Introducing quality management into primary health care services in Uganda

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In 1994, a national quality assurance programme was established in Uganda to strengthen district-level management of primary health care services. Within 18 months both objective and subjective improvements in the quality of services had been observed. In the examples documented here, there was a major reduction in maternal mortality among pregnant women referred to Jinja District Hospital, a reduction in waiting times and increased patient satisfaction at Masaka District Hospital, and a marked reduction in reported cases of measles in Arua District. Beyond these quantitative improvements, increased morale of district health team members, improved satisfaction among patients, and greater involvement of local government in the decisions of district health committees have been observed. At the central level, the increased coordination of activities has led to new guidelines for financial management and the procurement of supplies. District quality management workshops followed up by regular support visits from the Ministry of Health headquarters have led to a greater understanding by central staff of the issues faced at the district level. The quality assurance programme has also fostered improved coordination among national disease-control programmes. Difficulties encountered at the central level have included delays in carrying out district support visits and the failure to provide appropriate support. At the district level, some health teams tackled problems over which they had little control or which were overly complex; others lacked the management capacity for problem solving.

Introduction

The health status of people in sub-Saharan Africa continues to lag behind that of those in other regions (1, 2). Morbidity and mortality among children and adults remain unacceptably high. The health sector must meet increasing demands with resources that are often declining in real terms. As this is likely to continue, better management of existing resources offers the best and perhaps the only hope of improving the quality of health services and increasing the health status of the people (3).

In developing countries, a management-by-results approach is a common strategy for improving health care services, i.e. setting quantitative coverage targets for specific interventions combined with inspection-oriented supervision (4, 5). Yet sustainable quality improvements are rarely achieved because underlying managerial and logistical weaknesses are not addressed. These deficiencies often discourage health care workers from applying their skills and make it difficult for the health system to use effectively the external resources provided.

A fundamentally different management approach, variously termed total quality management (TQM) or continuous quality improvement (CQI), has been widely embraced by health services and industry in Japan, Europe, and North America (6). Broad-based, process-oriented management, the use of teams, and decentralized decision-making have generally replaced the traditional "top down" management approach in efforts to achieve quality in products and services.

In the Ugandan public sector, wide-ranging decentralization has devolved both the authority and funding of district-level health services to the district government, opening new possibilities for health management initiatives. We report here the introduction on a national basis of TQM methods for health services in Uganda, difficulties encountered during their introduction, and the results achieved in the first 18 months following their introduction.

Health Services in Uganda

After two decades of internal conflict that have seriously eroded health services, Uganda is undergoing

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major sociopolitical reform. The three-year national health plan, drawn up in 1993, reoriented the focus of the Ministry of Health towards primary health care (7). Government services, including health services, have been decentralized to the district level. Accordingly, each district health team prepares an annual work plan and budget which are submitted to its district council for funding from the treasury block grants that the council receives. A cost-sharing plan was introduced, allowing collected funds to be utilized by the health facility concerned. The management of Ministry of Health headquarters has been restructured to be more responsive to the needs of decentralized districts. The health sector's share of the national budget has increased from 1% (1986) to 5.8% (1994), equivalent to a per capita increase from US$1.20 to US$5.00. However, central government health expenditures still remain considerably less than those in most sub-Saharan African countries (8).

During development of the three-year plan, a recurrent finding was poor management of hospitals and health services. In selecting activities to be financed under the World Bank's Second Health Sector Loan to Uganda, improving the quality of care was made a priority. A national quality assurance programme was launched in March 1994, and its first task was to assist health teams in managing their decentralized districts. The methods used built on the experience of a quality assurance pilot project carried out in Kabarole and Bundibugyo districts in Uganda by the German Agency for Technical Cooperation (GTZ) and UNICEF.

