



Mitigating the risk of military personnel becoming unaccounted for on the battlefield: An interview with Stephen Fonseca and Vaughn Rossouw on the ICRC's Military Personnel Identification Project*

Stephen Fonseca has been involved in medicolegal death investigation for over twenty-seven years, with a focus on forensic human identification and on education and professional development in forensic investigations and emergency management. He has co-authored several articles on forensic human identification. As a coroner in

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Canada, he led the development of a provincial forensic identification system to concurrently address recently reported and historical unsolved identification cases and managed the Identification and Disaster Response Unit (IDRU) in British Columbia for eight years. The IDRU was regionally recognized for the implementation of the multi-disciplinary Identification Information Management Model, for which Stephen received the Queen Elizabeth II Diamond Jubilee Medal. He joined the International Committee of the Red Cross (ICRC) in 2013, initially working in the Middle East and thereafter supporting authorities primarily in Africa and globally with the implementation of well-functioning medico-legal systems and improvement of forensic identification in peacetime as well as during and after conflict, disasters and migration. He is currently the Head of the ICRC's African Centre for Medicolegal Systems, a satellite hub of the Central Tracing Agency's (CTA) Advisory Red Cross and Red Crescent Missing Persons Centre. Stephen leads the ICRC's global Military Personnel Identification (MPI) Project, working with State armed forces around the world to develop global guidelines and implement measures to reduce the number of military personnel who become unaccounted for.

Vaughn Rossouw is an admitted Advocate of the High Court of South Africa. He holds an LLB and an LLM (cum laude) in public international law from the University of Pretoria, specializing in international humanitarian law (IHL) and human rights in military operations. Vaughn joined the ICRC in 2022 as Legal Adviser to the CTA's African Centre for Medicolegal Systems, advising State authorities and stakeholders in the forensic science services sector on the applicable international and domestic legal frameworks with respect to missing persons and their families, and on the dignified management of the dead in armed conflict and other situations of violence. Vaughn was featured in the Review's "Emerging Voices" issue of 2021 and has co-authored publications on transnational investigative approaches to address missing and deceased migrants in Southern Africa together with colleagues at the ICRC Pretoria Regional Delegation.

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Why and when was the MPI Project created, and what are your respective roles in this project?

Stephen Fonseca: The MPI Project is an initiative of the ICRC Protection and CTA Division and forms part of the broader ICRC efforts around the globe to protect and restore family links, to search for and identify missing persons, to protect the dignity of the dead, and to ensure that the needs of families of the missing are addressed. The ICRC has many years of experience operating in environments affected by armed

conflict and violence, and from a forensic perspective, we view these situations as large-scale mass fatality events. In such contexts, there are always individuals who survive and who hopefully can be located and reunited with their families, while sadly, others go missing or don't survive.

When you examine battlefield scenarios, it's essential to approach them systematically. This means considering a wide range of aspects – humanitarian, technical, scientific etc. – and determining how to integrate them effectively. The ultimate objective is twofold: to ensure that those who are missing and alive are found, and to ensure that those who have died are identified and returned to their families with dignity.

Led by the ACMS in Pretoria, the MPI Project, which began in 2023,¹ is focused specifically on military contexts and complements the long-standing efforts of the ICRC Protection and CTA Division, which has dedicated its expertise for nearly 150 years to addressing the issue of soldiers who are “MiA” [missing in action]. Now, with the MPI Project, we're addressing soldiers who go missing or become unaccounted for during armed conflict through the perspective of forensic science as a mechanism for prevention. With many years of humanitarian forensic experience acquired in the field, as well as through our CTA advisory capacity, we believe we now understand the forensic systems that need to be in place to ensure that missing military personnel are either located alive or identified if deceased.

This effort involves law, policy and practice. We work at all three levels because each one directly influences the other. Our goal is to collaborate with armed forces to implement a comprehensive set of global guidelines and activities aimed at reducing the number of people who go missing on the battlefield, whether on land or at sea.²

Vaughn Rossouw: From my side, my role involves examining the domestic legal elements of the project. A key part of this has been analyzing the legal and regulatory frameworks of State medicolegal systems, which – as we've learned throughout the project – militaries often rely on when searching for or recovering their dead in conflict situations. These frameworks include laws and regulations governing medicolegal death investigations, which may be based on coroner systems, medical examiner systems, or law enforcement-led systems. In many cases, these systems coexist or individual systems may reflect a hybrid of all three, and part of our work has been to understand how they intersect with military or defence structures, as well as with State disaster management legislation. These medicolegal and regulatory systems ultimately determine who is responsible for investigating unnatural deaths. A core legal question we've had to consider is whether a military death in

1 ICRC, “Military Personnel Identification Project”, 2024, available at: <https://missingpersons.icrc.org/node/1643> (all internet references were accessed in August 2025).

2 The global guidelines are not aimed at developing IHL or any other related body of international law, but will rather serve as a tool to support armed forces in the implementation of their IHL obligations under the Geneva Conventions of 1949, their Additional Protocols of 1977, and customary IHL.

combat qualifies, under domestic law, as an “unnatural death” that requires a formal medicolegal investigation.

Of course, the MPI Project is grounded in IHL, which outlines different obligations for parties to armed conflict such as the obligation to search for and recover the dead, as well as to ensure their dignified treatment and decent disposal. What this project aims to do, in a very practical and operational way, is to support the implementation of IHL obligations protecting the dead and their families within the framework of State armed forces.

Beyond the technical legal analysis, I’ve also assisted with certain administrative legal matters. On a few occasions, we’ve needed to draft non-disclosure agreements between ourselves and State armed forces participating in the project. Since the project involves the exchange of sensitive military information, particularly concerning State armed forces’ military personnel identification practices and mortuary affairs, it has been essential to provide our military partners with assurances that their information will be handled securely and confidentially throughout their engagement with us.

What has the methodology for this project been since its inception, and how can the ICRC support countries in implementing the project?

Stephen Fonseca: What we began in 2023, and continued into 2024, was the first phase of engagement with State armed forces. We launched a global survey asking a series of foundational questions about their existing systems and doctrines related to identification and mortuary affairs.³ These were very basic but essential questions: do you issue identity discs, or “dog tags”, to your soldiers? Do you collect fingerprints and DNA samples? Do you have a forensic specialist embedded in your military?

