



# Clinical Response through Emerging Technology (CRET)

An Integrated Health IT Tool for Providers to Respond to Public Health Hazards

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January 28, 2020

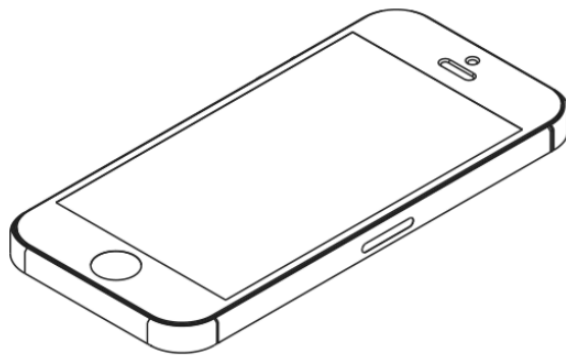
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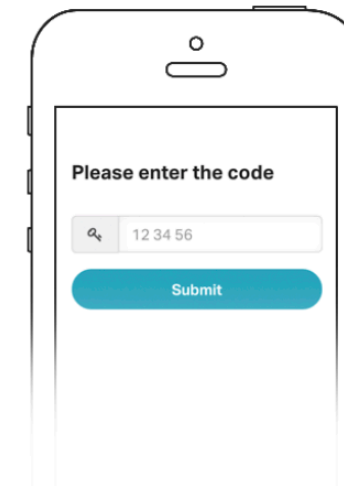
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# What is CRET?

The Clinical Response through Emerging Technology (CRET) program is an HHS initiative to improve clinical response to emerging public health hazards using EHRs and IT tools and infrastructure.

## Purpose:

CRET's goal is to provide clinicians with near-real-time updates to information and best practices to improve their medical response to a broad range of natural and manmade hazards.



# The Need for CRET



When health hazards occurs, each response is slightly different. CRET addresses the critical in-the-moment information needs of the medical community:

- Immediate access to the latest science about response without the need for extensive research when time is of the essence
- Translation of public health agency guidance into computer-readable information that can be shared with computer systems (including EHRs and clinical decision support) to deliver needed information to doctors at the point of care.

*CRET provides clinicians with the latest science and response protocols from federal, state, tribal, local, and territorial public health communities by delivering critical knowledge to clinical decision support tools within existing clinical workflows.*