Evolution of quality improvement methods
Quality improvement methods were introduced in manufacturing industries in the 1930s when it became evident that reliance on inspection was less effective than strengthening the production processes (9). These early concepts evolved to include the quality of design, marketing, distribution, and other organizational activities. Other developments emphasized the collection of data about the production process, use of this information by teams of workers, and a renewed focus on determining and addressing the needs of customers. Some key publications made these concepts an integral part of management science worldwide (10-12). In the 1980s quality improvement methods, embodied in the TQM and CQI approaches, were adopted by service industries, including the health sector (13-15). The recognition that developing country health services were not reaching their potential despite increased training, financial investment, and supervisory efforts sparked interest on the part of the United States Agency for International Development and other groups in the application of quality improvement methods that had been successful elsewhere (5, 16, 17).

Methods

The national quality assurance programme
The national quality assurance programme began with establishment of a quality assurance unit composed of three medical officers. An initial quality-awareness workshop was conducted for senior personnel from the Ministry of Health, Makerere University Medical School, and Mulago Hospital. During this workshop a 25-member national quality assurance committee was established, composed of senior Ministry of Health personnel, managers of all national disease-control programmes, and representatives from the medical school and the central hospitals. This committee assists the quality assurance unit in implementation of the quality assurance programme and integration of activities within the Ministry of Health.

The principal focus of the programme is on improving the quality of district-level health services by using quality management methods to identify and solve common service-related problems. This approach includes the development and dissemination of standards or guidelines, determining the needs of patients and their families, strengthening communication between health care providers and users, and using data to identify gaps in quality.

Quality management methods were introduced through quality-awareness workshops for district-level health teams and the district's administrative and political leadership. During these workshops, participants selected clinical or administrative problems from their districts to be addressed over the following 6 months by means of quality improvement methods. They also developed work plans to collect the necessary data, develop and apply solutions, and measure the resulting changes. After 6 months, the district teams met again to compare the results of their problem-solving activities, and to identify a further round of problems to be tackled. At the end of the first year, a general meeting was held for district health teams to share the lessons they had learnt.

A key part of the programme is support visits to districts conducted by teams of two or three persons from the national quality assurance committee. During these visits, the national team works with the district health team to solve problems related to the district's work plan, and other administrative or
clinical problems district managers are experiencing. At monthly meetings of the national committee, teams discuss their findings and arrange for further technical assistance from specific national programmes if necessary.

**Results**

**Ministry of Health**

An important achievement at the central level has been the strengthening of interaction among disease-control programmes, facilitated by monthly quality assurance committee meetings. District visits by committee members have helped staff at the Ministry of Health appreciate the need for integrated district-level services.

Examples of problems detected through these visits were inconsistent drug procurement procedures and difficulties in obtaining health funds channeled through local government. In response, procedures and guidelines were quickly established by the Ministry of Health and the Ministry of Local Government, which eliminated the problems.

At the Ministry of Health, difficulties were experienced in carrying out district-level support visits as often as originally envisioned, and cooperation between some disease-control programmes remains uneven.

**District level**

One of the programme’s principal accomplishments has been to bring together district health teams with local administrators and political leaders to share responsibility for strengthening health services. Within the health system, the integration of curative and preventive activities has been improved, and hospital managers are now in many cases a part of the district health teams. A more smoothly functioning referral system between health units and district hospitals was one of the first benefits of improved cooperation.

Developing district-level problem identification and problem-solving capacity is a central objective of the programme. Table 1 shows the nature of the problems that district health managers identified and undertook to resolve. Of the problems tackled, those related to cost-recovery schemes were the most common. In resolving them, weak points in the cost-recovery process were located and strengthened, and standard procedures established for health centres to allocate the funds thus realized. Following these changes, a number of districts noted reduced absenteeism by health care workers, improved morale, and increased patient satisfaction with the services provided.

The following examples of problems addressed in districts illustrate the approaches taken and the results obtained.

