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THE PADS METHODOLOGY FOR
DATA COLLECTION, ASSESSMENT
OF COSTS, EFFICIENCY, AND
PRODUCTIVITY

September 1990

**Resources for
Child Health
Project**

REACH



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PROVINCIAL AND DISTRICT HEALTH SERVICES STUDY

VOLUME II:

**THE PADS METHODOLOGY FOR DATA COLLECTION
ASSESSMENT OF COSTS, EFFICIENCY, AND PRODUCTIVITY**

September 1990

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PROVINCIAL AND DISTRICT HEALTH SERVICES STUDY

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ACRONYMS

| | |
|--------|---|
| AIE | Authorization to Incur Expenditure |
| ALOS | Average Length of Stay |
| CMS | Central Medical Stores |
| GOK | Government of Kenya |
| JSI | John Snow, Inc. |
| Kshs | Kenyan Shilling |
| MCH/FP | Maternal and Child Health/ Family Planning |
| MOH | Ministry of Health |
| PADS | Provincial and District Health Services Study |
| USAID | United States Agency for International Development |

FOREWORD

The purpose of a Provincial and District Health Services (PADS) Assessment is to examine the costs of providing health services and to understand the utilization and morbidity patterns which characterize the demand for health care within a district. While this exercise is primarily descriptive, the data collected can be used to identify areas of potential cost savings and/or efficiency gains and to assess and optimize the use of resources.

The objective of this manual is to provide a detailed but straight forward explanation of what data to collect, how to collect them, and, where appropriate, to provide some suggestions as to how they can be used. A full set of analytic exercises is beyond the scope of this manual. However, the data collection instruments have been structured to provide a useful array of the appropriate information and to present it in ways which make assessment and interpretation relatively direct. As such, this methodology for data acquisition represents an essential first step in the process of understanding how the system works and where it might be improved.

PADS GUIDELINES

A PADS assessment takes place at the district level. To carry out the PADS, data will be collected and analyzed from records at the facility. In each district it is expected that MOH personnel posted in district health facilities will be the primary agents for the collection of most of the data required for the study. Thus, while the prototype study done in Nakuru District involved a Study Team which visited the different facilities, it is now anticipated that personnel in each facility will be charged with the responsibility for most of the data collection tasks. In fact, this is preferable since these personnel will be familiar with the raw data sources and will therefore require only minimal training to become acquainted with the data collection instruments.

The selection of health care facilities in the district to be included in a PADS is necessarily purposive. That is, if there is a provincial hospital it must be included. The selection of health centers and dispensaries should be guided by the following criteria:

1. proximity to a hospital;
2. proximity to another health center or dispensary; and
3. size of the catchment population.

Ideally, of course, it would be desirable to include all facilities but time and budget constraints are not likely to permit this. Thus, the above criteria suggest that lower level facilities should be selected according to their role in the health care delivery system within the district.

The above process should result in a list of candidate health centers and dispensaries which may need to be reduced further if timing and/or budgets are constrained. However, there should be a minimum of at least three health centers and three dispensaries.

If there are any non-MOH facilities (i.e., NGO, mission, or municipal council facilities) operating in the district, then at least one of each should be included. If there are several, of any one type, take more than one or choose the one that is most involved in serving the same catchment population as the nearest MOH facility. If there is a non-MOH facility operating independently of the MOH (i.e., few referrals, different catchment population) such a facility would still be of interest since its operating costs and efficiency may be different or otherwise instructive in comparison with MOH facilities.

A. Data Collection and Reliability

There is a saying in the world of data processing, "garbage in, garbage out," meaning that if the data are bad to begin with, the results will also, unfortunately, be bad. Therefore, to do a worthwhile PADS assessment, data must be collected and recorded properly. This section provides guidelines for data entry.

The other forms that are to be filled out for a PADS Assessment consist of tables of rows and columns which are called "spreadsheets". The data recorded on spreadsheets are usually analyzed by counting, adding or calculating percents. Results can be visualized easily by plotting graphs.

Some of the spreadsheet forms can be tabulated by hand in the district. The advantage of tabulating forms in the district is that it will be done quickly and there is more control over the process. The disadvantage is that if many calculations are to be done, errors are easily made unless the staff are very careful. The advantage of using computers to tabulate the spreadsheets is that it is easier and more accurate. Complicated analyses that require several stages of calculations can be handled more easily when all spreadsheets are on the computer. The disadvantage is that processing may be lengthy and there is little control over the output.

Data collected and tabulated in the district should be checked for accuracy in calculations. One easy check is to total across the rows and down the columns. The sum of the rows should equal that of the columns. Any discrepancy indicates errors. Results should also be checked for reasonableness. Results that seem too high or too low should be investigated.

The following guidelines will reduce errors on spreadsheet forms:

- 1) Enter numbers and words legibly.
- 2) Use only whole numbers. Do not include full stops. Round numbers to nearest whole number.
- 3) Insure usage of proper units when data is collected (e.g., is the unit 100 or 1000 tablets?).
- 4) Cost should correspond to the units used. For example, if a cost is given per liter and the data is being collected in units of five liters, then the unit cost is five times the cost per liter.
- 5) Distinguish missing values from zero. There is a big difference in saying that no patients came in July and saying that no data was received in July.

- 6) Do rows or columns look unreasonable? It is easy to blindly do calculations, but overlooking obvious mistakes may lead you to wrong conclusions and decisions.
- 7) Easy calculations can be done by hand or by calculator and may sometimes be faster than using a computer.
- 8) If a computer is available, it is easy to perform data entry and analysis of spreadsheets. (Afya House uses IBM compatible computers and the Lotus 1-2-3 program). It is much easier to enter data and to do calculations if numbers are entered in adjacent columns and rows without entering lines between them.

A limiting factor for all data is the availability of the appropriate pre-printed forms designed for the purpose of recording specific information. When sufficient forms are not available, data are either not recorded, and thus lost, or improvised forms are developed which may or may not include all of the necessary items. It is strongly recommended that every effort be made to ensure that appropriate forms are provided in adequate amounts for all facilities. Also, where appropriate, pre-printed and formatted forms should be developed. For example, admission/discharge registers are currently kept in books with lined pages. Thus, the In-charge must write column headings on each page and if an item is inadvertently omitted then it may not be recorded on that page. A pre-printed admission/discharge register could be provided with column headings for name, address, occupation, next of kin, admission date, diagnosis, discharge date, final diagnosis, and remarks. This would ensure that such data are recorded and available for subsequent analysis. It may also enhance the reliability and consistency of the data since a standardized form with instructions is less likely to be misinterpreted.

Another factor that can limit the reliability of data is the training the individuals charged with responsibility for collecting the data. Standardized forms with explicit instructions can help mitigate against misinterpretation of requests for information. Training can also provide medical records personnel with background on the information they are collecting will help them to appreciate its value.

The data compiled for analysis are only as good as the raw data from which they are derived. If there are inaccuracies in the counts then these inaccuracies will contaminate the analyses. If there is a systematic bias in the reporting of these data, it will permeate the analyses. For these reasons, it is imperative that policy makers and administrators alike express their concern for the reliability of these data and its impact on their ability to make well informed, appropriate decisions. In this respect, it may also be helpful to communicate in general terms what is the administrative purpose of the data and what other benefits will be derived from the data.

B. Data Management

The PADS Study involves many forms and many data collection sites. A systematic approach should be used to keep track of data received, missing, not available, to be collected, and analyzed. The following table can be used to assist in this process.

