Improving the Quality of Care in the Control of Diarrheal Diseases in El Salvador

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The Quality Assurance Project (QAP) and the Institute of Nutrition of Central America and Panama (INCAP) have worked together in a joint project to support Ministries of Health in improving the quality of care in the control of diarrheal diseases.

Project activities began with a rapid assessment of quality of care in Cholera/Acute Diarrhea conducted in 1994 in one hospital and ambulatory health services in the Department of Chalatenango. Based on the results of this rapid assessment, health personnel working at units of Chalateango convened a two-day workshop to identify and prioritize operational problems that affect quality of care in acute diarrhea and cholera. As a result, several teams designed and implemented intervention microprojects aimed at improving specific aspects of care, such as quality of case management, client counseling, food vendor hygiene practices, and epidemiologic surveillance.

In order to demonstrate the capability to develop methods and techniques of Continuous Quality Improvement within the Programs for the Control of Diarrheal Diseases, the project had the following objectives: to collect indicators of the quality services offered by health staff, with emphasis on cholera; collaborate with health service personnel and central and regional technical teams in analyzing indicators and identifying operational problems affecting the quality of activities, provide support to those responsible for the analysis of data, decision making, and implementation of solutions for quality improvement; monitor indicators of quality service, and evaluate the impact of the interventions undertaken.

The methodology used for this study included four stages, beginning with a rapid assessment of health services, identification of problem development, implementation of solutions, and monitoring of results. During the assessment stage, data was collected, processed, and analyzed using simple techniques, such as observation and registration of service delivery, personnel interviews, and checklists. Immediately following was a workshop for Quality Improvement and Assessment in health services, during which an analysis, identification, and prioritization of problems was carried out and solution alternatives were developed. Based on these alternatives, those responsible for local services elaborated microprojects of quality improvement, which received the technical and financial support of INCAP and QAP.

Problems identified included low impact of health education in the area of acute diarrhea, deficiency in health personnel knowledge about acute diarrhea, lack of an Oral Rehydration Unit for pediatric care in one of the health centers, inappropriate hygiene standards among food handlers in towns at-risk for acute diarrhea/cholera, and insufficient epidemiological information about acute diarrhea and cholera in the rural areas of the Department.

The microprojects that were developed included solutions to address these problems. Health workers were trained in adult education methods, and appropriate educational plans were developed for each health facility. An Oral Rehydration Unit was placed in the emergency room of the health center which had been lacking one, and health personnel were trained in the norms for oral rehydration and in record keeping. The population received education about food handling and hygiene standards. In order to address the lack of epidemiological information, the microprojects
developed a manual with monitoring forms for use by health care providers, and health providers were trained in surveillance methods. Finally, the local supervision teams defined the indicators for periodic monitoring of microproject effects. This monitoring will permit the readjustment of implemented solutions in order to foster the continuous improvement of efficiency and efficacy of health service delivery.

Some key selected indicators for the monitoring of effects in microprojects are presented in the following tables. The column entitled "Baseline Assessment" presents the results for each indicator in May 1994; The column "Monitoring" reflects the situation after the implementation of microprojects, according to monitoring results from July and August 1995.

### Monitoring of Indicators in Clinical Care Public Health Sector Services of Chalatenango

<table>
<thead>
<tr>
<th>Indicators</th>
<th>Baseline</th>
<th>Monitoring</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vaccination cards checked for children under 5</td>
<td>51%</td>
<td>70%</td>
</tr>
<tr>
<td>Patients asked about the presence of blood in stool</td>
<td>63%</td>
<td>61%</td>
</tr>
<tr>
<td>State of consciousness examined</td>
<td>64%</td>
<td>70%</td>
</tr>
<tr>
<td>Symptoms of thirst examined</td>
<td>19%</td>
<td>61%</td>
</tr>
<tr>
<td>Oral mucus examined</td>
<td>58%</td>
<td>96%</td>
</tr>
<tr>
<td>Cutaneous folds examined</td>
<td>39%</td>
<td>100%</td>
</tr>
<tr>
<td>Level of dehydration noted</td>
<td>67%</td>
<td>100%</td>
</tr>
<tr>
<td>Patients with or without dehydration for which ORS was prescribed</td>
<td>84%</td>
<td>100%</td>
</tr>
<tr>
<td>Patients who were incorrectly prescribed antibiotics</td>
<td>61%</td>
<td>4%</td>
</tr>
<tr>
<td>Patients informed about ORS</td>
<td>35%</td>
<td>100%</td>
</tr>
<tr>
<td>Patients informed about danger signs of dehydration</td>
<td>7%</td>
<td>100%</td>
</tr>
</tbody>
</table>