**Maternal mortality in Jinja District.** In 1993, 17 of 126 pregnant women referred from the district’s approximately 30 rural health units died after arrival at Jinja District Hospital. The principal causes of death were found to be haemorrhage (antenatal and postnatal), ruptured uterus, and postnatal sepsis. Many primary health care workers did not routinely identify high-risk pregnancies and some could not identify patients in need of emergency referral. Hospital staff and the district health team began an educational campaign for outlying health units that stressed the early recognition and prompt referral of women with high-risk pregnancies and obstetrical complications. Hospital record keeping was strengthened, and a monthly outcome record for patients referred for obstetrical complications was established. The district medical officer arranged for dissemination of this record and the follow-up of the problems identified.

In the subsequent 12 months maternal deaths were reduced from 17 (13.5%) to 8 (2.9%), and the number of women referred for obstetrical complications increased from 126 to 274. Maternity-ward staff feel that the educational campaign has resulted in the earlier referral of many complications. Both hospital and district personnel nevertheless recognize that this level of mortality is still unacceptably high, and a programme of continuing education and support through supervisory visits has been put in place to continue improvements.

**Measles in Arua District.** Despite an active immunization programme, measles cases reported in 1993–94 rose relative to previous years. Using an Ishikawa diagram, multiple potential causes were

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**Quality management in primary health care services**

<table>
<thead>
<tr>
<th>Type of problem</th>
<th>No. of districts selecting problem*</th>
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<tbody>
<tr>
<td>Management and administration, including financial management</td>
<td>21</td>
</tr>
<tr>
<td>Quality of clinical and preventive services</td>
<td>20</td>
</tr>
<tr>
<td>Collection and use of information, especially for planning purposes</td>
<td>13</td>
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<tr>
<td>Patient or employee satisfaction</td>
<td>6</td>
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* Some districts selected two problems.
identified. From this list of potential causes, the
district health team identified three areas they
believed to be major contributors to the problem,
and which they could address. These included
weakness in the district cold chain for measles
vaccine, problems with diagnostic accuracy, and a
poorly functioning information system. Of the 54
health centres, 9 did not have refrigerators and relied
on neighbouring clinics to store vaccine. The neighbour-
bouring clinics did not always have adequate space
for the ice packs needed to ensure safe vaccine
transport. Of the units with refrigerators, 9 did not
have reserve gas cylinders. Moreover, when the cold
chain was broken, health units did not have an
established process for dealing with vaccine.

A medical officer following up reported cases of
measles found that a variety of skin conditions were
incorrectly classified as measles. In other instances,
the diagnosis was deemed correct although some
children had a record of measles immunization.

Clinic records frequently showed discrepancies
between daily outpatient tally sheets and monthly
summaries. Sometimes monthly summaries had to be
estimated because of missing daily tally sheets. A
variety of corrective measures were put into place
during July 1994, including reallocation of refriger-
tors, acquisition of reserve gas cylinders, strengthen-
ing of cold-chain monitoring, and provision of an
adequate supply of forms. Additional training was
also provided to strengthen diagnostic skills. The
decline in reported measles cases is shown in Fig. 1.

**Outpatient waiting times at Masaka Hospital.**
Outpatients often reported early to Masaka Hospi-
tal, but many did not leave until very late, and then
frequently without treatment. Both patients and staff
had become increasingly dissatisfied. By means of an
Ishikawa diagram, multiple potential causes for
these delays were identified. Subsequently, through
an examination of outpatient records, observations
of patient flow, and discussions with patients and key
staff, the following problems were identified which
the hospital staff felt could be addressed imme-
diately: low morale among health workers, shortage of
supplies, inadequate supervision by hospital man-
agement, poor coordination of patient flow, and
inefficient dispensing of drugs. The hospital manage-
ment and the outpatient staff together developed a
work plan in mid-1994 to address each problem area.
Uniforms were provided to staff, and a work sched-
ule for each staff member was established. In addi-
tion, to supplement low salaries, some of the funds
raised through outpatient fees were distributed
among outpatient staff as an incentive (an accepted
practice in Uganda). The ordering system for sup-
plies functioned poorly and a new system was estab-
lished. Where supplies were not available through
government distribution channels, arrangements
were made for their local purchase. The hospital
managers developed a regular supervision pro-
gramme to support outpatient staff. Duplicate and
unnecessary steps were found in the flow of patients
through the outpatient department, and a new pa-
tient flow pattern was devised. Pre-packaging of
common prescriptions reduced delays in dispensing
medications to patients.