FORMS RECEIVED

| SITES | FORM 1 | | FORM 2 | | FORM XX | |
|---------------------|--------|--------|--------|--------|---------|--------|
| | YEAR 1 | YEAR 2 | YEAR 1 | YEAR 2 | YEAR 1 | YEAR 2 |
| DISTRICT HOSPITAL | | | | | | |
| PROVINCIAL HOSPITAL | | | | | | |
| HEALTH CENTRE | | | | | | |
| DISPENSARY | | | | | | |
| | | | | | | |

Most types of forms require data for two years so two columns are required per form. Cross out any columns and rows where no data is expected. Follow up on any missing data.

The process of data analysis can be monitored by dividing it into discrete steps and checking how each form has been processed.

DATA ANALYSIS

| | STEP 1 | STEP 2 | STEP 3 | --- | STEP |
|--------------------|--------|--------|--------|-----|------|
| Different Forms | FORM 1 | | | | |
| | FORM 2 | | | | |
| | | | | | |
| | | | | | |

If data is to be analyzed manually, the steps might be:

- 1) Basic data analysis completed.
- 2) Calculations checked (Row/Column totals, percentages).
- 3) Further analysis performed (as required for a given form).
- 4) Results checked.

If data is entered on computer, the steps are:

- 1) Prepare spreadsheet format with formulas.
- 2) Enter data.
- 3) Print out data.
- 4) Check data.
- 5) Check calculations.
- 6) Correct mistakes.
- 7) Check corrections.
- 8) Final printout.

To check if data have been correctly entered in step four, one person should read numbers from the computer printout to another person who is looking at data on original forms. Any corrections should be entered on computer printouts and given to the computer operator to correct. Additional analyses require additional calculation steps.

As each step is complete, the person responsible should sign the form and return it to the project manager who can check that the step has been completed then turn the work over to staff who will perform the next step.

Without proper management, there can be too many forms at different stages of completion and the task can become chaotic and overwhelming. A systematic approach to data management makes the job go smoothly and efficiently.

C. Enumerator Training

A-level school leaders and university undergraduates can be trained to undertake many PADS data collection tasks. Enumerators will be reviewing record books and working tabulations so facility with numbers is essential.

Training, orientation and introduction to the study can be done in two to three days. The most important things that need to be done are introducing the work and the use of the instruments and presentation of rules of conduct. This provides the time for the enumerators to understand and discuss any questions or doubts and to become very confident in understanding the nature of their tasks.

Complete discussion of the instruments is essential. Absolute understanding and familiarity of the instrument is extremely important and must be emphasized during the discussions. Enumerators should be encouraged to put ideas forward regarding questions about the instruments allowing for a better understanding of the instruments. Such discussions are important because it removes problems that might occur when the enumerators are in the field. Coding instructions for the instruments are extremely important because they are the only medium the computers would use for analysis. Accuracy in recording must be emphasized. All terminologies must be clearly defined and commonly understood.

There should be an explanation of medical jargon that is commonly used. Confidentiality on the part of the enumerators is very important. In addition, conduct and general presentation also are stressed as the importance of creating an atmosphere that exudes confidence, allowing trust.

Enumerators need to have an opportunity to practice with the instruments. The trainer should make the appropriate arrangements of a medical facility so that the enumerators can practice using the instruments. Discussions need to be held regarding the problems they encountered to clear any doubts that might arise.

DATA COLLECTION INSTRUMENTS AND INSTRUCTIONS

FORM 1: FACILITY EXPENDITURE FORM

| | | | | | | | |
|--|--|--|--|--|--|--|--|
| FACILITY: _____ | Code: <table border="1"><tr><td> </td><td> </td><td> </td></tr></table> | | | | | | |
| | | | | | | | |
| DATA COLLECTOR: _____ (Enumerator) | Code: <table border="1"><tr><td> </td><td> </td></tr></table> | | | | | | |
| | | | | | | | |
| DATE: _____ | Code: <table border="1"><tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr></table> | | | | | | |
| | | | | | | | |

INSTRUCTIONS:

Information for this form is available from the Authority to Incur Expenditure (AIE) for each of the years under review. Transfer the figures from the AIE directly to the corresponding items on this form. Be sure to record all figures in Kenya Pounds (K£). Do ensure that all re-allocations undertaken during the time period are adjusted against the corresponding items, showing either an increase or decrease. Do also go through the estimates files and enter records of all supplementary allocations within corresponding boxes. Get a summary list of pending bills and record them against expenditure items involved. Add up the figures in all the boxes horizontally and record a total in the extreme right end box, under the heading TOTAL.

FACILITY EXPENDITURE FORM

AIE's: AUTHORIZATION TO INCUR EXPENDITURE: FY _____

RECORD ALL FIGURES IN K £

| | 1st Allocation | 2nd Allocation | Supplementary Allocation | + Reallocation | - Reallocation | Pending Bills (See note) | TOTAL |
|---|---------------------------|---------------------------|-------------------------------------|---------------------------|---------------------------|-------------------------------------|--------------|
| 000 Personal Emoluments | | | | | | | |
| 001 Salary Ungraded and Temp | | | | | | | |
| 002 Salary Established Staff | | | | | | | |
| 012 Acting Allowance | | | | | | | |
| 040 Gratuity and Pensions Contribution | | | | | | | |
| 050 House Allowance | | | | | | | |
| 054 Hotel Accommodations | | | | | | | |
| 060 Other Personal Allowances | | | | | | | |
| 063 Hardship Allowance | | | | | | | |
| 064 Disturbance Allowance | | | | | | | |
| 065 Doctor's Allowance | | | | | | | |
| 084 Leave Travel/Local | | | | | | | |
| 100 Transport Operating Expense | | | | | | | |
| 101 Running Expenses of Vehicle | | | | | | | |
| 104 Overhaul, Repair of Vehicle | | | | | | | |
| 110 Travel and Accommodation Expense | | | | | | | |
| 113 Bicycle Allowance | | | | | | | |
| 114 Motor Mileage Allowance | | | | | | | |

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FACILITY EXPENDITURE FORM

AIE's: AUTHORIZATION TO INCUR EXPENDITURE: FY_____

RECORD ALL FIGURES IN K £

| | 1st Allocation | 2nd Allocation | Supplementary Allocation | + Reallocation | - Reallocation | Pending Bills (See note) | TOTAL |
|--|---------------------------|---------------------------|-------------------------------------|---------------------------|---------------------------|-------------------------------------|--------------|
| 120 Postal, Telegraph Expenses | | | | | | | |
| 121 Telephone Expenses | | | | | | | |
| 141 Electricity | | | | | | | |
| 142 Water | | | | | | | |
| 143 Conservancy | | | | | | | |
| 144 Gas | | | | | | | |
| 145 Fuel | | | | | | | |
| 151 Drugs and Dressings | | | | | | | |
| 152 Insurance | | | | | | | |
| 153 Non-scheduled Drugs | | | | | | | |
| 154 Oxygen, sera and vaccine | | | | | | | |
| 155 X-ray Supplies | | | | | | | |
| 156 X-ray Equipment | | | | | | | |
| 161 Patient Food | | | | | | | |
| 165 Doctors and Nurses Food | | | | | | | |
| 171 Uniforms, Clothing/Patients | | | | | | | |
| 172 Purchase of Uniforms/Clothing (Staff) | | | | | | | |
| 173 Library Expenses | | | | | | | |