The goal was to get an initial sense of how prepared different State armed forces are when it comes to conducting search, recovery and identification operations during and in the aftermath of combat. In total, we received eighty-nine completed surveys from fifty-two countries, which was a very encouraging response. Following the survey, we moved into the next phase of engagement by inviting several States to participate in a series of twenty-two online sessions. These virtual discussions created space for armed forces from different regions to exchange experiences and views on what a set of global guidelines should contain, in terms of both proactive preparedness and operational response. We discussed topics such as how to improve the chances of identifying personnel killed or missing in action, and whether armed forces felt adequately equipped to carry out search, recovery and evacuation operations. Importantly, these discussions also included the obligation to recover not only one’s own dead but also the adversary’s, in line with IHL. These sessions were highly productive; we covered a wide spectrum of topics, from IHL obligations to family support, and gave participants a platform to share both

3 ICRC, “Global Military Personnel Identification Survey Factsheet”, 2025, available at: <https://missingpersons.icrc.org/library/global-military-personnel-identification-survey-factsheet>.

successes and challenges. The sessions helped us move beyond theoretical discussions and ask: would these guidelines work in practice? The candid, open dialogue gave us valuable insight into battlefield realities and reinforced the need for effective military identification and mortuary affairs systems to prevent personnel from becoming unaccounted for.

The next major milestone was the first international MPI conference,⁴ which we hosted in South Africa in October 2024. We welcomed representatives from thirty-eight State armed forces and the Commonwealth War Graves Commission. During the event, participants were divided into working groups and given a workbook designed to facilitate discussion around various key themes: the proactive collection of personal information before deployment, procedures for search and recovery, handling the remains of both one's own and the adversary's personnel, and engagement with families. This conference marked a major step forward – it allowed militaries to engage more deeply not only with us but also with one another, sharing experiences and contributing meaningfully to the development of the global guidelines. Our role has been to combine their input with the ICRC's decades of experience, both in conflict and post-conflict settings. We're drawing lessons from a wide span of history, from World War II to present-day conflicts, bringing together perspectives from institutions like the Commonwealth War Graves Commission and those currently experiencing fatalities on the battlefield.

Having collected this wealth of information, we've now entered the consolidation phase. We've formed an internal ICRC working group to begin drafting the global guidelines, and we're currently receiving confirmations from countries whose armed forces will participate in an external military consultation group. Alongside this, we've updated and enhanced our MPI Self-Evaluation Assessment Workbook for the militaries to use. This tool will now allow States to conduct a more granular self-assessment of their current capacities, not just for managing small-scale battlefield fatalities but also for large-scale events. It covers legal doctrine, logistics, technical requirements and broader support mechanisms.

At this stage, we feel the project has reached a very successful point. We've built strong momentum and are on schedule to begin the actual drafting of the global guidelines later this year.

How does the MPI Project promote IHL rules and other legal considerations that the military need to adhere to when protecting and handling the dead in conflict?

Vaughn Rossouw: As mentioned, the MPI Project is rooted in IHL and seeks to operationalize and implement, in a very practical way, the IHL rules relating to the dead, and by extension the missing. The MPI Project goes a step further by promoting these IHL rules through a lens of prevention and preparedness. What

4 ICRC, "The ICRC Hosts Inaugural Global Conference on Military Personnel Identification", 2024, available at: <https://missingpersons.icrc.org/news-stories/icrc-hosts-inaugural-global-conference-military-personnel-identification>. See also Channel Africa, "The International Committee of the Red Cross Hosts Inaugural Global Conference on Military Personnel Identification", October 2024, available at: <https://omny.fm/shows/africa-rise-shine/the-international-committee-of-the-red-cross-hosts>.

do we mean by that? It's about preventing military personnel from becoming unaccounted for in the first place, by taking proactive measures before deployment. These actions make search, recovery and identification efforts not only easier and more efficient but also more cost-effective. Currently, IHL obligations regarding the dead aim largely to define what parties must do once death has occurred. For example, parties to a conflict are required to search for, recover and evacuate the dead without adverse distinction, record information about them, prevent despoilment, ensure the decent disposal of remains, and mark the location of graves. The MPI Project, however, aims to encourage armed forces to establish systems and procedures well in advance of military operations in order to make mass casualties more systematically manageable after the fact.

In this way, the MPI Project supports the implementation of, and respect for, IHL by advocating for early, structured action. The project is organized around specific thematic areas such as the issuance of physical identification for military personnel, pre-deployment data collection, search and recovery of the dead, mortuary affairs, and family engagement, and each of these areas corresponds with or relates to particular IHL rules. Collectively, these thematic pillars also aim to ensure that the missing are searched for and that the dead are managed professionally and with dignity. Most importantly, the MPI Project serves to uphold the right of families to know the fate of their relatives, which underpins all IHL obligations relating to the missing and dead.⁵

Does the MPI Project include guidance for States to adapt processes for large-scale combat operations?

Stephen Fonseca: As mentioned earlier, the MPI Project is a truly global initiative, designed for all types of armed conflict. We're not limiting our focus to international armed conflicts [IACs] or non-international armed conflicts [NIACs] specifically. The objective is to support State armed forces, regardless of the context, in preparing for these situations.

When we consider mass fatality events and large-scale incidents, the common denominator is the need for extensive planning and preparation. Whether a conflict results in a small number of casualties or escalates to a large-scale event, the response mechanisms must already be in place, and the reality is that many armed forces acknowledge that they're not yet adequately prepared for such large-scale events. This kind of readiness cannot be developed on the day of the crisis; it requires forethought and action during peacetime. This is where I believe the MPI Project adds the most value. We're asking armed forces to plan and build systems now, in peacetime, that will allow them to manage any scale of conflict effectively. When it comes to large-scale conflict particularly, the challenges become more complex. In smaller-scale incidents, for example, a soldier killed in action might be repatriated home, and much of the forensic identification and mortuary processes would take

⁵ ICRC, *International Humanitarian Law and the Challenges of Contemporary Armed Conflicts: Building a Culture of Compliance for IHL to Protect Humanity in Today's and Future Conflicts*, 2024, p. 25.

place in their country of origin, handled by established medicolegal institutions. But in a large-scale scenario, repatriation may not be immediately feasible due to the number of casualties. That changes everything.

