

Abstract:

In developing countries referral of severely ill children from primary care to district hospitals is common, but hospital care is often of poor quality. However, strategies to change multiple paediatric care practices in rural hospitals have rarely been evaluated. This cluster randomized trial was conducted in eight rural Kenyan district hospitals, four of which were randomly assigned to a full intervention aimed at improving quality of clinical care (evidence-based guidelines, training, job aides, local facilitation, supervision, and face-to-face feedback; $n = 4$) and the remaining four to control intervention (guidelines, didactic training, job aides, and written feedback; $n = 4$). Prespecified structure, process, and outcome indicators were measured at baseline and during three and five 6-monthly surveys in control and intervention hospitals, respectively. Primary outcomes were process of care measures, assessed at 18 months postbaseline. In both groups performance improved from baseline. Completion of admission assessment tasks was higher in intervention sites at 18 months (mean = 0.94 versus 0.65, adjusted difference 0.54 [95% confidence interval 0.05–0.29]). Uptake of guideline recommended therapeutic practices was also higher within intervention hospitals: adoption of once daily gentamicin (89.2% versus 74.4%; 17.1% [8.04%–26.1%]); loading dose quinine (91.9% versus 66.7%, 26.3% [–3.66% to 56.3%]); and adequate prescriptions of intravenous fluids for severe dehydration (67.2% versus 40.6%; 29.9% [10.9%–48.9%]). The proportion of children receiving inappropriate doses of drugs in intervention hospitals was lower (quinine dose >40 mg/kg/day; 1.0% versus 7.5%; –6.5% [–12.9% to 0.20%]), and inadequate gentamicin dose (2.2% versus 9.0%; –6.8% [–11.9% to –1.6%]). Specific efforts are needed to improve hospital care in developing countries. A full, multifaceted intervention was associated with greater changes in practice spanning multiple, high mortality conditions in rural Kenyan hospitals than a partial intervention, providing one model for bridging the evidence to practice gap and improving admission care in similar settings.