UCMB Guidelines for Hospital Care Quality Measurement

November 2005

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1. Introduction

Hospitals are part of the health system and their work should contribute to enhancing the performance of the health system or otherwise to contribute in achievement of the health system goals.
The key goals of the health system relevant for the hospitals are:

- Improving health of the population they serve
- Responding to peoples non-medical expectations.
- Providing financial protection against the costs of ill health

Hospitals share these functions of the health system: resource generation, financing, service provision and stewardship although the emphasis is more towards direct service provision.
To meet their own expectations hospitals should be able to convert inputs in to outputs and have services that people can access, at good or reasonable quality and at an affordable cost to the users. Providing services at an affordable cost entails that hospitals provide services in an efficient manner, getting most out of the inputs (human resource, finance and other material resources) used. It is also important that people are not excluded from consuming hospital services by virtue of their socio-economic, gender or age differences.
For this reason UCMB has been monitoring hospital performance using the following parameters: Access, Efficiency, Quality and Equity. In doing so hospitals are encouraged to ask themselves every year the following questions:

1. Are we more or less Accessible than last before?
2. Are we more or less Efficient than last before?
3. Are we providing more or less better quality than before?
4. Are our services more or less equitable than before?

Although not all answers are expected to be positive all the time, hospitals are encouraged to reflect on deviations and get explanations leading to corrective actions for the different parameters.
Quality has been assessed for a long time based on the proxy measurement of qualified staff proportion alone. Much as qualified staff is an important indicator of quality, we acknowledge that using just this proxy measurement is not good enough for quality estimation. UCMB has therefore developed more comprehensive indicators for quality measurement. The purpose of this guideline is to help the hospital managers understand the basic concepts of quality and its measurement and be able to do the actual measurement themselves just like UCMB can do. Sometimes processes depend on individuals and once these individuals go, everything drops apart. These guidelines are expected ensure that there people remaining behind can do the job just as well as those who may have departed.

2. Why we are concerned with quality

Quality of service is an important determinant of utilization of services. One reason why there is low utilization of services is because the users perceive that the service is of poor quality. Quality appreciation is key for clients' willingness to pay for services, in general users will be willing to pay for a service whose quality equates or exceeds their expectation. It also important for us to ensure that the services we provide are able to address the conditions that bring people to the hospital and that people able to perceive it as so. Poor quality leads to wastage of the scarce resources and reduction of outcomes from health care. We should always strive to provide the best possible quality with the resources we have.

Interpretation and comparisons of a number of hospital performance parameters mentioned above is meaningful only after adjusting for quality differences between the different time periods or between the different hospitals. There is a need to be able to attach a figure/ a number to an amount of quality to avoid subjectivity. Ability to quantify and correct for quality differences is of paramount importance. As an example a hospital A can confidently be said to be more efficient that a hospital B if the former is providing health care with the same or better quality than the latter. This is because it takes more resources (human, financial, material) to produce good quality and thus quality should be part of the equation when making comparisons. As we strive to provide good quality the effort and cost to do so should be such that the service will remain affordable and utilized. There is no point in having splendid quality when only a few privileged users benefit from the service. Equity in service provision should be understood also to mean equal health outcomes for equal need. Achieving equal outcomes means all classes of users should receive the same quality of clinical care whether they are in private wards or not. Indicators for quality should be contextualized to the locality. In this respect UCMB has tried to use indicators that meaningful and reasonable in our local context.

3. What is quality?

The word quality is common vocabulary but sometimes it has different meanings with different people. In talking about quality in the hospital health care, we all need to have a common understanding of what quality is and be able to recognize and quantify it to the extent we can.

You may come across many definitions of quality but in all instances, quality is about doing the right things right. The "right" here refers to doing according to an agreed standard. A standard is a statement of what is expected to happen or be seen in a service or product. In practice standards are provided in guidelines, checklists, protocols, operating procedures, specifications e.t.c. These standards may be graded in some instances e.g. Minimal – must be achieved; optimal – desirable and achievable with some effort. Quality also means being consistent, the service you provide should be continuously recognized as good. It is not enough to show all that has just been said, the beneficiaries of your service should be convinced and should assert that they are indeed satisfied that the service you provide is of good quality, there have to be mechanisms of eliciting their conviction and assertion – measuring their satisfaction.

In summary quality is:

- Doing the right things right
- Doing according to an agreed standard
- Being consistent
- Patient conviction and assertion

4. Principles of improving quality

The following principles apply to quality improvement:

1. Meeting the needs of the client. Your knowledge as a health worker should be used for the benefit of the patient and the patient should have a say in choice of intervention based on the informed advice of the health worker.
2. Focusing on systems and processes. Although we often blame our workers for failed quality, it is known that 85% of our failure to provide good quality is caused by a failure in the systems and processes in the organization. Our organizations leave too much room for staff to make errors/mistakes. Attempts to improve quality must heavily focus on systems and processes.
3. Using data/recorded information to improve quality
4. Ensuring there is teamwork in efforts to improve quality
5. Ensuring effective communication – transfer of information, reception and feedback. There has to be effective communication between health workers and the patient, within the hospital and between the hospital and the community.

5. Measurement of Quality

The components below are used in deriving the parameters for quality measurement. You will recognize that the components are not always mutually exclusive and some degree of overlap may exist. Some rearrangement has been made a little different from the arrangements that you have been getting in the hospital managers workshop presentations on quality. In addition we can not measure all the components yet but with time we should be able to develop more comprehensive measurement of quality where all the components are taken in to consideration.

a. The components:

1. Technical Competence of Staff and Effectiveness of Care

This refers to having the staff with the right knowledge and skills for the job. They should be able to give evidence based care. The care that is given should then achieve the intended result (be effective) that is: reducing suffering, anxiety, disability and risk of death. Effectiveness has to be balanced with efficiency; care that is effective should be within the ability of the patient, the organization and the system to meet the cost. We should always endeavor to get the same or better result with less cost. Availability of the required drugs is a major contributor to effectiveness of care and should as much as possible be part of the quality of care assessment.

2. **Proportion of Qualified Staff**

A qualified staff is that staff holding a qualification for the post s/he holds in the hospital. We recognize that there is wide variation in this component, some hospitals employ staff to positions for which they have no qualification for. The ultimate goal should be all positions in the establishment are filled with staff having the right qualifications. This component is very much related to technical competence.

