

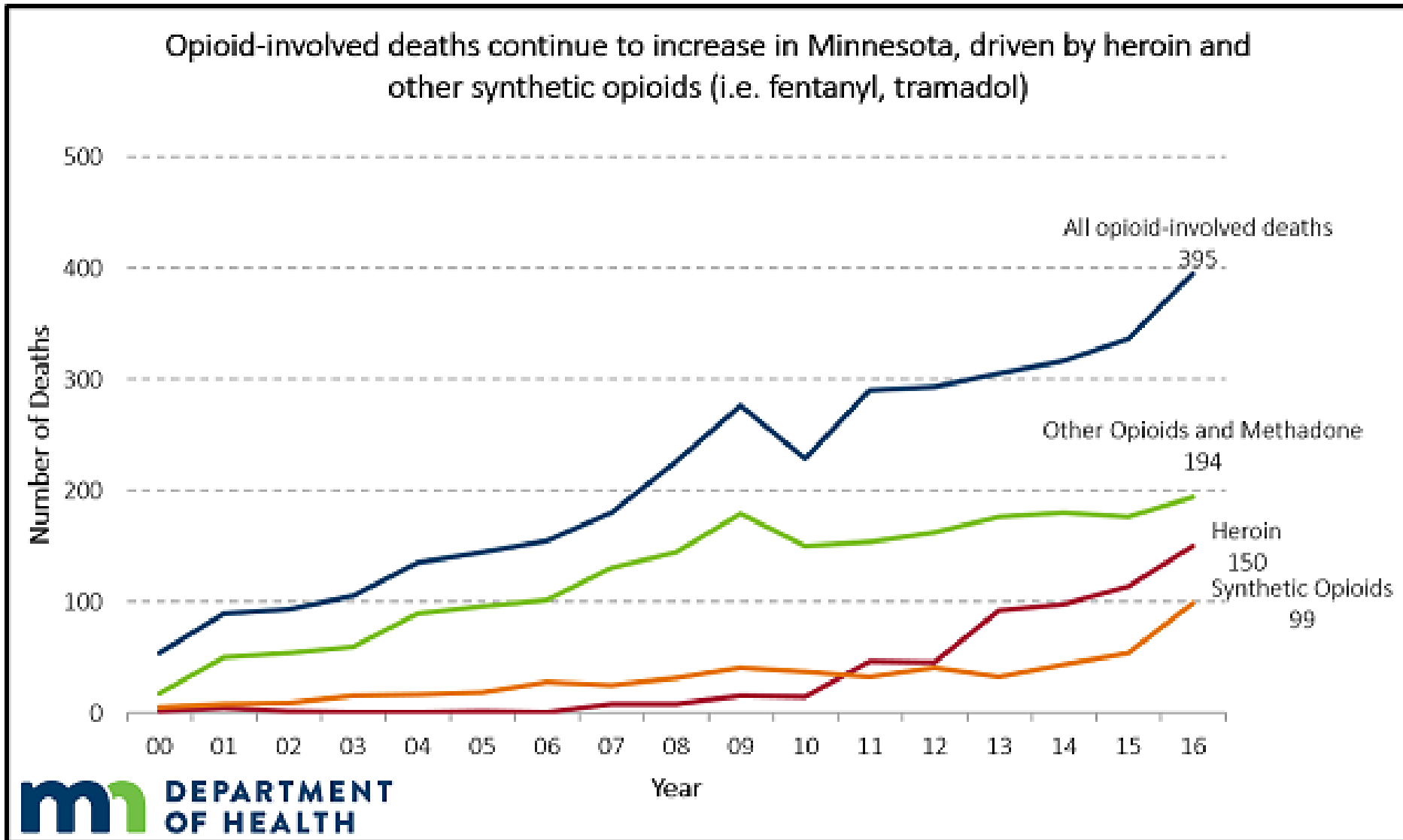


Minnesota Drug Overdose and Substance Abuse Pilot Surveillance System (MNDOSA)

