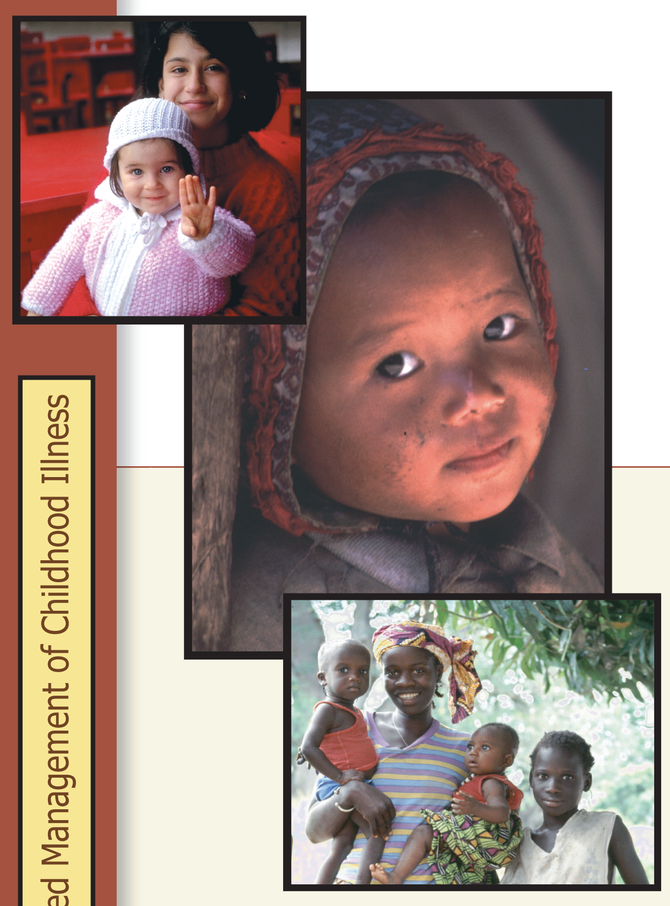
Policy contributions and key messages from the Multi-Country Evaluation of IMCI

Integrated Management of Childhood Illness



World Health Organization

Countdown to 2015
Child Survival

The impact of Integrated Management of Childhood Illness on inequalities in child health in rural Tanzania

Background

Studies on trends in socio-economic inequities in health particularly in low and middle-income countries are noticeably few. We examined the impact of the Integrated Management of Childhood Illness (IMCI) strategy on the equality of health outcomes and access across socio-economic gradients in rural Tanzania, by comparing changes in inequities between 1999 and 2002 in two districts with IMCI (Morogoro Rural and Rufiji) and two without (Kilombero and Ulanga). IMCI was associated with reduced mortality and stunting[1].

[1] Armstrong Schellenberg JRM et al:Effectiveness and cost of facility-based Intergrated Management of Childhood Illnesses (IMCI) In Tanzania. Lancet 2004, 364:1583-1595

Methods

Map of Tanzania showing IMCI and comparison districts

A population-based survey was carried out between July-August 1999. Probability cluster (villages) sample of approximately 2300 households was selected from the four districts. 30 clusters each of 20 households were selected from three of the four districts, and 25 clusters were chosen from Kilombero district.

A second survey was repeated in July-Aug 2002 using the same methodology. Households were selected from the same clusters with a low probability of visiting the same household during the second round.

Data collected

- Proxy markers of household socio-economic status
- Two week morbidity, including action taken
- Anthropometric measurements (WAZ, HAZ, WHZ)
- Coverage of interventions: ITNs, EPI vaccines
- Knowledge of careseeking
- Home management of illness

