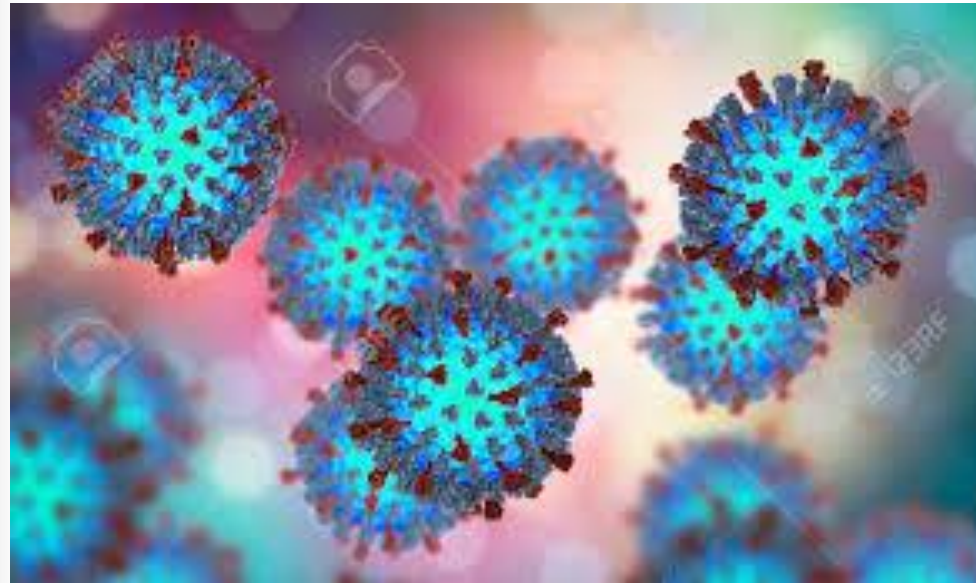


# Measles Outbreak 2019 Oakland County Response

Christie Clement, MSN, RN  
Chief of Communicable Disease  
OCHD



# A Canary in the Coal Mine

## October-November 2018

9 cases (same family)

First 2 cases acquired in Israel

7 secondary cases in household



### **Minimal Exposures:**

Due to urgent care staff critical thinking/contacting OCHD right away upon suspicion of measles, and family self-quarantining due to lack of vaccination

### **Dr. McGraw:**

Providence Southfield ED physician who works closely with the local Orthodox Jewish Community.

Became an instrumental/invaluable partner; gained trust of family and was able to go into the home to test all household members and monitor those infected throughout the course of illness

**Jewish Day schools:** Began requiring MMR vaccination of all students (no waivers accepted)

# It was a dark and stormy night...

- Call from a local physician who is a Rabbi in the local Orthodox Jewish community
- Visiting gentleman from Israel who had recently been in Brooklyn Heights, NY presented with upper respiratory symptoms follow by a rash – suspicious for Measles
- We put in a call to Joel Blostein immediately for permission to test and to alert BOL that specimen would arrive the next day
- Nurse went to the Rabbi's home to test the suspect case, transport specimen to epidemiologist who transported it to the BOL.

# Let the Contact Tracing Begin...

As soon as the BOL alerted us that the specimen was positive, the CD unit sprang into action

- **Locate and notify the case....Dr. McGraw to the rescue!**

Multiple exposures due to the nature of his visit (going door to door to collect donations and attending multiple synagogues)

- **Communicate with the community**

- **Testing!!**

- **Case Investigation and Contact Tracing**

- **Vaccination!!**

Today's history is your future. Live it.

Message from the state...  
- call Dr...  
- see doctors, don't...  
- spread...  
- needs at least...  
- no immunity...  
- a very bad...

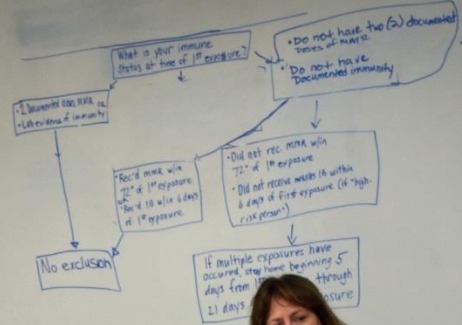
Mar 21

Definitive...  
- 100%...  
- 100%...  
- 100%...  
- 100%...

Mar 23

Kahal...  
- 100%...  
- 100%...  
- 100%...

### Exclusion Guidelines for Repeated Exposure to Measles



Travel Regionally in SE MI - work - play etc

### Demographics

Case investigations are not complete at this time so information not available  
- when will we know when the outbreak is over  
- when we have a incubation period with no cases = 42 days



Woman in floral shirt sitting at a desk with papers and a water bottle.

Woman in green jacket sitting at a table, looking towards the center.

Woman in blue top and scarf sitting at a table, looking towards the center.

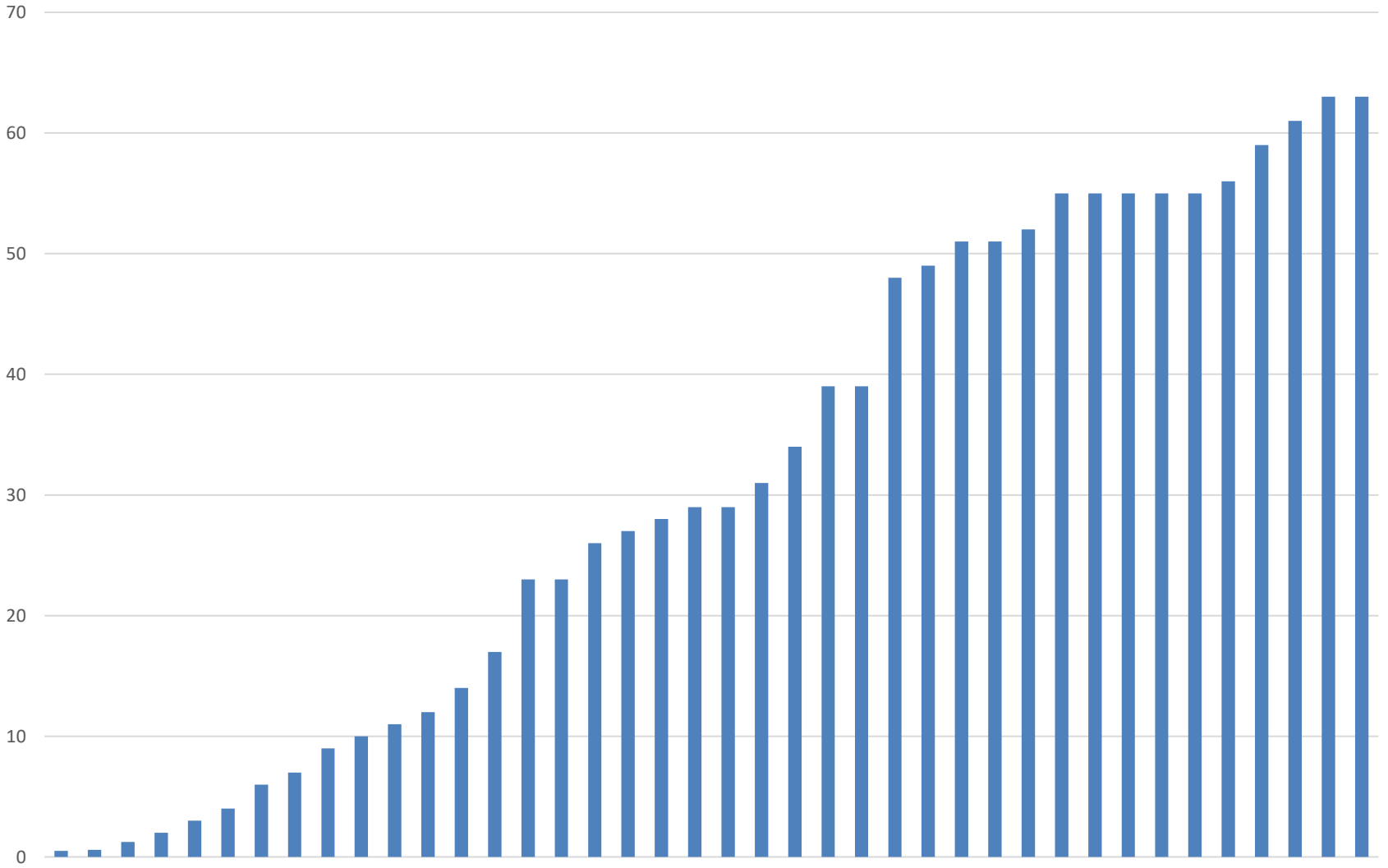
Woman in teal jacket sitting at a table, looking towards the center.

Woman in maroon sweater sitting at a table, looking towards the center.

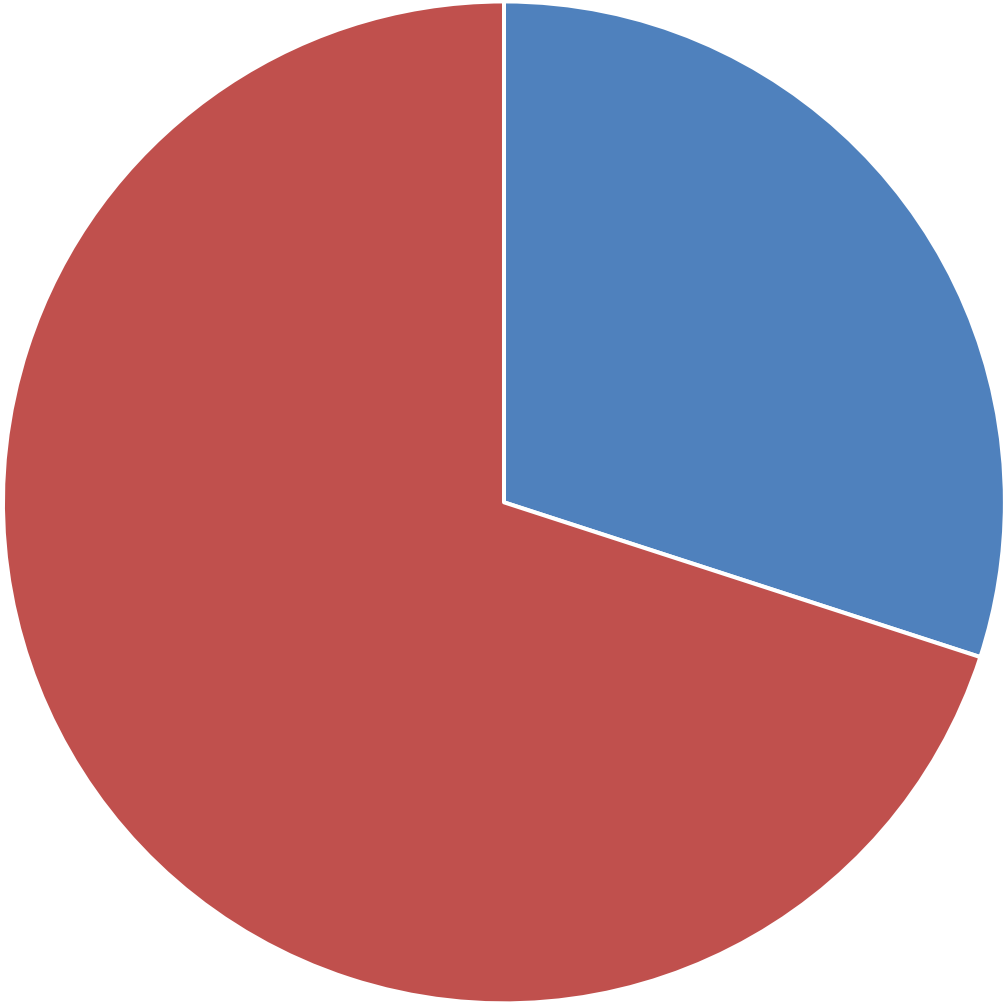
Man in maroon shirt sitting at a table, holding a document titled 'MEASLES'.

Desk with papers, a blue water bottle, and a pink cup.