3. **Patient Satisfaction**

Patient satisfaction is an expression of the gap between the expected and the perceived characteristics of a service. Increasingly nowadays care should be judged by patients to be acceptable and beneficial. Satisfaction is a net result of good patient experiences in clinical outcomes, humanity of care, organization of the care and the healthcare environment. Waiting time is a major contributor to patient satisfaction. Patient satisfaction is the component of quality care most relevant to ensure adequate utilization of services.

4. **Access to Services**

This refers to utilization of services and existence of services befitting a hospital e.g. major surgery, X-ray, ultrasound, laboratory with sufficient capacity to do advanced investigations.

5. **Continuity of Care**

This is more relevant to quality of care in a local health system. It refers to the ability of a health service to initiate and complete a program of care to individuals and family. In a hospital setting it should be understood as having service continuously available (day, night, weekend, public holiday) and being able to refer as necessary.

6. **Safety of Care**

A key principle of medical practice in the Hippocratic Oath is “First of all do no harm”. This binds health workers to first consider safety of the patient. A hospital should ensure safety of the medical/surgical interventions and safety of the environment with little chances for hospital acquired infections or iatrogenic disease.

7. **Management Processes for Quality Improvement**

A hospital should have managed processes for quality improvement. Examples of these are the presence of maternal death audit procedures, medical audit procedures, and infection control committees and procedures e.t.c.

b. UCMB Chosen Components

UCMB chose only some of the components based on the ease to get the information and perceived capacity of the hospital management teams to cope with this new management task of quality of care. It is envisaged that more and more components

will be added as the hospitals develop sufficient understanding, interest and capacity to quality of care management. The chosen parameters are mainly those from the technical competence and effectiveness component.

The parameters now used by UCMB are:

i) On Technical Competence and effectiveness of care

- Recovery rates on discharge
- Maternal death rates after admission in maternity
- Fresh still birth rate
- Appropriate prescription (poly-pharmacy, antibiotic rates, injection rates)
- Dispensed drugs in relation to prescribed drugs (added up to the scores for appropriate prescription)

ii) On availability of qualified staff

- Percentage of qualified staff

iii) On patient satisfaction

- The aggregate score on answers to questions pertaining to clinical outcomes (as perceived by the patient), humanity of care, organization of the care, the healthcare environment and waiting time

iv) On Safety of intervention

- Infection rate of cesarean sections.

c. Working with the Parameters

i) Recovery rates on discharge

Definition
Number of patients in one year discharged as clinically recovered from that episode of disease (from all wards) following treatment, divided by the number of discharges (from all wards) in that year expressed as a percentage.

Collection of data
Data is collected from the inpatient register that should have the status of the patient on discharge. There are 4 outcomes for every patient following an admission. S/he can be discharged recovered, un-recovered, can run away or die. These outcomes should be entered in the patient register. This means that you should always record the status on discharge. In a temporary situation when there may be absence of complete information a representative sample from each ward can be taken. This sampling mechanism is not encouraged. Discharge status must be certified by the ward clinician and not the discharge nurse, because of a risk of failure to verify recovery status especially regarding chronic diseases and in situations when not all the symptoms may have disappeared.

Scoring
The score is the percentage result with one decimal place e.g. 98.2, 96.0, 95.1 etc.

ii) Maternal Death Rates after admission in maternity

Definition
Number of mothers dying in one year in the hospital while pregnant or up to 42 days-Six weeks following delivery or interrupted pregnancy from obstetric conditions or conditions worsened by pregnancy divided by the number of obstetric admissions in the hospital in that year expressed as a percentage. Note that this is not a population based maternal mortality rate or ratio that you may often comes across.

Collection of data
Data is got from the maternity ward registers.

Scoring
The score is the percentage result with two decimal places e.g. 0.42, 2.12, 6.53 etc.

iii) Fresh still birth rate

Definition
Number of babies born dead (but known to be alive on arrival in hospital) by spontaneous vaginal delivery or cesarean section in one year, divided by the total number of deliveries in the hospital in that year expressed in percentage terms. Note Fresh Still births have intact smooth skin not macerated.

Collection of data
From the maternity ward registers

Scoring
The score is the percentage result with two decimal places e.g. 0.42, 2.12, 6.53 etc.

iv) Appropriate Prescription Score in OPD

Definition
The score obtained from a collection of indicators measuring appropriate drugs prescription practices, including: poly-pharmacy, antibiotic prescription, injections, completeness of the prescription and medical examination. See Annex 1.

Collection of data
Data is collected through a short survey using a form that is shown in annex 1. The minimum sample size is 40 patients. The patients' forms are looked at as they leave the outpatient. This should preferably be taken on 4 different days to avoid prescriber bias and other biases. This survey should be done every year in April.

Scoring
The score for appropriate prescription is the sum of scores from individual indicators.

v) Percentage of qualified staff

Definition
The number of qualified staff in the hospital divided by the number of all staff in the hospital expressed as a percentage.

A qualified staff is a staff holding a qualification for the post s/he holds in the hospital.
As an example: An accounts assistant is qualified for the post of accounts assistant if he has a UDBS diploma, an accountant is qualified for his post of an accountant if he has a degree in BCom- Accounting or BBA accounting. A nurse is qualified for the nurse post if she has a certificate in nursing (enrolled or registered). A laboratory technologist or technician or assistant is/are qualified the post of technologist/technician/assistant if he has had the 4 yrs post A-level, 3 years Post A-level diploma or 2 years post O-level certificate respectively.
Note that all nursing aides and nursing assistants must be regarded non-qualified.

Collection of data
From personnel records

Scoring
The score is the percentage result with one decimal place e.g. 98.2, 96.0, 95.1 etc.

vi) Patient Satisfaction Score

Definition
The average (for all patients interviewed) of the scores obtained from the responses to various questions in the patient satisfaction questionnaire expressed as a percentage of the possible maximum score. See annex 2 for the details of working out this score.

Collection of data
Data is collected through an annual survey where an exit poll interview is conducted on at least 20 inpatients and 30 outpatients using the questionnaire shown in annex 2. This exit poll should be conducted by someone free of bias, preferably a complete outsider not part of the staff of the hospital. You could make use of for example a secondary school student. An intermediate option could be to use somebody not from the clinical departments.

Scoring
The score is the percentage result with one decimal place e.g. 98.2, 96.0, 95.1 etc.

vii) Infection Rate for Cesarean Infections

Definition
Number of cesarean section wounds in one year that get infected within the first 8 days post operative divided by the number of cesarean sections in that year expressed as a percentage. Note that in hospitals where there is a practice to discharge mothers much earlier than the 8 days, information should be collected also from the post natal clinic where this mothers will show up if they got infected.

