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Key Quality Aspect: A Fundamental Step for Quality Improvement in a Resource-Poor Setting

Tin Tin Su, PhD, and Sylvia Sax, MPH

The objective of the study is to identify user's perception of key quality aspects of the hospital and its influence on willingness to pay. The study was conducted in 2001 in Dhading District Hospital, Nepal. This was a descriptive, cross-sectional study design using quantitative and qualitative methods: questionnaire exit interview and focus group discussions with inpatients and outpatients, focus group discussion with service providers, and key informant interviews. The research identified attitude, technical and interpersonal skills of health personnel, availability of drugs and services as important quality aspects to be improved. Users were motivated to use this hospital and were ready to pay if they received proper treatment from skilled and communicative staff. This study highlights the importance of identifying the quality factors important to service users as a first step in improving quality. For the users within this study, this meant improving attitude, interpersonal skills, and technical skills of service personnel.

Keywords: quality of care; user’s perception of quality; key quality aspects; quality improvement; willingness to pay; Nepal; developing countries

Low tax base and ever-competing sector budgetary demands have forced governments in low-income and middle-income countries to implement user fees for cost recovery to overcome government budgetary constraints and to improve health services. User fees affect health services in many ways. Evidence from several countries shows that after implementing cost recovery methods, a sharp and often sustained drop in utilization follows, with the dual effect of decreasing revenue generation and adversely affecting the health of the people. On the other hand, some research shows that if the revenue collected through cost sharing is used for quality improvement, it maximizes the incentives for service users and consequently ensures further revenue generation.

Quality improvement is a crucial issue for a user’s willingness to pay for health services. However, quality of care covers many aspects. Donabedian, one of the most influential persons in the health sector quality movement, suggested 3 major attributes for assessment and monitoring the quality of care: structure, process, and outcome. Ware et al described...
quality using 8 dimensions: interpersonal and technical quality of care, finance, accessibility, availability, physical environment, efficiency, and continuity of care. Increasingly, over the last decade, user’s perception of quality of health care is seen as crucial to defining and improving quality in health care, because satisfied users tend to comply with treatment and continue accessing their preferred providers or health facilities.8,9

However, many standard indicators cannot measure users’ perceived quality because they focus on the professionals’ perspective and quality measured from professional, or provider viewpoints, is often different from the user’s perception. Generally, users of health services focus more on the interpersonal component of the process of care. Health services staff and administrators emphasize more on the structural and technical components, and high-level planners and policy makers are more interested in outcomes and patterns of need.10

In addition, perceptions of quality can vary between individuals and different sociodemographic groups. Evidence of differences in perception of quality is shown in 2 studies. A study conducted in Tanzania showed that users had to wait 3 hours for getting treatment, but they complained about the availability of drugs more frequently than the waiting time.11 Conversely, another study in Trinidad and Tobago demonstrated that long waiting time had a negative impact on users’ satisfaction with their care.12

If policy makers know what aspects of quality are the most important to users and they have mechanisms to prioritize and ensure that these are in place, this will facilitate users’ satisfaction and willingness to pay. To support our argument, we present some results obtained from a study conducted in 2001 in a District Hospital, Nepal. We chose Nepal because it has a high out-of-pocket payment.13 Moreover, underutilization and low quality in health facilities was a particular problem there as it is in other developing countries.14,15 In our study, we looked at the users’ perception of key quality aspects of the hospital and its influence on willingness to pay.

Methods

Study Area

Nepal is situated in the lap of the Himalayas bordered by India and China. The total land area is 147 181 km². According to Nepal Living Standards Survey, 74% of health care expenditure came from out-of-pocket payment.13 Only 69% of sick individuals sought treatment, 57% of whom were treated in public facilities.14

The study area, Dhading District, is about 60 km west of the capital Kathmandu. The area of the district is 1926 km² with about 305 898 people. There is only one 15-bedded, first referral level hospital in Dhading District for inpatient care, but there are several private practitioners and traditional health providers for outpatient services. Household out-of-pocket expenditure was 72.78% of total health expenditure in the district.16 A nominal registration fee has been in place in all public health facilities. In 1998, the user fees were doubled at Dhading District Hospital without due consideration to equity and quality of health service.17 The current user fees include payments for registration, laboratory and radiology investigation, surgical and gynecological services, and cabin/hotel charges for inpatients.