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FACILITY EXPENDITURE FORM

AIE's: AUTHORIZATION TO INCUR EXPENDITURE: FY _____

RECORD ALL FIGURES IN K £

| | 1st Allocation | 2nd Allocation | Supplementary Allocation | + Reallocation | - Reallocation | Pending Bills (See note) | TOTAL |
|--|-----------------------|-----------------------|---------------------------------|-----------------------|-----------------------|---------------------------------|--------------|
| 174 Purchase of Stationery | | | | | | | |
| 181 Pay of Rents/Rates – Residence | | | | | | | |
| 184 Contracted Professional Service | | | | | | | |
| 190 Miscellaneous/Other Charges | | | | | | | |
| 200 Replacement of Motor Vehicles | | | | | | | |
| 202 Replacement of Bicycles/Motorcycles | | | | | | | |
| 220 Purchase of Plant and Equipment | | | | | | | |
| 222 Laboratory Equipment | | | | | | | |
| 223 Orthopaedic Appliances | | | | | | | |
| 224 Therapy Appliances | | | | | | | |
| 230 Office Equipment | | | | | | | |
| 240 Maintenance of Dental Equipment | | | | | | | |
| 250 Maintenance of Plant/Machine/Equipment | | | | | | | |
| 260 Maintenance of Buildings | | | | | | | |
| Revenues (if available): | | | | | | | |
| 630 Boarding Fees | | | | | | | |
| 650 Hospital and X-ray fees | | | | | | | |

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FORM 1: Facility Expenditure Form

PURPOSE: This instrument will provide the necessary information on expenditures incurred by a facility during a fiscal year. The data is used to develop cost centers for the facility, estimate average costs of service delivery, and identify budgetary gaps. The data is also used to assess efficiency and cost saving potential at a facility.

SOURCES OF DATA: The funds received by a facility are the Authorization to Incur Expenditure (AIE). The instrument records data from the AIE for first, second, and supplementary allocation of funds.

Data for this instrument are always available from the hospital administration. The main documents for this data are:

- 1) the AIE file for allocations, reallocations and supplementary allocations; and
- 2) annual pending bills' summaries prepared by each facility.

These documents are readily available in facilities where records are well kept. If records are not well kept, it may require extra initiative from the data collectors to extract the information from many sources (i.e., votebooks, pending payment vouchers where there are no summaries of pending bills; correspondence files for records to re-allocations completed and to the MOH headquarters where AIE records are not available).

WHO SHOULD COLLECT DATA: The person to collect this data must have skills comparable to middle level management and be conversant with the Government of Kenya (GOK) financial and accounting procedures. These skills are necessary in order to retrieve some of the information required for the instrument as one may have to search through votebooks, accounting files, and other financial records. One needs to know how to gain access and review to each of these documents to abstract data from these records.

HOW TO USE THE INSTRUMENT: The form is used to record the following:

- 1) Allocations of funds to each facility, specifying allocation by expenditure item. Allocation for two financial years are to be covered and are recorded on separate instruments. Allocations include yearly, supplementary, and reallocations.

- 2) Pending bills which are end of the year debts that are owed to suppliers for goods and services received within the two years but which have not been paid. This information is also recorded separately for each of the two financial years.
- 3) Actual expenditure on each item, which is the sum total of allocations, reallocations, and pending bills.

Below are instructions on how to complete this form. Note that all entries should be recorded in Kenya Shillings (Kshs).

The form is a replica of the AIEs delivered to each facility by MOH Headquarters every half year. Transfer the figures on the AIE which have been received for the fiscal year under review directly to the corresponding expenditure item on the form. This should be completed for each half of the financial year, first allocation, second allocation. Occasionally, there may be cases where in place of half yearly allocations, an entire yearly allocation is given. In such a case, record the allocation in the column labeled "1st Allocation."

The data collector must fill in appropriately any supplementary allocation in addition to the first and second half allocations against the specific item of expenditure. Reallocations made within the year under review year should be recorded, including any reduction or increase made against the expenditure items involved.

Repeat the same process for each fiscal year to be reviewed. There may be cases where various items aggregated in the first half allocation are desegregated in the second half. These should be recorded as they are encountered in the records. Supplementary allocations given for items not funded in the first and second half allocations should also be reflected in the supplementary allocations column.

No space should be left blank. Where information is not available, a zero ("0") sign should be entered in the corresponding box.

In order to complete the sixth column, Pending Bills, collect summarized information on pending bills, duly aggregated to show total bills pending on each expenditure item for all being reviewed. Transfer this information to the corresponding expenditure item on the form. Only bills pertaining to the year selected under review should be included. Figures should be recorded in Kenya pounds (K#). Repeat the same for each year. Should there be no pending bills against a facility, then indicate so by entering a zero ("0") in the corresponding box.

FORM 2: HOSPITAL STAFF INVENTORY

FACILITY: _____ Code:

| | | |
|--|--|--|
| | | |
|--|--|--|

DATA COLLECTOR: _____ Code:

| | |
|--|--|
| | |
|--|--|

(Enumerator)

DATE: _____ Code:

| | | | | | |
|--|--|--|--|--|--|
| | | | | | |
|--|--|--|--|--|--|

INSTRUCTIONS:

This instrument will be completed for the entire hospital. Completion of this questionnaire will require an interview with those responsible for hospital administration and a review of hospital personnel records.

NAME OF INTERVIEWEES AND POSITIONS:

| Cadre of Personnel | Number of Establishment | Actual Number | Number Full Time | Number Part Time | Number of Job Groups in Category |
|----------------------------|-------------------------|---------------|------------------|------------------|----------------------------------|
| 1. Medical Superintendent | _____ | _____ | _____ | _____ | _____ |
| 2. Physicians | _____ | _____ | _____ | _____ | _____ |
| 3. Surgeons | _____ | _____ | _____ | _____ | _____ |
| 4. Paediatricians | _____ | _____ | _____ | _____ | _____ |
| 5. Gynaecologists | _____ | _____ | _____ | _____ | _____ |
| 6. Radiologists | _____ | _____ | _____ | _____ | _____ |
| 7. Ophthalmologists | _____ | _____ | _____ | _____ | _____ |
| 8. Psychiatrists | _____ | _____ | _____ | _____ | _____ |
| 9. Pathologists | _____ | _____ | _____ | _____ | _____ |
| 10. Dermatologists | _____ | _____ | _____ | _____ | _____ |
| 11. Other (specify) | _____ | _____ | _____ | _____ | _____ |
| 12. Medical Officers | _____ | _____ | _____ | _____ | _____ |
| 13. Dental Officers | _____ | _____ | _____ | _____ | _____ |
| 14. Dental Technicians | _____ | _____ | _____ | _____ | _____ |
| 15. Clinical Officers | _____ | _____ | _____ | _____ | _____ |
| 16. Matron | _____ | _____ | _____ | _____ | _____ |
| 17. Kenya Regi. Nurses | _____ | _____ | _____ | _____ | _____ |
| 18. Enrolled Co. Nurses | _____ | _____ | _____ | _____ | _____ |
| 19. Enrolled Nurses | _____ | _____ | _____ | _____ | _____ |
| 20. Pharmacists | _____ | _____ | _____ | _____ | _____ |
| 21. Pharma. Technologists | _____ | _____ | _____ | _____ | _____ |
| 22. Public Health Officers | _____ | _____ | _____ | _____ | _____ |

