Post-Critical Incident Mental Health Support Programs and Services for U.S. First Responders: A Scoping Review

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ABSTRACT

Abstract: Provide a summary (250-300 words) of the research, including objectives, methods, results, and conclusions.

Background: First responders routinely experience occupational exposure to potentially traumatic events, placing them at increased risk for adverse mental health outcomes. Although numerous post-critical incident mental health support programs have been implemented within first responder organizations, the extent to which these programs have been described and evaluated in the United States remains unclear.

Objective: This scoping review aimed to identify and characterize post-critical incident mental health support programs and services implemented for U.S. first responders, summarize program characteristics and reported outcomes, and identify gaps in the current evidence base.

Methods: A scoping review was conducted following the methodological framework of Arksey and O'Malley, refined by Levac and colleagues, and reported according to PRISMA-ScR guidelines. PubMed, Scopus, and PsycINFO were searched for peer-reviewed U.S. studies describing, implementing, or evaluating post-critical incident mental health support programs for law enforcement officers, firefighters, emergency medical services personnel, and other first responders. Data were extracted using a standardized form and synthesized descriptively through narrative analysis and evidence mapping.

Results: The search identified 888 records, of which 14 studies met the inclusion criteria. Programs included peer support, Critical Incident Stress Management/Critical Incident Stress Debriefing (CISM/CISD), resilience training, Employee Assistance Programs, counseling, embedded behavioral health professionals, psychological first aid, wellness initiatives, and multidisciplinary post-critical incident interventions. Peer support emerged as the most frequently reported program component and was commonly integrated with other behavioral health services. Common implementation barriers included mental health stigma, confidentiality concerns, fear of career repercussions, organizational culture, and resource limitations, whereas peer support, leadership engagement, organizational buy-in, embedded clinicians, and confidential services consistently facilitated implementation. Despite the diversity of available programs, relatively few studies formally evaluated program effectiveness, and most consisted of program descriptions, needs assessments, or implementation reports.

Conclusions: Although U.S. first responder organizations have implemented a wide range of post-critical incident mental health support programs, rigorous empirical evaluation remains limited. Future research should prioritize longitudinal and comparative evaluations to strengthen the evidence base and guide implementation of effective organizational responses to occupational trauma.

Keywords: Include 3-5 keywords relevant to your study.

First responders, Occupational trauma, Post-critical incident support, Mental health, Scoping review

INTRODUCTION

First responders, including firefighters, emergency medical services (EMS) personnel, law enforcement officers, and emergency dispatchers, routinely encounter potentially traumatic events as part of their occupational

responsibilities. Exposure to severe injuries, fatalities, violence, suicides, mass casualty incidents, and other critical events places these professionals at elevated risk for a range of adverse psychological outcomes, including post-traumatic stress disorder (PTSD), depression, anxiety, burnout, moral injury, substance misuse, and suicide [1–4]. Beyond individual health consequences, untreated psychological distress may negatively affect job performance, organizational readiness, workforce retention, absenteeism, and ultimately public safety. Consequently, protecting the psychological health of first responders has become an increasingly important occupational health priority.

Recognition of these occupational risks has contributed to growing interest in interventions designed to support first responders following exposure to traumatic events. Many emergency service organizations now provide some combination of peer support, Critical Incident Stress Management (CISM), Critical Incident Stress Debriefing (CISD), Employee Assistance Programs (EAPs), chaplaincy services, resilience training, psychological first aid, wellness initiatives, embedded behavioral health professionals, or trauma-focused counseling [5–7]. These approaches vary considerably in their structure, timing, delivery personnel, and intended outcomes. Some are designed as immediate post-critical incident interventions, whereas others emphasize ongoing recovery, resilience promotion, organizational culture change, or early identification of personnel requiring additional behavioral health services.

Despite increasing organizational attention to first responder wellness, the scientific literature has largely focused on describing the prevalence of mental health disorders, identifying occupational risk and protective factors, and evaluating resilience and psychosocial functioning among first responder populations [2,8,9]. Comparatively less attention has been devoted to understanding the specific programs and services organizations implement after critical incidents to support personnel. Existing publications frequently describe recommended practices, conceptual frameworks, or policy initiatives, while relatively few studies have systematically evaluated implemented programs or documented how post-critical incident services are organized and delivered within first responder agencies. This disconnect creates challenges for organizational leaders seeking evidence-informed approaches to supporting personnel following traumatic occupational events.

Several recent reviews have synthesized evidence related to resilience interventions, peer support, psychosocial interventions, and organizational wellness programs among first responders [5,6,8–10]. However, these reviews generally included international studies, military populations, broad resilience initiatives, or interventions delivered before, during, and after occupational stress exposure. Few have specifically examined the landscape of post-critical incident mental health support programs and services implemented within the United States. Because emergency response systems, behavioral health infrastructure, funding mechanisms, organizational policies, and legislative environments differ substantially across countries, an examination of U.S.-based programs is warranted. Understanding what services currently exist, how they are delivered, and where evidence gaps remain may help inform future program development, implementation, evaluation, and policy.

Unlike previous reviews that have primarily focused on mental health prevalence, resilience, or psychosocial interventions broadly, this review specifically maps implemented post-critical incident mental health support programs and services available to U.S. first responders. By focusing on implemented organizational responses rather than psychological outcomes alone, this review provides a practical overview of the current landscape of post-critical incident support available to emergency service personnel.

The purpose of this scoping review was to identify and characterize post-critical incident mental health support programs and services implemented for U.S. first responders. Specifically, this review sought to (1) describe the types of post-critical incident mental health programs reported in the literature, (2) characterize program structure, delivery models, and target populations, (3) summarize reported implementation characteristics, organizational outcomes, barriers, and facilitators, and (4) identify gaps in the current evidence base to inform future research, organizational practice, and policy development.

METHODS

Study Design

A scoping review was conducted to identify and characterize post-critical incident mental health support programs and services available to first responders in the United States. This scoping review was conducted

using the methodological framework originally described by Arksey and O'Malley[11] and subsequently refined by Levac et al.[12]. Reporting was guided by the Preferred Reporting Items for Systematic Reviews and Meta-Analyses Extension for Scoping Reviews (PRISMA-ScR)[13]. A review protocol was developed a priori to guide study identification, selection, data extraction, and synthesis.

Eligibility Criteria

Studies were eligible for inclusion if they reported original empirical research describing, implementing, or evaluating post-critical incident mental health support programs or services for first responders in the United States. Eligible first responder populations included law enforcement officers, firefighters, emergency medical services (EMS) personnel, emergency dispatchers, or mixed first responder populations. Programs of interest included organizational or agency-supported interventions designed to promote psychological recovery or support following occupational exposure to potentially traumatic events, including peer support programs, Critical Incident Stress Management (CISM), Critical Incident Stress Debriefing (CISD), Employee Assistance Programs (EAPs), counseling services, psychological first aid, resilience and wellness initiatives, chaplaincy services, embedded behavioral health programs, and other post-critical incident mental health support services.

Studies were excluded if they were conducted outside the United States, did not describe or evaluate a post-critical incident mental health support program or service, focused exclusively on mental health prevalence, risk factors, resilience, or psychological outcomes without examining an intervention or organizational support strategy, or included populations outside the scope of this review (e.g., military personnel, healthcare workers, or pediatric populations). Review articles, editorials, commentaries, conference abstracts, dissertations, book chapters, and other publications that did not report original peer-reviewed empirical research were also excluded.