So, the MPI Project also addresses a fundamental operational shift: how to address key identification responsibilities closer to the battlefield, or just behind the battlefield, when circumstances demand it. This includes battlefield-level identification, temporary storage or burial, grave registration, and full accountability for the dead. It's not just about removing bodies from the field; it's about identifying them. In large-scale conflict, that becomes the real challenge. However, given current advancements in forensic science and human identification technology, there are effective measures that State armed forces can put in place today. These measures can help ensure that even if a body is temporarily buried abroad and not repatriated immediately, families are still informed in a timely and respectful manner, and they continue to receive the support they need.

So yes, there are technical and logistical differences between small- and large-scale responses, but the MPI Project is built to account for both. It provides a framework that helps armed forces plan for a wide range of scenarios, always with the goal of ensuring that no one becomes unaccounted for, and that every family receives answers.

Do the MPI Project and the future guidelines address measures for non-State armed groups [NSAGs] with respect to the identification and management of the dead?

Stephen Fonseca: We haven't specifically targeted NSAGs in the MPI Project – the primary focus has been on State armed forces, particularly in the development of the global guidelines. However, much of what is outlined in these guidelines is certainly applicable to NSAGs as well, and we have worked closely with other ICRC colleagues on a complementary project to collect practical measures that NSAGs have taken to implement their IHL obligations regarding the dead.⁶

What the MPI Project shows, however, is that there is a process in place, one which emphasizes basic yet essential steps that any armed group can take to ensure that individuals are accounted for, that remains are traceable, and that bodies are buried properly when immediate repatriation isn't possible. These are fundamental actions that don't require extensive resources or infrastructure, and they're steps that NSAGs can, and in some cases already do, take to ensure that the dead can be returned to their families one day.

While there are nuances and differences in resources and expertise – particularly forensic specialists – between States and non-State actors, the technical steps required to uphold dignity and accountability for the dead are the same. We know that some NSAGs are already taking such steps, even without formal mortuary affairs

6 For more information, see the article by Helen Obregón Gieseken and Ximena Londoño in this issue of the *Review*: Helen Obregón Gieseken and Ximena Londoño, "Dignity in Death: International Humanitarian Law and the Protection of the Deceased in War", *International Review of the Red Cross*, Vol. 108, No. 929, 2025, section on "Issues of Practice: Building a Culture of Respect for IHL".

systems or established doctrine. Still, there is a strong need for more compliance around the world, which will be helped by implementing these global guidelines.

The strength of the MPI Project lies in its practical approach. We've deliberately aimed to create guidelines that are accessible, not only to well-resourced militaries but also to those with limited means. These guidelines are designed to be realistic, implementable and scalable. That means they can be used by any country or group, regardless of whether that country or group currently has formal identification procedures or a doctrinal framework in place. Simply put, in many cases, forensic identification can be made easier, and can often be done without laboratory expertise, when bodies are searched for and recovered in a timely manner, allowing for more unique features to be available for comparison to make reliable identifications.

Vaughn Rossouw: From a legal perspective, this is a critical and complex element of the MPI Project, and one that will undoubtedly require more focus as the project evolves. This question, in many ways, opens a kind of legal Pandora's Box, exposing several uncharted areas, especially when it comes to the legal obligations related to the dead in NIACs.

Compared to IACs, the legal framework for the dead in NIACs is less developed. And still, in practice we face frequent questions about how NSAGs can practically implement measures to comply with often even rather fundamental IHL obligations, particularly regarding the identification and dignified management of the dead. In my view, the likelihood of NSAGs fulfilling these obligations will largely depend on their will to do so, as well as their level of organization and technical capacity. There are likely to be logistical, technical and legal barriers that make it difficult, if not impossible, for some NSAGs to carry out reliable, scientifically based identifications. The MPI Project emphasizes practical approaches, but when we consider the primary forensic identification methods, such as fingerprinting, DNA analysis and forensic odontology, it is admittedly rare that armed groups have the relevant human and technical resources. These methods typically require access to State-run infrastructure, including national DNA databases, population registries and other forensic systems, all of which are usually under the strict control of State authorities. Hence, the MPI Project promotes the need to proactively collect and store comparable descriptive features of a party's own personnel, and timely search and recovery efforts to allow identification without relying solely on such sophisticated means where possible.

Moreover, domestic legislation plays a key role in shaping what NSAGs can and cannot do in this field. The management of the dead is often governed by national laws that regulate medicolegal procedures, including *post-mortems*, cause-of-death determinations and official legal identification. These responsibilities are generally the exclusive domain of State institutions. So, while it's important for NSAGs to comply with their IHL obligations, caution must be exercised not to interfere with forensic processes that will make the identification of individuals more difficult at a later stage.

For example, if an NSAG undertakes a *post-mortem* examination or makes a formal identification, such actions may not be recognized by States, and may potentially undermine the validity of the findings and complicate future legal or administrative processes such as the issuing of a death certificate for families to claim inheritance or access pensions or other social benefits. That creates a very delicate legal line, and one that the MPI Project must approach with caution.

That said, there are still minimum practical steps that NSAGs can and must take which align with IHL principles – steps that don't cross into acts prohibited under national law. In addition to proactively collecting personal descriptive information about their personnel for potential comparison, reactive measures that can be taken by NSAGs include ensuring that the dead are searched for in areas under their control, allowing impartial humanitarian organizations access to perform recovery and body transfer activities, issuing orders to prevent despoilment or pillaging of the dead, ensuring dignified burials, and documenting grave sites. These are meaningful and achievable actions that uphold the core humanitarian principles underpinning IHL, without overstepping domestic legal boundaries.

