

International push to reduce global burden of traumatic brain injury

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Car crash rescue 3. Credit: Ross Goodman

Substantial reductions in the global burden of traumatic brain injury (TBI) could be achieved with improved policies for prevention, new directions for clinical care, and novel approaches to research, according to The Lancet Neurology Commission on TBI.

The Commission has been co-led by Professor David Menon from the Division of Anaesthesia at the University of Cambridge together with

Professor Andrew Maas from Antwerp University Hospital and University of Antwerp, Belgium.

The Commission is being launched today at the European Parliament and targets policy makers, funders, and patient organisations, as well as health-care professionals. It combines the expertise of over 300 international clinicians and researchers, many of whom are part of the International Initiative for Traumatic Brain Injury Research (InTBIR). The authors set out clinical and research priorities with 12 key messages and recommendations to reduce the global burden of TBI.

The enormous and rising health and socioeconomic burden posed by TBI demands urgent action from health-care professionals and [policy makers](#). About half the world's population will suffer a TBI over their lifetime. TBI is estimated to affect 50 million people every year. It is the leading cause of mortality in young adults and a major cause of disability across all ages. It also substantially increases the risk of late-life dementia.

The care and consequences of TBI cost the global economy US\$400 billion annually. Given an estimated gross world product of about \$74 trillion, this means that about \$1 in every \$200 of annual global output is spent on the costs or consequences of TBI.

"Traumatic brain injury affects huge numbers of people worldwide, with potentially serious consequences for their health and wellbeing and a major economic burden on already stretched health services," says Professor Menon. "We are not doing enough to prevent and manage such injuries, which is why we calling on policymakers, funders and healthcare professionals to take action."

Increasing industrialisation and motor vehicle use are causing increases in TBI due to traffic incidents in low-income and middle-income countries, which disproportionately affect the young. In high-income

countries, incidence of TBI is highest and increasing in the elderly due to falls. Expectations of unfavourable outcomes in the elderly can lead to treatments being withheld or prematurely withdrawn, with resulting poorer outcomes reinforcing therapeutic nihilism in the management of these patients. However, with appropriate care good results can be obtained.

More recently, substantial interest has focused on the health impact of sports-related concussion and its long-term effects. It is now recognised that repetitive injuries carry increased risks and that TBI should not be seen as an event, but as a process, often with lifelong consequences.

The Commission reports that understanding of TBI and care of patients is hampered by inconsistent epidemiological data, poor integration of systems of care, and substantial disparities in access to care.

Furthermore, current medical management is inappropriately based on a one-size-fits-all approach. Inadequate attention to the condition's heterogeneity at presentation and outcome might also be a substantial contributor to the failure of clinical trials of promising new therapies. Crucially, even when additional evidence is generated to improve management, the integration of such evidence into clinical guidelines and routine [clinical care](#) is slow. Most importantly, many cases of TBI are preventable, but well recognised measures to prevent the disease are not universally mandated in law or they are poorly implemented in practice.

The authors set out priorities and recommendations to address the varied challenges in understanding, prevention, and care of TBI, and seek to identify strategies to better characterise TBI, increase prognostic accuracy, and match treatments to patients—a precision-medicine approach.

The Commission also promotes use of new tools for clinical evidence

generation and implementation, so that research outputs are more generalisable and can be more rapidly integrated into clinical care. Moreover, it highlights the importance of international collaboration of funding agencies and researchers to provide a global response to reduce the individual and societal burden of TBI.

Provided by University of Cambridge

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