Improving Measures of Performance:

Development of a National Evaluation Strategy to Support Public Health Preparedness Program Accountability and Improvement

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Presentation Objectives

- Describe CDC's Public Health Emergency Preparedness (PHEP) Program
- Review challenges with past PHEP measurement and evaluation efforts
- Describe CDC's current PHEP measurement and evaluation strategy

Background on Public Health Emergency Preparedness

- Division of State and Local Readiness (DSLR) is responsible to administer the PHEP Cooperative Agreement
- Since 2001, over $7 billion has been awarded to 62 state, territorial, and local grantees
- As stewards of this program, CDC must demonstrate a return on investment
  - Are we Ready?
  - How well do we Perform?
  - Are we better Prepared?

Why Measurement and Evaluation Matters

- Accountability
  - Indicators of agency performance to:
    - Demonstrate the value-added to a range of stakeholders
    - Meet Federal reporting requirements
    - Comply with the Pandemic All Hazards Preparedness Act (PAHPA) - Performance-based funding by June 2009
- Program Improvement
  - Detailed measures of performance to:
    - Assess agency capacity and operational capabilities
    - Identifying gaps / areas in need of improvement

Why is PHEP Difficult to Evaluate?

- Difficulty in defining of Public Health Emergency Preparedness
- Dynamic and expanding mission
  - 2001: Bioterrorism (e.g., Anthrax)
  - 2002: All acts of Terrorism (chemical and radiological)
  - 2003: SARS / West Nile Virus
  - 2005: Natural disasters (e.g., Katrina; Rita)
  - 2006: Pandemic and All Hazards Preparedness Act
  - 2009: H1N1 Pandemic
- Lack of a strong evidence-base
  - Identification and translation of what works in PHEP
  - Linkage between program guidance and measures of program performance

Why is PHEP Difficult to Evaluate?

- A preparedness program with limited opportunities to implement and test program activities for large scale emergencies
- Complex networks of horizontal, vertical, and cross-jurisdictional relationships
  - Management of money, information, services, expertise, and leadership through multiple organizations
  - Not all emergencies are under the control of public health
  - Diffused distribution of accountability
- Assessment of individual, agency, and system level performance
- Varied opinion on identifying what's worth measuring

Why is PHEP Difficult to Evaluate?

- Past measurement and evaluation efforts have yielded:
  - Multiple and disparate measures/datasets
  - Inconsistent implementation from year to year
  - Incomplete and poor quality data reporting
  - Data with questionable reliability, validity, and utility

Evolution of PHEP Measures

2002 Capacities	2003/2004 Capacities	2005/2007 Capabilities
Develop a system to receive and evaluate urgent disease reports on a 24-hour-per-day, 7-day-per-week basis	Complete development and maintain a system to receive and evaluate urgent disease reports	Time to have a knowledgeable public health professional respond to a call or communication that may be of urgent public health consequence 24/7 (Target: 15 minutes)
Develop an interim plan for risk communication and information dissemination	Complete a plan for crisis and emergency risk communication (CERC) and information dissemination	Time to issue critical health message to the public concerning an event that may be of urgent public health consequence (Target: 6 hours from determination that a public message is needed)
Ensures that 90 percent of the population is covered by the Health Alert Network	Ensure, by testing and documentation, at least 90 percent of the key stakeholders involved in a public health response can receive and send critical health information	Time to distribute a health alert to key response partners concerning an event that may be of urgent public health consequence (Target: 4 hours from determining that an alert is needed)

Evaluation Goals for PHEP

- Develop an evaluation framework to promote program accountability and improvement
- Develop a standardized set of measures describing program performance outcomes
- Integrate measurement and evaluation into the management and operations of preparedness programs at the state and local levels

