Lassa Fever Virus: Identify, Isolate, Inform

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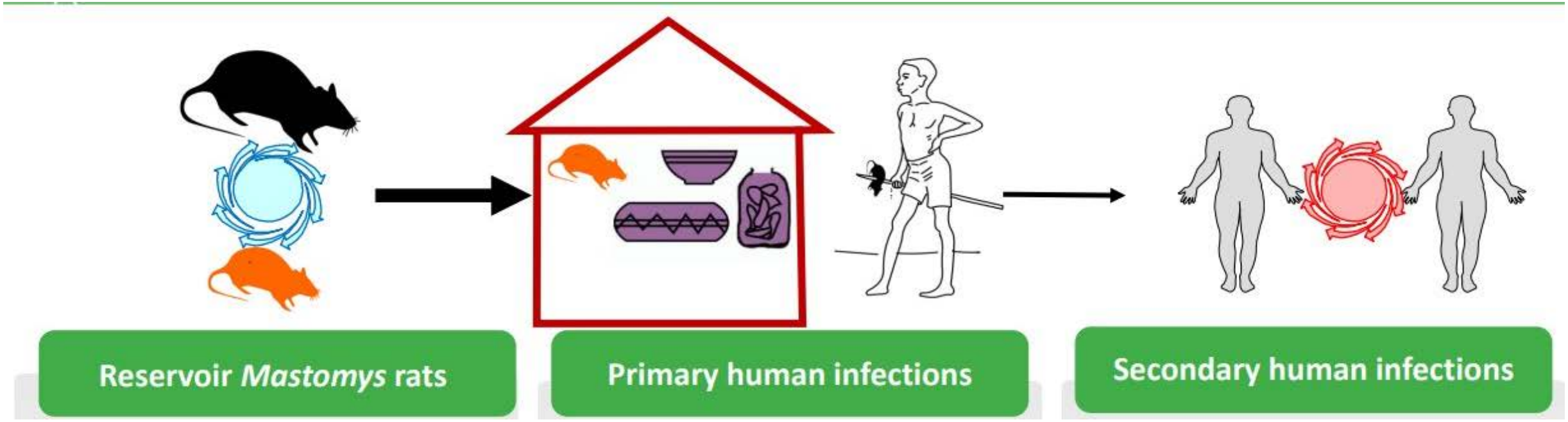
Background – Lassa Fever