Stephen Fonseca: When it comes to ensuring that individuals on the battlefield are accounted for, it's critical that practice is underpinned by law and policy. Without law and policy, we're left with fragmented, *ad hoc* efforts rather than a functioning system. That's why it's so important to advocate for policies that ensure the dead are systematically searched for, recovered, evacuated and identified, and that their families are properly informed. This is ultimately the core humanitarian imperative driving the MPI Project. While the initial phase of the MPI Project focuses on State armed forces, there is a need to address this with NSAGs in the future in order to support measures they have taken or can take to better implement IHL obligations protecting the dead and their families.

Even if immediate scientific and legal identification is not always feasible, it remains vital that the dead are searched for, recovered, evacuated, and buried respectfully. Tracking and managing the dead with dignity doesn't always require advanced forensic techniques like DNA analysis. Many critical steps are practical and achievable, even in low-resource settings.

The core message of the MPI Project is about dignity, respect and accountability. Many of the practices we promote to implement IHL obligations, such as documenting graves, avoiding the despoilment of bodies and ensuring that families receive information, are also relevant for NSAGs. These efforts help preserve the humanity of those affected by conflict and ensure that, even in the most difficult circumstances, a basic standard of care and respect for the dead is maintained.

How does this project consider the role of National Red Cross and Red Crescent Societies [National Societies] in the recovery of the dead in conflict?

Stephen Fonseca: National Societies play a significant role, and so does the ICRC. In fact, in many countries, National Societies are almost by default called upon to

respond when large numbers of dead emerge, often because the State has not adequately prepared to conduct search, recovery and evacuation operations. Sometimes the State lacks capacity or security access or has lost control of territory. In such cases, it's often the community, and by extension the National Society, that is called to act. Encouragingly, National Society involvement in the management of the dead was addressed at a side event during the last International Conference of the Red Cross and Red Crescent in Geneva,⁷ showing the relevance and importance of this issue, and it's being discussed further.

Many National Societies have already received training in basic management of the dead procedures, and that's extremely valuable. However, it's essential to clearly state that National Societies aren't responsible for issuing death certificates, identifying individual, or registering deaths with civil authorities. Their role is important, but it has defined limits.

The MPI Project engages directly with State armed forces to raise awareness about these dynamics. If a State intends to involve its National Society, there must be a clear and formal understanding between the military and the National Society about roles, responsibilities and the boundaries of action. This includes clarifying issues around legal status, legal responsibility and what the National Society should – and should not – be asked to do.

Our hope is that National Societies will play a prominent role in accordance with their capacity and mandate. From the MPI Project's perspective, we emphasize the importance of preparing National Societies just as State armed forces prepare their own personnel. This means ensuring that, when called upon, National Societies are deployed with a clear understanding of their scope of action, that they remain within their auxiliary role and, crucially, that they can operate safely.

These are often conflict-affected and dangerous environments, and we need State armed forces to fully recognize that involving National Societies' staff in unsafe or unplanned operations could endanger their lives. That's why the MPI Project goes into significant detail about the role of National Societies, aiming to help State actors understand both the limitations and the valuable contributions these organizations can offer. National Societies often have access to communities, specialized support training, and other resources that could help families and enhance the broader humanitarian response, but these capabilities must be understood and incorporated into planning before a conflict escalates, not as an afterthought. Too often, other organizations are asked to step in when there has been no prior coordination or preparation. Our goal is to avoid that situation by fostering structured, informed and safe collaboration from the outset.

Vaughn Rossouw: National Societies do have a role to play in the management of the dead, but when a National Society is playing such a role, it's not without qualifications or limitations. It's important to remember that National Societies are part of the International Red Cross and Red Crescent Movement [the Movement], and they are

7 See 34th International Conference of the Red Cross and Red Crescent, "Side Events", 2024, available at: <https://rcrcconference.org/34th-international-conference-side-events/>.

also legally constituted associations governed by the laws of their respective countries. Their roles and responsibilities as auxiliaries to the authorities are defined by the Geneva Conventions, the Movement's regulatory framework and also the domestic legislation in place. Therefore, it is essential to review the relevant national laws to understand what a National Society is authorized to do when called upon in its auxiliary capacity. Specifically, regarding the management of the dead, any involvement by National Societies must be supported by adequate training and coordination with State entities. Furthermore, their engagement should only occur if domestic law permits it, recognizing that more often than not, other State authorities are legally mandated to provide medicolegal services related to death care.

The situation becomes even more complex when suspected war crimes are involved. In such contexts, National Societies which do not have the adequate capacities and the legal basis to provide management of the dead services in these types of situations may enter death scenes without full awareness of criminal procedural laws, and may risk inadvertently compromising criminal investigations, destroying evidence or breaking the chain of custody of human remains and other artefacts of evidentiary value. More importantly, National Societies' staff and volunteers generally lack legal privileges and immunities if they are subpoenaed to testify in criminal proceedings. This is a critical consideration when National Societies undertake death care activities.

If National Societies are to perform such activities in conflict zones, this must be done based on their capacities and their legal mandate, and in close coordination with State medicolegal authorities and the military in cases involving military personnel. Their role should be strictly supportive, not as primary responders. Of course, in some situations National Societies may need to step in, but the priority is to build strong State capacities beforehand to avoid placing National Societies' staff and volunteers in potentially unsafe or compromising positions.

Stephen Fonseca: It's important to emphasize the coordination mechanisms required. When multiple organizations are involved, the question is, where is the data centralized? Who collects it, and how is it standardized? For example, National Societies, civil defence units or even community members may all be involved. Without coordination and centralization of information, this leads to people becoming unaccounted for.

A key aspect of managing the battlefield dead, including search, recovery and evacuation, is ensuring that there is a documented flow of information. Data needs to be captured and centralized so that all parties involved in recovery efforts can share information. This way, bodies are traceable and can be accounted for, even if identification happens much later when resources become available. Often, people become unaccounted for due to administrative failures: no one knows where bodies were buried, documentation wasn't collected, or there was no standardization in what was recorded. It's therefore critical that National Societies, civil defence and community leaders coordinate closely with State armed forces and other relevant authorities to centralize documentation and accurately capture, preserve and protect

burial sites. This process must continue until such time as bodies can be repatriated and identified, and families informed in a timely and dignified manner.

