



# Mayo Clinic Center for Tuberculosis

## Epidemiology of Tuberculosis in Indiana, Michigan, and Ohio



Shona Smith, MPH

# Disclosure

- I have no actual or potential conflicts of interest in relation to this presentation
- I have no financial relationships to disclose

# Learning Objectives

- Describe the TB epidemic in terms of susceptible groups
- Describe major factors that will affect future trends in TB

# Overview of 2015 Cases

## Indiana

- 116 Cases
  - 1.8 per 100,000
- 2 Deaths
- 65% Pulmonary
- 77% Lab-Confirmed
- 57% Male
- Highest Burden: 55 cases in Marion (Indianapolis)

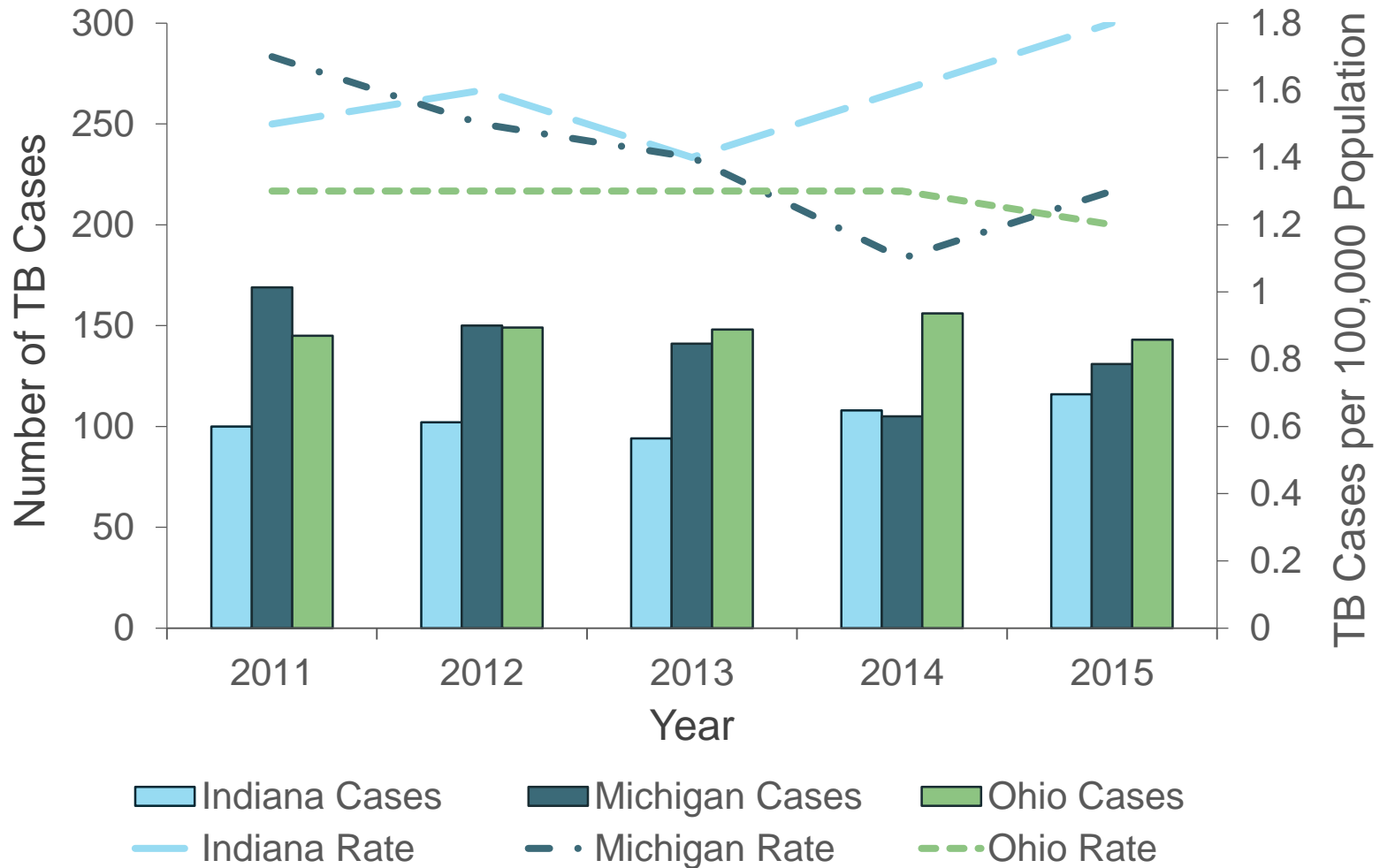
## Michigan

- 131 Cases
  - 1.3 per 100,000
- 6 Deaths
- 66% Pulmonary
- 71% Lab-Confirmed
- 63% Male
- Highest Burden: 41 cases in Wayne (Detroit)

