# *Continuous Improvement and the Mission Area Components of the National Preparedness System*

Office of Homeland Security

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# Presentation Objectives

By the end of this presentation, you should be able to:

- Define Continuous Improvement and understand its importance.
- Describe the Continuous Improvement Process and its four phases.
- Describe what makes a Continuous Improvement Program effective.
- Cross reference this Continuous Improvement model with the Mission Area Components of the National Preparedness System
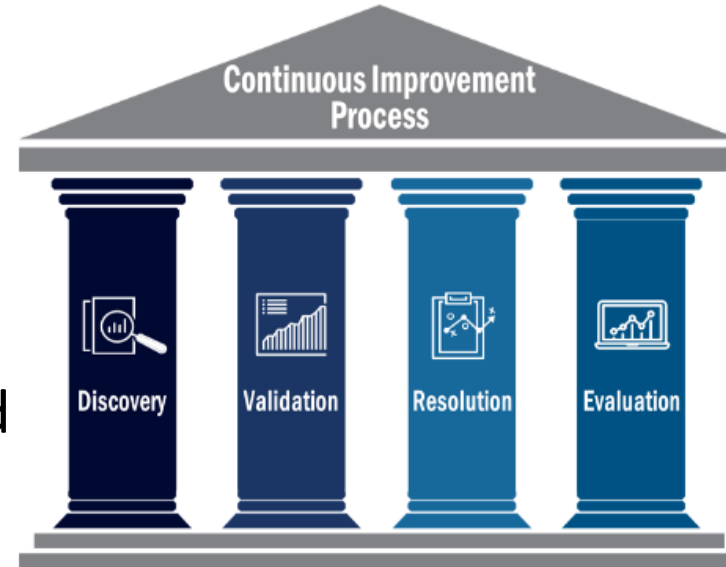
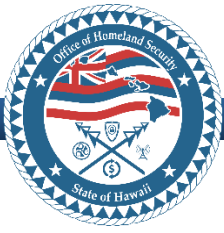A full list of the terminology can be found here: IS-45 Continuous Improvement Overview Course Terminology.

# Presentation Overview

1. What Is Continuous Improvement?
2. What Is the Continuous Improvement Process?
   A. What Is the Discovery Phase?
   B. What Is the Validation Phase?
   C. What Is the Resolution Phase?
   D. What Is the Evaluation Phase?
3. What Makes a Continuous Improvement Program Effective?

# 1. What is Continuous Improvement?

The following section will discuss:

- The definition of Continuous Improvement.
- The importance of practicing Continuous Improvement.
- Example Continuous Improvement products.
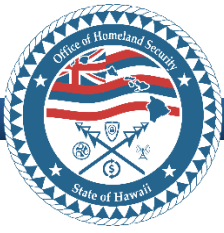
# Defining Continuous Improvement

Continuous Improvement helps emergency managers to drive change after incidents and exercises and to better prepare for future disasters (Reminder: Linked terms open definition).

Continuous Improvement involves:
- Identifying, validating, and sharing operational strengths, areas for improvement, potential best practices, and mission critical issues from incidents and exercises.
- Developing courses of action (COAs) to maintain strengths, address areas for improvement and mission critical issues, and institutionalize best practices.
- Assigning and tracking COAs until completed.

Emergency managers at all levels of government, in the private sector, and in nongovernmental organizations can conduct Continuous Improvement activities to create a more secure and resilient nation.

# Importance of Continuous Improvement

Continuous Improvement increases the effectiveness of response and recovery efforts by ensuring emergency managers can routinely identify strengths, areas for improvement, potential best practices, and mission critical issues. Once identified, emergency managers should improve corresponding plans, policies, and procedures.

In recent history, lessons learned from disasters have been used to inform and update laws and plans to ensure preparedness across the nation. These laws and plans include:

- Post-Katrina Emergency Management Reform Act of 2006 (PKEMRA)
- Sandy Recovery Improvement Act of 2013 (SRIA)
- Disaster Recovery Reform Act of 2018 (DRRA)
- FEMA Strategic Plan 2018-2022

# Continuous Improvement Products

The following are examples of products generated through the Continuous Improvement Process to help identify trends so that emergency managers can proactively implement and sustain improvement actions.

**After-Action Report (AAR)**
Provide retrospective analysis of an incident or exercise, outlining strengths, areas for improvement, potential best practices, and mission critical issues.

**Trend Analysis**
Review recurring observations and changes over time.

**Decision Support Products**
Operationalize past lessons learned to support current or future operations.

# 2. What is the Continuous Improvement Process?

The following section will discuss the Continuous Improvement Process and its four phases:

- Discovery
- Validation
- Resolution
- Evaluation

# Continuous Improvement Process

The Continuous Improvement Process is a system that helps emergency managers discover trends, learn lessons, and implement COAs. The process:

- Promotes the efficient use of time, staff, and resources.
- Advances state, local, tribal, and territorial preparedness to manage disaster operations.
- Enables action planning and information sharing.

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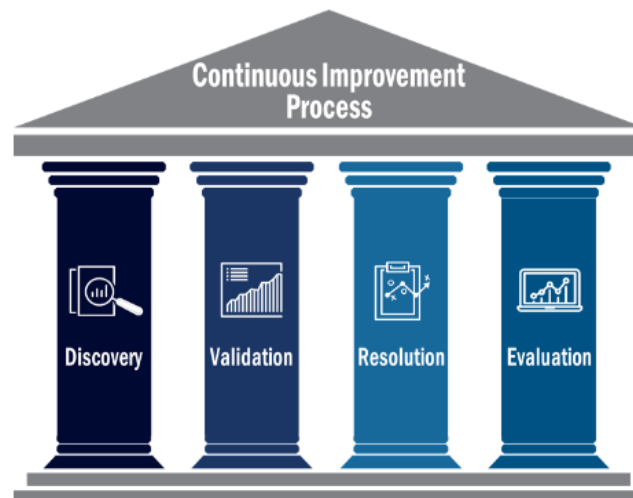
The Continuous Improvement Process and its four phases defined here have parallels with the Mission Area Components of the National Preparedness System:

- Identifying and Assessing Risk
- Estimating Capability Requirements
- Building and Sustaining Capabilities
- Planning to Deliver Capabilities
- Validating Capabilities
- Reviewing and Updating