What is the progress on the MPI Project so far, and what aspects remain contentious or challenging?

Stephen Fonseca: I think the biggest success so far has been how open the State armed forces have been in discussing these issues. At the start, I understood that asking them to complete a survey about information they might consider sensitive was potentially contentious. But over time, as we fully explained our objectives, collaborated with them, and incorporated their experiences, what was once a sensitive topic has become much more accepted. Today, we have over forty countries actively engaging with us to develop these guidelines. They have embraced the idea of improving their mortuary affairs, which is a major positive outcome. Many State armed forces had not previously even considered mortuary affairs as a distinct issue; some don't even have a dedicated mortuary affairs adviser or focal point. Raising awareness about the humanitarian consequences and the obligations under IHL has been a key achievement.

Internally, the MPI Project has received multiple requests from ICRC delegations seeking support to implement the basic elements of mortuary affairs. Some countries have developed DNA programmes for their military personnel, while others are introducing identity discs. The message is clearly out, and awareness is growing as we continue to engage our ICRC delegations globally to promote the humanitarian benefits of this work.

What's particularly important is that we will have an implementation tool to help States implement their IHL obligations – a big win for us. After the completion of the drafting process and dissemination of the MPI workbook and global guidelines, we can support States in putting them into practice, which is crucial.

Of course, there is still a lot to do. The upcoming guidelines will be very important to standardize practices that all countries can implement. Another positive development is the increased focus on families and family engagement, areas that previously were often overshadowed by the technical aspects.

We have received more support from the State armed forces than anticipated, which is very encouraging. We've also been invited to participate in military exercises and training, as well as a battlefield forensics workshop in Europe. This shows that we're becoming recognized as part of the broader community working on these issues, drawing on our experience in identifying personnel who have been missing for decades. There's a lot to be proud of for both the ICRC and its CTA at this point.

Vaughn Rossouw: Just to touch on some of the issues that remain contentious, not for us as project leaders but for the State armed forces, data protection is a major concern. The rights of military personnel as data subjects have raised many questions and differing opinions during the project, particularly during last year's working groups and conference.

In the framework of the MPI Project, a key issue for further discussion concerns the collection and processing of personal information – especially highly sensitive biometric, genetic and medical data – for the strict humanitarian purpose of identification, and ensuring that such processing is not only effective but also, more importantly, in line with data protection obligations. It goes without saying that this information is crucial for identifying deceased personnel, meeting international legal standards, providing families with information about the fate of their loved ones, tracing families, and repatriating bodies, but such processing is not in itself without risks. From the ICRC perspective, we advocate that data collection should be based on the well-established principles of data processing.⁸ These well-established principles include, firstly, the principle of purpose limitation, meaning that personal data should only be collected for a specific, explicit and legitimate purpose. Secondly, personal data must be processed legally, based on appropriate lawful basis such as applicable national law, and in a transparent and fair manner, and lastly, only the minimum amount of personal data necessary for the intended purpose should be collected and processed. Ultimately, the final MPI guidelines, being a humanitarian initiative, will not only stress the importance of proper data protection but will also provide recommendations which take into account the risks for individuals whose data is being collected, as well as technological developments, to determine how to implement these data protection considerations within the armed forces identification programmes.

Stephen Fonseca: I'd also say that the challenge in this project is creating global guidelines that work both for countries with robust systems and for those just starting out. Feedback from State armed forces sometimes includes technical requirements that not all countries can yet implement, so the guidelines must include minimum standards to ensure that the basics are met. At a minimum, history has shown us that personal and biometric information must be collected proactively, and thereafter, on the battlefield, personnel should be properly searched for, recovered, evacuated, tracked, logged and, if necessary, buried with basic information recorded so identification can happen later. Some countries may have advanced mortuary affairs systems but might not sufficiently address cultural, religious or traditional considerations, especially when it comes to handling the adversary's remains. The guidelines are designed not only to account for one's own personnel but equally for those of the adversary. From an IHL perspective, there are certain differences in examination and identification requirements for adversaries, which adds complexity. Balancing these requirements across countries with very different capacities, from highly developed to those just beginning, is challenging but makes this an exciting project to be part of.

8 For more information on data protection in humanitarian action, see Massimo Marelli (ed.), *Handbook on Data Protection in Humanitarian Action*, 3rd ed., Cambridge University Press, Cambridge, 2024.

Does the project address issues beyond IHL obligations?

Vaughn Rossouw: One significant issue that comes to mind is when military personnel remain unaccounted for and are never found, even after all reasonable efforts to recover or identify them have been exhausted. In some cases, it may simply not be possible to recover deceased personnel or their remains due to environmental conditions or the nature of the conflict. In these situations, families are left in a state of prolonged uncertainty. While they want to continue with their lives, they often face immense legal and administrative challenges. Without confirmation of death, they may struggle to register the death, manage the missing person's property, exercise parental rights or remarry. These everyday needs can become legally complex and emotionally distressing without an official recognition of absence. In such circumstances, the concept of certificates of absence or presumptions of death becomes critical.

IHL does not address the legal status of missing persons, or the related challenges experienced by their families as a result of their disappearance. It therefore falls to domestic legal systems to fill this gap, and this is where it gets complicated. Each country approaches the issue differently, often depending on its legal tradition. For example, in many African contexts, the issue is handled under English common law, while in others, it's governed by civil law traditions. The absence of a harmonized approach creates significant difficulties. Without a body to certify as deceased, families can face financial insecurity, legal uncertainty and administrative roadblocks. This is a critical but often overlooked area, and one that needs much more attention in discussions about the consequences of armed conflict.

What has been learned from large-scale missing persons projects after conflicts?

Stephen Fonseca: This is a complex question, but it really gets to the heart of the MPI Project. The entire point of MPI is to reduce the number of military personnel who remain unidentified or require post-conflict identification. Our aim is to prevent the need for large-scale post-conflict recovery and identification efforts by putting systems in place *before* the conflict occurs.