Ruth Lynfield, MD

State Epidemiologist and Medical Director

Opioid Deaths, Minnesota, 2000-2016



Drug Overdoses

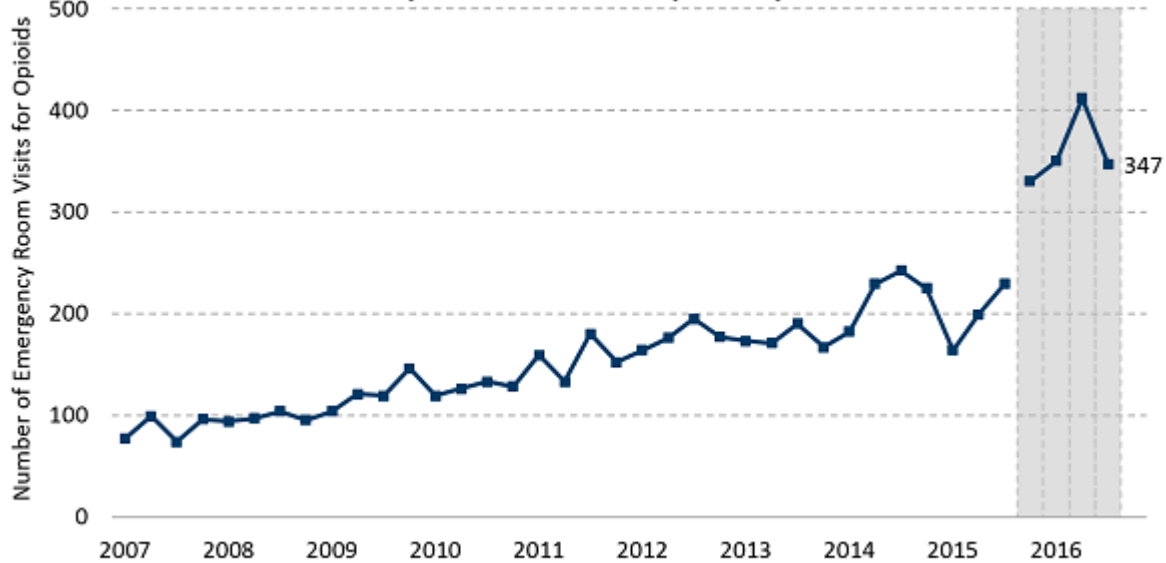
- Deaths are only a fraction of the overall burden of drug overdose and substance use/abuse
- In Minnesota in 2014, there were more than six hospital admissions due to drug overdoses for every unintentional overdose death

Surveillance Systems

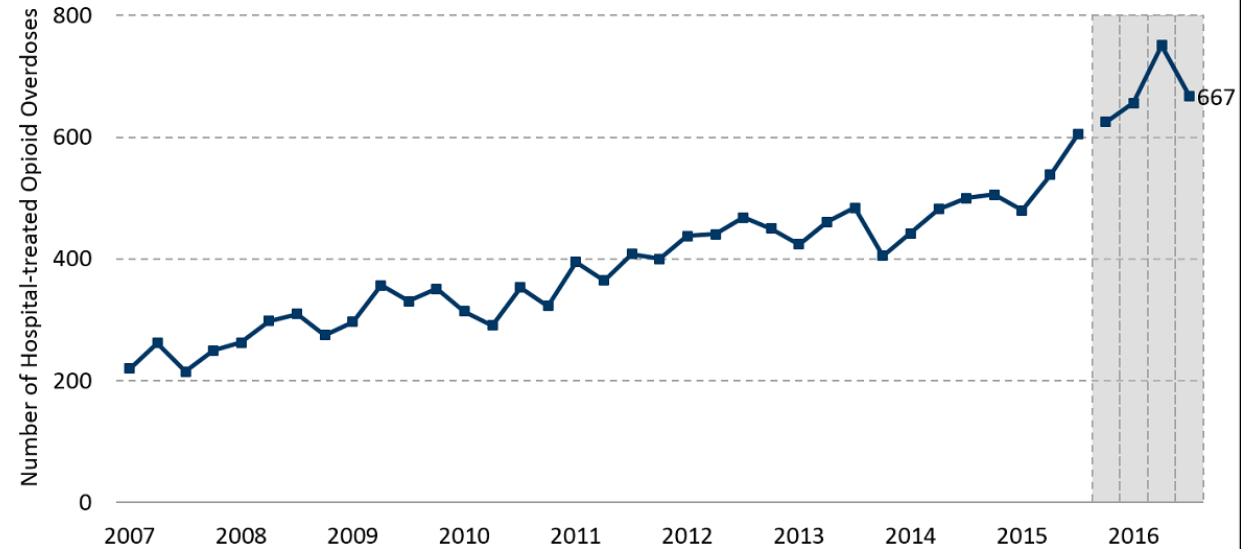
- Death Certificate Data
- Minnesota Hospital Association Discharge Data
 - 135/147 hospitals (acute care, non-federal, discharge including emergency department)
 - Discharge codes for billing purposes

Hospital and ED Visits

Emergency room visits for opioid overdoses have steadily increased over the past 10 years



Hospital-treated opioid overdoses have steadily increased over the past 10 years



Hospital and ED Visits (cont.)

- Quantifying ED visits / hospitalizations is difficult
- Many patients do not have a diagnosis of drug overdose or poisoning, but have diagnoses of symptoms related to substance abuse
 - Acidosis
 - Acute renal failure
 - Acute respiratory failure
 - Depressive disorder
 - Altered mental status
 -etc.

Changing Substances

- Landscape of drug use changes
 - Prescription opioids → heroin
 - Methamphetamines
 - Cannabinoids, cathinones





The Minnesota Department of Health is investigating exposures to synthetic drugs. We ask you to ask patients:

- Are you now or have you recently used **synthetic drugs** (such as synthetic marijuana, bath salts, or other substances)?
 - What have you used (ask for brand name)?
 - How did you use it; and where did you get it?