Information Sources and Search Strategy

A comprehensive literature search was conducted in PubMed, Scopus, and PsycINFO to identify studies examining post-critical incident mental health support programs and services for U.S. first responders. These databases were selected because together they provide broad coverage of biomedical, interdisciplinary, public health, occupational health, and psychological literature relevant to first responder mental health. Searches combined controlled vocabulary (when available) and free-text keywords representing three primary concepts: (1) first responder populations, (2) occupational trauma or critical incidents, and (3) post-critical incident mental health support programs and services. Search terminology included variations of first responder occupations (e.g., police, law enforcement, firefighters, emergency medical services, EMS, EMTs, and dispatchers), traumatic occupational exposures (e.g., critical incident, trauma, post-traumatic stress, PTSD), and organizational support interventions (e.g., peer support, CISM, counseling, resilience, wellness, Employee Assistance Programs, and psychological first aid). Database-specific syntax was adapted for each platform while maintaining the same conceptual search strategy.

Because the objective of this review was to synthesize peer-reviewed empirical evidence describing implemented post-critical incident mental health support programs, grey literature sources, including government reports, organizational evaluations, dissertations, conference proceedings, and internal agency documents, were not included. Although this approach improved methodological consistency and focused the review on studies that had undergone peer review, it may have excluded descriptions and evaluations of programs implemented within first responder organizations but not formally published in the scientific literature.

Study Selection

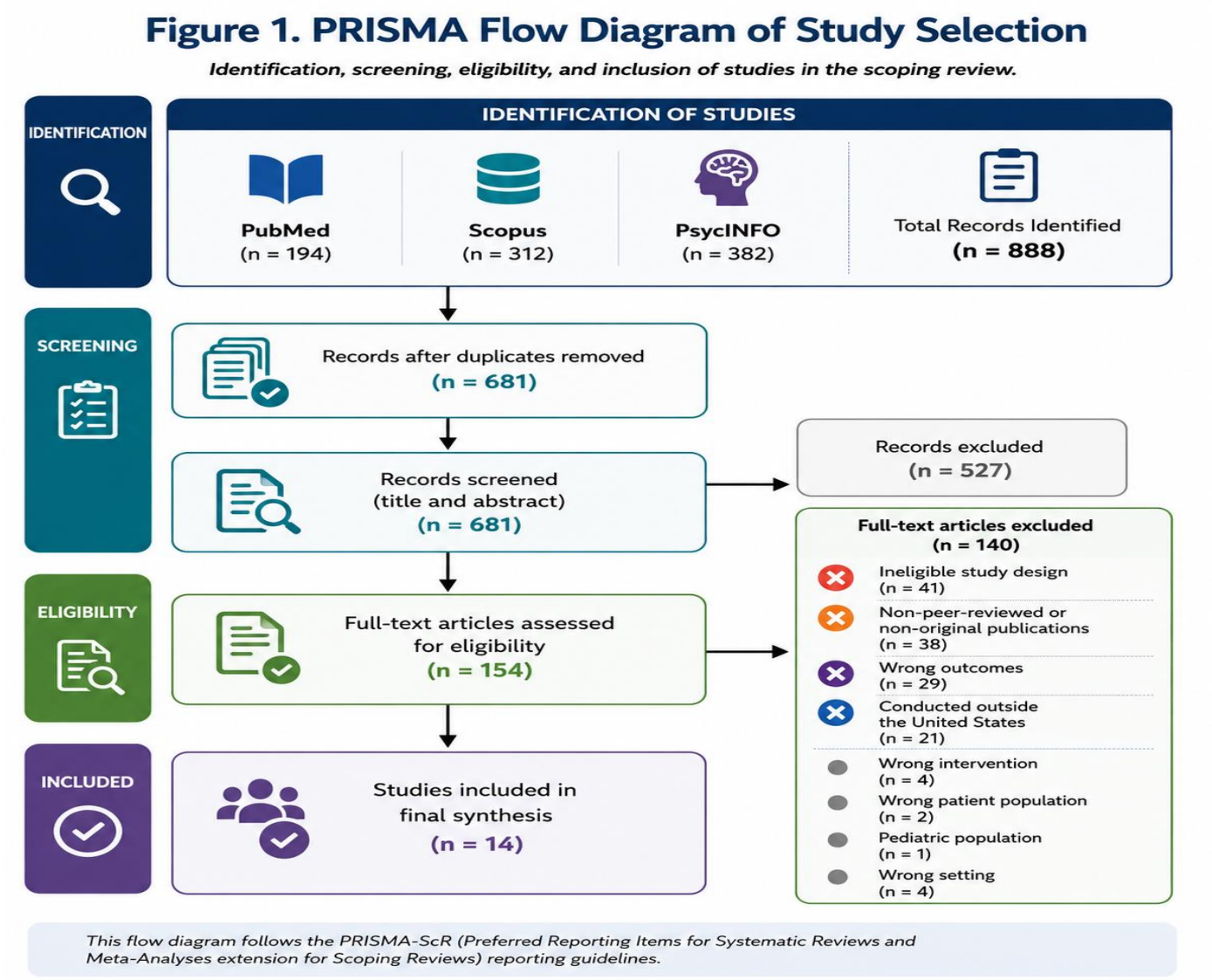
All search results were imported into Covidence (Veritas Health Innovation, Melbourne, Australia) for duplicate removal and study management. Following deduplication, a two-stage screening process was conducted. Titles and abstracts were initially screened against the predefined eligibility criteria, followed by full-text review of potentially eligible studies. Reasons for exclusion at the full-text stage were documented within Covidence.

The literature search identified 888 records, of which 207 duplicates were removed prior to screening. The remaining 681 records underwent title and abstract screening. Following initial screening, 154 full-text articles

were assessed for eligibility. Of these, 140 studies were excluded. The most common reasons for exclusion were ineligible study design (n = 41), publication type (n = 38), wrong outcomes (n = 29), and non-U.S. study setting (n = 21). Fourteen studies met all eligibility criteria and were included in the final synthesis [14–27]. The study selection process is summarized in the PRISMA flow diagram (Figure 1).

Figure 1. PRISMA flow diagram of study selection.

Identification, screening, eligibility assessment, and inclusion of studies examining post-critical incident mental health support programs and services for U.S. first responders. The review identified 888 records across PubMed, Scopus, and PsycINFO, with 14 studies meeting all eligibility criteria for inclusion.



Data Extraction

A standardized data extraction tool was developed and piloted prior to full data extraction to ensure consistency across studies. Information extracted from each study included bibliographic characteristics (author, year, publication type), study characteristics (design, purpose, setting, geographic location, and study timeframe), participant characteristics (first responder population, sample size, career or volunteer status, demographic characteristics), and characteristics of the critical incident context.

Program-specific information included program name, intervention type, delivery model, delivery personnel, participation requirements, delivery modality, duration, target population, funding source, and key intervention components. Programs were categorized according to their primary approach, including peer support, Critical Incident Stress Management/Critical Incident Stress Debriefing, counseling, psychological first aid, resilience

training, wellness initiatives, Employee Assistance Programs, chaplaincy services, embedded behavioral health programs, and other organizational support services.

Implementation and outcome data were also extracted when available, including program utilization, participation, satisfaction, feasibility, acceptability, reported mental health outcomes, help-seeking behaviors, organizational outcomes, perceived effectiveness, barriers to implementation, facilitators of implementation, and study recommendations. Finally, each study was classified according to the type of evidence provided (e.g., program description, needs assessment, intervention evaluation, or policy analysis) and the overall level of evidence.

