



24th Annual Chicago Infection Control Conference

September 18, 2019

Dr. Isaac Ghinai, BSc, MSc, MBBS

Epidemic Intelligence Officer, Illinois Department of Public Health

Dr. Ghinai has disclosed that there is no actual or potential conflict of interest in regards to this presentation

The planners, editors, faculty and reviewers of this activity have no relevant financial relationships to disclose. This presentation was created without any commercial support.

Learning Objectives

At the conclusion of this course participants will be able to:

- Describe how Chicago Department of Public Health is exploring the root causes of health disparities among those living in Chicago.
- Identify public health resources to contact for reportable disease conditions, obtain specialized treatments, or engage for antibiotic stewardship assessments through the Chicago Department of Public Health.
- Describe surveillance and response efforts around emerging and re-emerging infections including Legionnaires' disease, measles, and preparedness regarding the Ebola situation in the DRC.
- Identify mechanisms of surveillance for acute responses (such as emerging lung diseases in those with vaping history) and how to report these suspected cases to public health.

To obtain credit you must:

- **Complete an electronic evaluation**
- **After completing the evaluation you can generate your certificate immediately.**

In support of improving patient care, Rush University Medical Center is accredited by the American Nurses Credentialing Center (ANCC), the Accreditation Council for Pharmacy Education (ACPE), and the Accreditation Council for Continuing Medical Education (ACCME) to provide continuing education for the healthcare team.

Rush University Medical Center designates this live activity for a maximum of 6.0 AMA PRA Category 1 Credit(s)[™]. Physicians should claim only credit commensurate with the extent of their participation in the activity.

ANCC Credit Designation – Nurses

The maximum number of hours awarded for this CE activity is 6.0 contact hours.

This activity is being presented without bias and without commercial support.

Rush University is an approved provider for physical therapy (216.000272), occupational therapy, respiratory therapy, social work (159.001203), nutrition, speech-audiology, and psychology by the Illinois Department of Professional Regulation.

Rush University designates this live activity for 6.0 Continuing Education credit(s).



Lung Injury following E-Cigarette Use

Dr. Isaac Ghinai

Isaac.Ghinai@Illinois.gov

September 18th 2019

Agenda

Overview

What is this new syndrome?

What causes this syndrome?

Local situation

National situation

What next?

Agenda

Overview

What is this new syndrome?

What causes this syndrome?

Local situation

National situation

What next?

Timeline

July 15 & 16

First Chicago cases admitted

July 25

WDHS issues memo to clinicians

August 2

2 additional cases IL identified. HAN released

September 16

64 cases in IL (9 in Chicago)