# AGE OF CASES IN YEARS

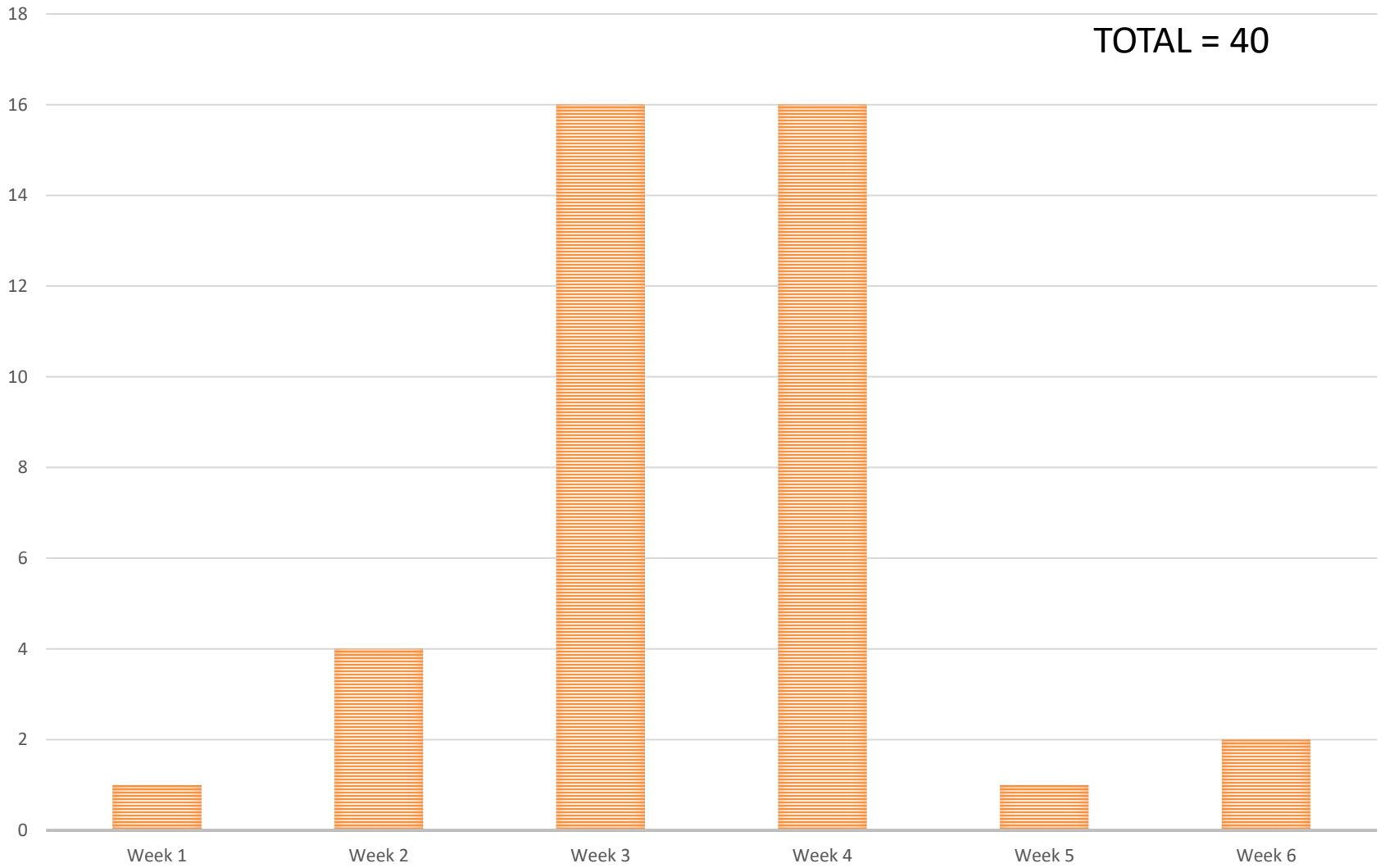


Age Range: 6 months – 63 years



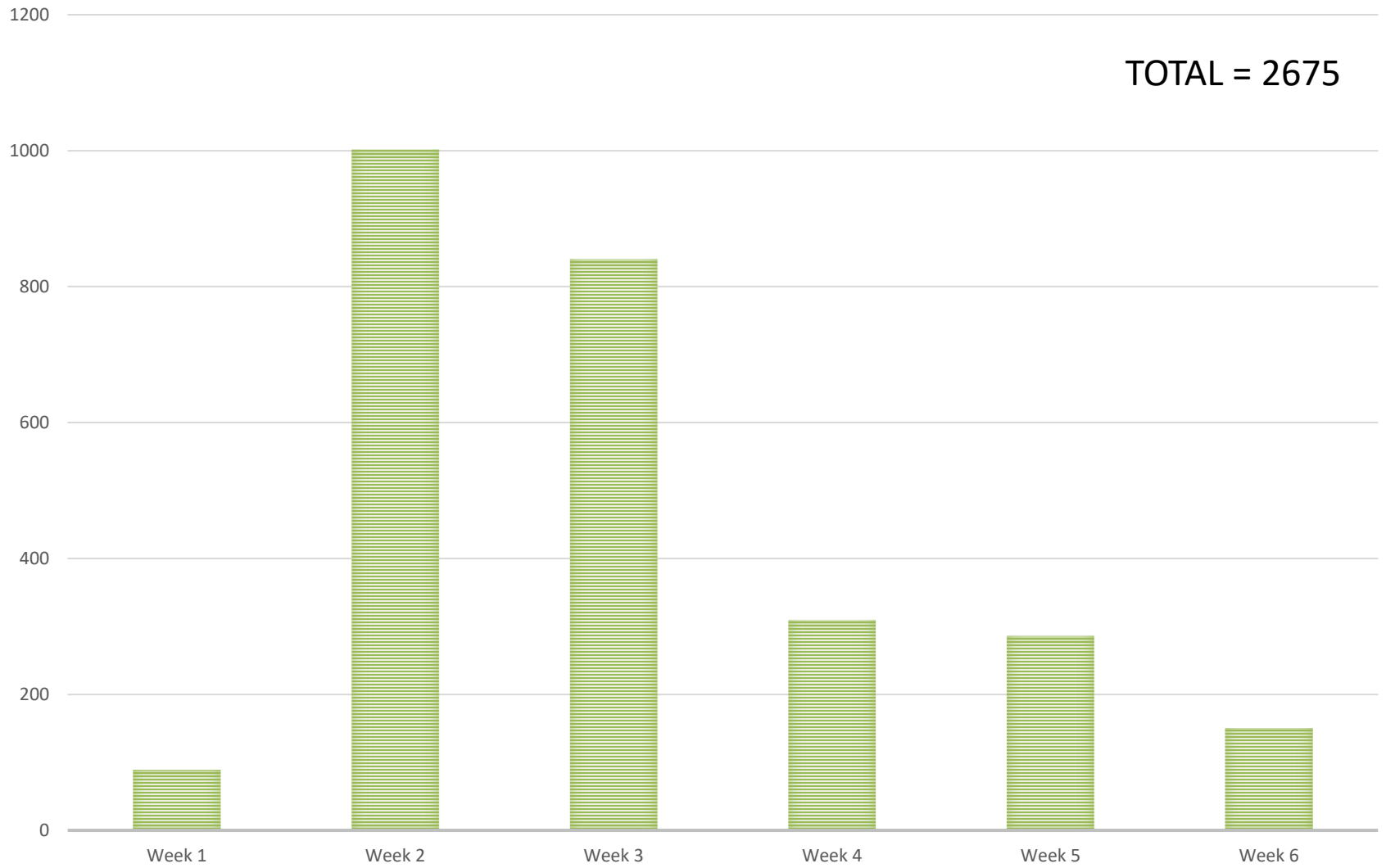
■ Female ■ Male

# WEEKLY CASE COUNT





# MMR VACCINES ADMINISTERED



# Getting the word out

For Immediate Release

For Immediate Release

For Immediate Release

For Immediate Release



## Additional Measles Cases in Oakland County

March 21, 2019, Pontiac, Mich. – Michigan Department of Health and Human Services and Oakland County Health Division today received confirmation of three additional measles cases in Oakland County. Three other cases were confirmed on March 13, 2019. These cases follow a confirmed travel-related measles case reported to the Michigan Department of Health and Human Services on March 13, 2019.

"Measles is in the community and highly contagious. You are unsure whether you have been vaccinated or unsure if you were vaccinated in the past," said Leigh-Anne Stafford, health officer for Oakland County. **Develop, do not visit your doctor or emergency room. If you have had measles in the past, contact your healthcare provider.**



Leigh-Anne Stafford, MSA  
Health Officer

## Update - Oakland County's Measles Outbreak Continues to Grow

Mar. 22, 2019, Pontiac, Mich. – The three measles cases under investigation in [Thursday's press release](#) are now confirmed. Michigan Department of Health and Human Services and Oakland County Health Division confirmed the positive results today. This brings the total measles cases confirmed in Oakland County since March 13 to eight.

"Unvaccinated individuals need to get vaccinated. If you do not have a record of two measles (MMR) vaccines, unsure if you have been vaccinated, or unsure if you have had measles in the past, contact your healthcare provider," said Leigh-Anne Stafford.

# Safety measures for facilities



**IF YOU ARE IMMUNOCOMPROMISED  
OR HAVE MEASLES SYMPTOMS:**

- Rash
- Fever
- Cough
- Runny Nose
- Red Eyes

**Please wear a mask  
to enter the building**



Call 800.848.5533 from car for assistance  
if you are unsure of symptoms



## MEASLES

### IMPORTANT INFORMATION:

- Measles is highly contagious
- Unvaccinated & under-vaccinated individuals - get vaccinated *within* 72 hours of exposure
- If symptoms develop, call ahead before you visit your doctor or emergency room
- Measles is a serious disease that can make people very sick
- Stay home if sick and do not allow visitors

**NURSE ON CALL 800.848.5533**



**IF YOU HAVE MEASLES SYMPTOMS:**

- Rash
- Fever
- Cough
- Runny Nose
- Red Eyes

**Do not enter  
the building**

Call 800.848.5533  
from car for assistance

# Community Partnership



## ועד הרבנים דעטראיט Council of Orthodox Rabbis of Greater Detroit

18877 West 10 Mile Road #101 Southfield, MI 48075  
Phone: (248) 359-3003 Fax: (248) 359-3202 cor@cordetroit.com www.cordetroit.com

Rabbi Yisroel Levin  
Rabbi Yachiel Morris  
Rabbi Elimelech Silberberg  
Presidium

Rabbi Moshe Wainkrantz  
Director of Kashrus

Rabbi Beryl Brody  
Rabbi Yosef Krupnik  
Rabbi Menachem Neustadt  
K-COR - Kashrus Division

עש"ק פרשת צו תשע"ט

March 22, 2019

### UPDATE FROM THE VAAD HARABBONIM

In light of the recent spread of measles in our community, each and every individual is halachically obligated to take the necessary precautions to protect one's self and family, and to prevent the spread of the disease to others.

Due to the outbreak, the Michigan Department of Health has issued updated vaccination guidelines. Every member of the community should follow those guidelines to ensure that they are fully vaccinated.

If you are experiencing any symptoms of the measles, as described by the Oakland County Health Division notice, you are halachically required to **STAY HOME** and immediately contact your health care provider for further instructions. It is absolutely forbidden for anyone experiencing symptoms to go out (even to Shul), and expose others and place them at risk.

May Hashem grant each and every member of the community health, strength and blessings.



## Measles Update

As of 3-21-19 there have been 4 confirmed cases of measles in the community, with 3 more cases awaiting lab confirmation.

In light of the spread of measles, there are a few critical actions that need to be taken to contain further spreading of measles.

Even if you have been vaccinated you are still at risk of contracting the measles. People who have had only one dose (particularly those vaccinated from 1957 - 1985) need to verify if they have received a second dose. If you don't have proof of two doses of the MMR, or a blood titer proving your immunity, you must get another dose to boost your immunity.

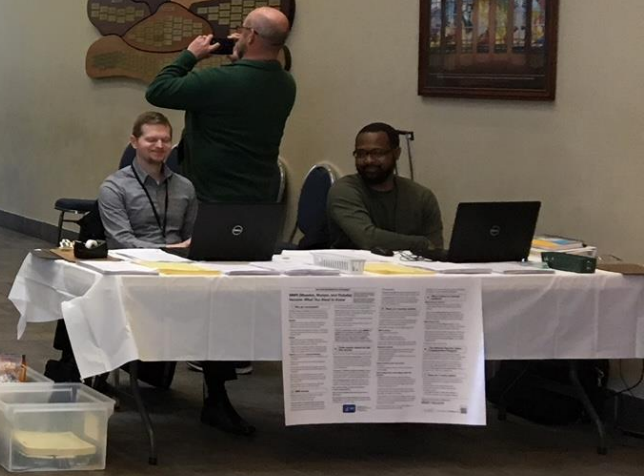
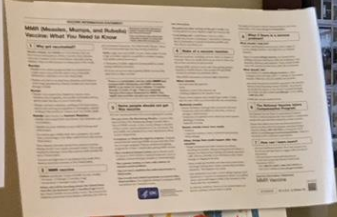
If you have symptoms of the measles **YOU MUST STAY AT HOME** until you can be confirmed to not have measles, to limit your exposure to others. Testing to determine if you have the measles will be done at the Hatzalah office. Look for posted dates and times.

