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Mortality due to road injuries in the states of India: the Global Burden of Disease Study 1990-2017.

[India State-Level Disease Burden Initiative Road Injury Collaborators.](#)

Collaborators (25)**Abstract**

BACKGROUND: A systematic understanding of population-level trends in deaths due to **road injuries** at the subnational level over time for **India's** 1.4 billion people, by age, sex, and type of **road** user is not readily available; we aimed to fill this knowledge gap.

METHODS: As part of the **Global Burden of Diseases, Injuries, and Risk Factors Study**, we estimated the rate of deaths due to **road injuries** in each state of **India** from 1990 to 2017 based on several verbal autopsy data sources. We calculated the number of deaths and death rate for **road injuries** by type of **road** user, and assessed the age and sex distribution of these deaths over time. Based on the trends of the age-standardised death rate from 1990 to 2017, we projected the age-standardised death rate to 2030 to assess if the **states** of **India** would meet the Sustainable Development Goal (SDG) target to halve the death rate for **road injuries** from 2015 by 2020 or 2030. We calculated 95% uncertainty intervals (UIs) for the point estimates.

FINDINGS: In 2017, 218 876 deaths (95% UI 201 734 to 231 141) due to **road injuries** occurred in **India**, with an age-standardised death rate for **road injuries** of 17.2 deaths (15.7 to 18.1) per 100 000 population, which was much higher in males (25.7 deaths [23.5 to 27.4] per 100 000) than in females (8.5 deaths [7.2 to 9.1] per 100 000). The number of deaths due to **road injuries** in **India** increased by 58.7% (43.6 to 74.7) from 1990 to 2017, but the age-standardised death rate decreased slightly, by 9.2% (0.6 to 18.3). In 2017, pedestrians accounted for 76 729 (35.1%) of all deaths due to **road injuries**, motorcyclists accounted for 67 524 (30.9%), motor vehicle occupants accounted for 57 802 (26.4%), and cyclists accounted for 15 324 (7.0%). **India** had a higher age-standardised death rate for **road** injury among motorcyclists (4.9 deaths [3.9-5.4] per 100 000 population) and cyclists (1.2 deaths [0.9-1.4] per 100 000 population) than the **global** average. **Road** injury was the leading cause of death in males aged 15 to 39 years in **India** in 2017, and the second leading cause in this age group for both sexes combined. The overall age-standardised death rate for **road injuries** varied by up to 2.6 times between **states** in 2017. Wide variations were seen between the **states** in the percentage change in age-standardised death rate for **road injuries** from 1990 to 2017, ranging from a reduction of 38.2% (22.3 to 51.7) in Delhi to an increase of 17.0% (0.6 to 34.7) in Odisha. If the trends estimated up to 2017 were to continue, no state in **India** or **India** overall would achieve the SDG 2020 target in 2020 or even in 2030.

INTERPRETATION: **India's** contribution to the **global** number of deaths due to **road injuries** is increasing, and the country is unlikely to meet the SDG targets if the trends up to 2017 continue. **India** needs to implement evidence-based **road** safety interventions, promote strong policies and traffic law enforcement, have better **road** and vehicle design, and improve care for **road injuries** at the state level to meet the SDG goal.

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