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TECHNICAL REPORT SUMMARY

Institutionalization of Continuous Quality Improvement in AMOCSA, a Private Health Care Provider in Chinandega, Nicaragua

Introduction

The United States Agency for International Development (USAID) has supported the introduction and implementation of continuous quality improvement (CQI) activities in Nicaragua since 2000, first through the Quality Improvement Project (QAP) and most recently through the USAID Health Care Improvement Project (HCI). These quality improvement activities were implemented in Ministry of Health (MINSa) facilities in 16 out of the country's 17 Local Integrated Health Systems, known as SILAIS for their Spanish acronym. Along with MINSa facilities, private health care facilities were invited to participate in the activities related to the introduction and implementation of quality improvement initiatives.

The Medical Association of the West (*Asociación Médica de Occidente, S.A.*, or AMOCSA) is one of the private health care facilities that has participated in CQI activities since 2004. While there have been a number of studies examining the process and impact of institutionalization of CQI in Ministry of Health facilities in Nicaragua, there have been few studies examining the process and impact of institutionalization in private facilities. This study examines the evidence for institutionalization of CQI in AMOCSA. It addresses several themes related to institutionalization in AMOCSA facilities, namely the development of both clinical and QI capacity, the enabling environment for QI, and the evidence for institutionalization and sustainability of CQI, including the clinical care quality gains achieved through CQI activities.

Shortly after improvement methods were introduced in MINSa facilities in 2003, USAID began offering technical support and learning initiatives related to monitoring compliance with clinical standards and quality indicators for certain health outcomes in 10 private health institutions in seven SILAIS: four in Chinandega and one each in Leon, Managua, Granada, Boaco, Jinotega, and Nueva Segovia. AMOCSA, through this collaboration with QAP and later HCI/USAID, participated in a series of activities to improve the quality of services offered to clients with a focus on maternal, newborn and child health, family planning, and infection prevention. USAID-funded technical assistance was provided for the following activities: standardization of care processes, monitoring compliance with care standards using appropriate indicators, assuring access to proper care for newborns including breast feeding, strengthening the team approach, and measuring patient satisfaction with the services provided. In 2007, through technical assistance from HCI/USAID, a Quality Management Program was developed for AMOCSA to ensure sustainability of CQI activities into the future.

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To examine the process and level of institutionalization of CQI in AMOCSA, this research study sought to:

1. Identify how CQI activities were introduced and reinforced in AMOCSA facilities, including leadership and coaching support from higher level authorities, initial training of personnel in key quality improvement activities, additional training (continuing education, workshops and on the job technical assistance), and training for new personnel.
2. Examine which aspects of the supporting environment for CQI contributed to the institutionalization process, including leadership, values, rewards and incentives, CQI team stability, and support from higher authorities.
3. Analyze the evidence for institutionalization within AMOCSA, including how CQI activities were integrated in the daily routine, improvement knowledge and skills in current personnel, organizational changes made to support CQI, and compliance with clinical standards.

The study also compared measures of institutionalization between AMOCSA and MINSA facilities in Chinandega, drawing on results from a similar study on the institutionalization of CQI in MINSA facilities in 10 SILAIS.¹

Methods

We used a qualitative cross sectional study where a sample of health care professionals working in AMOCSA facilities in Chinandega were questioned about their exposure to different aspects of CQI. Most survey questions referred to improvement activities that were being implemented at the time of data collection in AMOCSA, while some questions referred to activities that occurred over a longer time period. Responses from study participants were used to determine the level of institutionalization achieved in AMOCSA facilities. A convenience sample of 27 study participants was selected from the AMOCSA hospital in Chinandega and the three affiliated facilities in El Viejo, Chichigalpa, and Corinto. The sample was selected from key members of AMOCSA's Advisory Board (*Consejo de Dirección*), chiefs of major medical and other related areas (obstetrics, pediatrics, outpatient, nursing, patient satisfaction, statistics), directors of affiliated health facilities, selected physicians and nurses working in the AMOCSA facilities, and several administrative personnel (see Table 3 in the full report for a list of all participants).²