**DO NOT GO TO YOUR DOCTOR'S OFFICE, EMERGENCY ROOM, OR URGENT CARE AS YOU WILL BE EXPOSING OTHERS WHO ARE THERE.** If you must go, call ahead to make arrangements with your doctor, ER, or urgent care prior to going.

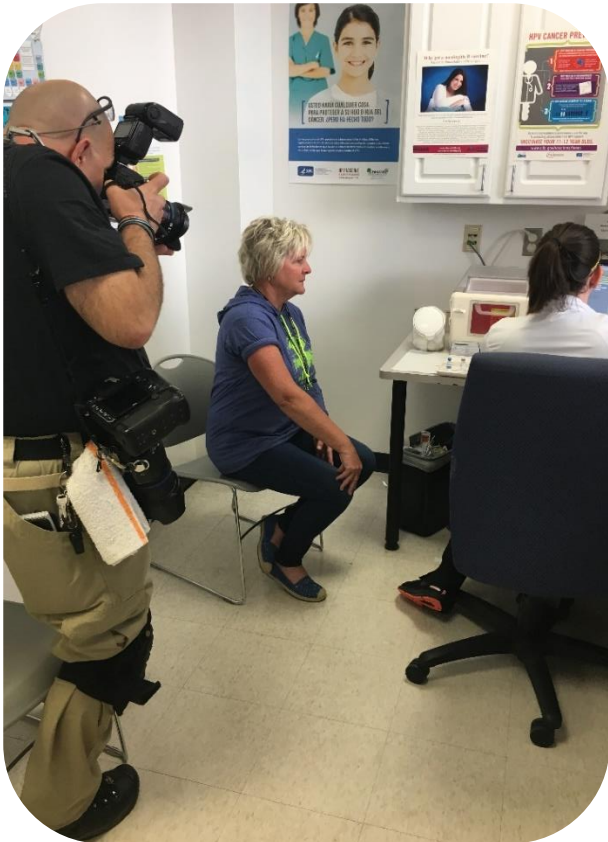
The MI dept of health has released updated vaccination guidelines due to this outbreak.

- Infants age 6-12 months should receive one vaccine dose
- Children 12mth-4yr should receive their second dose if it has been at least 28 days from the first dose
- **ALL OTHERS REGARDLESS OF AGE SHOULD GET VACCINATED UNLESS THEY HAVE DOCUMENTATION OF TWO DOSES OF THE MMR VACCINE OR A BLOOD TEST CONFIRMING IMMUNITY**





# The Media



The Detroit News



WDIV Roundtable  
in Action

# The Good, The Bad and the....




- Community Partnerships- local providers, schools, media outlets, Hatzalah, members of the affected community
- State BOL
- OCHD staff
- Guidance documents distributed to providers and facilities
- Willingness of community to get vaccinated



- Obtaining IG – at first
- Rumors! Social media...
- Getting accurate vaccine information out to the public
- Public & providers wanting to test for unrelated symptoms
- Provider education

# Useful Documents



## MEASLES

### IMMUNE GLOBULIN (IG) POST-EXPOSURE PROPHYLAXIS (PEP) RECOMMENDATIONS FOR NON-SYMPTOMATIC SUSCEPTIBLE CONTACTS

**TO DETERMINE APPROPRIATE POST-EXPOSURE PROPHYLAXIS:**

1. Determine patient's risk factor and identify time from first exposure to measles case.
2. PEP should only be given to a person without evidence of immunity as listed in footnote #4.
3. Read the reminders and footnotes for definitions and special considerations.
4. Contact the Local Health Department (LHD) with questions or if further guidance is needed

**POST-EXPOSURE PROPHYLAXIS RECOMMENDATIONS:**


**GENERAL**

- Prioritize people at high risk for severe illness and complications from measles to receive IG. These include:
  - Infants <12 months
  - Susceptible pregnant women
  - Severely immunocompromised individuals (regardless of previous measles vaccination status)
- IG is not indicated for persons who have received one or more doses of measles-containing vaccine at age 12 months or older, unless they are severely immunocompromised.
- Persons do not need intravenous IG (IGIV) if:
  - They have already received or are currently receiving IGIV therapy at a dose of 400 mg/kg within 3 weeks before measles exposure.
  - They received subcutaneous IG (IGSC) at a dose of  $\geq 200$  mg/kg for 2 consecutive weeks up to or through their measles exposure.

**CONTRAINDICATIONS**

- IG should not be given to people with immunoglobulin A (IgA) deficiency. Persons with IgA deficiencies have the potential for developing antibodies to IgA and therefore could experience an anaphylactic reaction when IG is administered.
- Intramuscular IG (IGIM) should not be administered to persons with severe thrombocytopenia or any coagulating disorder that would contraindicate intramuscular injections.
- History of anaphylactic reaction to a previous dose of IG.

Oakland County Health Division 1



## MEASLES CLINICAL GUIDANCE: IDENTIFICATION, TESTING, AND INFECTION CONTROL RECOMMENDATIONS FOR SUSPECT MEASLES CASES

Measles was considered eliminated in the United States in 2000, however, it has continued to circulate in Europe, South America, Africa, and Asia. International travel, contact with international visitors, and domestic travel can pose a risk for exposure to measles. When measles is imported into the United States, additional transmission can occur locally.

While providers should consider measles in patients with fever and a descending rash, measles is unlikely in the absence of confirmed measles cases in your community, a history of travel, or exposure to travelers. This guide discusses which patients should be prioritized for measles testing.

**Testing for measles is based on:**

**Symptoms**

- Fever, including subjective fever (see page 2)
- Rash that starts on the head and descends down the body (see page 2)
- At least 1 or 2 of the "3 Cs" – cough, coryza, and conjunctivitis

**Risk Factors**

- Within 21 days of symptom onset: travel outside of North America or in a state experiencing a measles outbreak, transit through U.S. international airports, or interaction with foreign visitors (including at a U.S. tourist attraction)
- Confirmed measles cases in the community
- Patient never immunized with 2 doses of measles vaccine and born in 1957 or later

**Laboratory Testing for Suspect Measles Patients:**

*If after consideration of symptoms and risk factors measles is suspected, immediately contact the local health department where the patient resides for guidance. For residents of Oakland County, contact the Oakland County Health Division (OCHD) Communicable Disease Unit immediately (248-858-1286, after-hours 248-858-0931).*

- **Polymerase chain reaction (PCR) is the preferred testing method for measles.** It can only be performed by the state laboratory in Michigan (BOL) or by the Centers for Disease Control and Prevention (CDC). Serologic testing can result in false positive IgM test results, and testing performed at commercial laboratories may not provide timely results.
- Specimen collection for measles testing:
  - For patients presenting <7 days of rash onset, *PCR testing only is recommended.*
  - Obtain a Dacron **throat swab** (rather than NP swab) and place in viral transport media.

1



*Special thanks to Kayleigh Blaney, Deputy Health Officer  
at Genesee County for helping to create this presentation  
in 2019*

PUBLIC  
HEALTH  
SAVES  
LIVES.

