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Assessing the Quality of Healthcare at the District Level in Rwanda

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About this series

The *Case Study Series* presents real applications of Quality Assurance (QA) methodologies in developing countries at various health system levels, from national to community. The series focuses on QA applications in maternal and reproductive health, child survival, and infectious diseases. Each case study focuses on a major QA activity area, such as quality design, quality improvement, communication and development of standards, and quality assessment. In some cases, more than one QA activity is presented.

Quality assessment is the measurement of the quality of healthcare services. A quality assessment measures the difference between expected and actual performance to identify opportunities for improvement. Performance standards can be established for most dimensions of quality, such as technical competence, effectiveness, efficiency, safety, and coverage. Where standards are established, a quality assessment measures the level of compliance with standards. For dimensions of quality where standards are more difficult to identify, such as continuity of care or accessibility, a quality assessment describes the current level of performance with the objective of improving it.

A quality assessment frequently combines various data collection methods to overcome the intrinsic biases of each method alone. These methods include direct observation of patient-provider encounters, staff interview, patient focus group, record review, and facility inspection, among others. The assessment is often the initial step in a larger process, which may include providing feedback to health workers on performance, training and motivating staff to undertake quality improvements, and designing solutions to bridge the quality gap.

This case study describes how Rwandan staff from the central, regional and district levels designed and implemented an assessment of the quality of healthcare services at two districts. Ministry of Health staff defined performance indicators, created and tested assessment tools, assessed 19 health centers, and presented findings.

Acknowledgments

This case study describes district-level quality assurance activities implemented by the Ministry of Health of Rwanda. Dina Towbin wrote the initial case study, drawing on information provided by Barbara Kerstiëns and the *Survey Report on the Quality of Care in Muhima and Rwamagana Districts of Rwanda,* Ministry of Health of Rwanda and QAP, March–April 1999. Technical and editorial review was provided by Ya-Shin Lin, Lani Marquez, and Diana Silimperi.

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Assessing Quality of Healthcare at the District Level in Rwanda

Background

Since the 1994 civil war in Rwanda, the government has achieved impressive progress in rebuilding the nation. Government structures and operations have been re-established, agricultural activities and courts of law have resumed, and over two million refugees have been repatriated. However, the government still faces complex challenges. The Rwandan population remains one of the most dense on the continent and has one of the highest growth rates. The population, which is over 90 percent rural and 40 percent illiterate, has a health profile with high infant and child mortality, and HIV seroprevalence among adults is estimated at 11 percent.[1]

To address these health issues, the Rwandan Ministry of Health (MOH) forged a partnership with the Quality Assurance Project (QAP) in August 1998. The purpose of the collaboration was to increase the quality of healthcare delivery in the national primary healthcare system and raise health service usage in target areas. A national quality assurance (QA) team, centered in the MOH Division of Promotion of Quality of Care, was formed to guide the development of quality assurance activities. The QA team and QAP staff developed a strategy to

[1] Population Division of the Department of Economic and Social Affairs of the United Nations Secretariat. 1999 *The World at Six Billion.* (ESA/P/WP.154).

institutionalize QA through pilot programs in two districts, beginning with an initial assessment of the quality of care at the facility level, followed by team-based quality improvement efforts. The MOH selected one urban and one rural district—Rwamagana and Muhima, respectively—based on criteria such as having a functional district management team, a donor providing support for operational costs, and the absence of security problems.

The first objective of the quality assessment was to identify quality gaps in the healthcare system. This identification would serve as a starting point for quality improvement activities. Another objective was to train a core team of MOH staff from the national level and the two districts in quality assessment methods and prepare them to lead the process from beginning to end. This process would include development of indicators and tools to measure these indicators, assessment of facilities, and presentation of findings. A third objective was to provide a baseline of performance against which subsequent quality improvements could be measured.

Designing and Preparing for the Assessment

Selecting clinical and support activities to be assessed. The national QA team chose 10 priority clinical and support activities based on criteria of need, importance, current performance level, and potential for improvement. The five clinical activities selected were malaria case management, case management of sexually transmitted diseases (STDs), prenatal care, normal delivery care, and vaccinations. The five support activities were training, supervision, financial management of drugs, community participation, and communication of information within the center. The QA team also decided on the methods that would be used in the assessment: direct observation of service delivery, record review, interviews with health workers, and exit interviews with clients.