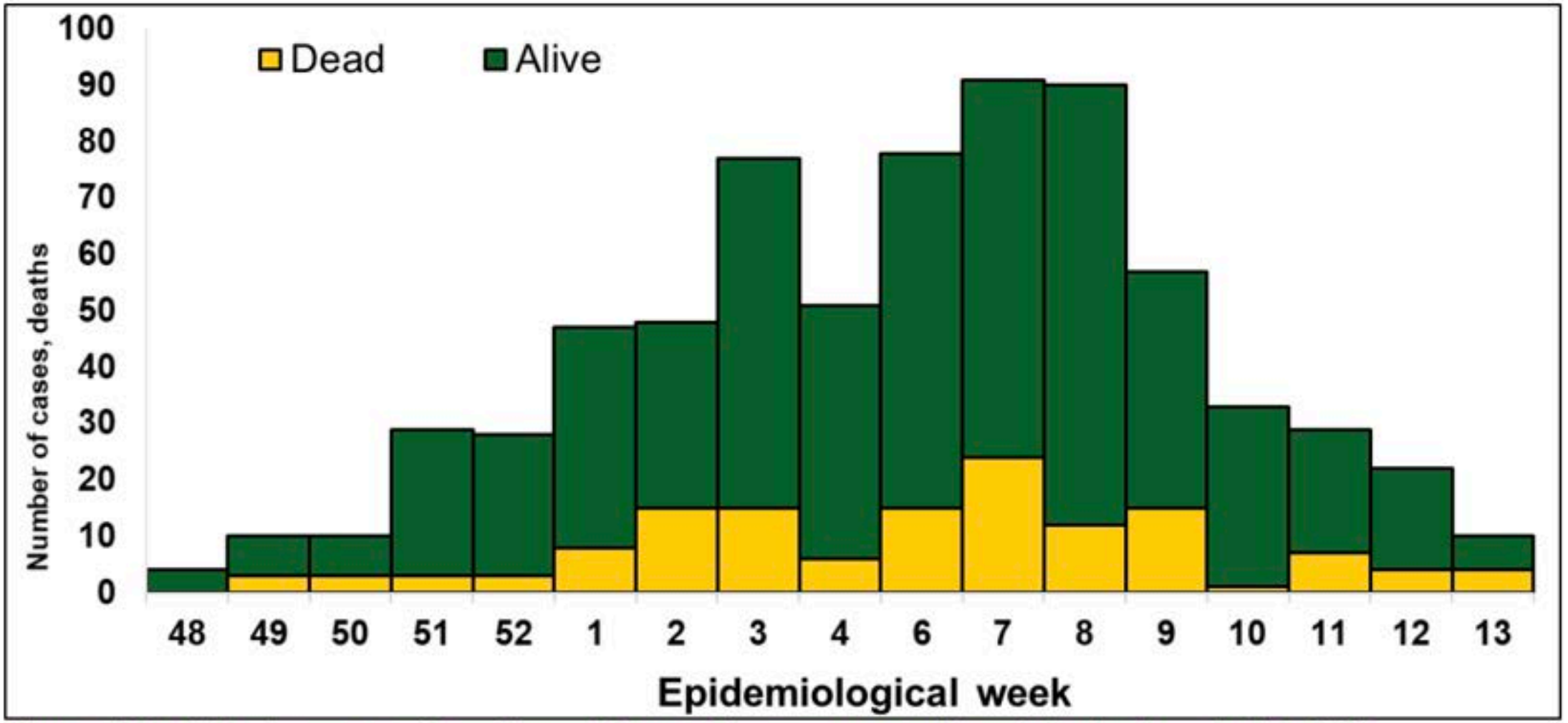


Figure 1. Epidemic curve of confirmed Lassa fever cases epidemiological week 13, 2022

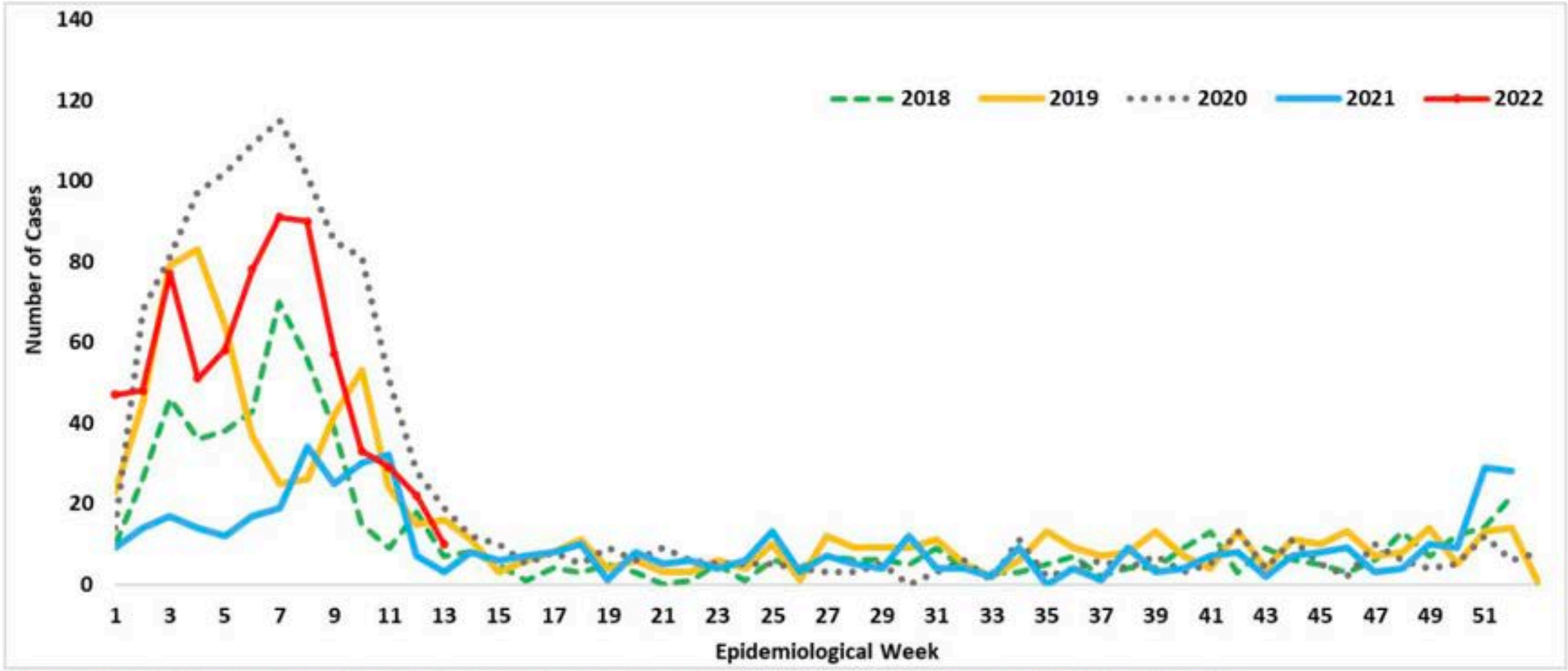


Figure 6: Trend of confirmed cases by epidemiological week, 2018– 2022, Nigeria

Identify – Lassa Person Under Investigation

- What makes an Lassa Person Under Investigation (PUI) recognizable?
- Case Definition – A uniform set of criteria that defines a disease
  - **Clinical Criteria** – Signs and Symptoms
  - **Epidemiological risk factors** – travel (within known incubation period), exposure