Data Synthesis

Given the anticipated heterogeneity in study designs, intervention models, implementation settings, and reported outcome measures, quantitative synthesis and meta-analysis were not appropriate. Instead, extracted data were synthesized descriptively using narrative synthesis and evidence mapping. Studies were summarized according to first responder population, program type, organizational setting, delivery characteristics, implementation strategies, reported outcomes, and identified barriers and facilitators. Descriptive summary tables were developed to characterize the included studies and compare program characteristics across first responder disciplines. To facilitate interpretation of the evidence, studies were further organized into three categories based on their primary contribution to the literature: (1) program descriptions, (2) needs assessments and utilization studies, and (3) program evaluations. This framework allowed for comparison of the extent to which post-critical incident mental health programs have been described, implemented, and formally evaluated within U.S. first responder organizations.

RESULTS

Study Selection

The database search identified 888 records, including 194 from PubMed, 312 from Scopus, and 382 from PsycINFO. After removal of 207 duplicate records, 681 studies remained for title and abstract screening. Of these, 154 articles underwent full-text review with the remaining studies being removed at the title and abstract review stage. Following application of the predefined eligibility criteria, 140 studies were excluded. The most common reasons for exclusion were ineligible study design (n = 41), non-peer-reviewed or non-original publications (n = 38), wrong outcomes (n = 29), and studies conducted outside the United States (n = 21). While the research team anticipated gaps in the literature, the final sample of eligible studies was smaller than anticipated. A total of only fourteen studies met all eligibility criteria and were included in the final synthesis indicating a lack of formalized research and evaluation of post-critical incident support (Figure 1).

Characteristics of Included Studies

While the initial search criteria included studies from 2010 to 2025, the 14 included studies were published

between 2014 and 2025 and represented multiple first responder professions with a large portion of law enforcement based studies. Seven studies (50%) focused exclusively on law enforcement, two focused on firefighters, one focused exclusively on EMS personnel, one included both EMS and other emergency responders, and three included mixed first responder populations. The predominance of law enforcement studies and relative lack of EMS-specific investigations suggests that important differences may exist in how post-critical incident mental health programs are developed, funded, and evaluated across first responder disciplines with EMS serving programs potentially being under-resourced and under-researched. Collectively, the literature represented municipal police departments, sheriff's offices, fire departments, EMS agencies, statewide initiatives, county-level collaborations, and national law enforcement organizations.

Study designs were heterogeneous. Five studies were classified as program evaluations, two were cross-sectional studies, two were descriptive studies, one used a mixed-methods design, one was qualitative, one was quantitative, and two represented policy or conceptual analyses describing implemented programs. This

variability reflects the emerging nature of the literature, with relatively few studies employing rigorous evaluative designs. Geographically, programs were implemented across local, regional, state, and national settings. Most studies described organizational initiatives within municipal or county agencies, although several evaluated statewide or national programming.

Table 1. Characteristics of Included Studies and Primary Evidence Contribution (N = 14)

First Author (Year)	First Responder Population	Program or Service	Study Design	Evidence Category	U.S. Setting
Addo-Yobo (2025)	Law enforcement	Post Critical Incident Seminar (PCIS) with EMDR	Qualitative program evaluation	Program Evaluation	Texas
Arble (2017)	Law enforcement	Imagery-based coping and performance program	Pilot intervention	Program Evaluation	Michigan
Bonner (2022)	Law enforcement	Agency mental health programming	National survey	Needs Assessment	United States
Cacciatore (2011)	Firefighters	Fire department crisis intervention and social work services	Descriptive study	Program Description	Arizona
Katzman (2021)	Mixed first responders	First Responder Resiliency ECHO	Program evaluation	Program Evaluation	New Mexico
Maloney (2024)	Emergency Medical Services	Code Lavender	Program implementation	Program Evaluation	New York
O'Dare (2024)	Fire service	2nd Alarm Project	Program implementation	Program Evaluation	Florida
O'Toole (2022)	Mixed first responders	Family Psychological First Aid (PFA)	Program description	Program Description	United States
Ramchand (2019)	Law enforcement	Agency wellness and suicide prevention programs	National survey	Needs Assessment	United States
Ramey (2016)	Law enforcement	HeartMath resilience training	Quasi-experimental pilot	Program Evaluation	Iowa
Sarabia (2025)	Firefighters	Critical Incident Stress Debriefing (CISD)	Qualitative program evaluation	Program Evaluation	Midwestern United States
Taillac (2015)	EMS / Mixed responders	Critical Incident Stress Management (CISM)	Cross-sectional survey	Needs Assessment	Utah
Uhl (2023)	Law enforcement	Texas Post Critical Incident Seminar (PCIS)	Program description	Program Description	Texas
White (2023)	Law enforcement	County-wide officer wellness infrastructure	Descriptive study	Program Description	New Jersey

Note. EMS = Emergency Medical Services; EMDR = Eye Movement Desensitization and Reprocessing; PCIS = Post Critical Incident Seminar; CISM = Critical Incident Stress Management; mGTEP = Modified Group Traumatic Episode Protocol. Studies were categorized according to their primary contribution to the literature as program descriptions, needs assessments, or program evaluations. Several studies contained characteristics of more than one evidence type; classification reflects the principal focus of each publication.

Characteristics of Post-Critical Incident Mental Health Support Programs

Substantial variation existed in the types of post-critical incident mental health support programs identified. Rather than representing single interventions, many programs combined multiple components into integrated

organizational wellness strategies. Table 2 summarizes the primary characteristics of the post-critical incident mental health programs identified in the included literature.

Table 2. Characteristics of Post-Critical Incident Mental Health Support Programs and Services Identified in the Included Studies (N = 14)

Program Characteristic	Findings
Program Types Identified	Peer support; Critical Incident Stress Management (CISM); Critical Incident Stress Debriefing (CISD); resilience training; counseling; Employee Assistance Programs (EAPs); embedded behavioral health professionals; Psychological First Aid (PFA); trauma-focused therapy (EMDR); wellness initiatives; integrated organizational mental health programs
Primary Target Populations	Law enforcement officers; firefighters; EMS personnel; mixed first responder populations
Primary Program Objectives	Psychological recovery following critical incidents; reduction of occupational stress; promotion of resilience; facilitation of help-seeking; peer connection; organizational wellness; referral to behavioral health services
Timing of Intervention	Primarily post-critical incident; several preventive resilience and wellness programs; some integrated models incorporating both prevention and post-incident support
Participation Requirements	Predominantly voluntary; selected resilience or wellness programs required mandatory participation
Delivery Format	Individual; group; hybrid models combining both
Program Delivery Personnel	Peer supporters; licensed mental health professionals; psychologists; counselors; chaplains; supervisors; multidisciplinary teams
Delivery Setting	Agency-based services; external behavioral health providers; statewide initiatives; county-level collaborative programs; hybrid agency-community partnerships
Program Duration	One-time debriefings or seminars; short-term interventions; ongoing organizational wellness programs
Common Program Components	Peer support; psychoeducation; resilience training; psychological screening; counseling; EMDR; CISM/CISD; wellness education; behavioral health consultation; referral pathways; follow-up services

Note. EMS = Emergency Medical Services; EMDR = Eye Movement Desensitization and Reprocessing; CISM = Critical Incident Stress Management; CISD = Critical Incident Stress Debriefing; EAP = Employee Assistance Program; PFA = Psychological First Aid. Program characteristics were synthesized across the 14 included studies. Because many interventions incorporated multiple components, individual programs may be represented in more than one category.