Each participant answered a self-administered questionnaire that included questions on the development process for CQI, the enabling environment for improvement, evidence of institutionalization of CQI, and other external factors. The Medical Director of AMOCSA also answered a separate questionnaire that included more specific closed and open ended questions about the number of people working in CQI, the number of people trained in CQI, organization and history of CQI in AMOCSA, development of clinical and improvement skills, stability and functioning of the main improvement team (Advisory Board), and data on norms and standards for maternal and child health. While the questionnaires were self-administered, a member of the HCI/USAID team was present to clarify any questions and assist participants to maximize reliability and validity of each question.

Table I describes the different areas where information and data were collected for this study.

¹ See, Sandino M, Gomez I and Bowser D. 2011. Sustainability of Improvements in Maternal and Child Care and Institutionalization of Continuous Quality Improvement in Nicaragua. *Technical Report Summary*. Published by the USAID Health Care Improvement Project. Bethesda, MD: University Research Co., LLC (URC). Available at: <http://www.hciproject.org/node/2485>.

² Where necessary suggestions for study participants were made by the AMOCSA Chinandega Hospital Director.

Table I. Areas of Measurement for the AMOCSA Institutionalization Study

Developmental Processes for CQI	Supporting Environment for Institutionalization	Evidence of Institutionalization
Capacity building: - Initial training - Additional training - Training for new personnel	Leadership Values for CQI Rewards and incentives CQI team stability Support from higher authorities	Institutionalization of CQI activities as part of daily routine Standardization of clinical procedures and norms Incorporation of quality improvement within clinical standards Appropriate practice (frequency) of CQI activities and application to other areas Knowledge and ability with respect to CQI skills Organizational changes to support CQI Compliance with clinical standards

Results

Development of CQI Capacity

In AMOCSA, initial training in CQI was conducted in coordination with training offered in MINSA facilities by QAP/USAID personnel and MINSA personnel from Chinandega working directly with the AIMNA (*Atención Integral a Mujer, Niña y Adolescencia*) Program. The majority of the initial training activities were related to maternal and child health. QAP-supported CQI activities took place between 2004 and 2005. More specific training activities were added during the period 2006-2008 (obstetric complications, breast feeding, and family planning). Between 2004 and 2008, AMOCSA participated in 12 different types of training activities during which 381 AMOCSA personnel were trained.

A program for in-service training for both clinical activities and improvement was developed by AMOCSA and consisted of continuing education, workshops, and on-the-job technical assistance. Continuing education themes were developed based on quality issues that AMOCSA was likely to experience. If a problem related to quality was detected, research was conducted to evaluate the problem and a two-hour continuing education session was given to relevant personnel to ensure quality improvement in the area. Workshops were more extensive than continuing education sessions and lasted at least eight hours. Some workshops were offered as several four-hour sessions. On-the-job technical assistance took the form of supervision and was provided as needed or requested from health care personnel in AMOCSA. Continuing education was the most frequently mentioned type of additional training for health care personnel, with 88.5% of those surveyed responding that they had received this type of training.³ The second most frequent type of training received was the workshops (76.9% of respondents had participated in at least one workshop), followed by on-the-job technical assistance (65.4% of respondents). Nearly 31% of respondents said they had received training as new personnel. In AMOCSA, new personnel did not receive a specific training session on CQI. Rather, they were incorporated into the three training modalities offered to permanent personnel (continuing education, workshops, and on-the-job technical assistance). Based on the number of personnel trained from 2004 to 2010, all personnel (doctors, nurses, laboratory workers, pharmacy personnel, and administrative personnel) received training and were involved in CQI activities.

³ The response for type of training received is since CQI training has been offered in AMOCSA.

Supporting Environment for CQI Activities

The following five major themes were evaluated to assess the supporting environment for CQI activities: leadership, values in support of CQI, rewards and incentives, CQI team stability, and support from higher authorities.