Identify – Lassa PUI Signs and Symptoms

- **Remember – A Lassa PUI is a person who has both consistent signs or symptoms AND risk factors**
- Signs and symptoms include
  - Elevated body temperature or subjective fever
  - Fatigue
  - Muscle pain
  - Abdominal pain
  - Vomiting
  - Unexplained hemorrhage
  - Diarrhea
  - Severe headache
  - Neurologic symptoms

Identify – Lassa PUI Risk Factors

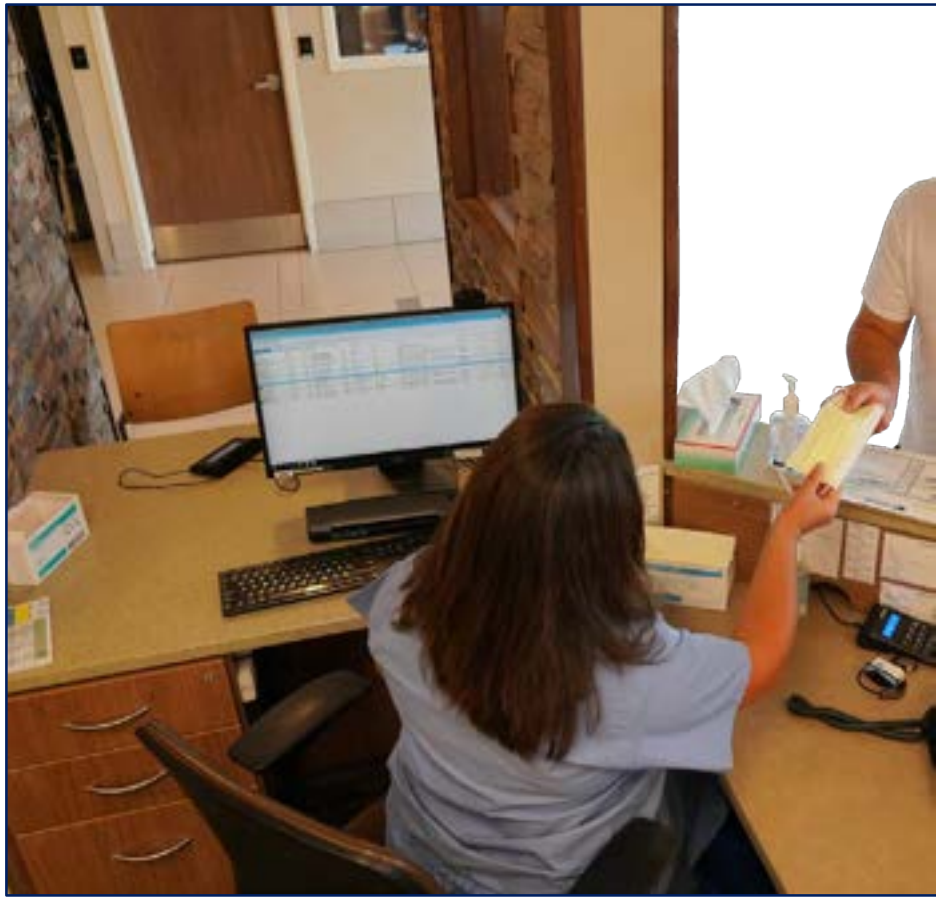
- **Remember – A Lassa PUI is a person who has both consistent signs or symptoms AND risk factors**
- An epidemiologic risk factor within the 21 days prior to the onset of symptoms include
  - Contact with blood or body fluids from a person who is sick with, or has died from, Lassa
  - Contact with objects contaminated with the bodily fluids of a person who is sick with, or has died from, Lassa
  - Contact with excreta of rodents
  - Travel to the geographical area where Lassa is known to be present
  - Healthcare or laboratory work in the geographical area of risk

Identify – Screening

- Screening all patients for infectious diseases immediately upon arrival is key to reducing the risk of transmission
- Signage at entry (in multiple languages!) enables patients to self-identify
- Consider what a patient may touch/come in contact with