*Evaluation*

*Discovery*

*Validation/Resolution*
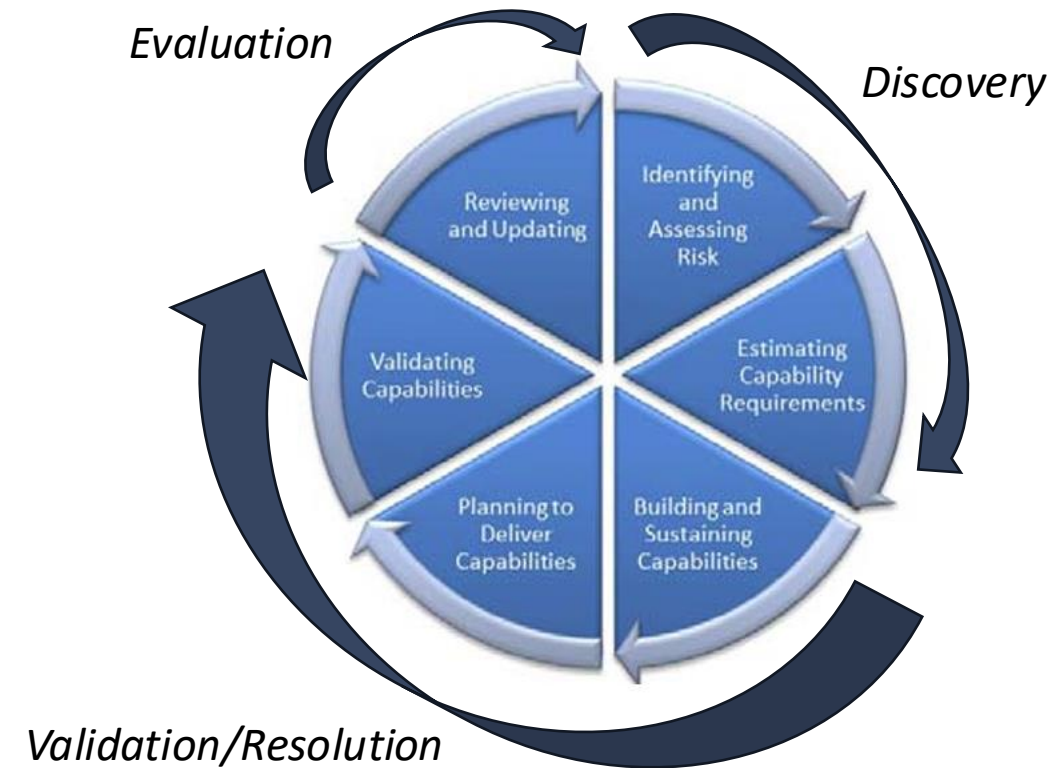
# *A. What is the Discovery Phase?*

The purpose of the Discovery phase is to collect information to identify trends across incidents and exercises. The goal of the collection process is to:

- Evaluate actions taken to correct previous issues.
- Gather information on priority focus areas for leadership.
- Measure effectiveness of new plans, policies, and procedures.
- Validate risk and assess capabilities.
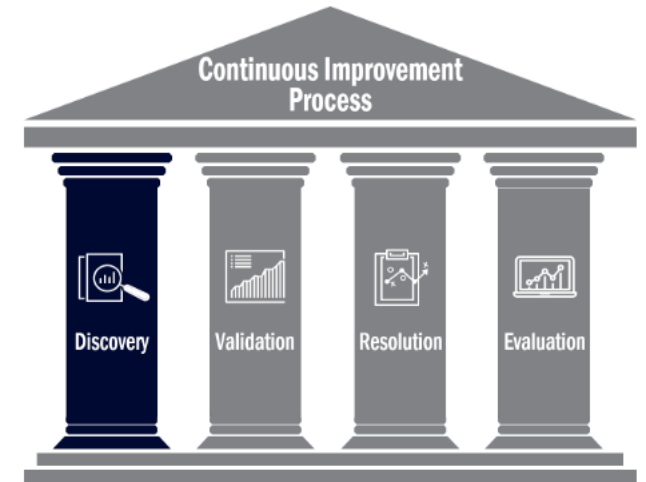
The Discovery phase consists of two key elements:

- **Planning for collection** to ensure that information is collected, managed, and shared in a systematic and deliberate manner.
- **Collecting data** using a variety of methods.

# The Mission Area Components of the National Preparedness System that correspond to the Discovery phase of Continuous Improvement are:

**Identifying and Assessing Risk -** Collecting historical and recent data on existing, potential and perceived threats and hazards. The results of these risk assessments form the basis for the remaining steps.

**Estimating Capability Requirements -** Determine the specific capabilities and activities to best address those risks. Some capabilities may already exist, and some may need to be built or improved.



*Discovery*
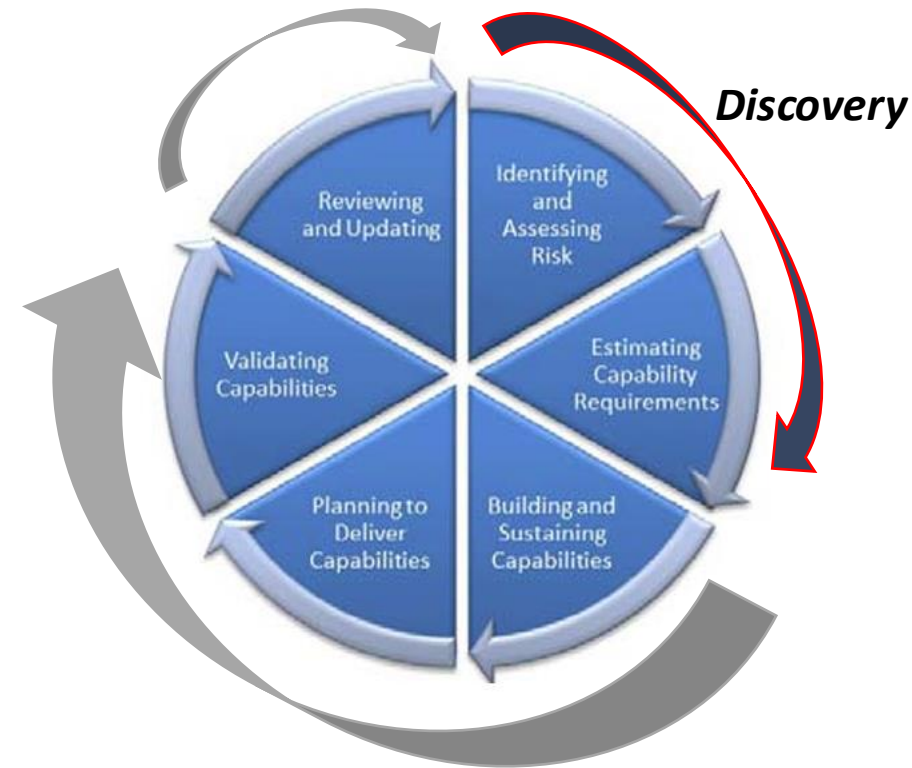
# Collection Analysis Plan (CAP)