| Cadre of Personnel | Number of Establishment | Actual Number | Number Full Time | Number Part Time | Number of Job Groups in Category |
|------------------------------|--------------------------------|----------------------|-------------------------|-------------------------|---|
| 23. Public Health Technician | _____ | _____ | _____ | _____ | _____ |
| 24. Lab. Technologists | _____ | _____ | _____ | _____ | _____ |
| 25. Lab. Technicians | _____ | _____ | _____ | _____ | _____ |
| 26. Radiographers | _____ | _____ | _____ | _____ | _____ |
| 27. Radiogr. Film Pro. | _____ | _____ | _____ | _____ | _____ |
| 28. Occupational Therapist | _____ | _____ | _____ | _____ | _____ |
| 29. Plaster Technicians | _____ | _____ | _____ | _____ | _____ |
| 30. Orthopaedic Technician | _____ | _____ | _____ | _____ | _____ |
| 31. Physiotherapist | _____ | _____ | _____ | _____ | _____ |
| 32. Hosp. Secretary | _____ | _____ | _____ | _____ | _____ |
| 33. Executive Officer | _____ | _____ | _____ | _____ | _____ |
| 34. Supplies Officer | _____ | _____ | _____ | _____ | _____ |
| 35. Exec. Assistant | _____ | _____ | _____ | _____ | _____ |
| 36. Med. Eng. Technician | _____ | _____ | _____ | _____ | _____ |
| 37. Med. Eng. Technologist | _____ | _____ | _____ | _____ | _____ |
| 38. Storemen | _____ | _____ | _____ | _____ | _____ |
| 39. Supplies Assistant | _____ | _____ | _____ | _____ | _____ |
| 40. Maintenance Engineer | _____ | _____ | _____ | _____ | _____ |
| 41. Med. Records Officer | _____ | _____ | _____ | _____ | _____ |
| 42. Med. Records Techician | _____ | _____ | _____ | _____ | _____ |
| 43. Statistical Clerks | _____ | _____ | _____ | _____ | _____ |
| 44. Accounts Clerks | _____ | _____ | _____ | _____ | _____ |
| 45. General Clerks | _____ | _____ | _____ | _____ | _____ |
| 46. Secretary | _____ | _____ | _____ | _____ | _____ |
| 47. Copy Typist | _____ | _____ | _____ | _____ | _____ |
| 48. Receptionist | _____ | _____ | _____ | _____ | _____ |
| 49. Telephone Operator | _____ | _____ | _____ | _____ | _____ |
| 50. Drivers | _____ | _____ | _____ | _____ | _____ |
| 51. Security personnel | _____ | _____ | _____ | _____ | _____ |
| 52. Watchmen | _____ | _____ | _____ | _____ | _____ |
| 53. Caterers/Cooks | _____ | _____ | _____ | _____ | _____ |
| 54. Cleaners | _____ | _____ | _____ | _____ | _____ |
| 55. Mortuary Attendants | _____ | _____ | _____ | _____ | _____ |
| 56. Nutritionists | _____ | _____ | _____ | _____ | _____ |
| 57. Artisans | _____ | _____ | _____ | _____ | _____ |
| 58. Social Workers | _____ | _____ | _____ | _____ | _____ |
| 59. Others | _____ | _____ | _____ | _____ | _____ |

FORM 2: Hospital Staff Inventory

PURPOSE: This instrument provides information on hospital staffing. It is used to identify different cadres and staff distribution by service areas in the hospital. Unfilled positions will be identified so that shortfalls in manpower requirements can be established. The data is used to develop cost centers for the facility and to assess service delivery costs. The information is used to assess efficiency, productivity, and cost savings potential at a facility.

SOURCES OF DATA: There are two basic data sources: interactive interviews and record reviews. These sources complement each other as staff returns alone may not be up to date. Obtain data from the Medical Superintendent, Medical Officer, In-charge, or senior hospital administrators (Hospital Secretary, Matron). Use the Registry's current staff-returns and duty rosters.

Arbitrary transfers, secondments, or attachments of staff to other facilities sometimes fail to reflect the current staff-returns. These placements need to be taken into account.

WHO SHOULD COLLECT DATA: The information may be collected by any senior officer at the district, provincial and national level who is familiar with personnel matters of the MOH as well as record keeping procedures.

HOW TO USE THE INSTRUMENT: The staff inventory instrument makes a complete count of staff at the facility level. The instrument requires that the data collector list the number in the establishment and the actual number of personnel in each cadre using the current staff-returns. Cross-checks with interview information are needed to accurately determine the size of the establishment and actual number of work personnel. Similarly, interviews with senior administrators should yield information on full- and part-time service. Much of the information on job groups is provided by staff-returns and interactive interviews with the In-charges. However, job groups of some categories of staff require verification with their personnel files from the Hospital Registry.

FORM 3: Staff Inventory of Doctors by Hospital Department

PURPOSE: This instrument will record data on the deployment of doctors in the various hospital departments. Because doctors tend to work in many stations at the hospital, there is need to obtain an accurate record of their time in the various departments so that costs can be apportioned correctly. The data is used to develop cost centers for the facility and to assess service delivery costs.

SOURCES OF DATA: This instrument provides data on the distribution of doctors already identified in the Form 2: Hospital Staff Inventory. Sources of data for actual numbers and hours worked in each department are interviews and record reviews. Salary data can be obtained from the "Current Civil Service Structure."

WHO SHOULD COLLECT DATA: The data can be collected by senior officers familiar with personnel and record keeping procedures.

HOW TO USE THE INSTRUMENT: Enter the number of doctors for each of the categories as well as their job groups and house allowance. For each staff person, complete the total hours worked per week. Apportion these hours to the various departments where that respective staff person works. Note that the totals from those departments must equal the total number of doctor hours worked per week. Departments or service areas have to be identified very clearly as some of them overlap in terms of staff time. Staff time in each area must be accurately apportioned to the department in order to accurately reflect staff costs. A case in point is the consultancy clinics which operate only on certain days of the week. The clinics draw virtually all their staff (from consultants to nurses) from departments within the hospital.

Salary is computed from job groups using the "Current Civil Service Structure" document for government facilities. Both salary and house allowance columns are completed by multiplying the respective salary and house allowance values by actual numbers of the cadre of personnel.

To calculate staff salaries, find the salary range for the job groups indicated for each cadre of personnel from the "Current Civil Service Salary Structure." Calculate the salary mid-point for the job groups. If the staff persons work part time, the salary is obtained by computing appropriate proportions. Total hours worked weekly is the sum of all full- and part-time hours for the cadre category.

FORM 4: Staff Inventory of Non-Doctor Staff by Hospital
Department

PURPOSE: This instrument provides data on staff deployment in the hospital departments. This information is required to determine staff costs and productivity rates.

SOURCES OF DATA : This form provides distribution of staff already identified in the "Hospital Staff Inventory" by department. Sources of data include both interviews with senior hospital administrators and staff-return records. A department includes wards or a group of wards (paediatric, maternity, etc). The cadre of personnel by department reflects the mix of staff that a department requires to function properly.

WHO SHOULD COLLECT DATA: The data can be collected by senior officers familiar with personnel and record keeping procedures.

HOW TO USE THE INSTRUMENT: This form is completed for each hospital department by combining the use of interactive interviews, current staff returns, and jobs group references to personnel files. Obtain the size of the establishment by using the staff-returns as well as interview information. The staff inventory by department goes a step beyond. Department or service areas have to be identified clearly because some of them overlap in terms of staff time. Staff-time in each area must be accurately apportioned to the department in order to accurately reflect staff costs. A case in point is the consultancy clinics which operate only on certain days of the week. The clinics draw virtually all of their staff, from consultants to nurses, from departments within the hospital.

Salary is computed from job groups using the "Current Civil Service Structure" document for government facilities. Both salary and house allowance columns are completed by multiplying the respective salary and house allowance values by actual numbers of the cadre of personnel.