If the necessary information is collected in advance, if there are multiple lines of evidence already available to support identification, you can identify most personnel much sooner, often during or immediately after hostilities. One of the biggest lessons from post-conflict projects is just how costly, time-consuming and difficult they are. These projects typically involve locating surface remains that are highly degraded and scattered across wide areas. You end up having to search for, recover and examine compromised remains with limited identification potential. What often follows is a long and painful process of tracing families, collecting reference samples and trying to reconstruct identities decades later. That's not only expensive, but is also deeply distressing for families. They're asked to recall physical details from memory, provide old photographs or offer second-hand information, none of which is as reliable or useful as data collected proactively from the personnel themselves.

From a forensic perspective, if you're given a body or body part *and* you have forensically relevant reference data already on file, a reliable identification can often be made quickly. And while the technology has advanced significantly, identification still becomes far more difficult the longer you wait: you lose visual markers like tattoos, scars or unique features, and you're left relying solely on DNA or dental records, which can delay identification and reduce certainty. Collecting this data in advance serves as an insurance policy for every military member and their family, helping to ensure that they will come home. Ideally it's never needed, but if it is, it allows faster, more reliable and less stressful identification. It also sets a powerful precedent: when a military shows that it treats its own personnel with dignity and respect, it's more likely to extend that same respect to the adversary. If you don't make the effort to identify your own, why would you support identity efforts for the opposing side?

So yes, large-scale post-conflict identification is extremely challenging – but it offers valuable lessons. The clearest of all is this: failing to prepare is preparing to fail. Planning and preparedness, having identification systems in place from the outset, are what ultimately reduce the number of unidentified cases and the long-term suffering of families who otherwise might wait months, years or even decades for answers.

Focusing on State armed forces, what has been their response so far and what are the findings with regard to their planning and preparation for death on the battlefield?

Stephen Fonseca: Several States already have mortuary doctrines in place, and it's been incredibly valuable that some of them have shared these with us. It has allowed us to learn from existing frameworks, and in some cases, we've even been invited to review and provide feedback. This shows that some States are already starting to take these issues seriously – they're not only reviewing but also updating doctrine to better reflect current needs and capabilities.

One of the key elements that we emphasize in the MPI Project is the importance of doctrine guiding practice, and we're seeing positive steps in that direction. However, one concern that we consistently raise is the growing over-reliance on DNA in both conflict and disaster response. While DNA can be a powerful tool, it's not always necessary or the most efficient as the primary method of identification. What we promote through the project is a multidisciplinary approach to identification – one that includes, but doesn't depend solely on, DNA. There will certainly be cases where DNA is the only viable method, but in many instances, other lines of evidence could allow for faster, more reliable identification, such as fingerprints or the detailed documentation of unique scars, marks and tattoos. Armed forces and colleagues from the ICRC working in conflict zones have pointed out how this over-dependence on DNA can overwhelm forensic systems, both military and civilian. It strains mortuary infrastructure and storage, delays identifications and ultimately slows down the return of remains to families.

Doctrine, therefore, must evolve in line with advances in forensic science. It's encouraging to see that some States are beginning to recognize that identification

starts at the scene, not in a lab. Battlefield identification depends on proper search and recovery training, detailed scene documentation, and tracking the context of recovery, such as what unit the individual was with, what vehicle they were in, and where they were found. This scene-based data can serve as essential circumstantial information towards building an accurate identification profile.

States are also beginning to appreciate that most mortuary systems, especially civilian ones, are not equipped to handle mass fatalities. They lack the budget, facilities and trained personnel to manage large-scale death events. We've seen how militaries, in such scenarios, often rely on civilian forensic services to process and identify remains, but many civilian medicolegal systems are unaware of this responsibility and are wholly unprepared for the scale. This can result in delays, missed identifications and misidentifications, and increased distress for families.

Two particularly critical issues have come up during discussions with State armed forces. The first is the lack of search and recovery training. In today's conflicts, we're hearing reports of bodies being booby-trapped, whether it's the enemy's or even one's own. Without proper training, search and recovery teams are at significant risk. Fortunately, technology exists that can aid in safer and more effective recovery, but it needs to be integrated into doctrine and training. The second issue is the complexity of deaths at sea. In maritime or aquatic environments, bodies may never be recovered, especially if individuals aren't wearing life vests; they sink and may remain unaccounted for, raising both operational and legal challenges. Families are left with uncertainty, needing legal instruments like a presumption of death or certificate of absence to move forward. Logistically, at-sea recoveries are extremely difficult; there's limited space onboard for storing bodies, and ships must return to land to offload remains. In large-scale conflicts, this becomes a significant operational and time-sensitive challenge, especially when current systems don't have the capacity to manage such volume.

So overall, while doctrine development is progressing, there's a clear need for it to be grounded in modern forensic technological understanding, operational realism, and the lived experience of armed forces and affected families. These challenges aren't just technical – they're legal, logistical and deeply human.

What is meant by “proactive” and “response” measures in terms of what State armed forces can do to address their missing and dead?

Stephen Fonseca: You're either preparing for a situation or responding to it. In the preparation phase, there are several proactive steps that militaries can take – especially since, practically speaking, they're working with a “closed” population. Military personnel are a “captive audience” in the sense that they're accessible, and there's an opportunity to gather key information before deployment.

First, we need to consider what challenges exist in human identification, and what information is needed for comparison if a service member is killed in action. Some of the initial questions we ask are: what material identification is being provided to military personnel before they deploy? Do they have ID cards? In high-heat or high-impact environments, where destruction is severe, do they at least

carry identity discs with essential information? Are uniforms clearly marked with names or other identifying details? These seemingly small things enable presumptive identification on the battlefield, which can significantly accelerate the identification process. It's also important to remember that in IACs, if an individual is recovered by the adversary, that adversary has to establish the identity of the individual with as much certainty as possible. To achieve this, the adversary has an obligation to take all feasible measures in this respect. If the person is carrying clear identifiers, the likelihood of being identified, and of the family being notified, is much higher, especially in contexts where access to sophisticated identification laboratories is lacking.

Material identification is critical, and we need to continue promoting its value. That said, we're aware that there are taboos and superstitions in some contexts: for example, some soldiers refuse to wear dog tags because they believe it brings bad luck. That's something the ICRC should aim to address at various military levels, but also externally with law- and policy-makers. We want military personnel to understand that carrying identification is essentially an insurance policy. Without it, identification becomes far more difficult, and this delays the return of remains to families.

