

# Preparing United Kingdom Defence Public Health for security crises

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There are no conflicts of interest.

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## Abstract

The fast-changing European security environment requires a corresponding transformation in military medicine and public health. The implications for Defence Public Health include a requirement to support the management of mass casualties along prolonged evacuation pathways under persistent threat, as well as to prevent disease throughout the entire operational patient care cycle. This will be made all the more challenging by the potential need to conduct bulk casualty evacuation (with its associated infectious disease risk), possible disruptions to supply chains and conflict-driven antimicrobial resistance. The UK Defence Medical Services is preparing for the challenge ahead by aligning its efforts with NATO's Action Plan to Enhance Medical Support for Collective Defence, focusing on five themes: regulatory frameworks and legislation; workforce shortages; mass casualty planning; patient evacuation; and medical logistics. Furthermore, it is seeking to integrate its efforts with the civilian National Health Service to fully play its role in whole of society resilience, as well as to rebuild medical capabilities for large-scale war fighting.

**Take-home message for students** Contemporary military public must transform in light of the current European security environment. Aligning efforts to meet NATO's priorities, integrating with the civilian health system and focusing on disease prevention (including the potential impact of conflict-driven antimicrobial resistance) are essential if this transformation is to succeed.

## Introduction

Russia's invasion of Ukraine in 2022 has transformed Europe's security context. The Secretary General of NATO has determined that *"Russia could be ready to use military force against NATO within five years"* and therefore the whole alliance should prepare accordingly (Wallace 2025). The UK government has responded to the changing geopolitical context through the publication of the Strategic Defence Review in June 2025. The review recognises that: *"The world has changed. The threats we now face are more serious and less predictable than at any time since the Cold War, including war in Europe, growing Russian aggression, new nuclear risks and daily cyber-attacks at home"* (HM Government 2025).

The Strategic Defence Review outlines five ambitions for UK Defence:

- Moving the UK Armed Forces to war fighting readiness
- Using UK Defence as an engine for economic growth
- Placing "NATO First" at the core of all defence policy
- Innovating based on lessons from Ukraine
- Developing a whole of society approach to strengthen national resilience

The review outlines the need for the armed forces to be better integrated and capable for large-scale war fighting in the 21st century. This will require the armed forces to be able to deliver increased mass and lethality, as well as being able to endure and survive in a more transparent battle space. The new threat environment has profound consequences for medicine and public health, from the prevention of illness and provision of casualty care on the battlefield, to the resilience of civilian healthcare systems in the homeland.

## Implications for defence public health

Forward battlefield casualty and disease non-battle injury management are core military medical responsibilities. The need to manage mass casualties in war fighting challenges recent military medical operational frameworks, which assumed air superiority and relatively secure medical evacuation chains. Preparing for large-scale war fighting requires planning for extended multinational casualty pathways which may be subject to direct attack throughout. There will be a concurrent need to prevent disease throughout the entire operational patient care cycle (before, during and after operations) to optimise the health of the fighting force through both medical and nonmedical measures.

At the interface between military and civilian health systems, there is the requirement to strengthen interoperability across all the dimensions laid out by NATO: technical (e.g., hardware and equipment), procedural (e.g., doctrine and guidelines), human (e.g., training) and information (e.g., medical information systems) (NATO 2023). This is to ensure the smooth transfer of casualties back into the civilian health system as well as enabling medical support for further force regeneration and mobilisation (HM Government 2025).

In the homeland, there is the requirement to further improve the preparedness, resilience and response capacity of the whole health system. During any large-scale war the civilian health system would need to be able to absorb a large number of returning military casualties, whilst concurrently maintaining civilian care, potentially whilst sustaining attacks on domestic healthcare infrastructure. This would require a whole of society response, as indicated in the Strategic Defence Review, beyond that of the healthcare system alone

to be sufficiently resilient in the face of crisis.

## Challenges for military and civilian health systems

Military health systems face significant challenges in adapting to the strategic conditions outlined in this paper. In the domain of casualty care a 2025 analysis of “*Tactical Developments During the Third Year of the Russo–Ukrainian War*” by the Royal United Services Institute found that “*existing medical doctrine is not executable under modern combat conditions*” (Watling and Reynolds 2025). Military health systems are not yet prepared for the scale of casualties, which exceed previous planning assumptions, “*the persistent observation and threat of strikes*” on medical facilities, the need to task-shift a greater proportion of medical care to nonmedical personnel and the complexities of treating casualties who present to medical facilities after prolonged evacuation (Watling and Reynolds 2025; Arnold and Horne 2024; Arnold and Horne 2025). In the domain of preventive medicine, the challenges are equally stark. These include the prioritisation of finite vaccination and other medical countermeasures to the force (particularly if global supply chains are disrupted), the complexities in maintaining field hygiene in prolonged high-intensity conflict and the acceleration of antimicrobial resistance driven by conflict (Pallett et al. 2023; Pallett et al. 2025).