Peer support was the most consistently reported program element and appeared in the majority of included studies. Peer support was rarely implemented as a standalone intervention. Instead, it was commonly integrated with counseling services, resilience education, embedded behavioral health professionals, wellness initiatives, or Critical Incident Stress Management (CISM). Other commonly reported interventions included Critical Incident Stress Management (CISM) and Critical Incident Stress Debriefing (CISD), counseling and wellness services, resilience training, Employee Assistance Programs (EAPs), psychological first aid, chaplaincy services, embedded behavioral health professionals, multidisciplinary crisis response teams, and trauma-focused therapies such as Eye Movement Desensitization and Reprocessing (EMDR).

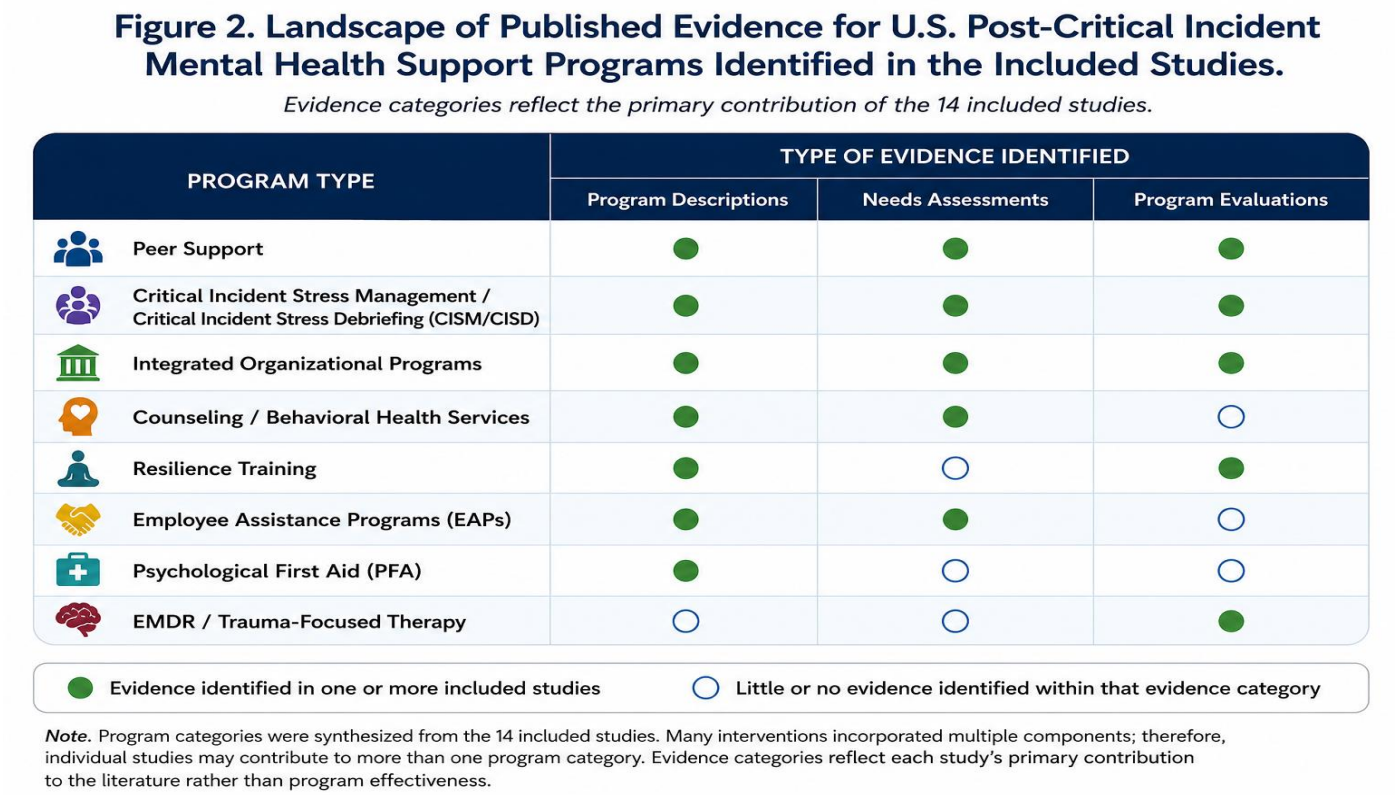
Programs also differed considerably in organizational structure. Several consisted of one-time post-critical incident interventions, whereas others represented comprehensive organizational wellness systems incorporating prevention, early identification, referral pathways, peer support, behavioral health consultation, resilience training, and long-term follow-up. Participation requirements also varied. Most interventions were voluntary, although selected resilience education and statewide wellness initiatives required mandatory participation.

Programs were delivered individually, in groups, or through hybrid models, with services provided by peers, clinicians, supervisors, chaplains, or multidisciplinary teams.

Figure 2 illustrates the distribution of the published evidence across identified program types and evidence categories. Although a diverse range of post-critical incident support programs has been described in the literature, the evidence is concentrated in program descriptions and organizational needs assessments, with comparatively few formal program evaluations.

Figure 2. Landscape of published evidence for U.S. post-critical incident mental health support programs identified in the included studies.

Evidence map illustrating the distribution of the 14 included studies according to program type and primary evidence contribution. The figure demonstrates that while numerous post-critical incident support strategies have been described, relatively few have undergone formal program evaluation.



Evidence Supporting Program Effectiveness

Although fourteen studies met the eligibility criteria, the nature of the evidence varied considerably. Most publications emphasized implementation outcomes, such as program development, feasibility, acceptability, utilization, and participant satisfaction, whereas relatively few evaluated clinical effectiveness outcomes, including changes in PTSD symptoms, depression, anxiety, resilience, or other validated mental health measures. This distinction highlights an important characteristic of the current evidence base: while organizations have increasingly implemented post-critical incident mental health programs, comparatively little research has rigorously evaluated their clinical impact.

Implementation Outcomes

Implementation outcomes were the most consistently reported findings across the included studies. Many publications described successful program adoption, high participant satisfaction, positive perceptions of peer support, improved willingness to seek behavioral health services, and the feasibility of integrating multidisciplinary mental health resources into first responder organizations. Programs combining peer supporters with licensed behavioral health professionals frequently reported high acceptability and strong

organizational support. Several studies also described increased awareness of available services, strengthened referral pathways, and greater leadership engagement following implementation. Collectively, these findings suggest that many post-critical incident support programs can be successfully implemented within first responder agencies and are generally viewed favorably by participants and organizational leaders.