Leadership

Instead of having facility-based CQI teams, as was the case in most MINSAs facilities, AMOCSA utilized its Advisory Board (*Consejo de Dirección*) as its CQI team. Key members of the Advisory Board included the Chief Executive Officer of AMOCSA, the Director of the AMOCSA Hospital, the directors of each of the three affiliated facilities, and heads of each of the following areas: risks, audits, reception, outpatient, laboratory, maintenance, preventive programs, and hygiene. Each Advisory Board member took on a leadership role in promoting improvement activities for those under their direction. In addition, the Director of the AMOCSA Hospital in Chinandega provided overall coordination of CQI activities in that facility as well as in the three affiliated facilities in El Viejo, Chichigalpa and Corinto. In all, there were 14 roles and responsibilities that each person involved in CQI leadership was directed to undertake (see Table 6 in the full report). Self-identified CQI leaders were asked if they undertook each of these roles and responsibilities. Self-identified non-leaders were asked their opinion on whether they believed that leaders in AMOCSA undertook these activities. Among the leaders, 65.2% reported that they carried out these 14 roles and responsibilities “all the time”, while 43.6% of non-leaders reported that they believed the leaders promoted these 14 roles and responsibilities “all of the time”.

Values for CQI

A prerequisite for institutionalization of CQI is a consensus on the value of CQI and the promotion of this concept by improvement leaders. We asked study participants their perception of the extent to which they felt that the personnel in AMOCSA held the following four basic values needed to support and maintain CQI activities: interest in quality improvement, interest in improving user satisfaction, team work, and respect for ideas and input from staff. The results show that the percent of respondents who felt that AMOCSA personnel practiced these values “all the time” was highest for the values related to “interest in improving user satisfaction” (88.5%) and “interest in quality improvement” (84.6%) followed by “team work” (61.5%) and “respect for ideas and input from staff” (57.7%). When asked if in general higher authorities promoted CQI values, 76.9% responded that this was the case “all the time”.

Rewards and Incentives

In general, promoting rewards and incentives for improvement activities is important for improving motivation among personnel. In AMOCSA, certain rewards and incentives had been used but for economic reasons they were often not consistently implemented. When asked about the use of rewards and incentives in AMOCSA, 53.8% responded that they were rewarded for CQI activities “all the time” or “most of the time”, with the remainder (46.2%) reporting that they were rewarded for CQI activities only “sometimes”.

CQI Team Stability

Due to the fact that the CQI team in AMOCSA was the Advisory Board, there was a high level of stability. When the Advisory Board began CQI activities in 2007, there were seven members. At the time of data collection, there were thirteen members, including three from the original group and ten new members. There was some regular turnover for personnel in AMOCSA, especially for physicians who wanted to specialize or received job offers outside Chinandega. However, of those interviewed, slightly more than half (57%) had been working at AMOCSA for five years or more.

Support from Higher Authorities

Because the Advisory Board was comprised entirely of heads of each major department in AMOCSA and acted as the CQI team, there was a system of support from “higher authorities”. Based on responses from those surveyed, 76.9% reported that higher authorities supported improvements and requested quality monitoring data “all the time”, while 69.2% report that higher authorities supervised CQI activities “all the time”.

Evidence of Institutionalization

Institutionalization in AMOCSA was demonstrated by certain improvement activities that had become part of the daily routine in clinic operations. Evidence-based practices and quality improvement initiatives had been incorporated into most clinical standards. CQI activities had become part of the daily routine in AMOCSA due to the fact that the Advisory Board, which addressed a number of different daily issues, also addressed quality improvement issues as they arose. In addition, at the beginning of the morning rotation, the heads of each area met with the director of the facility to review daily activities and address quality concerns. Examples of quality improvement initiatives that were incorporated into the clinical routine include training of personnel, studying clinical norms, supervision, monitoring, implementing mandatory meetings before morning rotation, re-organization of workload and workforce, as well as promoting team work and positive attitudes.

The level of institutionalization obtained in AMOCSA was measured in several areas: the number of CQI activities carried out and their frequency, application of CQI to new areas, knowledge of and ability to carry out improvement activities, organizational changes to support CQI, and compliance with clinical standards.