Study Population and Sampling Technique

The study was conducted in May-June 2001 in Dhading District Hospital. This was a descriptive, cross-sectional study design with quantitative and qualitative methods. Data was obtained quantitatively through structured questionnaire exit interviews and document
review and analysis. Qualitative data sources included focus group discussions with hospital users and providers, and key informant interviews. The qualitative methods were used in order to validate and complement the findings from the quantitative approach.\textsuperscript{18}

The study population consisted of adult users (older than 15 years of age) of both the outpatient and inpatient department. Very ill patients were excluded from the study. For the purpose of triangulation, service providers were also included as a separate focus group discussion. The respondents of the key informant interviews were knowledgeable persons such as Hospital Management Committee members, local politicians, and community elders representing the opinion of the community.

The close-ended questionnaire for exit interviews was developed to assess the structure and process attributes of the quality of care,\textsuperscript{6} which have been used in previous studies to identify users’ perception of quality.\textsuperscript{19} The dimensions of quality developed by Ware et al\textsuperscript{7} were used to frame components of structure and process of the care delivered in this hospital. Sample size for exit interviews was calculated by Epi Info version 6.04, assuming 40\% of users get the treatment according to their expectation based on the experience and level of precision (95\% confidence interval [CI] ± 10\%). The calculated sample size was 41 for outpatients and 23 for inpatients. However, the researchers decided to collect a sample more than double the calculated sample size in order to increase precision. Systematic sampling was used for outpatients. The initial intent was to use the same systematic sampling for inpatients, but because of the small number of inpatients during the time of the study, all patients who were discharged within the data collection period, and who fulfilled the selection criteria, were included in the study. The convenience sampling technique was used in selecting participants for focus group discussion. Key informants were selected using the snowball technique in purposeful sampling. Data were collected on 137 users (101 outpatients and 36 inpatients) through questionnaire interviews, 25 users and 6 service providers in focus group discussions, and 8 key informants.

For the quantitative data, Epi Info version 6.04 was used for data entry and the data was exported to SPSS for analysis. Data from key informant interviews and focus group discussions taped on audio recordings were transcribed into text. These notes were categorized based on similarities or contradictions.

Results

Sociodemographic characteristics of questionnaire respondents are summarized and presented in Table 1. Majority of respondents were females and illiterates. More than 90\% of respondents were Hindu and worked mainly in agricultural sector.

Access to Hospital

Geographical access. The majority of respondents (74\%) came to the hospital by foot, 12\% came by porter, 12\% by bus, and the final 2\% used their own bicycles. The mean time spent travelling by outpatients was 109 minutes and for inpatients was 105 minutes. There was no significant difference ($P > .05$). Two-thirds of respondents said that this length of travelling time was not a problem for seeking treatment in this hospital.

Financial access. Among the questionnaire respondents, 90\% paid full user fees for the health services and only 10\% were exempted from paying any fees. The mean cost of seeking care for an outpatient was 94 rupees (Rs; 1 US$ = 75 Nepalese Rs as on June, 2001), range = 5 to 410 Rs, and for an inpatient it was 1062 Rs, range = 116 to 3000 Rs. More than 80\% of the respondents thought that the user fees in this hospital were reasonable and
had no delay in seeking treatment due to cost. Only 8% felt this cost was unreasonable and the key reason for this was not receiving proper treatment.

User fees were doubled on December 16, 1998. The trends in utilization patterns of the hospital were compared using the year before the increase in fees and 2 consequent years after the increase (Figures 1 and 2). In the first year after increase, utilization for outpatient services reduced by 9% and for the inpatient reduced by 1.9%. For the following year, the outpatient use showed only 1% reduction against the year before increase and inpatient some 28% rise compared with the year before fee increase.

