

**From church picnics to green  
onions to SARS: outbreak  
management across a  
spectrum of real scenarios**

# East Tennessee Regional Health Department

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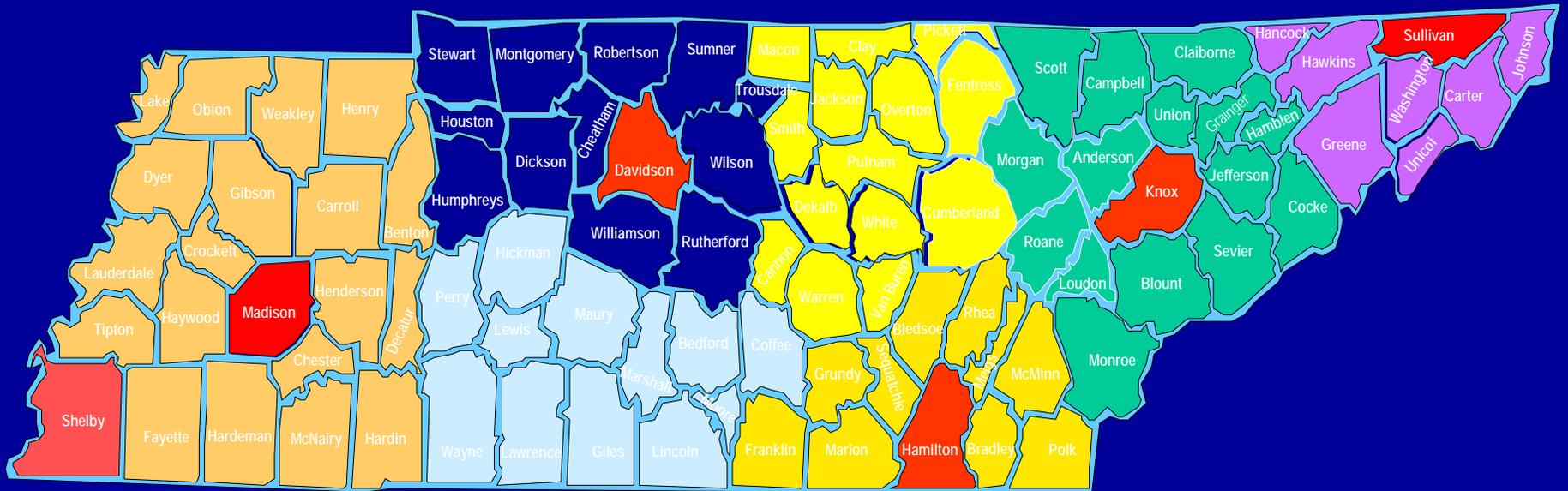
- East Tennessee Region: 15 counties surrounding Knox County

# **Outbreak Management/Real Scenarios**

**Purpose: to provide a framework for more detailed discussion on informational capacities and needs in disease outbreaks related to**

- Laboratory**
- Epidemiology**
- Incident Management**
- Outbreak Containment**

## Tennessee Counties by Region



West Region	Mid-Cumberland Region	Southeast Region	Northeast Region
South Central Region	Upper Cumberland Region	East TN Region	Metros

# The Proverbial Church Supper

- Initial notification from hospital infection control – 6 cases of *Salmonella*
- 5 of 6 connected to a church supper
- Estimate of 600 persons potentially exposed
- Interviews at Wednesday night service
- 59 interviews -17 cases
- The Turkey (of course)

# Needed capacities - The Small Outbreak

**Small Outbreak: < 20 cases, single site**

## Needed Capacities

- |                                |            |
|--------------------------------|------------|
| 1. Laboratory Information      | High       |
| 2. Epidemiologic Inf./Analysis | Low-Medium |
| 3. Incident Management         | Low        |
| <u>4. Outbreak Containment</u> | <u>Low</u> |

Capacities:	% of Maximum
Low	0-25%
Medium	26-50%
High	51-75%
Very High	>75%

# Sunny-side Up?

## The Pancake House Outbreak

- Initial contact – Hospital ER, index family of 4; 3 of whom were hospitalized
- Interviews pointed to a Pancake House
- Location in high traffic-tourist area
- Quick evolution to multiple sites, states
- Upcoming major holiday
- 63 interviewed – 46 ill, 26 cultured *Salmonella enteritidis*
- Cases in 7 states
- Contaminated Eggs

# Needed capacities - The Medium-size Outbreak

**Medium Outbreak: 20-50 cases, multiple sites**

## Needed Capacities

1. Laboratory Information	High
2. Epidemiologic Inf./Analysis	Medium-High
3. Incident Management	Medium-High
<u>4. Outbreak Containment</u>	<u>Medium-High</u>

Capacities:                      % of Maximum

**Low**                                **0-25%**

**Medium**                            **26-50%**

**High**                                **51-75%**

**Very High**                        **>75%**

# **Green Onions, Yellow Skin: Hepatitis A**

- **Initial contact: hospital infection control**
- **Cases in both Rural and Metro Regions**
- **Multiple cases amongst employees**
- **Mass Clinic to provide IsG to est. 6000**
- **CDC Epi Aid Etiological Investigation**
- **> 250 interviewed; eventually 81 cases of Hepatitis A**
- **Green Onions implicated, source from Mexico**

# Needed capacities - The Large Outbreak

**Large Outbreak: > 50 cases, multiple sites, states, possibly international**

## Needed Capacities

- |                                |                       |
|--------------------------------|-----------------------|
| 1. Laboratory Information      | <b>Very High</b>      |
| 2. Epidemiologic Inf./Analysis | <b>High</b>           |
| 3. Incident Management         | <b>High-Very High</b> |
| 4. <u>Outbreak Containment</u> | <b>High</b>           |

**Capacities:                      % of Maximum**

- |                  |                |
|------------------|----------------|
| <b>Low</b>       | <b>0-25%</b>   |
| <b>Medium</b>    | <b>26-50%</b>  |
| <b>High</b>      | <b>51-75%</b>  |
| <b>Very High</b> | <b>&gt;75%</b> |

# **Anthrax, SARS, and beyond**

- **No cases of anthrax in TN, but hundreds of white powder specimens tested**
- **Local/Regional levels can be overwhelmed by just the worried well**
- **No cases of SARS in TN, but much greater “threat” potential with international travel**
- **Home isolation of suspect case**

# Needed capacities - The Very Large Outbreak

**Very Large Outbreak: National or international scope**

## Needed Capacities

1. Laboratory Information	Low-Very High
2. Epidemiologic Inf./Analysis	Low-Very High
3. Incident Management	Low-Very High
<u>4. Outbreak Containment</u>	<u>Very High</u>

Capacities:	% of Maximum
Low	0-25%
Medium	26-50%
High	51-75%
Very High	>75%

# **Outbreak Management/Real Scenarios**

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# Outbreak Management - Needed Capacities

Needed Capacities	Scope of the Outbreak			
	Small < 20, single site	Medium 20-50 cases, multi-site	Large > 50, multi-site	Very Large National or International Scope
Laboratory Information	High	High	Very High	Low-Very High
Epidemiologic Information/Analysis	Low-Medium	Medium-High	High	Low-Very High
Incident Management	Low	Medium-High	High-Very High	Low-Very High
Outbreak Containment	Low	Medium-High	High	Very High

# Outbreak Management - Needed Capacities

## Capacities Defined

## Needed Capacity, % of Maximum

**Low**

0-25%

**Medium**

26-50%

**High**

51-75%

**Very High**

> 75%