Appropriate Practice of CQI Activities and Application to Other Areas

Of a list of 14 activities necessary to implement CQI, 70% of respondents reported that the activities were being carried out with the appropriate regularity.

With respect to expanding to other areas, AMOCSA incorporated CQI into a number of different clinical and non-clinical areas. The heads of each main department, as key members of the Advisory Board/CQI team, were responsible for incorporating CQI into their respective areas. Through the combined use of the Advisory Board as CQI team, AMOCSA expanded CQI to all clinical outpatient areas, laboratory, pharmacy, and preventive programs, and the non-clinical areas of maintenance, statistics, reception, client satisfaction, audits, and hygiene and security. Even administrative personnel reported participating in quality improvement to ensure that each area complied with quality indicators established by MINSa.

CQI Knowledge and Skills

Of eight essential CQI skills (see list of skills in Figure 16 of the full report), the average knowledge level for these skills was 51% (measured as the respondent’s self-reported knowledge of how to carry out each activity) while the ability level was slightly higher at 74.5% (measured as the respondent reporting that they have actually done each activity).

Organizational Changes to Support CQI

In AMOCSA’s Quality Management Program developed in 2007, a number of human resource related initiatives and organizational changes to support CQI were developed. One of the most important developments included in the Quality Management Program was the formalization of the Advisory Board. This group had been functioning in an informal manner, but with development of the Quality Management Program and technical assistance from HCI/USAID, the Advisory Board was formalized. The Advisory Board henceforth met regularly and incorporated CQI into all technical areas. Other human resource and organizational changes addressed in the Quality Management Program included

reorganizing personnel, hiring specialized human resources, and providing air conditioning to improve working conditions. Additionally, AMOCSA created a new Patient Satisfaction Office which measured daily levels of patient satisfaction through patient surveys. They also established an Audit Office to supervise care received by the patient, detecting quality issues and then finding/proposing solutions.

Compliance with Clinical Standards

With respect to 14 different clinical standards related to pregnancy and newborn health (see Table 8 in the full report), the level of compliance increased from 81.1% in 2004 to 92.3% 2009. The greatest improvements were for “the percent of women in active labor where a partogram had been filled out and interpreted correctly” which increased from 34.4% to 81.5% (47.1 percentage points) and the percent of women post partum who have received oxytocin at the appropriate time and in the correct dose to prevent post partum hemorrhage. This increased from 59.5% to 97.8%. AMOCSA had attended 2,377 births over the period 2004-2010 and experienced only two maternal deaths, both of which occurred in 2004.

With respect to the three child health indicators (see Table 9 in the full report), compliance increased from 75.1% in 2006 to 89.3% in 2010. The indicator that increased the most was the proportion of children diagnosed with asthma who received adequate treatment, which rose from 73.6% in 2006 to 100% in 2010.

Comparison with MINSAs Facilities in Chinandega

Table 2 highlights several comparisons between the four AMOCSA facilities and the three Chinandega MINSAs facilities included in the separate MINSAs institutionalization study. Although the results included in Table 2 below do not represent a rigorous comparison of the public and private facilities in all Chinandega or Nicaragua, they do show that AMOCSA scored higher on three out of the four comparable measures. AMOCSA facilities expanded CQI to more areas than MINSAs Chinandega facilities; they practiced CQI values a greater percent of the time (73.1%) than MINSAs Chinandega facilities (62.5%); and rewards and incentives were used more (53.9%) than in MINSAs Chinandega facilities (13.6%). Interestingly, support from higher authorities was reported to be higher in MINSAs Chinandega facilities (83.3%) than in AMOCSA facilities (74.4%).

Table 2. Comparison of CQI Institutionalization in MINSAs and AMOCSA Facilities

	MINSAs Facilities in Chinandega	AMOCSA Facilities in Chinandega
Implementation of CQI and expansion to other areas	CQI implemented in maternal and child health and expanded to one additional area	CQI implemented in maternal and child health and expanded to 10 other areas ⁴
Support from authorities for CQI	83.3% “all the time”	76.4% “all the time”
Practice CQI values	62.5% “all the time”	73.1% “all the time”
Rewards and incentives	13.6% report they receive them	53.9% report receiving them “all the time” or “a lot of the time”

⁴ See list of expansion areas in the section above on “Appropriate practice of CQI activities and expansion to other areas”.