The clinical toxidrome initially seen for these agents is very similar:

- agitation
- tachycardia
- hallucinations
- hypertension
- bizarre behavior

Exposure to Synthetics?
Please call Poison Center

to report every suspect case in Minnesota
(November 2013-January 2015): **1-800-222-1222**

Prior Experience

Pilot Project, Duluth

- Medical record review of presentation and care of patients who used synthetic drugs (cathinones and cannabinoids) seen in Emergency Departments at 2 hospitals in Duluth
- Convenience sample of 75 individuals seen January–September 2013



Prior Experience

- No single diagnostic code for illicit synthetic drug (ISD)
- Impossible to create a combination of all diagnostic codes to identify ISD cases, due to the wide variety of codes used
- One hospital was able to flag cases internally to identify cases of ISD use



Sources:

Image: <https://www.mprnews.org/story/2012/12/18/regional/last-place-on-earth-federal-indictments>

Other: Dugan S., et al. The High Cost of Bath Salts: A Study of the Health Care Burden of Illicit Synthetic Drug Use in Duluth, Minnesota. *Minnesota Medicine*. February 2014:34-37.

Other: Xiang Y, et al. ED visits for drug-related poisoning in the United States, 2007. *Am J Emerg Med*, 2012;30(2):293-301.

Synthetic Cannabinoids and Cathinones

PIONEER PRESS
TwinCities.com

NEWS

Dangerous strain of synthetic marijuana raising alarm in St. Paul | May 8, 2017

 **StarTribune**



At least 60 overdosed on synthetic marijuana last week in Minneapolis

It's the biggest toll since 2015, said one official, and left users with hallucinations, violent behavior, or nearly comatose. Oct. 9, 2017

MN Drug Overdose and Substance Abuse (MNDOSA) Surveillance

- ED visits and hospitalizations attributable to the recreational use of drugs and other substances (excluding alcohol)
- Objectives:
 - Measure the burden of overdose and substance use/abuse
 - Identify clusters of suspected overdose or substance use/abuse in near real-time to provide situational awareness to providers, poison center, public health and public
 - Identify new substances as they emerge in Minnesota communities
 - Describe at-risk populations in order to focus and guide prevention efforts
 - Examine the impact of prevention and control strategies

Commissioner's Order


- Because of the increasing abuse of opioids and use of synthetics and other drugs, the Commissioner of Health, Dr. Edward Ehlinger, ordered the epidemiological investigation of “drug overdose, substance abuse, and other poisoning.”
- This mandates the reporting of all patients who meet the case definition to MDH



Protecting, Maintaining and Improving the Health of All Minnesotans

Interoffice Memorandum

TO: Ruth Lynfield, MD, State Epidemiologist
Jon Roesler, MS, Epidemiologist Supervisor, Injury & Violence Prevention Unit
Mark Kinde, MPH, Director, Injury & Violence Prevention Unit

FROM: Edward P. Ehlinger, MD, MSPH Commissioner of Health 

SUBJECT: Designation of Epidemiologic Investigation

DATE: October 1, 2017

Under the auspices of Minnesota Statutes, section 144.05, subdivision 1, paragraph (a), the Department is conducting an epidemiologic investigation of drug overdose, substance abuse, and other poisoning. The data from this investigation are necessary to protect the public's health. Consequently, I am designating these data as health data under Minnesota Statutes, section 13.3805, subdivision 1. Health data are classified as private under section 13.3805, subdivision 1, and are not discoverable, pursuant to Minnesota Statutes, section 144.658.

This investigation includes obtaining data from hospitals, medical examiners, police departments, crime laboratories, community organizations and other entities.

Your investigation should be constrained by available resources.

Case Definition

Patients receiving care in the Emergency Department of participating hospitals, including discharges and acute care admissions where the principal diagnosis may be attributed to the **recreational use** of drugs or substances (including withdrawal symptoms) excluding alcohol