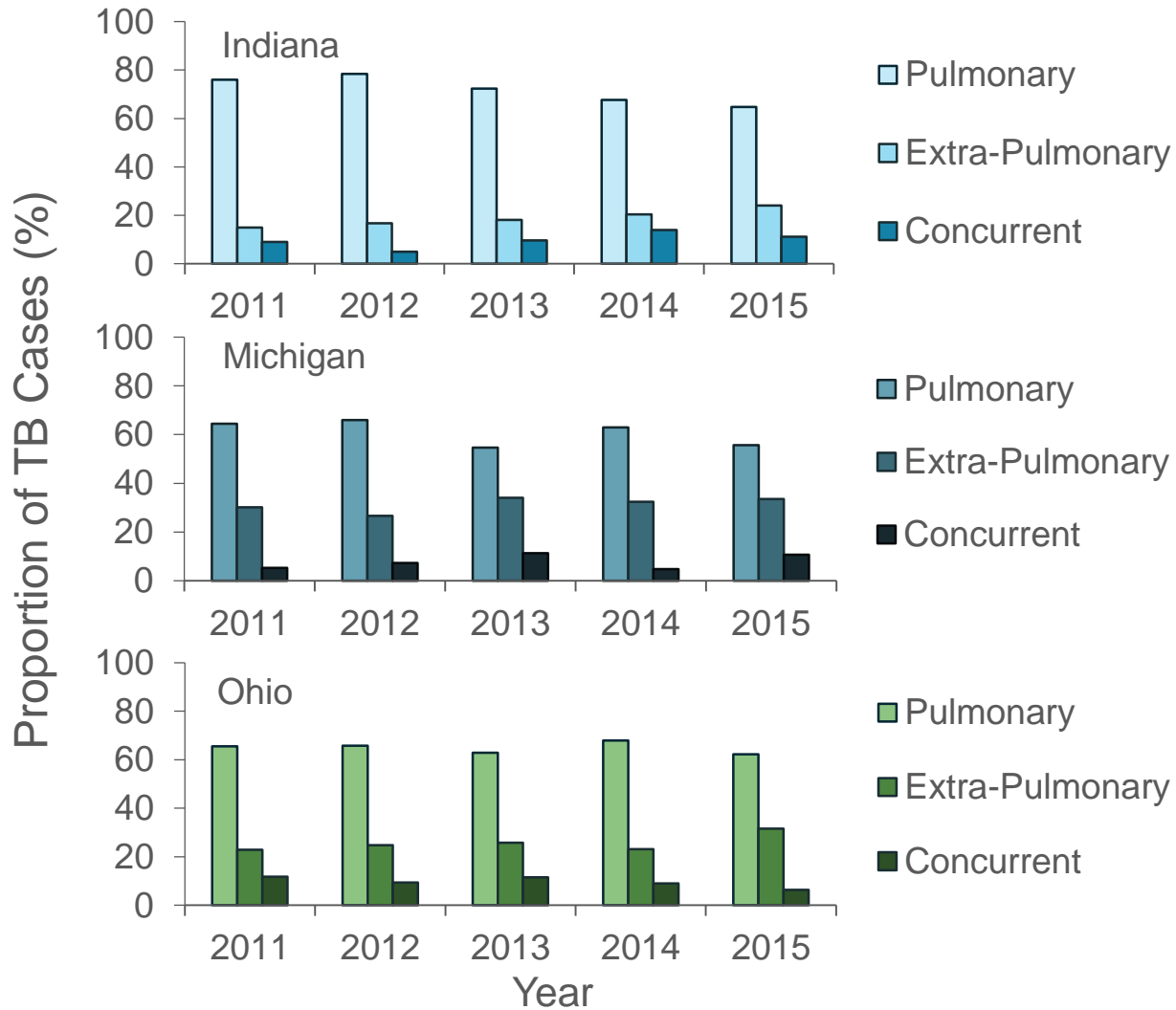
## Ohio

- 143 Cases
  - 1.2 per 100,000
- 10 Deaths
- 68% Pulmonary
- 71% Lab-Confirmed
- 61% Male
- Highest Burden: 71 cases in Cuyahoga (Cleveland) & Franklin (Columbus)

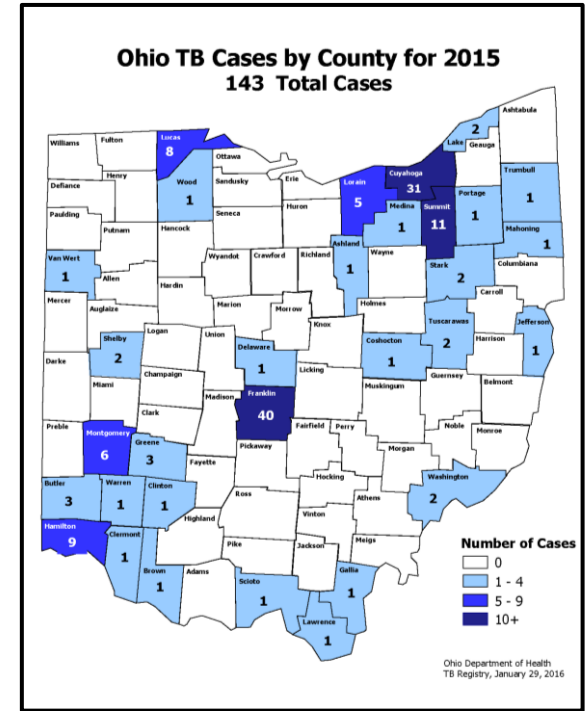
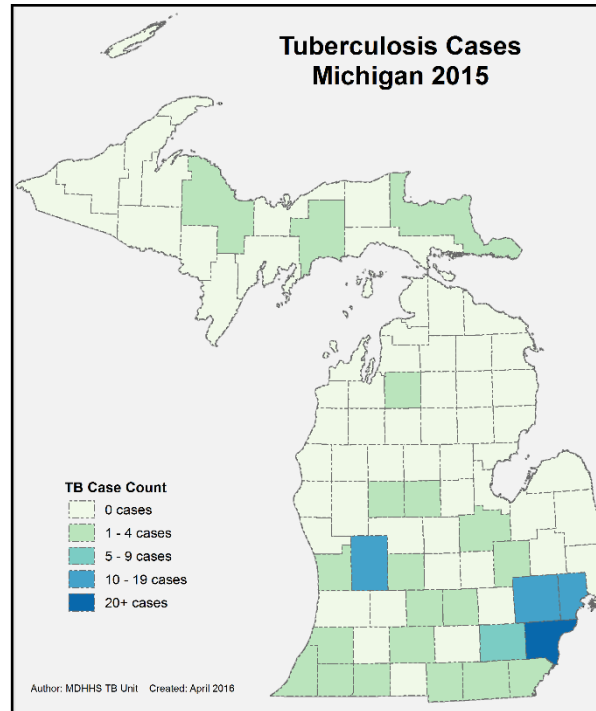
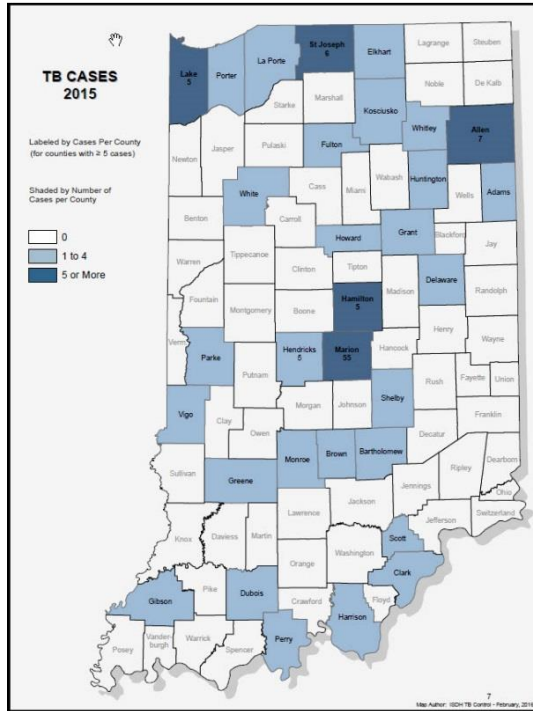
# TB Cases and Rates, 2011-2015