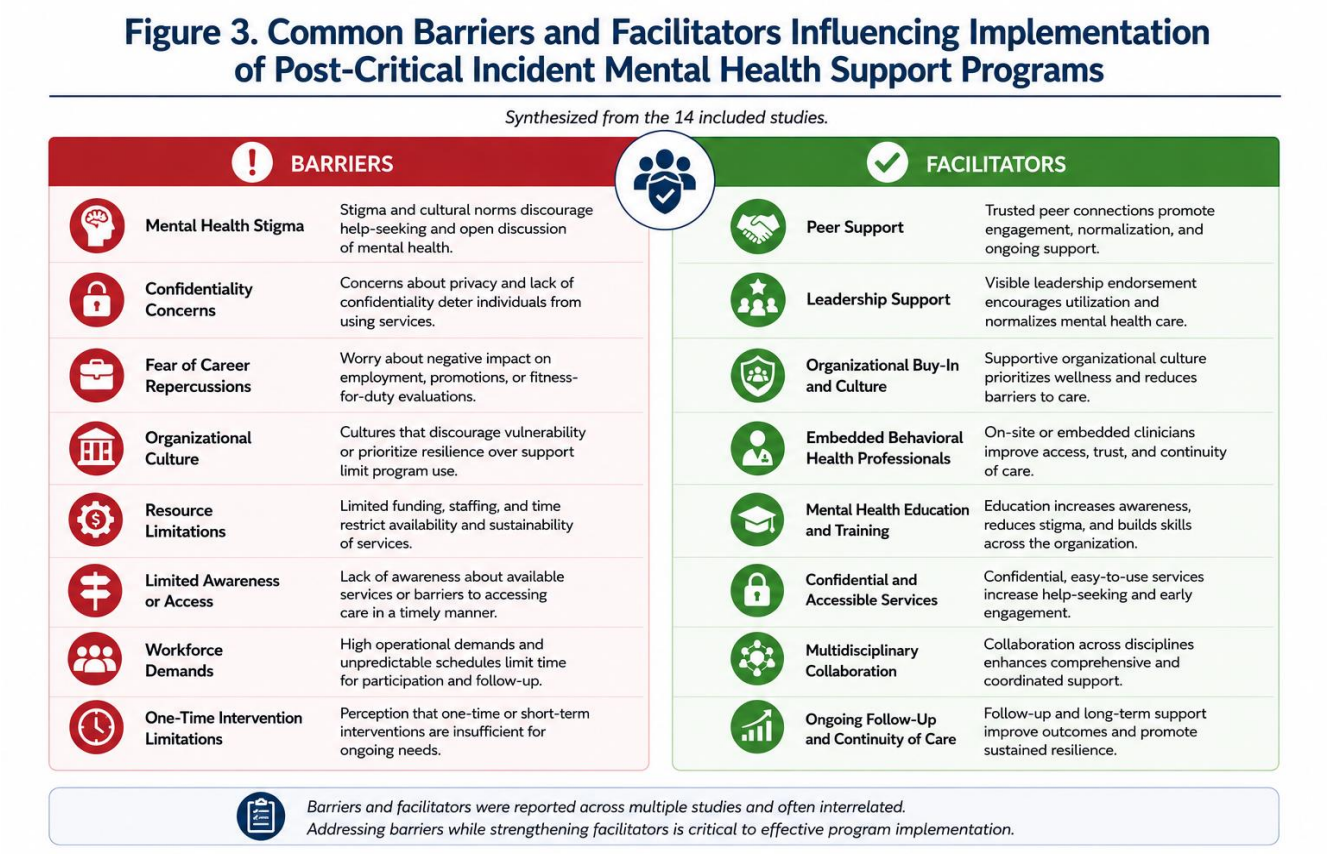
Clinical Effectiveness Outcomes

In contrast, evidence supporting clinical effectiveness was considerably more limited. Only a small number of studies evaluated participant outcomes using validated mental health measures, and longitudinal follow-up was uncommon. PTSD or post-traumatic stress symptoms were the most frequently reported clinical outcomes, whereas depression, anxiety, burnout, and resilience were assessed less consistently. No randomized controlled trials were identified, and few studies employed quasi-experimental designs capable of establishing causal relationships between intervention participation and mental health outcomes. Consequently, although several interventions demonstrated promising participant experiences and perceived benefits, the current literature provides substantially stronger evidence regarding successful implementation than regarding comparative clinical effectiveness. Taken together, these findings suggest that the current literature has advanced further in identifying how post-critical incident mental health programs can be implemented than in determining which program models produce the greatest improvements in responder mental health and organizational outcomes.

Barriers and Facilitators to Program Implementation

Multiple organizational and cultural barriers were consistently identified across the included studies. Several organizational, cultural, and operational factors influenced implementation and utilization of post-critical incident mental health support programs. Across the included studies, barriers and facilitators were frequently reported together, illustrating that successful implementation depends not only on the availability of services but also on organizational culture, leadership, accessibility, and trust. Figure 3 summarizes the barriers and facilitators most consistently identified across the included studies.

Figure 3. Common barriers and facilitators influencing implementation of post-critical incident mental health support programs



The figure summarizes implementation factors synthesized across the 14 included studies. Barriers commonly included stigma, confidentiality concerns, fear of career repercussions, organizational culture, and resource limitations. Frequently reported facilitators included peer support, leadership support, organizational buy-in, embedded behavioral health professionals, confidential services, multidisciplinary collaboration, and ongoing follow-up.

Mental health stigma emerged as the most frequently reported barrier and was identified in nearly every study. Concerns regarding confidentiality, fear of negative career consequences, and organizational cultures discouraging disclosure of psychological distress were also common. Additional barriers included limited awareness of available services, insufficient leadership support, inadequate organizational resources, workforce shortages, and limited access to trained behavioral health professionals.

Several studies also highlighted the challenges associated with cumulative occupational trauma, suggesting that one-time interventions alone may be insufficient to address the long-term psychological impact of repeated critical incident exposure. Variation in organizational resources also influenced program availability. Larger agencies generally reported more comprehensive behavioral health services than smaller departments, indicating disparities in access to post-critical incident support across first responder organizations.

Several facilitators consistently supported successful implementation of post-critical incident mental health programs. Peer support was the most frequently identified facilitator and was commonly associated with increased trust, greater willingness to participate, and reduced stigma surrounding mental health care. Leadership support and organizational commitment to responder wellness were also reported across many studies. Programs receiving visible endorsement from agency leadership were more likely to become integrated into routine organizational operations rather than functioning as isolated interventions.

Additional facilitators included confidential access to services, embedded behavioral health professionals, multidisciplinary collaboration, mental health education, resilience training, organizational buy-in, and community partnerships. Programs that combined peer supporters with licensed clinicians were consistently described as increasing credibility while improving access to evidence-based behavioral health care.

Summary of the Evidence

Collectively, the fourteen included studies demonstrate growing organizational recognition of the psychological impact of occupational trauma and increasing implementation of structured post-critical incident mental health support programs across U.S. first responder organizations. However, the available evidence is weighted heavily toward implementation rather than effectiveness. Most studies described program development, organizational adoption, feasibility, acceptability, or participant satisfaction, while comparatively few evaluated changes in validated mental health outcomes or long-term organizational performance. Peer support consistently served as the foundation of many organizational programs and was frequently integrated with counseling, resilience training, Critical Incident Stress Management, embedded behavioral health professionals, wellness initiatives, and trauma-focused therapies. Although these integrated approaches appear feasible and well accepted, the current evidence remains insufficient to determine which intervention models produce the greatest clinical benefit.

DISCUSSION

This scoping review mapped the published literature describing post-critical incident mental health support programs and services available to U.S. first responders. Despite identifying nearly 900 citations during the literature search, only 14 studies met the predefined eligibility criteria. This finding highlights an important gap in the current evidence base and extends previous reviews that documented the growing interest in first responder mental health interventions but also noted limited high-quality evaluation of organizational support programs [5,6,8]. Although considerable attention has been devoted to understanding the psychological consequences of occupational trauma among first responders, relatively little peer-reviewed research has described or rigorously evaluated the organizational programs developed to support personnel following critical incidents.

Although formal critical appraisal was beyond the scope of this review and is not required for scoping reviews, the included studies collectively represent an emerging rather than mature evidence base. Most investigations employed descriptive, qualitative, cross-sectional, or implementation-focused designs, with relatively few quasi-experimental evaluations and no randomized controlled trials. Many studies relied on participant perceptions, organizational reports, or implementation outcomes rather than validated clinical measures or long-term follow-up. Consequently, confidence in the comparative effectiveness of individual intervention models remains limited despite their widespread implementation across U.S. first responder organizations. The evidence gap is no longer whether first responder organizations are implementing mental health programs; it is whether we know which implementation strategies produce meaningful clinical outcomes.