Selecting quality assessors. Because a key objective was to build the capacity to conduct quality assessments, the national QA team recruited 13 MOH staff from the central,

regional, and district levels to serve as assessors. Of the MOH staff, four were from the Division of the Promotion of Quality of Care, one from the national vaccination program, one from the national primary healthcare program, one was a regional supervisor, four were district-level supervisors (two from each pilot district), and two were district-level nurses. Four students from the National School of Public Health were also recruited to participate in the assessment.

Quality awareness seminars in the pilot districts. To increase understanding of the quality assurance approach and the pilot QA program that would be implemented in the pilot districts, staff in the Promotion of Quality of Care Division organized one-day quality awareness seminars in February and March 1999. Two sessions were held in Rwamagana and three in Muhima. The seminars covered the definition and dimensions of quality and the four principles of quality assurance (customer focus, systems approach, team work, and use of data). In all, 51 people attended the seminars, including members of the district management teams, health center in-charges, representatives of facility health committees, and community members.

Defining performance standards. In early March 1999, QAP facilitated a one-day seminar with staff of the Promotion of Quality of Care Division, representatives from the national MOH programs that would be examined in the assessment, and members of the two district management teams. The purpose of the seminar was to help staff clarify and reach consensus on criteria for defining quality and the performance indicators that would be measured through the assessment.

Seminar participants reviewed standards and protocols developed by the MOH and model quality assessment instruments used by QAP in other countries. Then they worked in small groups and compiled a list of indicators that included areas outside typical clinical standards, such as how clients were greeted and whether providers gave clients opportunities to ask questions. Lively discussions ensued as the groups worked through the standards, defining quality for each of the 10 clinical and support activities that would be assessed. Figures 1 and 2 present two examples of the

resulting standards. The first shows indicators for the financial management of drugs; the second shows indicators for the case management of STDs.

Figure 1. Performance Indicators for Financial Management of Drugs

- Management tools are located in an accessible place in each health center
- At least one staff member is trained on how to use the financial drug management tool
- One staff member is responsible for financial management
- Receipts and registered expenditures correlate with available funds
- Documentation of inventory is accurate
- Generic essential drugs are available at each health center
- A minimun stock is defined by each health center

Figure 2. Performance Indicators for Case Management of Sexually Transmitted Diseases

- STD case management flowchart (or other reference document) is on provider's desk
- Patient has opportunity to present complaints with a reasonable level of confidentiality
- Condoms are available at the health center
- Condoms are accessible with a reasonable level of confidentiality
- Provider verifies the duration of symptoms and treatment history
- Provider examines the patient for signs of infection
- Provider gives patient information about STD transmission and prevention
- Provider gives patient information about risks, possible complications, and long-term side effects for the partner and/or children
- Provider gives treatment according to flowchart
- Provider actively searches for partners for their possible treatment

Linking clinical and support activities to data collection instruments. Next, seminar participants identified how issues in each clinical and support activity area could be measured by different assessment methods, maximizing on opportunities for triangulation.[2] Table 1 shows how five selected clinical and support activities were linked to tools to identify the issues that would be examined with each tool. Once this was done, participants drew up interview questions and checklist items to measure each indicator in an assessment instrument. Figure 3 shows the eight instruments participants drafted.

Figure 3. Data Collection Instruments

- 3 observation instruments (for curative, prenatal, and vaccination consultations)
- Facility inventory checklist on facility supplies, records, and equipment
- Questionnaire on drug supply and financial management
- Questionnaire to interview the health worker "in-charge" at the center
- Exit interview questionnaire for all clients
- Exit interview questionnaire for patients who were given a prescription during the consultation

Training the data collectors. Because the 17 people selected to perform the quality assessment were not skilled surveyors and had no significant prior data collection training, they took part in a three-day data collection training workshop in mid-March 1999. Led by QAP advisors, the workshop included role-playing (to practice applying the instruments) and field testing.

Pretesting the data collection instruments. During the training workshop, the assessors practiced applying all eight data collection instruments during two half-day pretests at two health centers in an urban district similar to Muhima. Following the pretests, the assessors made further revisions to the

[2] Triangulation is the use of different techniques to elicit information in a specific area, so that each technique can be used to check and complement the results of others.

instruments. These changes included reducing the number of questions about a single subject, revising the order of questions, and restating the exit survey questions more clearly in the local language.