The table shows positive changes with regard to clinical care, both in physical evaluation and treatment, and in health education. Specifically, one can see an increase in the evaluation of thirst symptoms, oral mucus and cutaneous folds. In addition, the incorrect use of antibiotics decreased significantly (use of antibiotics defined in agreement with national and PAHO standards).

Monitoring of the knowledge of health personnel shows an increase from 57% to 100% in the recognition of symptoms of non-serious dehydration, as well as an increase from 62% to 98% in the number of health service personnel who recognize signs of serious dehydration. The ability to perceive danger signs of dehydration and recognize the seriousness of symptoms is especially important for teaching patient home care. Also relevant is the education of the mother, or companion of the patient, with regard to the recognition of danger signs of dehydration. The percentage of health service users who were able to recognize the danger signs of dehydration increased from 37% to 100%. Finally, it is particularly important to verify that more mothers of patients know how to administer oral rehydration salts and the importance of maintaining breast-feeding during their children's diarrheal episodes.

However, the monitoring also permits the identification of important behaviors and knowledge which need to be reinforced, such as:

- Reviewing vaccination cards for children under five years of age;
- Asking about the presence of blood in stool;
- Examining the state of consciousness;
- Health personnel's knowledge about the calculating of liquids according to the rehydration plans;
- Recognition of the importance of maintaining regular feeding during diarrhea by the mothers of the patients.

Monitoring results show beneficial effects on the quality of services carried out within the program for Control of Diarrheal Diseases. In addition, behaviors and knowledge that need to be reinforced have been identified as a result of the activities undertaken in this continuous quality improvement effort. Altogether, nine microprojects in quality improvement, proposed by local health personnel, were implemented.

QAP and INCAP will continue to support local health providers in Chalatenango to ensure the institutionalization of quality improvement. In addition, information has been disseminated about the methods of Quality Improvement and the results achieved to date, both amongst the local personnel of health services in other areas of the country and staff responsible for decision-making at the different levels of the Ministry of Public Health and Welfare.

The Quality Assurance Project was initiated in 1990 to develop and implement sustainable approaches for monitoring and improving quality of health care in less developed countries. This project builds on 10 years of PRICOR experience. The Q.A. Reports series presents the methods and results of project activities in quality assurance methodology refinement and technical assistance.
Since April 1993, the Quality Assurance Project (QAP) has cooperated with the Tahoua Department Health Directorate in Niger. QAP provides the region with technical and operational assistance designed to improve the management and delivery of its essential primary health care services, which include: family planning, prenatal care, nutrition, and immunization, as well as case management of diarrhea, malaria, tuberculosis, and acute respiratory infection. The Quality Assurance (QA) Methodology implies systematic monitoring and continuous improvement of activities against established standards of service delivery. These standards refer to both clinical and non-clinical activities. The importance of QA lies in the cyclical nature of monitoring and improvements carried out by the staff of the health facilities themselves.

Prior to QA involvement in the Tahoua health management system, many key functions did not have established procedures. Where procedures did exist, they were not effectively communicated to the staff. Additionally, staff were frequently transferred to new health centers with no training or guidelines to orient them to their staff responsibilities. Often, health workers would invent their own procedures, or learn from predecessors, with no verification that the predecessor had established effective or correct procedures. Recognizing the need to communicate standard procedures to the clinic level, as well as the need to improve existing procedures, the Regional Health Directorate, with QAP assistance, launched the development of a Standard Operating Procedures (SOP) Manual for use by all workers assigned to health clinics. The SOP manual is intended to be the first reference document to which district level personnel can turn regarding any question related to management of health care delivery.

The manual is a simple and practical document, which addresses issues determined to be important and essential to ensure quality management of Tahoua’s health care system. The document is approximately 120 pages long, with several tables and simple lists for quick reference. The guide does not include clinical guidelines, since Niger already has well established and communicated clinical norms for their primary health care services. The guide is a reference on nearly every aspect of health facility management, such as: how and when to order medical equipment, how to address work-related grievances, personnel policies, and job and task descriptions. As the health service continues to improve, its standards will change, and the SOP manual will need to be updated periodically. The first edition is expected to be ready for use by health facility managers in February, 1996.