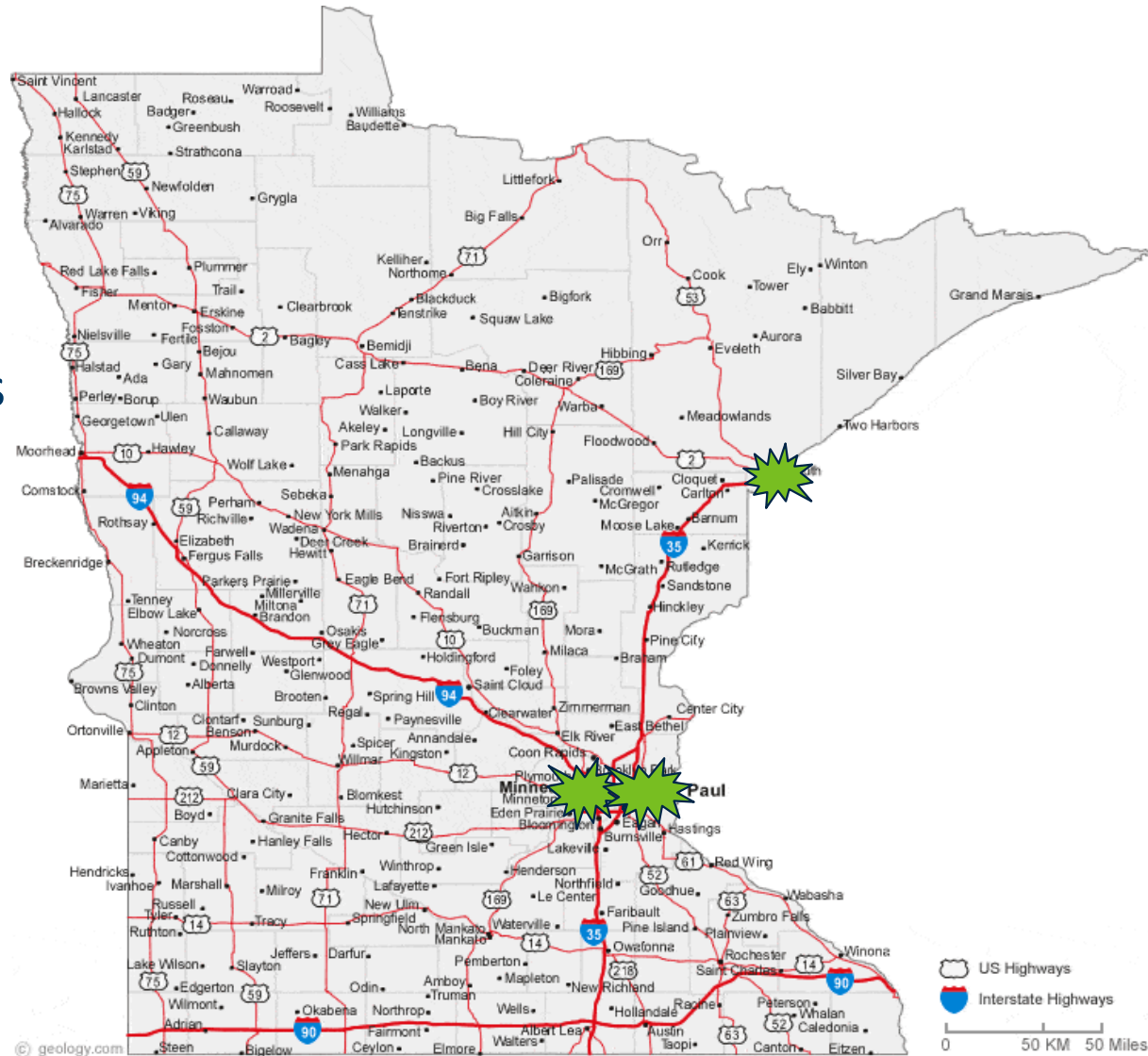
Clinician Identifies Case

Clinician identifies patients in ED meeting MNDOSA reporting criteria:

- Signs/symptoms attributed to drug or substance use/abuse (excluding alcohol)
- Drug or substance use/abuse was recreational, NOT:
 - Accidental, unintentional overmedication (i.e. tried to make up a missed dose, forgot they already took a dose, accidentally doubled the dose, etc.)
 - Adverse reaction to medication that was taken as recommended
 - Accidental ingestion (i.e. accidental child poisoning, took wrong medication unintentionally, etc.)
- Drug or substance use/abuse was NOT:
 - Intentional overdose (i.e. suicide attempt)
 - Assault (i.e. “date rape”, malicious poisoning, etc.)

Reporting

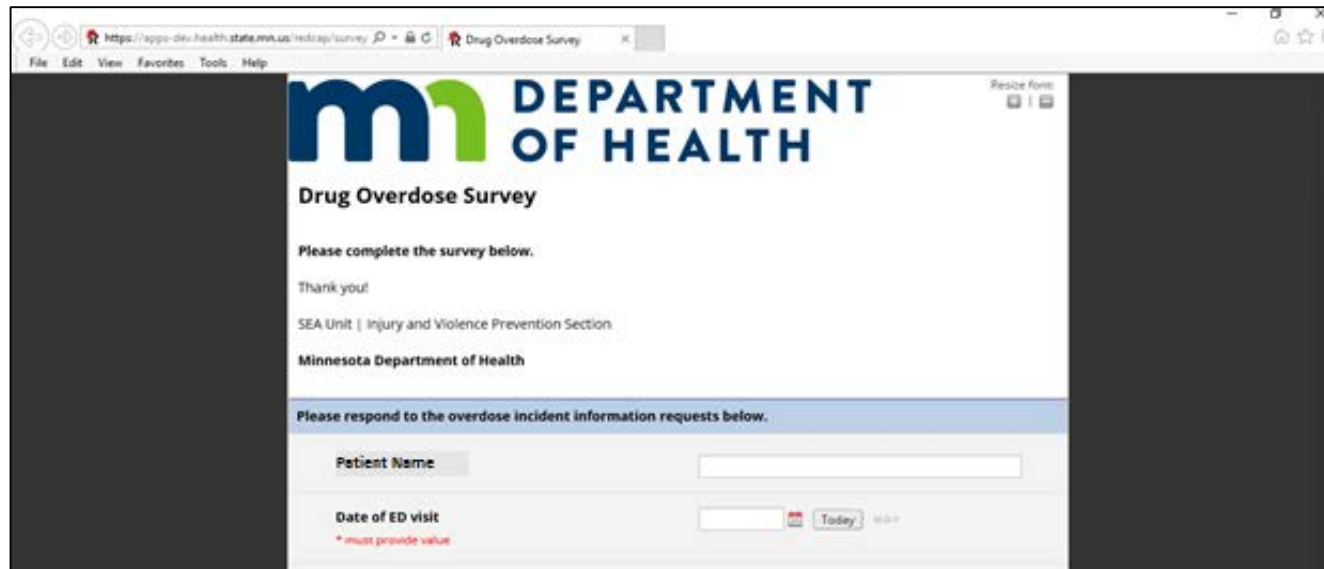
- 2 hospitals in Duluth
- Hospital in Minneapolis
- Hospital in St. Paul