Development of an Evaluation Framework

A Systematic Approach

I. Continuous engagement of partners / stakeholders

II. Define and describe the PHEP program

III. Apply evaluation tools and methods to identify key points of measurement

IV. Develop measurement plans to include how the data will be collected, managed, analyzed, and reported

V. Build evaluation capacity for state, territorial, and local jurisdictions as well as CDC

VI. Ensure use and share lessons learned

I. Engage Our Partners / Stakeholders

State / Local Partners

- ASTHO
- NACCHO
- APHL
- CSTE
- Health Departments
- Hospitals

Federal Partners

- HHS
- ASPR
- DHS
- HRSA

Academia

- CPHPs
- PERRCs
- APCs

I. Engage Our Partners / Stakeholders

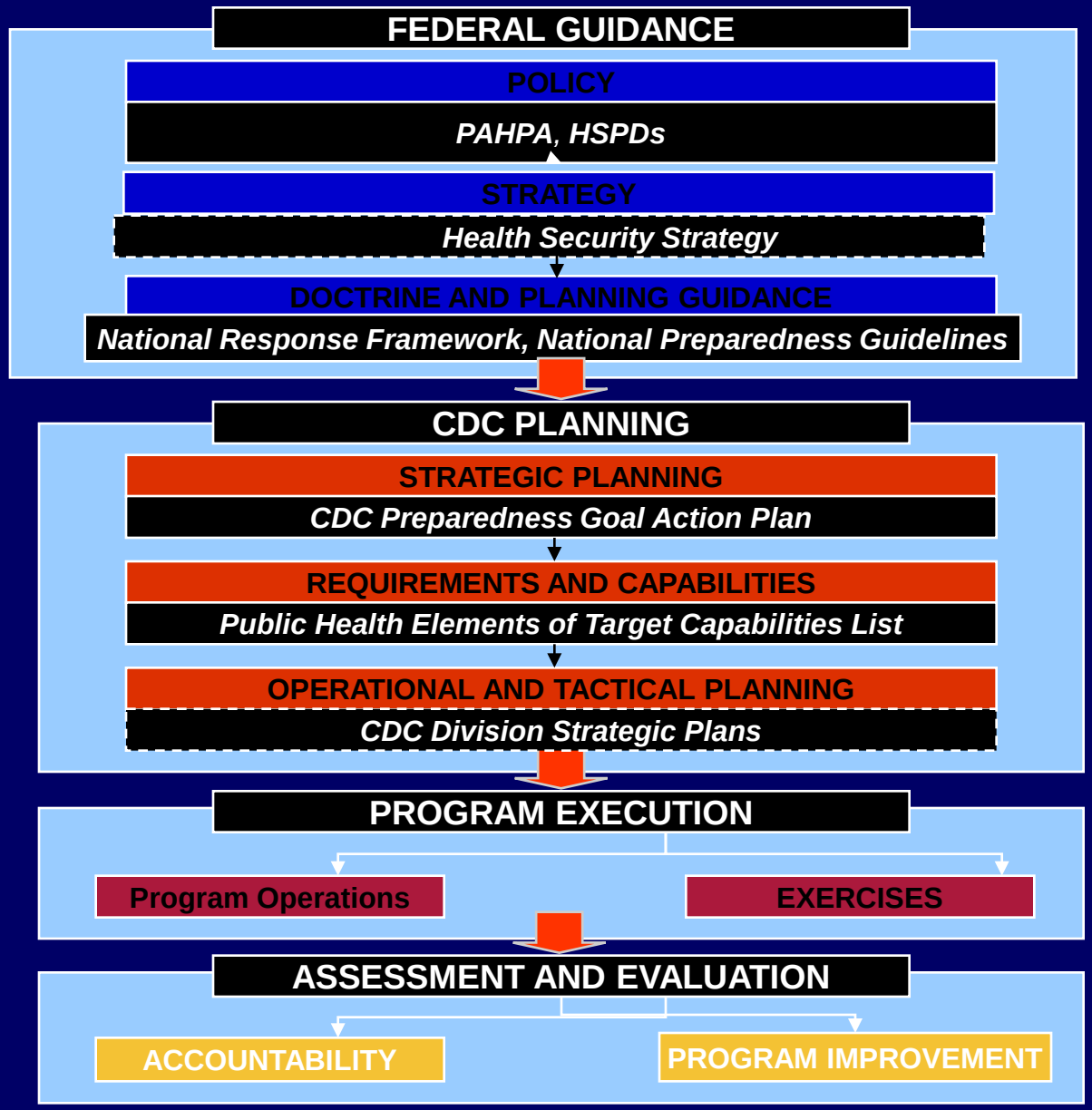
- PHEP Evaluation Workgroup
  - Federal partners, national associations, SMEs, state/local representatives
  - Expertise in evaluation, performance measurement, emergency management, hospital preparedness, and public health systems
  - Provide recommendations on the identification, development, and implementation of PHEP measures
- Measurement subgroups
  - Expertise in specific PHEP capabilities
  - Develop new or refine existing measures
- Frequent feedback from CDC staff and other partners