In order to draft the SOP manual, a special Manual Editorial Committee was formed, initiated by the Department Quality Council. This committee was composed of Nigerien district medical officers, the QA Project Resident advisor and Project Assistant, and a Peace Corps Volunteer assigned to the Tahoua Department. The Tahoua Department Health Director provided guidance for development of the content of the manual. His guidance became an essential part of the process. Because he understood QA principles, he recognized the importance of providing explicit guidelines to health workers in the implementation of their duties, and he gave his support to the committee members, who took time...
away from other duties to write the manual. This support was also important because it resulted in greater commitment from the committee members, and is expected to lead to better compliance by health workers, who will actually use the manual. It was also important that the manual was conceptualized, written and designed almost entirely by Nigerien health staff. If this were not the case, it is unlikely that the acceptance, ownership and promotion necessary for personnel to want to use the manual would exist.

Each SOP committee member chose specific writing or editing assignments. During regularly scheduled SOP committee meetings, the various written sections were reviewed, the validity of the content discussed, and editing changes made. After each meeting, a recorder prepared notes describing conclusions and follow-up actions. The SOP manual is being reviewed by four staff members at each level of the regional health system (Department, District, and peripheral), and suggestions and edits will be incorporated into a final draft by the SOP committee.

The manual was written, designed, formatted and edited over a 5-month period. The standard operating procedures were either borrowed from existing sources, or were developed within the Tahoua Department, as the need to develop systems and procedures arose. For example, after receiving a large shipment of medical equipment and essential supplies, the Department staff realized that no system existed for proper storage and distribution of the equipment and supplies. To correct the problem, a committee was established to develop a Department-wide supply and inventory system, with associated tracking forms and guidelines. These are included in the SOP manual, with an explanation for their use.

To obtain ideas on how to present the information in the manual, the Bethesda-based QAP staff sent inquiries for examples of existing SOP manuals, via internet, to cooperating health agencies, USAID, the World Bank, and other sources. These examples were collected and shared with the committee. After reviewing the sample manuals, the committee decided upon their format. As part of their design process, the committee developed tables to facilitate accessing key information quickly.

Although the SOP committee decided not to include clinical guidelines in this manual, the manual does provide a list of available documents which contain clinical standards for each health activity. The manual's contents also include: brief post descriptions; a section describing how the health system is organized; guidelines on how to keep the health center clean, listing the task, and how often it should be done and by whom. A section on the management of epidemics, as well as the management of essential medicines and vaccines is included; however, since the committee felt these topics required more specific details than could fit in this manual, they refer the reader to the relevant documents dealing with these topics. A personnel section provides information on performance reviews and promotions, transfers, retirement, employee status, employees' rights, obligations, and sanctions if obligations are not met. Sections on time and meeting management include examples of both an activities schedule and calendar, a meeting agenda, and a table listing routine meetings within the health district, who should attend, and how often they should meet. Sections on Quality Assurance tools and methodologies, supervision, and monitoring were included, since these activities are essential to successful management of a quality health care system. Finally, sections on how to properly manage finances, vehicles and fuel were written, and examples of the associated request and reporting forms are included.

In conclusion, it is intended that the manual will help improve worker performance through communication of expectations and standardization of procedures. It includes information on everyday management and administrative issues, and it is presented in an easy to use format. As the Tahoua health department continues to use continuous quality improvement methods in identifying gaps in the health delivery system, new standards will need to be included the manual. If the SOP manual improves job performance and satisfaction, as it is assumed it will, it is possible that the manual will be adopted and distributed on a national scale.

The Quality Assurance Project was initiated in 1990 to develop and implement sustainable approaches for monitoring and improving quality of health care in less developed countries. This project builds on 10 years of PRICOR experience. The Q.A. Reports series presents the methods and results of project activities in quality assurance methodology refinement and technical assistance.
Since May 1992, the USAID-funded Quality Assurance Project (QAP) and the Jordan Ministry of Health (MOH) have been working together to strengthen the quality of family health and family planning services in Jordan. The MOH has decided to use an integrated quality assurance (QA) program to improve the effectiveness and efficiency of the health service delivery at both the primary and secondary referral levels. The QA program has embarked on the development of policies and protocols to guide primary health care, especially pre- and post-natal care, family planning, as well as secondary level maternal and child health referral services.