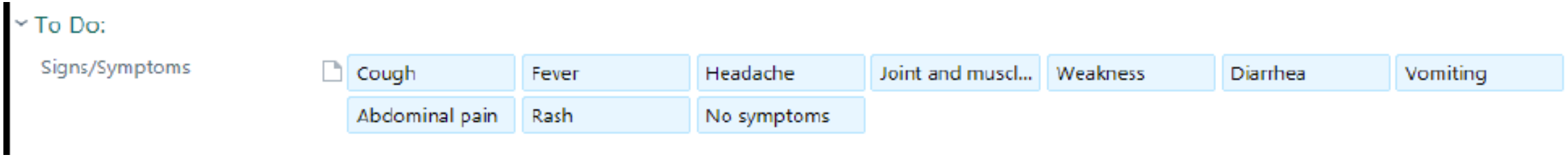
Identify – Screening Algorithm

- Screening at the front desk
  - Electronic or manual
  - Systematic
  - Algorithm with guidance on next steps
- Triage symptom/travel screen

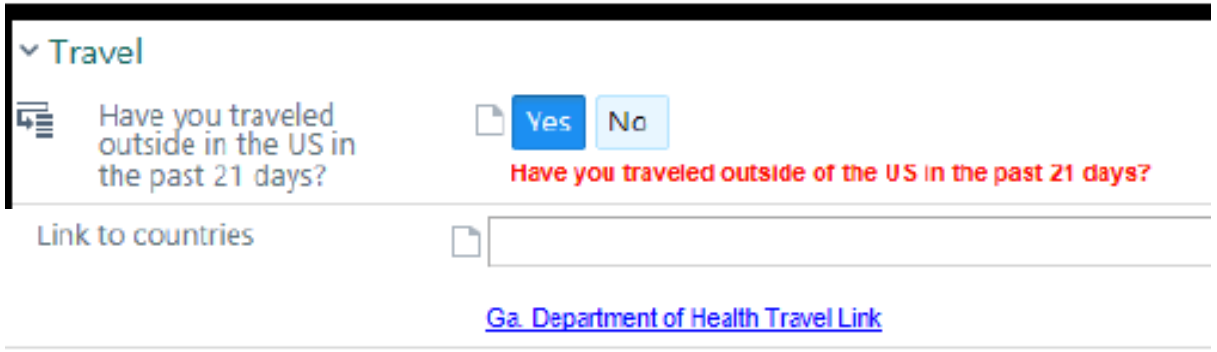


Identify – Universal Symptom/Travel Screen

- First, any symptoms?



- Second, any travel, and to where?



Why Universal?

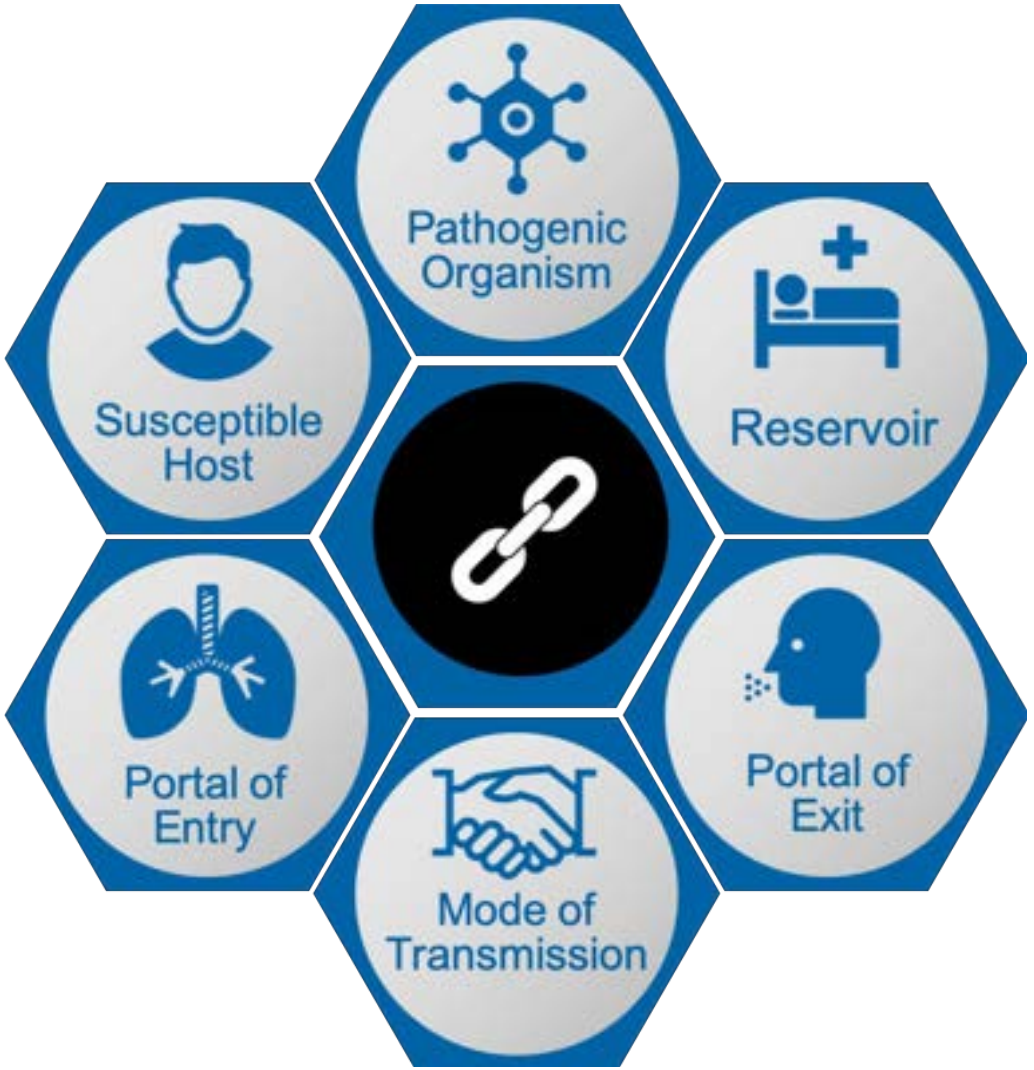
- Case definitions for persons under investigation (PUI) are vague and/or complicated
- If not a serious communicable disease, patients may have other infectious pathogens that are important to isolate
- We can’t predict the “next big thing”