Collection of data
This information should be collected from the discharge registers in the maternity ward. If this registers do not as of now show this information please make the necessary changes. An alternative (not to be preferred) is to sample say the last 100 cesarean section ward files and detect how many got infected.

Scoring
The score is the percentage result with two decimal places e.g. 3.44, 2.00, 2.01, e.t.c.

d. Calculating the Overall Quality Unit

The method now approved for calculating the overall quality unit is a bit different from the original method used in the hospital managers' workshop presentations. Originally the overall unit of quality was derived by adding all the scores obtained in each of the parameters. The addition was made after applying a multiplier to make all the different scores within a range that could make them additive without skewing the results. It was also looking at all the scores in the positive e.g. inversing the death rates while keeping recovery rates as they were (in the positive). Because of very wide variations in results obtained especially in the year 2004/05 where some hospitals were extreme outliers, we made a modification in calculating the overall quality unit from the scores as follows:

First we combined all the results of the two years (2003/04, 2004/05) to get the full possible range of scores expected on each parameter. We then divided this range in to twenty grouped ranges.
The grouped ranges were given a quality unit 1, 2 … 20. Twenty being the best possible quality unit and 1 the worst. This allocation of quality units is shown in the table 1 below (The Scoring Table).
For each parameter, a score is translated in to a quality unit by reading off from this table.
The overall quality unit for a hospital is the sum of all the quality units obtained from the different parameters. In theory a hospital can score a maximum of 140 units or a minimum of 7.

Table 1, The scoring Table

Range Definition	FSB Range	Quality Units	MDR Range	Quality Units	RR Range	Quality Units	IRCS Range	Quality Units	STAFF Range	Quality Units	SATIS Range	Quality Units	DRUGS Range	Quality Units
Equal or <	0.02	20	0.00	20	82.0	1	0.03	20	34.0	1	5.91	1	59.0	1
Equal or <	1.18	19	0.42	19	82.9	2	1.08	19	37.3	2	9.76	2	61.1	2
Equal or <	2.35	18	0.84	18	83.9	3	2.13	18	40.5	3	13.60	3	63.2	3
Equal or <	3.51	17	1.26	17	84.8	4	3.18	17	43.8	4	17.44	4	65.3	4
Equal or <	4.67	16	1.68	16	85.7	5	4.23	16	47.0	5	21.28	5	67.4	5
Equal or <	5.83	15	2.11	15	86.7	6	5.28	15	50.3	6	25.12	6	69.5	6
Equal or <	6.99	14	2.53	14	87.6	7	6.33	14	53.6	7	28.96	7	71.6	7
Equal or <	8.15	13	2.95	13	88.6	8	7.38	13	56.8	8	32.81	8	73.7	8
Equal or <	9.31	12	3.37	12	89.5	9	8.44	12	60.1	9	36.65	9	75.8	9
Equal or <	10.47	11	3.79	11	90.4	10	9.49	11	63.3	10	40.49	10	77.9	10
Equal or <	11.63	10	4.21	10	91.4	11	10.54	10	66.6	11	44.33	11	80.1	11
Equal or <	12.79	9	4.63	9	92.3	12	11.59	9	69.9	12	48.17	12	82.2	12
Equal or <	13.95	8	5.05	8	93.2	13	12.64	8	73.1	13	52.01	13	84.3	13
Equal or <	15.11	7	5.47	7	94.2	14	13.69	7	76.4	14	55.86	14	86.4	14
Equal or <	16.28	6	5.89	6	95.1	15	14.74	6	79.6	15	59.70	15	88.5	15
Equal or <	17.44	5	6.32	5	96.1	16	15.79	5	82.9	16	63.54	16	90.6	16
Equal or <	18.60	4	6.74	4	97.0	17	16.85	4	86.2	17	67.38	17	92.7	17
Equal or <	19.76	3	7.16	3	97.9	18	17.90	3	89.4	18	71.22	18	94.8	18
Equal or <	20.92	2	7.58	2	98.9	19	18.95	2	92.7	19	75.06	19	96.9	19
Equal or <	22.08	1	8.00	1	99.8	20	20.00	1	95.9	20	78.91	20	99.0	20
Greater than	22.08	1	8.00	1	99.8	20	20.00	1	95.9	20	78.91	20	99.0	20

FSB – Fresh still birth rate; MDR – Maternal death rate; RR – Recovery rate on discharge; IRCS infection rate for cesarean section; STAFF – Qualified staff percentage; SATIS – Patient Satisfaction score; Drugs – Appropriate drug prescription score.

6. Applications of Quality Measurements

The overall quality units derived can be used for the following purposes:

1. Quantifying and reporting quality in the hospital, in your annual report, board or other important meeting. This can be done as overall or just by looking at a parameter at a time.

Example

Table 2

Hospital	**Quality 03/04 using 7 Parameters**	**Hospital**	**Quality 03/04 using 7 Parameters**
Aber	79	Kitovu	97
Nyakibaale	84	Matany St Kizito	98
Maracha	87	Rubaga	99
Kalongo Ambrosoli Memorial	90	Villa Maria	99
Kitgum St Joseph	90	Nyapea	102
Kyamuhunga Comboni	92	Nkokonjeru	103
Lacor St Mary's	93	Angal St Luke	106
Lwala	93	Kilembe Mines	108
Nkozi	94	Kamuli	110
Mutolere	95	Nyenga	114
Ibanda	96	Nsambya	115

Table 3

Hospital	**Quality 03/04 Using 5 parameters (To compare well with 04/05)**	**Hospital**	**Quality 03/04 Using 5 parameters (To compare well with 04/05)**
Nyakibaale	56	Kyamuhunga Comboni	67
Lwala	59	Matany St Kizito	67
Aber	60	Villa Maria	67
Kitgum St Joseph	61	Lacor St Mary's	70
Maracha	61	Nyapea	70
Mutolere	63	Angal St Luke	73
Ibanda	65	Kamuli	80
Nkokonjeru	65	Nyenga	81
Nkozi	65	Rubaga	82
Kitovu	66	Kilembe Mines	83
Kalongo Ambrosoli Memorial	67	Nsambya	94

2. Reviewing and monitoring the quality of care in the hospital for the purpose of making corrective actions for quality improvement. The year 2003/04 quality is the baseline for quality monitoring. The graph and table below show comparison of quality in each hospital over a two year period, some improved, some declined. The comparison is made only using 5 parameters i.e. excluding patient satisfaction and appropriate drug prescription.