A Collection Analysis Plan (CAP) organizes and establishes a clear way forward for data collection efforts. CAP development begins either during or after a real-world incident. It should be finalized as soon as possible to ensure all collection efforts align to the plan.

There are seven essential elements of a CAP:

1. Brief description of the incident (e.g., name, type, duration).
2. Statement on the purpose and scope of the effort.
3. Priority focus areas (i.e., what specific issues will be analyzed).
4. Methodology for collecting data (i.e., what qualitative and quantitative data).
5. Roles and responsibilities of personnel supporting data collection.
6. Tentative schedule for data collection, analysis, and reporting.
7. Potential constraints (e.g., scope, schedule, resources) and mitigation strategies for each.

# Data Collection Methods

Various methods can be used during the Discovery phase to collect data on the priority focus areas identified in the CAP. These are the most commonly used methods which will be discussed in this course:

Direct Observation

Documentation Review

Information Management Systems and Source Databases

Interviews (Individual or Group)

Feedback Forms and Surveys

Hot Washes

# Method: Direct Observation

**Definition:** The observation of staff in their work environment to gather information about processes, outcomes, and activities without interfering.

**Example:** While responding to a hurricane in Florida, Continuous Improvement personnel attended meetings with response staff and noted major operational challenges and strengths in real time.

**Considerations:**
- Offers real-time data collection.
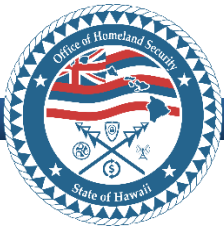- Requires many resources to observe multiple venues simultaneously.

# Method: Documentation Review

**Definition:** A comprehensive review of existing documents that serve as the authoritative record of activities.

**Example:** Following a major flood in Austin, Texas, Continuous Improvement personnel reviewed Incident Action Plans (IAPs), press releases, field office reports, geospatial products, and relevant plans and interagency agreements.

**Considerations:**
- Can help validate information received through interviews.
- Can be time-consuming and labor-intensive to review and synthesize.

# Method: Information Management Systems and Source Databases

**Definition:** Systems and databases that collect and organize comprehensive information on costs, staff, resources, and other disaster-related data.

**Example:** Continuous Improvement personnel in New Orleans used the city's database of financial transactions to evaluate hurricane response costs over time.

**Considerations:**
- Analysis may require guidance and interpretation from subject-matter experts.
- May require technical familiarity with using the system or database.

# Method: Interviews

**Definition:** A meeting with an individual or group to collect perspectives after an incident or exercise on what happened and why.

**Example:** While conducting an interview, Continuous Improvement personnel learned of a communications issue that was interfering with situational awareness and asked follow-up questions for more detail to inform COAs to correct the issue.

**Considerations:**
- Used to understand incident details and explore different perspectives about particular topics.
- Enables in-depth discussions of key issues, often involving subject-matter experts.
- Can be difficult to schedule during or immediately following an exercise or incident.
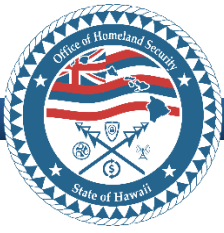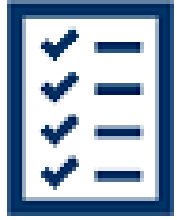
# Method: Feedback Forms and Surveys

**Definition:** A series of questions sent to a pre-defined group of respondents after an incident or exercise to collect information on what happened and why.

**Example:** Continuous Improvement personnel deployed a post-incident survey to collect feedback from response staff about the challenges they faced and whether they needed additional resources.

**Considerations:**
- Can use prior to an interview (scope questions) or after (validate or expand information).
- Easy to administer and provides first-hand information from participants.
- Gathers information from a large number of staff.
- Narrative responses to open-ended questions often vary in specificity and quality.

# Method: Hot Washes

**Definition:** A facilitated group discussion held soon after an incident or exercise to gather initial thoughts on what worked well, what needs improvement, and potential COAs.

**Example:** After a counterterrorism exercise in New York City, the response staff participating in the exercise convened to debrief and discuss potential solutions to challenges identified.

**Considerations:**
- Usually conducted when the response phase has ended but before teams demobilize.
- Enables a group to more thoroughly discuss specific issues.
- Requires a skilled facilitator to ensure an open and collaborative discussion.
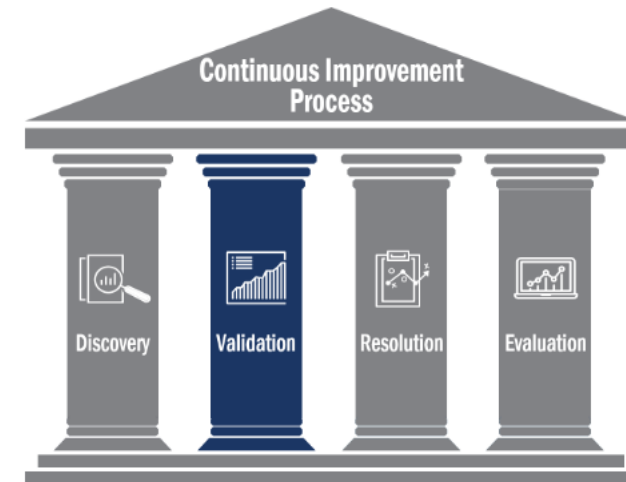
# *B. What is the Validation Phase?*

During the Validation phase, Continuous Improvement Personnel analyze data collected from plans, trainings, exercises, real-world incidents, capability assessments, and/or steady-state activities to identify and ensure the accuracy of observations and potential COAs.