Identify – Points of Entry

- A PUI may present at many points of entry at your facility
  - Emergency Department
  - Clinic
  - Ambulatory Care Centers
  - General campus
- A PUI may present by ambulance
  - May not be identified as a PUI until arrival
- A PUI may walk in (by themselves or with others)
- A PUI may present with a wide range of clinical acuity

Isolate

- The next step after identification of a PUI is isolation
  - Separation from others (split triage/flow)
  - Containment (e.g., masking)
  - Provider personal protective equipment
- Break the chain of infection!

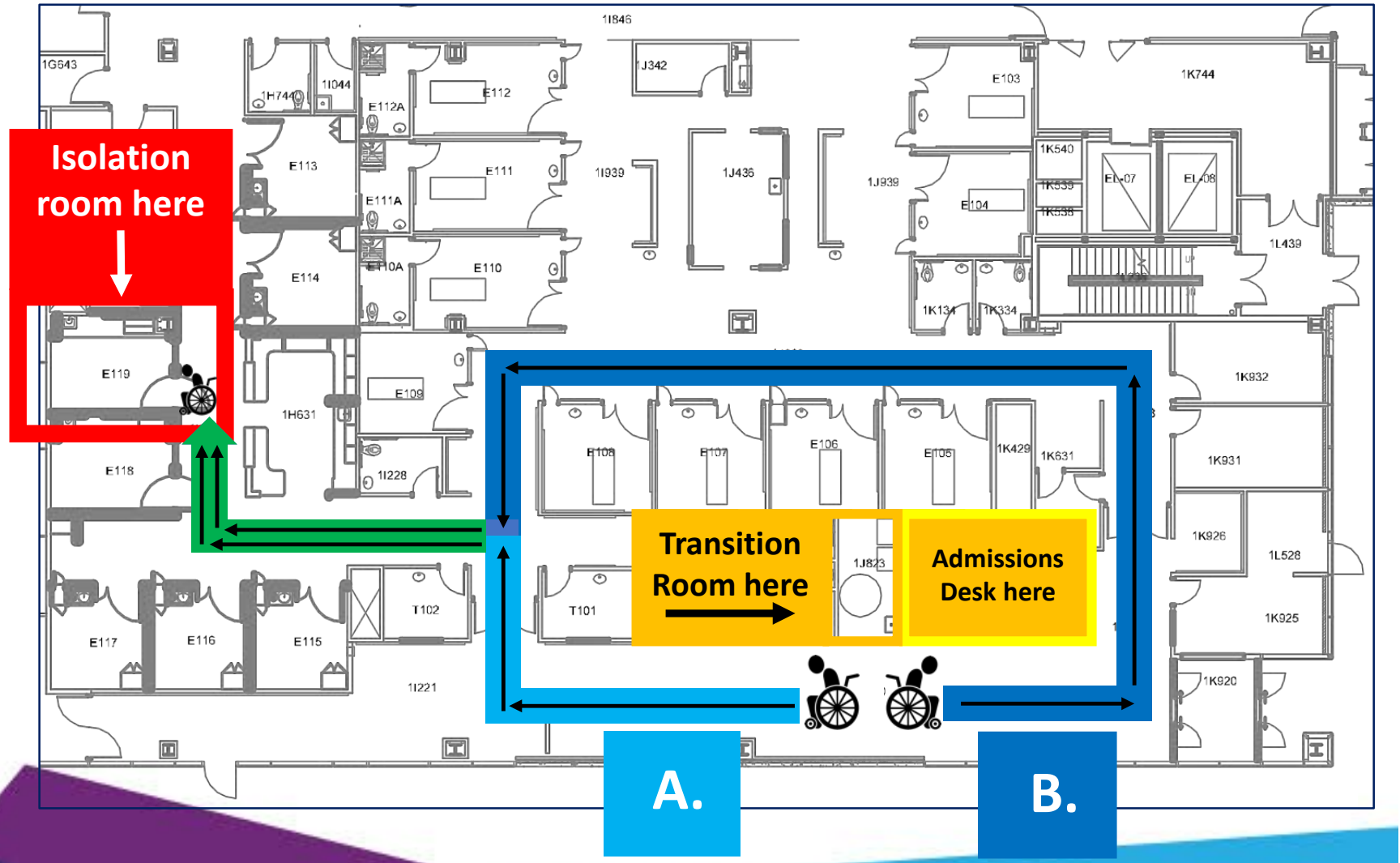


Isolate

- Following universal symptom/travel screen,
  - Mask anyone with symptoms
  - Split triage flow
    - Infectious vs Noninfectious