II. Define and Describe the Program

- Public Health Emergency Preparedness
  - Not an end-state
  - Based on public health agency capacities and operational capabilities to respond to routine and emergency events
  - Shaped by real incidents
  - Ongoing process to build and maintain infrastructure, partnerships, and plans and to demonstrate capability to respond via exercises and real emergencies

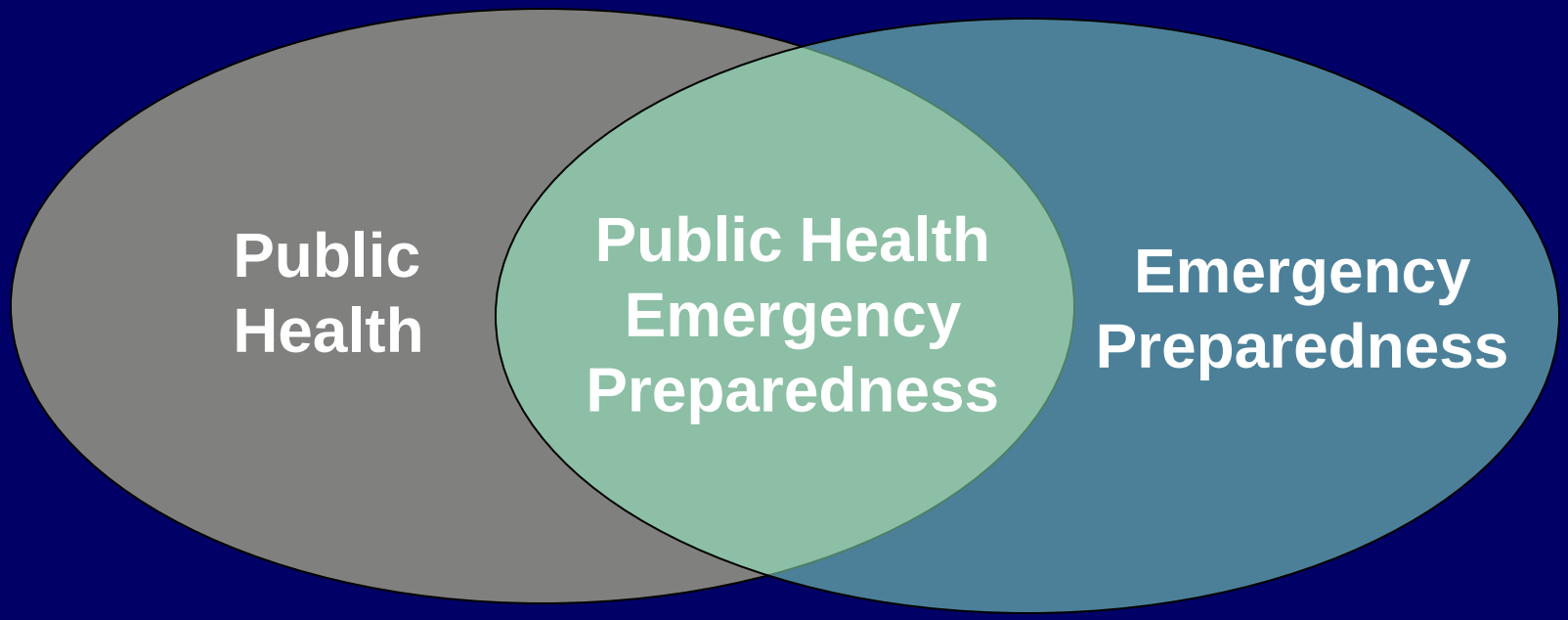
II. Define and Describe Program

Alignment at the Federal, State, and local Levels



II. Define and Describe the Program

The Intersection of Two Distinct Fields

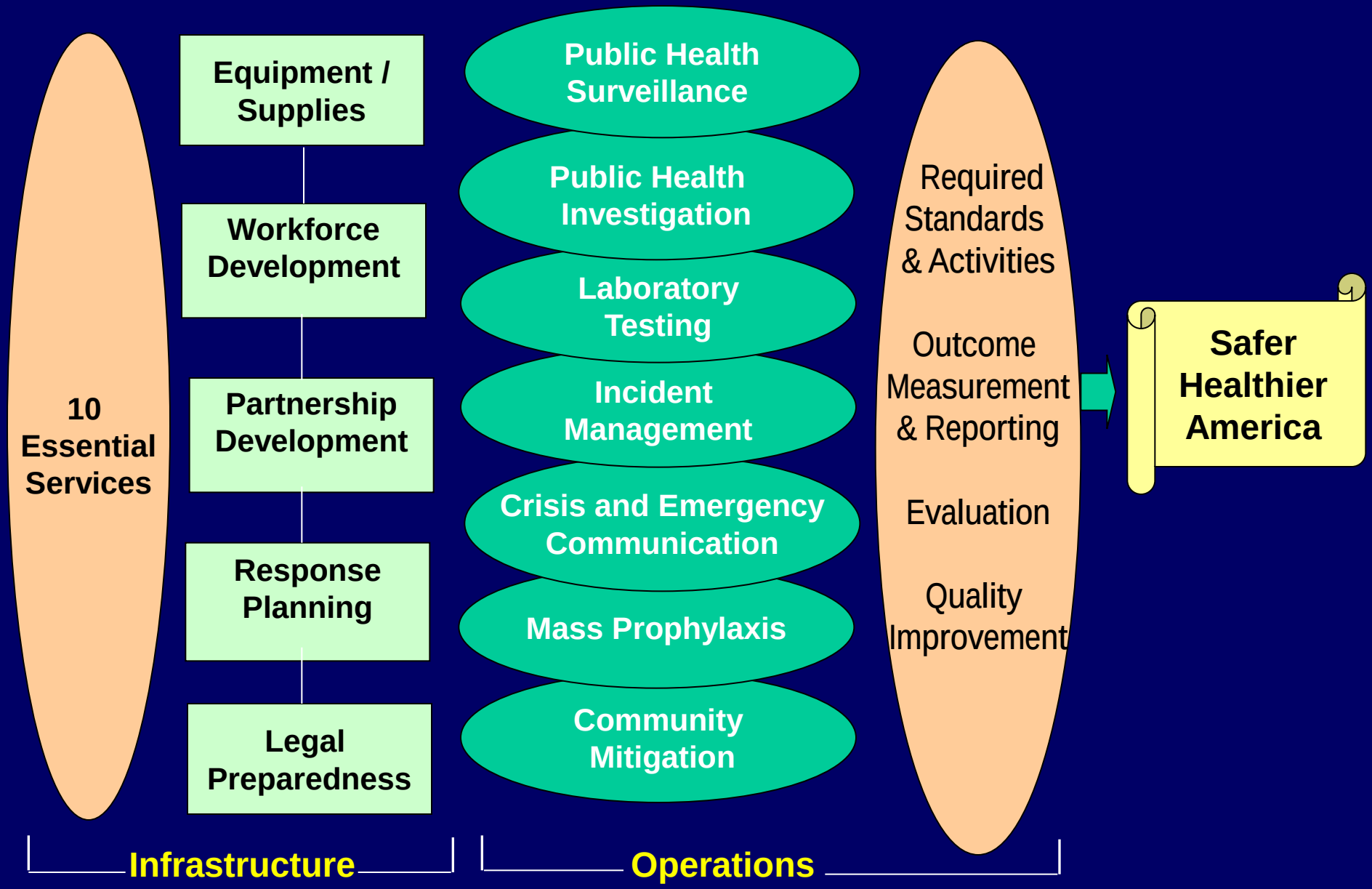


10 Essential Services of Public Health

DHS National Preparedness Guidelines

II. Define and Describe the Program

Functions → Capacities → Capabilities → Programs → Impact



III. Identify Key Points of Measurement

- Identify priority public health capabilities for initial measure development:
  - Incident Management
  - Crisis and Emergency Risk Communication with the Public
  - Biosurveillance
    - Surveillance / Detection
    - Epidemiology Investigation
    - Laboratory Services
  - Countermeasure Delivery
  - Community Mitigation Strategies
    - Isolation and Quarantine
  - Mass Prophylaxis

