



**OPERATIONS RESEARCH SUMMARY**

**Quality Assurance Project II**

**A Randomized Controlled Trial of a Hospital Accreditation Program with Commentaries and Foreword: South Africa**

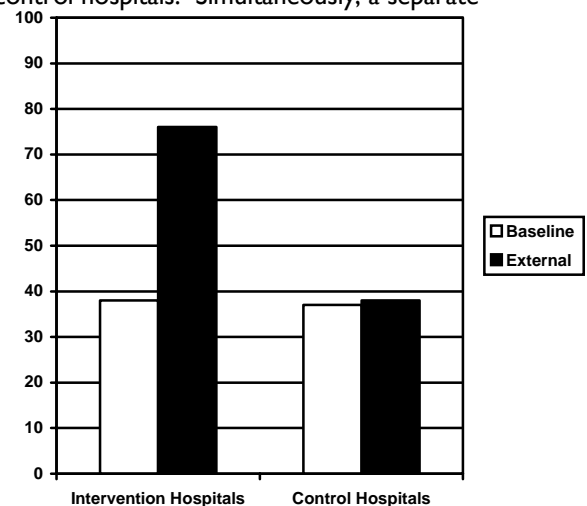
**Background:** Hospitals are complex, so measuring how well they provide care to help them improve that care is also complex. Some developed countries use accreditation to meet this dual task. Typically, a disinterested, external group develops standards that describe how experts think hospital care should be provided. Trained accreditation observers visit the hospitals to measure how closely they meet the standards, and hospitals that score well are “accredited” for a pre-determined period. Few developing countries have such programs, but interest is growing. The expectation is that these programs will provide an incentive to improve care and help hospital staff see what changes are needed. Of course, these programs cost money, and developing countries need to make careful choices in allocating their limited resources.

**Accreditation program, evaluation design and difficulties:** A new accreditation program in KwaZulu-Natal Province (KZN) in South Africa offered an opportunity to undertake a randomized control trial of the impact of facilitated accreditation in a developing country. The study report and its two companion commentaries highlight the practical difficulties of evaluating the health impact of accreditation: some of these difficulties were related to the variable and sometimes inconsistent ways hospitals work, but the greatest issue proved to be the barriers to measuring the health outcomes that were central to the study.<sup>1</sup>

KZN asked the Council for Health Service Accreditation of South Africa (COHSASA) to implement its facilitated accreditation program in 29 hospitals in late 1998; 10 hospitals were randomly assigned to the intervention group and 10 to the control group. Accreditation involved a baseline measurement of many structural and process variables, with measurements fed back to each hospital. Technical assistance followed to help the hospitals improve; then the three steps were repeated: periodic measurements, feedback of results, and technical assistance. COHSASA followed this pattern in the intervention hospitals, but feedback and TA were not provided to the control hospitals. Simultaneously, a separate research team measured a different set of indicators (“research indicators”) in all hospitals.

**Results**

The research report distinguishes between the COHSASA measurements and the research indicators. Because of the randomized nature of the research design and the regularity of the COHSASA data collection, there is little doubt that the significant improvements in the COHSASA indicators were due to the accreditation program: the intervention hospitals’ performance to standards according to the accreditation measurements increased from 38% to 76% over two years, while no appreciable increase occurred in the control hospitals (37% to 38%: see figure). This finding is, as far as the authors know, the first conclusive



demonstration that a facilitated accreditation program significantly improved hospital performance in achieving accreditation standards.

The research indicators tell a different story. The study found the accreditation program had little or no effect on these indicators, except for “nurse perceptions of clinical quality,” which showed a positive effect (see table). Several methodological difficulties could explain this lack of clear findings. Also, there were few research indicators: only eight at the end of the study (four were eliminated mid-study because of the difficulty in achieving reliable measurements). These eight are, for the most part, not patient health outcomes (e.g., full recovery to health) but downstream process indicators (listed in table). The authors concluded that the lack of association between the program and improvement in these indicators could be due to either the program’s inability to influence these indicators or methodological problems in the study (e.g., insufficient time).

The first commentary by COHSASA argues that these issues are the likely causes for the lack of association between the two sets of indicators. It notes that early funding delays and the fixed implementation schedule caused serious data collection problems. They further argue that hospitals should have had more time to react to the baseline feedback before the second measurements. Furthermore, after reviewing research field reports and interviewing the data collectors, these commentators concluded that insufficient planning and communication led to biased data. They identify a cluster of accreditation measurements that was most closely associated with each research indicator: the relative scores of the research indicators and accreditation clusters differ from one indicator to another, not always agreeing. They feel this difference may have compromised the validity of the research indicators. These commentators also note the difficulty that resource-constrained hospitals have in achieving standards and their need for facilitated approaches.

The Rooney commentary places the study in context. She summarizes the difficulties in linking the structure and process of health care to its outcomes, including problems in finding comparable metrics, the probabilistic nature of the amount of time for change to occur, and the difficulty in finding an appropriate comparison group. She notes that this study addresses all of these challenges: it provides for a randomized control; it sheds light on the vexing problems of the time it takes for effects to be measurable; and it addresses the problems of relating structure, process, and outcomes. She also reviews several studies that support or counter the thesis that accreditation programs relate to outcomes in hospitals and the important role of the South Africa study in the discussion.

**Conclusion:** While this report does not provide conclusive evidence of the impact of an accreditation program on a selected set of research indicators, it does highlight impressive gains of improved performance according to accreditation standards. It also addresses a range of methodological issues and lessons that can inform future research, so needed in this vital area and relevant to developing countries worldwide.

Average research indicator scores, with intervention effect

Research Indicator	Intervention Increase (Decrease)	Control Increase (Decrease)	Intervention Effect	p-Value
Nurse perceptions	1.5	(4.2)	5.7	.031
Patient satisfaction	4.6	3.1	1.5	.484
Medical education	0.2	(1.5)	1.7	.395
Medical records: accessibility	(7.9)	(11.0)	3.1	.492
Medical records: completeness	2.0	(3.7)	5.7	.114
Completeness, peri-operative notes	2.5	4.4	- 1.9	.489
Ward stock labeling	15.8	4.0	11.8	.112
Hospital sanitation	3.1	5.5	- 2.4	.641

<sup>1</sup> This summary is based on: Salmon JW, Heavens J, Lombard C, and Tavrow P with foreword by Heiby JR and two commentaries, one by Whittaker S, Muller M, Keegan M, and another by Rooney AL. 2003. The impact of accreditation on the quality of hospital care: KwaZulu-Natal Province, Republic of South Africa. *Operations Research Results* 2(17). Published for USAID by the Quality Assurance Project, University Research Co., LLC, Bethesda, MD. QAP publications are available at [www.qaproject.org](http://www.qaproject.org).

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