- Move patients quickly to isolation room
  - PPE and isolation precautions

Isolate – Isolation Room Preparedness

- Know where your isolation room is and how to prepare
  - Transition area?
- Review the physical infrastructure, plan/train
- Consider the route



Isolate – Isolation Room Preparedness, cont'd

- The isolation room should be set up to minimize content in the room
- Keep a checklist of what needs to be brought in and out of the room
- Alert personnel (techs, registration etc) to isolation status of patient

Isolate – Checklist for Room Preparation

BEFORE PATIENT IS ROOMED

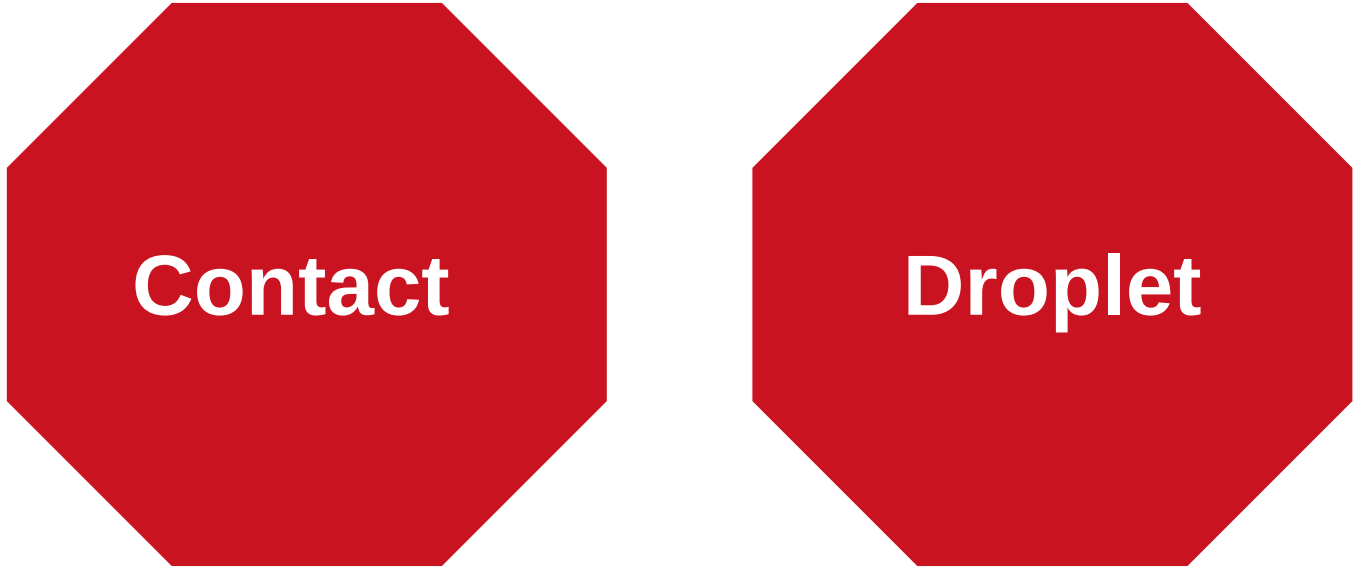
- ❑Place PPE/equipment cart in front of the room
- ❑Remove all extra equipment
- ❑Ensure hand hygiene stations are full and operational