The challenges for civilian health systems are potentially even more demanding, with healthcare systems still showing strain following the COVID-19 pandemic, as well as longer-term trends of ageing populations and an increasing burden of chronic

disease (Murray 2022). Health systems that are already under intense pressure in peacetime are inclined to neglect preparedness measures in favour of managing daily service demands. Furthermore, health is not consistently included as a component within national security, which can result in a lack of pan-system readiness (Arnold and Horne 2024). Regulation and standards are still set for peacetime healthcare provision, often aimed at optimising quality of care for the individual patient, rather than population-level prioritisation at times of crisis (Arnold and Horne 2025).

## Preparing for the challenge ahead

The UK and its allies across NATO are stepping up to prepare for the challenges ahead. At the political level, all NATO members have committed to invest 5% of GDP into defence by 2035, divided between 3.5% on military capabilities and 1.5% on security-related spending (which could arguably include targeted investment in improving health system resilience) (Arnold and Horne 2025).

At the military level, NATO has developed a new NATO Force Model providing “*a larger pool of available and ready forces, improving NATO’s ability to respond to any scenario*” which will enable support to a new generation of regional defence plans that will strengthen deterrence and defence of the alliance (NATO 2025a). The UK’s Strategic Defence Review places its NATO commitments as a core driver of defence policy and activity, for example by “*prioritising its ability to contribute to NATO plans*” and by providing one of the two Strategic Reserve Corps under the NATO Force Model (HM Government 2025).

At the military medical level, NATO members have committed to the Action Plan to Enhance Medical Support for Collective Defence (MAP) (NATO 2025b). This consists of five themes: regulatory frameworks and legislation; workforce shortages; mass casualty planning; patient evacuation; medical logistics. The UK Defence Medical Services has responded to the MAP through outlining its priorities in rebuilding medical capabilities for war fighting. Furthermore, it has outlined the importance in deepening its partnership with the UK's civilian health system (both the National Health Service (NHS) and private sector) to increase shared capacity and to ensure a coherent response to the use of medical reserve personnel who may work in both the military and civilian sectors.

The UK Defence Public Health Network is responding to the specific preventive medicine challenges posed by evolving European security challenges. The network is prioritising integration, by better integrating public health across the front line commands (Royal Navy, British Army and Royal Air Force), through joint working with civilian health agencies (including the NHS and UK Health Security Agency (UK Health Security Agency 2022)) and by engaging with partners across NATO (including the Force Health Protection Branch of the NATO Centre of Excellence for Military Medicine). Current priorities for the Defence Public Health Network include cohering its immunisation priorities by working with partners across NATO, developing options to mitigate the infectious disease risk for any bulk casualty moves during war and inputting into multi-agency national health emergency planning. These priorities build on recent work in implementing a near-real time military infectious disease surveillance system to automate military infectious disease reporting reducing health protection response times without any additional burden for clinicians.

## Conclusion

The evolving security threats to Europe require a transformation in military medicine and public health, from the battlefield to the homeland. Better integration of military and civilian health systems will play an essential role in managing mass casualties in any conflict, as well as preventing disease through robust public health measures. Preparations are being made at the political, military and military medical levels, with the UK Defence Public Health Network working closely with domestic civilian partners and allies across NATO to step up to the challenge ahead.

## Author Contributions

The author wrote this manuscript based on a presentation given on 21 November 2025 at the 3rd annual Symposium of the Deutsche Gesellschaft für Öffentliche Gesundheit und Bevölkerungsmedizin e.V. in Frankfurt am Main. Google AI Studio Gemini 2.5 Pro was used to develop an initial draft manuscript outline from the author's presentation slides that was used by the author to write the manuscript. Grammarly has been used for checking grammar and spelling.

## Disclaimer.

The author is a serving officer in the British Army. The opinions expressed here are those of the author and do not necessarily represent the views of the British Army or the Defence Medical Services.

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