By the end of 1994 long delays had been elimi-
nated, and patients arriving in the morning were
reached and released by noon. Reorganization of pa-
tient flow eliminated overcrowding at certain steps in
outpatient processing. Both patients and staff felt
greater satisfaction with the new system. The utiliza-
tion of outpatient services in the second half of 1994
increased by 46.7% over the first half of the same
year, as shown in Table 2.

**Difficulties at the district level**

At the district level the capacity to identify gaps in
quality and to address them varied widely. Some
districts identified appropriate problems which they
solved in a methodical and efficient manner, with
little outside assistance; some districts selected prob-
lems that were too complex, or over which they had
little control; other districts identified suitable prob-
lems, but lacked the capacity for their resolution. In
some cases, visits from members of the national
quality assurance committee did not provide district
teams with the assistance needed for solving the
problems they had chosen. None the less, most dis-
tricts were able to make substantial improvements in
the problem areas they selected.
Discussion

In its first 18 months, the quality assurance programme raised awareness of the importance of the quality of health services, both at the central and the district level. At the central level, the integration of national programmes has been promoted, and there is increased awareness of the needs and capacities of district health teams. The use of quality management methods by district health teams has led to both subjective and objective improvements in the quality of services. One important achievement has been to bring local political leaders and district health teams together to improve health services. These results indicate that the principles and many of the methods of TQM are applicable in Uganda and probably in other countries with similar problems, and that health workers can master them.

Key factors contributing to the successful launching of the quality assurance programme, and to the improvements occurring during the past 18 months, include the decentralization of the health and other sectors of government, the restructuring of health services, a loyal and generally well-educated workforce, and a stable political climate. Recognition by the Ministry of Health of the importance of improving the quality of services led to the development of the quality assurance programme, and their continuing support has been critical. Another important factor has been the introduction of cost sharing in a way that directly benefits health workers and strengthens local services. The decentralization of financial responsibility to district councils and district health teams has greatly facilitated the optimal use of funds. The success of the programme to date clearly demonstrates that the principles and tools of quality management, when suitably adapted to meet the needs of the Ugandan health system, are both readily understood and appreciated. Furthermore, implementation of this programme has required relatively little external technical assistance. It should be emphasized that the improvements we have reported here have largely been achieved with existing resources. However, further improvements will require additional resources that can increase access to primary health care services (18). Obtaining more of these needed resources from within Uganda is a major challenge.

A central lesson of the programme is the importance of involving local political and government leaders in the quality-improvement process from the beginning. Decentralization means that district health teams and district political leaders must work together in setting priorities and allocating resources.

Although results from the first 18 months are encouraging, much remains to be done before quality improvement methods become a part of everyday health management in Uganda. The commitment of the Ministry of Health and district health managers to improve quality must be sustained if long-term improvements are to be realized (19). Many district teams have recognized the need for better information for planning, and through the quality assurance programme have set about to improve data collection and use. However, more work is needed before health teams will have ready access to dependable data and possess the skills to use these data for strengthening health services. A further objective of the programme is to increase rapidly the number of health workers in Uganda with the ability to use quality assurance management methods. Such concepts must be built into health training programmes as a standard management approach. To date, 434 health care personnel from all 39 districts have attended at least one round of quality assurance management workshops and have had follow-up support visits. Quality assurance management training has now been introduced into the joint Ministry of Health/Makerere University Master of Public Health curriculum. A major gap in the introduction of quality improvement methods is in the private health sector and among the many nongovernmental organizations providing health care in Uganda. Tertiary hospitals have yet to participate fully in the quality improvement programme.

