

The imperative of integrated resilience: A strategic framework for National Health Security in an era of renewed confrontation

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Citation:

Holtherm, H.-U. (2026). The imperative of integrated resilience: A strategic framework for National Health Security in an era of renewed confrontation, Human Biology and Public Health. <https://doi.org/10.52905/hbph2026.126>.

Received: 2026-02-22

Accepted: 2026-02-27

Published: 2026-04-30

Review status:

Not reviewed

Permissions:

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Conflict of Interest:

There are no conflicts of interest.

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Keywords

integrated resilience, hybrid warfare, civil-military cooperation, health security reserve, comprehensive defence

Abstract

This imperative for integrated health resilience within Germany's shifting strategic landscape is examined. Amidst escalating hybrid threats and potential conventional conflict, the national healthcare system is redefined as a critical pillar of "Comprehensive Defence". Utilizing a four-phase escalation model, Germany's geostrategic role as a NATO medical hub (Drehscheibe Deutschland) is delineated. Strategic requirements include managing 1,000 daily polytrauma casualties through the so called "5+9+X" Hub-Cluster network. To overcome current systemic vulnerabilities, a fundamental paradigm shift is required: increasing total security spending to 5.0% of GDP, reintroducing a "Health Security Reserve" in the health services and enacting a Modern Health Security Act. This framework emphasizes that healthcare resilience is no longer merely a social asset but a central condition for national survival, necessitating deep civil-military integration and legally mandated joint preparedness.

Take-home message for students Healthcare is a strategic asset of national defence. Future health professionals should understand clinical care with a "Total Defence" concepts. Resilience requires the ability to operate within integrated civil-military structures.

Introduction

The strategic landscape of Europe has been irrevocably altered. The long-held assumption of a stable and enduring peace has yielded to a new reality, one characterised by latent and overt conflicts, hybrid threats and a systematic challenge to the liberal, rules-based international order. In this new era, national security can no longer be viewed in isolation as a purely military domain. It is, instead, the outcome of a comprehensive state effort, wherein the resilience of all critical societal sectors is of paramount importance. At the very heart of these considerations lies the national healthcare system. Its functional capacity is not merely a pillar of societal well-being; it has become a strategic asset of the highest priority, indispensable to Germany's defence and NATO capabilities.

The following analysis will delineate a coherent, four-phase escalation scenario, progressing from the current reality of hybrid conflict to a collective defence and, ultimately, a national defence scenario. The objective is to illuminate the profound interdependencies between geopolitical security and national health provision. From this, the necessity of a paradigm shift becomes evident: a move towards deeply integrated civil-military cooperation and a comprehensive concept of total defence.

Phase 1: The new normal of hybrid conflict

The contemporary strategic environment can no longer be defined by a clear dichotomy between war and peace. We are, instead, experiencing a continuum of conflict, a state of 'hot peace' (Dornblüth 2018).

This condition is characterised by persistent, targeted attacks that are deliberately conducted below the threshold of open military confrontation. This strategy, known as hybrid warfare, is designed to destabilise our society, cripple our critical infrastructure and undermine faith in our democratic institutions.

These attacks manifest in a multitude of ways. At the forefront are cyber-attacks on critical infrastructure, with the healthcare sector representing a particularly vulnerable and high-value target. Ransomware attacks on hospitals can bring patient care to an immediate standstill, whilst the theft of sensitive health data or the manipulation of medical equipment erodes trust in the system as a whole. Such digital assaults are complemented by physical acts of sabotage, whether directed at defence industry assets to weaken military readiness, or at strategically critical infrastructure such as the subsea data cables in the Baltic Sea, the destruction of which has the potential to cripple digital communications of entire nations.

Concurrently, a relentless information war is being waged (Jegisman 2025). Targeted disinformation campaigns and the deployment of troll armies on social media platforms aim to manipulate public opinion, deepen societal divisions and delegitimise democratic processes such as elections. This spectrum of threats is completed by the continuous reconnaissance of military facilities and civilian critical infrastructure by unmanned aerial vehicles (drones), representing a constant intelligence threat and facilitating the preparation of future operations.

Phase 1, therefore, describes a state of permanent, low-intensity confrontation. In this scenario, the healthcare system is no longer a neutral entity; it is already a central objective and a battlefield in the contest for societal stability and state functionality. Resilience in this phase demands

not only technical cyber-security, but also a whole-of-society capacity to recognise these attacks, resist their influence and neutralise their destabilising effects.

