medical conditions that put them at high risk

Only half develop classic clinical flu symptoms

5 categories of surveillance: viral, mortality, hospitalization, geographic spread, and outpatient influenza-like illness (ILINet)

National Influenza Burden Estimates
2018-2019 Season

Deaths: 36,400 - 61,200
Hospitalizations: 531,000 - 647,000
Cases: 37,400,000 - 42,900,000

1. www.cdc.gov/flu/about/burden/preliminary-in-season-estimates.htm
2. www.michigan.gov/mdhhs/0,5885,7-339-71550_2955_22779-122498--,00.html
MICHIGAN INFLUENZA VACCINATION COVERAGE, SELECT AGES, ACCORDING TO NATIONAL SURVEYS AND MCIR, 2010-2018

- Minimal improvement over 8 season
- “Everyone, every year”
  - Coverage remains < 45%
- Healthy People 2020 goals
  - 70% for healthy adults (18+) and children 6 months through 17 years of age
- MCIR estimates below national estimates for MI coverage

*HR = High Risk; data available at: www.cdc.gov/flu/fluvoxview/reportshtml/trends/index.html
PROTECT YOURSELF FROM INFLUENZA, GET YOUR FLU VACCINE TODAY!

The benefits of flu vaccination 2017-2018

- The estimated number of flu illnesses prevented by vaccination during the 2017-2018 season: 7 million
  - About the population of New York City

- The estimated number of flu hospitalizations prevented by vaccination during the 2017-2018 season: 109,000
  - About the number of vehicles crossing the Golden Gate Bridge each day

- The estimated number of flu deaths prevented by vaccination during the 2017-2018 season: 8,000
  - Twice the number of hospitals in the United States

Get your flu vaccine this year and every year.

Fall is a time for apple picking, pumpkin carving, football games, and raking leaves. Stay healthy to enjoy the beauty that Michigan has to offer. Vaccine remains your best protection against the flu.

Ask your health care provider today!

www.michigan.gov/flu
MEASLES

Highly contagious, vaccine-preventable disease caused by a virus

- It can stay in the air for up to 2 hours
- If one person is infected, up to 90% of the people around them will also become infected if they are not protected

Symptoms include high fever, cough, runny nose and red, watery eyes

- A rash with tiny red spots breaks out 3-5 days after onset of symptoms

Measles can lead to pneumonia and encephalitis, which may lead to seizures, brain damage, or death.

There is no treatment for measles

Measles can be prevented with MMR vaccine.

Child with a classic measles rash after four days.
Source: CDC/PHIL
PROTECT YOURSELF FROM MEASLES WITH THE MMR VACCINE

Before the vaccine, about 3-4 million people got measles every year
• 48,000 were hospitalized and 400-500 died

MMR vaccine provides significant and long-lasting protection against all strains of measles and greatly reduces the risk of complications

Two doses of MMR vaccine are approximately 97% effective at preventing measles
2019 MICHIGAN MEASLES OUTBREAK

As of May 17, 2019 MDHHS confirmed 44 measles cases since March 13, 2019

- 40 cases in Oakland County
- 1 in Wayne County
- 1 in City of Detroit
- International traveler diagnosed following a visit to Washtenaw County
- 2nd international traveler resulted in a case in St. Clair County

Infected individuals’ range in age from 8 months to 63 years

- Most cases occurred in adults

For more information visit www.michigan.gov/measlesoutbreak
2019 U.S. MEASLES OUTBREAK

From Jan. 1– Sep. 26, 2019 1,243 individual cases have been confirmed in 31 states

Greatest number of cases reported in the U.S. since 1992

More than 75% of cases are linked to outbreaks in New York

Majority of cases are among people who were not vaccinated against measles

Data retrieved from https://www.cdc.gov/measles/cases-outbreaks.html
World Health Organization (WHO) indicates that during the first 6 months of 2019, there have been more measles cases reported worldwide than in any year since 2006.

From Jan 1- July 31, 2019, 182 countries reported 364,808 cases of measles.

All WHO regions are experiencing large, often extended outbreaks of measles.

4 European countries, Albania, Czech Republic, Greece and the United Kingdom, recently lost their measles-free status due to continuous disease transmission lasting more than 12 months.