# Common Hazards Requiring CRET Response



- Infectious diseases



- Environmental, chemical, and biological hazards



- Events based on (intentional or unintentional) human behavior



- Natural events such as extreme weather

# Risk Identification & Response at Point of Care

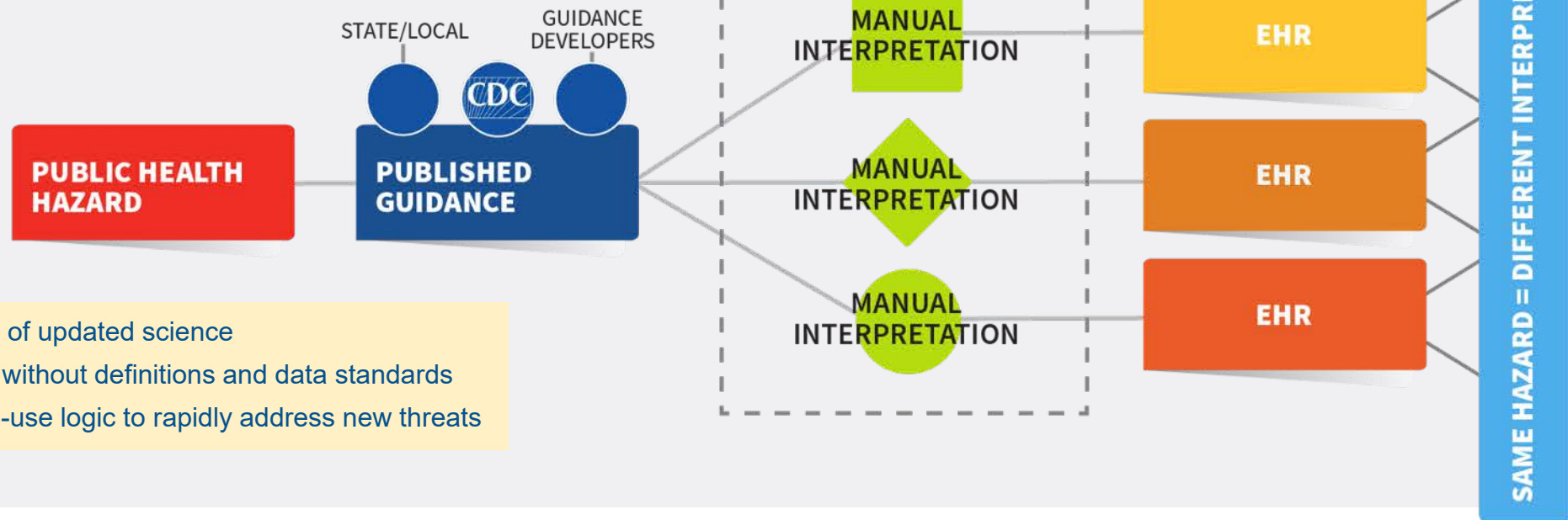


CRET is adaptable for different audiences (e.g., clinicians, clinical software vendors, average citizens). It addresses:

- **Risk Identification:** Exposures (e.g., travel, residence, occupation, recreational activities), symptoms, physical findings, and diagnostic tests (e.g., laboratory, imaging and pathology)
- **Risk Reduction and Mitigation:** Isolation, personal protective equipment, exposure avoidance, treatment and supportive care
- **Education:** Recommendations for individuals at risk (patients, caregivers, employment sites)

# Current Manual Process for Information Distribution

Currently, IT professionals “translate” — interpret and implement — many clinical guidelines into EHR-based decision support