QAP assists local staff to implement quality design, assessment and improvement activities, applying principles of both traditional quality assurance and quality improvement. A critical element to ensure sustainability of the quality assurance program after the end of the technical assistance is the training of local professionals to assume leadership roles in their programs. To encourage this process, opportunities are provided to such leaders to experience first-hand the activities of successful QA programs in the United States. The purpose of attending such practica is to enable participants to model their own performance on that observed in experienced health care professionals working in QA.

This past year, in preparation for the Jordan Practicum, QAP staff conducted a needs assessment through organizational analysis, task analysis, and person analysis of MOH health professionals and developed instructional materials, manuals, and workshops to meet identified needs for nine Jordanian MOH officials, who participated in U.S.-based practica. The MOH officials, representing the Monitoring and Quality Assessment Directorate, the MOH Planning and Projects Management Directorate, the Balqa’a Governorate, the Health Directorate, and Al-Hussein Hospital, were invited to spend four weeks training in QA in the U.S. Most of the participants were themselves responsible for facility-wide QA programs in hospitals or primary care settings in Jordan. All were members of Quality Improvement councils, problem solving teams, or facility committees. The training took place between August 4, 1995 and October 28, 1995. Four of the participants attended practica in Washington, D.C., three attended practica in Oklahoma City, and two attended in both. These practica were organized with support from the technical and administrative QA team in Jordan and Bethesda.

The practicum was designed to enable participants to understand and describe the general role of a U.S. QA coordinator. In addition, it was anticipated that participants would discern alternatives for organizational structures of QA programs and alternatives to information flow. Participants were also expected to predict ways in which this new information could be used in their...
personal practices. By exposing the participants to functioning QA programs and allowing them to observe the use of QA techniques within U.S. medical facilities, they were given the opportunity to compare and assess different working models. It was expected that this hands-on exposure would enable the participants to adapt successful QA techniques to Jordanian institutions.

In order to personalize the experience and transcend cultural differences, participants' personal goals and objectives were integrated into the overall objectives of the training. The QA coordinators at each host facility provided a detailed daily agenda for each participant, based on the practicum goals and the participants' specific MOH responsibilities. Participants selected areas of interest for program development and conducted in-depth inquiry into that element. For example, if they were interested in medical records, they learned about the organization, content, filing, retrieval, and use of the medical record; if they were interested in clinical guideline development, they learned about the ways in which topics were chosen for development, how standards were researched and agreed upon, and how the guidelines had been adopted for clinical and QA use. The chosen topic and associated inquiry became the basis for possible use and practical adaptation upon the participants' return to Jordan.

In order to understand how quality activities are organized in a given facility, the participants researched facility documents and interviewed key staff members. Research involved reading the facility's plans for quality improvement, utilization review, professional staff credentialing and privileging, risk management, and medical records and infection control activities. In addition, the participants collaborated with the QA coordinator to identify and interview key staff members regarding the relationship between their jobs and planning for quality improvement. The participants attended meetings of QA committees, process improvement teams, and workgroups in order to determine their roles in the QA program.

The participants also investigated systems for sentinel event reporting and analysis and development of routine monitors. They were then able to determine methods of case inquiry, data collection, and analysis and describe how action is taken in response to findings. Participants were also included in facility workshops about quality improvement methods, practices, and tools. Participants were then asked to conduct peer review and medical review processes for QI study teams.

At the end of the training sessions, participants discussed the relevance of their experiences to the total quality improvement objective. They were provided with manuals, textbooks, and guidelines for future reference. Written evaluations revealed that, overall, the practica were perceived by both the host institutions and the Jordanian participants as a critical element in ensuring QA sustainability within the Jordanian MOH.

QAP is currently facilitating another round of Practica under the auspices of Dr. Arif Batayneh, the Minister of Health of Jordan. These Practica will take place at the Mayo Clinic in Rochester, Minnesota in the spring and summer of 1996.