FORM 5: HOSPITAL SUPPLIES REGISTER

INSTRUCTIONS:

There are 10 major supplies used in the hospital:

1. Gauze
2. Cotton Roll
3. Sutures (cat gut, nylon, silk)
4. Strapping
5. Syringes (all types)
6. All needles (scalp, vein, hypodermic)
7. Gloves
8. Bandages
9. Surgical Scalpel Blades
10. Branulars

Supplies ordered are recorded on Bin Cards and on requisition forms (S-11) that the Storemen maintain. The forms show the date the supply item was provided, quantity provided, and department (service area). The months that will be recorded for the fiscal year are:

August
November
February
May

Use the Bin Cards to record the quantity of each of the supply items to each department in the hospital for each of the 4 months listed above. Record the quantities issued for each of the months using a separate record sheet for each supply item and for each fiscal year. If the Bin Cards are unavailable, or are inaccurate or incomplete, use the S-11 forms to identify the quantities of each of the supply items issued to each department of the hospital. Obtain the cost per unit item. If more than one price has been used during the fiscal year, use an average of the prices.

FORM 5: Hospital Supplies Register

PURPOSE: This instrument will provide the data necessary to estimate average costs of specified service delivery in the facility. It establishes quantities and cost of supplies consumed by a facility. This data is used to assess efficiency, productivity, and the potential for cost saving at a facility.

SOURCES OF DATA: Supplies are normally recorded on "bin cards." The bin card indicates the supplies issued to individual departments from the main store. The main store should have prices for the supplies. If it does not, prices can be obtained from the suppliers. Occasionally the records on the bin cards are incomplete or are missing. Records at the recipient departments could be used to fill these gaps. The individual departments record supply orders and receipts on S11 forms. Supply receipts recorded on the S11 forms for each department should equal the supplies recorded on the bin cards for each department.

WHO SHOULD COLLECT DATA: Data can be collected by the hospital secretary, store man, or enumerators under their supervision. Enumerators require training on procedures for identifying supply issues, records, and storage.

HOW TO USE THE INSTRUMENT:

Sampling: To obtain an adequate representation of supplies used by a facility and departments within a year, supply requisitions for several months of the year need to be tabulated. Four months of the fiscal year are used with one month selected from each quarter. The months are indicated on the form instructions. Supplies are requisitioned on particular days of the month, so all requisition days in each month should be included.

Items: The ten medical items that constitute major supplies to the medical departments are indicated on the form instructions. Record the quantities issued of each of these items, using a separate form for each item to each of the hospital departments. The first column of the instrument provides the list of the hospital departments where the item is supplied. Columns two through five, show the volume of each item received by each of the departments. Record the average price and the description of the item at the top of the sheet.

Calculations: It is preferable to calculate the totals required in columns six and seven on the computer. If totals are to be calculated by hand, instructions for calculations are found in the notes at the bottom of the form.

FORM 6: RADIOLOGY REGISTER

INSTRUCTIONS:

1. Record the total x-rays provided for the entire fiscal year. If records are kept by calendar year instead of fiscal year, add up the monthly totals from each calendar year that apply to the fiscal year.

2. To obtain a sample of radiology tests by department or ward, determine the date for the particular day in each month and fill in date in box. Review the Radiology Registry (logbook) and record the number of x-rays provided for the following days for each department or ward:

| | | FILL IN DATE | |
|-----------|--------------------------------|--------------|---|
| July | Second Monday | □ | □ |
| August | First Wednesday, Last Friday | □ | □ |
| September | Third Tuesday | □ | □ |
| October | Second Thursday | □ | □ |
| November | First Monday | □ | □ |
| December | First Thursday | □ | □ |
| January | First Wednesday, Last Friday | □ | □ |
| February | Last Tuesday | □ | □ |
| March | Second Friday | □ | □ |
| April | Second Tuesday, Third Thursday | □ | □ |
| May | Fourth Monday | □ | □ |
| June | Third Wednesday | □ | □ |

RADIOLOGY

FACILITY: _____ **Code:**

| | | |
|--|--|--|
| | | |
|--|--|--|

DATA COLLECTOR: _____ **Code:**

| | |
|--|--|
| | |
|--|--|

(Enumerator)

DATE: _____ **Code:**

| | | | | | |
|--|--|--|--|--|--|
| | | | | | |
|--|--|--|--|--|--|

I. TOTAL NUMBER OF X-RAY PATIENTS DURING THE YEAR

| |
|--|
| |
|--|

II. NUMBER OF X-RAY PATIENTS ON SAMPLE DAYS

OUTPATIENT

| |
|--|
| |
|--|

INPATIENT

WARD: _____

| |
|--|
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WARD: _____

OTHER INSTITUTIONS:

GOVT: _____

NON-GOVT: _____

FORM 7: LABORATORY REGISTER

INSTRUCTIONS:

1. Record the total number of laboratory tests for the entire fiscal year. If records are kept by calendar year instead of fiscal year, add up the monthly totals from each calendar year that apply to the fiscal year.
2. To obtain a sample of laboratory tests by department or ward, determine the date for the particular day in each month and fill in date in box. Review the Laboratory Registry (logbook) and record the number of services provided for the following days for each department or ward:

| | | FILL IN DATE | |
|-----------|--------------------------------|--------------|-----|
| July | Second Monday | □ □ | |
| August | First Wednesday, Last Friday | □ □ | □ □ |
| September | Third Tuesday | □ □ | |
| October | Second Thursday | □ □ | |
| November | First Monday | □ □ | |
| December | First Thursday | □ □ | |
| January | First Wednesday, Last Friday | □ □ | □ □ |
| February | Last Tuesday | □ □ | |
| March | Second Friday | □ □ | |
| April | Second Tuesday, Third Thursday | □ □ | □ □ |
| May | Fourth Monday | □ □ | |
| June | Third Wednesday | □ □ | |

If the laboratory uses more than one book at a time (for example haematology, microbiology, and parasitology), review all of the books. Record the total tests counted for the sample days for each department and ward.

LABORATORY

FACILITY: _____ Code:

| | | |
|--|--|--|
| | | |
|--|--|--|

DATA COLLECTOR: _____ Code:

| | |
|--|--|
| | |
|--|--|

(Enumerator)

DATE: _____ Code:

| | | | | | |
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I. TOTAL NUMBER OF LABORATORY TESTS DURING THE YEAR

| |
|--|
| |
|--|

II. NUMBER OF LABORATORY TESTS ON SAMPLE DAYS

OUTPATIENT

| |
|--|
| |
|--|

INPATIENT

WARD: _____

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|--|

WARD: _____

OTHER INSTITUTIONS:

GOVT: _____

NON-GOVT: _____

FORM 6: Radiology Register

FORM 7: Laboratory Register

PURPOSE: These instruments are used to obtain data for estimating the average costs of laboratory and X-ray procedures and assessing the productivity of these departments. They record the volume of radiology (X-ray) and laboratory procedures during a specified period for a particular hospital/health center and for individual wards. The same form is used for both hospitals and health centers.

SOURCE OF DATA: Laboratory and X-ray procedures are recorded in log books kept by laboratory and radiology units. The record shows the date and a description of the procedure.

WHO SHOULD COLLECT DATA: This data can be collected by a lab technician or an enumerator. The enumerator needs to be trained in maintaining radiology and laboratory log books.

HOW TO USE THE INSTRUMENT:

Sampling: These units are open throughout the year. The actual count of X-ray and laboratory procedures for a small number of days can be used to represent the services provided by these departments during a year. Two days for every month have been selected randomly as shown on the instruction page of the form. The dates for these days need to be filled in on the form.

Complete the outpatient blank by counting the number of X-ray or lab procedures requested by the outpatient department for all of the sampled days. If a health center has either a lab or x-ray unit, use these same forms, filling in only the outpatient blank.

Complete the inpatient blanks by entering the amount of requests for X-ray and lab procedures from each ward in the blank space against the corresponding ward.