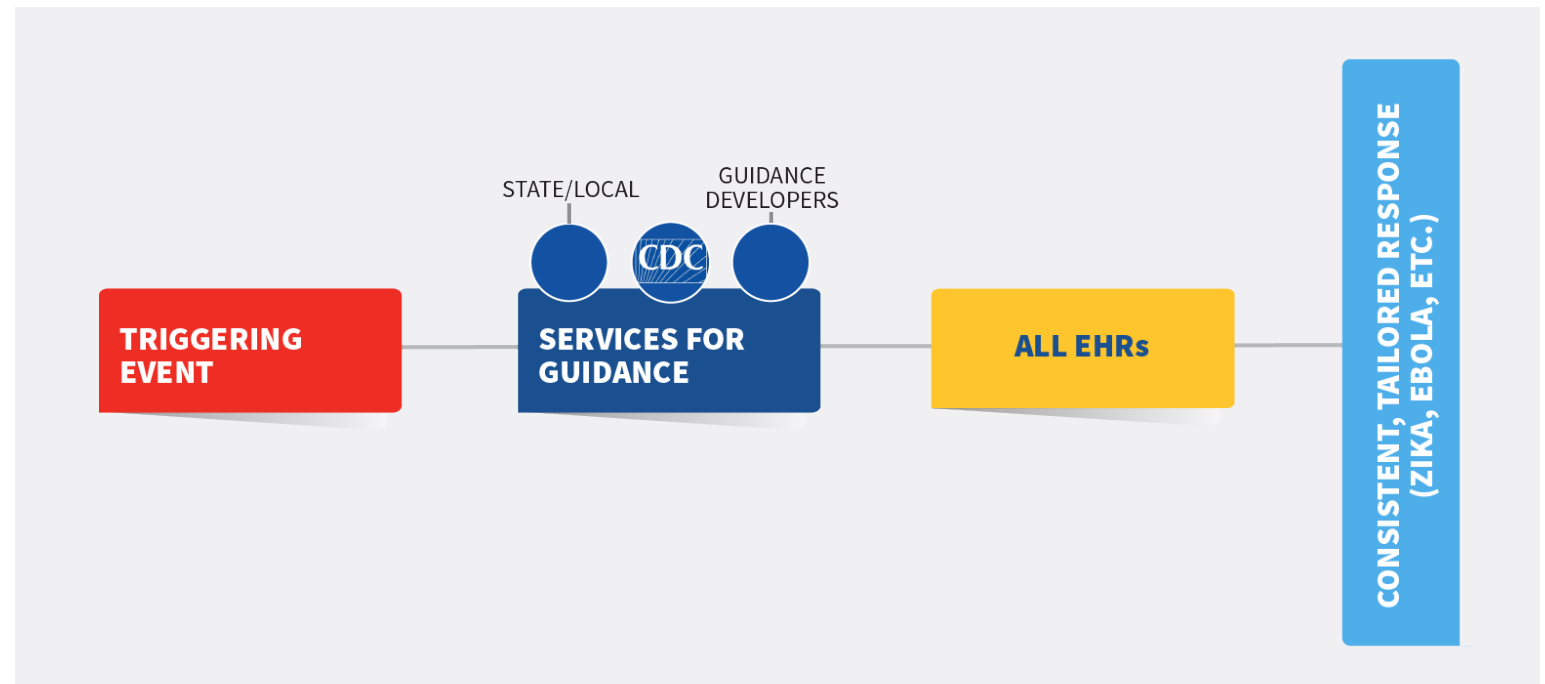


- Ad-hoc dissemination of updated science
- Information delivered without definitions and data standards
- Lack of flexibility to re-use logic to rapidly address new threats

# CRET: Changing The Picture

CRET framework and tools = an approach to share information on evolving threats

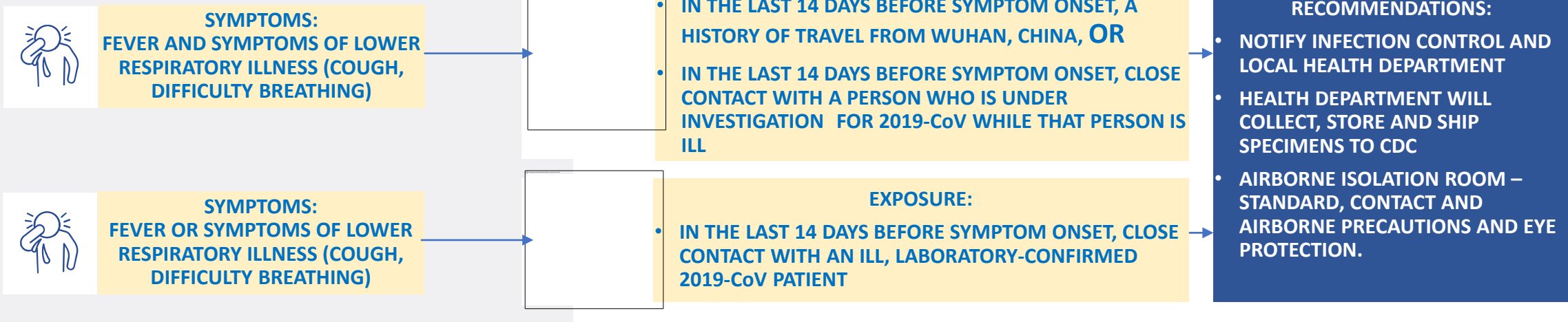
- Rapid dissemination of the most updated, accurate science
- Information delivery using clear data standards and definitions
- Flexibility and re-use of logic to rapidly address new threats





# Emerging Infectious Diseases: 2019nCoV Coronavirus

## Guidance *With CRET*



Source: Centers for Disease Control and Prevention. 2019 Novel Coronavirus, Wuhan, China: Interim Guidance for Healthcare Professionals. Available at: <https://www.cdc.gov/coronavirus/2019-nCoV/clinical-criteria.html>

# Improving Public Health Response With Modern Systems



## Clinicians must understand complex and rapidly evolving guidelines

- Currently, IT professionals “translate” — interpret and implement — many clinical guidelines into EHR-based decision support
- This process can lead to inconsistent and inaccurate implementation

Let’s consider an example and its implications:

### **ACUTE LYME**

# Acute Lyme: The Bulls-Eye Rash, an Easy Diagnosis



- After tick bite, some patients present with erythema migrans (EM) rash.
  - The rash is diagnostic for Lyme disease, unlike non-specific symptoms, which are inconclusive
- Do all clinicians know this?