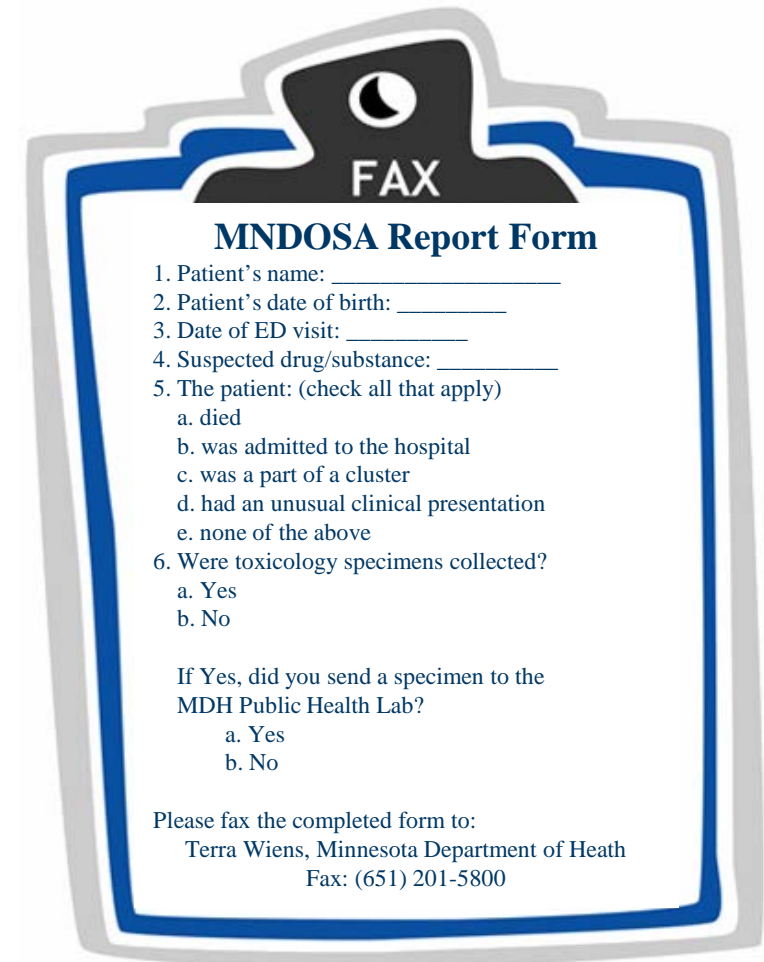
Reporting

Once identified, the patient will be reported to MNDOSA:

- Faxed report, or
- REDCap (online database)



The screenshot shows a web browser window displaying the Minnesota Department of Health's Drug Overdose Survey. The page features the MDH logo and the following text: "Please complete the survey below. Thank you! SEA Unit | Injury and Violence Prevention Section Minnesota Department of Health". Below this, a blue header reads "Please respond to the overdose incident information requests below." The form includes input fields for "Patient Name" and "Date of ED visit", with a "Today" button next to the date field. A red asterisk indicates that the date field is a required field.



A graphic of a clipboard with a "FAX" label at the top. The clipboard contains the "MNDOSA Report Form" with the following questions and options:

MNDOSA Report Form

1. Patient's name: _____
2. Patient's date of birth: _____
3. Date of ED visit: _____
4. Suspected drug/substance: _____
5. The patient: (check all that apply)
 - a. died
 - b. was admitted to the hospital
 - c. was a part of a cluster
 - d. had an unusual clinical presentation
 - e. none of the above
6. Were toxicology specimens collected?
 - a. Yes
 - b. No

If Yes, did you send a specimen to the MDH Public Health Lab?

- a. Yes
- b. No

Please fax the completed form to:
Terra Wiens, Minnesota Department of Health
Fax: (651) 201-5800

REDCap

- Online database
- Secure link to online survey form
- The same link is used by all staff to report patients
- Sites will not have access to the data – will only be able to submit data

Reporting to MNDOSA

Report **ALL** eligible cases
to MNDOSA

Is the case a “Patient of
Special Interest”?

