## Neurological Practice in the Time of War: Perspectives and Experiences from Ukraine

Yuriy Flomin, MD, PhD, DMedSci<sup>1,2</sup> Andriy Dubenko, MD, PhD, DMedSci<sup>3</sup>
Olga Dubenko, MD, PhD, DMedSci<sup>4</sup> Larysa Sokolova, MD, PhD, DMedSci<sup>2</sup>
Tatyana Slobodin, MD, PhD, DMedSci<sup>5</sup> Yevhen Shepotinnyk, MD, PhD<sup>6</sup> Maryna Guliaieva, MD<sup>1,2</sup>
Francesca Romana Pezzella, MD, PhD<sup>7</sup>

<sup>1</sup> Stroke Center, Medical Center 'Universal Clinic 'Oberig' and Bogomolets National Medical University, Kylv, Ukraine

<sup>2</sup> Department of Neurology, Bogomolets National Medical University, Kylv, Ukraine

<sup>3</sup> Department of Child Neurology and Paroxismal States, Institute of Neurology, Psychiatry and Narcology, National Academy of Medical Science of Ukraine, Kharkiv, Ukraine

Department of Neurology and Child Neurology, Kharkiv National Medical University, Kharkiv, Ukraine Address for correspondence Yuriy Flomin, MD, PhD, DMedSci, Stroke Center, Medical Center 'Universal Clinic Oberig, 3-V, Zoologichna Street, Kyiv, 03057, Ukraine (e-mail: y.flomin@oberig.ua).

Department of Neurology, Shupyk National Healthcare University of Ukraine, Kyiv, Ukraine

<sup>6</sup> Stroke Unit, Matsuk Mariupol Municipal Hospital No. 4, Mariupol, Ukraine <sup>7</sup> Stroke Unit, Azienda Ospedaliera San Camillo Forlanini, Roma, Italy

Semin Neurol 2024;44:225-232.

## **Abstract**

The full-scale Russian invasion of Ukraine has significantly impacted the country's healthcare system. Insufficient infrastructure, destruction of medical facilities, and barriers to prevention and treatment efforts hinder the provision of timely, high-quality care to our patients. We aim to describe the impact of the war on neurological care across Ukraine. In this article, leading national experts in stroke, epilepsy, multiple sclerosis, and movement disorders describe their personal experience and efforts in organizing and providing care since the war started in February 2022. A neurologist who cared for patients in Mariupol recounts the first weeks of the war when the city was under constant attacks. An international stroke expert describes the role of Task Force for Ukraine, a European Stroke Organization initiative to support the Ukrainian stroke community. We discuss a series of critical challenges facing Ukraine's neurologists, patients, and healthcare delivery system, including shortages of personnel and medical supplies, disrupted logistics, and lack of funding. In addition, we highlight various interventions and strategies aimed at counteracting these challenges, including international support, collaborations within Ukraine, and initiatives enhancing the resilience of the Ukrainian neurology community. As the war is ongoing, this article emphasizes the pressing need for continuous support and investment in the Ukrainian healthcare system to preserve guaranteed access to high-quality healthcare for the Ukrainian people during the war and in its aftermath. Insights from the essays can inform the development and implementation of effective strategies and interventions tailored to such extraordinary circumstances.

## Keywords

- Ukraine
- war
- armed conflicts
- neurology
- stroke
- epilepsy
- multiple sclerosis
- movement disorders
- neurological practice

The Russian invasion of Ukraine is seen as one of the most devastating crises in recent history. It has caused an execrable situation that represents the opposite of all that medicine and public health strive to achieve. Barbaric attacks affecting

civilians, destruction of residential areas and healthcare centers, devastation of public infrastructure and cities, and blocking of humanitarian corridors have resulted in substantial morbidity and mortality, and created a catastrophic health

article published online March 14, 2024

Issue Theme Neurology in Underserved and Marginalized Populations; Guest Editors: Sarah Wahlster, MD, FNCS, and Aaron L. Berkowitz, MD, PhD, FAAN © 2024. Thieme, All rights reserved. Thieme Medical Publishers, Inc., 333 Seventh Avenue, 18th Floor, New York, NY 10001, USA DOI https://doi.org/ 10.1055/s-0044-1782515, ISSN 0271-8235.