FORM 8: HOSPITAL PHARMACY ANTIBIOTICS

INSTRUCTIONS:

The records for **ANTIBIOTIC** drugs issued are maintained in a pharmacy register according to the date drugs were issued (example: 1/8/88, 1/9/88, 1/31/88). The entry date shows the drug and quantity issued by the pharmacy to a department.

The major antibiotic drug items used in the hospital are:

A = Achromycin caps

F = Crystapen vials

J = Triplopen vials

B = Ampicillin caps

G = Gentamicin vials

K = Other Capsules

C = Septrin tabs

H = Pen V tabs

L = Other Injections

D = Lincomycin caps

I = Procaine vials

M = Syrups

E = Benzathine penicillin

To obtain a sample of antibiotics issued to wards or departments, determine the date for the particular day in each month and fill in date in box. Review the Pharmacy Registry (logbook) and record the total amount of each drug distributed for the following days. Drugs issued to patients will be recorded in the total as **OUTPATIENTS**. For **AREAS OR WARDS WHICH CANNOT BE IDENTIFIED**, write in the name of the area in the empty box on the left side of the form.

| | | FILL IN DATE | |
|-----------|--------------------------------|--------------|--|
| July | Second Monday | | |
| August | First Wednesday, Last Friday | | |
| September | Third Tuesday | | |
| October | Second Thursday | | |
| November | First Monday | | |
| December | First Thursday | | |
| January | First Wednesday, Last Friday | | |
| February | Last Tuesday | | |
| March | Second Friday | | |
| April | Second Tuesday, Third Thursday | | |
| May | Fourth Monday | | |
| June | Third Wednesday | | |

FORM 8: Hospital Pharmacy Antibiotics

PURPOSE: This instrument is used to record the quantities of antibiotics issued to hospital departments. This information is used to develop average costs for specified service delivery areas.

SOURCES OF DATA: The hospital pharmacy maintains two sets of registers. The first contains the record of antibiotic injections given. The second records the number of oral antibiotics that the pharmacy has received and the amounts it has issued to each of the service areas. These registers are balanced every 48 hours by checking the receipts from Central Medical Stores (CMS) against issues made to departments. Problems that can be encountered in extracting data from the registers include: balances may not be made every 48 hours but instead after 72 hours; antibiotics which are in the list or new antibiotics may not appear in the register; and penicillin v tablets and antibiotic syrups do not appear on some of the registers. Use S11 forms or other slips of paper to obtain data on these issues.

WHO SHOULD COLLECT DATA: The data must be collected by a nurse, pharmacist, or pharmacy technologist as the skill required is a basic understanding of pharmacology.

HOW TO USE THE INSTRUMENT:

Sampling: To obtain an adequate representation of the antibiotics used by a department during a year, antibiotic issues need to be tabulated for several days throughout the year. The days indicated for each month on the instruction page of the form have been selected randomly to provide a representative sample. Fill in the dates for days and tabulate information from the two registers in the pharmacy from these dates.

Items:

- 1) Thirteen antibiotics constitute the major antibiotic drug items used in the hospital. Each is given a letter code at the top of the instruction page.
- 2) Record the total number of each antibiotic issued to each service area under the letter column which corresponds to the letter code for the item. Prescriptions issued to patients are to be included in the outpatient department. Other service areas, such as casualty, injection room and MCH/FP clinics are to be treated as issues to the outpatient department.

- 3) Take note of the units that are used to issue antibiotic items and use consistent units for recording. Service areas commonly receive units of 100. For example, if the outpatient department was issued 3,000 capsules on a particular day, record it in units of 100 (i.e. 30). Similarly, issues of injection are in units of 100. If a ward was issued 300 vials of antibiotic on a particular day, record it in units of 100 (i.e., 3).
- 4) For antibiotics which are recorded in the register but not indicated as one of the thirteen major items, record their use in column K for oral antibiotics and column L for injectables.
- 5) Indicate the cost per unit of each antibiotic at the bottom of the column using the appropriate price lists (i.e., District Tender Board, Medical Supplies Coordinating Unit (form S12), and Mission for Essential Drugs). The cost of commonly used oral antibiotics is usually in units of 1,000. For example, the cost of tetracycline is Y Kshs. per 1,000 capsules. If the cost of tetracycline is Y Kshs. per 1,000 capsules, and the amount used by a service area is Z units of 100 capsules, then the value of tetracycline used by the services department is: $Z \text{ units} \times 100 \times Y \text{ Kshs}/1,000$. The cost of injections is usually per vial. If the cost of procaine penicillin is Y Kshs per vial and the amount consumed is Z units of 100, then the value of procaine penicillin consumed is: $Z \text{ units} \times 100 \times Y \text{ Kshs}$.

FORM 9: HOSPITAL PHARMACY NON-ANTIBIOTICS

INSTRUCTIONS:

The records for NON-ANTIBIOTIC drugs issued are maintained in pharmacy on S11 forms or slips of paper, that show the drug and quantity requested by the department and the drug issued to the department by the pharmacy and the date of issue.

There are 4 major non-antibiotic drug items used in the hospital:

1. Tabs(tablets) and Ampulets
 2. Bottles
 3. Liter
 4. Injection
-
1. Tablets and ampulets include: Ergometrine, Vermox, ASA, Chloroquine, Actal, Valium, Flagyl, Panadol, Ventolin, Franol, Senocot, Inderal, Indocid, Largactil, Aspirin, etc.
 2. Bottles include: Dextrose, Spirits, Antacid, Chloroquine syrup, Parafin, Xylocaine, Saline, Halothene, etc., in amounts smaller than one litre.
 3. Litre includes: Municipal lotion, Savlon, Biodan, Eusol, Kerol, Lysol, multivitamins, aspirin syrup, parasetamol, chloroquine syrup, etc.
 4. Injections include: Petlilofarmmm, insulin, Petlhidine, Aminophyline, Hydrocortisone, water, etc.

Review the S11 forms or other slips of paper and record the total amount of each of the non-antibiotic drug items that were issued to a department for each of the following months of the fiscal year:

August
November
February
May.

Use one sheet for each month.

For **DEPARTMENTS NOT IDENTIFIED** write in the name of the area in a left side blank box.

FORM 9: Hospital Pharmacy Non-Antibiotics

PURPOSE: This instrument is used to record the quantities of commonly used non-antibiotic drugs issued to hospital departments. This information is used to develop average costs for specified service delivery areas.

SOURCES OF DATA: The pharmacy issues drugs to the service delivery areas according to S11 form requests. These forms must be reviewed and quantities of items tabulated for each month. Issues to department or service delivery areas usually are well recorded and issues to the outpatients are recorded less systematically. The pharmacy does not retain prescription records for many of the drugs issued to outpatients since outpatients retain their own cards. Some of the items are issued to the service areas by the supplies department and not the pharmacy.

WHO SHOULD COLLECT DATA: This form can be completed by an enumerator who has been trained in the use of non-antibiotics in a health institution. It requires supervision by personnel with a medical or pharmacology background.

HOW TO USE THE INSTRUMENT:

Sampling: To obtain an adequate representation of the non-antibiotic drugs consumed by each department during a year, issues of drugs for several months need to be tabulated. Use the months indicated on the instruction page of the instrument.

Items: Four major non-antibiotic drugs constitute the major issues to departments: tablets and ampulets, bottles, liters, and injections.

These items, and the units in which to record them, are usually issued from the pharmacy to the service areas:

- 1) tablets (units of 100, if a service department receives 1,000 capsules, enter it as 10);
- 2) bottles (units of 1 litre);
- 3) liters (units of 1 litre); and
- 4) injection (units of 100, if a service department receives 200 injections, record it as 2).