These findings suggest that while post-critical incident mental health support programs have become increasingly common within U.S. first responder organizations, the empirical evidence supporting their effectiveness has not kept pace with their implementation. This gap represents an important opportunity for future research aimed at strengthening the evidence base for organizational responses to occupational trauma.

One of the most noteworthy findings of this review was the identification of only 14 eligible studies despite an initial search yielding 888 records. Although this finding highlights a substantial gap in the peer-reviewed literature, it does not necessarily indicate that post-critical incident mental health support programs are uncommon within U.S. first responder organizations. Rather, the discrepancy likely reflects the longstanding divide between organizational practice and published research. Many law enforcement agencies, fire departments, and emergency medical services organizations have implemented peer support teams, employee assistance programs, chaplaincy services, wellness initiatives, and multidisciplinary behavioral health programs as part of routine operations. However, these programs are frequently developed internally, evaluated using local quality improvement metrics, or documented in agency reports, conference presentations, and professional publications that fall outside the peer-reviewed literature included in this review.

Several structural characteristics of first responder organizations may also contribute to the limited evidence base. Conducting rigorous research within public safety agencies presents unique logistical and ethical challenges, including concerns regarding confidentiality, workforce stigma surrounding mental health, organizational reluctance to share internal data, and the difficulty of implementing controlled study designs following unpredictable critical incidents. Furthermore, many agencies lack the academic partnerships, funding, or research infrastructure necessary to formally evaluate existing programs. Consequently, implementation of post-critical incident support services has likely progressed more rapidly than their scientific evaluation, creating a gap between widespread organizational adoption and the availability of empirical evidence.

The limited number of eligible studies therefore should be viewed not as evidence of limited organizational activity, but rather as an indication that the field remains in an early stage of evidence development. Future investigations should prioritize collaborative partnerships between researchers and first responder organizations to evaluate existing programs using rigorous implementation science and longitudinal research designs. Future studies should clearly specify implementation strategies, organizational context, implementation outcomes, and mechanisms influencing adoption and sustainability to improve reproducibility across agencies.[28] Expanding publication of organizational experiences and program evaluations will be essential for establishing an evidence base capable of informing best practices, guiding policy decisions, and supporting the dissemination of effective post-critical incident mental health interventions across diverse first responder settings.

An additional observation from this review was the disproportionate representation of law enforcement and fire service organizations compared with emergency medical services (EMS). Although EMS personnel experience repeated exposure to traumatic events and report rates of psychological distress comparable to other first responder professions, relatively few studies focused exclusively on EMS-based post-critical incident support programs. One possible explanation is the historical evolution and organizational structure of EMS in the United States. Unlike police and fire services, which have long been established as core municipal functions, modern EMS systems developed later and operate under highly variable governance models, including municipal, county, hospital-based, volunteer, private, and third-service agencies. Consequently, access to stable funding, organizational infrastructure, and dedicated wellness resources may vary considerably across EMS organizations. Smaller municipal, volunteer, and privately operated EMS agencies may have fewer financial

resources available to implement, sustain, or formally evaluate post-critical incident mental health programs than larger law enforcement or fire departments. Although this review cannot determine whether such differences explain the observed imbalance in the published literature, they represent an important area for future investigation and may contribute to disparities in access to organizational mental health support across first responder disciplines.

One of the most notable findings of this review was the diversity of programs currently being implemented across first responder organizations. Programs ranged from peer support initiatives and Critical Incident Stress Management (CISM) to multidisciplinary wellness programs incorporating licensed behavioral health professionals, Employee Assistance Programs, resilience training, trauma-focused counseling, and Eye Movement Desensitization and Reprocessing (EMDR). Rather than relying on single interventions, many organizations have adopted integrated approaches that combine several support strategies to address the complex psychological needs associated with repeated occupational trauma. This evolution suggests increasing recognition that recovery following critical incidents requires ongoing organizational support rather than isolated interventions. Peer support programs were described in multiple organizational models, including statewide law enforcement seminars [26], multidisciplinary wellness initiatives [27], Code Lavender [14], and the 2nd Alarm Project [18].

Comparative Synthesis of Intervention Models

Although numerous intervention models were identified, they differed substantially in their intended purpose, level of organizational integration, and the type of evidence supporting their use. Rather than representing competing approaches, many programs incorporated multiple complementary components designed to address different stages of psychological recovery following critical incidents.

Peer support emerged as the most frequently described intervention and served as the foundation of many comprehensive organizational wellness programs. Across the included studies, peer supporters often functioned as trusted initial contacts who provided emotional support, normalized help-seeking, and facilitated referral to licensed behavioral health professionals when additional services were needed. The evidence consistently supported peer support as a highly acceptable and feasible implementation strategy; however, relatively few studies evaluated its independent effects on long-term psychological outcomes.

Critical Incident Stress Management (CISM) and Critical Incident Stress Debriefing (CISD) were commonly described as structured early post-incident interventions intended to reduce acute stress and facilitate recovery. Although these approaches remain widely implemented within first responder organizations, the included literature primarily described implementation experiences and participant perceptions rather than rigorous comparative effectiveness evaluations. Consequently, conclusions regarding their superiority relative to other intervention models remain limited.

Other interventions, including resilience training, Employee Assistance Programs (EAPs), embedded behavioral health professionals, Eye Movement Desensitization and Reprocessing (EMDR), Psychological First Aid, and multidisciplinary wellness initiatives, generally addressed different aspects of organizational mental health support. Resilience training primarily emphasized prevention and preparedness before future critical incidents, whereas EMDR focused on treatment of trauma-related symptoms following exposure. Embedded behavioral health professionals and integrated wellness programs sought to improve access to evidence-based care by incorporating mental health services directly within first responder organizations, while EAPs frequently served as referral mechanisms for ongoing counseling and behavioral health treatment.

These findings suggest that post-critical incident mental health support should be viewed as a continuum of organizational services rather than a single intervention. The most comprehensive programs combined peer support, clinical services, leadership engagement, and referral pathways into integrated systems of care. However, because relatively few comparative evaluations have been conducted, insufficient evidence currently exists to determine which combinations of interventions produce the greatest improvements in psychological or organizational outcomes.

Peer support emerged as the foundation of many organizational programs and consistently functioned as an entry point to additional behavioral health services.[14,18,26,27]. This finding is consistent with previous reviews identifying peer support as one of the most widely implemented organizational strategies for promoting psychological well-being among first responders [5–7,10]. Peer support programs are thought to reduce stigma, normalize help-seeking, foster trust through shared occupational experience, and facilitate referral to formal behavioral health services when needed. However, despite widespread implementation across U.S. first responder organizations, relatively few studies have rigorously evaluated peer support effectiveness using controlled or longitudinal research designs. The current literature provides stronger evidence that peer support is feasible, acceptable, and valued by participants than that it consistently improves long-term psychological or occupational outcomes.

Organizational culture strongly influenced implementation of post-critical incident support programs. Mental health stigma, confidentiality concerns, fear of career repercussions, and limited leadership engagement consistently hindered utilization, whereas visible leadership support, confidential access to care, embedded behavioral health professionals, and multidisciplinary collaboration facilitated implementation. These findings suggest that organizational readiness may be as important as the intervention itself in determining program success.