Figure 1

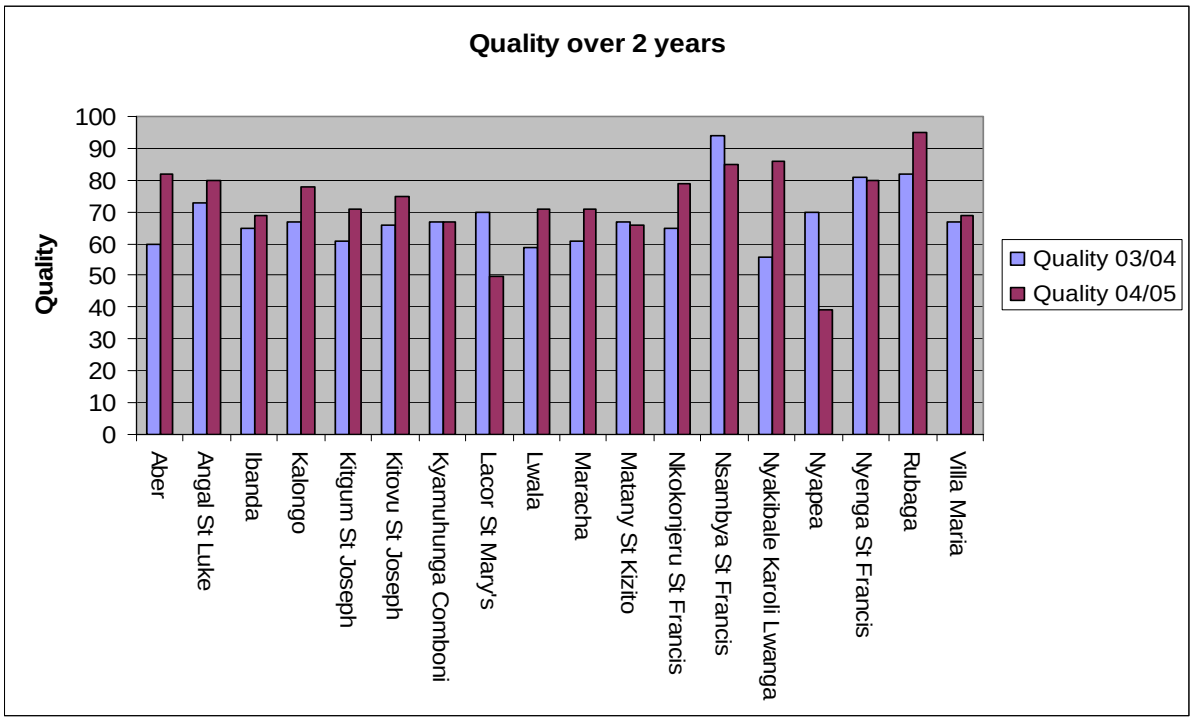


Table 4 Comparing quality in two years using 5 parameters only

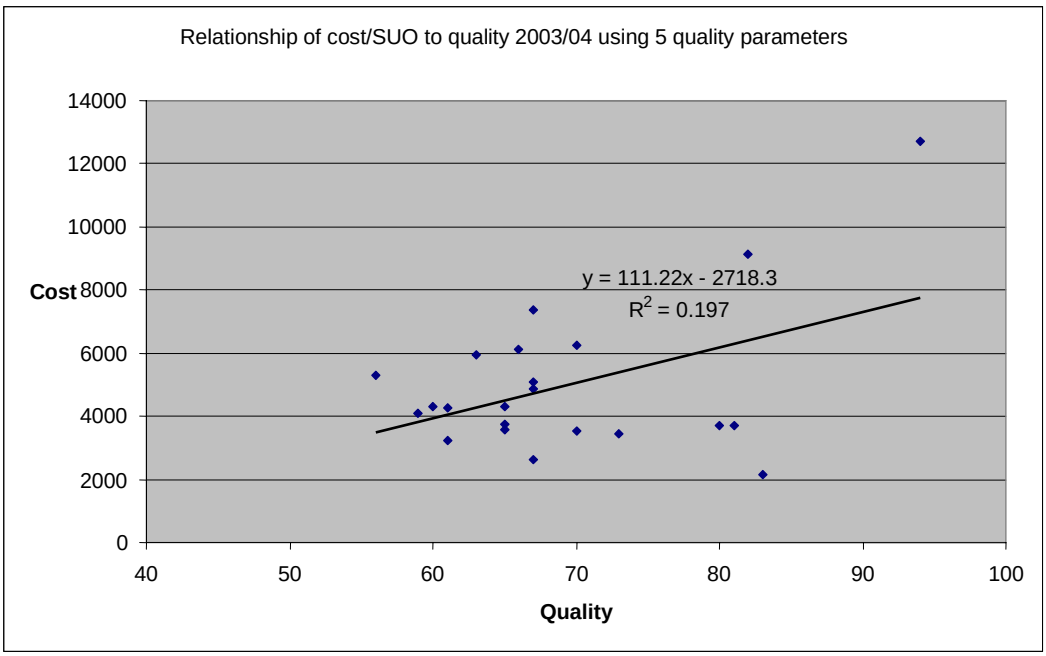
Hospital	Quality 03/04	Quality 04/05	Change
Aber	60	82	22
Angal St Luke	73	80	7
Ibanda	65	69	4
Kalongo	67	78	11
Kitgum St Joseph	61	71	10
Kitovu St Joseph	66	75	9
Kyamuhunga Comboni	67	67	0
Lacor St Mary's	70	50	-20
Lwala	59	71	12
Maracha	61	71	10
Matany St Kizito	67	66	-1
Nkokonjeru St Francis	65	79	14
Nsambya St Francis	94	85	-9
Nyakibale Karoli Lwanga	56	86	30
Nyapea	70	39	-31
Nyenga St Francis	81	80	-1
Rubaga	82	95	13
Villa Maria	67	69	2

3. Standardizing quality measurement in all UCMB hospital so that comparisons can be made between years and between hospitals.

Note that these parameters do not measure quality aspects in totality and the hospitals should not ignore following other aspects of quality improvement in hospital care.