To create a culture of quality — one which does not accept mediocrity — requires commitment from health workers, patients, and communities. Barriers to establishing such a culture include an entrenched
attitude among health professionals that they alone can best determine community health needs. Low health worker morale, low pay, and the fact that many health facilities are still awaiting rehabilitation also contribute to a continuing tolerance of low standards. Meeting the basic needs of health workers, the "internal customers" of the health system, is essential to improving their performance. Communities, on the other hand, often have become passive recipients of the services provided. The recent establishment of community-based management committees for all hospitals and health units constitutes a major step towards forging the partnership between communities and health-service providers that is essential for the continuous improvement of services.

Ultimately, quality stems from an attitude or mindset fostering continuous service improvement. Achieving quality often requires a major shift in existing thinking about health care, a shift which Uganda has begun to make. This change from the idea of health as a commodity made up of treatments, procedures, and training applied in defined and enforceable ways represents the birth of the concept of providing a service that meets the needs patients and communities perceive, and that is delivered in conformity with established standards. Not making this shift means remaining locked in the trap of not having enough resources, yet wasting much of what there is through inefficient services provided by unmotivated personnel.

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Résumé
Introduction de la gestion de la qualité dans les services de soins de santé primaires en Ouganda

Un programme national d'assurance de la qualité a été institué en Ouganda en 1994. Il a été créé au Ministère de la Santé une unité d'assurance de la qualité qui devait servir de secrétariat et diriger les activités d'une commission nationale d'assurance de la qualité composée de responsables et de cadres des programmes nationaux de lutte contre les maladies. Des programmes de formation aux méthodes d'amélioration de la qualité ont été mis en train à l'intention des personnels d'encadrement au niveau central et à celui des districts.

On a constaté des améliorations à la fois objectives et subjectives de la qualité des services de santé de district. Dans le district de Jinja, le personnel de santé s'était alarmé de la forte mortalité observée parmi les femmes enceintes envoyées par les unités rurales de santé et a élaboré un programme qui a permis de réduire fortement cette mortalité. A l'Hôpital de district de Masaka, les patients ambulatoires devaient endurer des attentes particulièrement longues; le personnel de l'hôpital s'est servi des méthodes d'amélioration de la qualité pour déterminer quels étaient les problèmes, réduire les temps d'attente et accroître la satisfaction à la fois des patients et des agents de santé. L'équipe de santé du district d'Arua a utilisé les démarches enseignées dans le cadre des programmes de formation à l'assurance de la qualité pour résoudre un problème d'augmentation des cas de rougeole signalés, malgré l'existence d'un programme de vaccination apparentemment bien géré.

Des difficultés sont apparues dans la mise en oeuvre du programme au niveau central, car les visites d'accompagnement aux districts ne pouvaient avoir lieu aussi fréquemment que prévu, et au niveau du district, parce que les problèmes se sont révélés plus complexes que ne l'avaient envisagé les équipes de santé ou comportaient des éléments importants qui échappaient à leur contrôle.

Le programme a été couronné de succès grâce à la participation des fonctionnaires locaux, à l'engagement sans relâche des hauts fonctionnaires du Ministère de la Santé, à l'existence d'un large programme de décentralisation en Ouganda, et à un personnel d'encadrement composé d'agents de santé loyaux et généralement bien formés.

Les méthodes de gestion de la qualité offrent un moyen d'aborder bon nombre des problèmes que rencontrent les services de santé des pays en développement. L'expérience de l'Ouganda montre que les agents de santé sur le terrain peuvent apprendre à appliquer les méthodes d'amélioration de la qualité. Bien que ce programme ait largement mis l'accent sur les améliorations de l'efficacité et de la rentabilité des ressources existantes, il ne fait aucun doute que la prestation de services de santé primaires nécessitera dans certains cas des ressources additionnelles.
References