Conclusion

This study examined the process and impact of institutionalization in AMOCSA, a private health care entity in Chinandega that participated in many of the same initial CQI activities as MINSAs facilities. The analysis in the report focused on several themes related to institutionalization in AMOCSA facilities: the development of clinical and CQI training, the enabling environment for QI, and the evidence for institutionalization and sustainability of CQI.

Several main results emerged from the analysis:

1. After participating in a number of initial training activities given by QAP/USAID and MINSAs personnel, leaders in AMOCSA began to take on their own CQI initiatives (subsequent trainings) and utilized their own organizational structures (Advisory Board) to promote CQI.
2. The organization for the support of CQI in AMOCSA was through their Advisory Board, rather than a newly created CQI team (as was usually done as part of the institutionalization process in MINSAs facilities). The Advisory Board met regularly to address a number of clinical and other issues that arose in AMOCSA facilities. Since the introduction of CQI in 2004, the Board also addressed quality issues during their meetings. The Advisory Board became formalized as a structure to address both clinical and CQI issues through the development of AMOCSA's Quality Management Program Plan in coordination with HCI/USAID.
3. The supporting environment for CQI was quite strong in AMOCSA. In terms of leadership, 65.2% of CQI leaders in AMOCSA reported that they felt they undertook their roles and responsibilities "all the time", while 43.6% of the non-leaders involved in CQI reported that they believe that leaders undertook these roles and responsibilities "all the time". While values related to "interest in improving user satisfaction" and "interest in quality improvement" scored the highest out of all four CQI values, the survey results showed that 76.9% of staff interviewed felt that higher authorities promoted CQI values "all of the time". Reported rewards and incentives for working in CQI were slightly more than half (53.95% report being compensated for CQI activities "all the time" or "most of the time"). Although turnover was relatively high in AMOCSA, those who remained tended to do so for several years. For example, slightly more than half (57%) had been working at AMOCSA for five years or more. Higher authorities were continuously involved in CQI as many of the same people were part of the Advisory Board which acted as the CQI team in AMOCSA.
4. Institutionalization in AMOCSA was evidenced by qualitative results demonstrating that CQI activities had become part of daily routine, clinical procedures and norms had been standardized, and quality improvement initiatives addressed most clinical standards. Quantitative data showed that 70% of respondents reported that 14 CQI activities were being carried out with the appropriate regularity. Moreover, CQI initiatives had expanded to a number of new health service delivery areas. Knowledge level for CQI skills averaged 51.0% while ability level averaged 74.5%. Level of compliance with 14 measured clinical norms and standards increased from 81.1% in 2004 to 92.3% 2009.
5. In comparison with MINSAs facilities in Chinandega, AMOCSA facilities expanded CQI to more areas, practiced CQI values a higher proportion of the time, and used rewards and incentives more frequently. Support from higher authorities was higher in MINSAs Chinandega facilities than in AMOCSA facilities.

Studying the process and level of institutionalization of CQI in private health facilities in Nicaragua is important to further explore institutionalization and why some entities achieve higher levels than others. Because only one private entity was examined in this particular study, the results are not generalizable to all private facilities in Nicaragua or other countries. Future analysis could examine in more detail the comparison between the process and results of institutionalization in AMOCSA to similar private facilities in Nicaragua and potentially other countries.

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It summarizes the full study report in Spanish:

Sandino M, Gómez I y Bowser D. 2011. Sostenibilidad de las Acciones y Capacidades para Impulsar el Mejoramiento Continuo de la Calidad en la Atención Materna-Infantil en AMOCSA Chinandega. *Informe de Investigación*. Publicado por el Proyecto de USAID de Mejoramiento de la Atención en Salud. Bethesda, MD: University Research Co., LLC (URC).

The full study report in Spanish and this English summary are available at:
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