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For the past three years (1993-1995), the Quality Assurance Project (QAP) has supported the adaptation and integration of quality assurance methods within the Tahoua Health Department, one of nine health administrative regions in the Republic of Niger. The QAP has provided technical and financial inputs aimed at improving the quality of primary health care management and delivery throughout the Department's 8 districts.

In order to share the process and outcomes of this three year effort, and to obtain objective feedback from those outside the Department, a national conference was held in the regional capital in December. The overall objective of the Conference was to “present results achieved in the organization, management and delivery of primary health care services in the Department of Tahoua as a consequence of applying the quality assurance approach,” which focuses on team-based problem solving and coaching. More specifically, the Conference served to: demonstrate the quality assurance methodology and tools; present the Department’s quality-oriented supervision design; describe the use of standards and data to monitor quality in service delivery; demonstrate the relationship between quality assurance and decentralization; present examples of integration of vertical services as a response to client demand; and elicit recommendations from Conference participants on how to improve, extend and sustain the quality assurance approach in Niger. The Conference was attended by approximately 120 people, including representatives from the central and regional Ministry of Health, representatives from the major donor organizations, and NGO partners who are active in the health sector.

The success of the three-day Conference was reflected in the quality of the presentations given and the discussions held during each of the sessions. It was also reflected in the strength of the recommendations made at the close of the meeting. Participants unanimously agreed that the quality assurance methodology is an effective approach for improving the quality of clinical and support services at all levels of the health care system in Niger. Furthermore, participants called for the integration of quality assurance into basic and in-service training, and for Ministry of Health and donor support to continue the effort in Tahoua, in view of an eventual expansion. Also, the positive influence of QA was evidenced in the way in which the Department staff participated in planning, organizing, and conducting the Conference.

After three years of learning and refining its approach to QA, the Tahoua Department was ready to share its experience with other regions and with central Ministry of Health personnel, and to benefit from an external review of this approach. As in most centralized systems, new approaches are defined from the top down, and conferences presenting new approaches are the domain of the central level. The Department had no prior experience planning for such a high profile event. Furthermore, Tahoua’s experiment in QA was done with little involvement from the central level, and except for very senior management, was not widely understood. Thus, the Conference posed both a great opportunity and a challenge to Tahoua Department personnel.

Consistent with the QA approach, five teams were created to manage the Conference planning process. The teams were responsible for agenda planning, organization, catering, lodging and logistics, and entertainment. As a first step, the Team responsible for planning the agenda determined the most important “lessons learned” and reviewed these with the quality improvement team coaches and management staff from the 8 districts. The following priority messages were emphasized during the Conference: the QA approach as applied in Tahoua comprises an effective methodology to improve the quality of primary health care services; few additional resources are
required to obtain results; QA work can be sustained in the absence of donor funding; and the flexible and integrated structure of the QA Project should serve as a model for other project-based interventions. This initial exercise also helped to underscore the key strategies which contributed to improving the quality of care, namely: supervision, integration and decentralization.

The next step in preparing the Conference agenda required that each of the 8 coaches take an inventory of each team’s QI achievement and select for presentation the work of those teams which reflected the three key strategies. An appropriate QA tool, the Storyboard, which is a visual record of a quality improvement team’s progress, was used to present the quality improvement process and results of the teams selected. The preparation of storyboards by each team clarified the links between steps in the improvement cycle and helped team members to gain a more global view of their work. The outlines for the storyboards also functioned as outlines for the verbal presentations made during the Conference. The use of Storyboards for the Conference prompted teams to permanently adopt this tool to document ongoing quality improvement team work at the facility level. Because of the large number of quality improvement “stories” to tell, the Conference Agenda Team chose to hold concurrent sessions, during which teams presented their results. All of the presentations were grouped into larger categories: Teamwork, Improvements in the Quality of Services, Improvements in the Quality of Care, and Community Participation.

Following the selection of presentations, rigorous preparation using rehearsal and peer review began. The rehearsal sessions built self-confidence among presenters, many of whom were vocationally trained nurses who had never attended a Conference, let alone presented at one. In addition, these sessions allowed all who participated to further master the analytic skills which are central to a systematic quality improvement process. Finally, the supportive nature of the rehearsals further solidified the trust and confidence among the Department staff.