The second key aspect is the collection of unique personal identifiers (marks, scars, tattoos), fingerprints, dental records and DNA samples. These are all well-established, reliable forms of identification, so why don't we promote the systematic collection of this information while service members are alive to provide it? These measures are simple and inexpensive in the scope of overall defence spending. Fingerprints, for example, can be collected with basic training, an ink pad and a piece of paper, while a DNA sample can be taken without even profiling it – just having the sample stored is valuable. Descriptive data such as photos of tattoos, scars or birthmarks can also be captured quickly and easily. We've trained mortuary volunteers to collect this information in cases of death; they don't need to be doctors in the majority of contexts. Capturing these details before deployment means they're ready for comparison immediately if needed, which can make a huge difference, especially in large-scale conflict. For example, if someone dies in the field, a digital fingerprint scanner can be used to collect a print and send it back home for rapid comparison. You could potentially have an identification within minutes, compared to the days or weeks or months that DNA might take.

While those are the two primary proactive strategies we're advocating for, on the response side, the focus shifts to how the dead are searched for, recovered and evacuated. This requires proper training, sometimes even multidisciplinary teams. In many cases, recovery is extremely difficult, such as when remains are trapped in a burned-out vehicle or vessel. Military planners need to think through these scenarios; again, identification starts at the scene. Having forensic expertise as close to the recovery site as possible improves the reliability and dignity of the process. Another critical aspect is mortuary affairs and the treatment of families. From the first hours or days to months or even years, the impact on families is profound; if a breadwinner is lost, the implications can span generations. In some countries, we've seen strong support programmes where, for instance, the spouse of a fallen

soldier is offered free education or job opportunities within the government. These are important measures to help families cope financially and emotionally.

Presumption of death is another vital issue. As Vaughn mentioned earlier, families cannot initiate legal procedures, such as a presumption of death order, without adequate information. Militaries must recognize that not everyone will return home, and they must provide the necessary legal, administrative, financial and psychological support to the affected families. These are the reactive or response measures that should be in place from the moment conflict begins.

Vaughn Rossouw: The IHL obligations with respect to the dead are already clear and comprehensive, but their effectiveness depends on how well they're implemented nationally through domestic laws and policies. Thus, it's essential that the domestic law evolves to support both the proactive and response measures required by the military. One of the most effective ways to achieve this is through the implementation of clear domestic laws that regulate the medicolegal systems within the State. It's particularly important that these laws are considered and developed at the national level, because it is ultimately domestic legislation that gives practical effect to the IHL obligations related to the respectful and proper handling of the dead. I touched on this earlier when I spoke about the various legislative instruments that typically make up a State's medicolegal framework. These can include laws governing forensic pathology services, regulations on who is authorized to conduct autopsies or *post-mortem* examinations, and other rules determining how deceased individuals, especially those who are unidentified, are managed and processed.

Crucially, these legal frameworks shouldn't only apply in times of peace but should also be robust enough to serve during conflict, where civilian systems are often relied upon to support military efforts in death management. As Stephen mentioned, most militaries frequently depend on civilian medicolegal infrastructure for this purpose. In more technologically advanced States, these processes are often well established and comprehensively regulated by domestic law and policy. However, in regions where these systems are needed most, the legislative frameworks often fall short. In such contexts, practices tend to develop in an *ad hoc* manner, without proper legal oversight or alignment with international standards or best practices in death management.

It's equally important to examine how military or defence legislation addresses the identification of service members. A few States do have military laws or manuals that outline what form of physical identification must be issued, such as military ID cards or dog tags, but we also need to consider what specific information these items are legally required to contain. Moreover, there should be clear and uniform policy developed requiring armed forces personnel to carry these forms of identification while in combat.

Interestingly, in our work with certain State armed forces, we've encountered resistance to wearing dog tags. In some cases, soldiers have expressed concerns that wearing a dog tag made them look "girly" or "feminine", revealing an unexpected, gendered dimension to what might otherwise seem like a purely technical or administrative issue. This points to discriminatory gender norms in the military,

where being female is equated with being “weaker”, and this issue might benefit from deeper discussions. Furthermore, it underscores the need not only for legal mandates but also for broader awareness-raising efforts that normalize these practices as essential aspects of duty, not optional accessories. Military personnel need to appreciate why the wearing of identity discs has been employed for over a hundred years. They absolutely assist in identification.

So, in short, the development and enforcement of appropriate legislation at the domestic level is a vital proactive measure. It ensures that military personnel are properly supported, that the identification of the dead can be carried out effectively, and that the entire system operates within a clear legal framework and with respect for the individuals and families affected.

Have advancements in technology been able to reduce the potential for military personnel to end up being unaccounted for?

Stephen Fonseca: There's just so much technology available today, and it's really encouraging to see that some countries have already started implementing these tools to aid in the search and recovery of missing persons. Much of this technology has been developed or refined through post-conflict searches for those who became unaccounted for – tools like ground-penetrating radar or side-scan sonar for underwater incidents. We're also seeing increased use of drones, not only to scan areas for potential remains but also to ensure the safety of those entering recovery zones. Drone technology can assess environmental risks and detect whether bodies have been booby-trapped or if other dangers are present before access is attempted. In this way, drones are already revolutionizing the search and recovery process.

At sea, although large-scale recovery of the dead remains challenging, there is now technology, such as submersibles, that can facilitate the retrieval of smaller caseloads. These advances mark significant progress in what used to be logistically or technically impenetrable environments.

In terms of identification, DNA has undoubtedly revolutionized forensic work. However, I always stress that DNA is not a panacea – it must be used as part of a multidisciplinary approach. We've seen examples where over-reliance on DNA has led to missed identifications or misidentifications. So, DNA should be seen as one of several critical lines of evidence, rather than the sole method.

Technology has also improved in ways that make it possible to analyze remains which would have previously been unidentifiable due to degradation. Bones that would have yielded nothing ten or twenty years ago can now be assessed with high-tech tools available in modern laboratories.