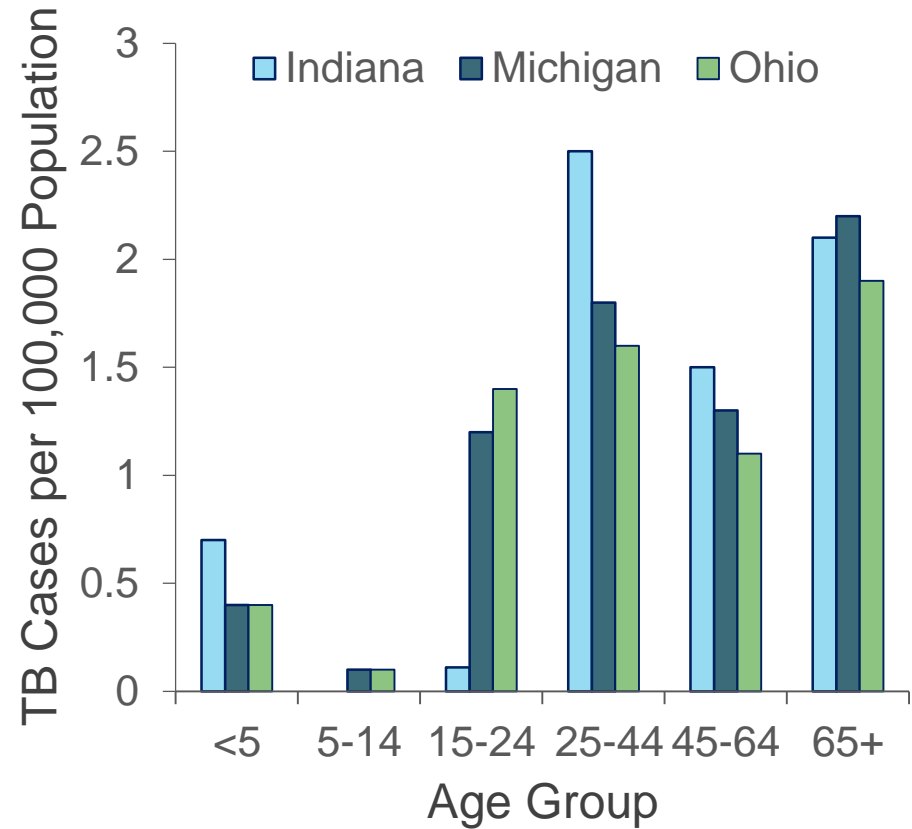
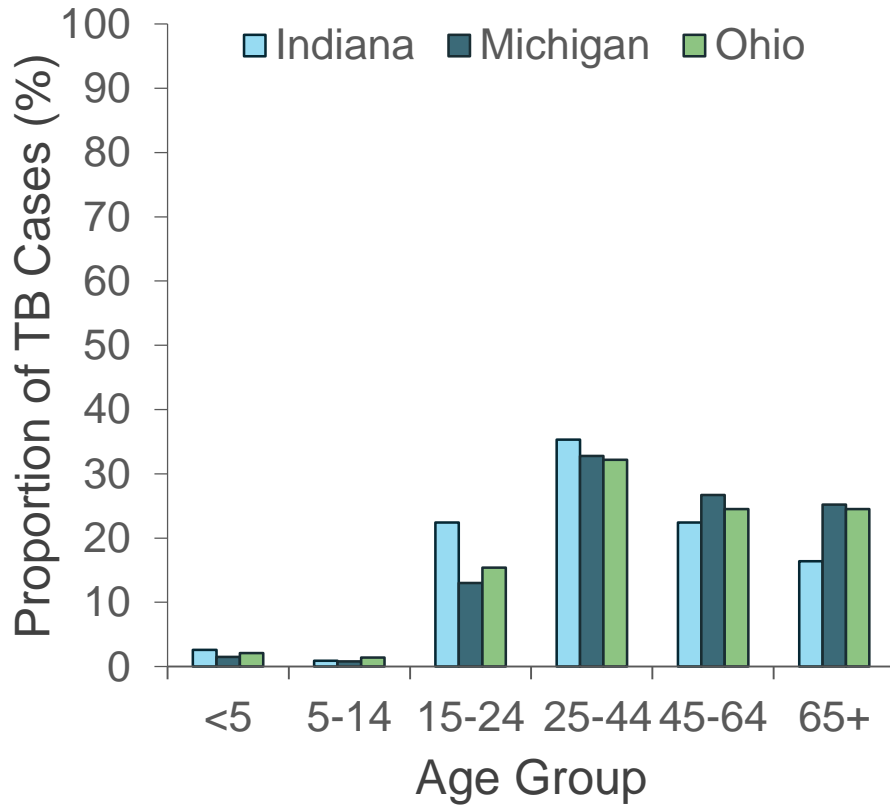
# TB Cases by Site of Disease, 2011-2015