The first day of the Meeting was devoted to presenting an overview of the quality assurance framework and tools, and describing the problem solving cycle. Simultaneous sessions were conducted on the second day, during which teams from health facilities presented their quality improvement work on such varied topics as malaria case management, vaccination cold chain, tuberculosis patient compliance, rehabilitation of malnourished children, integration of maternal/child health services, and prenatal, family planning and immunization service utilization. The third and final day of the conference was used to divide participants into three working groups to discuss the relevance of quality assurance in the Nigerien health care system; strategies for integrating quality assurance at central, regional, and district levels; constraints likely to be encountered in learning and applying quality assurance, strengthening the approach; and the sustainability of the approach, once project support has ended. The three groups reconvened to integrate and synthesize the results of group discussions. As mentioned, participant recommendations called for continued support of quality assurance activities in the Tahoua Department, in order to consolidate the achievements and extend the methodology throughout the entire Department. Also, they recommended that training in the quality assurance methodology be integrated into the principle medical and public health training institutions, and that it be adapted for use by community organizations, such as district health management teams and village health committees. An additional recommendation was that the MOH define a national supervision policy similar to the methodology applied in Tahoua, where supervision is key to monitoring and reinforcing compliance with standards and for facilitating problem solving and process improvements.

The results of the QAP activities were positively evaluated by the participants. Central MOH Directorate personnel and health managers from other regional health departments in the country became aware of the quality assurance methodology and clearly judged it to be effective in significantly improving the management and delivery of quality health care services. Participants were extremely impressed with the sophistication and quality of presentations of process improvement studies made by peripheral health teams.

This is the first forum of its kind in Niger where a broad range of health personnel could come together in a structured fashion to discuss in detail such key topics as decentralization, integration, supervision and quality of care. It was striking to all who attended from outside of the Tahoua Department how important the team-based problem solving approach has been in creating motivated and mutually supportive staff. Despite the particularly difficult social and economic situation that exists in Niger today, they have managed to achieve many positive changes in their health care system in a short period of time, with little or no outside funding. The high quality of the content and the organization of the Conference clearly demonstrated to the participants that Tahoua’s experience with QA has been extremely productive. As for the personnel from the Tahoua Department, the process of planning and holding the Conference was a valuable learning experience which reinforced the benefits of applying a quality management approach to all aspects of their work.

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Quality Assurance and Health Reform in Poland

The Polish health care system is being transformed from its formerly centralized structure, financed and directed by the Ministry of Health, to a more decentralized structure which places emphasis on regional and local direction, control, and financing. As a result, local governments and providers have heightened interest both in the technical quality of the care they provide and in patient satisfaction.

In 1992, Poland began participating in a European Union-funded project aimed at improving quality of care in several hospitals. The following year, a Polish Association for Promotion of Quality in Healthcare was formed, and in 1994, a National Center for Quality Assessment was established under the auspices of the Ministry of Health. The purpose of the Center is to promote awareness of modern quality assurance (QA) technologies and to provide technical assistance to provider units that wish to improve quality by applying these methods. The Center was assisted in its development by USAID and by a Belgian cooperation project for the training of Center staff in the use of the techniques and tools of modern quality assurance. In October 1995, the Center held a two-day conference in Cracow, at which nearly two dozen managers and providers presented the results of recent quality improvement activities they had carried out. The USAID-funded Quality Assurance Project (QAP) was invited to review the Center's programs and demonstrate the efficacy of modern QA methods and approaches in the resolution of a range of health care quality problems in Poland.

As part of QAP’s involvement, an assessment was carried out in October 1995 to appraise the status of QA in the country and identify opportunities to introduce a QA approach based on problem solving by quality improvement teams. The assessment team found that interest in modern QA is high, that national capacity is not yet very great, and that the National Center for Quality Assessment (NCQA), having already started on a course of improving its own capacity to function as a national resource in quality management, would be a natural partner. The purpose of the collaboration between QAP and NCQA is to demonstrate to a larger audience in Poland the effectiveness of team-based problem solving methods and tools in improving service quality, and to strengthen the capacity of the NCQA staff to provide training to, and facilitate quality improvement activities by service providers in hospitals and clinics.

Preparations were made for two one-week workshops in January, which would launch five or six quality improvement teams into successful problem solving activities. During November and December, CMJ staff worked with selected facilities to identify team members, encouraging them to select two or three problems to resolve. The purpose of the January workshops was to select top priority problems and begin the problem solving process. Enthusiasm for the QA process grew so rapidly that eight teams developed before the workshops began.

