

# Rate of hospitalization for severe heart attacks in China quadruples in 10 years

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The rate of hospitalisation for the most serious type of heart attack, ST-segment elevation myocardial infarction (STEMI), more than quadrupled in China between 2001 and 2011, according to new research published in *The Lancet*.

The study, funded by the Chinese government, evaluates medical records, care processes, and outcomes for 13,815 hospital admissions for STEMI in 162 hospitals across China. It shows that in 2001, there were an estimated 3.7 hospital admissions for STEMI per 100,000 population, but in 2011 this rate had more than quadrupled to 15.8 hospital admissions for STEMI per 100,000 population. Despite increasing overall intensity of treatment, procedure use, and testing, no major decrease in the rate of deaths from STEMI was seen over the study period.

The study cannot establish whether the increasing rate of hospitalisation observed was due to an increasing incidence of heart attacks, or improved access to hospitals. However, the study's first author, Dr Jing Li, of the Chinese Academy of Medical Sciences and Peking Union Medical College in Beijing, China, notes that, "We know that this period was marked by an increasing prevalence of cardiovascular risk factors and that China has launched healthcare reform, which recently doubled annual expenditures for healthcare to improve access."

Moreover, the analysis shows that despite improving quality of care in the past decade, substantial gaps still persist. Although the use of some

highly effective treatments for heart attack – such as aspirin, clopidogrel, and statins – increased over the decade studied, other therapies known to reduce mortality in STEMI patients – such as  $\beta$  blockers and angiotensin-converting-enzyme-inhibitors – remain very underused. Only half of ideal candidates for reperfusion therapy (critical therapy for restoring the flow of blood through blocked arteries after a [heart attack](#)) received treatment, a proportion that did not improve over time.

According to the study's corresponding author, Professor Lixin Jiang, of the National Center for Cardiovascular Diseases in Beijing, China, "The growing needs for inpatient STEMI care will create pressure for Chinese hospitals to increase capacity, adequately train health-care professionals, develop infrastructure, and improve care. The striking increases in [hospital admissions](#) for STEMI noted in our study show that important improvements in capacity have been made; however, national STEMI mortality suggests that further growth will be necessary to ensure adequate access for patients with the disorder in China. Furthermore, our study underlines that access to care does not ensure the delivery of the highest-quality care; suggesting that in addition to improvements in capacity, hospitals in China must simultaneously strive to improve care."

Professor Harlan Krumholz, of Yale University School of Medicine, New Haven, USA, another of the study authors, says, "This paper sets the stage for a keen focus on achieving outstanding patient outcomes through quality improvement initiatives. Improvement begins with a willingness to evaluate rigorously the results that are currently being achieved."

Writing in a linked Comment, Professor Gregg Stone, of Columbia University Medical Center, New York, USA, says that, "Before their report, little was known about this condition in a country that has almost a fifth of the world's population... Publication of these data is an

important step towards improving health care in China, and should be cherished as an opportunity that could translate into saving hundreds of thousands of lives. Addressing the identified gaps in widespread access to timely reperfusion and administration of adjunctive medical therapies alone is a proven paradigm with the greatest potential to improve cardiovascular survival, especially in rural areas that have a very low density of hospitals."

**More information:** *The Lancet*, [www.thelancet.com/journals/lan ...](http://www.thelancet.com/journals/lan...)  
 [\(14\)60921-1/abstract](http://www.thelancet.com/journals/lan...)

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