The Validation phase consists of two key elements:

- Conducting **data analysis** of collected data to identify conclusions, insights, and trends.
- **Reporting** analyses, observations, and potential COAs.



Continuous Improvement Process

Discovery | Validation | Resolution | Evaluation

# The Mission Area Components of the National Preparedness System that correspond to the Validation phase of Continuous Improvement are:

**Building and Sustaining Capabilities -** Figuring out the best way to use limited resources to build capabilities. You can use the risk assessment to prioritize resources to address the highest probability or highest consequence threats.

**Planning to Deliver Capabilities -** Coordinate your plans with other organizations.

**Validating Capabilities -** Participating in exercises, simulations or other activities helps you identify gaps in your plans and capabilities.
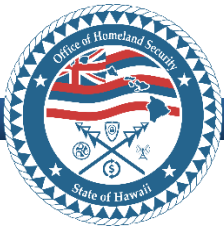
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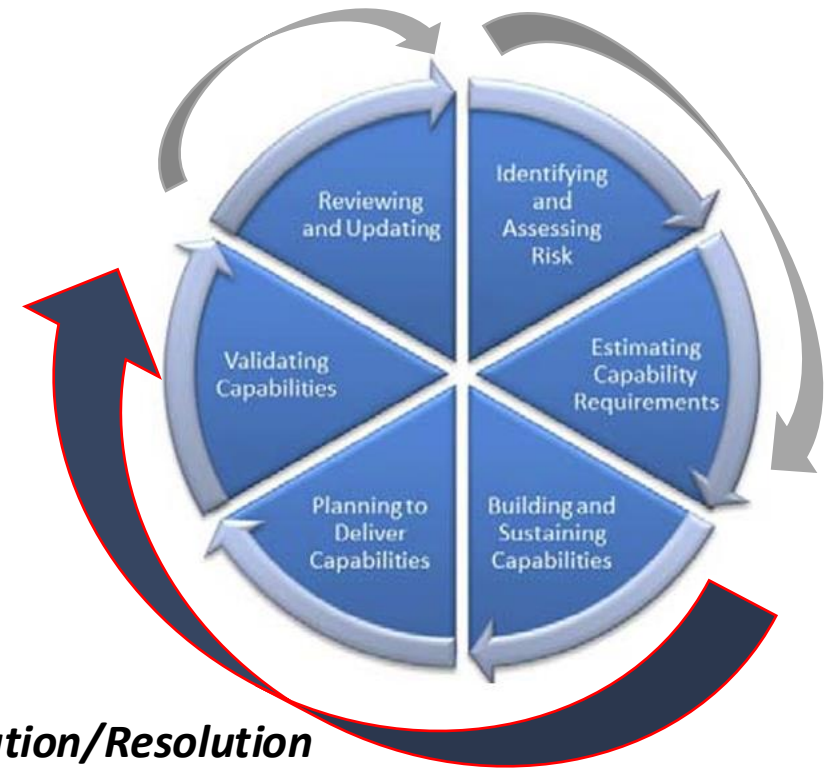
# Data Analysis Techniques

Continuous Improvement personnel may use the following techniques during their data analysis efforts:

- **Real-Time Analysis:** Conducting analysis during ongoing operations.
- **Event Reconstruction:** Consolidating information from multiple sources into a single, fact-based account of what happened during an incident.
- **Root Cause Analysis:** A structured process for determining the originating factor(s) that directly led to a specific outcome.
- **Synthesis:** Compiling and reviewing data from multiple sources to identify common issues.
- **Trend Analysis:** Identifying recurring strengths or challenges and changes in both over time.
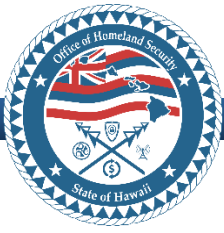
# Reporting Observations

Data collected and analyzed can be communicated through written observations, which explain what occurred and provide supporting evidence.

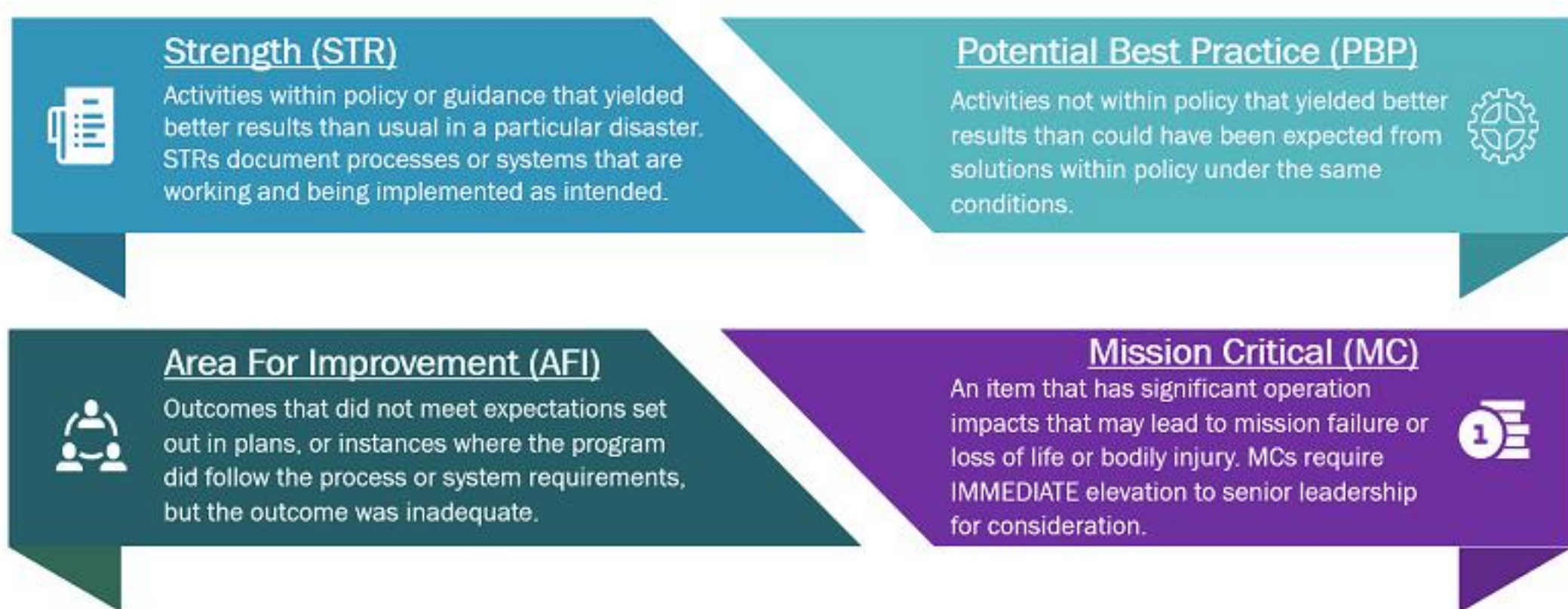An observation should be reported and disseminated when:

- There is supporting evidence from multiple sources.
- There is demonstrable operational impact.
- Rigorous synthesis, event reconstruction, and/or root cause analysis has been conducted.
- The observation is different from other observations.

Observations from an incident or exercise can be compiled into an AAR or used to inform the development of other Continuous Improvement products.
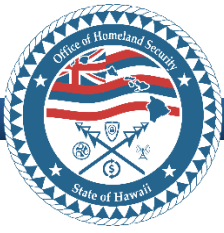
# Types of Observations

The figure below describes the four types of observations:

**Strength (STR)**
Activities within policy or guidance that yielded better results than usual in a particular disaster. STRs document processes or systems that are working and being implemented as intended.

**Potential Best Practice (PBP)**
Activities not within policy that yielded better results than could have been expected from solutions within policy under the same conditions.

**Area For Improvement (AFI)**
Outcomes that did not meet expectations set out in plans, or instances where the program did follow the process or system requirements, but the outcome was inadequate.

**Mission Critical (MC)**
An item that has significant operation impacts that may lead to mission failure or loss of life or bodily injury. MCs require IMMEDIATE elevation to senior leadership for consideration.

# Elements of an Observation

Strong observations include these elements:

- **Topic Sentence:** Make a specific assertion or claim about something that occurred regarding a particular topic and describe the impact.
    - Example: Emergency Medical Services (EMS) crews were not given incident-specific equipment checklists, which resulted in EMS crews not bringing enough HazMat suits and lengthened the time it took for first responders to reach survivors in the contaminated area.
    - In this example topic sentence, the topic is EMS crews and incident-specific equipment checklists. The specific assertion is that EMS crews were not given incident-specific equipment checklists. The impact is that EMS crews did not bring enough HazMat suits, lengthening the time it took to reach survivors.
- **Discussion of Evidence:** Elaborate on the topic sentence by providing relevant background information and supporting evidence to detail what happened, why it happened, and the impact.
- **Desired Outcome(s):** Describe the ideal future state when action is taken on an observation.
- **COA(s):** List the actions that could be taken to meet the desired outcome(s). These can be proposed by interviewees or other subject-matter experts.
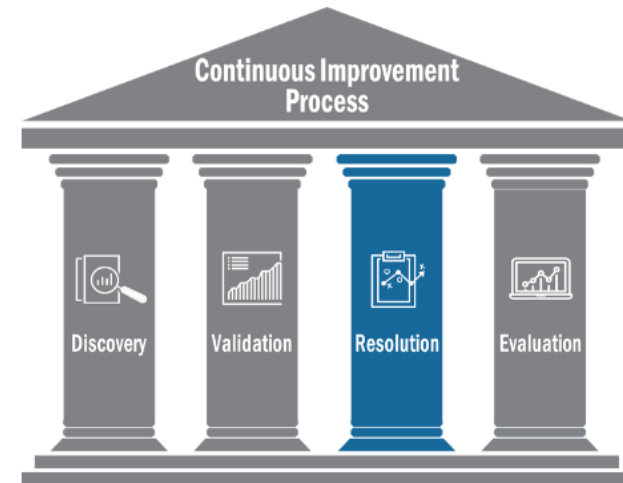
*C. What is the Resolution Phase?*

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During the Resolution phase, Continuous Improvement personnel should use observations to develop and finalize appropriate COAs.

The Resolution phase consists of two key elements:

- Conducting an **Improvement Planning Workshop (IPW)** to socialize observations and develop and finalize COAs.
- Developing an **action plan to adopt COAs** that maintain strengths, institutionalize best practices, and address areas for improvement and mission critical issues.

# The Mission Area Components of the National Preparedness System that correspond to the Resolution phase of Continuous Improvement are:

**Building and Sustaining Capabilities -** Figuring out the best way to use limited resources to build capabilities. You can use the risk assessment to prioritize resources to address the highest probability or highest consequence threats.

**Planning to Deliver Capabilities -** Coordinate your plans with other organizations.

**Validating Capabilities -** Participating in exercises, simulations or other activities helps you identify gaps in your plans and capabilities.

