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HEU Policy Briefs present summarised research findings and key policy recommendations on important health care policy issues in Sub-Saharan Africa.

Cost-effectiveness of improving the Quality of Care of Children admitted in District Hospitals in Kenya

Key points and recommendations

- The ETAT+ strategy (the package of interventions used in this study) improved the quality of care children admitted in hospitals by 25%.
- The total cost of scaling up the intervention is about US\$ 3,633,123.
- This cost is estimated to be only 0.60% of annual child health budget in Kenya.
- The ETAT+ strategy is likely to be highly cost-effective in improving the quality of care of children admitted in hospitals in Kenya.
- The ETAT+ strategy should be scaled up as the whole package rather than selected parts of the multifaceted intervention.

Introduction

In Kenya, the number of children dying before age five is still unacceptably high at 74 deaths per 1000 children born. Most of these child deaths are caused by a few treatable and preventable diseases, mainly pneumonia, diarrheal diseases, malnutrition and malaria. To achieve the MDG 4 target in Kenya, which aims to reduce deaths of children under age five by two thirds by 2015, will require reducing this mortality rate by 50%. There is therefore a need to enhance efforts to improve child survival in Kenya.

The district hospital has been considered a critical avenue for the delivery of child-saving interventions. It has been suggested that improving the performance of district hospitals would reduce child mortality by 3-30% in the areas they serve. It has however been shown that the quality of care delivered in these hospitals in Kenya is inadequate. Assessments of these facilities revealed that they often do not have essential

supplies such as drugs and equipment and the care for admitted children is not based on current knowledge and evidence.

One strategy for improving quality of care is promoting the use of clinical guidelines that are based on current evidence. Clinical guidelines improve quality of care by promoting the use of practices of proven benefit and discouraging ineffective and outdated practices.

To improve the quality of care of children admitted in district hospitals in Kenya, the study developed clinical guidelines

for the provision of care to admitted children in selected district hospitals. The guidelines were linked with health worker training, job aids, follow-up and supervision, performance feedback and facilitation. The specific intervention used for this study was for brevity called the Emergency Triage and Treatment Plus (ETAT+) strategy.

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Research Objective

This research assessed the cost-effectiveness of implementing the quality improvement strategy in district hospitals in Kenya. This was compared with the partial implementation of the clinical guidelines, involving only guideline dissemination and a short seminar. The research also looked at the costs of scaling up the intervention and the impact this scaling up would have on the child health budget in Kenya.

Box 2: The ETAT+ Strategy

1. Clinical guidelines for the management of pediatric conditions were developed with the Kenyan Ministry of Medical Services and other key stakeholders.
2. Job aids – clinical guideline booklets, drug dosing, fluid, feed charts and structured pediatric admission forms.
3. Five-and-a-half day health worker training on an extended version of the World Health Organization’s ETAT strategies.
4. Follow-up supervisory support through visits every two to three months.
5. Appointment of a local facilitator (clinical officer or nurse) in each facility to provide on-site supervisory and problem-solving support.
6. Regular hospital performance assessment and feedback every six months.

Methods

The intervention was delivered over 18 months in four district hospitals in Kenya. The partial version of the intervention was delivered to four other district hospitals for comparison.

Findings

- ◆ The total annual cost of the intervention for each hospital was US\$ 101,475, which translates to an annual cost of US\$ 50 per child admitted.
- ◆ The training cost per health care worker was US\$ 252 while the annual cost of a local facilitator per hospital was US\$ 5,697.
- ◆ The intervention resulted in a 25% improvement in quality of care.
- ◆ We estimated that a one percentage improvement in quality of care would cost US\$ 0.78 per child admission.

- ◆ The estimated cost of scaling up the intervention to all 121 district hospitals in Kenya was US\$ 3,633,123.
- ◆ This cost of scaling up is estimated to be 0.60 % of the child health budget for Kenya; the estimated budget for provision of child health services in Kenya for 2010 is US\$ 572,000,000.

What Do These Finding Mean?

- ◆ The intervention significantly improved the quality of care of sick children admitted in hospital. For instance:
 - The assessment of children by the clinician on admission improved by 29%;
 - The correct prescription and administration of medicines improved as demonstrated by a 35% improvement in adequate oxygen prescriptions;
 - There was 43% improvement in children receiving twice daily quinine maintenance dose; and
 - There was 30% improvement in intravenous fluid prescriptions.
- ◆ The study also revealed that training health workers should be augmented by follow-up processes and supervision for there to be a sustained effect. The passive dissemination of clinical guidelines is not enough. Health workers need support and supervision while they are implementing clinical guidelines.
- ◆ A unique addition to this intervention was the appointment of a non-physician local facilitator in each facility. This was a diploma-level clinician (clinical officer) or nurse whose role was to offer on-site supervision and problem-solving support. The facilitator offered continuity by helping to keep the “quality agenda” on the table. This served to develop and institutionalize a quality culture that resulted in a sustained improvement in quality of care despite the high staff turnover.
- ◆ In considering scale-up, it should be borne in mind that the intervention was multifaceted; therefore efforts should focus on scaling up the whole package rather than parts of the whole.
- ◆ Scaling up the strategy to all district hospitals in Kenya would only require a 0.60 % increase in the annual child health budget. The clinical guideline strategy at scale is therefore highly affordable. At a cost of US\$ 252 per health worker, the health worker training is cheaper than similar Kenyan

trainings, such as Integrated Management of Childhood Illnesses (IMCI) (US\$633) and malaria case management (US\$ 1266). When this affordability is considered together with the potential improvements in quality of care for children in hospitals, ETAT+ is arguably very good value for money and should be scaled up.



Policy Recommendations

Scale up the ETAT+ Strategy

We recommend that the government and development partners prioritize the delivery of the ETAT+ strategy (as a package rather than selected parts only) in hospitals as a key strategy to improve child survival. In line with this, resources should be committed to the scaling up of pediatric guideline dissemination, training, and sustainable structures, including human resources, for the supervision and support of quality of care activities.

Improve the Accountability for Quality of Care and Enhance Support Structures

To ensure the sustainability of quality of care improvements, we suggest that efforts should be made to improve accountability for quality. Avenues should be explored regarding how best to make quality assurance committees more active in promoting the quality agenda within hospitals. Structures to support these activities, such as earmarked resources both in terms of funds and human resources, should be considered. One way to achieve this would be to create the position of a “quality manager” within hospitals. The role of this person would be to direct and support quality initiatives within the hospitals. Our findings showed that this is an affordable and effective strategy to support quality initiatives.

Conduct Similar Studies in Other Settings

There is limited literature and therefore evidence of effectiveness and cost effectiveness of quality of care interventions especially in developing country settings. While this study contributes to this body of work, there is a need for similar studies to be carried out in other settings to improve the evidence base of quality of care interventions that target improving in-patient care for children.

“...scaling up the strategy nationally is very affordable and potentially highly cost-effective...”

Conclusion

The ETAT+ strategy has been shown to significantly improve the quality of care of children in district hospitals in Kenya. Our findings show that scaling up the strategy nationally is very affordable and potentially highly cost-effective in improving the quality of care of children admitted in hospitals. A decision by the government of Kenya to invest in the adoption of ETAT+ on a national scale will therefore provide value for money. This will help improve child survival in Kenya and accelerate progress towards achieving MDG 4 targets.

References

For a list of references used in this policy brief, please contact the author.