CMJ and QAP staff planned to work together in the development of training materials and course presentation. All training materials, including overheads and references, were translated into Polish by the CMJ staff. By working with QAP to clarify issues raised by translation, CMJ staff learned more about the QA approach and came to understand the details of the training. Also, CMJ staff were assigned individually to translate materials related to certain QA tools and techniques. Their exhaustive research made them experts in different areas, capable of training peers in these focused topics. CMJ staff also received training about working in teams and coaching, in preparation for coaching the problem solving teams. The first workshop, conducted in English by QAP staff, occurred in Crakow from January 15 through 19, 1996. Two weeks later, the CMJ staff delivered the same workshop, in Polish. Teams sent half of their members to each workshop.

Teams representing all eight facilities attended the first workshop. During the first two days, information was presented about general quality and quality assurance awareness, the
A Mammography Unit team from Legnica is also examining the problem of patient waiting time. In this case, patients spend a long time waiting between the time the mammogram is taken and the physician sees the patient for examination and counseling. The flow chart showed that this wait does not occur with each patient, but only those who are seen between 10:00 am and 2:00 pm. Physicians are scheduled for only part of the day, so patients with early mammogram appointments wait for care until the physician arrives. While it might seem obvious that these patients could eliminate their wait by being scheduled later in the day, the team examined whether that was possible. They decided to concentrate on that specific part of the problem, determining possible causes of not scheduling patients closer to the times when physicians are available. They identified possible limitations of test turn-around times, technician efficiency, and physician availability. The next step will be to study the process of doing the mammograms to determine if there is significant variation in the time it takes to conduct the exams, the average time required for taking and developing the mammograms, the average time needed for the physician to examine the patient, and whether changes in mammogram scheduling could reduce patient delays.

Physicians from a hospital in Sieradz identified an opportunity to improve the process of echocardiogram scheduling and testing. They have statistically established certain volume targets, and they know they are conducting approximately 40% fewer tests than they should. The team flow-charted the scheduling process, but no obvious issues were uncovered. The team analyzed possible causes of failure to meet volume targets. From this, they have decided to gather data on cancellations, equipment downtime, test cycle time, patient mix, and physician availability.

The second week of training, which was conducted in Polish, occurred from January 29 to February 2. The remaining team members received the same information, and performed the same exercises, which their colleagues had previously completed. However, when the teamwork activities began, they reviewed the work completed during the previous training and added new information to the tools. Coaches will follow up with each team to reconcile the information and assist the teams into the baseline data gathering phase. At this stage, teams will begin to quantify the extent of the problem. In the case of some of the teams described above, this baseline information will lead directly to the identification of a root cause of the problem. In other cases, the coaches anticipate they will need to do further work with QA tools to better understand the problem process. In either situation, the teams will ultimately propose solutions which address the root cause of their problems, implement the solutions, and measure the improvements. Teams have been encouraged to use a storyboard format to document team activities. They will present the results of their quality improvement activities at an April 1996 conference.
The Quality Assurance Experience in Zambia

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Zambia's Quality Assurance (QA) Program exemplifies how QA helps organizations reach their goals and visions. With the introduction of a national QA Program that promotes preventive, as well as curative, care, the Zambian Ministry of Health's vision, "to provide a cost-effective, quality health care system as close to the family as possible," is becoming a reality.

In 1993, the QA unit of the Zambian Health Reform Implementation Team (HRIT) began sensitizing personnel at provincial and district levels to the dimensions of quality, the various definitions of quality and quality assurance, the relationship between cost and quality, the role of standards and indicators, and the role of teams in QA. QA committees were formed at the Provincial, District, and hospital levels to help institutionalize QA. Despite these initiatives, increasing concern arose regarding district and clinic personnel's understanding of the relationship between QA activities, their daily activities, and the Health Reform structure. In addition, it was not clear which were the different responsibilities of QA committees at each level of the health system. To address these concerns, the USAID-funded Quality Assurance Project (QAP) was asked to assist in launching a second phase, with two major objectives: 1) to introduce QA activities to the clinic level, and 2) to implement a strategy for institutionalization of QA in each province and each district within the provinces.