*Validation/Resolution*
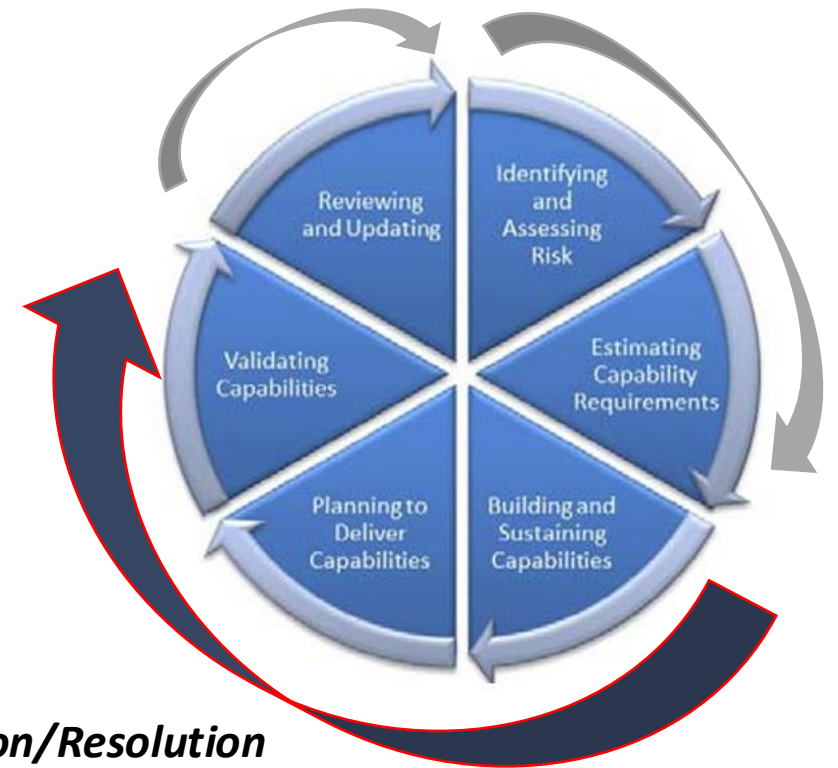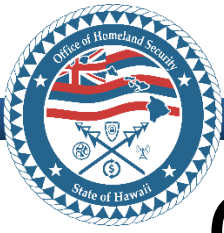
# Characteristics of a Course of Action (COA)

Continuous Improvement personnel develop COAs to take action on observations. Effective COAs should:

- Be based on validated observations.
- Be reviewed by subject-matter experts.
- Be developed in coordination with and assigned to a responsible entity for implementation.
- Include a clearly defined timeline for completion.

# Improvement Planning Workshops (IPW)

An IPW is a means for developing and implementing COAs. Participants should engage in productive discussion and implement any COAs assigned to them. Workshop participants should include:

- Leaders and subject-matter experts from the responsible entities.
- Analysts who developed the observations.
- Staff who will track and evaluate the actions.

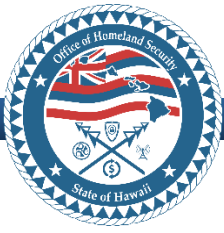There are three goals that participants should accomplish during an IPW:

- Agree on a list of COAs to take.
- Identify the entities responsible for implementing the COAs.
- Develop timelines for completing the COAs.

# Improvement Planning Workshop (IPW) Activities

An IPW may consist of the following activities:

- **Presentations:** Participants share important information on observations.
- **Trend Analysis:** Illustrate how often a particular observation has been identified in the past.
- **Breakout Discussions:** Focus discussion on key issues that are important to a specific set of participants.
- **Problem Solving Exercises:** Help participants identify COAs that will address the root cause of the problem and consider other steps to addressing these issues.
- **Facilitated Group Discussions:** Participants discuss priorities, possible solutions, and responsibilities for COAs.
- **Analysis Training:** Help participants to continue the necessary analysis with their office or jurisdiction as they work to complete their COAs.
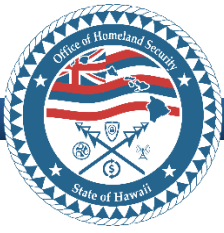
# Developing an Action Plan

COAs finalized during the IPW are transferred into an action plan. The plan provides a common operating picture of what actions are being taken, who is taking them (e.g., the responsible entity), and when they will be complete.

An action plan manager or accountable tracking body should be identified to track updates to the plan, maintain accountability, and provide updates on progress made.
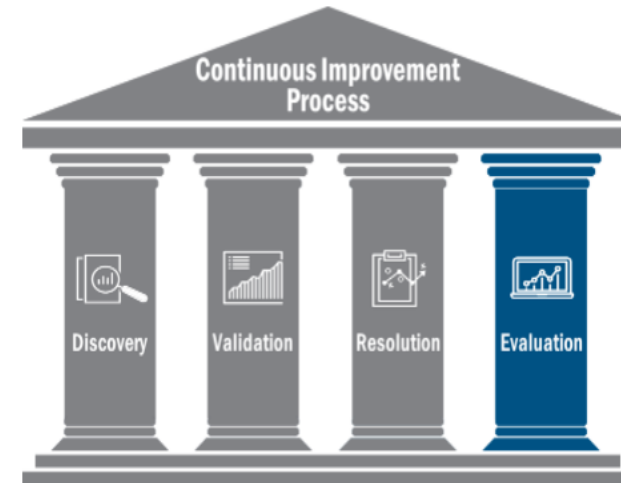
# *D. What is the Evaluation Phase?*

During the Evaluation phase, Continuous Improvement personnel examine the implementation of COAs and determine the extent to which they have maintained strengths, institutionalized best practices, and addressed areas for improvement and mission critical issues.

The Evaluation phase consists of two key elements:

- Action tracking to ensure accountability and implementation of COAs.
- **Information sharing** with relevant stakeholders on the COAs being implemented.

# The Mission Area Components of the National Preparedness System that correspond to the Evaluation phase of Continuous Improvement is:

**Reviewing and Updating -** It is important to regularly review and update all capabilities, resources and plans. Risks and resources evolve—and so should your preparedness.