We must also think about what technology can be applied not just in laboratories back home but directly in conflict zones or operational environments, especially when remains may not be repatriated for a long time. In this context, digital fingerprint scanners are incredibly useful. They allow for the rapid capture and electronic transmission of high-quality fingerprints, enabling fingerprint examiners in the home country to make swift identifications using a primary method. The same can be said for mobile CT scanners that offer the opportunity for virtual autopsies

and for capturing of dental and bone-related features that can be compared with health records and radiographs in the country of origin.

Equally important are databases. Creating and maintaining centralized databases is essential, particularly in large-scale conflicts and post-conflict settings. When you're dealing with high numbers of missing and deceased individuals, collecting, managing and matching forensically relevant information across multiple individuals and families becomes highly complex. This is not something that can be optimally managed through basic digital tools; it requires data management systems. We now have the systems to support this effort, from geographic information systems, which map search areas and guide evacuations, to software that allows one-to-many comparisons, greatly improving the accuracy and efficiency of identification work.

So, while we're in a strong position technologically, the real challenge lies in creating the systems that support this technology. Often, it's the systems, and not the lack of tools, that fail those who become unaccounted for. Had these systems been planned, resourced and integrated before conflict, identification and repatriation efforts would be far more effective and humane.

Policies must support the use of these technologies across the full cycle, from search and recovery to identification and the return of bodies to families. Standardizing and centralizing data ensures that no one is left behind, and that every effort can be made to match the unidentified with the missing.

Vaughn Rossouw: I'd like to add to what Stephen has said regarding technological advancements, particularly how they can also support the protection of cultural and religious rights that must be respected during identification processes. For example, in certain cultural contexts, there may be taboos or concerns around the use of DNA analysis, particularly when it involves collecting biological samples like blood. In such cases, alternative technologies like fingerprinting can offer a culturally sensitive and scientifically sound solution. Using fingerprinting in place of DNA, when appropriate, can help respect religious and cultural norms while still supporting accurate identification. Even when DNA processes are ongoing, it's important to remember that the dignity of the deceased and their families should be upheld. Technology should never override these considerations – instead, it should help us strike a balance, advancing forensic capabilities while remaining sensitive to context and respectful of people's beliefs and traditions.

Stephen Fonseca: Vaughn raises a critical point; this is also one reason why timely identification is so important. In many cultures, families want to visually recognize their loved ones when the body returns home, often in an open casket. The longer it takes to recover and identify the body, the less likely it is that visual recognition will be possible. Even when authorities have confirmed an identity through DNA or fingerprinting, families may still wish to see their loved ones. If they don't trust the system or don't understand the process, which is often the case, we must be prepared to explain every step. Identification is not just a technical or legal process – it's a deeply human one.

Forensic specialists, military authorities and all involved must be able to communicate clearly with families, guiding them through what can otherwise be a confusing and distressing experience. Scientific identification is for the experts, and legal identification is for the authorities who certify death – but ultimately, all this evidence must also give families the confidence that the correct body has been returned to them. This requires collecting and combining multiple lines of evidence: location of the body, personal effects, uniform, dental records, fingerprint matches, DNA, and contextual factors like deployment history. Each piece strengthens the identification and builds the trust that families need to begin mourning and burial.

In forensics, we talk about “unexplainable discrepancies”: any differences or gaps in the evidence that could cast doubt on the identification. Our job is to ensure that none exist and to present families with a clear and complete narrative. They must feel confident not only that the identification is correct, but that it was conducted thoroughly and with dignity.

In this way, humanitarian forensic action brings together science and compassion. It recognizes that every deceased person deserves to have their identity restored and that every family deserves to know what happened to their relative. Technology and systems must be in service of that fundamental humanitarian goal: restoring dignity to the dead and bringing closure to the living.

What are the next steps in the project for the forthcoming months and years?

Stephen Fonseca: Drafting the global guidelines this year and into next year is our number one priority. These guidelines will provide the necessary foundation and buy-in from States, especially those contributing to the guidelines’ development. This will form our baseline for deeper engagement with States, including those that may require additional support.

Let’s be honest: every State needs to strengthen its systems to ensure that it is prepared for when conflict breaks out. Whether in IACs or NIACs, there remains significant work to be done – State armed forces must develop and implement clear policies and practical measures to ensure that not only their own personnel but also adversaries are properly accounted for, identified and eventually returned home to their families with dignity. In all cases, the process must respect IHL and follow humanitarian considerations. Ultimately, our role is to support States in fulfilling their IHL obligations by offering very practical, implementable tools and methods.

The next phase is to provide that kind of practical support – for example, we’ve already developed a prototype for a military personnel identification kit. It includes straightforward instructions, a form for descriptive data, a photograph template with a barcode, fingerprint ink pads and sheets, and materials to collect a DNA sample. It also contains guidance on proper packaging, labelling, and maintaining the chain of custody. This kit is ready, and we’ll present it again to a military audience to gather feedback on what works and what doesn’t. The goal is to develop a globally adaptable kit that supports consistent and reliable pre-deployment data collection.

Alongside this, we're also working on a prototype database. Understandably, military institutions are highly sensitive about external organizations managing personal data, so we're not proposing to create or host such a database. Instead, we're working with a consultant this year to design a model database prototype, based on decades of operational experience and systems like the Resolve platform. This model will outline essential elements of an effective military personnel identification database, including how to manage samples, ensure traceability and secure data. This template will serve as a business model that armed forces can use to build their own internal systems, using their own infrastructure and security standards. That independence is important, and its importance has been made very clear to us by State stakeholders.

Finally, we're working to build a global military community around this issue. There is rapidly growing interest and valuable debate emerging, particularly around doctrines, roles and responsibilities. For example, many armed forces don't yet have a designated mortuary affairs focal point. Increasingly, militaries are asking us: what is this role? What does it involve? Why is it important? That awareness is a vital first step. Once there's increased awareness, our delegations can follow up by working directly with armed forces to implement practical measures that ensure the deceased are accounted for.

At the end of the day, that's what all of this is about: making sure that those who die in conflict are not forgotten, and that their families receive answers and respect.