25 ROAD TRAFFIC FATALITIES AND ECONOMIC DEVELOPMENT: NATIONAL AND SUB-NATIONAL LONGITUDINAL ANALYSIS IN CHINA

doi:10.1136/injuryprev-2012-040590u.25

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Background Road Traffic Injury (RTI) is a global health problem. In China, 4 million traffic crashes occurred in 2010, led to 65 225 deaths, 254 075 injuries, and direct property loss of 140 million US dollars. Previous studies found that road traffic safety is closely associated with economic development, which is accompanied with motorisation and road construction. Communities usually do not realise the necessity to take actions to prevent traffic crashes until significant loss occurred.

Aims/Objectives/Purpose To test a priori hypothesis of an inversed U-shaped relationship between economic development and traffic crashes/deaths/injuries rates in China.

Methods Longitudinal regression models using RTI-related data, GDP, and population from Statistical Yearbooks of China 1996–2011. (data source?).

Results/Outcome A consistent inversed U-shaped relationship was identified at both national and provincial level. At national level, the traffic fatality rate began to decline as GDP per capita grew from 2004, when China released its first national traffic law. Traffic fatality rate decreased significantly by 1.22 per 100 000 people (95% CI 0.90 to 1.53) with every $1000 increase of GDP per capita. Most provinces experienced the similar turning points also around 2004.

Some provinces had higher traffic fatality rates than other provinces did. Provincial disparity is projected to increase in the absence of targeted intervention in high-risk provinces.

Significance/Contribution to the Field This study is the first to focus on investigating the relationship between RTI and economic development in China. Other developing countries could learn from the experience of China to improve traffic safety by making and strengthening traffic laws.