# Distribution of TB Cases by County, 2015

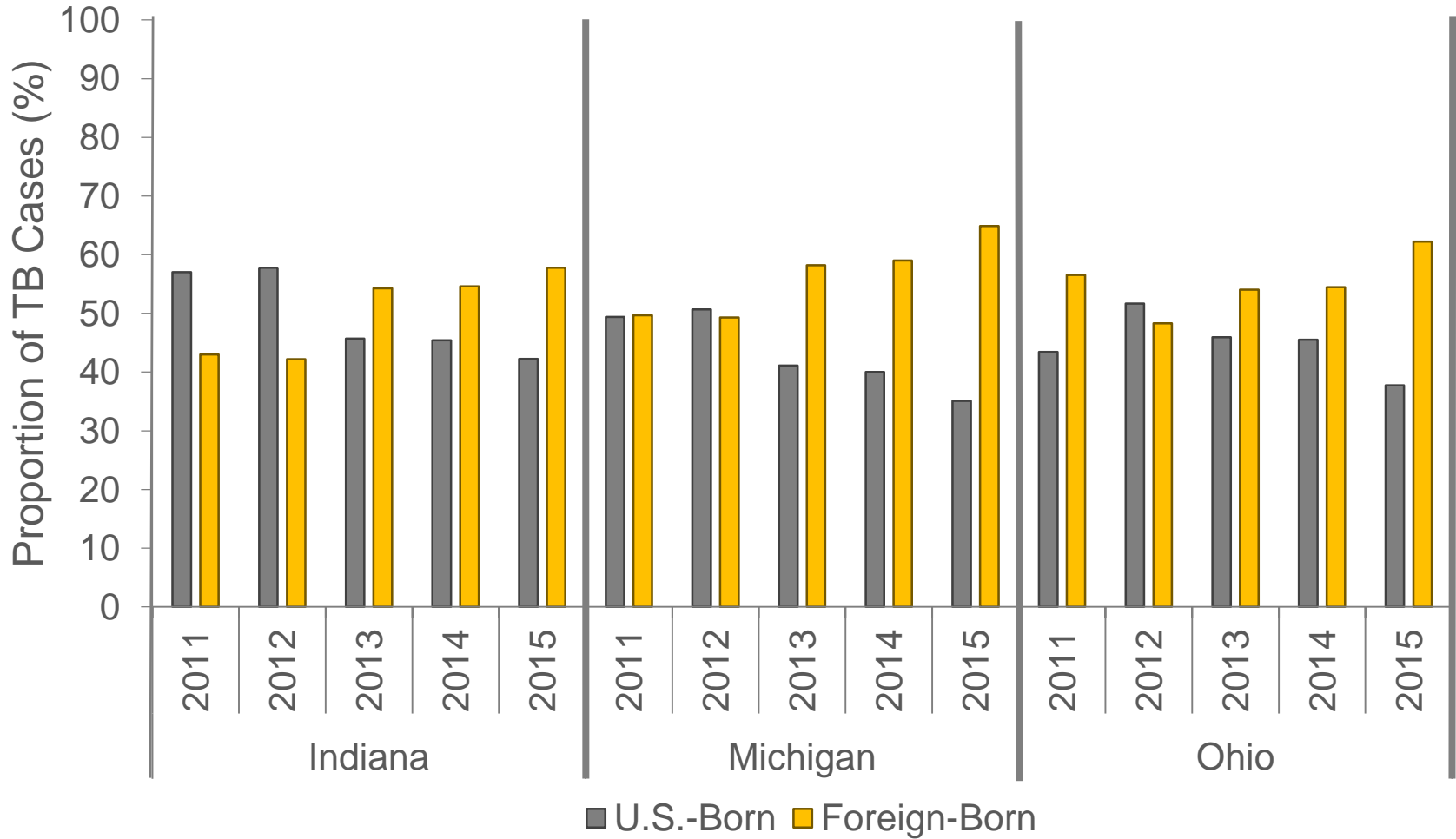


# TB Cases by Age, 2015