AFTER PATIENT IS ROOMED

- ❑Set up commode for the room
- ❑Ensure adequate waste bins
- ❑Isolation signage
- ❑Log sheet

Isolate – Infection Control Precautions

- Infection control precautions and PPE are a form of isolation
- Remember that a pathogen can have more than one mode of transmission



Isolate – Personal Protective Equipment

- Staff should be confident in the PPE they are wearing and the donning and doffing process
- Choose PPE based on transmission dynamics and familiarity!
- PPE donning and doffing should be reviewed and practiced at regular intervals
- Just-in-time training on PPE when a patient presents can also be helpful
- No one should be contacting patient without adequate training and comfort in appropriate PPE!
- What is your plan for communication?

Isolate – Personal Protective Equipment, cont'd

"DRY" PPE

Single Use (Disposable) Face Shield

Single Use (Disposable) Surgical Mask

Single use (disposable) fluid-resistant gown that extends to at least mid-calf or coverall without integrated hood

Single use (disposable) gloves with extended cuffs. Two pairs of gloves should be worn.

At a minimum, outer gloves should have extended cuffs and must completely cover the gown cuff.

"WET" PPE

Single use face shield, surgical hood extending to shoulders, and N95 Respirator **OR** PAPR with a full-face shield, helmet, shroud (not shown)

Single use fluid-resistant or impermeable gown that extends to at least mid-calf **OR** coverall without integrated hood (not shown)

Two pairs of single use, disposable gloves. At a minimum, outer gloves should have extended cuffs.

Single use fluid-resistant **OR** impermeable apron that covers the torso to the level of the mid-calf

Single use fluid-resistant or impermeable boot covers that extend to at least mid-calf **OR** single-use fluid-resistant or impermeable shoe covers, which are acceptable only if used with a coverall with integrated socks (not shown)

Inform – Communication is critical!

- Why is communication so important?
- Communication lessons learned from COVID-19
  - Importance of establishing relationships and protocols BEFORE an event happens!
  - Make sure you are contacting a position/role rather than a specific person since people transition jobs

Inform – Internal First Calls

- Infectious Disease Specialist
- Infection Control

- Make sure you have all the necessary details!
  - Detailed exposure risk history

Inform – Internal Communications

- Do you have all these people/departments on your list?
- Who else is on your internal phone tree that isn't listed here?
- Who makes these phone calls at your facility?
- Who will be the lead, so contacts know who to call back?
- Will any of these contacts change if the event happens at night, on a weekend or holiday?
- Will your internal incident command structure be activated? (this is a great thing to exercise!)

Important Contacts

- Charge RN
- ED MD
- Infectious Disease
- Infection Prevention/Epidemiology
- ED leadership
- Staffing
- Safety
- Security
- Environmental Services
- Supply chain
- Emergency Management
- Laboratory
- Public Relations Team
- Administration

Inform – External Communications

- Who else should you contact externally who is not listed here?
- Who makes those phone calls?
- Just like the internal phone tree, you need names and positions, multiple numbers and a plan if procedures differ depending on the time or day
- Communications is great to exercise, and consider inviting external stakeholders to your facility's exercise!

Important Contacts

- Public Health (Local/State)
- EMS/Transport
- Specialty services not available at your facility
  - Pediatrics
  - Labor & Delivery
- Other resources specific to your institution, region or CONOPS plan
- CDC