*Evaluation*
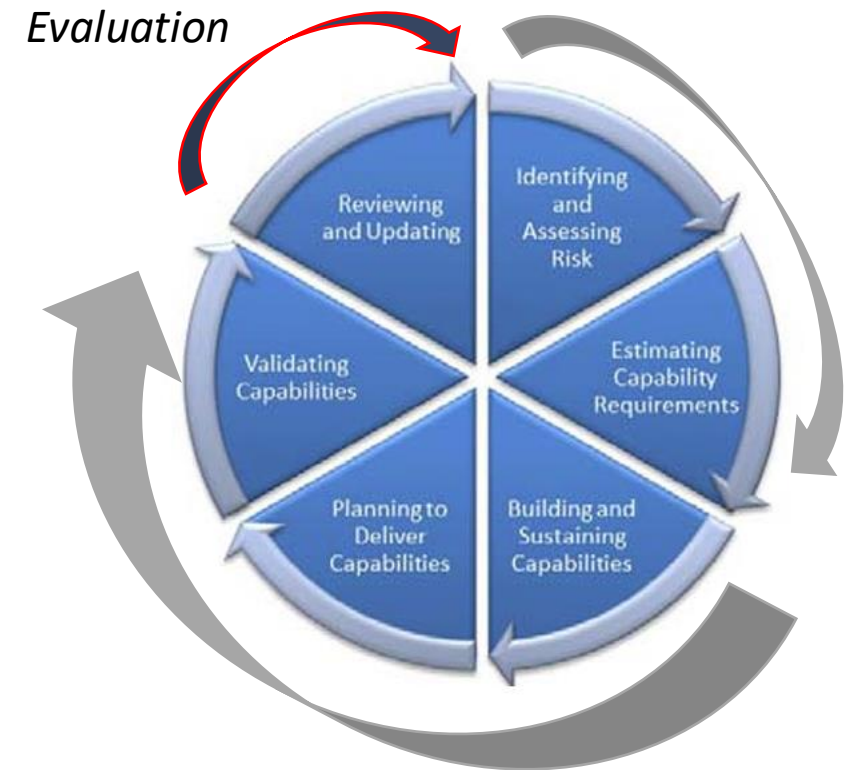
# Action Tracking

Action tracking is the primary accountability function of the Continuous Improvement Process.

The action plan manager or accountable tracking body should communicate regularly with the responsible entities with assigned COAs on:

- Implementation progress.
- Resource shortfalls.
- Other potential risks and limiting factors.

Implementation of COAs should ideally happen before the next disaster.

# Action Tracking Methods

COAs may have multiple tasks that need to be tracked. The following are the most common tracking methods:

- **Units Completed:** Useful for tracking tasks that are done repeatedly, where iteration of each unit can easily be measured.
- **Incremental Milestones:** Used in cases that involve subtasks that need to be completed in an orderly fashion.
- **Start to Finish:** Focused solely on capturing the starting point and the finishing point of the task and nothing in between.
- **Cost Ratio:** Usually implemented on a project that has tasks that occur over a long phase or the entire project.
- **Improved Performance:** Helpful for measuring progress changed against a measurable target.
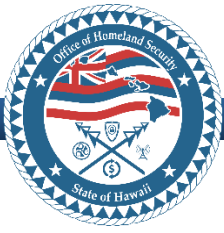
# Information Sharing

Various stakeholders may be interested in knowing the status and progress on the implementation of COAs:

- Leadership, who has a vested interest in the status of changes.
- Other emergency managers, who can learn from successful COAs.
- Interviewees, who want to know the impact of their participation in the Continuous Improvement Process.
- The general public, who may want to know how services or processes may change.

Sharing information should become a routine part of stakeholder engagement. Building stakeholder relationships will help develop a positive perception of a Continuous Improvement Program.

# 3. What Makes a Continuous Improvement Program Effective?

# Program Management

Effective programs must excel at each phase of the Continuous Improvement Process while also managing:

- **Strong communication** of ideas and concerns.
- **Change management** to guide individuals in adopting change.
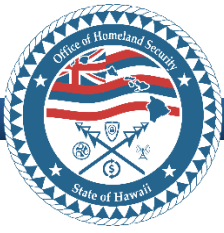- **Accountability** to ensure COAs are tracked to completion.

# Strong Communication

Personnel should evaluate the following considerations when trying to establish strong communication for a Continuous Improvement Program:

- Staff at all programmatic levels should have an outlet to express ideas or concerns about an incident.
- Establishing strong channels of communication will encourage creative problem-solving and move progress forward.
- It is critical to keep all relevant stakeholders informed of what is occurring throughout the Continuous Improvement Process.
- It is often difficult to explain the immediate benefits of a Continuous Improvement Program, as many initiatives take time to complete.

# Change Management

Change management guides how we prepare, equip, and support individuals to successfully adopt change in order to drive organizational success and outcomes at three levels:

- **Individual:** Requires understanding how people experience change and what they need to successfully implement change, including messaging, coaching, and training.
- **Group:** Involves identifying the groups and people that require change as a result of the project, what needs to change, and creating an action plan for ensuring impacted employees receive the awareness, leadership, coaching, and training needed.
- **Organizational:** Incorporates change into your organization's roles, structures, processes, projects, and leadership competencies and ensures change management processes are consistently and effectively applied.

# Accountability

As previously discussed, a Continuous Improvement Program should develop appropriate methods to track the progress of COAs. This should include:

- Identifying staff that will be accountable for implementing COAs.
- Collaboratively implementing and tracking COAs.
- Meeting regularly to monitor progress and record changes.
- Taking action to directly address the most important issues.
- Ensuring that progress updates are tracked until completion.

# Qualities of a Successful Program

The most successful and impactful Continuous Improvement Programs do the following:

- **Obtain commitment throughout the organization:** Staff at all levels must be supportive of the same Continuous Improvement goals
- **Ensure everyone is involved:** Staff at all levels need to be involved in the Continuous Improvement Process.
- **Maintain strong communications:** Keep all relevant stakeholders aware of Continuous Improvement progress until each COA is completed.
- **Routinely revisit Continuous Improvement activities:** Establish a regular routine to evaluate Continuous Improvement methods and make modifications to make future Continuous Improvement activities more effective.
- **Remain patient:** A culture of Continuous Improvement will take time to build and will require consistent commitment to the Continuous Improvement Process.
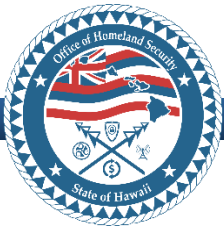
# Resources that support the Mission Area Components of the National Preparedness System:



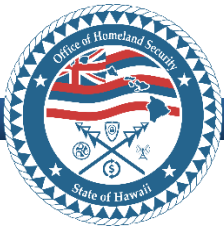National Risk & Capability Assessment

Core Capabilities & Mission Areas

Emergency Planning Exercises

National Planning System

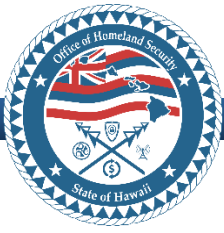National Incident Management System
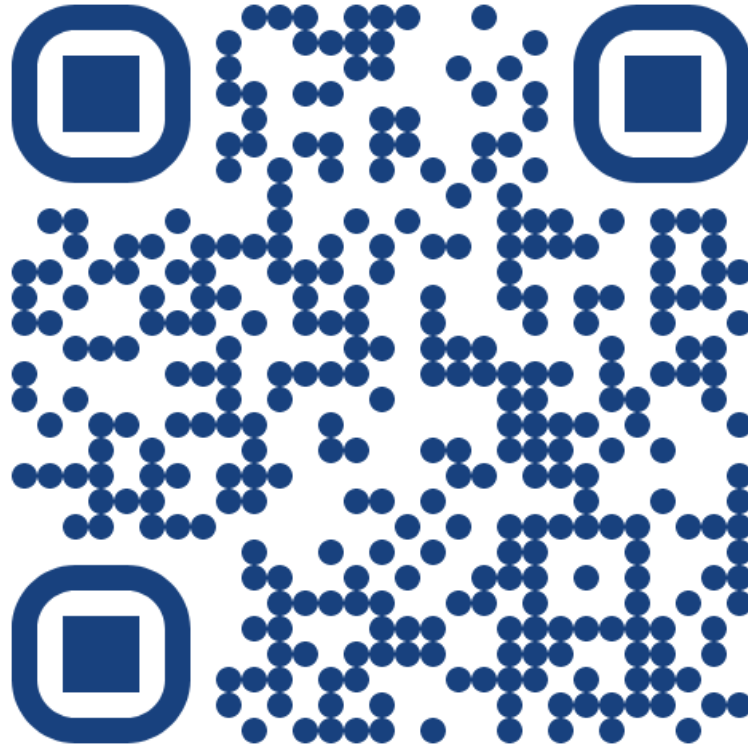
# Questions?

# Point of Contact:

Name
Title
Organization
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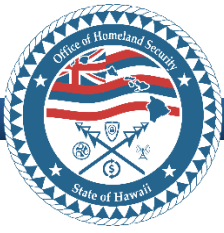Office: phone number
cell: phone number

# Office of Homeland Security



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https://law.hawaii.gov/ohs/

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# Backup Slides

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# Incident

An occurrence, natural or human-caused, that requires a response to protect life or property. Incidents can, for example, include major disasters, emergencies, terrorist attacks, terrorist threats, civil unrest, wildland and urban fires, floods, hazardous materials spills, nuclear accidents, aircraft accidents, earthquakes, hurricanes, tornadoes, tropical storms, tsunamis, war-related disasters, public health and medical emergencies, and other occurrences requiring an emergency response.

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## Exercise

An event or activity delivered through discussion or action to develop, assess, or validate capabilities to achieve planned objectives.

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## Strength (STR)

Type of observation that explains how activities within policy or guidance yielded better results than usual in a particular disaster. Strengths document processes or systems that are working and being implemented as intended.

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## Area for Improvement (AFI)

Type of observation that explains how outcomes did not meet expectations set out in plans or instances where the program did follow the process or system requirements, but the outcome was inadequate.
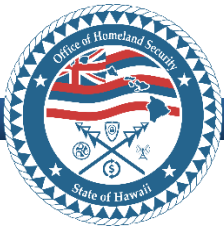
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## Potential Best Practice (PBP)

Type of observation the explain how activities not within policy yielded better results than could have been expected from solutions within policy under the same conditions.
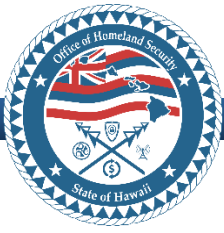
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# Mission Critical (MC)

Type of observation that explains an item that has significant operational impacts that may lead to mission failure or loss of life or bodily injury. MCs require immediate elevation to senior leadership for consideration.

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## Course of Action (COA)

An action that needs to be taken to maintain a strength, institutionalize a best practice, or address an area for improvement or mission critical issue. Initially developed as an element of an observation, COAs are finalized during an Improvement Planning Workshop and transferred into an action plan for tracking and completion.

## Plans, Policies, and Procedures

**Plan:** A document, often developed in advance, that makes it possible to manage the entire life cycle of a potential crisis. Strategic and operational planning establishes priorities, identifies expected levels of performance and capability requirements, provides the standard for assessing capabilities, and helps stakeholders learn their roles.

**Policy:** Guidelines, standard operating procedures, or principles set in place to achieve a particular objective.

**Procedure:** A series of standard actions or operations that specify what personnel should do in responding to and recovering from an incident.

# Trend

A recurring pattern happening over time.

## Action Plan

A plan that identifies courses of action, assigns them to responsible parties (e.g., the responsible program office), and establishes timelines for their completion.

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## Information Sharing

The process of routinely sharing information on continuous improvement efforts, such as progress on courses of action, to relevant stakeholders and partners.

# Risk

The potential for an unwanted outcome resulting from an incident, event, or occurrence, as determined by its likelihood and the associated consequences.
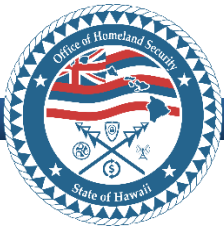
UNCLASSIFIED

## Qualitative and Quantitative Data

- **Qualitative Data:** Narrative data that describes or approximates but does not measure attributes, characteristics, or properties of a thing or phenomenon.

- **Quantitative Data:** Data measured using numbers/values and typically structured in nature.

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# Incident Action Plans (IAPs)

A document outlining the control objectives, operational period objectives, and response strategy defined by incident command during response planning.

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## Interagency Agreements

An agreement between two or more government agencies that defines cooperative work or a transaction of resources between them.

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## Situational Awareness

The ability to identify, process, and comprehend the critical information about an incident. Situational awareness requires continuous monitoring of relevant sources of information regarding actual incidents and developing hazards.

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## Demobilize

The orderly, safe, and efficient return of an incident resource to its original location and status.

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## Sources

A thing or place from which one can obtain information. Common sources of information include documents, interviews, surveys, and hot washes.

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## Improvement Planning Workshop (IPW)

A workshop that brings together multiple stakeholders to facilitate the development, adoption and, implementation of courses of action. The workshop should include those entities responsible for taking action, such as a program office.

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## Action Tracking

The primary accountability function of the Continuous Improvement Process. The action plan manager or accountable tracking body communicates regularly with the responsible entities on implementation of courses of action, resource shortfalls, and other potential risks or limiting factors.

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