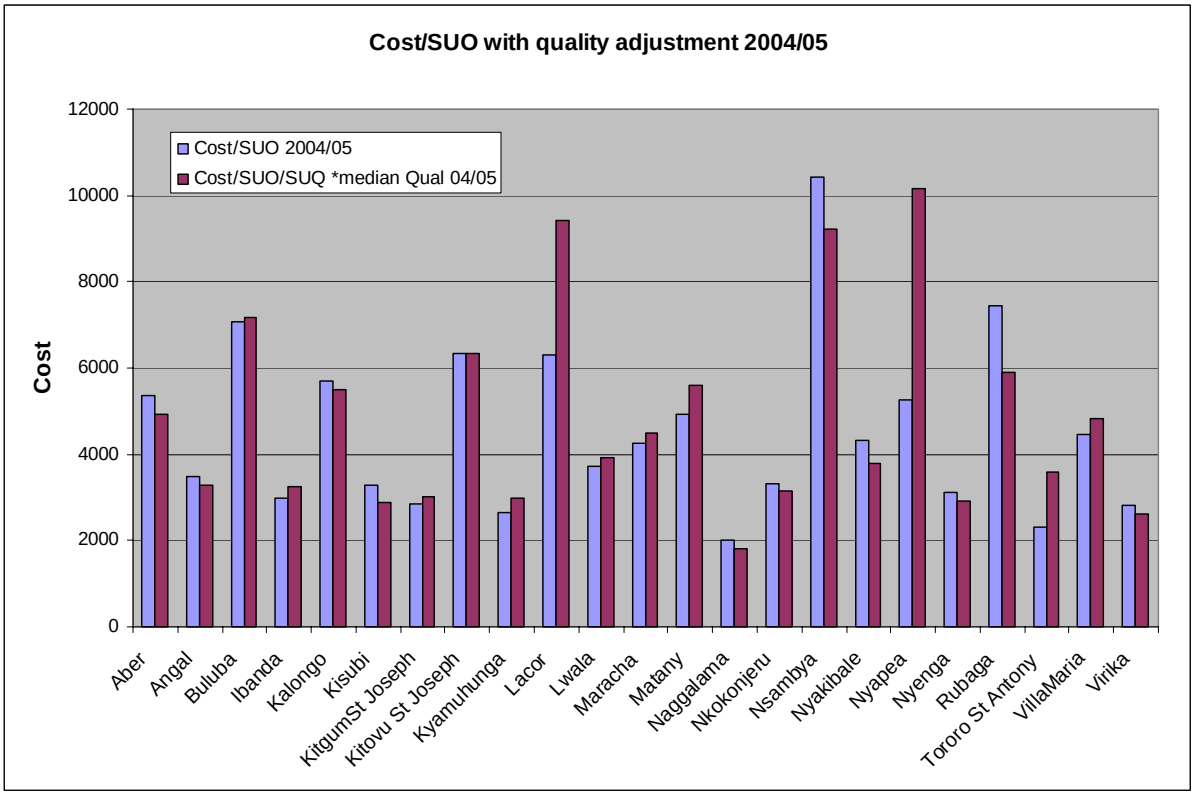
4. Adjusting efficiency parameters for quality. It is known that better quality goes with more cost; however only a small variation in cost is explained by variation in quality, UCMB data shows that the Coefficient of Determination (R^2) ranges from 0.02 to 0.197 meaning that 2 – 19.7% of the variation in cost per unit of out put is explained by variation in quality. It also means that there is much more a hospital can do to improve quality without spending more money see figure 2. Comparing the cost efficiency of hospitals without correcting for quality is not fair. The quality units derived in this exercise can be used to make cost efficiency comparisons with quality correction. This is done by dividing the raw Cost/SUO* with the units of quality what may be referred as Cost/SUO/UQ this measure gives the Cost/SUO for each unit of quality. Comparing hospitals on this alone is difficult to translate what the figures will mean in ordinary language. Therefore we multiply this with the median quality derived for all hospitals. The final figure will then be interpreted as: the cost per unit of out put if the hospital was providing services of median quality. The graph below demonstrates this explanation. It is shown for example that, the least efficient hospital using the raw Cost/SUO is Nsambya, but after correcting for quality Nyapea is becomes the least efficient hospital, this is because Nsambya produces a much higher quality than Nyapea.

Figure 2



* SUO stands for standard unit of output an output measure converting all outputs in to out patient equivalents. SUO total = Σ(IP*15 + OP*1 + Del.*5 + Imm.*0.2 + ANC/MCH/FP*0.5). Earlier work indicated 1 inpatient (IP) is 15 times more costly than an out patient (OP); 1 delivery (Del.) is 5 times; 1 Immunisation is 0.2 times; 1 Antenatal/Maternal child health/Family Planning (ANC/MCH/FP) service is 0.5 times more costly than an out patient.

Figure 3


Cost/SUO with quality adjustment 2004/05
Cost/SUO 2004/05
Cost/SUO/SUQ *median Qual 04/05
Cost
12000
10000
8000
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4000
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Aber
Angal
Buluba
Ibanda
Kalongo
Kisubi
KitgumSt Joseph
Kitovu St Joseph
Kyamuhunga
Lacor
Lwala
Maracha
Matany
Naggalama
Nkokonjeru
Nsambya
Nyakibale
Nyapea
Nyenga
Rubaga
Tororo St Antony
VillaMaria
Virika

ANNEX 1

Guidelines: Monitoring Quality of drugs prescription in OPDs

INTRODUCTION

One of the aspects of quality of care is prescription and dispensing practices. Previous visits to health units and hospitals have shown that in several instances the quality of drugs' prescription is far from being adequate: poly-pharmacy (prescribing more drugs than those actually required by the pathological condition) is widespread; use of injectables and second or third line drugs instead of the essential prescription is common; dosages are not always those required. There is need to address the problem of drugs' management quality in general and of drugs' prescription in particular. This is needed if we want to improve the quality of our services.

While in the past some degree of lenience towards wrong prescription practices may have had some justification, this is no longer the case after the Publication and distribution of the Uganda Clinical Guidelines 2003.

It is also the belief of the Bureau that practices can be improved through simple observation and monitoring, and not only through training: training alone fails so often to produce results because nobody checks what happens (monitors) after the training. So people go back to old habits, because change, even if understood, is difficult.

For this reason the Bureau has made it a requirement that all hospitals start quantifying and monitoring drug prescription practices annually as a part of health care quality measurement and monitoring.

The questions that need to be answered in the future are:
Given the baseline situation:

- Are therapeutic guidelines available?
- Are the forms issued to patients carrying the essential information (diagnosis?, examination? E.t.c)
- Is poly-pharmacy remaining a common practice, increasing, decreasing?
- What is the extent of the use of injectable drugs
- What is the extent of the use of antibiotics?

Other questions may be answered but they require a much more sophisticated questionnaire:

- has the choice of drugs been correct for the condition under treatment?
- Has the choice of drugs been the most cost-effective?