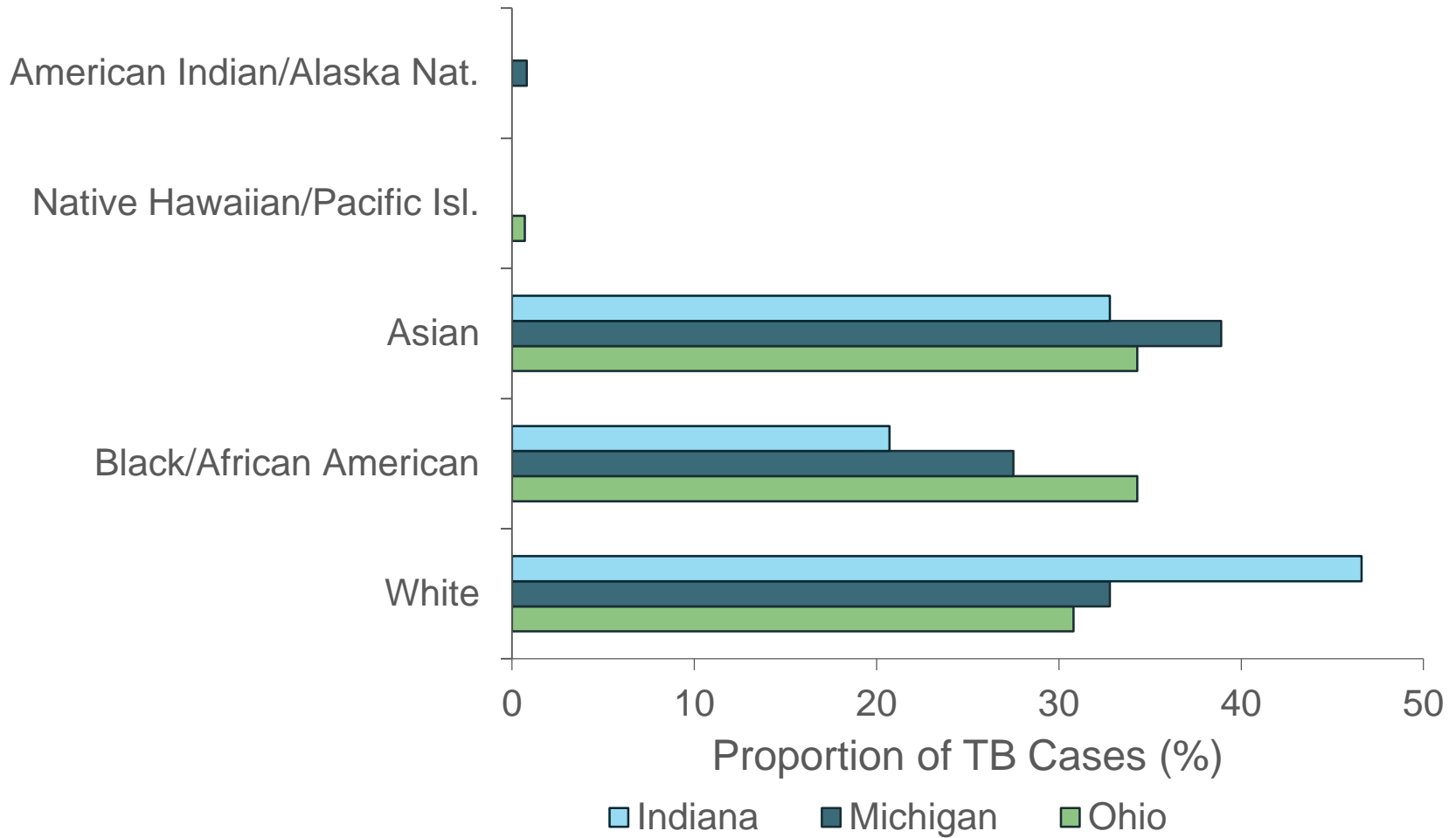




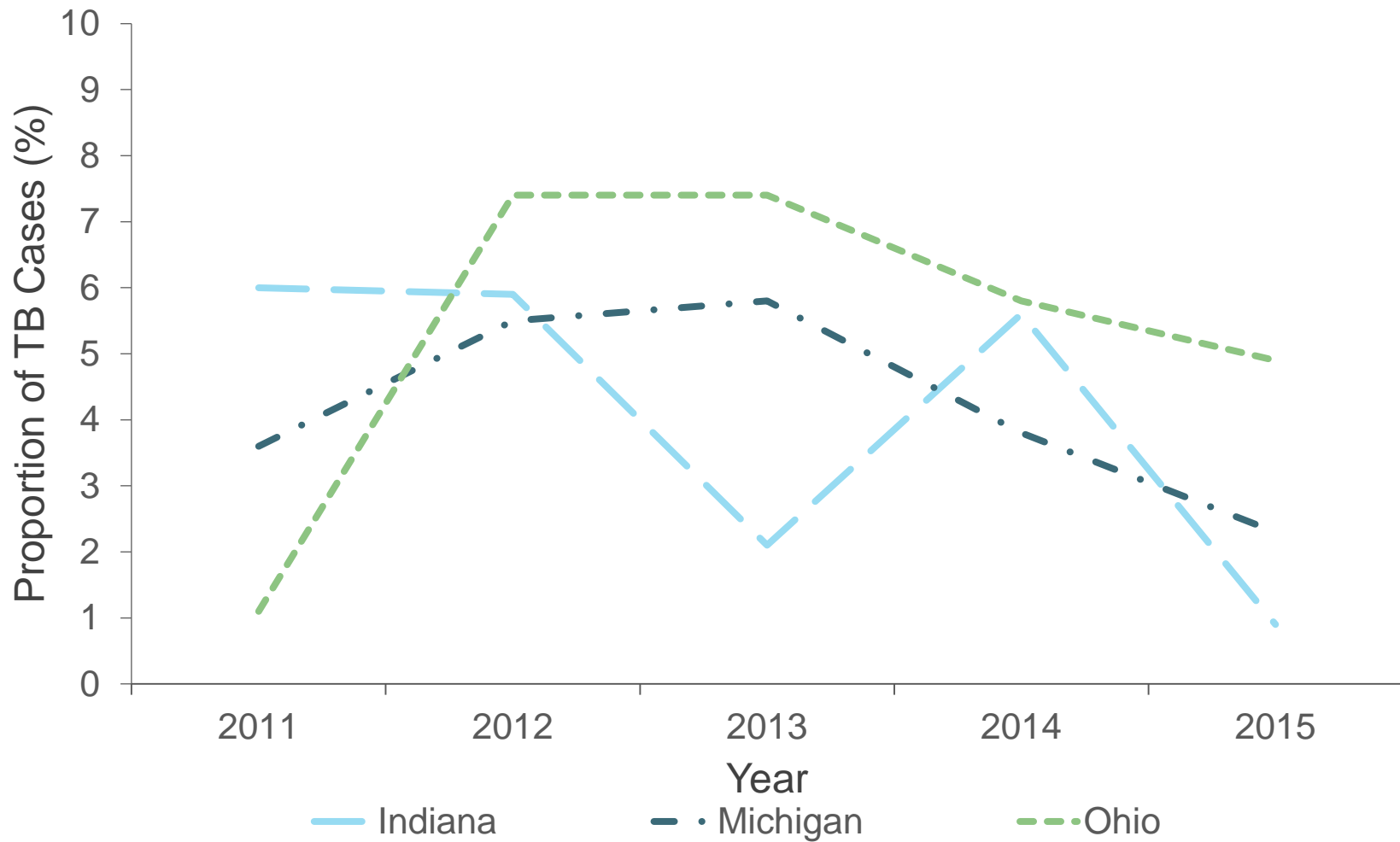
# TB Cases by U.S. v Foreign-Birth, 2011-2015