## Accurate Clinical Guidance for Patient with EM Rash



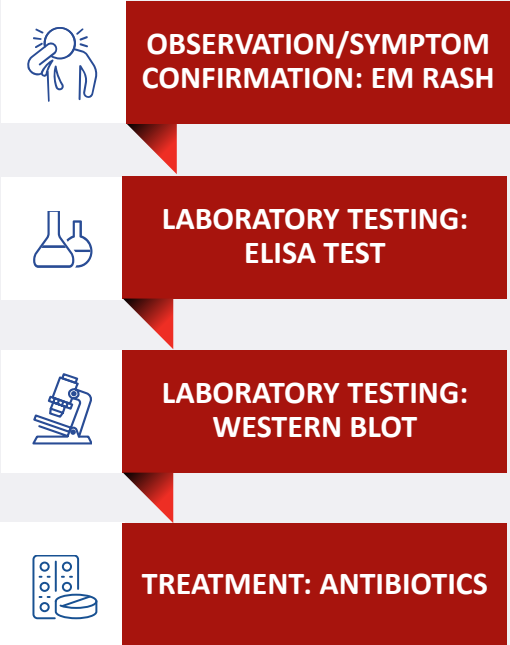
**OBSERVATION/SYMP TOM:  
EM RASH**



**TREATMENT: ANTIBIOTICS**

# Acute Lyme: A Dangerous Reality

## Wasted Steps *Without* CRET



vs.

Each step = time lost

## Accurate Guidance *With* CRET



# CRET For Acute Lyme: Take-aways

## Before

- Legacy IT without shared standards or interpretation
- Complex guidelines “translated” by IT professionals
- One-way communication
- EHR updates fail to keep pace with evolving state of science