Although measles was declared eliminated from the U.S. in 2000, travelers continue to bring measles into the U.S.
VACCINE-PREVENTABLE DISEASES AMONG ADULTS IN THE UNITED STATES

Preventable Deaths
In the United States, approximately 42,000 adults die each year of vaccine-preventable diseases.¹

Large Coverage Gaps
Adult coverage is alarmingly low. For the majority of vaccines, coverage is well below 50 percent.²

Little Improvement
From year to year, modest improvements in adult rates are made and vaccine disparities persist.²

Sources:
2. https://www.cdc.gov/mmwr/volumes/66/ss/pdfs/ss6611.pdf
3. Icons created through the Noun Project
PARTNER’S ROLE IN PREVENTING THE SPREAD OF DISEASE
LOCAL HEALTH DEPARTMENTS

- Work and coordinate with Local Health Departments
- Find innovative ways to get the message out to partners
- Think outside the box
GETTING THE VACCINE OUT TO A WIDE VARIETY OF PARTNERS

**State**
- MDHHS Public Health Administration
- Bureau of Epidemiology and Population Health
- Bureau of Family Health Services
- Bureau of Laboratories
- Bureau of EMS, Trauma, and Preparedness
- Bureau of Community-based Services
- Bureau of Health and Wellness
- Local Health Services
- Medical Services
- MI Volunteer Registry
- External Affairs and Communications
- Legislative and Constituent Services
- Michigan Department of Corrections
- Michigan Department of Agriculture and Rural Development

**Professional**
- Michigan Health & Hospital Association
- Michigan State Medical Society
- Michigan Osteopathic Association
- Michigan Association for Local Public Health
- Michigan Primary Care Association
- Michigan College of Emergency Physicians
- Michigan Association of Community Mental Health Boards
- Michigan Association of Family Physicians
- Visiting Nurses Association
PARTNERS CONT’

Local & Regional
Local health departments, Clinics
County Jails, Correct Care Solutions, and drug courts
Regional Healthcare Coalitions
Salvation Army Rehabilitation
Street Medicine Detroit
Neighborhood Service Organization - Tumaini Clinic
Detroit Recovery Project
Capuchin Soup Kitchen
Mariners Inn
Samaritas House
St. John Community Center
Detroit Rescue Mission
Naomi’s Nest
Elmhurst Home
Self-Help Addiction Rehabilitation (SHAR)
Community Health Awareness Group (CHAG)
Sacred Heart Rehabilitation Centers
Community Programs, Inc.
Turning Point
INNOVATIVE OUTREACH EFFORTS: PEER AMBASSADORS

St Clair County MI

- Worked with recovery & outreach centers
- Peers promoted immunization and recruited community members
- Nurses nearby to answer further questions and administer vaccines for those interested
- Unpaid volunteers
- Recognized by County Board of Commissioners for work
- 50% increase in vaccinations at clinics where Peer Ambassadors were present
FESTIVALS

Activities:
• Vaccination outreach
• Hand Hygiene
• Education
• Advertisements

Prioritize your outreach efforts!
LGBTQ COMMUNITY EVENTS

- Parks
- Pride Events
- Mobile units
- Bars
JAIL OUTREACH

Continued and regular outreach

Most successful with Local Health Department collaboration

Buy in of staff/vaccine champion

Most success in local jails

Need buy in from staff
Partnered with Behavioral health/SUD team at MDHHS

Collaboration for presentations at conferences

Partnered with Local Health Departments to offer vaccines and/or education about hepatitis A at:

- Community events
- Methadone clinics
- Churches
- Substance use inpatient and outpatient treatment centers
- Syringe Service programs
In support of efforts, MDHHS has a website for the hepatitis A outbreak that has important and timely information, available at:

- www.mi.gov/hepatitisAoutbreak

• The website contains a brief case count, hospitalized cases, and deaths for an at-a-glance review that is updated each Friday.
  • Confirmed cases are also listed out by jurisdiction.
  • A Comprehensive Summary with case demographics and risk profiles is also available
• A full listing of communication documents and educational materials available for download.
FOR MORE INFORMATION VISIT THE FOLLOWING WEBSITES

www.cdc.gov/measles

www.Michigan.gov/flu


www.Michigan.gov/hepatitis
• New and unique partnerships
• Sensitivity to cultural norms
• Utilize community
PRACTICING GOOD HYGIENE AND CLEANLINESS IN SHELTERS
PROPER HANDWASHING

7 STEPS TO HANDWASHING

1. Rub palms together
2. Rub the back of both hands
3. Interface fingers and rub hands together
4. Interlock fingers and rub the back of fingers of both hands
5. Rub thumb in a rotating manner followed by the area between index finger and thumb for both hands
6. Rub fingertips on palm for both hands
7. Rub both wrists in a rotating manner.
Hepatitis A