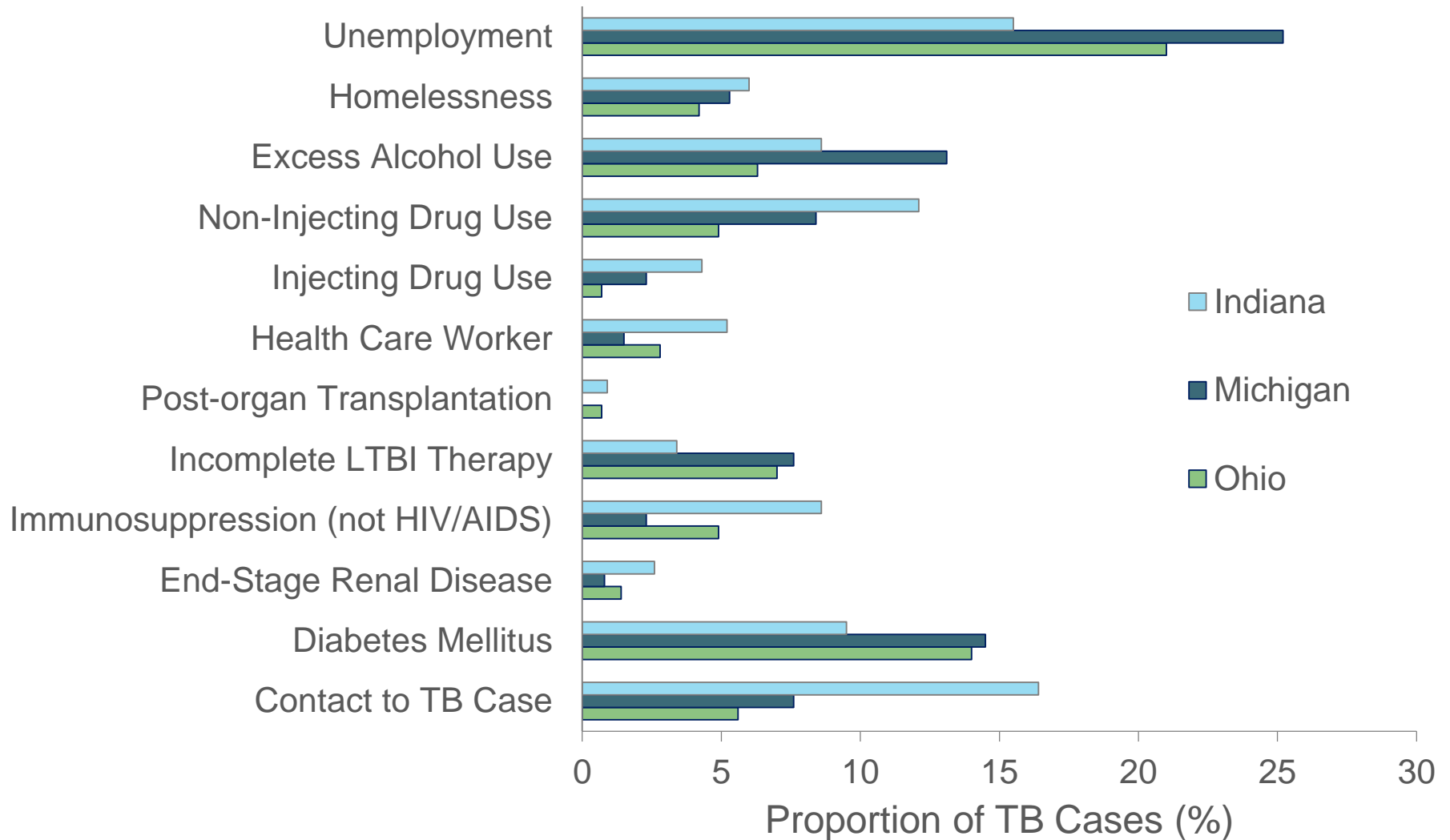
# TB Cases by Race, 2015



# TB Cases with HIV Co-infection, 2011-2015

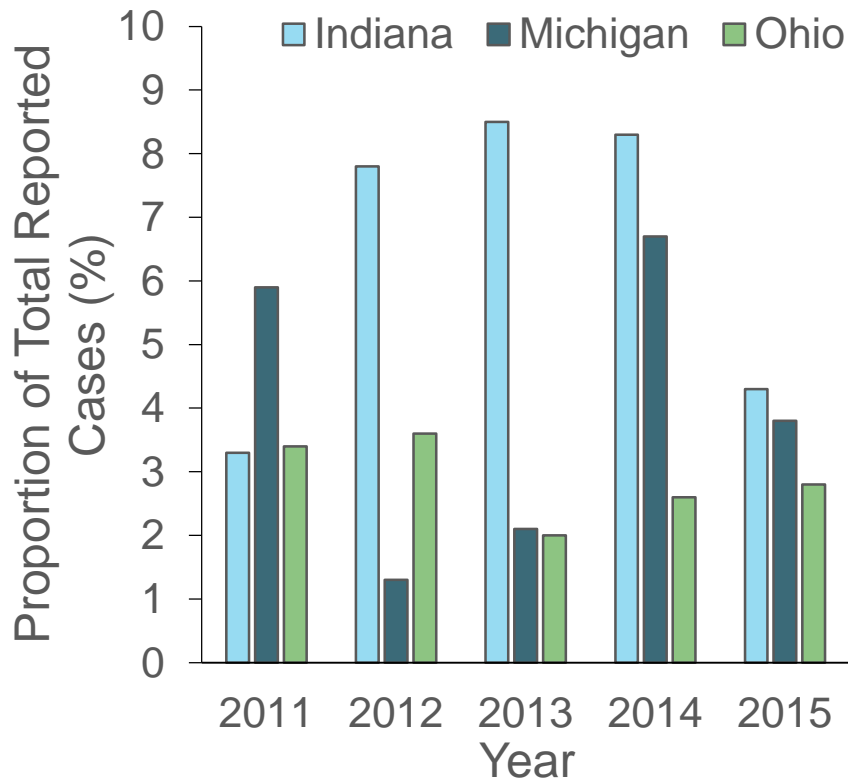


# Additional Risk Factors Among TB Cases, 2015

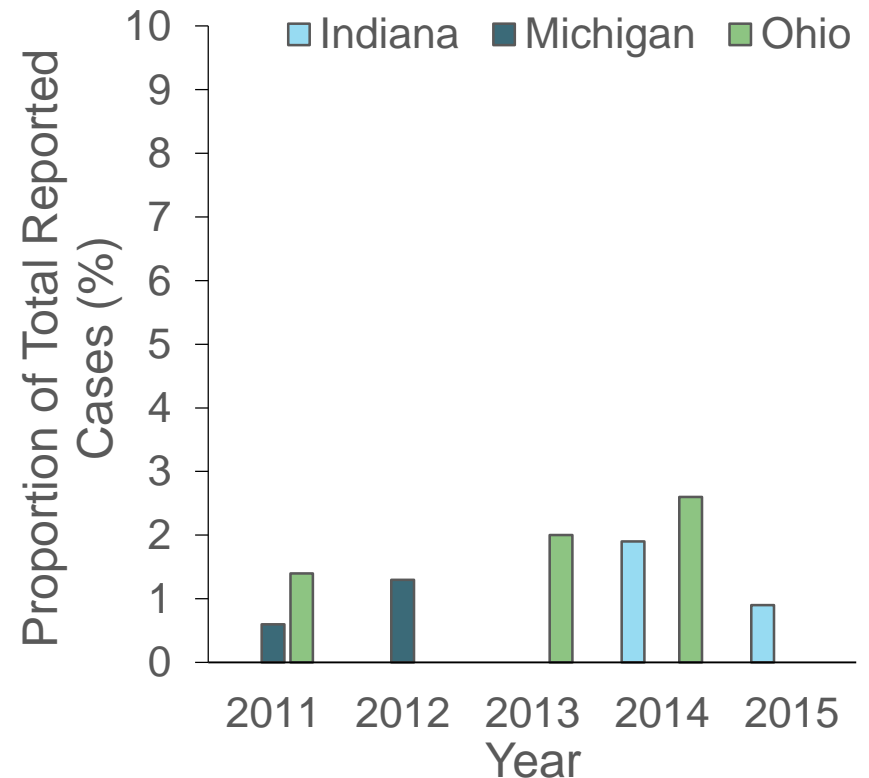