If yes:

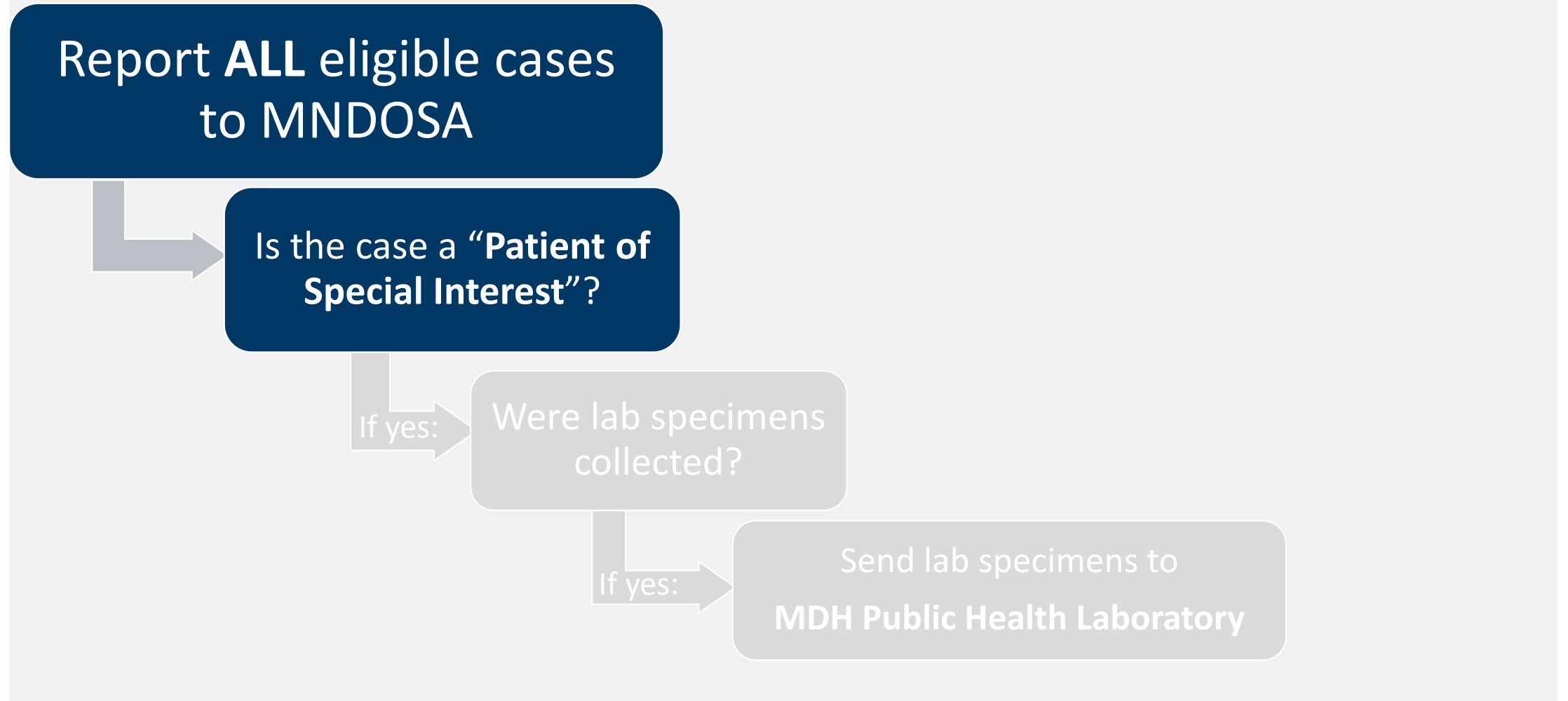
Were lab specimens
collected?

If yes:

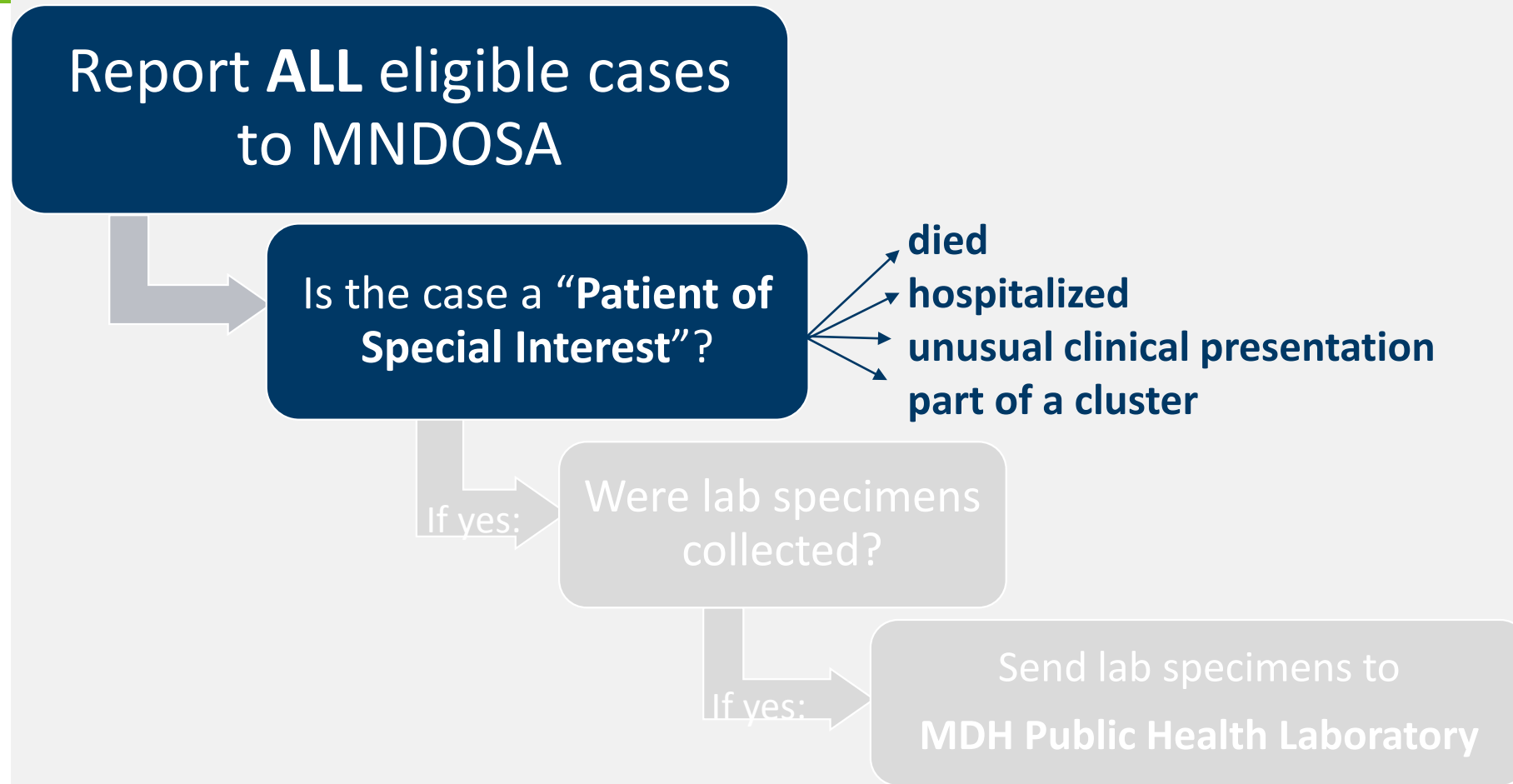
Send lab specimens to
MDH Public Health Laboratory



