

## Child mortality in Iran's provinces: successes and future needs



In *The Lancet Global Health*, Younes Mohammadi and colleagues<sup>1</sup> present an estimate of the change in under-5 child mortality rate (CMR) from 1990 to 2015 in Iran. The dramatic 70% reduction means that Iran as a whole achieved Millennium Development Goal 4 (MDG4) and was one of the best performers in the Middle East and North Africa region in absolute reduction of CMR during the past four decades.<sup>2</sup> The figure is also higher than the worldwide estimate of a 52.0% decrease in CMR as provided by the Global Burden of Disease Study (2015).<sup>3</sup>

Mohammadi and colleagues used five empirical data sources and strict eligibility criteria for their report, and also conducted sophisticated analyses to overcome the crucial problem of the low quality of some databases and the high percentages of missing data in some surveys. Although, in the absence of a comprehensive vital registration system in Iran, this study could not directly calculate CMR, its estimates do present an overview of national trends.

Moreover, this paper compares the CMR trends across different provinces, which vary considerably in their sociodemographic characteristics. By this measure, the reduction in CMR was not so remarkable: five provinces did not achieve MDG4. Mohammadi and colleagues attribute this to the low human development index at the beginning of the millennium in these provinces, as well as a lower density of health-care providers in comparison with the other 25 provinces.

The health-care reforms that have been implemented recently in Iran might be effective, at least in part, in reducing these disparities in the near future. However, because in Iran CMR is inversely associated with low education of mothers and low community socioeconomic status,<sup>4</sup> as it is for many other countries, different aspects of social improvement will be necessary for further reduction of CMR in disadvantaged regions. Given the increasing concern about equity in child

survival, it is also necessary to improve the registry and monitoring systems for CMR at the subnational level.

Mohammadi and colleagues' study suggests that the impressive reduction in CMR at the national level and in most provinces is mainly attributed to improvements in access to health-care services and improved hygiene. However, better hospital care, notably rapid improvements in treatment modalities for neonates who need intensive medical attention and the expansion of paediatric emergency departments, should also be taken into account.

Health policy makers need detailed and updated information about CMR; therefore future research should provide age-specific estimates in under-5 mortality in the neonatal and post-neonatal periods, as well as at ages 1–4 years. Moreover, cause-specific mortality, congenital anomalies, and stillbirths should be registered over time.

Roya Kelishadi

Child Growth and Development Research Center, Research Institute for Primordial Prevention of Non-communicable Disease, Isfahan University of Medical Sciences, Isfahan, Iran  
rkelishadi@med.mui.ac.ir

I declare no competing interests.

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

- 1 Mohammadi Y, Parsaeian M, Mehdipour P, et al. Measuring Iran's success in achieving Millennium Development Goal 4: a systematic analysis of under-5 mortality at national and subnational levels from 1990 to 2015. *Lancet Glob Health* 2017; **5**: e537–44.
- 2 Iqbal F. The decline of child mortality rates: a Middle East North Africa success story. <http://blogs.worldbank.org/arabvoices/decline-child-mortality-rates-middle-east-north-africa-success-story> (accessed March 22, 2017).
- 3 GBD 2015 Child Mortality Collaborators. Global, regional, national, and selected subnational levels of stillbirths, neonatal, infant, and under-5 mortality, 1980–2015: a systematic analysis for the Global Burden of Disease Study 2015. *Lancet* 2016; **388**: 1725–74.
- 4 Motlagh ME, Kelishadi R, Barakati SH, Lornejad HR, Amiri M, Poursafa P. Distribution of mortality among 1–59 month-old children across Iranian provinces in 2009: the national mortality surveillance system. *Arch Iran Med* 2013; **16**: 29–33.

See [Articles](#) page e537