# Drug Resistance Among TB Cases, 2011-2015

## Isoniazid Resistance



## Multi-Drug Resistance



# Quick Quiz

Let's review to make sure the presentation was clear

# Question 1

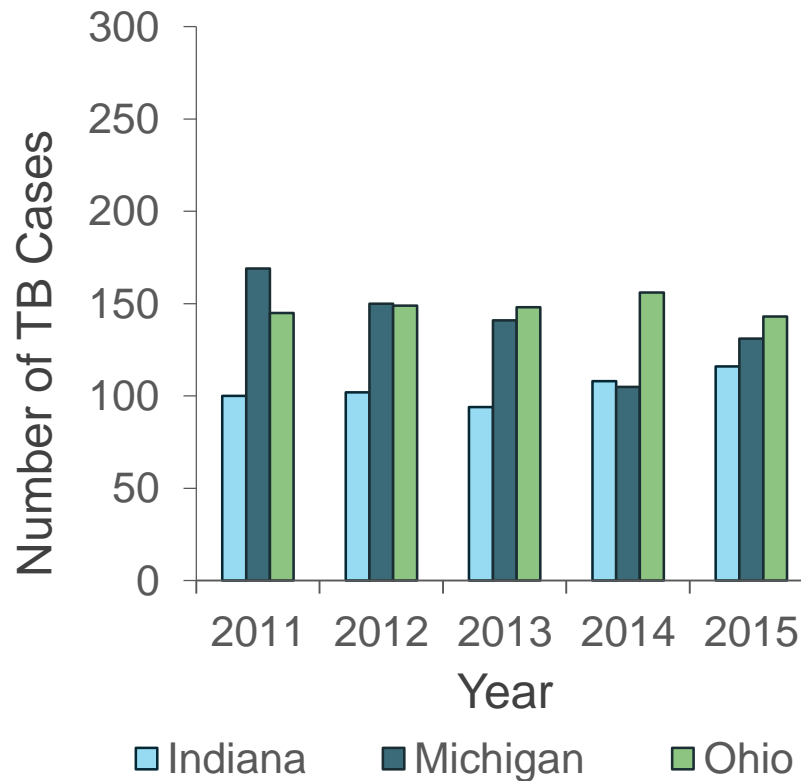
Q: Which state had the most TB cases counted in 2015?