# Measles is ...

**-Challenging**

**-Highly contagious/transmissible**

**-Debilitating**

**-Deadly**

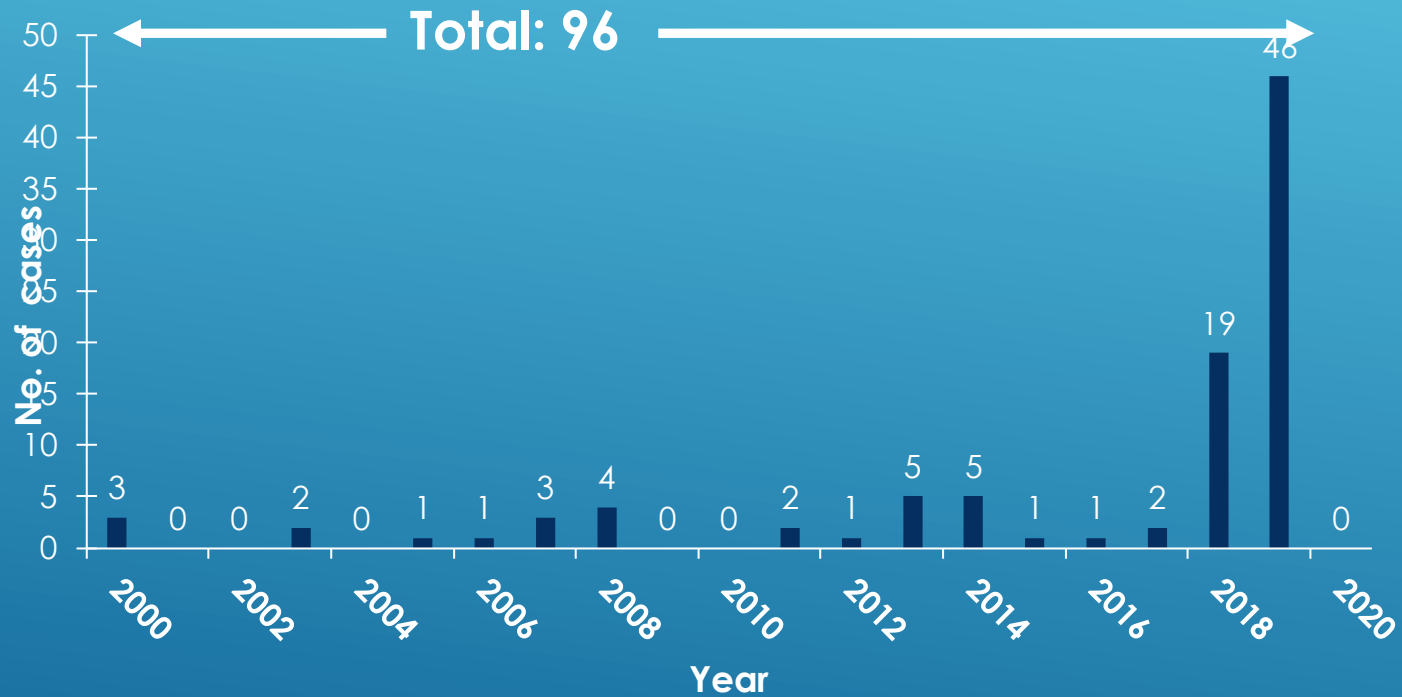
**-Preventable**

**-“Eliminate-able”**

**-“Eradicate-able”**

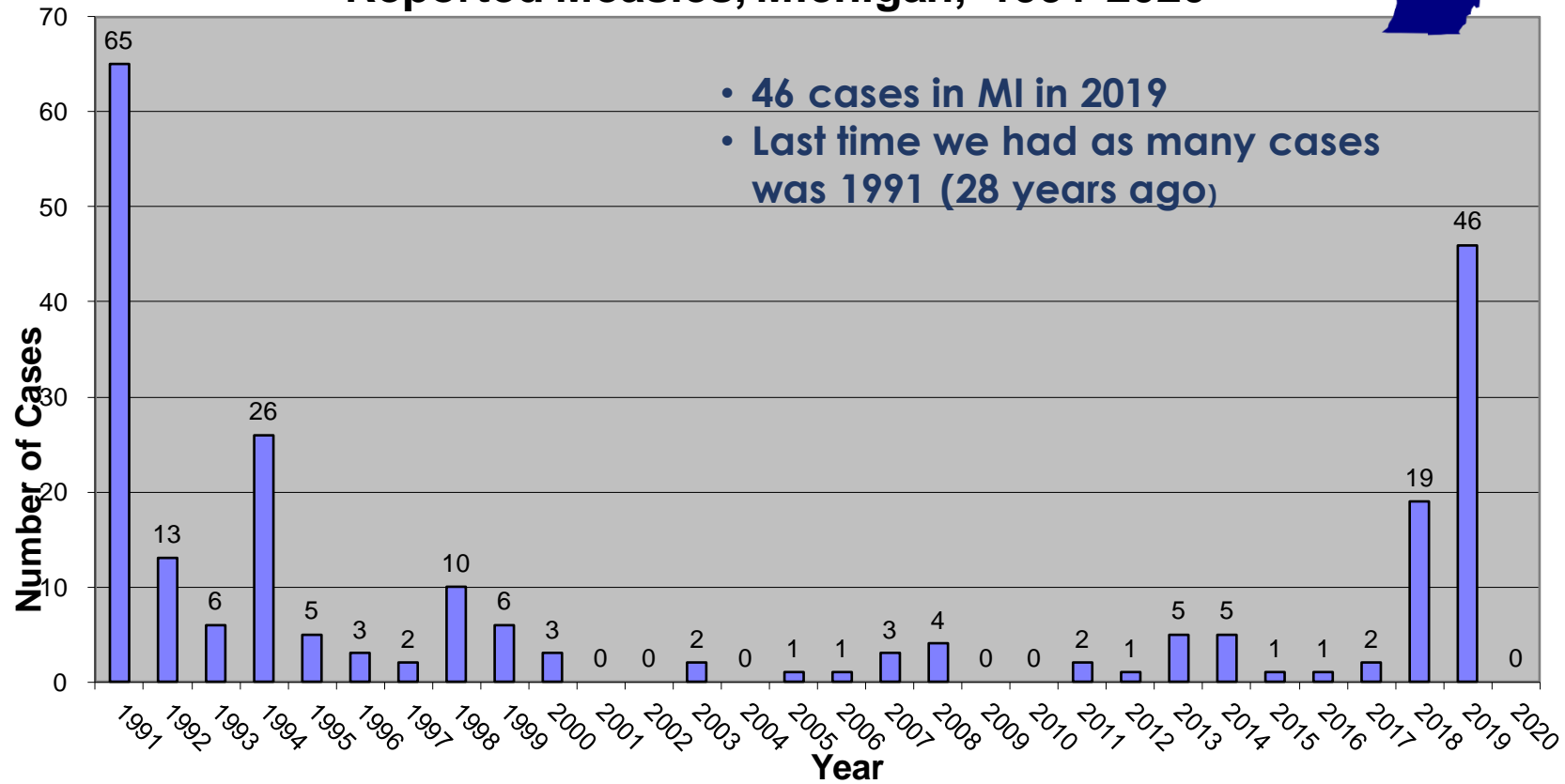
**-Challenging...**

# MEASLES, NUMBER OF CASES BY YEAR MICHIGAN 2000-2020

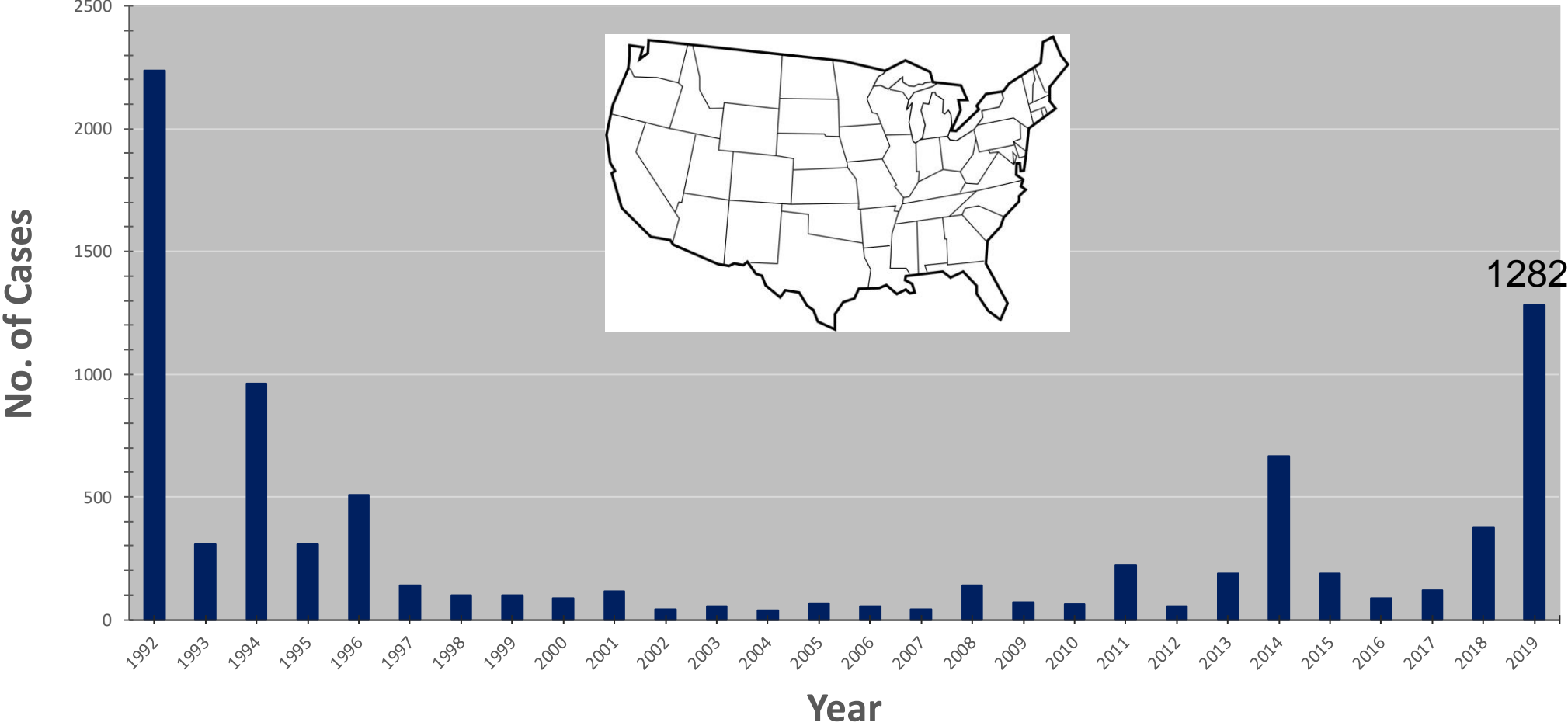




## Reported Measles, Michigan, 1991-2020

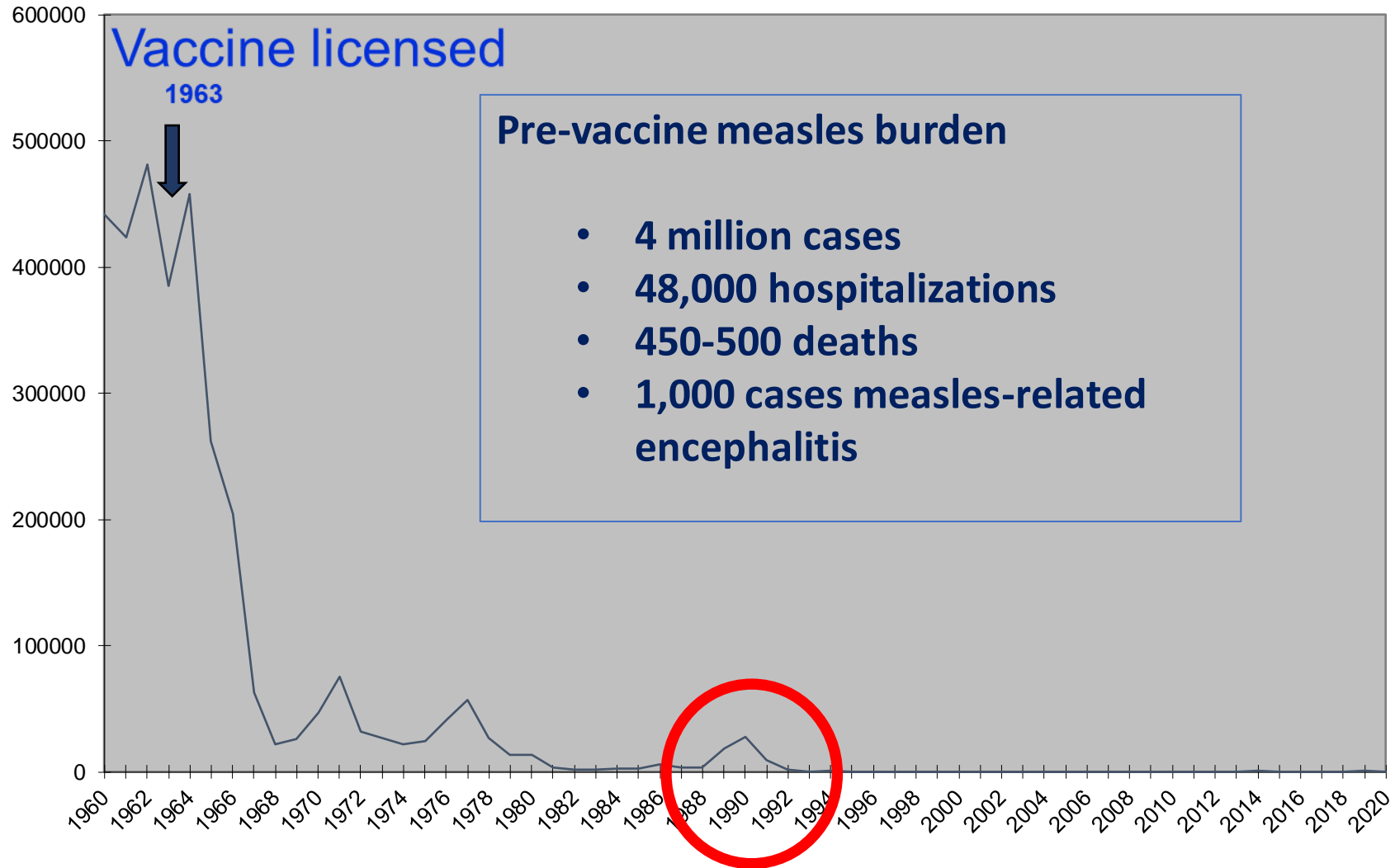


# Measles cases, US, 1992 - 2019



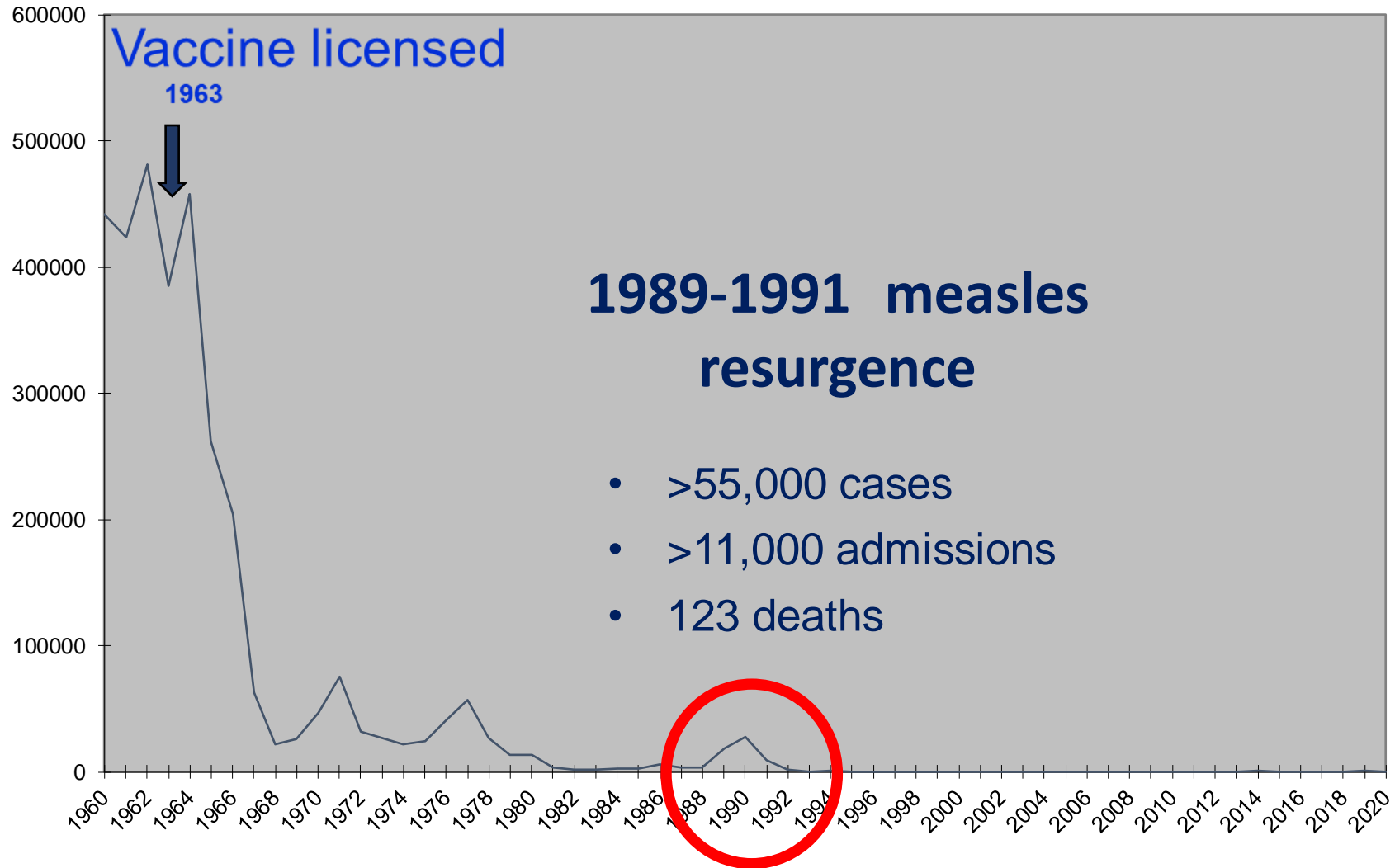
# Measles, United States, 1960 - 2020

Reported Cases of Measles, United States



# Measles, United States, 1960 - 2020

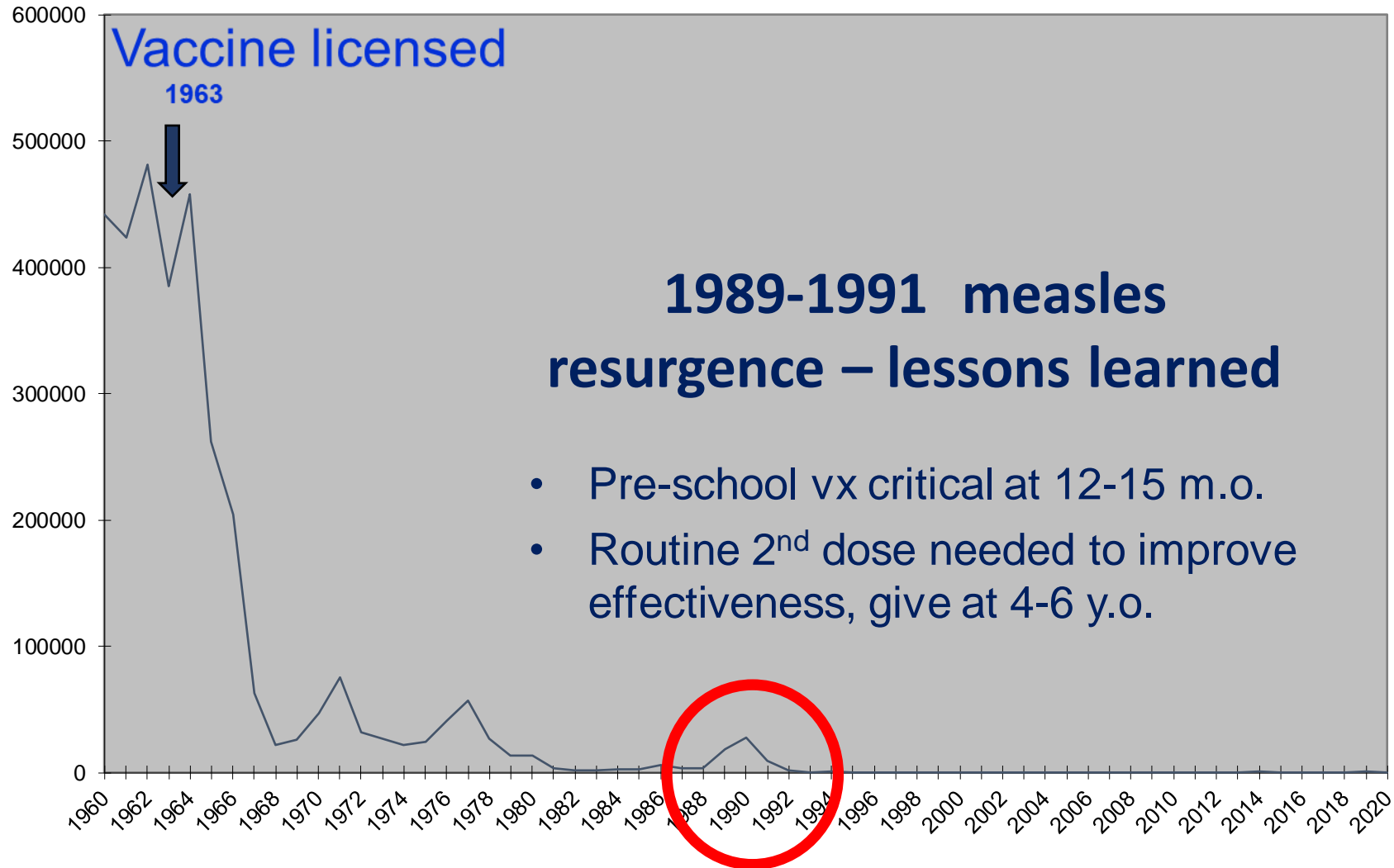
## Reported Cases of Measles, United States





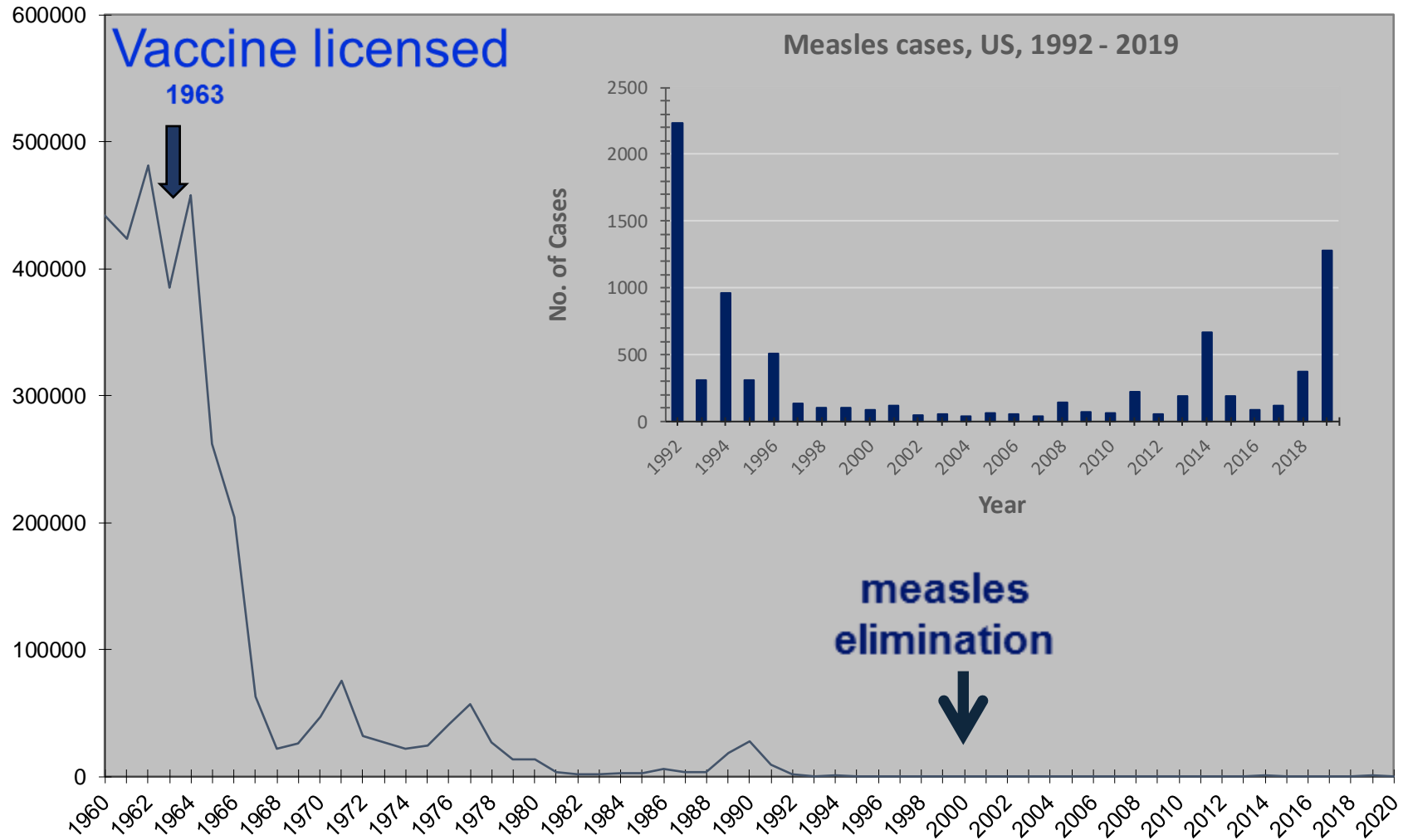
# Measles, United States, 1960 - 2020

Reported Cases of Measles, United States



# Measles, United States, 1960 - 2020

## Reported Cases of Measles, United States



# Measles in United States

## Current status

### Eliminated:

the absence of any continuous chain of measles virus transmission within a defined geographic area (i.e. the US) for more than 12 months

**Elimination  $\neq$  Eradication**

# 2019 – a huge measles year

**U.S. measles outbreak hits highest mark in 25 years**

UPDATED ON: APRIL 24, 2019 / 5:00 PM / CBS/AP



**Michigan measles cases climb to 41, health officials say**

The Detroit News

Published 5:40 p.m. ET April 8, 2019 | Updated 5:40 p.m. ET April 8, 2019

*The New York Times*  
**Measles Cases Reach Highest Level in More Than 25 Years, C.D.C. Says**