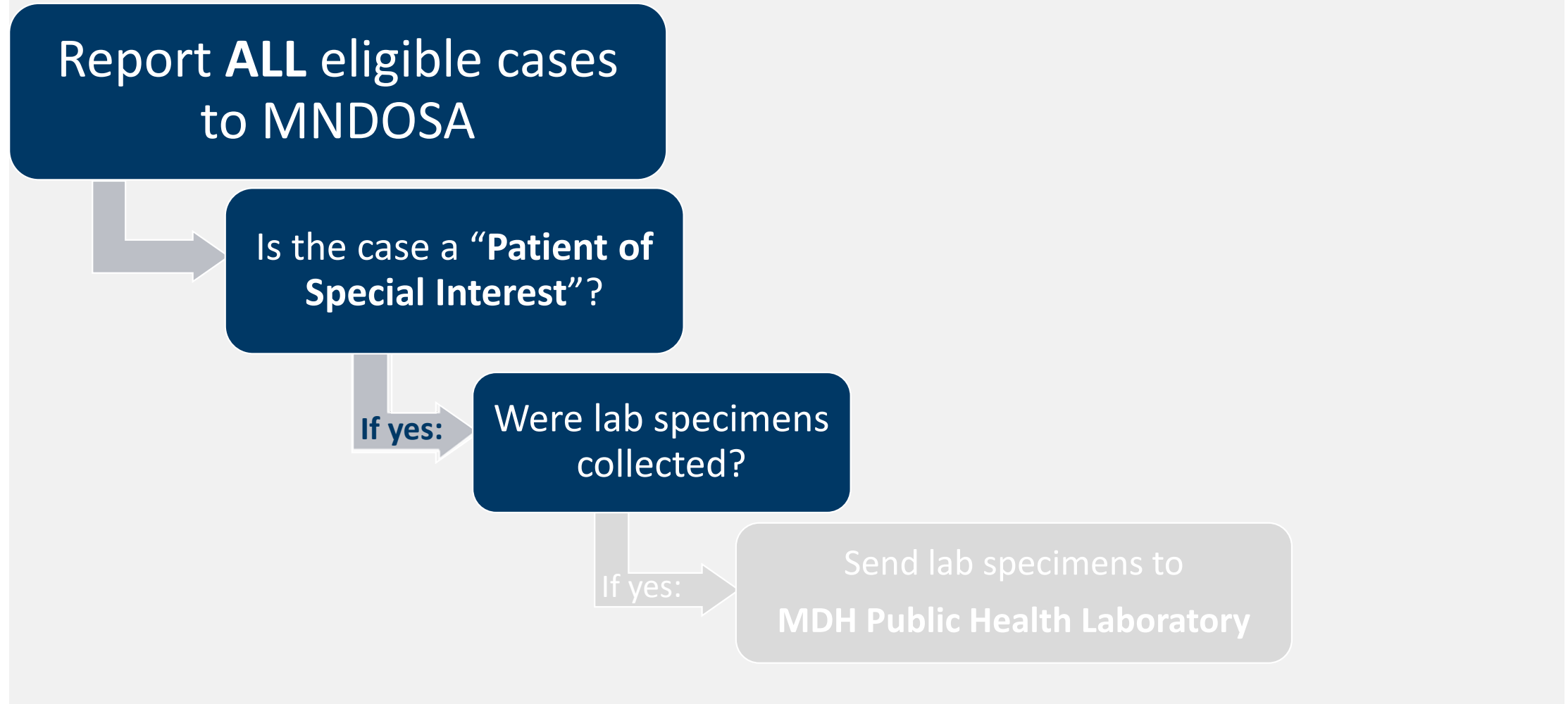
Reporting to MNDOSA



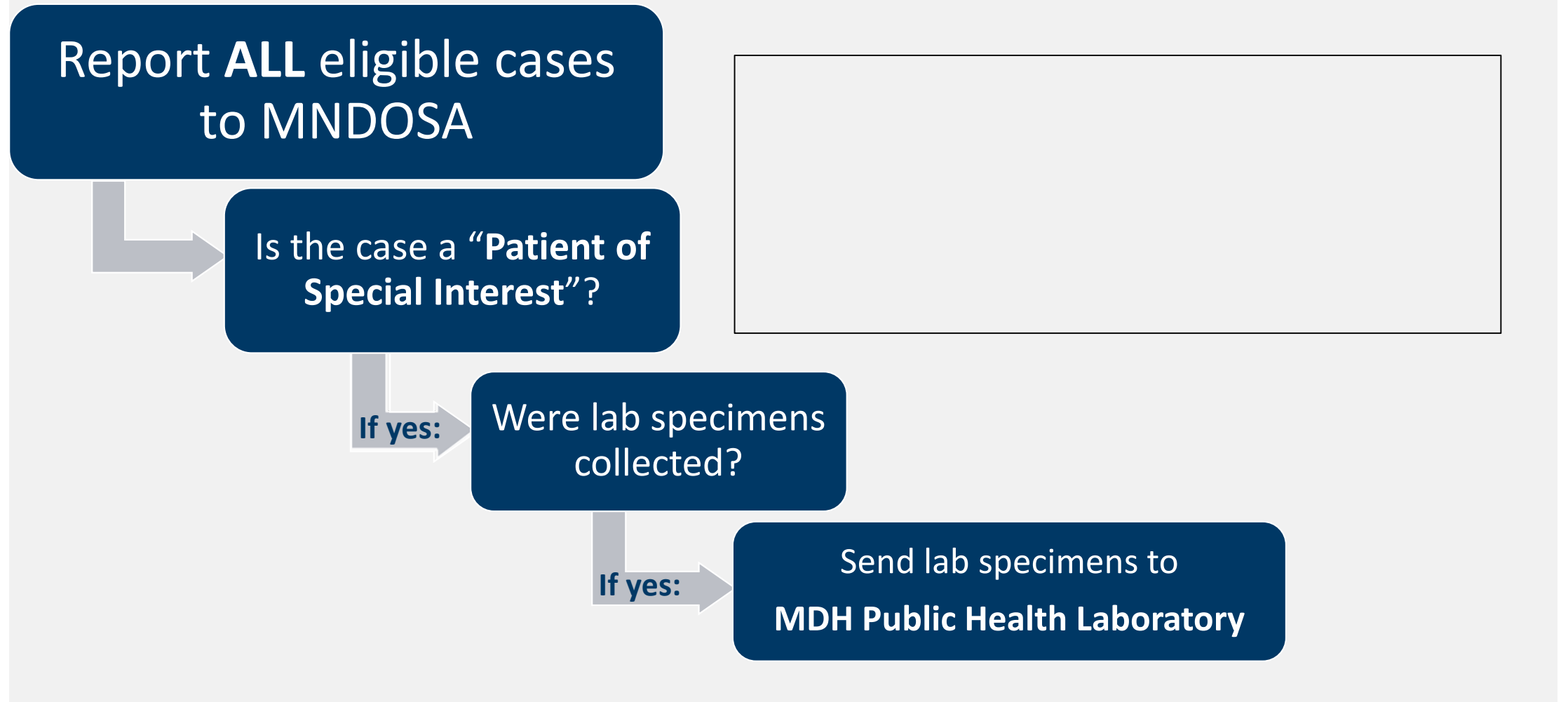
Reporting to MNDOSA



Reporting to MNDOSA



Reporting to MNDOSA



Lab Specimens

- Remaining blood and/or urine specimens for “**Patients of Special Interest**” who had toxicology samples
 - Specimens submitted to MDH Public Health Laboratory by courier, as per routine (typically every weekday)
- Lab results will be used for **surveillance purposes only**, and reported to:
 - MDH
 - Site contact
- Lab results **will not be used for diagnostic or clinical purposes**
- Lab results **will not go in the patient’s medical record**

MNDOSA (cont.)

- Each site will receive an aggregated monthly report, summarizing all patients reported to MNDOSA and aggregated lab results
- In addition to actively reporting all patients who meet the case definition, hospitals will also flag patient medical records with a condition code or occurrence code
 - This may enable a lower resource, passive surveillance system

Patients of special interest (died, hospitalized, unusual clinical presentation or known to be part of a cluster) will undergo medical record review by MDH using a standardized case report form

- This will provide additional data to better understand populations affected, clinical presentations and outcomes and burden, and help approaches for education, prevention and control



Acknowledgements

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