The Canadian Journal of Neurological Sciences (2023), **50**, s1
doi:10.1017/cjn.2022.295

Canadian Journal of Neurological Sciences
Journal Canadien des Sciences Neurologiques

Editorial

Considering Ethics and Neuromodulation Together

Helen Mayberg[1] and Judy Illes[2]

[1]Nash Family Center for Advanced Circuit Therapeutics, Icahn School of Medicine at Mount Sinai, New York, New York, USA and [2]Neuroethics Canada, Division of Neurology, Department of Medicine, University of British Columbia, Vancouver, Canada

Keywords: Neuroethics; Neuromodulation; Neurology; Neurosurgery

The last two decades have seen an exponential rise in the science and clinical application of neuromodulation and neurotechnology, paralleled by both growing societal interest and understanding of the role of the brain in complex behaviors, and the need for novel strategies for patients with treatment resistant disorders. These rapidly evolving scientific advances further highlight the need for ongoing cross-disciplinary neuroethics discussions and critiques.

In this special issue of the Canadian Journal of Neurological Sciences (CJNS), *Charting the Neuroethics Landscape for Neuromodulation in Canada and Beyond*, editors Lipsman, McDonald and Illes have assembled key commentary on the topic at hand that are not just hypothetical reflections on scenarios for the ethical future of neuromodulation, but real, timely and challenging questions and proposed solutions to them. Their approach is both practical and positive, and much in line with the actionable frameworks of neuroethics that warrant implementation.

The six contributions in this special issue span landscape covering professional relations and communication, access and resource concerns for patients and families living in areas distant from major medical centeres, the special challenges presented by psychiatric and addiction disorders for neuromodulation, the use of placebo in clinical trials, and the law as a lever for socially responsible neurotechnology design. While Canada is the country of focus, the issues discussed have implications that are indeed global. At a time when neuroscience collaboration is increasingly international, the chapters respect and do justice for a growing movement to innovate with a global lens.

This special issue is a seed for far greater considerations for ethics and neuromodulation beyond the topics specifically tackled here. It is also a broader invitation to international medical, scientific, and ethical communities to join PCNEC (www.pcnec.ca) and to create efforts like it. Together, the considered alignment of ethics and neuromodulation is a force whose potential is only beginning to be realized today.

Acknowledgements. Dr. Mayberg is Professor of Neurology, Neurosurgery, Psychiatry and Neuroscience and the Mount Sinai Professor of Neurotherapeutics. Her work is supported by NIMH, NINDS/BRAIN, Hope for Depression Research Foundation, and Wellcome Leap. Dr. Illes is a Distinguished University Scholar and the UBC Distinguished Scholar in Neuroethics. Her work is supported by CIHR, NSERC, the USA NIH Brain Initiative, and the North Family Foundation.

Funding. Support for funding the supplement issue was generously contributed by the Focused Ultrasound Foundation.

Disclosures. HM receives consulting and IP licensing fees from Abbott Labs.

Author contributions. JI and HM contributed content to and edited the Foreword.

Corresponding author: Judy Illes, CM, PhD, Neuroethics Canada, Division of Neurology and Department of Medicine, University of British Columbia, 2211 Wesbrook Mall, Koerner S124, Vancouver, BC V6T 2B5, Canada. E-mail: jilles@mail.ubc.ca

Cite this article: Mayberg H and Illes J. (2023) Considering Ethics and Neuromodulation Together. *The Canadian Journal of Neurological Sciences* **50**: s1, https://doi.org/10.1017/cjn.2022.295

© The Author(s), 2023. Published by Cambridge University Press on behalf of Canadian Neurological Sciences Federation. This is an Open Access article, distributed under the terms of the Creative Commons Attribution licence (http://creativecommons.org/licenses/by/4.0/), which permits unrestricted re-use, distribution and reproduction, provided the original article is properly cited.

https://doi.org/10.1017/cjn.2022.295 Published online by Cambridge University Press