First, QAP staff conducted an assessment of six primary health care clinics and the district hospital in the Livingston District of Zambia's Southern Province. The assessment was unique in that it was a peer evaluation of the hospital or clinic structure, interviews with health workers and patients, and observation of the health worker's clinical practices. The peer review teams were made up of three clinic directors and personnel from the district, hospital, province, and Ministry of Health level. One member of the team was always the director of the clinic being assessed. The data from the assessment was immediately reported back to the staff of the clinic and hospital for their analysis. The facilitators stressed that this assessment was to be used as a self-evaluation tool. The instruments were designed to allow health workers to compare their intended practices with their actual practices, with input from patients.

Clinic and hospital staffs found the results surprising. For example, at one hospital, when nurses were asked: "when admitting new patients, what must you do?," most were able to outline the requisite tasks, but when under observation, the nurses did not perform the tasks as stated. Staff thus concluded that training was not needed, but that further investigation into the nurses failure to perform certain tasks was required. It was also noted that some health workers could not accurately recall clinical requirements, but were observed performing the tasks accurately.

The Quality Assurance Project is operated by the Center for Human Services in collaboration with the Johns Hopkins School of Hygiene and Public Health and the Academy for Educational Development. The project is sponsored by the U.S. Agency for International Development under Cooperative Agreement No. DPE-5992-A-00-0050-00.
Upon completion of the analysis, clinics and hospital staffs were asked to identify major problem areas, as indicated by the data. Using nominal group technique and a criteria matrix, the staff prioritized and chose a problem for improvement. Five of the six clinics chose to work on inaccurate documentation of clinic activities. The sixth clinic chose to work on improving communication/counseling of the clients.

The staff then followed a systematic problem solving process. They used a flowchart to gain an understanding of the present circumstances, and they developed bubble charts to develop data collection questions and to determine the various causes of specific problems, such as why there was not accurate data, or why clinicians did not provide counseling. After collecting data, they analyzed it to determine root causes of the problems and propose solutions. Below is a sample of a clinic's flowchart and data questions.

<table>
<thead>
<tr>
<th>INFORMATION</th>
<th>INDICATORS</th>
<th>SOURCES OF DATA</th>
<th>METHOD OF DATA COLLECTION</th>
<th>SAMPLE</th>
<th>FREQUENCY</th>
<th>CAUSE TO IMPROVE</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of errors on registers &amp; forms</td>
<td>Past records</td>
<td>Reader</td>
<td>All</td>
<td>Monthly</td>
<td>CO 1/6</td>
<td></td>
</tr>
<tr>
<td>No. of times not filled out by day</td>
<td>Forms</td>
<td>Reader or Count</td>
<td>All</td>
<td>Daily</td>
<td>CO 1/6</td>
<td></td>
</tr>
<tr>
<td>No. of times clinic staff report they don't get information passed</td>
<td>Staff</td>
<td>Question</td>
<td>All</td>
<td>Daily</td>
<td>CO 1/6</td>
<td></td>
</tr>
<tr>
<td>No. of times clinic staff report they don't get information passed</td>
<td>Form</td>
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<td>Daily</td>
<td>CO 1/6</td>
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</tr>
</tbody>
</table>

To ensure that all the districts and clinics in the Southern Province receive training, an implementation strategy is needed. To meet this need, a workshop will be held in March for the province, the districts, and the hospital QA committees. During this workshop, the roles and responsibilities for QA implementation will be clarified, and an implementation plan for each level will be developed.

To guarantee that the Province, Districts, and hospital have adequate personnel to implement their plans, coaches and/or facilitators will be identified and trained. The training, which will also be held in March, will cover team building techniques, conflict management, decision making, feedback, meeting skills and the use of just-in-time training. The course will also ensure that the coaches successfully use flowcharts, develop bubble charts, and create valid data questions and data collection instruments. It is anticipated that this model of implementation will be used in the remaining provinces, beginning in April 1996. By providing QA training and sharing successful approaches to problem solving, QAP is helping the Ministry of Health achieve its goal of providing quality, cost-effective health care for the Zambian people.

The Quality Assurance Project was initiated in 1990 to develop and implement sustainable approaches for monitoring and improving quality of health care in less developed countries. This project builds on 10 years of PRICOR experience. The Q.A. Reports series presents the methods and results of project activities in quality assurance methodology refinement and technical assistance.