

# The Impact of QA Methods on Compliance with the Integrated Management of Childhood Illness Algorithm in Niger

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The joint QAP/BASICS project tested several research-based interventions between June 1997 and December 1998 to improve case management of sick children in Niger. The research analyzed: (a) how the assessment of quality can lead to improved care and (b) how performance data can improve the field implementation of the Integrated Management of Childhood Illness (IMCI) algorithm. The World Health Organization (WHO) and UNICEF designed the algorithm to integrate the treatment of sick children under one protocol that would treat the major causes of childhood morbidity and mortality worldwide. The study examined whether the feedback of performance assessment data alone in the use of the algorithm could improve healthcare worker performance as opposed to feedback plus formal training. The study also examined whether quality improvement (QI) teams can enhance the impact of performance in specific areas.

## Methods

The research design was a nonconcurrent, prospective case control study of the influence of alternative performance improvement interventions on compliance with IMCI. The degree of compliance by healthcare workers with the IMCI standards of assessment, treatment, and counseling of sick children and their caretakers determined the quality of care. The interventions tested were: (a) structured feedback of health worker performance data, (b) team-based quality improvement, and (c) formal IMCI training. Three districts in the Tahoua Department of Niger, West Africa, participated in the study from October 1997 to December 1998. Researchers collected data at four- and six-month intervals, using direct observations, interviews with healthcare workers, interviews with mothers and/or caretakers, and physical reviews of healthcare facilities.

## Results

Research had indicated that compliance with IMCI in Niger was disappointing in the early implementation stages. All areas of compliance (assessment, treatment, and counseling) declined from June 1997 to December 1998, but the interventions of performance assessment feedback and quality improvement teams had an appreciable positive effect. Performance feedback alone created a significant short-term impact on compliance, which improved between 34 and 85 percent in areas of assessment ( $p < .05$ ). This impact was not universal over all areas of compliance following each feedback. Instead, performance feedback had the greatest effect in areas in which healthcare workers performed poorly, while areas in which compliance was high eventually saw declines.



The impact of formal training in conjunction with feedback seemed to be more balanced across different indicators of compliance, specifically within the assessment area. Following training, assessment compliance increased by between 14 and 19 percent ( $p=.06$ ). In a comparison of 17 assessment and counseling indicators within an index, the short-term (six-month) impact of training plus feedback was positive, increasing compliance by 27 percent ( $p=.05$ ), while the short-term impact of feedback alone on this same index (following training) was a disappointing 9 percent ( $p=.05$ ). The cost of these two interventions was \$108 per healthcare worker (feedback intervention) versus \$430 per worker (IMCI training); these costs included local and/or recurrent expenses.

In addition, researchers assessed the impact of IMCI-related QI efforts. Here, work on IMCI-related problems using QI techniques was significantly associated with higher performance in overall compliance ( $p=.008$ ). Furthermore, when the research team observed facilities with active QI teams working on an IMCI-related problem, these facilities were twice as likely ( $OR=2$ ,  $p=.05$ ) to turn in an above-average performance on the related compliance indicator as opposed to facilities that were not working on such an effort.

## Discussion

These results must be seen in the context of an across-the-board decline in healthcare worker compliance with IMCI standards during the course of the study in Niger. The data from this study suggest that feedback interventions and quality improvement teams can affect compliance with IMCI standards. However, the effects of these interventions were seen in specific problem areas versus across the board improvement in compliance. Research results indicate that more needs to be done to support healthcare workers with the IMCI algorithm in the field. By linking performance feedback to the supervision system, project teams could enhance the feedback process to allow for a more balanced improvement that does not focus solely on problem performance areas. More could be done to directly link quality assurance approaches (especially the use of facility-based quality improvement teams) and IMCI implementation. Promising approaches, such as a unified QA/IMCI model and the structured supervision tool, will contribute to the struggle against childhood mortality in Niger and encourage worldwide IMCI implementation.

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