Health

**Measles cases quadruple globally in 2019, says UN**

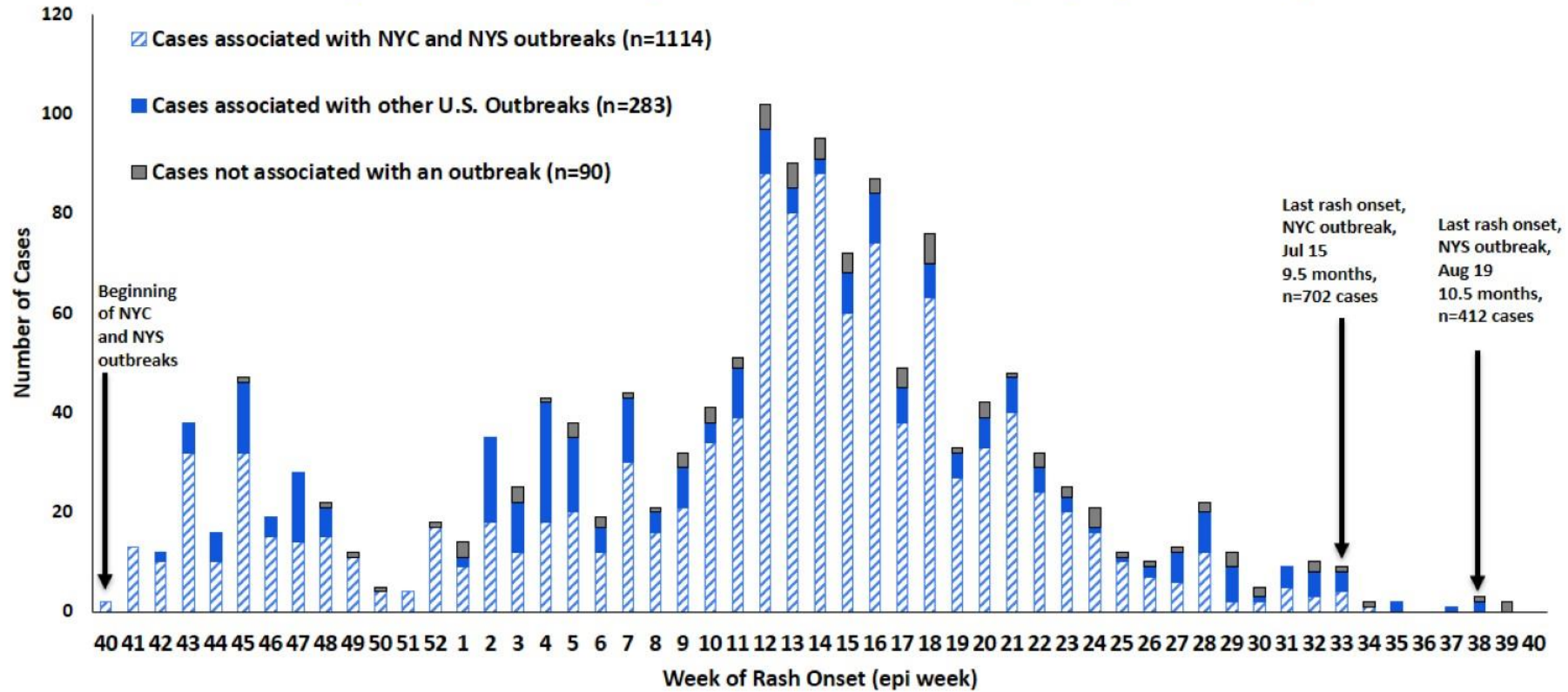
HEALTH AND SCIENCE

**Measles cases climb to 880 in US, with most new cases in New York**

PUBLISHED MON, MAY 20 2019 • 10:50 AM EDT | UPDATED MON, MAY 20 2019 • 12:46 PM EDT

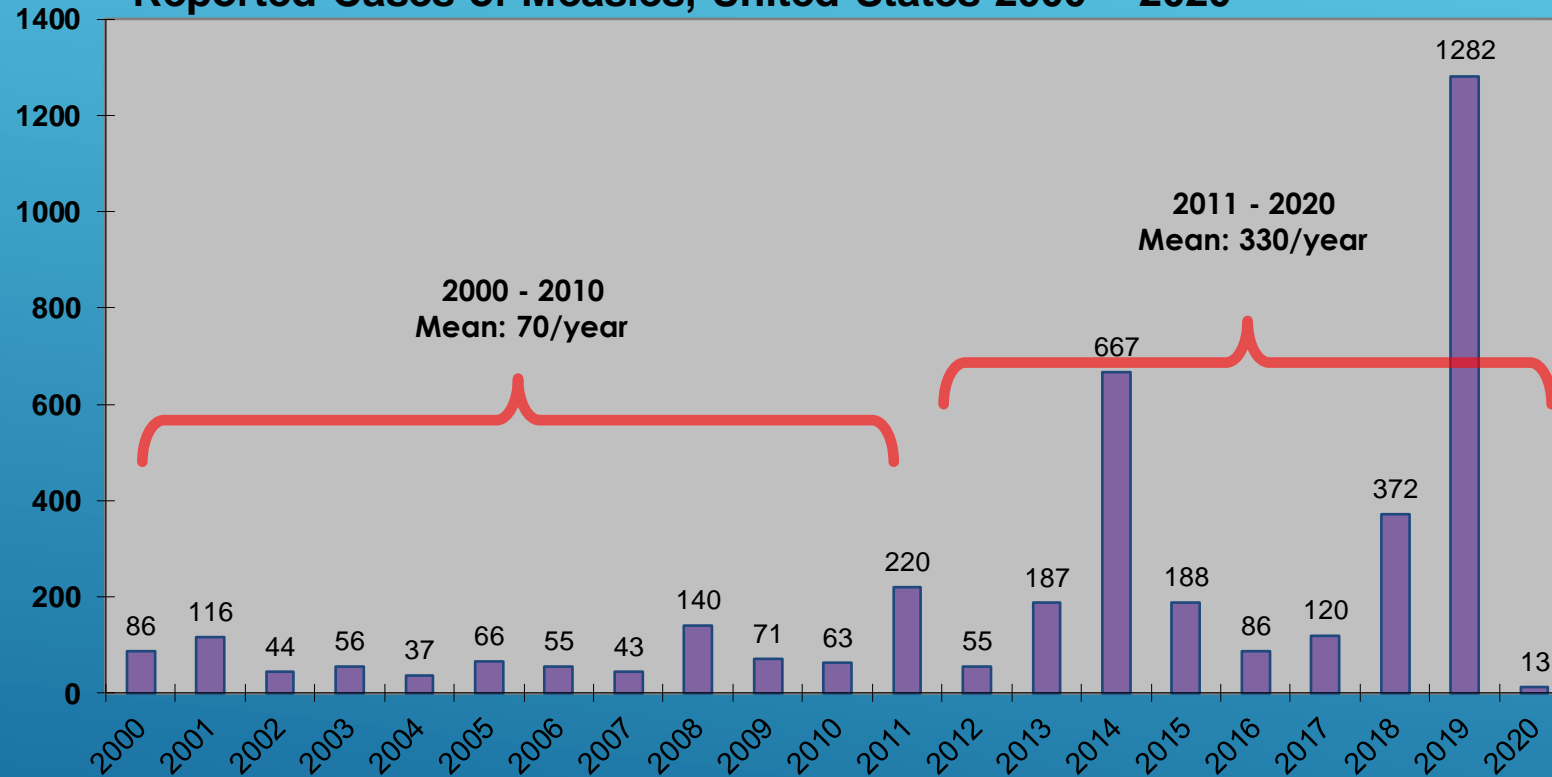
# Measles Elimination in the U.S., 2018-2019

Number of Reported Measles Cases by Week of Rash Onset – U.S., Sep 30, 2018 – Oct 8, 2019

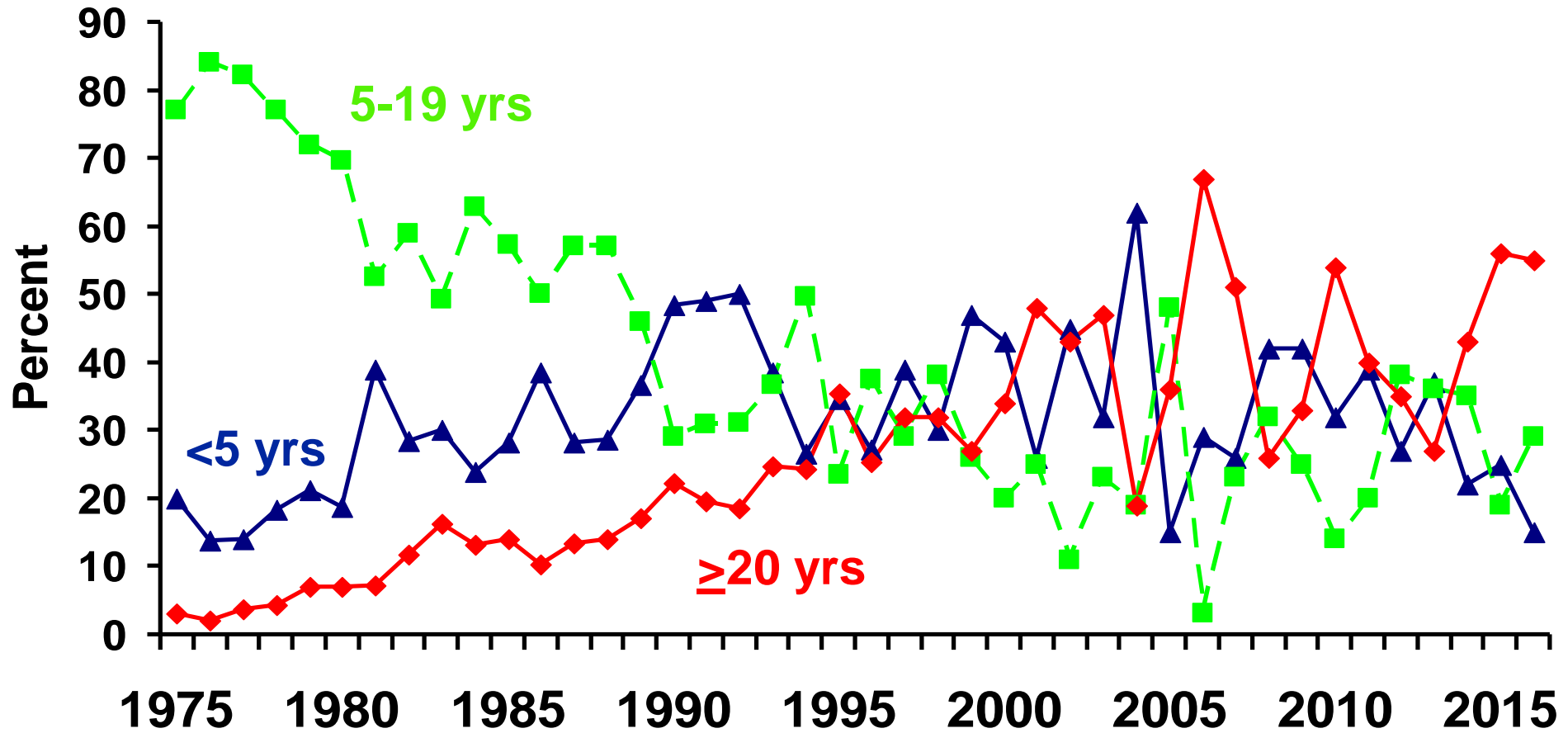




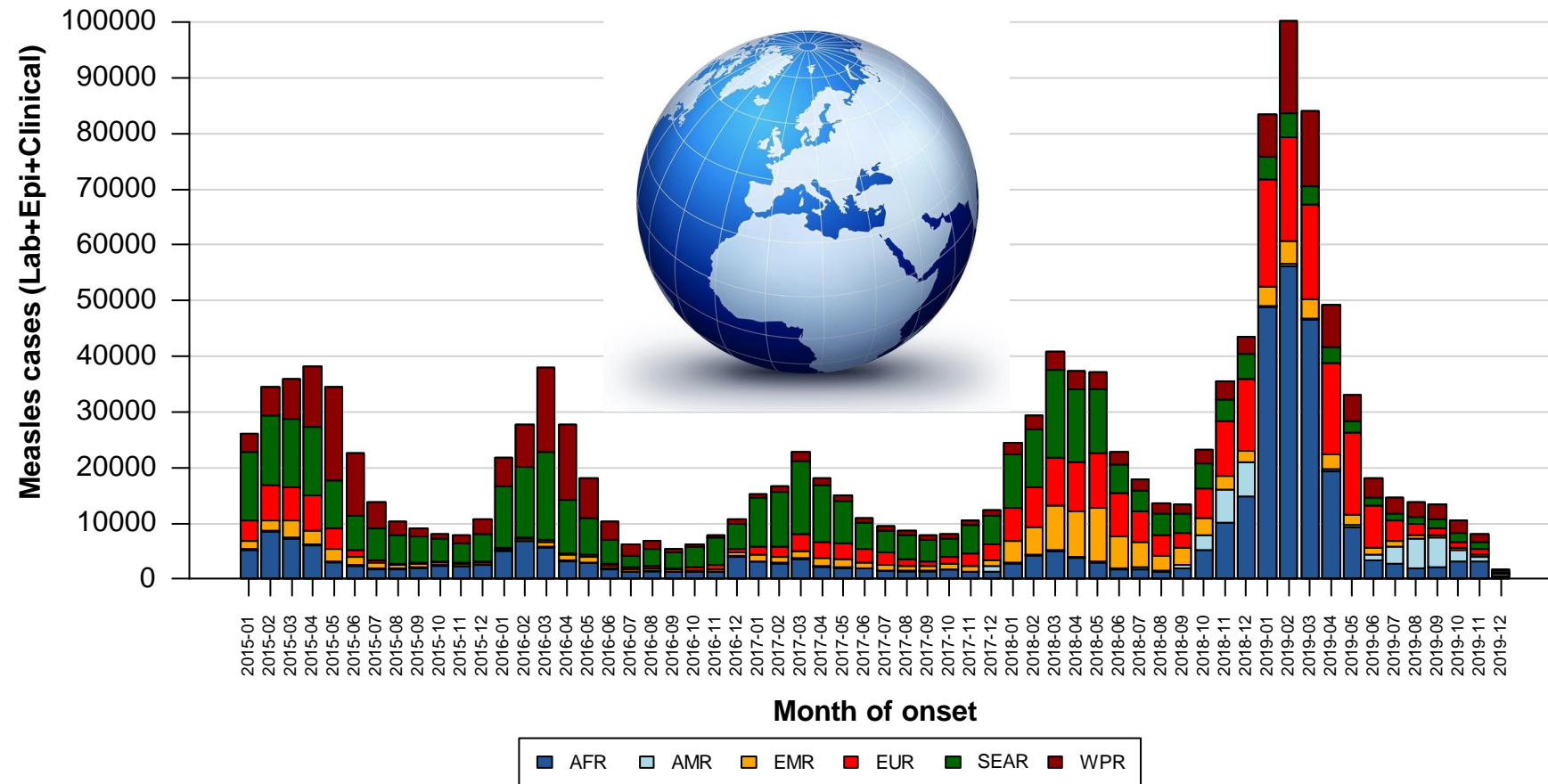
## Reported Cases of Measles, United States 2000 – 2020



# Age Distribution of Reported Measles, US, 1975 - 2015



# Global measles case distribution by month and WHO Region (2015-2019)



Notes: Based on data received 2020-01 - Data Source: IVB Database - This is surveillance data, hence for the last month(s), the data may be incomplete.



# Get Vaccinated: Prevent and Stop Measles Outbreaks

When measles happens anywhere in the world...



Make sure you and your family members are up-to-date on your measles-mumps-rubella (MMR) vaccine, including before traveling internationally. Ask your doctor if everyone has received all recommended doses of MMR for best protection against measles.

