



Why forensic scientists are essential workers

A B S T R A C T

Forensic scientists, though crucial, are often overlooked in the “essential worker” discourse. This Perspective argues for their formal recognition as essential government personnel, aligning with federal definitions of essential and critical infrastructure workers. Their contributions are vital for timely criminal investigations, successful prosecutions, and protecting the innocent. Despite this, they operate within a “captive profession” under policing, lacking parity in pay, benefits, overtime, and furlough protections compared to sworn officers. The COVID-19 pandemic underscored these issues. While forensic laboratories were mandated to continue operations as part of the justice system's critical infrastructure, forensic staff often face budget cuts and hazardous work conditions while not being acknowledged for doing so. This highlights a systemic undervaluing of forensic science in public safety, where “life and limb” policing often overshadows scientific knowledge and methods that ensure accurate investigations, prevent wrongful convictions, reduce backlogs, and improve long-term public safety. Granting essential worker status to forensic scientists offers significant benefits for attracting and retaining professional personnel leading to sustainable staffing. Beyond mere symbolism, this acknowledgment is fundamental for establishing a sustainable, science-driven public safety infrastructure that values the contributions of technology and science as front-line and essential.

1. Introduction

Government agencies in the United States formally define “essential worker” to encompass roles critical for national resilience and community well-being, particularly during crises [1]. The Department of Homeland Security (2013) identifies essential workers as those necessary for “the resilience of the Nation's critical infrastructure,” including law enforcement, emergency services, and public health. Similarly, the Bureau of Labor Statistics [2] designates occupations “indispensable to the health, safety, and well-being of the community” as essential, requiring their continued duty even when others are furloughed. During the COVID-19 pandemic, the Centers for Disease Control and Prevention [3] described essential workers as individuals “needed to maintain critical services and functions” for public safety and societal stability, specifically mentioning criminal justice and public health laboratories. The Cybersecurity and Infrastructure Security Agency (2020) provides the most detailed guidance, categorizing forensic laboratory services under “Law Enforcement, Public Safety, and Other First Responders” within the nation's essential critical infrastructure workforce.

Essential workers are defined by their critical role in maintaining public order, health, and safety; their absence jeopardizes these fundamental societal pillars. Forensic scientists unequivocally fall into this category. Their contributions are vital to upholding the rule of law through the provision of impartial evidence for criminal investigations and prosecutions. By analyzing physical evidence, aiding investigations, and offering expert court testimony, they ensure the continuous functioning of the justice system. Forensic laboratories, regardless of their

jurisdictional level, are as crucial to public safety as traditional first responders: police, firefighters, and emergency medical personnel. The absence of timely forensic services will impede crime investigations, weaken prosecutions, and ultimately undermine the credibility of the entire criminal justice system.

Despite this alignment with federal criteria, forensic scientists have not been consistently recognized or treated as essential in practice in the United States. During the COVID-19 pandemic, police and emergency medical personnel were prioritized for protective equipment, hazard pay, and early vaccination, while forensic laboratory staff were often excluded or delayed in receiving the same support and many laboratories were closed and employees furloughed or worked from home. This disparity highlights a broader structural problem: Forensic scientists and their operations are often embedded in police agencies and most are not sworn officers. As a result, they may be classified differently for purposes of pay, overtime, and benefits, even though their work is no less essential to the proper functioning of the criminal justice system. The central question of this Perspective is therefore not whether forensic scientists qualify as essential workers (they clearly do by all definitions) but why their institutional support remains diminished as compared to other relevant positions.

2. Forensic scientists as an essential workforce

Federal agencies in the United States charged with defining essential work—such as the Department of Homeland Security (DHS), the Bureau of Labor Statistics (BLS), the Centers for Disease Control and Prevention

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(CDC), and the Cybersecurity and Infrastructure Security Agency (CISA)-place occupations linked to public health, public safety, and critical infrastructure at the center of continuity planning. DHS identifies “Emergency Services” as one of sixteen critical infrastructure sectors, encompassing law enforcement and crime laboratories [4]. The BLS similarly includes forensic science under the larger heading of “Protective Service Occupations,” a category defined by its role in maintaining public order and safety (BLS, 2023). The CDC, in its pandemic guidance, designated forensic laboratory services as essential to public health response and continuity of operations (CDC, 2020). CISA’s advisory list of “Essential Critical Infrastructure Workers” explicitly included forensic laboratory personnel within law enforcement and public safety functions [5]. While police and fire services are often the visible face of these categories, forensic science is integral to their functioning. Forensic scientists ensure that criminal investigations proceed and, without their contribution, the broader category of public safety would be lacking the means to connect acts of crime to individual perpetrators through reliable scientific proof and ever evolving criminal intelligence databases.

