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Improving quality of care for sick children in Kenya is cost effective

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A cost-effectiveness analysis conducted by Edwine Barasa of the Kenya Medical Research Institute Centre for Geographic Medicine Research, Nairobi, Kenya and colleagues estimates that a complex intervention aimed at improving quality of care for sick children in district hospitals would be affordable and cost effective in Kenya. The intervention consists of a package of care delivered in the form of evidence-based clinical practice guidelines dissemination, health worker training, job aids, follow-up supervision, and local facilitation by a nurse or diploma level clinician.

Reporting in this week's PLoS Medicine, the researchers found that the absolute costs for scaling up the intervention are comparable to, or even lower than, costs of other, major child health interventions such as the distribution of insecticide treated nets. They write: "As increasing focus is being given to strengthening health systems there would therefore appear to be a reasonably strong case for scaling up this intervention that improves service provision in rural hospitals for the major causes of child mortality in Kenya."

In Kenya, the under-five child mortality rate must be reduced by half from its 2008 level in order to meet the Millennium Development Goal target, and improving the management of serious child illness could help achieve this aim. The cost-effectiveness analysis was conducted as part of a trial previously reported in *PLoS Medicine*, which found that the set of interventions resulted in improved care for children in the intervention hospitals, but left open the question of cost-effectiveness.

In the present study, the researchers estimated the costs and effects of scaling up their quality improvement intervention to cover the entire population of Kenya using process of care indicators spanning three broad areas (assessment of a severely ill child, therapeutic care, and supportive care on admission) to measure effects. They found that the quality of care was 25% higher in intervention hospitals than in control hospitals, while the additional cost per child admission in hospitals receiving the full intervention, including all its development costs, was US$19.64 . Extrapolating these results to all of Kenya, the estimated annual cost of scaling up the intervention nationally was US$3.6 million, about 0.6% of the annual child health budget in Kenya.

The authors comment: "This work also highlights the need for methodological developments in the economic analysis of complex, system-level interventions. These results are likely to be most usefully generalized to low-income countries beyond Kenya with similar facilities, burden of child mortality, and comparable or worse quality of pediatric care in hospitals."

As a result of these and previously published research findings the intervention strategy for improving quality of hospital care for children will be rolled out more widely in East Africa through a UK government funded Health Partnership Scheme grant awarded to the UK's Royal College of Paediatrics and Child Health. For more information, see: http://www.rcpch.ac.uk/what-we-do/rcpch-international/volunteering-overseas/health-partnerships-scheme-grant-etat-east-afri.

More information: Barasa EW, Ayieko P, Cleary S, English M (2012) A Multifaceted Intervention to Improve the Quality of Care of Children in District Hospitals in Kenya: A Cost-Effectiveness Analysis. PLoS Med 9(6): e1001238. doi:10.1371/journal.pmed.1001238