Collect all S11 forms or slips of paper indicating issues from the pharmacy and supplies department for the month under review. On a separate worksheet tabulate all the items issued to each service area.

From the worksheet, enter the total amount of each item issued for the month under review on the form according to the appropriate department. Use a separate form for each month. Indicate the cost of each non-antibiotic according to the units given using the appropriate price lists at the top of each column (i.e., District Tender Board, Medical Supplies Coordinating Unit (form S12), and Mission for Essential Drugs).

FORM 10: OCCUPATIONAL THERAPY REGISTER

FACILITY: _____ Code:

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DATA COLLECTOR: _____ Code:

| | |
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| | |
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 (Enumerator)

DATE: _____ Code:

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INSTRUCTIONS:

Review the Occupational Therapy Department Registry (logbook)and record the total number of therapy sessions provided during the fiscal year for each ward or department. Include all days during the years under review.

TOTAL NUMBER OF ENTRIES DURING THE YEAR

YEAR _____ YEAR _____

OUTPATIENT

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| | |
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INPATIENT

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WARD: _____

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OTHER INSTITUTIONS:

GOVT: _____

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NON-GOVT: _____

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FORM 10: Occupational Therapy Register

FORM 11: Physio-therapy Register

PURPOSE: These instruments provide information to allocate the cost of providing occupational and physio-therapy services to various department in a health facility.

SOURCES OF DATA: The information is available from the departments' registers or log books or their monthly reports. The registers are kept on the basis of a calendar year.

WHO SHOULD COLLECT DATA: The two instruments can be used by enumerators without any specialized training. They will need to be informed as to how the information is recorded in the department registers or monthly reports.

HOW TO USE THE INSTRUMENT: It is easier to count the number of patients receiving occupational therapy or physio-therapy treatment in a given period than to count the number of sessions given. The registers are a good source of annual data, but are difficult to use in obtaining the number of patients receiving treatment in a particular month. It is more convenient to use the monthly reports of the departments to obtain the total number of patients treated in the selected period. Patients treated in occupational and physio-therapy departments in the period selected are distributed across the facility departments. The numbers originating from each department must be recorded. The patients are recorded according to service areas (out- or inpatient wards, and other government and non-government institutions).

Sampling: For smaller health facilities, it is relatively easy to obtain data for the whole fiscal year. For large provincial or district hospitals, data from four to six months can be used to represent the year. Yearly totals, estimated from four or six months, should be recorded on the form.

FORM 12: STAFF INVENTORY FOR HEALTH CENTERS/DISPENSARIES

FACILITY: _____ Code:

| | | |
|--|--|--|
| | | |
|--|--|--|

DATA COLLECTOR: _____ Code:

| | |
|--|--|
| | |
|--|--|

(enumerator)

DATE: _____ Code:

| | | | | | |
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INSTRUCTIONS: This instrument should be completed for each health center and dispensary. For each staff member, give the number working, and estimated time spent in each area of activity. See the Methodology for instructions on obtaining salaries.

| TYPE OF PERSONNEL | # OF PERSONS | JOB GROUP | SALARY | HOUSING ALLOW- ANCE | HOURS WORKED PER WEEK | ESTIMATED HOURS DEVOTED TO | | | | |
|---|--------------|-----------|--------|---------------------|-----------------------|----------------------------|----|-------------------|------------|-------|
| | | | | | | MCH | FP | GENRAL CURA- TIVE | OUT- REACH | OTHER |
| Clinical Officers upper half of job grps. | | | | | | | | | | |
| Clinical Officers lower half of job grps. | | | | | | | | | | |
| K.R. Nurses upper half of job grps. | | | | | | | | | | |
| K.R. Nurses lower half of job grps. | | | | | | | | | | |
| Enrolled Nurses upper half of job grps. | | | | | | | | | | |
| Enrolled Nurses lower half of job grps. | | | | | | | | | | |
| Laboratory Techs upper half of job grps. | | | | | | | | | | |
| Laboratory Techs lower half of job grps. | | | | | | | | | | |
| Med Record Techs | | | | | | | | | | |
| Statistical Clerks | | | | | | | | | | |
| General Clerks | | | | | | | | | | |
| Receptionist | | | | | | | | | | |
| Telephone Operator | | | | | | | | | | |
| Drivers | | | | | | | | | | |
| Security Personnel/ Watchmen | | | | | | | | | | |
| Kitchen Staff | | | | | | | | | | |
| Subordinate | | | | | | | | | | |
| PHT | | | | | | | | | | |
| Family Health Field Educator | | | | | | | | | | |
| Nutrition Field Technician | | | | | | | | | | |

FORM 12: Staff Inventory for Health Centers and Dispensaries

PURPOSE: This instrument provides data to develop personnel costs by specific service delivery areas for each selected facility. Data on how much time staff spend in various activities will assist in identifying understaffed areas, assessing productivity, and determining the costs of service delivery.

SOURCES OF DATA: Data for this instrument can be obtained from interviews with clinical officer In-charges at the health center, the nurse In-charge at the dispensary, and from review of duty rosters. The enumerator may have to interview the staff themselves if the In-charge is not certain about staff involvement in various activities.

WHO SHOULD COLLECT DATA: The information can be collected by a trained enumerator or administrative staff person.

HOW TO USE THE INSTRUMENT: The person collecting data must ask the facility In-charge to provide information on the number of staff in each cadre and their job groups. The In-charge will be requested to state the number of hours per week each staff member spends doing activities related to the service areas indicated in the instrument. For example, during any given week, the clinical officer In-charge of a health center may spend 20 hours on curative services, 10 hours in MCH/FP, and 10 hours on other duties. These hours should be recorded in the appropriate columns. The total hours worked per week must be equivalent to the number of hours work in each activity. All facility staff time, including temporary employees (such as students doing their practicals), must be recorded.

Salary is computed from job groups using the "Current Civil Service Structure" document for government facilities. Both salary and house allowance columns are completed by multiplying the respective salary and house allowance values by actual numbers of the cadre of personnel.

FORM 13: HEALTH CENTER AND DISPENSARY SUPPLIES REGISTER

FACILITY: _____ Code:

| | | |
|--|--|--|
| | | |
|--|--|--|

DATA COLLECTOR: _____ Code:

| | |
|--|--|
| | |
|--|--|

(Enumerator)

DATE: _____ Code:

| | | | | |
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INSTRUCTIONS:

There are 9 major supplies used in the facility:

1. Gauze
2. Cotton Roll
3. Sutures (cat gut, nylon, silk)
4. Strapping
5. Syringes (all types)
6. All needles (scalp, vein, hypodermic)
7. Gloves
8. Bandages
9. Surgical Scalpel Blades

Supplies ordered are recorded on Bin Cards and on requisition forms (S-11). The forms show the date the supply item was provided, and the quantity provided. Record the total quantity of each supply item issued to the facility for the entire year. Use a separate record sheet for each fiscal year. Be sure to record the units of measure (for example, rolls of gauze or packages or 10 units) and the cost for the unit being recorded.

FISCAL YEAR: JULY _____ TO JUNE _____

| QUANTITY * COST = TOTAL ITEM COST | | | | |
|-----------------------------------|------------------|-----------------|----------------|--------------------|
| ITEM | UNITS OF MEASURE | QUANTITY ISSUED | COST PER UNIT | TOTAL COST OF ITEM |
| 1. GAUZE | | | | |
| 2. COTTON ROLL | | | | |
| 3. SUTURES | | | | |
| 4. STRAPPING | | | | |
| 5. SYRINGES | | | | |
| 6. NEEDLES | | | | |
| 7. GLOVES | | | | |
| 8. BANDAGES | | | | |
| 9. SURGICAL SCALPEL BLADES | | | | |
| | | | TOTAL = | |

FORM 13: Health Center and Dispensary Supplies Register

PURPOSE: This instrument will provide data needed for developing average costs for specified service delivery. The data is used to assess efficiency, productivity, and cost saving potential for the selected health centers.