Perhaps the most important finding of this review is not simply the limited number of evaluated programs, but the predominance of implementation outcomes over effectiveness outcomes in the published literature. Participant satisfaction, feasibility, and acceptability were commonly reported, whereas fidelity, sustainability, clinical effectiveness, and long-term organizational outcomes were evaluated far less frequently, a pattern that mirrors broader implementation science literature.[29] Most included studies consisted of descriptive reports, organizational needs assessments, or implementation papers rather than formal evaluations of effectiveness. Few studies employed quasi-experimental designs, none utilized randomized controlled trials, and long-term follow-up was uncommon. Outcome measures frequently emphasized participant satisfaction, perceived usefulness, feasibility, or acceptability, whereas validated measures of PTSD, depression, anxiety, burnout, or long-term occupational functioning were reported less consistently. Consequently, although many organizations have implemented innovative mental health support services, relatively little empirical evidence exists regarding which approaches are most effective, under what circumstances, and for whom.

These findings have important implications for practice and policy. First responder organizations have clearly recognized the importance of addressing occupational trauma and have invested substantial effort in developing post-critical incident support services. However, implementation has outpaced evaluation, leaving organizational leaders with numerous promising intervention models but limited comparative evidence to guide decisions regarding which approaches are most effective, under what circumstances, and for which responder populations. Agencies continue to adopt peer support programs, resilience initiatives, multidisciplinary wellness models, and trauma-informed interventions despite limited comparative evidence regarding their effectiveness. Future research should prioritize rigorous program evaluation, implementation science methodologies, and longitudinal follow-up to better understand the sustained impact of these interventions on mental health, organizational outcomes, and workforce retention.

This review also identified several opportunities for future investigation. Comparative evaluations of different program models are needed to determine which combinations of peer support, clinical services, resilience training, and organizational interventions provide the greatest benefit. Greater attention should also be directed toward smaller and rural agencies, volunteer first responders, and multidisciplinary systems where behavioral health resources may be limited. Finally, implementation research examining organizational culture, leadership engagement, and barriers to care may provide equally valuable insights as traditional intervention effectiveness studies.

Practical Implications for Organizational Leaders

The findings of this review offer several practical implications for leaders responsible for supporting the psychological health of first responders. National workforce recommendations similarly emphasize that protecting clinician well-being requires organizational investment, leadership commitment, sustainable funding,

and integration of behavioral health resources into routine EMS operations.[30] Peer supporters often serve as trusted initial points of contact following critical incidents, while behavioral health clinicians provide specialized assessment, evidence-based treatment, and continuity of care. Integrating these complementary roles may improve both the accessibility and effectiveness of post-critical incident support services.

Agencies should prioritize the development of confidential, easily accessible referral pathways that reduce barriers to help-seeking. Consistent with the studies included in this review, concerns regarding stigma, confidentiality, and potential career repercussions remain significant obstacles to program utilization. Organizational leaders can help address these barriers by establishing clear confidentiality policies, visibly endorsing mental health services, providing education to normalize help-seeking, and ensuring that personnel have multiple avenues for accessing support. These recommendations are consistent with broader organizational guidance from the National Academy of Medicine, which recognizes leadership engagement, organizational culture, and system-level interventions as essential components of workforce well-being.[31]

Finally, organizations should move beyond program implementation alone and establish routine evaluation processes to assess program effectiveness. Collecting standardized data on utilization, participant satisfaction, mental health outcomes, referral patterns, absenteeism, retention, and other organizational indicators can help determine whether support programs achieve their intended objectives and identify opportunities for continuous improvement. Building a culture of evaluation alongside a culture of support will strengthen the evidence base for post-critical incident interventions and enable organizational leaders to make informed decisions regarding future investments in first responder mental health programs.

Strengths and Limitations

This review has several strengths. A comprehensive search strategy was conducted across three major bibliographic databases using predefined eligibility criteria and a prospectively developed protocol. Study selection, data extraction, and evidence mapping followed established methodological guidance for scoping reviews and were reported in accordance with PRISMA-ScR recommendations. The review also employed a standardized extraction tool that allowed comparison of program characteristics, implementation strategies, barriers, facilitators, and reported outcomes across diverse first responder populations.

Several limitations should also be acknowledged. First, the review was intentionally restricted to U.S.-based studies to enhance applicability to domestic first responder systems. Consequently, potentially informative international programs were excluded. Second, only peer-reviewed empirical literature was included; therefore, organizational reports, government documents, dissertations, conference proceedings, and other grey literature were not synthesized. This limitation is particularly relevant because many first responder wellness initiatives are developed, implemented, and evaluated internally by agencies or professional organizations without subsequent publication in peer-reviewed journals. As a result, the present review likely underrepresents the full range of post-critical incident mental health support programs currently available within U.S. first responder organizations. Finally, because of the heterogeneity of study designs and outcome measures, quantitative synthesis and meta-analysis were not appropriate.

CONCLUSIONS

Although first responder organizations have demonstrated substantial innovation in developing post-critical incident mental health support programs, the scientific evidence supporting these programs has not advanced at the same pace. Future research should move beyond documenting implementation toward rigorous comparative evaluation of integrated organizational support models capable of improving responder mental health, workforce resilience, and organizational outcomes. The findings of this review suggest that the primary challenge facing post-critical incident mental health support for U.S. first responders is both the absence of detailed and consistent evidence-based implementation as well as rigorous evidence demonstrating which programs are most effective.