### Availability of Drugs

Among respondents, 21% got all prescribed drugs, 32% could not get any drugs, and 45% were able to obtain some drugs from the hospital. Those who did not receive all prescribed drugs (77%) had to purchase the drugs in outside pharmacies. The remaining 2% did not receive any prescription for the drugs. The drug costs in the outside pharmacy represent

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**Table 1. Sociodemographic Characteristics of Questionnaire Respondents (N = 137)**

<table>
<thead>
<tr>
<th>Sociodemographic Characteristics</th>
<th>Frequency</th>
<th>Percentage</th>
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<tbody>
<tr>
<td><strong>Age (years)</strong></td>
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</tr>
<tr>
<td>15-24</td>
<td>57</td>
<td>41.6</td>
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<tr>
<td>25-49</td>
<td>52</td>
<td>38.0</td>
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<td>≥50</td>
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<td><strong>Gender</strong></td>
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<tr>
<td>Male</td>
<td>50</td>
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<tr>
<td>Female</td>
<td>87</td>
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<td><strong>Marital status</strong></td>
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<td>Single</td>
<td>21</td>
<td>15.3</td>
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<tr>
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<tr>
<td>Widow/widower</td>
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<td>5.8</td>
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<tr>
<td><strong>Religion</strong></td>
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<td></td>
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<tr>
<td>Hindu</td>
<td>131</td>
<td>95.6</td>
</tr>
<tr>
<td>Buddhist and Christian</td>
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<td>4.3</td>
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<td><strong>Ethnicity</strong></td>
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<td></td>
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<tr>
<td>Brahman and Chhettri</td>
<td>54</td>
<td>39.4</td>
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<tr>
<td>Newars</td>
<td>30</td>
<td>21.9</td>
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<tr>
<td>Other ethnic groups</td>
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<td>38.7</td>
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<tr>
<td>Illiterate</td>
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<td>49.6</td>
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<td>Literate (informal and primary)</td>
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<td>29.9</td>
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<td>Secondary and higher education</td>
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<td><strong>Occupation</strong></td>
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<tr>
<td>Other</td>
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<td><strong>Family size (number)</strong></td>
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<tr>
<td><strong>Household annual income (Rs)</strong></td>
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<td>4.3</td>
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<tr>
<td>10 000-19 000</td>
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</tr>
<tr>
<td>≥100 000</td>
<td>11</td>
<td>12.0</td>
</tr>
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</table>
Figure 1. Utilization of outpatient service.
Utilization data for May and June 1999 for outpatients were missing. Thus, we did not include the data from these months in 1998 and 2000 for comparison.

Figure 2. Utilization of inpatient service.
Utilization data for May and June 1999 for inpatients were missing. Thus, we did not include the data from these months in 1998 and 2000 for comparison.

57% and 25% of total cost for seeking health care for outpatient and inpatient, respectively. The service user groups and key informants generally felt that access to the hospital was affordable but that the cost of the drugs in the outside pharmacies could be a hardship.
Availability of Services

The majority of the questionnaire respondents said the services recommended were available in this hospital. However, in the service user group discussions, participants stated that the hospital was not able to deliver services that one would expect of such a hospital. Particularly, they identified the need for emergency operations and some additional diagnostic procedures. Key informants also had a similar opinion.

Waiting Times

Questionnaire respondents had to wait for registration; the mean waiting time for registration for outpatients and inpatients was 14 minutes and 12 minutes, respectively. There was no significant difference ($P > .05$). The mean waiting time for seeing health personnel in outpatients and inpatients was 14 minutes and 15 minutes, respectively. There was no significant difference ($P > .05$). Majority of the respondents (80%) said that waiting time is short and the rest perceived waiting time as long, but none identified waiting time as very long. In the focus group discussion, the participants agreed that waiting time is not a problem in this hospital.