- a. Ohio
- b. Michigan
- c. Indiana

# Question 1

A: Which state had the most TB cases counted in 2015?

- a. Ohio
- b. Michigan
- c. Indiana





## Question 2

Q: True or False? In all three states, more 2015 TB cases had HIV Infection than Diabetes.

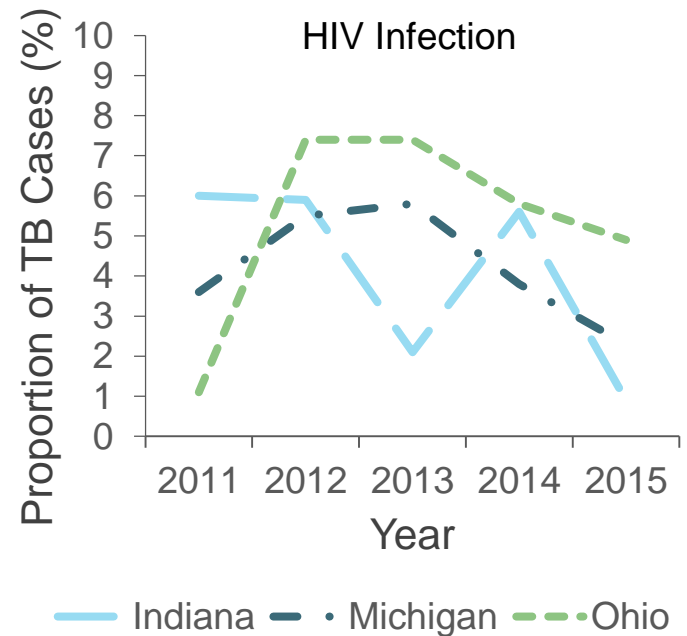
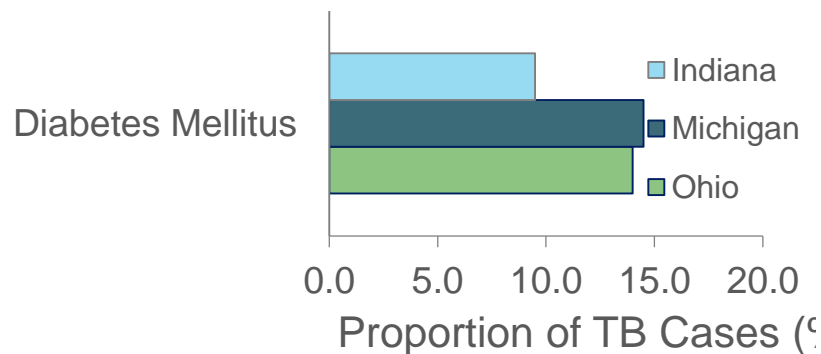
- a. True
- b. False

## Question 2

A: True or False? In all three states, more 2015 TB cases had HIV Infection than Diabetes.

a. True

b. False



## Question 3

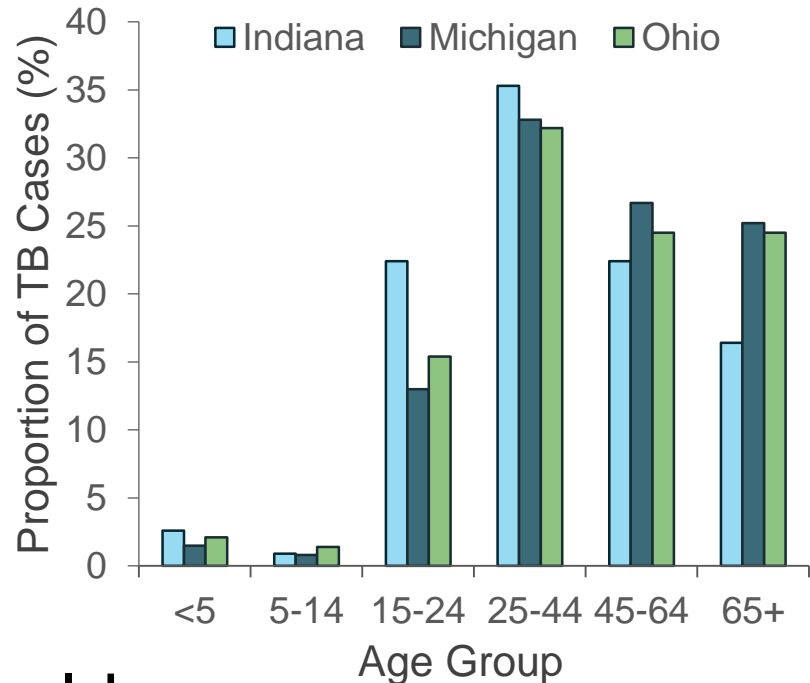
Q: In all three states, which of the following age groups had the highest proportion of TB cases in 2015?

- a. 0-4 years old
- b. 5-14 years old
- c. 15-24 years old
- d. 25-44 years old
- e. 45-64 years old
- f. 65 or more years old

## Question 3

A: In all three states, the age group with the highest proportion of TB cases in 2015 was which of the following?

- a. 0-4 years old
- b. 5-14 years old
- c. 15-24 years old
- d. 25-44 years old**
- e. 45-64 years old
- f. 65 or more years old



# Conclusions

- Highest TB burden
  - 25-44 year olds
  - Males
  - U.S.-born Caucasians; Foreign-born Asians
  - Metropolitan Areas
- About 2/3 are pulmonary; decreasing each year
- About 2/3 are foreign-born; increasing each year
- HIV co-infection is an important risk factor; the prevalence of other risk factors is increasing
- Though less than other states, drug-resistance is still a concern



Thank You