July

August

September

July 10

Children's Hospital of Wisconsin notifies WDHS about 5 adolescents

July 31

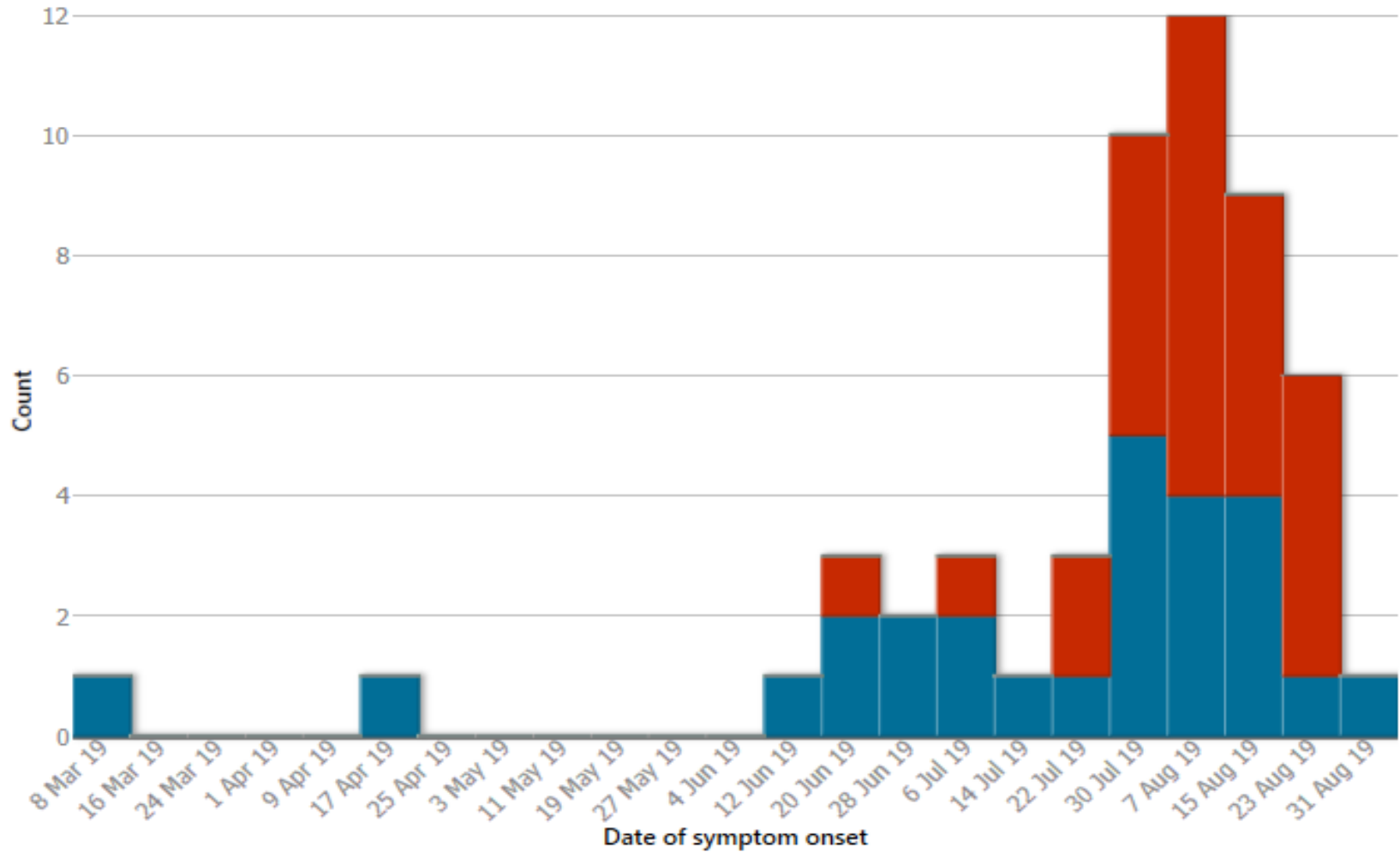
First notification of an IL case

September 16

CDC EOC activated



Epidemic curve



Confirmed

Probable

Agenda

Overview

What is this new syndrome?

What causes this syndrome?

Local situation

National situation

What next?

Clinical syndrome

Triad:

1. Respiratory signs and symptoms
 - Shortness of breath, chest pain, dry cough
 - Radiographic changes
2. Gastrointestinal symptoms
 - 80% have nausea, vomiting, pain or diarrhea
3. Constitutional symptoms
 - >95% report fever/chills, malaise or weight loss

Radiographic changes



Healthy



Unhealthy

Case definition

Case status	Criteria
Confirmed	Inhalation drug use in last 90 days AND
	Pulmonary infiltrate (opacities on CT or CXR) AND
	No pulmonary infection on initial workup AND
	No evidence that pulmonary disease is due to rheumatologic or neoplastic process
Probable	Minimal criteria for ruling out infection not met OR Infection detected but not thought to be the sole cause of pulmonary infiltrate

Agenda

Overview

What is this new syndrome?

What causes this syndrome?

Local situation

National situation

What next?

What causes this syndrome?

Common exposure

- E-cigarette use (vaping) use in recent months

No single product identified yet

- ~85% vape THC-products
 - ~25% vape only THC product
- 70% vape nicotine products
 - ~15% vape only nicotine products
- Vitamin E acetate in THC products (FDA)
- Aflatoxin in THC products (Iowa lab)

In 2018, more than

3.6 MILLION

U.S. middle and high school students used e-cigarettes in the past 30 days, including:

4.9%

MIDDLE SCHOOL STUDENTS

20.8%

HIGH SCHOOL STUDENTS



E-cigarette use

E-cigarette use is endemic in young people

- 23.1% of IL 12th grade students vape
- 9.7% of high school students vape THC

THC products are illegal and unregulated

Nicotine products are illegal for under 21

Agenda

Overview

What is this new syndrome?

What causes this syndrome?

Local situation

National situation

What next?

Illinois situation

64 cases across Illinois

- 9 in Chicago
- More under investigation

>20 IL counties affected

Ages: 15-41 years; Median age ~ 22

Mean hospitalization stay: 6 days

Public health response

IDPH and local health departments

- Collecting reports possible cases
- Classifying cases
- Medical record abstraction
- Reviewing chest imaging
- Patient survey
- Analyzing data
- Collecting products and devices
- Testing products and devices

Agenda

Overview

What is this new syndrome?

What causes this syndrome?

Local situation

National situation

What next?

National situation

CDC coordinating epidemiology

- >350 cases
- >35 states
- Health Alert sent out nationwide

FDA coordinating laboratory testing

- Vitamin E acetate found
- Unknown significance

National situation

The New York Times

Vaping Bad: Were 2 Wisconsin Brothers the Walter Whites of THC Oils?

As the authorities work to understand the spate of vaping-related lung illnesses, a small-town drug bust offers a closer look at the vast black market for vaping supplies.

Agenda

Overview

What is this new syndrome?

What causes this syndrome?

Local situation

National situation

What next?

What next?

Investigation continues:

Clinical

Epidemiologic

Laboratory

Law enforcement

**Respiratory viral
season is coming**



Questions?
Feedback?
Cheers!

Isaac.Ghinai@Illinois.gov

847-778-4903