Phase 2: Germany as the strategic fulcrum in a crisis

This state of latent threat holds the inherent potential for escalation. Phase 2 delineates the materialisation of a military crisis that directly affects NATO alliance territory, precipitated, for example, by a menacing concentration of troops on the Alliance’s eastern flank. Such a development would necessitate a decisive NATO response to credibly demonstrate collective defence and ensure deterrence. In such a scenario, Germany, by virtue of its geostrategic position, would assume an indispensable and profoundly demanding role: that of the “Drehscheibe Deutschland” (turntable/strategic hub Germany) ([Bundeswehr 2023](#)).

This function as a hub would constitute a logistical and organisational challenge of historic proportions. The deployment of NATO combat formations, numbering some 800,000 troops, along with their heavy equipment, munitions and supplies, would have to be executed at great speed, primarily across German territory. This would strain national infrastructure — rail, road, waterways and air corridors — to its absolute limit and demand a level of seamless civil-military coordination far exceeding that of previous exercises.

Simultaneously, this military crisis would trigger a massive humanitarian emergency. A significant increase in refugee flows from threatened neighbouring countries must be anticipated. The task of receiving, registering, accommodating and providing for

potentially over a million displaced persons — often traumatised and with acute medical needs — would place an immense burden on Germany and, most critically, on the German healthcare system.

This dual burden — enabling the military deployment as the Host Nation whilst managing a large-scale humanitarian crisis — would unfold under the pressure of continued hybrid attacks, specifically aimed at sabotaging the functionality of Germany as the strategic hub. The healthcare system would be confronted with the complex duty of both supporting the medical needs of transient allied forces and ensuring the comprehensive medical care of a vast refugee population. Overcoming these enormous, simultaneous challenges requires a meticulously detailed and inter-departmentally coordinated Operations Plan for Germany (O-Plan DEU) ([Bundeswehr 2025](#)).

Phase 3: The alliance case and the healthcare system under duress

The third phase describes the escalation from crisis to open warfare. Hostilities between NATO and an aggressor trigger the collective defence clause under Article 5 of the North Atlantic Treaty ([NATO 2025](#)). For Germany, this signifies a dramatic intensification of its role. It is no longer merely a strategic and logistical hub but becomes the strategic rear area of the front line, the central hospital and rehabilitation centre for the entire Alliance.

The humanitarian dimension would escalate further, with refugee movements growing by ‘further millions of people’. The decisive new challenge, however, is the

systematic provision of care for a vast number of casualties — both allied soldiers and civilians — within Germany. Strategic planning must be based on a casualty influx of up to 1,000 critically injured, primarily major trauma, patients per day. These would be severe, war-specific polytrauma cases requiring highly specialised and resource-intensive clinical interventions (Achatz et al. 2024).

Managing this task is impossible with existing structures. It necessitates the establishment of a robust medical-evacuation and treatment chain. Casualties would be transported from the theatre of operations to Germany and received in Casualty Staging Units (CSUs) for initial treatment, triage and stabilisation. From there, their distribution across the federal territory would be managed according to a Hub-Cluster Concept.

The backbone of this concept is a national network of clinical cooperation, termed the ‘5+9+X’ model. It integrates the five Bundeswehr (German Armed Forces) hospitals (with a primarily coordinating function), the nine BG Clinics (with their outstanding expertise in traumatology) and a large, variable number of university hospitals and other specialist clinics (X). This system adapts and scales the mechanisms of supra-regional patient management, trialled during the COVID-19 pandemic under the ‘Cloverleaf Concept’, for a national defence scenario. The continuous requirement is estimated at up to 15,000 hospital beds for the qualified treatment of war casualties.

As the Bundeswehr’s Medical Service would be almost entirely committed to the direct operational theatre in this scenario, profound civil-military cooperation becomes an existential necessity. The main burden of clinical treatment must be borne by civilian hospitals. This presupposes the establishment of a highly effective Patient Administration, Transport and Treatment

Organisation. Furthermore, the long-term physical and psychological rehabilitation of war-wounded personnel must be assured. A fundamental prerequisite for this is the creation of a National Health Security Reserve (NHSR), comprising strategic stockpiles of medicines, dressings, blood products and other essential medical supplies.

Phase 4: National defence – the concept of comprehensive defence

The fourth and final phase of the scenario depicts the ultimate escalation: a direct military assault on the territory of the Federal Republic of Germany. In this phase, Germany itself becomes a theatre of war. All the challenges outlined in Phase 3 are now magnified under direct enemy action. Direct military strikes on military and civilian targets, including hospitals and transport hubs, become a reality. Refugee patterns would shift dramatically, leading to massive internal displacement and, for the first time, large-scale refugee movements out of Germany.