Health Personnel

Among the respondents, 56% were examined by health assistant/assistant health workers, 27% by a doctor, 10% were examined by nurses/auxiliary nurse midwife, and the remaining 7% did not know the status of the examining person. In focus group discussions and key informant interviews, the following 2 issues were identified: The first was that though there were 3 doctor posts sanctioned by the government, only 1 was filled. The second issue was the difficulty patients had determining who amongst the health personnel was a doctor. Only two thirds of respondents were satisfied with the technical skill of the examining person.

The questionnaire respondents were asked about the communication skills of the health personnel. Though people generally felt comfortable to state their needs, they did not have confidence in the dialogue because of lack of time or other factors. The service user focus group discussions expressed both positive and negative aspects of health personnel attitudes. Positive aspects identified were their interest in the well-being of the patients and cooperation in caring for the patients. The main negative aspects identified were their defensiveness and abruptness when asked to do something or when challenged about a potential mistake. The service user focus group discussions identified similar issues; most important, technical skill, attitude, inattention to the patient, and improper physical examination.

Physical Condition of the Hospital

Overall, 84% of the questionnaire respondents said the sanitary condition of the hospital was satisfactory, 95% were satisfied with both the waiting room and examination rooms. The service user focus group discussions and key informants interviews identified the following sanitation issues: unreliable availability of clean water, lack of adequate bed linens, and unsatisfactory processes for garbage disposal.

Overall Satisfaction of the Users

Only 70.3% (95% CI = 60.4-79.0) of the questionnaire respondents in outpatients and 58.3% (95% CI = 40.8-74.5) in the inpatient departments received the treatment according to their expectations. More than 80% of dissatisfied users stated that the main reason for nonfulfillment of expectation was not receiving the proper treatment; this was the same for
both outpatients and inpatients. The service user focus group discussions identified similar issues, the most important being technical skill, attitude, inattention to the patient, and improper physical examination. Although not all respondents received the treatment according to their expectation, many of them stated that they intend to visit this hospital again. In service users’ group interview, one respondent said, “Anyway, it is closer to our village and we have to be here for emergency care. No other option.”

Suggestions for Quality Improvement

Suggestions of quality improvement from questionnaire respondents were summarized and are presented in Table 2. The suggestions focused mainly on receiving proper treatment. The users identified their perceived proper treatment as “thorough check up (physical examination) by the skilful health personnel and getting full attention.” This included attitude of health personnel, interpersonal skills, and technical skills. Suggestions from the service users’ focus group discussions were remarkably similar and also focused on receiving the proper treatment through personnel.

Factors Influencing Willingness to Pay for Hospital Care

Important factors influencing willingness to pay for hospital care were identified by respondents. They were proper treatment (36%), short waiting time (23%), availability of drugs (21%), availability of services (11%), and others. The factors identified in the service user focus group discussions were generally the same. Proper treatment is still the key factor as evidenced by the following quote: “Proper diagnosis and proper treatment come first, then money. If I get proper treatment, I will be willing to pay as much as they ask.”

Discussion

It is generally agreed that quality and price play key roles in utilization of services. In this study, users stated only quality issues as influencing factors in payment and use of health services, and not price. This is in line with Wouters and Yoder who pointed out that quality is the major determinant for utilization of health services. However, like all facility-based studies, this study could have been influenced by the fact that we interviewed users and not nonusers of services. Nonusers could have a different perception of quality and affordability. In addition, there may have been factors of quality not included in our questionnaire that were important to the users, such as privacy and service information. Among the respondents, 50.4% were literate. It was higher than the literacy rate in Dhading district, which was 36%. It seems that literate people use Western health care facilities more than
illiterate ones. The majority of survey respondents were female. Some studies found that female users tend to use public health facilities more frequently than male users.\textsuperscript{23,24} We can assume that perceived quality among female users might be generally higher than male users and it could affect our findings.