Note that the information collected from the exercise is a lot more than drug prescription per se but nonetheless useful for you and UCMB.

Information on Drug Prescription Practices can only occur through Exit poll: the patient s leaving the unit must be approached and their medical form must be examined to draw all the necessary information and record it.

CONDUCTING THE EXIT POLL:

All that is needed is the decision to send somebody outside the Out Patient Department with a simple form (See Form 1 on page …) allowing the recording of sex, age, weight, diagnosis, number of drugs prescribed, type of drugs prescribed and type of drugs actually obtained/administered. The person doing the exit should not be one of the clinical staff who may be subjected to bias. It is preferable to get someone from outside the hospital or at least from the non-clinical departments but able to understand outpatient medical forms. We do not need to explain that all surveys are meant to "capture" reality for what it is in normal circumstances, not for what it is when it is observed. We leave unto the Management to identify ways and means to avoid biases. Patients have to be made aware that this is an approved exercise. It is the responsibility of the chief executive to ensure that the exercise is done well otherwise interpretation of the results obtained will be misleading. Some training is necessary for the person who will do the interview. A trial is necessary to ensure that the person is competent enough and has understood how to get answers to all questions appropriately.

The interviewer has to look at the medical form and enter all data available in the recording form. Remember that the entries in the record form must replicate the medical form. It is important to know also if no diagnosis is written, no age is indicated or if the weight is not recorded on the medical form. The absence of information is already important information. We assume that what is not reported is not written on the medical form (this allows us to assess also the quality of the patients' records).

A minimum sample of 40 out-patients is interviewed as they leave the final point in the outpatient department. Special clinic days and particular prescribers are possible causes of bias. The exercise should be conducted on normal days. It is preferable not to try to get the whole sample on one single day as this may be subject to bias.
Something to be avoided is the inclusion of patients that have skipped some processes that they should have gone through and because of this, have not received a complete treatment. This occurs, for example, when patients have paid for the consultation and laboratory but the diagnosis and treatment has not yet been recorded. A similar situation may also occur when a patient may have taken less than the complete treatment because they have not completed the payment – incase this happens in your hospital.

Although in the future we expect the hospitals to be able to do the analysis themselves, the Bureau is ready and willing to assist in the analysis of the information obtained, and provide a feed back. We expect that this exercise should be conducted in April every year.

The form provided has 12 columns. Each record takes a row of that form. To get 40 patients you need 5 forms. The top bears the name of the Hospital, the dates of the interview and the name of the interviewer, plus one question that you have to answer (availability of Uganda Clinical Guidelines 2003) for the prescribers. The answer provided has to be reported by circling the applicable case. We shall know in this way if the Uganda Clinical Guidelines are available or not.

Column n. 1: Progressive number - the first column is pre numbered by us from 1 to 8. The minimum acceptable number of cases reported is 40.
Column n. 2: Sex - here the sex of the patient has to be recorded, only if indicated in the medical form. Either **M** for male of **F** for Female.

Column n. 3: Age – here the age must be reported only if indicated in the form. It can be either in n of year (e.g. 49 y) or of months (e.g. 14 months).
Column n. 4: History – here you will write yes (**Y**)) if the form carries few notes indicating the history for which the patient reported (anamnesis), no (**N**) if there is no mention of the history (see Annex).
Column n. 5: OE – (Objective examination) – here you will write yes (**Y**)) if the form carries few notes on the objective findings of the prescriber, no (**N**) if there is no mention of the objective findings.
Column n. 6: Diagnosis – here you will write yes (**Y**)) if the form indicates one or more diagnosis, no (**N**) if there is no mention of the diagnosis.
Column n. 7: N. of drugs prescribed – here you enter the number of drugs written down in the medical form. We just want to now the number of drugs prescribed, not what has been prescribed. For example If a patient got Chloroquine and Aspirin only, the entry is 2. We do not mean the number of tablets or capsules.
Column n. 8: N of injectable drugs. Out of the drugs prescribed, count how many are in injectable form and write their number on the form.
Column n. 9: N of antibiotic/antibacterial drugs. Out of the drugs prescribed, count how many are antibiotics (regardless of whether oral or injectable) and write their number on the form.
Column n. 10: Total n. of drugs actually administered – here the interviewer has to look at the drugs held by the patient and also ask if anything else was given (e.g. injection). The prescription may not rhyme with the actual administration, especially if the patient did not have enough money to pay all drugs. Write the number of administered drugs on the form. For example if Chloquine and Aspirin were prescribed and the patient got only Aspirin, the entry is 1.
Column n 11: Amount paid. Simply ask the patient how much s/he has paid for the service (not only for the drugs but for the entire set of services received). Write the amount in the form. This helps you in doing already the monitoring of user fees - a catch 2-2 situation: while you observe drugs prescription you also collect additional important information.
Column n. 12: Comments. Here you will write what you think is important to note down. If there is nothing to note, just skip it.
When a minimum of 40 observations have been entered the forms are ready for submission. Check the quality information make one copy for the hospital and send the data to UCMB.

Form 1

Name of Hospital …… Diocese …….. Dates of observation …….. Interviewer ……

Have the prescribers received copies of the Uganda Clinical guidelines?. The answer is **yes / no / I do not know** *(circle the answer given)*

N	Sex	Age	History recorded on the form	OExamin. recorded on the form	Diagnosis recorded on the form	Number of drugs prescribed	Number of injectable drugs	Number of antibiotic drugs	Number of drugs administered	Amount paid	Comments
	M/F	y/mths	Y/N	Y/N	Y/N	number	number	number	number	Ug Shs	
1											
2											
3											
4											
5											
6											
7											
8											

EXAMPLE OF ACCURATE RECORDS FROM PREVIOUS MEDICAL FORMS

Name of Hospital …Alito…… Diocese ……Lira….. Dates of observation 22-23/9/2004….. Interviewer ……Olum…….

