



Three years into Russia's full-scale invasion, Ukraine offers a model of health system resilience

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The 24 February 2025 marks the third anniversary of Russia's full scale invasion of Ukraine. This grim milestone coincides with a radical shift in American policy towards Ukraine and the rest of Europe that challenges the country's sovereignty and capacity to recover. It is an appropriate time to reflect on the impact the invasion has had on Ukrainians and the resilience they have demonstrated in their response.

In the last three years, while international attention to the crisis waned, the attempted destruction of Ukraine's health and healthcare system intensified. Between February 2022 and January 2025, 12 605 Ukrainian civilians have been killed by the war and 29 178 have been injured.¹ The World Health Organization (WHO) has verified 2,236 attacks on healthcare facilities in Ukraine since 24 February 2022, the most ever recorded by WHO in a conflict.² The agency reports that these attacks have increased in the past year, and now occur on an almost daily basis.³ One of the most brazen attacks on Ukrainian healthcare occurred on 8 July 2024, when Okhmatdyt Children's Hospital, the country's largest, was hit in a precision missile strike.⁴ The attack forced the evacuation of hundreds of children with serious medical conditions, including many who were on critical life support.

Other health impacts have been more subtle. Sixty three percent of Ukrainian households now report experiencing at least one mental disorder (stress, anxiety, or depression).⁵ Data from the largest cohort study of adolescent mental health since the start of full-scale invasion, estimate that a third of Ukrainian adolescents aged 15 or over or attending secondary school have moderate or severe depression, or clinically relevant psychological trauma.⁶

Yet, despite the ongoing devastation, what emerges from Ukraine's response to the health needs of its population in the last three years is a more positive story—one of adaptation and innovation. Ukraine's health system remains operational and well governed. While the system depends on aid, that aid is spent efficiently and with good outcomes.^{7,8} Most facilities continue to provide services⁹ and 90% of Ukrainians report being able to access necessary healthcare.⁷ Ukraine's successes can provide lessons to other countries on health system resilience in the face of crisis.

The foundation for some of these successes was laid when the country was already fighting Russian-backed separatists in the eastern region of Donbas, in a conflict that started in 2014. In 2017, Ukraine initiated a series of reforms to remodel its health system, inspired largely by the UK's National Health Service (itself created in the wake of the second world war). Central among the reforms was

the creation of a single healthcare purchasing agency (the National Health Service of Ukraine (NHSU)), universal access to a package of essential services (the Program of Medical Guarantees), increased public financing of primary health care, and a national e-Health system.¹⁰

These reforms and subsequent adaptations have proved crucial to maintaining delivery of essential services in the past three years. Sustained public financing through the NHSU has allowed most healthcare facilities to continue operating.⁹ Where the conflict has disrupted transportation routes or forced healthcare workers to flee, the government has implemented mobile pharmacies¹¹ and mobile primary healthcare units.¹² In 2023, the Program of Medical Guarantees was revised to include more mental health and rehabilitation services. To be contracted by the NHSU for mental health services, primary care facilities are required to have a nurse and doctor trained in the WHO Mental Health GAP Action Programme,¹³ a policy that has resulted in a rapid improvement in skills for detection and diagnosis of common mental disorders.¹⁴ Ukraine's e-Health system, with data on more than 35 million patients, allows the NHSU to make timely and informed decisions to tackle the changing needs of a war-affected population, including expanding reimbursement for palliative care and post-transplant patients.¹⁵ Ukraine has also commenced the process of integrating its military and civil health care systems, to benefit from the specialist strengths of both systems, facilitate continuity of care, and reduce resource wastage. Ukraine's experience in this process will offer a valuable insights, as there are limited examples of this type of integration in other countries.

Inevitably, Ukraine's health system faces persistent challenges. Currency devaluation, mass displacement, and insecurity continue to put immense pressure on an already strained system. There are healthcare worker shortages, especially in nursing.¹⁶ Among those healthcare workers that remain in the country, an estimated one in five experience harmful effects of prolonged war-related stress on mental health.¹⁷ And while Russian aggression continues, Ukraine's national budget is devoted exclusively to defending itself. The country's health system depends on international aid, at a time when the continuity of that aid is uncertain. The future of USAID funding globally remains unknown, but if it is permanently withdrawn it would result in billions of dollars of losses for programmes in Ukraine that bolster its health system, for example through support of HIV testing and veteran rehabilitation.¹⁸

Ukraine's successes in maintaining healthcare for its population in the face of aggression reveal its capacity for adaptation and innovation. Any forced settlement with Russia that compromises Ukraine's sovereignty risks eroding these successes. With sustained support and a just peace Ukraine will continue its path to recovery, offering lessons for the country's partners around the world.

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