



Published in final edited form as:

Lancet. 2011 March 19; 377(9770): . doi:10.1016/S0140-6736(11)60379-6.

Malaria-attributed death rates in India

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Neeraj Dhingra and colleagues¹ estimate that, between 2001 and 2003, there were 205 000 malaria deaths annually in India—13 times the WHO estimate.² For 1997 and 1998, we reviewed the Medical Certification of Cause of Death under the Civil Registration Scheme that covered 8000 hospitals across India.^{3,4} Of the 6.1 million deaths registered, 0.9 million (15%) were medically certified, a sample large enough to be representative of nationally registered deaths. Of these, 8048 were due to malaria. Using these estimates, and after adjustment for the variation in certification in different states, we calculated the probable number of malaria deaths to be 146 032 in 1997 and 141 050 deaths in 1998 (table).⁵

Effective malaria controls such as artemisinin combination therapy, rapid diagnostic tests, and longlasting insecticide-treated bed nets have been in widespread use in India over the past 5 years. Additionally, thousands of village health workers have been treating malaria in remote villages with rapid diagnostic tests and antimalarials. Dhingra and colleagues' findings, if valid, are of academic interest since these effective interventions were not in use between 2001 and 2003.

We recognise the importance of prospectively collected, high-quality data. Presently, the US National Institute of Allergy and Infectious Diseases has undertaken a major global initiative to establish International Centres of Excellence for Malaria Research (ICEMRs) in ten different regions around the globe. Two of these ICEMRs have been designated for India. We hope that this collaboration between US and Indian scientists, with research and surveillance across multiple field sites including areas with little or no information on malaria, will provide accurate and reliable estimates to support the national programme.

Acknowledgments

Our US-India partnership is supported by US National Institutes of Health grant AI089688.

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We declare that we have no conflicts of interest.

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Table

Estimated and probable number of malaria deaths in India on the basis of Medical Certification of Cause of Death in rural and urban hospitals across India under civil registration system in 1997 and 1998

	Total deaths registered	Number of medically certified deaths	Number of certified malaria deaths	Direct estimation of malaria deaths[*]	Probable number of malaria deaths[†]
1997	2 789 834	419 353 (15%)	3572 (0.85%)	80 919	146 032
1998	3 353 703	498 586 (15%)	4476 (0.89%)	84 550	141 050

In 1997, Bihar, Jharkhand (then part of Bihar), Assam, Gujarat, Mizoram, West Bengal, Jammu and Kashmir, and Sikkim did not report. In 1998, Bihar, Assam, Mizoram, Uttar Pradesh, West Bengal, and Jammu and Kashmir did not report.

* Assuming 9.5 million annual deaths in India—ie, crude death at 8.5–9.0% from 1997 to 2000.

† Adjusted by percentage of medically certified malaria deaths to total registered in different states and union territories.