I have asked the In/charge of the Unit if they have the Uganda Clinical Guidelines 2003. The answer is **yes / no / I do not know** *(circle the answer given)*

N	Sex	Age	History recorded on the form	OExamin. recorded on the form	Diagnosis recorded on the form	Number of drugs prescribed	Number of injectable drugs	Number of antibiotic drugs	Number of drugs administered	Amount paid	Comments
	M/F	y/mths	Y/N	Y/N	Y/N	number	number	number	number	Ug Shs	
1		3	Y	Y	Y	3	0	0	3	2,000	
2	F		N	N	N	5	1	1	4	3,500	One antibiotic prescribed not supplied
3	M	42	Y	Y	Y	5	1	2	5	10,200	
4	F	25	Y	N	N	4	1	2	4	5,600	For one injectable (PPF) only first injection given – others to follow following days

Calculating the appropriate drug prescription score

Although the drug prescription practices questionnaire captures much more information, we live it up to the hospital to make use as necessary. UCMB can also analyze the information as it so wishes to answer any specific questions regarding drug prescription practices. We believe that the key items relevant for calculating good drug prescription quality score are an examination, appropriate poly-pharmacy, appropriate antibiotic prescription rate, appropriate injections rate and ability of the hospital to provide all the drugs in the prescription with out sending the patient to an external pharmacy or go without certain drugs.

Drug prescription scoring table

Range Definition	Poly Pharm.	Score	Antibiotics Rate	Score	Injection Rate	Score	Dispensed drugs %	Score	Med Exam %	Score
Equal or <	2.60	20	0.20	20	0.15	20	0.83	1	0.50	1
Equal or <	2.69	19	0.21	19	0.16	19	0.84	2	0.53	2
Equal or <	2.78	18	0.23	18	0.17	18	0.85	3	0.55	3
Equal or <	2.87	17	0.24	17	0.17	17	0.86	4	0.58	4
Equal or <	2.97	16	0.26	16	0.18	16	0.87	5	0.61	5
Equal or <	3.06	15	0.27	15	0.19	15	0.88	6	0.63	6
Equal or <	3.15	14	0.29	14	0.20	14	0.89	7	0.66	7
Equal or <	3.24	13	0.30	13	0.20	13	0.89	8	0.68	8
Equal or <	3.33	12	0.32	12	0.21	12	0.90	9	0.71	9
Equal or <	3.42	11	0.33	11	0.22	11	0.91	10	0.74	10
Equal or <	3.51	10	0.35	10	0.23	10	0.92	11	0.76	11
Equal or <	3.61	9	0.36	9	0.23	9	0.93	12	0.79	12
Equal or <	3.70	8	0.38	8	0.24	8	0.94	13	0.82	13
Equal or <	3.79	7	0.39	7	0.25	7	0.95	14	0.84	14
Equal or <	3.88	6	0.40	6	0.26	6	0.96	15	0.87	15
Equal or <	3.97	5	0.42	5	0.26	5	0.96	16	0.89	16
Equal or <	4.06	4	0.43	4	0.27	4	0.97	17	0.92	17
Equal or <	4.15	3	0.45	3	0.28	3	0.98	18	0.95	18
Equal or <	4.25	2	0.46	2	0.29	2	0.99	19	0.97	19
Equal or <	4.34	1	0.48	1	0.29	1	1.00	20	1.00	20
Greater than	4.34	1	0.48	1	0.29	1	1.00	20	1.00	20

Poly Pharmacy Rate

Is defined as the average number of drugs per prescription. It is derived by dividing the total number of drugs by the number of prescriptions. The specific quality score is read off from the drug prescription scoring table shown above. The best rate 2.6 is the maximum recommended by WHO. The worst rate if the highest poly-pharmacy rate observed in the data set of the 27 UCMB hospitals.

Antibiotics Rate

Is the total number of antibiotic/Antibacterial drugs divided by the total number of drugs prescribed. The specific quality score for antibiotic rate is read off from the drug prescription scoring table above. The maximum recommended by WHO is 20% (0.20) and is the one that

carries maximum score in the table. The highest rate in the data set of UCMB hospitals was 48% (0.48) and this rate takes the lowest score.

Injection Rate

Is the total number of injectable drugs divided by the total number of drugs prescribed. The specific quality score for Injection Rate is read off from the drug prescription scoring table above. The maximum recommended by WHO is 15 %(0.15) and is the one that carries the maximum score in the table. The highest rate in data set of UCMB hospitals was 29% (0.29) and this rate takes the lowest score.

Dispensed drugs Rate

Is the total number of drugs dispensed divided by the total number of drugs prescribed. The specific quality score for dispensed drugs rate is read off from the drug prescription scoring table above. It is recommended that patients get all the drugs prescribed. The worst possible shortage of drugs observed in the set of UCMB hospitals is 17% (100%-83%) thus 83% (0.83) takes the worst possible score. The maximum score is for all drugs availed (1.00).

Medical Examination Rate

Is the total number of prescriptions containing a record of medical examination divided by the total number of prescriptions. The specific quality score for Medical Examination rate is read off from the drug prescription scoring table above. The best score is obtained when all the prescriptions contain a record of medical examination. It has been assumed that the worst possible absence of examination record is half (0.50) of the prescriptions.

Finally, all the respective scores are added to get the total “appropriate drug prescription quality score”. The maximum possible is 100 and the minimum possible is 5. It is this total score that is then read off from Table 1 the overall “Scoring Table” to get the quality units attributed to appropriate drug prescription.

ANNEX 2

Guidelines: Measuring patient satisfaction in UCMB hospitals

INTRODUCTION

Patient satisfaction that is one of the important aspects of quality of healthcare. It is an expression of the gap between the expected and the perceived characteristics of a service. Traditionally, assessments of medical care have not taken in to account patients reports/feelings of a service, these assessments have been purely in terms of technical and physiological reports of outcomes. More recently, however health care systems have sought to achieve a balance in services that offer not only clinically effective and evidence based care, but that are also judged by patients as acceptable and beneficial.

Satisfaction is a subjective phenomenon and could be elicited by asking simply how satisfied or not patients may be about the service, however it has been found that, questionnaires that ask patients to rate their care in terms of how satisfied they are tend to elicit very positive ratings that are not sensitive to specific processes that affect overall quality. It is recommended that patients be asked to report on their experiences through specific questions. Satisfaction for the care is a net result of good patient experiences for the following:

1. **Clinical effectiveness and outcomes**. Improvement and/or loss of pain/suffering
2. **Humanity of care**. The extent to which users are treated with dignity and respect in the provision of care, taking in to consideration their individual and social needs, values and preferences. This also includes the provision of emotional support and alleviation of fear and anxiety, the provision of information and appropriate communication with and involvement of patients and carers.
    - Privacy and confidentiality
    - Patient involvement in their own care
    - Respect and dignity
    - Staff attitudes
    - Involvement of family and friends
3. **Organization of care**. The extent to which users move smoothly through out their healthcare journey in the hospital including referral out. Waiting times, information on steps to follow, explanations for delays, conflicting information from staff, scheduling of tests and procedures.
4. **Environment**. The extent to which the physical setting within which care is delivered is clean, safe, comfortable and appropriate to the clinical needs.
    - Physical state of facilities
    - Toilets and bathrooms
    - Catering
    - Beddings
5. **Overall impression**. Satisfied or not. Better or worse than previous experience. Willing to come back again or not. Good quality care for the price.