The daily functions of forensic laboratories align directly with these essential categories. Forensic scientists process evidence recovered from crime scenes, transforming raw material (evidence as collected) into scientific findings that can be presented in court. They generate investigative leads through national databases, such as the Combined DNA Index System (CODIS), the National Integrated Ballistic Information Network (NIBIN), and the Automated Fingerprint Identification System (AFIS), all of which are maintained as part of federal criminal justice infrastructure (FBI, 2022). Beyond investigative assistance, forensic scientists author reports and other critical investigative documents, appear in court as expert witnesses, and provide technical testimony that links physical evidence to scientific analysis. Their role extends the laboratory’s work into the adjudicative arena, ensuring that courts can weigh objective findings alongside other forms of proof evidence.

The essential nature of forensic science also arises from the time-sensitive character of its work. Biological samples are subject to degradation, fingerprints can fade or smear, and digital devices may be remotely altered or data routinely wiped from digital storage devices. Delays in processing can compromise evidence integrity and diminish its value. Case backlogs pose risks not only to justice but also to public safety, since suspects remain at large, often continually reoffending and victims wait without case resolution [6]. Chain-of-custody requirements reinforce this urgency: Evidence must be tracked and safeguarded at every stage to maintain its admissibility (NIJ, 2017); this requires hands-on cataloging and security. If forensic scientists are unavailable or their work is interrupted, these fragile links in the justice process are jeopardized. The continuity of forensic operations (CONOPS) is therefore not optional but indispensable to maintaining both the rule of law and the security of the public [7].

3. The captive profession problem

Sociologists refer to certain professions as “captive professions,” meaning their expertise is structurally subordinate to another organization’s priorities [8]. For instance, research laboratory technicians, despite their specialized knowledge, depend on the scientists who dictate the research agenda, set expectations, and control resources. This dynamic is evident in forensic science, where practitioners are often employed by police departments or sheriff’s offices rather than independent laboratories. Their work is integrated into a law enforcement hierarchy, with sworn officers at the top and civilian staff, including forensic scientists, in supporting roles. Bechky’s [9] study of crime laboratories illustrates how this organizational structure impacts daily work: analysts must navigate a culture of rank and command, with their scientific judgment often disregarded or set aside by other more mainstream policing priorities rather than operating with scientific autonomy.

Police priorities, such as patrol, arrests, and visible presence in the community, do not align neatly with the long timelines and rigorous procedures that forensic science demands [10,11]. As a result, forensic scientists, though essential to the administration of justice, are often treated differently in pay, overtime, and recognition. For example, according to the US Bureau of Labor Statistics, entry-level salaries for federal agents is around \$47,000 and experienced agents can reach compensation in excess of \$117,000; for forensic technicians, the starting salary is around \$45,500 and experienced technicians can make over \$100,000. That disparity seems insignificant until Law Enforcement Availability Pay (LEAP) is taken into account: Federal law enforcement get a LEAP bonus of 25% for being continually on-call, pushing entry-level agent pay to \$58,750 and top pay to \$146,250. Salaries vary at the state and local levels but the same pay structure disparities exist. Bechky notes that forensic scientists’ contributions are less visible than those of patrol officers, yet no less crucial to securing convictions and ensuring accuracy in the courtroom. This invisibility exacerbates disparities and leaves forensic staff vulnerable during fiscal retrenchment.

During times of fiscal constraint, police officers and firefighters were exempted from furloughs often due to existing employment contracts, while civilian forensic staff were not. This disparity highlights a narrow definition of “essential” that prioritizes immediate protection of life and limb over the long-term public safety contributions of forensic science. Forensic laboratories play a crucial role in safeguarding communities, not through immediate intervention, but by conducting evidence-based investigations. These investigations are vital for preventing wrongful arrests and convictions, solving crimes, and fostering public trust in the justice system. However, within the existing structure, the essential function of forensic science is chronically undervalued.

4. Lessons from COVID-19

During the COVID-19 lockdowns, most forensic laboratories remained in operation because they were considered part of the nation’s critical infrastructure. The work could not pause without compromising investigations and prosecutions. Analysts who handled biological samples faced heightened exposure risks, especially in disciplines such as DNA analysis or toxicology, where the potential for contact with infectious material mirrored hazards encountered by healthcare workers. In many jurisdictions, staff were required to adopt the same protective measures used in hospitals, often with limited supplies of masks, gowns, or gloves and in some cases conducted COVID-19 sample collection, testing, and reporting.

Continuity of forensic operations was vital for the criminal justice system. Courts, prosecutors, and police departments relied on these laboratories to preserve due process, whether by ensuring that evidence was tested in a timely manner, or that defendants’ rights to a fair and speedy trial were not undermined by delays. The chain of custody, already fragile under normal conditions, depended on laboratories staying functional despite staffing shortages and public health restrictions.

Even so, classification practices varied widely across states and municipalities. Some jurisdictions recognized forensic scientists as essential workers, providing hazard pay or early access to vaccines, while others grouped them with general administrative staff. These inconsistencies created disparities in pay, benefits, and protections, revealing the fragile position of forensic scientists within the broader framework of public safety.

