



CRITICAL INCIDENT ANALYSIS

Helping agencies and jurisdictions assess and learn from their response to real-world emergencies, incidents, and events

Thankfully, severe incidents, such as those that cause significant damage and/or loss of life, are relatively rare, yet all types of incidents and pre-planned events provide important opportunities to gain knowledge that can enhance preparedness. CNA is a not-for-profit research and analysis organization with more than 75 years of experience helping agencies and jurisdictions learn from assessments of real-world incidents.

WHAT TYPES OF INCIDENTS OR EVENTS SHOULD BE REVIEWED?

Any incident or event that caused an agency to activate or use its emergency and/or continuity procedures and plans is an opportunity to assess the effectiveness of those plans and identify gaps. Examples include severe weather events, other natural disasters, terrorist attacks, and disease outbreaks. In addition, pre-planned

events that require an agency or jurisdiction to activate resources (above and beyond normal day-to-day operations) may warrant review. Examples include parades, festivals, marches, and demonstrations.

HOW DOES CNA ASSESS REAL-WORLD INCIDENTS OR EVENTS?

CNA employs a scalable approach to conducting after-action reviews that we tailor to the complexity of the incident/event, the resources and time available to conduct the review, and the desired outcomes. We advise clients to begin reviews as soon as practical to capture data (including observations, documents, and feedback from personnel who responded to or were affected by the incident) that can be perishable. The types of activities that we may conduct during a review are listed in Table 1, along with products that we can develop to share findings from these reviews.

Table 1. Activities and Outputs for Critical Incident Analysis



DATA COLLECTION METHODS

- Direct observation** of operations during the incident
- Surveys** of personnel (e.g., responders, those affected by the incident) via online or other survey tools
- Facilitated workshops** to bring personnel together to discuss issues and recommendations
- Semi-structured interviews** to gather observations from personnel in a consistent format for analysis
- Document reviews** to collect and compile event-related documentation such as logs, situation reports, and emails




ANALYSIS METHODS

- Reconstruction** to compile data into a de-conflicted, fact-based timeline
- Root cause analysis** to trace problems back to their underlying causes and understand cascading impacts
- Qualitative data analysis** using software such as NVivo or ATLAS.ti to identify and trace common themes from large text-based data sets
- Quantitative analysis** to measure response-related variables, such as response times and treatment rates



PRODUCTS

- Reports**, including after-action reports, assessment reports, narrative histories, and case studies geared to specific audiences
- Timelines** to display key information about the event progression
- Data visualizations**, such as infographics and fishbone diagrams, to present analytical findings in an easily accessible format
- Improvement plans** to identify specific actions in a format that can be monitored for progress



In tailoring an approach to a particular review or assessment, we may select one or more of the methods and products shown in Table 1. For example, to conduct a short-turnaround review, we may conduct a single, facilitated workshop and then draft a report on the findings and recommendations we gathered during the workshop. However, to analyze a complex event involving multiple agencies, we may gather data through interviews and document reviews and then reconstruct the event to synthesize different perspectives and accounts of what happened. This data collection approach requires more time and resources. CNA works with agencies to develop a customized approach that meets their objectives and is scaled to the available time and resources.

WHO SHOULD LEAD THE REVIEW?

Many agencies lead reviews and assessments of their own operations. When time and resources are limited, an internal review may be the only option. However, for high-profile and/or complex events, agencies may employ an independent third party to lead the review, ensure objectivity, and eliminate bias (or the appearance of bias) in the assessment and recommendations. Another option is to establish an independent review board of outside experts to guide the review. CNA can assist with any of the above situations by supporting or providing technical assistance to agencies conducting internal reviews, leading an independent review, or managing and supporting an independent review board.

HOW CAN I FUND AND CONTRACT FOR SUPPORT?

Since critical incidents usually occur with little or no notice, agencies may have difficulty finding funding. Many preparedness and homeland grant programs, such as those administered by the US Department of Homeland Security and the US Department of Health and Human Services, allow agencies to re-allocate grant funds to support reviews and assessments. For events that can be anticipated, such as severe weather and special events, agencies may be able to budget funding in advance to support reviews.

CNA is accessible via the following contract vehicles, which can be used by federal, state, and local agencies:

- Metropolitan Washington Council of Governments Preparedness Planning, Program Management, Administrative, and Training and Exercise Services Contract No. 17-029G
- Houston-Galveston Area Council All Hazards Preparedness, Planning, Consulting and Recovery Services Contract No. HP17A16 (<https://www.hgacbuy.org/products-and-services/view-product.aspx?productid=13573>)
- General Services Administration Professional Services Schedule Contract No. 47QRAA18D003X (https://www.gsaadvantage.gov/ref_text/47QRAA18D003X/47QRAA18D003X_online.htm)

ABOUT CNA

CNA is a nonprofit research and analysis organization dedicated to the safety and security of the nation. It operates the Institute for Public Research — which serves civilian government agencies — and the Center for Naval Analyses, the Department of the Navy's federally funded research and development center (FFRDC). CNA is dedicated to developing actionable solutions to complex problems of national importance. With nearly 700 scientists, analysts and professional staff, CNA takes a real-world approach to gathering data, working side-by-side with operators and decision-makers around the world. CNA's research portfolio includes global security and great power competition, homeland security, emergency management, criminal justice, public health, data management, systems analysis, naval operations and fleet and operational readiness.

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