[www.cdc.gov/features/measles/](http://www.cdc.gov/features/measles/)



U.S. Department of Health and Human Services  
Centers for Disease Control and Prevention

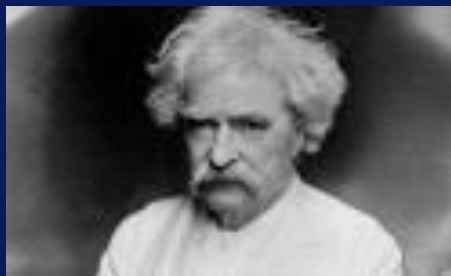
## Ten threats to global health in 2019

- Air pollution and climate change
- Noncommunicable diseases
- Global influenza pandemic
- Fragile and vulnerable settings
- Antimicrobial resistance
- Ebola and other high-threat pathogens
- Weak primary health care
- **Vaccine hesitancy**
- Dengue
- HIV

# Misinformation

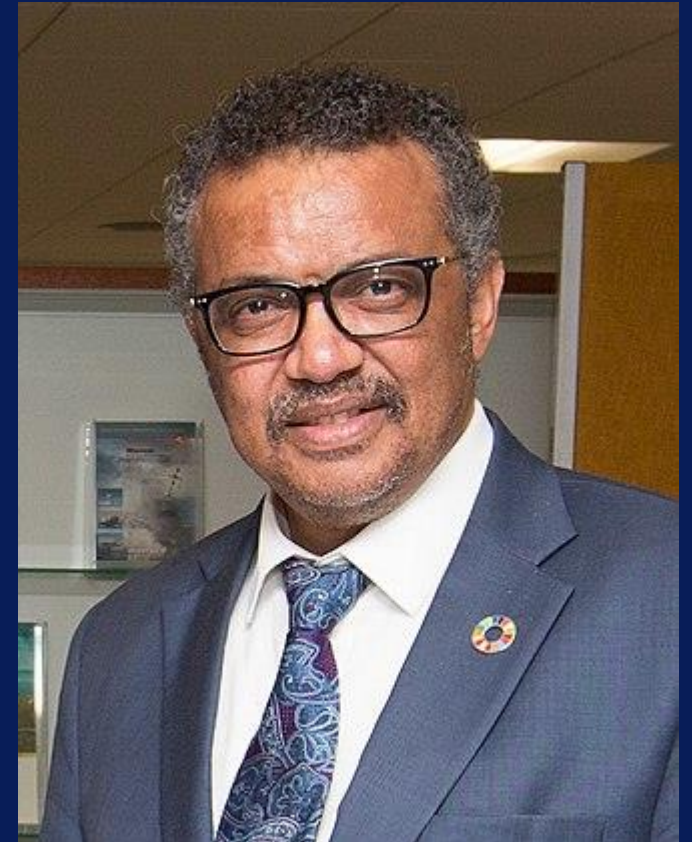
*“The trouble with the world is not that people know too little, it’s that they know so many things that just aren’t so.”*

– Mark Twain

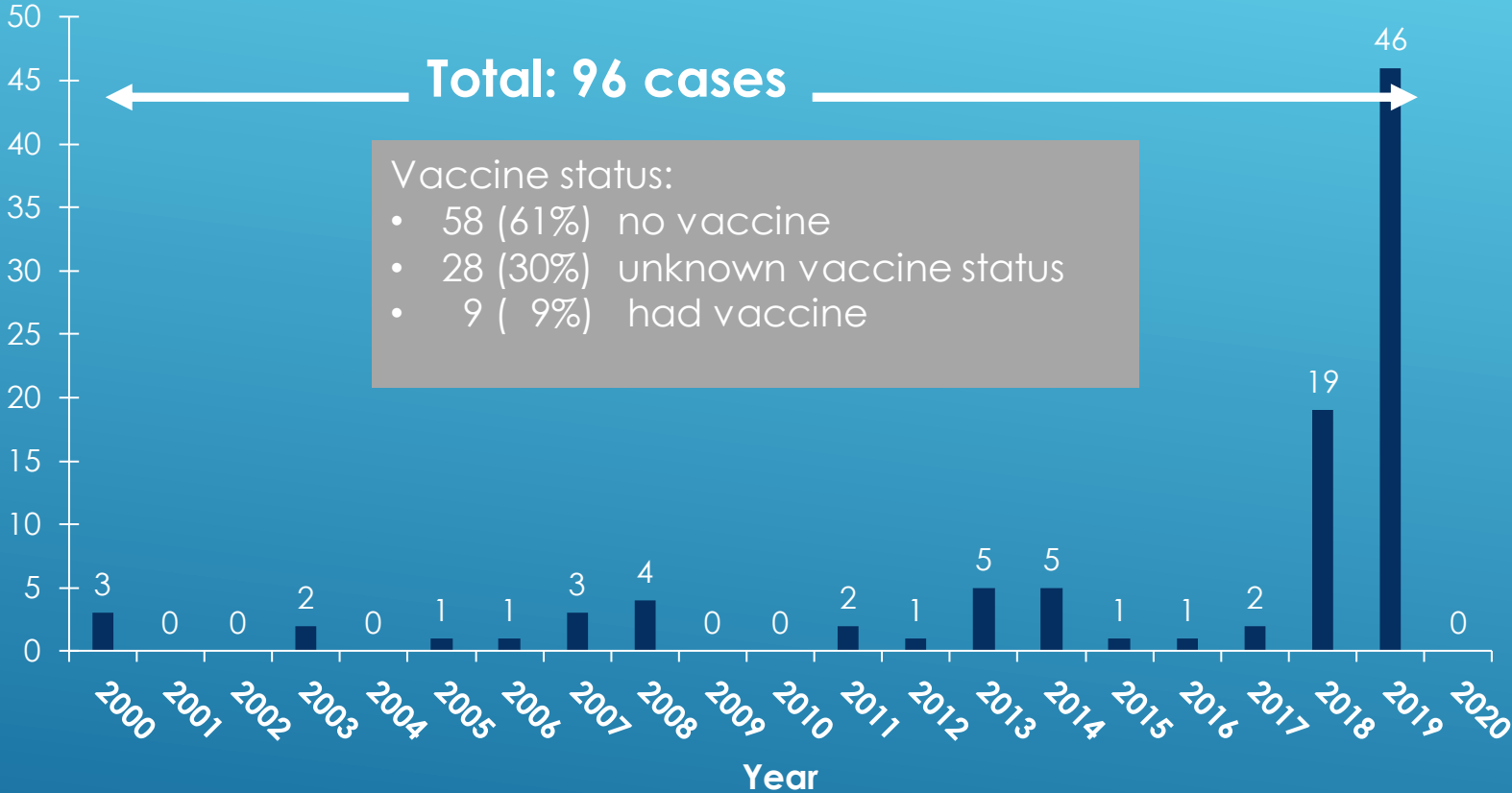


“Misinformation about vaccines is as contagious and dangerous as the diseases it helps to spread.”

-- Dr. Tedros Adhanom Ghebreyesus,  
WHO Director-General, 8/28/2019



# MEASLES - NUMBER OF CASES BY YEAR MICHIGAN 2000-2020



# Take-aways from recent measles experience

- Represents ***failure-to-vaccinate***, not ***vaccine-failure***
  - Most cases occur in unvaccinated persons;
  - Measles vaccine is very effective, very safe.
  - Almost all cases are preventable
- **Travel to/from abroad is a major risk factor**
  - Measles virus imported into close-knit, poorly protected communities can result in major outbreaks
  - measles is highly transmissible - - requires very high immunization / immunity levels to prevent outbreaks



The NEW ENGLAND  
JOURNAL of MEDICINE

Perspective

April 17, 2019

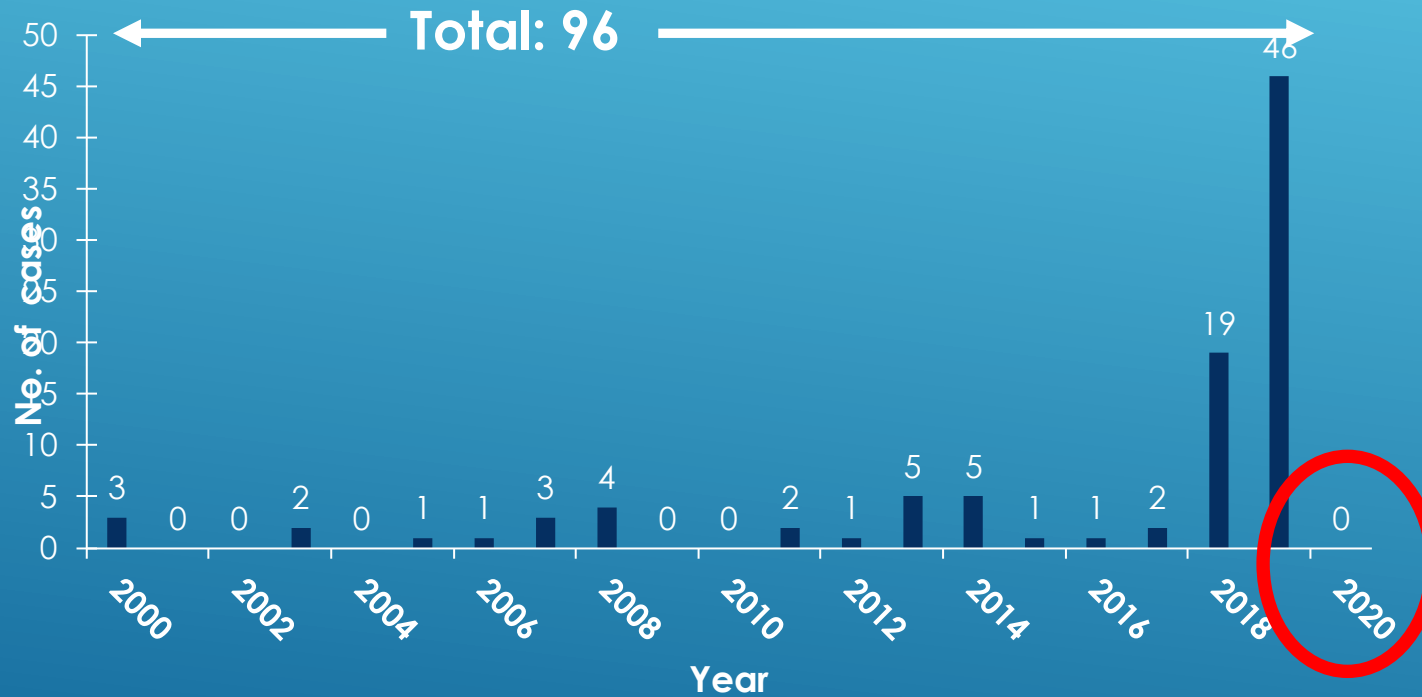
DOI: 10.1056/NEJMp1905099

## Measles in 2019 — Going Backward

Catharine I. Paules, M.D., Hilary D. Marston, M.D., M.P.H., and Anthony S. Fauci, M.D.

Backward

# MEASLES, NUMBER OF CASES BY YEAR MICHIGAN 2000-2020





# United States

## Number of measles cases reported by year

2010-2020\*(as of December 31, 2020)