In this existential situation, the concept of Comprehensive Defence (Gesamtverteidigung) must achieve its full effect. This concept rests upon two equal pillars: military defence, conducted by the armed forces and civil defence, which ensures the protection and sustenance of the population and provides support to the military effort. Civil defence itself is composed of several key functions: the maintenance of government and state functions; civil protection; ensuring the security of supply for the population; and providing civilian support to the armed forces.

The healthcare system plays a vital role within this framework. The Public Health Service must act as the Health Crisis Coordinator, directing the cross-sectoral medical response, maintaining infectious disease control under wartime conditions and coordinating medical care in emergency shelters and refugee camps. The resilience of the healthcare system is, at this stage, no longer a supporting factor — it is a central condition for national survival.

The strategic imperative: *Si vis pacem, para bellum*

The conclusion drawn from this unsparring analysis of escalation dynamics is an unequivocal call for immediate and fundamental action. Guided by the timeless maxim “*si vis pacem, para bellum*”—if you want peace, prepare for war—a strategic reorientation is required, one that prioritises deterrence through credible defence capability. This necessitates a series of concrete and far-reaching measures.

It requires a massive increase in the defence budget to 3.5% of GDP, supplemented by a further 1.5% of GDP for building resilient national infrastructure. It requires a personnel expansion of the Bundeswehr by approximately 80,000 soldiers and a serious, unprejudiced national debate on the reintroduction of conscription or a form of mandatory national service. It requires the institutionalisation of civil-military cooperation through regular, large-scale joint exercises involving all relevant actors—from the armed forces and university hospitals to emergency services and the Federal Office for Civil Protection. Finally, it demands significant investment in civil protection, health security and the overall resilience of critical infrastructure.

Conclusion and strategic demands

The era in which peace and security could be taken for granted is over. The security of the nation in the 21st century is contingent upon the recognition that the resilience of the national healthcare system is a strategic pillar of comprehensive defence. Peace, liberty and security can only be preserved through credible preparation, demonstrated strength and effective deterrence. The protection of our free and democratic order is a whole-of-society task. It cannot be outsourced or delegated to a single institution. It demands the will and the concerted effort of the entire nation.

Based on this analysis, the following five strategic demands are imperative:

1. **A fundamental realignment of the national budget:** An immediate and sustained commitment to increase state expenditure on comprehensive security to 5.0% of GDP, with 3.5% allocated to the Ministry of Defence and 1.5% dedicated to a federal programme for enhancing the resilience of Critical National Infrastructure, including the healthcare system.
2. **A national service and reserve mandate:** The immediate initiation of a national dialogue and legislative process for the reintroduction of conscription or a mandatory national service. This programme must include a specific pathway for creating and maintaining a qualified “Health Security Reserve” to augment medical capacity in a national crisis.
3. **The legal mandating of integrated preparedness:** The enactment of legislation that mandates regular, large-scale joint exercises involving all elements of the Comprehensive Defence concept. These exercises must test the integration of the Bundeswehr, federal

and state government bodies, health-care providers, emergency services and CNI operators under realistic crisis scenarios.

4. **The establishment of a national health security reserve (NHSR); German: “Nationale Reserve Gesundheitsschutz” (NRGS):** The creation of a fully funded and strategically located NHSR, holding sufficient stockpiles of essential medical supplies, pharmaceuticals, blood products and equipment to sustain the nation through a prolonged crisis, independent of fragile international supply chains.
5. **The enactment of a modern health security act; German: “Gesundheitssicherstellungsgesetz” (GeSiG):** The urgent modernisation of the legal framework governing health security. A new, comprehensive Health Security Act must be drafted to clarify responsibilities, streamline command and control structures between civilian and military entities and provide the legal authority for the measures outlined in the Hub-Cluster and patient distribution concepts during a national emergency.

Author contribution

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.

Acknowledgements

The author thanks the Deutsche Gesellschaft für Öffentliche Gesundheit und Bevölkerungsmedizin e. V. (<https://bevoelkerungsmedizin.de>) for financially supporting the publication of this manuscript. The views expressed in this publication are those of the author and not necessarily reflect the views or policies of the Deutsche Gesellschaft für Öffentliche Gesundheit und Bevölkerungsmedizin e. V., or imply endorsement.

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