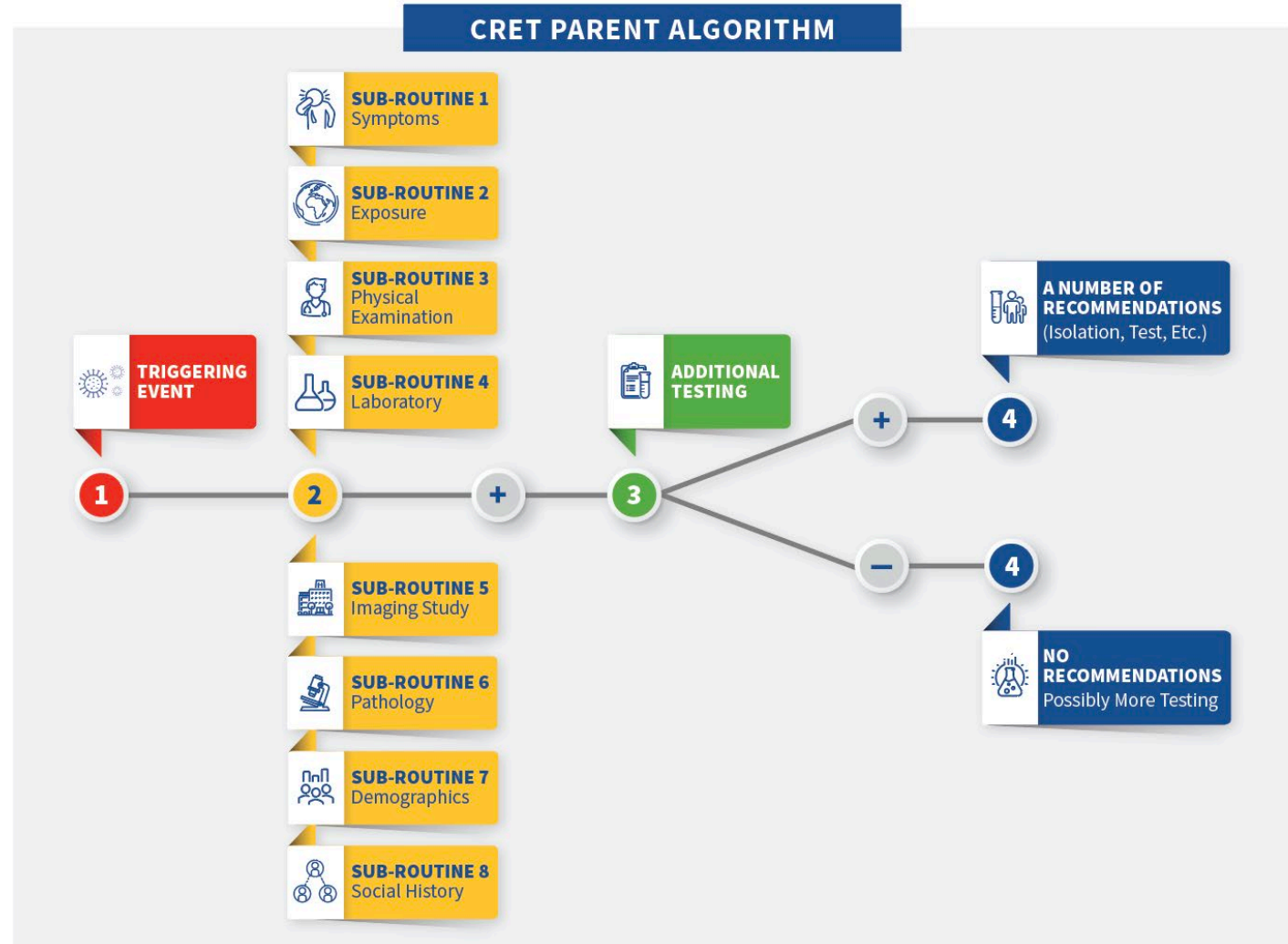
## After

- Flexible, scalable platform (extendable to many hazards) with shared standards
- Complex guidelines “translated” by SMEs
- Bidirectional communication
- EHR updates are rapid with near-real time information

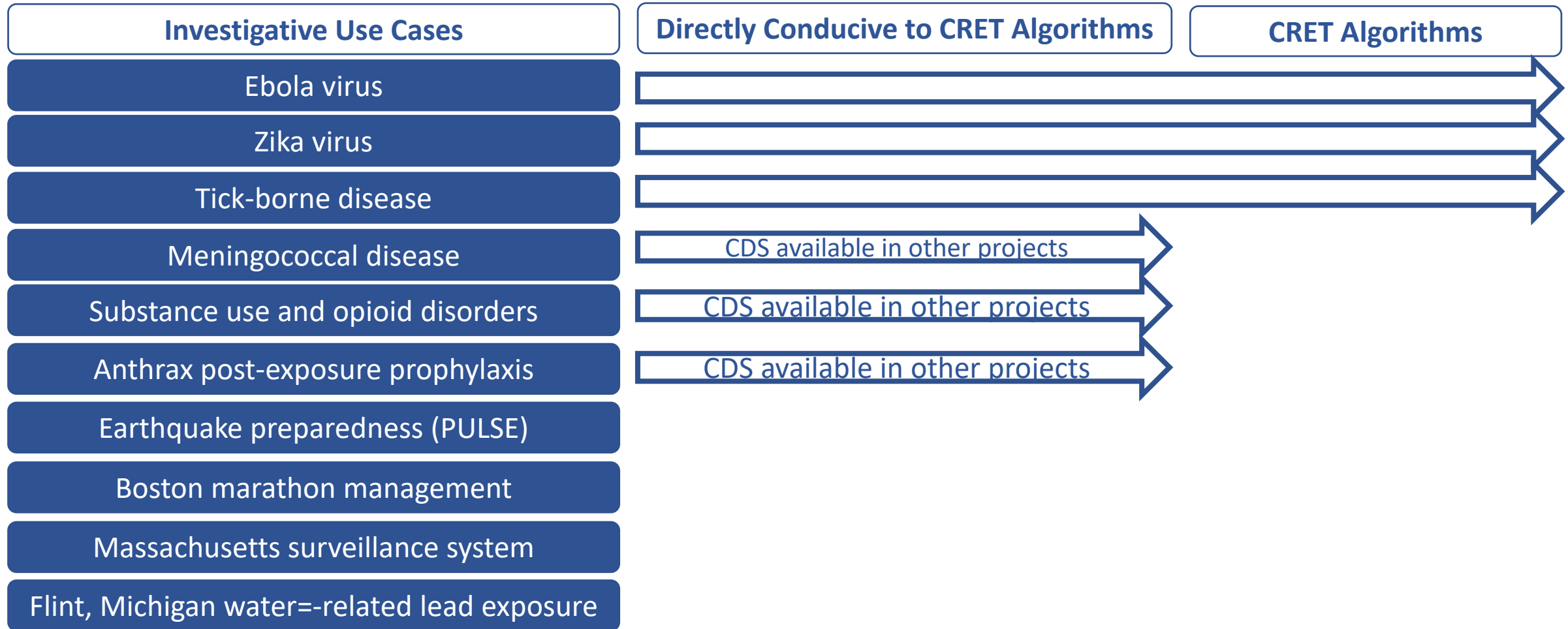
# CRET Parent Algorithm

CRET emphasizes traits critical to rapid response to health threats:

- Flexibility
- Diversity of experiences
- Ability to handle uncertainty



# CRET Scenario Matrix



# Q&A Discussion



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**What standards and services should be used to help you implement guideline information?**

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# Contact ONC

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