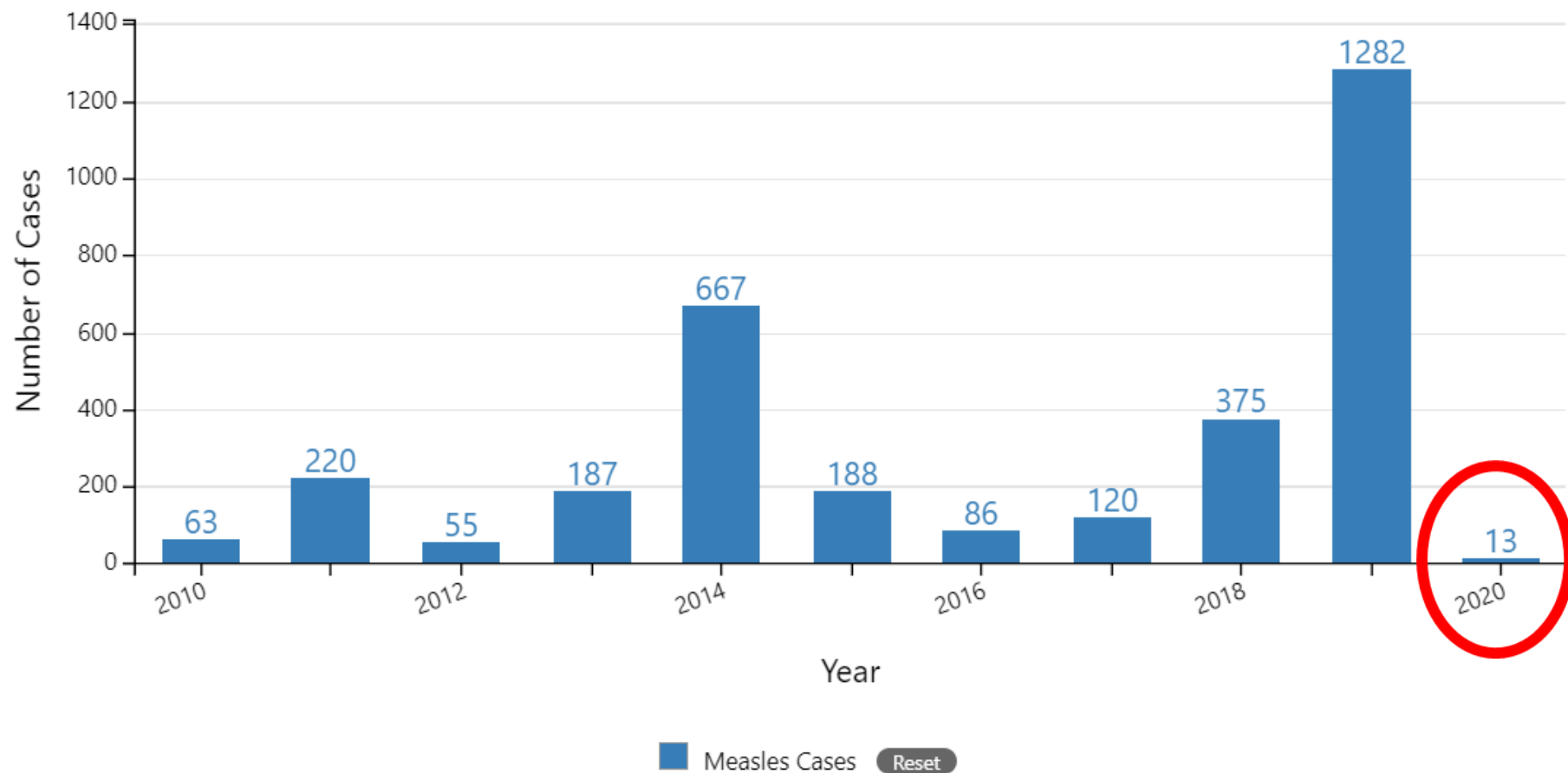
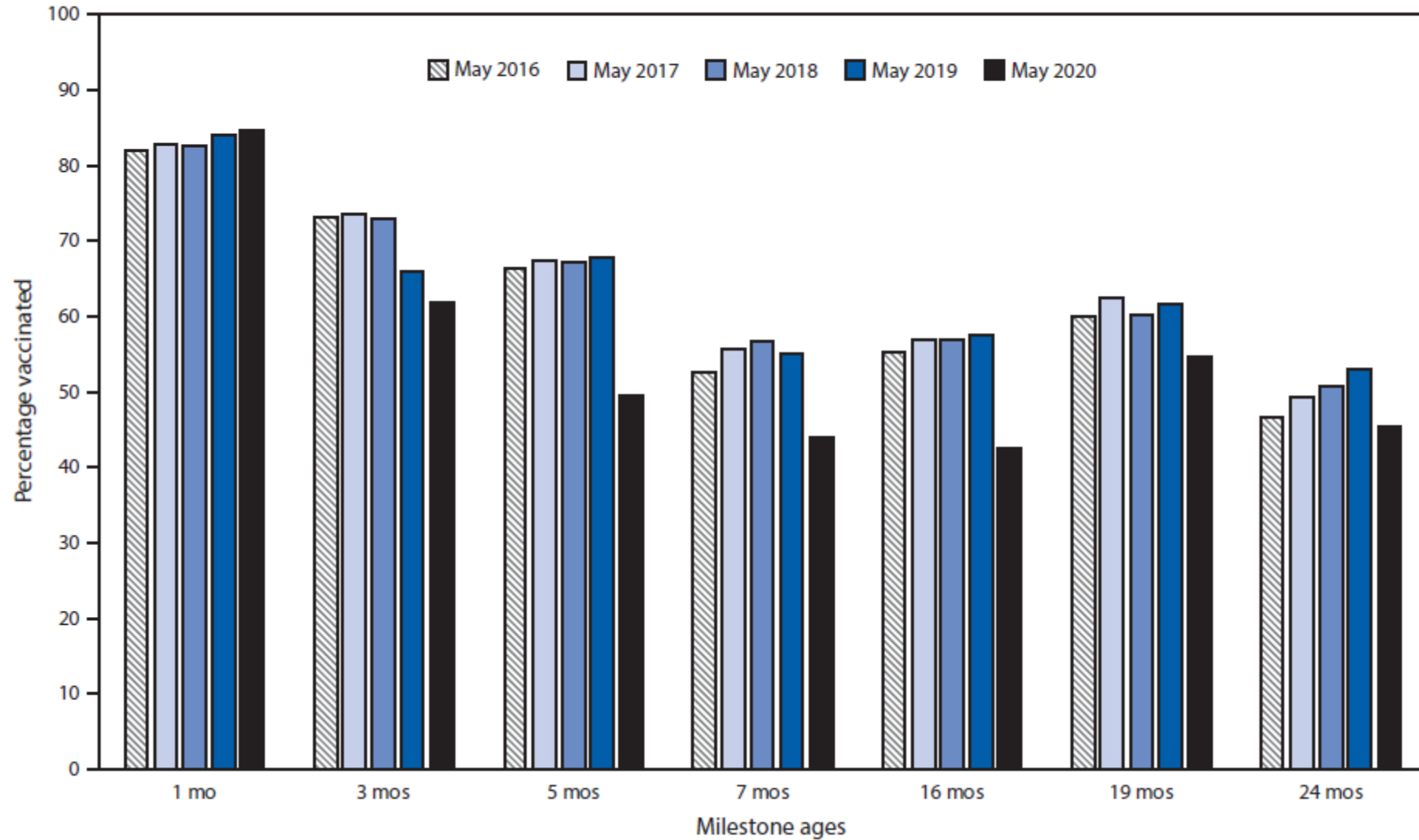
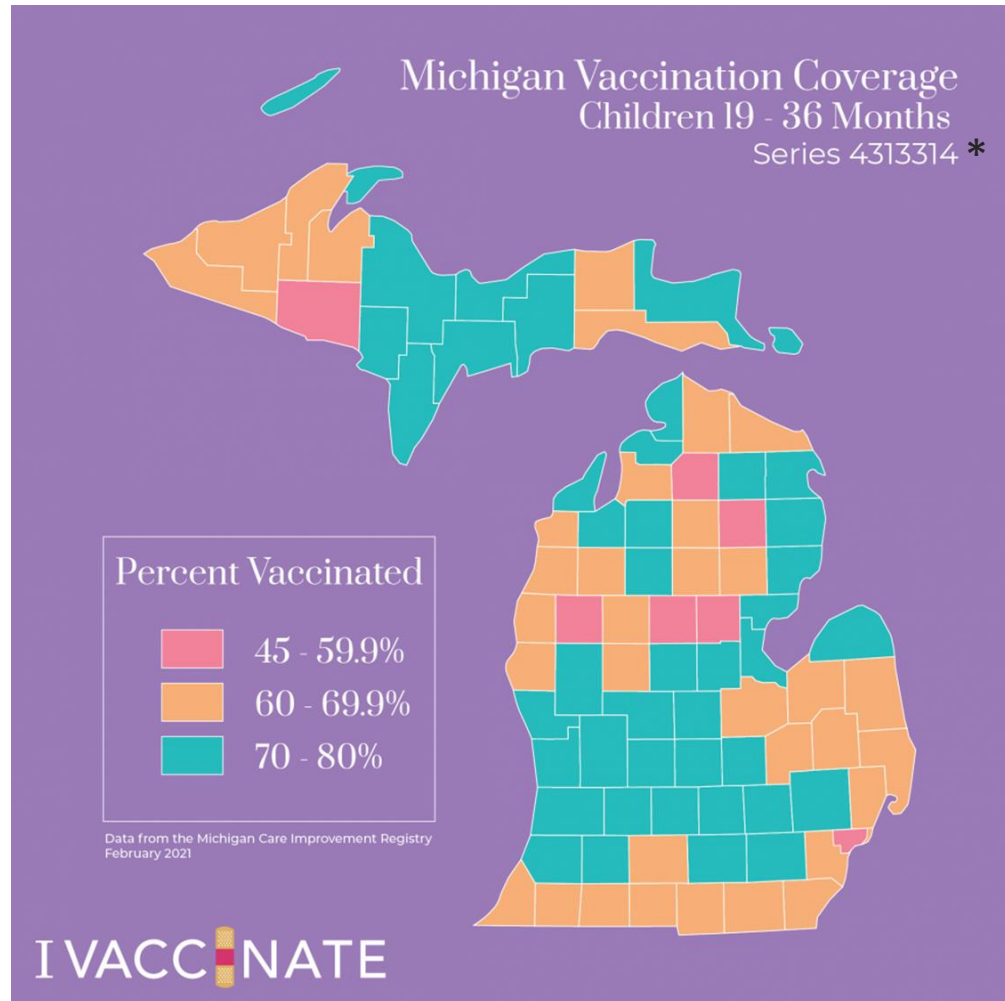


FIGURE. Percentage of Michigan infants and children vaccinated at milestone ages\* — Michigan Care Improvement Registry, May 2016, 2017, 2018, 2019, and 2020



# Missing vaccinations during COVID-19 puts our children and communities at risk

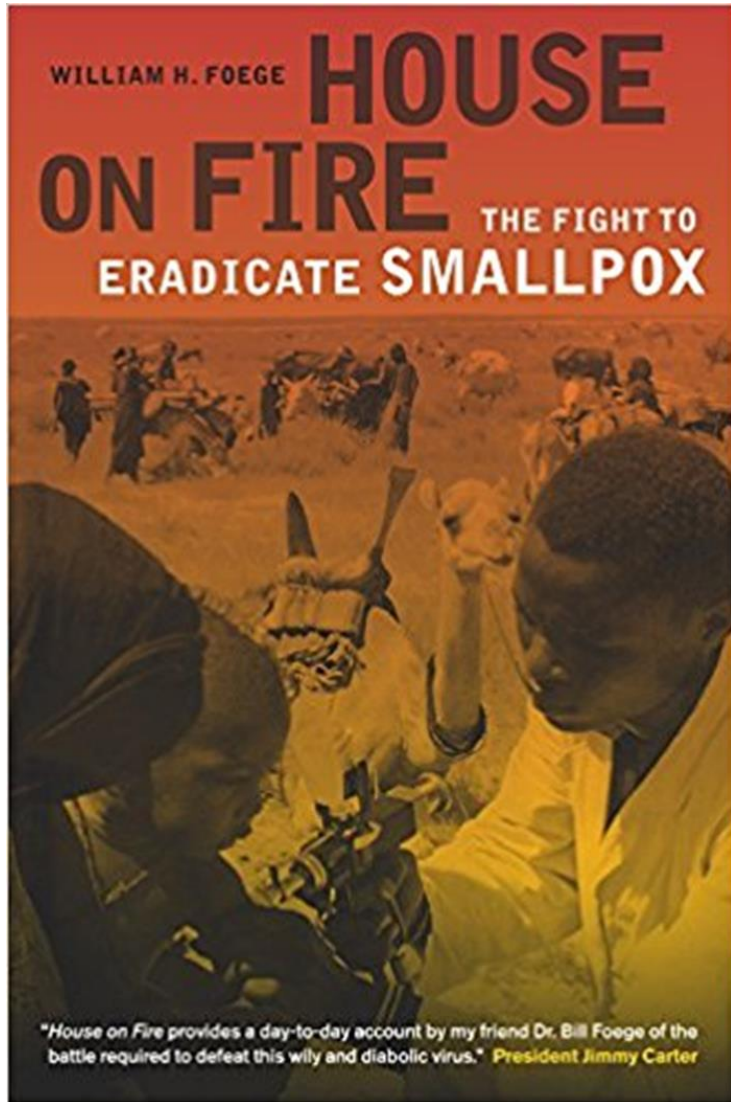


- Parents postponed well-child visits to protect their kids from COVID-19
- Vaccination rates of younger children dropped during the pandemic
- Vaccination\* rates for Michigan children ages 19 to 36 months have fallen below 70% in more than half of the state (42 of 83 Michigan counties)

\*4313314 series: 4 DTaP, 3 Polio, 1 MMR, 3 Hib, 3 HepB, 1 Varicella, 4 PCV, Feb. 2021 MCIR data

A young child with curly hair is shown in a clinical setting, looking down as a healthcare professional applies a bandage to their arm. The background is slightly blurred, showing medical equipment. The text is overlaid on the left side of the image.

**MISSING  
VACCINATIONS**  
DURING COVID-19 PUTS OUR  
**CHILDREN &  
COMMUNITIES**  
**AT RISK**



Dr. William Foege, former director, US Centers for Disease Control & Prevention (CDC).

“Nobody ever thanks you for saving them from the disease they didn't know they were going to get.”

- Dr. William Foege, former director, US Centers for Disease Control & Prevention (CDC).