Collecting Quality Data

Strategy for data collection. The assessment targeted all functioning health centers in the two districts, resulting in a total sample of 19 facilities (8 health centers in Rwamagana and 11 in Muhima). At each health center, the assessors

Table 1. Linking Selected Clinical and Support Activities with Assessment

	Observation	
	Facility Assessment	**Curative, Prenatal, and Vaccination Consultations**
Clinical activities		
Sexually transmitted diseases/HIV	Availability of supplies: needles, thermometer, syringe, sterilizer	Duration, treatment history, exam, correct treatment, confidentiality, disinfection of examination area
Malaria	Availability of supplies: thermometer, needles, perfusion kit, glucose, microscope, glass slides, lancet	Recognition of danger signs, duration, previous treatment, exam, correct treatment
Antenatal care	Availability of supplies: sphygmometer, obstetric stethoscope, gloves, urine tests	Promotion of anti-tetanus vaccine, Expanded Program for Immunization (EPI), and completion of clinical steps
Support activities		
Financial management of drugs	Availability of management and inventory tools	Stock, financial barriers
Training	Not applicable	Malaria, STD, prenatal care, EPI, interpersonal communication

planned to inspect the premises; interview the in-charge; observe at least 10 consultations each for curative care, prenatal care, and vaccinations; and interview five clients after each of those three services. The assessors and QAP advisors debated whether the assessors should alternate tasks or apply the same data collection instrument in each facility. They decided that each assessor would be assigned one instrument to apply throughout the assessment. It was felt that this would provide greater reliability and ensure that a supervisor would not directly observe health center staff she or he normally supervises.

t Instruments

	Interview		
	Provider Interview	**Client Exit Interviews**	**Drug Supply and Financial Management**
	Training in counseling and case management	Understanding of treatment, drugs received	Availability of drugs
	Training in management of severe cases, recognition of danger signs	Understanding of treatment, recognition of danger signs, drugs received	Availability of drugs
	Linkage with vaccination activities, danger signs	Treatment, delivery plan, recognition of danger signs	Availability of drugs
	Identification of problems with financial management of essential drugs, supervision	Availability of drugs, financial barriers	History of stock-outs: duration, causes
	Training received in STD/AIDS management, severe malaria, obstetric complications	Interpersonal communication (i.e., informing client of diagnosis, giving client the opportunity to ask questions, etc.)	Proportion of staff trained in drug management, duration of such training.

Using the data collection instruments. The 17 assessors worked in four teams in a 10-day assessment period from March 23 to April 6, 1999. Each team was led by a staff member of the Promotion of Quality of Care Division, who coordinated the activities. One supervisor was assigned to each pair of teams. Teams spent about a day and a half in each center to ensure that they could assess both vaccinations and prenatal care, which were generally conducted on different days. The teams observed providers in 160 curative, 174 prenatal, and 182 vaccination consultations, and they conducted 289 client exit interviews. A physician from the Division of Epidemiology and a QAP advisor entered and cleaned the data each day during the data collection process.

Results: Interpreting and Disseminating Assessment Findings

Analyzing the data. After the data collection was completed, Promotion of Quality of Care Division staff and the QAP advisors worked together on the preliminary analysis using the French version of Epi-Info 6.0. Approximately 30 percent of the data was entered twice as a quality control check. The QA team wanted to present preliminary results within 10 days of completing the quality assessment.

Preliminary feedback. Results of the quality assessment were presented and discussed at three seminars between April and June 1999. First, Promotion of Quality of Care Division staff and QAP advisors provided feedback to the data collection team and representatives from the MOH programs that were assessed. This was done immediately following data collection to maximize on the assessment's momentum.