III. Identify Key Points of Measurement

- Define each capability
- Use process mapping, logic models, and other social science tools to:
  - Map fundamental activities and steps for each capability
  - Identify appropriate capacities (e.g., resources, infrastructure) needed to carry out the capability
  - Identify points of measurement within a capability or between capabilities

III. Identify Key Points of Measurement

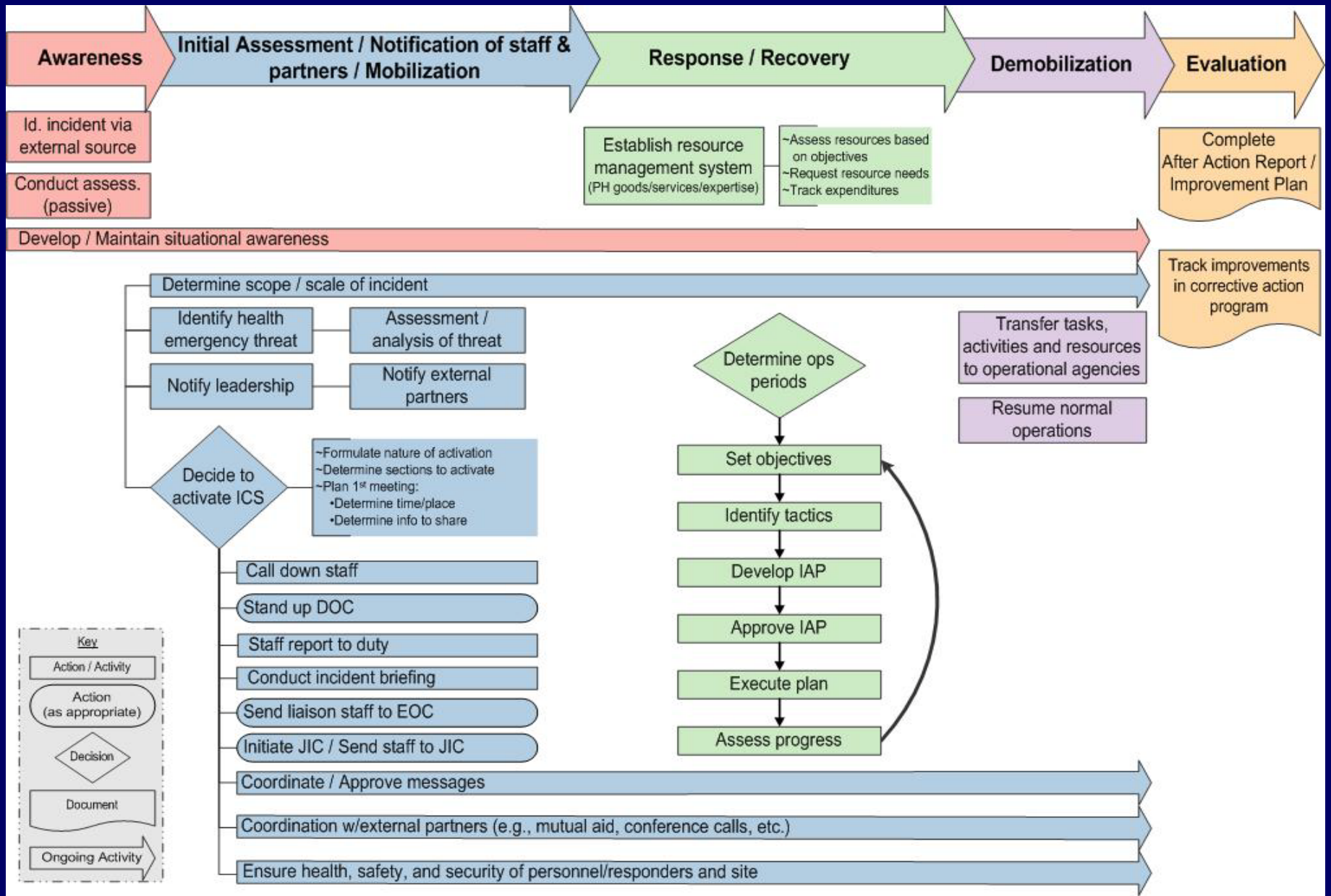
What's Worth Measuring?