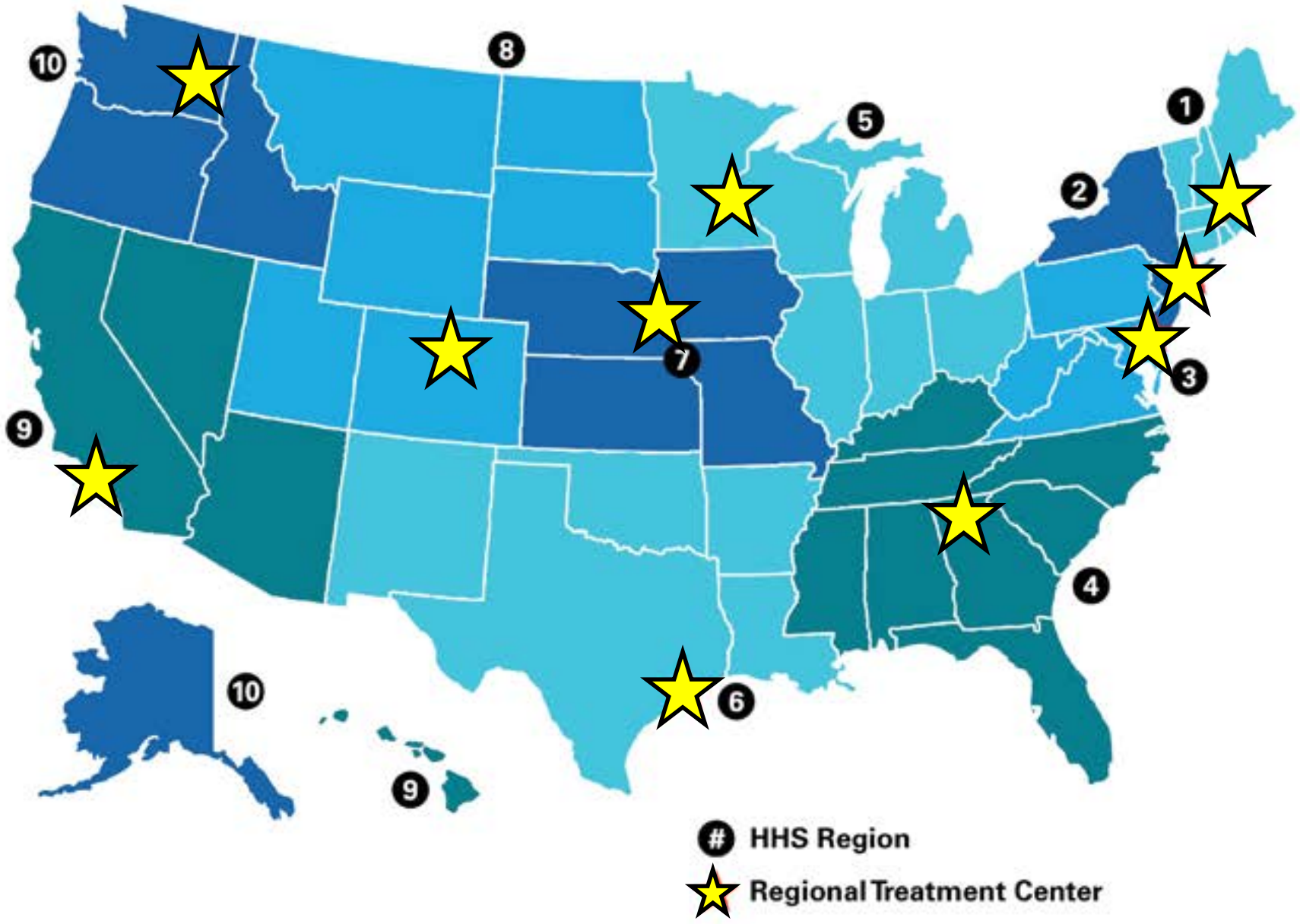
Identify, Isolate, and Inform Summary

- Identify
  - All hazard infectious risk
  - Specific special pathogens based on case definition (symptoms + risk factors)
- Isolate
  - Isolation room
  - Infection control precautions
  - PPE
- Inform
  - Internal and external stakeholders, and the patient!

What next?

- Treat your patient!
  - Other diagnoses are much more common – malaria, sepsis, influenza, gastroenteritis, pregnancy etc
  - Early supportive care and antimicrobials are the mainstay of treatment for any of these conditions
  - EMTALA/Ethical obligation
- Take care of yourself and your colleagues
- You’re not alone…

Regional Ebola and Other Special Pathogen Treatment Centers



Regional Treatment Centers

1: Massachusetts General Hospital
2: NYC Health + Hospitals - Bellevue
3: Johns Hopkins Hospital
4: Emory University Hospital and Children's Healthcare of Atlanta-Egleston Hospital
5: University of Minnesota Medical Center
6: University of Texas Medical Branch at Galveston
7: University of Nebraska Medical Center/ Nebraska Medicine
8: Denver Health Medical Center
9: Cedars-Sinai
10: Providence Sacred Heart Medical Center and Children's Hospital

Next steps for your facility…

- Document preparedness plan
- Practice, Practice, Practice
  - Communication Drills
  - Mystery Patient Drills
  - www.netec.org has special pathogen and toolkit drill and exercise template

Thank you!

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