The first seminar day was devoted to presenting results to identify problem areas. To facilitate this process, input and process indicators were reported separately for all clinical activities, as in the antenatal example in Table 2. Since health workers cannot perform without basic supplies, it is useful to know if these are available for problem-identification purposes. In this example, iron was not often prescribed, though it was in stock. On the other hand, over half of the health centers

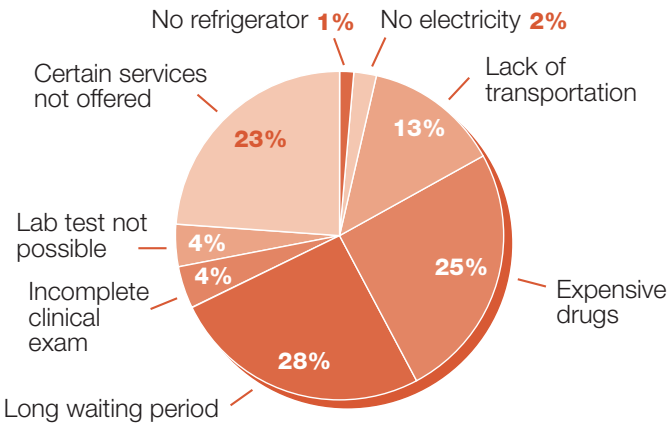
Table 2. Input and Process Indicators for Antenatal Care

Input Indicators	
% of health centers with iron and folic acid in stock during assessment	100
% of health centers with urine sticks in stock during assessment	42
Process Indicators	
% of patients presenting at antenatal care session for whom iron is prescribed	18
% of patients presenting at antenatal care session for whom albuminuria and glucosuria test is done	4

were not equipped to perform urine tests, which could explain why they were not ordered. Problem identification in the former case should focus on why health workers are not prescribing iron; for the latter case, management of supplies should be examined.

The presentation of findings also included a compilation of the patients' perspectives on the major areas for improvement, since half of those interviewed offered suggestions. The top four problems or areas identified by patients were long waiting times, high drug prices, lack of specific services (some health centers are not equipped with laboratories or delivery rooms), and lack of transportation in case of referral (please see Figure 4).

Figure 4. Problems and Concerns Identified by Patients (Rwamagana and Muhima; N=174)



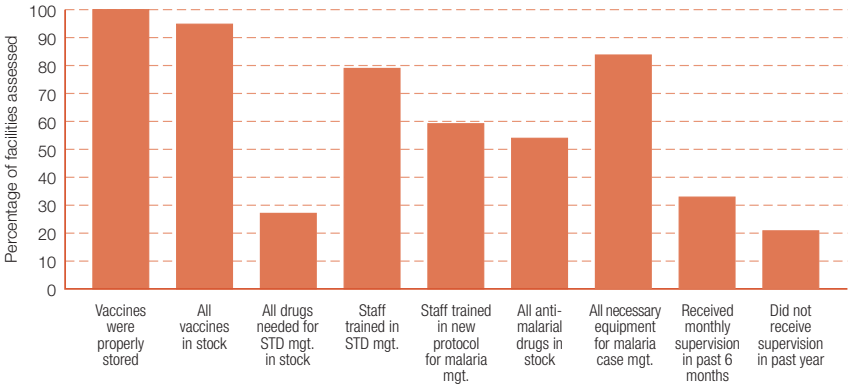
In general, the assessment results indicated that improvements were needed in a range of areas. These included welcoming the client, checking infant/child vaccination status, reducing waiting time, disposing of syringes properly, making medical test results readily available, counseling patients, ensuring availability of pharmaceuticals and adequate support services, and having posters and signs in the local language. (See selected findings in Table 3 and Figure 5.)

The seminar culminated in a planning session for presenting the assessment results at the district level and for establishing criteria that could guide the district teams in prioritizing problems to address through the process of systematic team problem solving, which would take place during the following months. Participants also set plans to conduct focus groups in the following month to further elicit patient input for increasing the quality of care at the facilities.

Table 3. Selected Findings: Malaria Case Management (Rwamagana and Muhima)

Number of cases observed with complaint of fever	**98**
% of fever complaint cases with adequate performance of diagnostic tasks (i.e., tasks to conduct in cases of fever complaint, such as: ask about onset of symptoms, take temperature, look for respiratory difficulties and other warning signs)	50% (49/98)
Number of cases for which malaria diagnostic test was requested	**66**
% of cases in which malaria diagnostic test was requested and results received the same day	29% (19/66)
% of diagnosed malaria cases in which standard treatment protocol (flowchart) was followed	44% (29/66)
Number of new cases with diagnosis of malaria	**56**
% of new cases with diagnosis of malaria (including confirmed malaria and fever of unknown origin) that received anti-malarial drugs	55% (31/56)

Figure 5. Selected Findings: Availability of Critical Inputs (Rwamaguna and Muhima; N = 19)



Drafting action plan and using assessment findings in systematic team problem solving. The Promotion of Quality of Care Division led the remaining two seminars. In the second seminar, findings were presented to a district-level audience that included in-charges of all the health centers assessed and community leaders. Attendees presented survey results separately by district to "qualitatively" compare strong versus weak functional areas in each district (see example in Table 4).