- Hearty virus
- High temps (185°F/85°C)
- Mix 1 and 2/3 cup of regular bleach with 1 gallon of water
- Wipe contaminated area with bleach solution
- Leave wet for 1 minute and rinse with clean water
- Dispose contaminated PPE into trash bag, seal and dispose trash bag
- Wash clothing in hot water and add bleach according to laundering instructions


*(Adapted from San Diego County Public Health on 11/17/18)*
Influenza

- 48 hours; fragile virus
- General household cleaner, rinse with water, EPA-registered disinfectant to kill germs
- Wear gloves
- Dispose contaminated PPE in trash bag and seal
Hepatitis B

- Virus can survive at least 7 days outside the body
- Any blood spills should be cleaned using a dilution of 1:10 (one-part bleach to 10 parts water) to disinfect area
- Wear gloves
- Wash hands thoroughly when finished cleaning
- Dispose contaminated PPE in trash bag and seal

https://www.cdc.gov/hepatitis/hbv/hbvfaq.htm
Hepatitis C

- HCV virus can survive 16 days on surfaces
- Any blood spills or body fluids should be cleaned using a dilution of 1:10 (one-part bleach to 10 parts water) to disinfect area
- Wash hands thoroughly when finished cleaning
- Wear gloves
- Dispose contaminated PPE in trash bag and seal

[cdc.gov/hcv](http://cdc.gov/hcv)
RESPONDING

- Proactively detecting ill clients with infectious diseases through self-report of symptoms by clients and health assessments by providers
- Isolating clients with possible infectious disease to the extent possible within facility
- Transferring clients to appropriate medical facility
- Notifying local and state health departments of possible cases and areas of suspected outbreaks
## Protecting & Controlling

<table>
<thead>
<tr>
<th>Using</th>
<th>Providing</th>
<th>Posting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Using personal protection equipment and maintaining environmental cleanliness</td>
<td>Providing basic hygiene supplies for staff &amp; clients</td>
<td>Posting signs promoting good hygiene practices and cough etiquette in highly visible areas</td>
</tr>
</tbody>
</table>
USING PERSONAL PROTECTION EQUIPMENT

- **Hepatitis A**
  - Wipe up surfaces:
    - Wear two layers of gloves
    - Use disposable paper towel to wipe up contaminated area
    - Dispose of paper towel and first set of gloves into trash bag

For best protection from hepatitis A, get your hepatitis A vaccine!
Using personal protection equipment

- Influenza
  - Droplet precaution
  - Wear a facemask when possible

For best protection from influenza, get your flu vaccine!
KNOW YOUR UNIQUE ROLE AND TAKE ACTION!
HEALTH CARE PROVIDERS

Talk to all patients about hepatitis A
Screen individuals for risk factors
Prevention
Vaccination
Provide Information
SHELTER PROVIDERS

Ensure shelters are cleaned

Encourage vaccination

Communicate with and support local health department efforts to promote vaccination and reduce the spread of VPDs within shelters

Ask questions

Be on the lookout for symptoms discussed in this presentation

Educate staff and volunteers on the importance of vaccination

Work collaboratively with partners in your community to protect our vulnerable population!
VOLUNTEERS

How to best utilize volunteers
• Plan
• Recruit
• Train
• Manage
• Evaluate
ADMINISTRATION

BE PREPARED

LEARN FROM PAST OUTBREAKS

PREVENTION

PARTNERSHIPS

COMMUNICATE AND COLLABORATE

IMPLEMENT POLICIES
MICHIGAN’S FALL IMMUNIZATION CONFERENCES

When: Marquette (Oct. 8), Grayling (Oct. 10), Grand Rapids (Oct. 29), Kalamazoo (Oct. 30), Flint (Nov. 1), Lansing (Nov. 5), Rochester (Nov. 7) and Dearborn (Nov. 8).

Intended Audience: public health and health care personnel who are interested in learning more about current immunization practice in Michigan

Cost: $50

Seats fill up fast, register today!
https://register.mihealth.org/Register2019
Order FREE immunization-focused materials at www.healthymichigan.com
DISEASE PREVENTION IS A TEAM EFFORT! THANK YOU FOR BEING PART OF THE TEAM.

“Coming together is a beginning. Staying together is progress, and working together is success.”

— Henry Ford
QUESTIONS?

StrouseA2@Michigan.gov
DavisS42@michigan.gov