REFERENCES

1. Johnson, C. C., Vega, L., Kohalmi, A. L., Roth, J. C., Howell, B. R., & Van Hasselt, V. B. (2020). Enhancing mental health treatment for the firefighter population: Understanding fire culture, treatment barriers, practice implications, and research directions. Professional Psychology: Research and Practice, 51(3), 304–311. https://doi.org/10.1037/pro0000266
2. Klimley, K. E., Van Hasselt, V. B., & Stripling, A. M. (2018). Posttraumatic stress disorder in police, firefighters, and emergency dispatchers. Aggression and Violent Behavior, 43, 33–44. https://doi.org/10.1016/j.avb.2018.08.005
3. Ryan, M., Hasan, F., Molina, L., Cervoni, C., Palladino, J., Vujanovic, A. A., & Gonzalez, A. (2022). First Responders and Mental Health. In Comprehensive Clinical Psychology, Second Edition (pp. 66–80). Elsevier. https://doi.org/10.1016/B978-0-12-818697-8.00161-8
4. Wagner, S. L., White, N., Fyfe, T., Matthews, L. R., Randall, C., Regehr, C., White, M., Alden, L. E., Buys, N., Carey, M. G., Corneil, W., Fraess-Phillips, A., Krutop, E., & Fleischmann, M. H. (2020). Systematic review of posttraumatic stress disorder in police officers following routine work-related critical incident exposure. American Journal of Industrial Medicine, 63(7), 600–615. https://doi.org/10.1002/ajim.23120
5. Fallon, P., Jaegers, L., & ElGhaziri, M. (2023). Peer Support Programs to Reduce Organizational Stress and Trauma for Public Safety Workers: A Scoping Review. Workplace Health and Safety. https://doi.org/doi/10.1177/21650799231194623
6. Lynch, S., Muibu, D., Ferguson, E., & Kreutzer, W. (2025). Peer support programs and law enforcement psychological strain: A systematic review. Policing: An International Journal, 48(6), 1207–1226. https://doi.org/10.1108/PIJPSM-01-2025-0003
7. Price, J. A. B., Ogunade, A. O., Fletcher, A. J., Ricciardelli, R., Anderson, G. S., Cramm, H., & Carleton, R. N. (2022). Peer Support for Public Safety Personnel in Canada: Towards a Typology. International Journal of Environmental Research and Public Health, 19(9), 5013. https://doi.org/10.3390/ijerph19095013
8. 8. Wild, J., El-Salahi, S., & Esposti, M. D. (2020). The Effectiveness of Interventions Aimed at Improving Well-Being and Resilience to Stress in First Responders. European Psychologist, 25(4), 252–271. https://doi.org/10.1027/1016-9040/a000402
9. Psychological Variables Associated With Post-Traumatic Stress Disorder in Firefighters: A Systematic Review—Elena R. Serrano-Ibáñez, Tania Corrás, Mirtha del Prado, Javier Diz, Carmen Varela, 2023. (n.d.). Retrieved July 6, 2026, from https://journals-sagepub-com.proxy006.nclive.org/doi/10.1177/15248380221082944
10. Bowers, C., Beidel, D. C., & Steigerwald, V. L. (2025). Peer Support Programs for First Responders: A Critical Review and Research Roadmap. International Journal of Environmental Research and Public Health, 22(10), 1532. https://doi.org/10.3390/ijerph22101532
11. Arksey, H., & O'Malley, L. (2005). Scoping studies: Towards a methodological framework. International Journal of Social Research Methodology, 8(1), 19–32. https://doi.org/10.1080/1364557032000119616
12. Levac, D., Colquhoun, H., & O'Brien, K. K. (2010). Scoping studies: Advancing the methodology. Implementation Science, 5(1), 69. https://doi.org/10.1186/1748-5908-5-69
13. PRISMA Extension for Scoping Reviews (PRISMA-ScR): Checklist and Explanation | Annals of Internal Medicine. (n.d.). Retrieved July 6, 2026, from https://www.acpjournals.org/doi/full/10.7326/M18-0850
14. Maloney LM, Hoffman J, Peralta E, Princi R, Thode HC Jr, Tomlin M, DiDonato C, LaBarbera A, Lambert E, King J, Johnson DG, Edouard S, & Williams S. (2024). Supporting Emergency Medical Services Clinicians Through Acute and Sustained Crises With Informal Peer Support and Intentional Acts of Kindness: The Emergency Medical Services Code Lavender Program. Air Med J, 43(4), 313–320. https://doi.org/10.1016/j.amj.2024.02.003
15. Addo-Yobo, A., Uhl, A., Baloch, R. G., Stewart, T. K., Parrish, R., Johnson, R., Watkins, R., & Salami, T. (2025). Investigating the Perceptions of EMDR Among Law Enforcement Officers Attending a 3-Day Post Critical Incident Seminar in Texas. Journal of Police and Criminal Psychology, 40(3), 589–598. https://doi.org/10.1007/s11896-025-09743-9

16. Arble E, Lumley MA, Pole N, Blessman J, & Arnetz BB. (2017). Refinement and Preliminary Testing of an Imagery-Based Program to Improve Coping and Performance and Prevent Trauma among Urban Police Officers. J Police Crim Psychol, 32(1), 1–10. https://doi.org/10.1007/s11896-016-9191-z
17. Ramey SL, Perkhounkova Y, Hein M, Chung S, Franke WD, & Anderson AA. (2016). Building Resilience in an Urban Police Department. J Occup Environ Med, 58(8), 796–804. https://doi.org/10.1097/JOM.0000000000000791
18. O'Dare K, Mathis A, Tawk R, Atwell L, & Jackson D. (2024). State Level Policies on First Responder Mental Health in the U.S.: A Scoping Review. Adm Policy Ment Health, 51(4), 579–596. https://doi.org/10.1007/s10488-024-01352-8
19. Bonner, H. S., & Crowe, A. (2022). Mental health programming for law enforcement: A first look at trends and perceptions of effectiveness. Journal of Crime and Justice, 45(5), 552–566. https://doi.org/10.1080/0735648X.2022.2045209
20. Katzman JG, Tomedi LE, Everly G, Greenwood-Ericksen M, Romero E, Rosenbaum N, Medrano J, Menking P, Archer GRD, Martin C, Dow KA, McCoy-Hayes S, & Katzman JW. (2021). First Responder Resiliency ECHO: Innovative Telementoring during the COVID-19 Pandemic. Int J Environ Res Public Health, 18(9). https://doi.org/10.3390/ijerph18094900
21. Cacciatore, J., Carlson, B., Michaelis, E., Klimek, B., & Steffan, S. (2011). Crisis intervention by social workers in fire departments: An innovative role for social workers. Social Work, 56(1), 81–88. https://doi.org/10.1093/sw/56.1.81
22. O'Toole M, Mulhall C, & Eppich W. (2022). Breaking down barriers to help-seeking: Preparing first responders' families for psychological first aid. Eur J Psychotraumatol, 13(1), 2065430. https://doi.org/10.1080/20008198.2022.2065430
23. Ramchand, R., Saunders, J., Osilla, K. C., Ebener, P., Kotzias, V., Thornton, E., Strang, L., & Cahill, M. (2019). Suicide Prevention in U.S. Law Enforcement Agencies: A National Survey of Current Practices. Journal of Police and Criminal Psychology, 34(1), 55–66. https://doi.org/10.1007/s11896-018-9269-x
24. Sarabia, J., Arroyo-Rojas, F., & Kieninger, K. (2025). Firefighters' perspectives on critical incident stress debriefing as a post-critical incident intervention. International Journal of Workplace Health Management, 1–17. https://doi.org/10.1108/IJWHM-08-2024-0160
25. Taillac, P., Hammond, R., & Miller, K. (2015). At-risk EMS employees: A model of assessment and intervention. International Journal of Emergency Mental Health, 17(2), 453–458. https://doi.org/10.4172/1522-4821.1000194
26. Uhl, A., Addo-Yobo, A., Boland, G., Watkins, R., Senegal, J., & Salami, T. (2023). Mental Health Providers and Peers Help Enhance the Effectiveness of Law Enforcement Mental Health Interventions. Journal of Police and Criminal Psychology, 38(3), 774–781. https://doi.org/10.1007/s11896-023-09604-3
27. White RW, Knauff JK, & Kverno KS. (2023). Empowering law enforcement officers to engage effectively with individuals in crisis. Arch Psychiatr Nurs, 47, 1–5. https://doi.org/10.1016/j.apnu.2023.08.005
28. Proctor, E. K., Powell, B. J., & McMillen, J. C. (2013). Implementation strategies: Recommendations for specifying and reporting. Implementation Science: IS, 8, 139. https://doi.org/10.1186/1748-5908-8-139
29. Proctor, E., Silmere, H., Raghavan, R., Hovmand, P., Aarons, G., Bunger, A., Griffey, R., & Hensley, M. (2011). Outcomes for Implementation Research: Conceptual Distinctions, Measurement Challenges, and Research Agenda. Administration and Policy in Mental Health and Mental Health Services Research, 38(2), 65–76. https://doi.org/10.1007/s10488-010-0319-7
30. Wheldon, K. (2025). Developing a Comprehensive Fire Service Psychology Program Within a Fire Department or EMS Agency. In K. Wheldon (Ed.), Fire Service Psychology: A Comprehensive Approach to Enhancing Firefighter Health, Safety, and Longevity (pp. 249–269). Springer Nature Switzerland. https://doi.org/10.1007/978-3-032-02126-7_12
31. National Academies of Sciences, Engineering, and Medicine; National Academy of Medicine; Committee on Systems Approaches to Improve Patient Care by Supporting Clinician Well-Being. (2019). Taking Action Against Clinician Burnout: A Systems Approach to Professional Well-Being. National Academies Press (US). http://www.ncbi.nlm.nih.gov/books/NBK552618/