- Criteria to select points of measurement
  - What is core to public health?
  - What is under the control of a public health agency?
  - What are common points for HPP and PHEP?
  - What is feasible and useful at the state and local levels?
  - What is the appropriate scale?
  - What are potential "choke points"

Example: Incident Management Capability Definition

Public health incident management is a flexible and integrated system that provides a common framework for departments and agencies at all levels of government, the private sector, and nongovernmental organizations to work seamlessly to prepare for, prevent, respond to, recover from, and mitigate the health effects of incidents, regardless of cause, size, location, or complexity, in order to reduce the loss of life or property, and harm to the environment.

Example: Incident Management Process Map



Example: Incident Management Performance Measures

IM 1. Time to notify pre-identified staff with public health agency incident management functional responsibilities

IM 2. Time for staff with public health agency incident management functional responsibilities to report for duty

IM 3. Production of the approved Incident Action Plan before the start of the second operational period

IM 4. Time to complete a draft of an After-Action Report / Improvement Plan

IV. Development of Measurement Plans

- Identify methods and approaches to data collection
  - Self-report, 3rd party observation, and audits
  - Develop data collection templates/tools/forms
  - Quantitative & qualitative reporting
- Decide how the data will be used
  - Develop preparedness indices and reporting formats (e.g., dashboards)
  - Quality improvement
- Pilot test measures

V. Build Evaluation Capacity

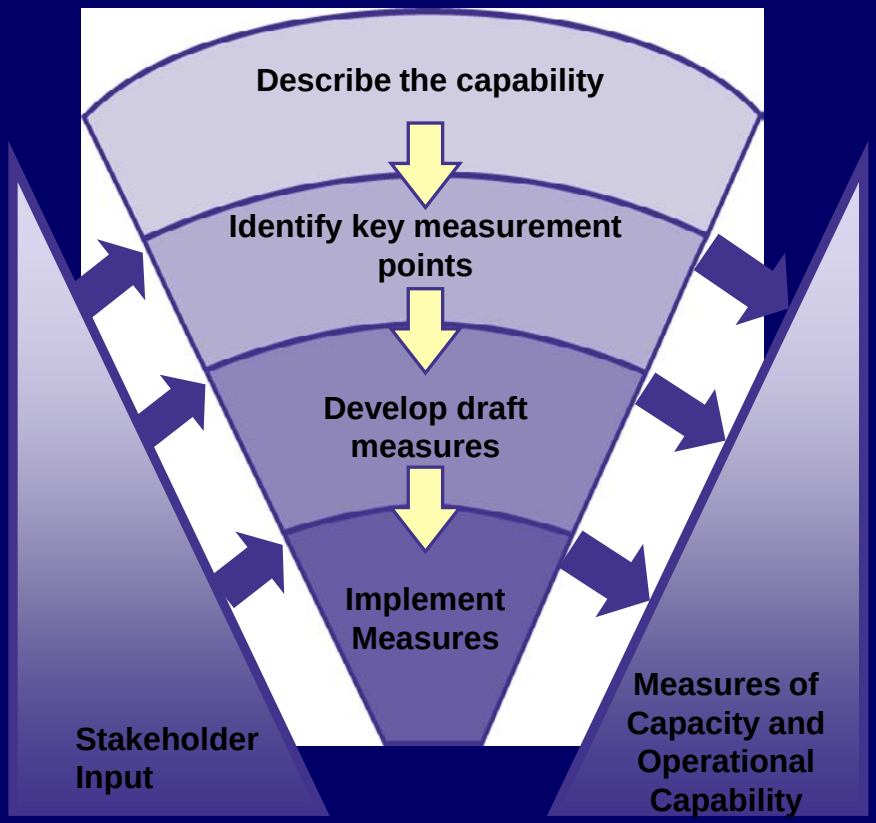
- Develop and deliver:
  - Data collection and evaluation guidance and tools
  - Training and technical assistance