5. Systemic consequences of Neglect

Chronic underfunding and the failure to recognize forensic staff as essential have direct consequences for public safety. Resource constraints slow evidence processing and contribute to backlogs. Backlogs, are dynamic, self-perpetuating systems driven by the imbalance

between supply (processing capacity) and demand (incoming cases), not just static “warehousing” or storage issues; thus resource constraints limit innovation and reinforce historical, cumulative inefficiencies, such as inadequate staffing, training, or resource allocation, rather than simple pile-ups of work [6]. Unresolved investigations leave violent offenders at large and defendants waiting months or years for trial. These systemic delays erode confidence in the justice system and weaken its deterrent effect.

In the absence of sustained investment, agencies often turn to vendor-driven solutions that promise speed but bypass scientific safeguards. Roadside drug tests, handheld chemical kits, and other unvalidated technologies have been widely adopted by law enforcement under pressure to deliver results quickly. Their record is mixed at best: False positives have led to wrongful arrests and convictions, while subsequent litigation has imposed heavy costs on local governments [12]. Such outcomes reveal that short-term fixes come with long-term risks that outweigh any savings. The return on investment (ROI) of forensic science is enormous because it offers substantial societal and economic benefits, including resolution for survivors, prevention of repeated crimes, and avoiding societal costs like increased preventative expenditures and productivity losses [13]. Forensic science continually offers the highest ROI of any policing investment [14–16].

The human toll within laboratories is equally serious. Forensic scientists working under mounting caseloads and without the recognition given to other first responders report low morale and burnout. Attrition rates are climbing as skilled analysts seek employment in private industry or healthcare, where pay and benefits are stronger and professional status clearer. Each departure worsens shortages and further burdens those who remain [17].

More broadly, these patterns underscore a structural problem in public service employment. Forensic science is a critical part of the government's obligation to uphold justice and public safety, yet it remains undervalued within the civil service framework. Without aligning classification, compensation, and support with its true role, the field will continue to struggle to attract and retain the sophisticated workforce it needs.

6. Toward recognition and reform

Redefining “essential” to include forensic scientists is a necessary step if public safety policy is to reflect the true demands of modern justice systems. Yet recognition alone is not enough. The position of forensic laboratories within government remains shaped by older administrative models that keep scientific work captive and beneath traditional law enforcement priorities [9]. Under these arrangements, laboratories function as technical divisions within paramilitary structures rather than as independent scientific institutions. The result is a quiet but persistent mismatch between responsibility and authority: Laboratories carry the evidentiary burden of the courts but operate under command systems designed for policing, not science. Aligning pay, benefits, and crisis protections with those afforded to sworn officers would address only part of the imbalance: The deeper challenge is structural. Until forensic science is recognized as a coequal pillar of justice and can govern its own resources, standards, and voice in policy, the profession will remain vulnerable to the same pressures that compromise its visibility during crises.

Comparative models in the U.S. and abroad, where scientific and investigative branches share equal footing, hint at what a mature framework may resemble. Forensic laboratories and service providers that are structurally independent of the investigative agencies they serve tend to have more autonomy about organizational and human resource decisions [7]. In the U.S., the Virginia Department of Forensic Science is a part of the Department of Criminal Justice Services; the Director is

appointed by and reports to the Governor, not the state police.¹ The Houston Forensic Science Center (HFSC) is an independent, local government corporation to provide forensic services to the city's police department. HFSC is governed by a nine-member board of directors appointed by Houston's mayor and confirmed by city council and is completely separate from police oversight. Abroad, for example, in West Australia, two separate government laboratories provide biology and chemistry forensic services (among other scientific services for governmental purposes) while the police provide other services, including crime scene, fingerprinting, and firearms. Moving toward such arrangements would not only secure the operational continuity of forensic services in the U.S. but would also reaffirm the autonomy of science within the justice system. The question of how that autonomy, not necessarily independence, can be built and sustained is the next step in understanding what it truly means for forensic laboratories to serve the public.

7. Conclusion

Forensic scientists are not auxiliary staff but are central to the functioning of modern policing and justice. Their analyses shape investigative leads, guide prosecutorial decisions, and anchor courtroom testimony. Without them, the machinery of criminal justice cannot operate with fairness or credibility. Recognizing their work as essential is therefore not just a symbolic step but a matter of operational necessity. It is also a matter of fairness in labor recognition. The risks forensic scientists face, the time-sensitive demands of their work, and the stakes of their findings place them alongside other first responders in the preservation of public safety. Yet the disparities in classification, pay, and protections show that their role has not been accorded equal standing.

Addressing this imbalance requires more than incremental reform. It calls for a cultural and structural shift in how the government defines, compensates, and supports forensic scientists within the essential workforce. Only by aligning policy with reality can we ensure that justice is both served and sustained.

CRediT authorship contribution statement

M.M. Houck: Conceptualization, Writing – original draft, Writing – review & editing. **G.S. LaBerge:** Conceptualization, Writing – original draft, Writing – review & editing.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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