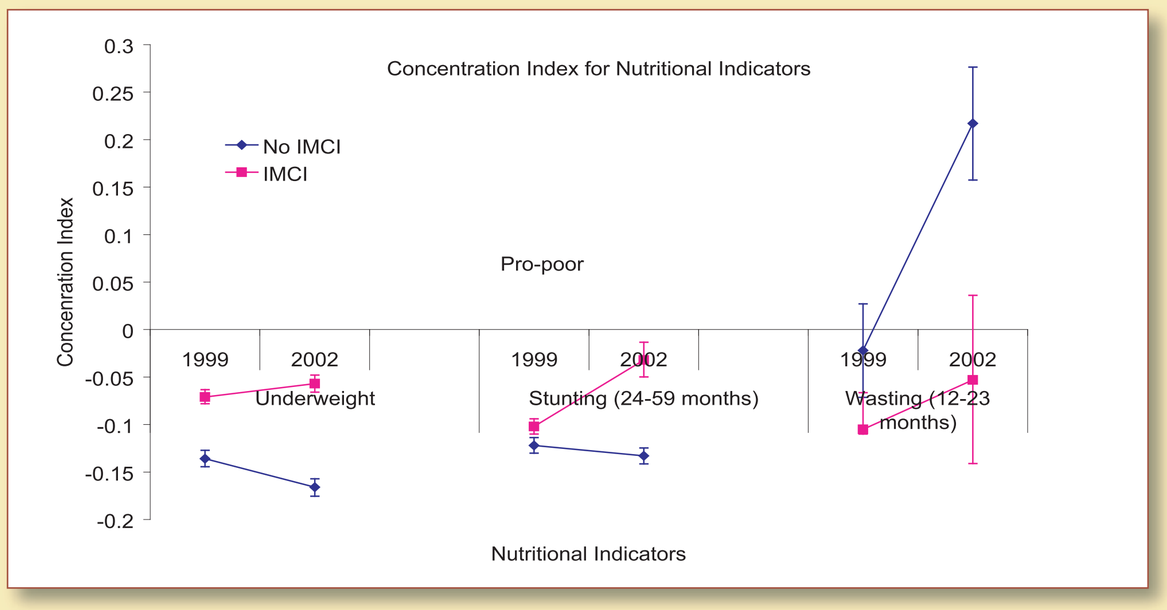
Statistical analysis

We used principal components analysis (PCA) to generate a household wealth index. This index was obtained by assigning weights to a number of household assets, household head and maternal income and educational level of head. Using the index, households were divided into quintiles. Concentration indices and their confidence intervals and the difference of a difference in concentration indices between IMCI and non-IMCI and between 1999 and 2002 are presented for selected key coverage and nutritional indicators to assess whether implementation of IMCI has reduced inequities in child health.

The concentration index takes values between -1 and 1. A value of 0 indicates equity. For unhealthy outcomes, changes in the concentration index towards higher positive values indicate a pro-poor change over time.

Results

Equity differentials for six child health indicators (stunting, measles immunization, access to treated and untreated nets, care during illness and treatment of fevers with antimalarials) improved significantly in IMCI districts ($p<0.05$) compared to comparison districts.



Equity in four indicators (wasting, DPT coverage, caretakers' knowledge of danger signs and appropriate care seeking improved significantly ($p<0.05$) in the comparison districts compared to IMCI districts.

Indicator	Concentration Indices		
	After – before difference (2002 minus 1999)		Difference in differences* (IMCI minus no IMCI)
	IMCI	No IMCI	
Underweight	0.014	-0.030	0.044
Stunting (2459 months)	-0.011	0.070	-0.081
Wasting (1223 months)	0.239	0.052	0.187
Measles coverage	-0.027	-0.004	-0.023
DPT coverage	0.019	-0.045	0.064
Child sleeps under a treated net	-0.139	-0.055	-0.084
Child sleeps under a net	-0.102	-0.099	-0.003
Caretaker knows at least 2 danger signs	0.016	-0.050	0.066
Caretaker knowledge of feeding during illness	0.020	0.011	-0.009
Child with fever received appropriate treatment	-0.045	0.010	-0.056
Appropriate care seeking	0.008	-0.124	0.132

* Negative values-indicating greater improvements in equity in IMCI than in non-IMCI districts.

Conclusions

Equity assessments can be incorporated in impact evaluations at relatively little additional cost, and this may point to specific interventions that need to be reinforced to become pro-poor.

Introduction of IMCI led to improvements in child health that did not occur at the expense of equity.

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