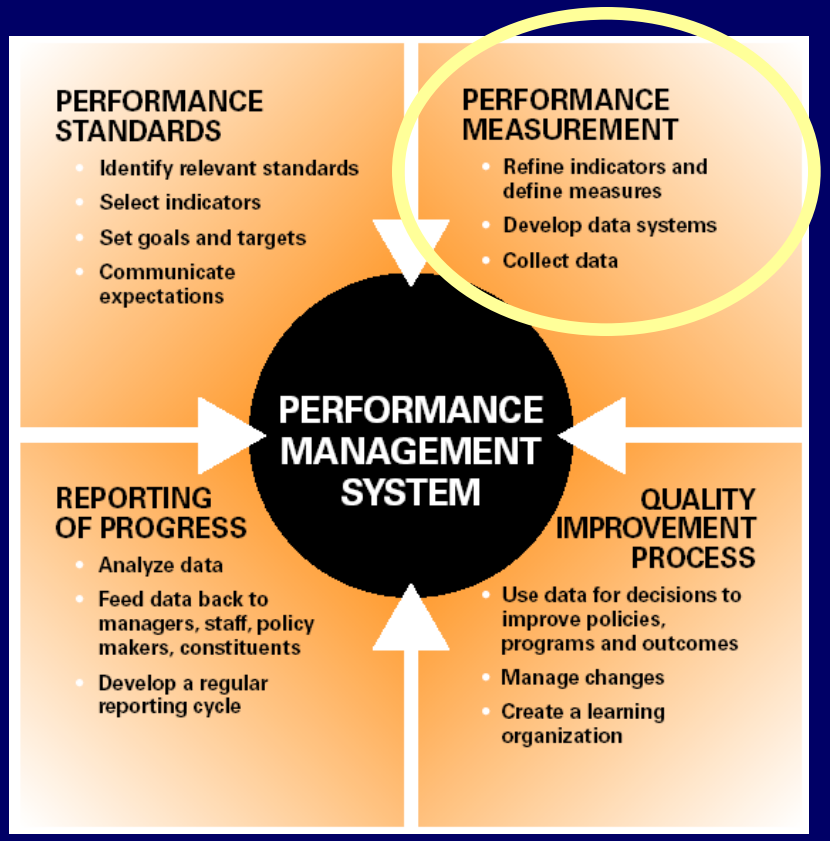
- Support monitoring and evaluation of PHEP operational capabilities
  - Process Evaluation: Degree to which agency emergency operations were executed as planned
  - Outcome Evaluation: Degree to which agency emergency operations achieved performance targets
  - Impact Evaluation: Assess the impact of agency emergency operations on reducing morbidity and mortality

V. Build Evaluation Capacity

Measurement supports Performance Management and Quality Improvement

Measurement Development Process





VI. Ensure Use & Share Lessons Learned

- Program Description
  - Report data on programmatic achievements and areas in need of improvement
  - Publish State Preparedness Reports
    - Public Health Preparedness: Mobilizing State by State (February 2008)
- Program Accountability
  - Use data to assess compliance with program requirements, PAHPA, GPRA, and performance on key program activities
- Program Improvement
  - Use data to identify areas in need of technical assistance and training
  - “Plan-Do-Check-Act” process

Continued Evaluation of PHEP Will Yield:

- Greater accountability of funds
- Consistency in program implementation/ operations
- Improved program efficiencies (e.g., timely response to real events)
- Promising practices
- Data to secure resources and drive program improvements

Disclaimer

The findings in this presentation are those of the authors and do not necessarily represent the views of the Centers for Disease Control and Prevention

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Questions

www.emergency.cdc.gov