

Injury prevention and control: China's health priority



See [Articles](#) page e449

Injury is the fifth leading cause of death in China and results in more than 500 000 deaths and 12.6 million years of life lost annually.¹ However, no studies have comprehensively measured the spatiotemporal variation in the injury burden at the national and subnational levels. Such studies could help policymakers to formulate strategies to prevent, control, and reduce the burden of injury.

In the *Lancet Public Health*, Duan Leilei and colleagues present a nationwide study that comprehensively assesses the burden of injury in China in 2017 and reveals changes in injury burden, including morbidity and mortality for both sexes and all age groups, from 1990 to 2017 based on data from the Global Burden of Diseases, Injuries, and Risk Factors Study (GBD) 2017.² They report that the age-standardised incidence rate of injuries have increased in the past three decades, whereas rates of cause-specific mortality and disability-adjusted life years (DALYs) have been declining, although substantial spatiotemporal heterogeneity in age-standardised injury DALYs was observed at the province level. The key message of this study is that injury prevention and control measures have made strides over the past three decades in China. Nevertheless, the upward trend of injury incidence and imbalance of injury burden at the province level indicates that injury prevention and control remain a priority in China.

With the rapid economic development of the country, the Chinese Government has introduced surveillance, education, legislation, and relevant enforcement to reduce the cause-specific burden of injury.³ These efforts have largely improved the conditions of employment, availability and coverage of medical and public health services, quality of infrastructure, law enforcement, and injury prevention awareness among the general population, resulting in the large reduction in injury burden observed in the study.⁴ Nevertheless, the same rapid socioeconomic development might have caused the increase in injury incidence in the first place by accelerating the processes of motorisation and industrialisation.⁵ If this is the case, these trends suggest that China, given its continuing motorisation and industrialisation, should continue to reduce injury mortality and increase its efforts in safeguarding against future injury incidence.

Leilei and colleagues draw a comprehensive picture of injury burden in China, capturing the differences between provinces, types of injuries, and demographic groups. For example, a three-times variation in age-standardised injury DALY rates was reported at the province level, with the lowest value in Macao and highest in Yunnan. Additionally, although the burden of some types of injury increased, that of most injury types rapidly decreased. Although the authors have proposed several explanations for these changes, more research is required to identify specific reasons underlying these findings to support injury prevention.⁶

Injury prevention requires special consideration of older people. In 2015, the population aged 60 years or older comprised 211.4 million people—equivalent to 15.0% of the total population in China.⁷ Older people are at higher risk of injury owing to age-related physiological and functional decline, chronic physical and mental diseases, and lack of familial and social support. The increase in the number of falls recorded in China between 1990 and 2017 might have resulted from an increase in the number of older people in the population. Current projections estimate the number of older people in China to reach 400 million by 2030, equivalent to the current total population of 15 European Union countries,⁸ which is likely to increase the incidence of some types of injury. Further strategies should be developed to reduce the injury vulnerability of the ageing population.

Leilei and colleagues mention the availability and quality of injury data as the main limitation of this study. The National Injury Surveillance System and Disease Surveillance Point System, the dominant data sources on injuries in China, included fewer counties and districts before 2006 and in remote and poor provinces, and the reliability of data could be affected by misclassification, under-reporting, and incompleteness. Furthermore, discrepancies between sources of injury statistics have been reported.⁹ In fact, there are few reliable sources of injury incidence data in China.¹⁰ For example, data on injury incidence before 2006 could only have been obtained from the literature and statistical modelling was needed to estimate relevant injury data based on currently available covariates, leading to uncertain results. Improving the availability

of high-quality injury data should be encouraged in China.

In conclusion, this study by Leilei and colleagues provides unique information on injury priority setting. Further small-scale, localised studies are needed to develop effective injury prevention and control measures. Additionally, methods of surveillance and impact evaluation of these measures on changes to cause-specific injury incidence are urgently needed to inform further policy development.

*Wenjun Ma, Tao Liu

Guangdong Provincial Institute of Public Health, Guangdong Provincial Center for Disease Control and Prevention, Guangzhou, 511430, China (WM, TL); and General Practice Center, Nanhai Hospital, Southern Medical University, Foshan, China (WM, TL) mawj@gdiph.org.cn

We declare no competing interests.

Copyright © 2019 The Author(s). Published by Elsevier Ltd. This is an Open Access article under the CC BY 4.0 license.

- 1 Zhou Y, Baker TD, Rao K, Li G. Productivity losses from injury in China. *Inj Prev* 2003; **9**: 124–27.
- 2 Leilei D, Pengpeng Y, Haagsma JA, et al. The burden of injury in China, 1990–2017: findings from the Global Burden of Disease Study 2017. *Lancet Public Health* 2019; **4**: e449–61.
- 3 Li L, Yang J. Injury Prevention in China: Government-supported initiatives on the leading causes of injury-related deaths. *Am J Public Health* 2019; **109**: 557–58.
- 4 Zhou M, Wang H, Zeng X et al. Mortality, morbidity, and risk factors in China and its provinces, 1990–2017: a systematic analysis for the Global Burden of Disease Study 2017. *Lancet* 2019; published online June 24. [http://doi.org/10.1016/S0140-6736\(19\)30427](http://doi.org/10.1016/S0140-6736(19)30427).
- 5 Huang C, Yu H, Koplan JP. Can China diminish its burden of non-communicable diseases and injuries by promoting health in its policies, practices, and incentives? *Lancet* 2014; **384**: 783–92.
- 6 Wang L, Ning P, Yin P et al. Road traffic mortality in China: analysis of national surveillance data from 2006 to 2016. *Lancet Public Health* 2019; **4**: e245–55.
- 7 UN Department of Economic and Social Affairs, Population Division. World population prospects 2019: highlights (ST/ESA/SER.A/423). New York, NY: United Nations, Department of Economic and Social Affairs, Population Division, 2019.
- 8 Sun R, Cao H, Zhu X, Liu JP, Dong E. Current aging research in China. *Protein Cell* 2015; **6**: 314–21.
- 9 Huang H, Chang F, Schwebel DC, Ning P, Cheng P, Hu G. Improve traffic death statistics in China. *Science* 2018; **362**: 650.
- 10 Wang SY, Li YH, Chi GB, et al. Injury-related fatalities in China: an under-recognised public-health problem. *Lancet* 2008; **372**: 1765–73.