



OPERATIONS RESEARCH SUMMARY

Quality Assurance Project II

Increasing Compliance with Maternal and Child Health Standards: Ecuador

Can a hospital quality assurance (QA) program improve key indicators of maternal and child health, and, if so, by how much? Can such a program increase patient satisfaction? Hospital utilization? This study attempted to answer these questions for four small rural hospitals of 20–30 beds in Ecuador. ¹

Intervention: The quality assurance program this study examined formed QA teams in each hospital; the teams used a rapid problem-solving approach to improve maternal and child health care. In general, the program followed the QAP-recommended approach of defining, measuring, and improving quality. A study facilitator provided monthly training in QA techniques and specific technical assistance to the teams. Team activities included:

- Forming user committees,
- Mobilizing budget support to fill vacant clinical positions,
- Clarifying job responsibilities and job descriptions (Who should do what?),
- Implementing collective self-supervision where clinical staff assessed compliance with standards,
- Strengthening hospital pharmacy committees, and
- Increasing communication about study between hospital leadership and Ministry of Health provincial officials.

Study Design: Starting in early 2001, the study gathered pre- and post-implementation data in the study hospitals and four matched control hospitals. The data were analyzed to determine whether the program had an impact on four types of indicators related to maternal and child health: required inputs, compliance with evidence-based standards of care (process indicators), patient satisfaction, and hospital utilization.

Results

Input indicators: Similar patterns were seen in all three input indicators: proportion of 1) essential equipment in delivery room, 2) essential maternal and newborn drugs in delivery room, and 3) essential sick-child drugs, recommended by Integrated Management of Childhood Illness (IMCI) guidelines, in the pharmacy. Scores for the QA program hospitals were significantly higher pre-implementation than they were for the controls. The 12 months following program implementation witnessed substantial improvement in both the program and control hospitals. No explanations were found for the program hospitals' initial advantage or for the controls' improvements.

Process indicators: Clearly, the QA program had a positive effect on the process indicators. For 6 of the 7 indicators, compliance with standard increased significantly more in program hospitals than in controls, as seen in the table below.

Process indicators (percentage performed to standard)

Indicator	Program		Control	
	Jan 2001	Mar 2002	Jan 2001	Mar 2002
1. Prenatal consultations with 12 tasks completed *	0	84	7	38
2. Prenatal consultations with patient record completed *	20	84	18	32
3. Deliveries with partograph correctly used during labor *	7	75	0	4
4. Hourly monitoring of blood pressure, uterine activity, and fetal heart rate *	8	82	23	17
5. Child consultations where provider used IMCI algorithm *	1	42	1	2
6. Child pneumonia cases given amoxillin or cotrimoxazole *	85	100	65	75
7. Mothers of sick children who could name 3 of 8 danger signs after consultation	33	97	31	98

* Improvement in program run chart was significantly better (p<0.05) than that in control run chart.

The study analyzed the run charts of each indicator over 14 months to determine whether the trend in improvement in the program hospitals was better than in the controls. For example, the percentage of prenatal consultations in which all 12 standardized tasks were completed rose from 0% to 84% in the program hospitals compared to an increase from 7% to 38% in the control hospitals, as seen in the run charts in Figure 1.

Patient satisfaction: The percentage of patients who said, during exit interviews from maternal outpatient visits, that they were satisfied with the care they received was similar for the program and control hospitals before and after the QA program, starting around 70% and ending at 82–84%. This lack of program effect might be explained by the relative lack of attention that the program teams devoted to improving patient satisfaction, focusing instead on improving clinical care, or because the exit interviews asked about satisfaction with waiting time, comfort, interpersonal relations, cleanliness, and pharmacy—issues that the program did not generally address.

Utilization: Three utilization indicators were measured: 1) monthly prenatal consultations, 2) monthly sick child outpatient visits, and 3) monthly hospital deliveries. Figure 2 shows that the program hospitals had a significantly larger percentage increase in prenatal visits than the controls, but a significantly smaller percentage increase in sick child visits. Neither type of hospital experienced a change in the number of hospital deliveries. A case-by-case analysis did not find an association between change in utilization and improvement in the process indicators. Follow-up studies would explain the relation of quality and utilization.

Figure 1. Percentage of prenatal consultations with 12 standardized tasks completed by the provider

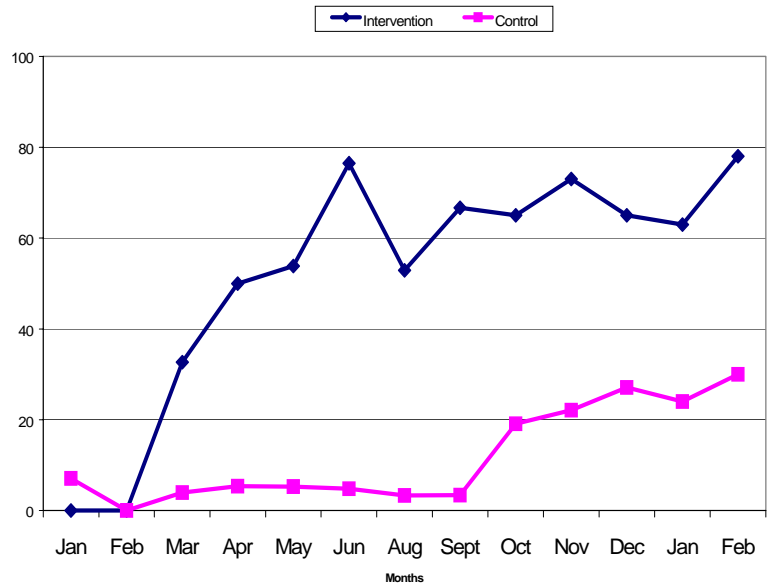
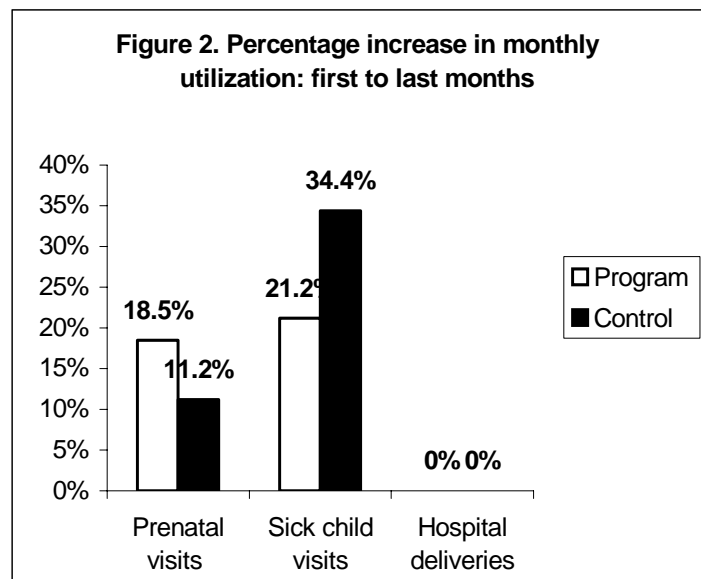


Figure 2. Percentage increase in monthly utilization: first to last months



¹ This is a summary of a Quality Assurance Project (QAP) operations research study carried out by QAP's office in Quito, Ecuador. The citation for the full report is: Hermida J and Robalino ME. 2002. Increasing compliance with maternal and child care quality standards in Ecuador. *International Journal for Quality in Health Care* 14 (Suppl 1): 25–34.

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