Table 4. Example of "Qualitative" Malaria Feedback to Districts

STRENGTHS

- Temperature taken with thermometer
- "Thick smear" diagnostic test performed in case of fever
- About 60% of staff trained in new protocol

WEAKNESSES

- "Persistence of danger signs" given as reason for return visit
- Lack of counseling on bednets
- Rwamagana District: "thick smear" lab tests are not available the same day

An additional day was devoted to developing an action plan for the next two months. Participants were urged to prioritize problems, identify those with immediate solutions, and address more complicated issues through a longer process of team-based problem solving. The process led to recommendations to address welcoming clients, stock-out issues, reduction of waiting time for preventive care, improvement of staff and supervisory training, and communication with the community.

Input from the first two seminars framed the presentation of findings in the final seminar, which was directed to district management teams of non-pilot districts, representatives of national programs on malaria control and HIV/AIDS control, and USAID and World Health Organization (WHO) advisors. Results from the focus groups held in May to elicit qualitative information on the clients' perception of quality of care were also presented during this seminar.

In July 1999, as part of the two-month action plan for applying the assessment, Rwamagana and Muhima district health staff took part in QAP-led training in problem-solving techniques, accompanied by discussions on identifying problems and interpreting results. District health staff established an action plan and criteria to select priority problems for the district teams to address. Problem-solving teams then met to select a strategy to resolve the more complicated issues, put the strategy into action, and monitor the results.

Quality Assessment Insights

The assessment marked the first time that most of the national and district health staff had participated in an assessment or received feedback on their performance. The assessment also gave district supervisors a new perspective on the staff and health center activities they supervised. Asking clients for suggestions on service improvements in open-ended exit interview questions proved to be a positive step as well. Many of the clients interviewed offered suggestions that helped to make client priorities clear for health workers. Some of the lessons learned from the assessment follow:

The consensus-building seminar for defining quality and indicators was a critical step in the assessment design. Defining performance standards by discussing existing standards and assessment tools led to the development of a shared understanding of quality among national and district-level staff. The resulting indicators provided the basis for staff to develop assessment tools. Both the process of defining quality for diverse healthcare and support system activities and drafting assessment tools increased staff ownership of the assessment. In hindsight, more in-depth discussion of key indicators measuring different aspects of quality could have facilitated the interpretation of the assessment results.

Tailoring the presentation of findings to each audience maximized the impact of the assessment. The first seminar to present findings provided quick feedback to those directly involved with and affected by the assessment, immediately after data collection. This rapid turnaround capitalized on the interest elicited by the assessment process itself, and it initiated the examination of quality issues. The second seminar targeted a district-level audience. The last

seminar was geared toward a policy-oriented audience from the MOH, USAID and WHO. At each seminar, results were presented in the manner most relevant to the audience. For example, at the district-level seminar, results were presented in qualitative form to ensure that the findings were understood by all, including the community leaders. Each seminar ended in a planning session for the seminar at the next level.

Assessing Quality of Healthcare at the District Level in Rwanda: Summary

In March and April 1999, four teams led by Ministry of Health staff conducted a quality of care assessment at 19 health centers in two districts in Rwanda. The assessment was coordinated by the Division of Promotion of Quality of Services of the Ministry of Health, with technical support from the Quality Assurance Project (QAP). Prior to data collection, district and national staff had worked together to reach consensus on appropriate standards of care that would serve as the basis for the assessment. The assessment teams examined the performance of selected clinical and support activities during 160 general health, 174 prenatal, and 182 vaccination consultations and carried out exit interviews with 289 clients. Ten days after the data collection, the assessors presented preliminary results to staff in each district so they could develop a short-term action plan for introducing immediate improvements and identify those problems that would require the formation of problem-solving teams.