Although the majority of the participants said that user fees in this hospital are affordable, there was a drop of utilization after introducing user fees, especially for outpatients. It seems that user fees deterred people from seeking care, especially for the poor, at least initially. There was no impact on use of inpatient health care due to implementation of user fees. The reason could be that Dhading District Hospital is the only health facility providing inpatient care in the study area, whereas service users have the alternative to choose private or traditional health providers for outpatient care.

Although user fees are implemented to overcome governmental budgetary constraints, this should not discourage sick people from seeking health care. In addition, even relatively small expenditures on health can be financially disastrous for poor households, because these households are likely to use almost all available resources on basic needs and are less able to cope with any given level of health expenditure.\textsuperscript{25,26}

A clear definition of criteria for an exemption scheme and strict adherence in following such criteria is required for the existing cost sharing scheme in the study area. The exemption policy should provide a safety net for the poorest and disadvantaged groups so that the very needy are not excluded from access to necessary health care.

Proper treatment by health personnel was the area identified as most important for users. This included attitude of health personnel, interpersonal skills, and technical skills. More than 80% of dissatisfaction among users was because of perceived improper treatment and it was also the main area identified for improvement. Attitude of health personnel is also focused on in several other studies as a negative experience that could discourage users from returning.\textsuperscript{3,27-29} Gilson et al\textsuperscript{30} suggested that improvement of interpersonal skills and attitudes of health personnel is an important aspect of quality improvement.

Many studies suggest that availability of drugs is an indicator of quality.\textsuperscript{5,11,28,31-33} There was a low availability of drugs in Dhading District Hospital and the majority of patients had to purchase their prescribed drugs from outside pharmacies. Despite this, the patients were more concerned with health personnel skills and the processes of the treatment. One reason for this might be that needed drugs were readily available in outside pharmacies near the hospital, and patients did not expect to get drugs in this hospital.

Availability of services was identified as an important quality aspect for users of this hospital. This is consistent with the suggestion of Van der Geest et al\textsuperscript{38} that people want to pay for health services when they receive something that cures or aids them, such as dressings or an operation. This is supported by Jack\textsuperscript{34} who postulated that one of the main reasons for underutilization of services in developing countries is generally held to be lack of supply of services.

Although the majority of questionnaire respondents said the physical condition of the hospital was satisfactory, the focus group and key informant interviews underlined the need for improvement of sanitary conditions. About 9% of the respondents suggested sanitary conditions as an area for quality improvement; this is in line with the finding from a previous study in developing countries that cleanliness influences patients’ satisfaction of the health care facility.\textsuperscript{22}

Users were motivated to use this hospital and ready to pay if they received proper treatment from skilled and communicative staff. Waiting time, availability of drugs, services, and sanitation had less impact on their utilization decisions. In particular, the current waiting time in this hospital was acceptable for the users and had no negative impact on their perception of quality of the hospital.
Conclusion

The research identified attitude and technical skills of health personnel, availability of drugs and services, and sanitation as important quality aspects to be improved. Many studies have shown that users are willing to pay for improved quality, but this needs to be defined, especially in developing countries where rational allocation of scarce resources is a critical issue. Policy makers need to address as a first step in quality improvement those areas identified as most important to the users.

For this District Hospital, the attitude, interpersonal skills, and technical skills of health personnel should be considered the first step for quality improvement. This quality improvement does not bear a high cost and could create a conducive environment for better services and eventually for revenue generation. This increased revenue could be then invested again for further incremental quality improvement. We recommend establishing a drug revolving scheme at a fair price from collected user fees as second step for quality improvement. It could enhance increased use of the hospital and resource generation. Availability of services should also be improved particularly in providing emergency operation because Dhading District Hospital is the only referral hospital in the study area.

This study highlights the importance of human resources in the acceptability of health services. It also identifies that availability of drugs does not necessarily mean only from the hospital. As long as drugs are available in some way the particular of this access are not central to improving quality. However, proper treatment by health personnel is a quality aspect that makes the hospital more attractive and cannot be substituted. This is an area to be addressed as a fundamental step for quality improvement.

Acknowledgments

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