PROCEDURE:

Information on patient satisfaction is collected through an Exit poll or survey: the patients leaving the unit (Out Patients or discharges form the wards) must be

interviewed using the questionnaire shown on page … and their responses recorded and analyzed to derive a satisfaction score.

The survey involves administration of a one page questionnaire (that elicits the patient experience dimensions mentioned above) to outpatients and discharged inpatients The interviewer should explain to the respondents the reason for the study – This study has been commissioned by the hospital management for the purpose of improving patient care in the hospital - Make sure that the respondents do not associate the interviewer too closely with the unit, that may give positively biased results. It should be clearly explained that the name of the respondent will not be revealed anywhere and no repercussions will arise for answers they think are offensive to the unit management so they should be free to give answers, as truly as they should be.

Each questionnaire should take about 6 minutes to administer if well translated. Make sure that the interviewer thoroughly understands the questions and the translation. It is important to go through a short training session with interviewers to make sure that the understanding and translation of questions is similar, this should be done well before the exercise starts. Care should be taken to make sure that the translated versions of the questions do not become leading questions as to prompt respondents for positive answers or vice versa.

Hospitals you are requested to interview 30 outpatients and 20 inpatients just discharged.

Question 1 may not be appropriate for outpatients because they have not yet taken the medication to cause effect, in this case tick the “not applicable” choice.

In question 8 “environment” refers to rooms, beds, beddings where the care took place.

Question 9 may not be applicable for people who have not used the toilets and bathrooms, in that case, tick the “not applicable” choice.

Question 11 is relevant for people who have been to the unit before for treatment of a disease episode other than the current episode. If they have never been treated/cared for before then the relevant choice is “not applicable.” We expect that if they attended for the same current disease episode, it is likely to have been only a few days ago and little could have changed in the unit since then.

Calculating the Satisfaction scores

The responses to the questions in the questionnaire are scored from 2 to 0. Note that in all questions a) takes a score of 2, b) takes a score of 1 and all the rest a score of 0 except for question 6 on waiting time where a) takes a score of 0, b) takes a score of 1 and c) takes a score of 2. An objective question on waiting time (asking the time in hours) is excluded from scoring so as not magnify the weight of time factor as there was already a subjective question (qn. 6) on the same. In addition it is the subjective time that personalizes the interpretation of waiting and its consequences. The satisfaction score for an individual patient is the total of the scores $\Sigma(2, 1, 2, 0\ldots)$ and the satisfaction score for a hospital is the mean of the patient scores for all the patients interviewed in that hospital. The mean was chosen to enable rating of units with different number of patients’ interviewed. A patient therefore can score a maximum of 24 and as such theoretically hospitals could get a maximum score of 24. The be able to derive the quality units, each hospital score is expressed as a percentage of the

maximum score e.g. a hospital with a mean score of 15 has 15/24 = 62.5. Using the table 1 “Scoring Table” the relevant quality units are got. In this example the quality units are 16.

The questionnaire and its responses should not be used only for deriving the patient satisfaction score. An individual question can be analyzed for appropriate action. For example a hospital may wish to know, how many people are willing to come back next time for services in the hospital? How many people think the care has got worse since they last came for service? And of course a follow on question would be what can be done? It is also important that the responses to the open question (Qn. 15) be analyzed to get an in-depth understanding of the concerns patients have regarding care in the hospital.

UCMB Patient Experience & Satisfaction Questionnaire

Health Unit _____

Patient's Age_____ Sex _____

Service ☐IP ☐OP

1. After the treatment and care you received, do you think you have improved?

   a. ☐ Yes, definitely
   b. ☐ Yes, to some extent
   c. ☐ No, still the same
   d. ☐ No, I have worsened
   e. ☐ Not applicable

2. Did you find the medical staff kind?

   a. ☐ Yes, definitely
   b. ☐ Yes, to some extent
   c. ☐ No

3. Were you given a chance to be involved in decisions made about your care and treatment?

   a. ☐ Yes, definitely
   b. ☐ Yes, to some extent
   c. ☐ No
   d. ☐ No my opinions are not necessary

4. Did medical personnel tell you what you needed to know about your disease (e.g. name, cause, spread, cure)?

   a. ☐ Yes, completely
   b. ☐ Yes, to some extent
   c. ☐ No

5. Did medical personnel tell you what you needed to know about your medicine (e.g. name, dosage, effects)?

   a. ☐ Yes, completely
   b. ☐ Yes to some extent
   c. ☐ No

6. Did you have to wait long before you got treatment?

   a. ☐ Yes, definitely
   b. ☐ Yes, to some extent
   c. ☐ No

7. How long did you have to wait to get the treatment (Time may be worked out by the interviewer: time out – time in)?

   a. ☐ Less than ½ hour
   b. ☐ Less than 1 hour
   c. ☐ Less than 2 hours
   d. ☐ Less than 3 hours
   e. ☐ More than 3 hours

8. Did you receive care in a clean environment?

   a. ☐ Yes, definitely
   b. ☐ Yes, to some extent clean
   c. ☐ No the environment was not clean

9. If you used toilets and bathrooms were they clean?

   a. ☐ Yes, definitely
   b. ☐ Yes, to some extent clean
   c. ☐ No, the toilets and bathrooms were not clean
   d. ☐ Not applicable

10. What is your overall impression about the care you received?

    a. ☐ Definitely satisfied
    b. ☐ To some extent satisfied
    c. ☐ Not satisfied
    d. ☐ Not sure

11. Compared to your last visit for a different disease episode, do you think patient care has improved now?

    a. ☐ Yes, definitely
    b. ☐ Yes, to some extent
    c. ☐ No it is still the same
    d. ☐ No, it has worsened
    e. ☐ Not applicable

12. Are you willing to come back next time for care in this health center?

    a. ☐ Yes, definitely
    b. ☐ Yes, probably
    c. ☐ No
    d. ☐ Not sure

13. Do you think the care you received is worth the payment you made?

    a. ☐ More than the payment I made
    b. ☐ Worth the payment I made
    c. ☐ Less than the payment I made
    d. ☐ Not sure

14. How much did you pay in total? _____

15. What suggestions can you give to enable the health center improve patient satisfaction?

_____
_____
_____
_____
_____

Interviewer_____