SOURCES OF DATA: Supplies are normally recorded on "bin cards" in the Medical Officer of Health's office. The bin card shows supplies issued to different health centers from the main store. The main store should have prices for the supplies but if it does not, prices can be obtained from the suppliers. Sometimes bin card records may be missing or incomplete. Records at the recipient health centers could be used to fill these gaps. In the individual health centers, supply orders and receipts are recorded on S11 forms.

WHO SHOULD COLLECT DATA: Data can be collected by the hospital secretary, store man, or enumerators under supervision. Enumerators will need to be trained on supplies recording, storage and issuing procedures.

HOW TO USE THE INSTRUMENT:

Sampling: The entire years should be recorded, if possible. At least four months of the financial year should be reviewed, at minimum. One month should be selected from each quarter. Since supplies are requisitioned on particular days of the month, all the requisition days in each month should be included.

Items: The ten major supply item for health centers are indicated at the top of the form. Record the quantities issued of each of these items and the price per unit. If only four months are reviewed, estimate the yearly quantity based on these four months.

DATA COMPUTATIONS: This stage in the analyses is expected to provide information on costs of supplies to the health center. Column five gives total costs for each item. The total of Column five gives the total costs of the major supply items. The multiplicative factor has been obtained by estimating the cost proportion of the ten major supply items to overall supply costs. This proportion is determined by the difference between the proportion and 100 percent.

FORM 14: HEALTH CENTER AND DISPENSARY KIT DRUGS

INSTRUCTIONS:

Monthly records for **KITS** issued are maintained by the **DMOH**. The monthly entry shows the quantity of drugs in **KIT I** and **KIT II** issued to a dispensary or Health Centre. Dispensaries and Health Centres also keep records of Kits they receive.

On the attached record sheet record the quantity of **KIT I** issued to the dispensary or Health Centre.

On the attached record sheet record the quantity of **KIT II** issued to the dispensary or Health Centre.

If there is no data for a particular month, enter "NO DATA."

If no **KITs** were issued during a particular month, enter "0."

Use a different letter for each facility being reviewed.

A = _____
(Name of facility)

B = _____
(Name of facility)

C = _____
(Name of facility)

D = _____
(Name of facility)

E = _____
(Name of facility)

F = _____
(Name of facility)

DATA COLLECTOR: _____
 (Enumerator)

Code:

DATE: _____

Code:

KIT I: COST OF KIT _____

JULY ____ TO JUNE ____

| MONTH ISSUED | FACILITY | | | | | |
|---|----------|---|---|---|---|---|
| | A | B | C | D | E | F |
| JULY | | | | | | |
| AUGUST | | | | | | |
| SEPTEMBER | | | | | | |
| OCTOBER | | | | | | |
| NOVEMBER | | | | | | |
| DECEMBER | | | | | | |
| JANUARY | | | | | | |
| FEBRUARY | | | | | | |
| MARCH | | | | | | |
| APRIL | | | | | | |
| MAY | | | | | | |
| JUNE | | | | | | |
| TOTAL # KITS | | | | | | |
| TOTAL COST (# kits x cost of kit) | | | | | | |

DATA COLLECTOR: _____
 (Enumerator)

Code:

DATE: _____

Code:

KIT II: COST OF KIT _____

JULY ____ TO JUNE ____

| MONTH ISSUED | FACILITY | | | | | |
|-----------------------------------|----------|---|---|---|---|---|
| | A | B | C | D | E | F |
| JULY | | | | | | |
| AUGUST | | | | | | |
| SEPTEMBER | | | | | | |
| OCTOBER | | | | | | |
| NOVEMBER | | | | | | |
| DECEMBER | | | | | | |
| JANUARY | | | | | | |
| FEBRUARY | | | | | | |
| MARCH | | | | | | |
| APRIL | | | | | | |
| MAY | | | | | | |
| JUNE | | | | | | |
| TOTAL # KITS ISSUED | | | | | | |
| TOTAL COST (# kits x cost of kit) | | | | | | |

FORM 14: Health Center and Dispensary Kit Drugs

PURPOSE: This instrument is used to record the quantities of Kit Drugs that are consumed by dispensaries and health centers. This information will be used to develop average costs for specified service delivery and to assess efficiency, productivity and the cost saving potential at a facility.

SOURCES OF DATA: Health centers are issued Health Center Kits and dispensaries are issued Dispensary Kits with two types of kits issued: Kit I and Kit II. The kits contain drugs appropriate for the institution and each kit comes with its own packing. All kits are supplied to the various facilities from the Medical Officer of Health. The health centers and dispensaries receive their supply of kits after the facility has seen the appropriate number of patients (2,000 for each Health Center Kit). Cost of single kit is available from the Medical Officer of Health.

The data for kits issued to health centers and dispensaries can be collected from the supply office of the Medical Officer of Health. The accuracy of records from this office be verified by checking the requisition forms (S11) at the health center or dispensary.

WHO SHOULD COLLECT DATA: Data should be collected by an enumerator with an understanding a bin card, a pharmaceutical technologist, or a supplies clerk.

HOW TO USE THE INSTRUMENT: The period to be recorded is an entire fiscal year. List the facilities to be reviewed on page 1. Indicate if it is a health center or a dispensary. From the bin card at the Medical Officer of Health's office, calculate the monthly number of kits issued to each facility. Use page 2 for kit I and page 3 for Kit II. Use additional pages for each fiscal year.

The total number of kits used at each facility is calculated by adding the totals issued every month and recording the total quantity for each facility in the appropriate space. The total cost of the kits is the total quantity of kits issued times the cost per kit.

FORM 15: HEALTH CENTRE/DISPENSARY NON-KIT DRUGS

INSTRUCTIONS:

The records for NON-KIT drugs issued are maintained by the DMOH /Health Centre/Dispensary, on a monthly basis (example: June 1988, October 1989, etc.). The period shows the quantity issued to the health centre or dispensary by the DMOH.

There are 4 major non-KIT drug items used in the health centre or dispensary:

1. Tabs(tablets)
 2. Bottles (less than one liter)
 3. Liter
 4. Injection.
-
1. Tabs include: Ergometrine, Vermox, ASA, Chloroquine, Actal, Valium, Flagyl, Panadol, Ventolin, Franol, Senocot, Inderal, Indocid, Largactil, Aspirin, etc.
 2. Bottles include: Dextrose, Spirits, Antacid, Chloroquine syrup, Parafin, Xylocaine, Saline, Halothene, etc.
 3. Liter include: Municipal lotion, Savlon, Biodan, Eusol, Kerol, Lysol, etc.
 4. Injections include: Petlilofarmmm, Insulin, Petlhidine, Aminophyline, Hydrocortisone, water, etc.

Review the S11 forms or record entry by DMOH and the amount of NON-KIT drug item issued to the health centre or dispensary.

FACILITY: _____ Code:

DATA COLLECTOR: _____ Code:
 (Enumerator)

DATE: _____ Code:

NON-KIT PERIOD OF REVIEW JULY 19____ TO JUNE 19____

| MONTH/ NUMBER ISSUED | TABS (IN UNITS OF 100) | BOTTLE (BOTTLE UNITS OF 1) | LITER (UNITS OF 1 LITER) | INJECTION (IN UNITS OF 100) |
|---------------------------------|-----------------------------------|---------------------------------------|-------------------------------------|--|
| JULY | | | | |
| AUGUST | | | | |
| SEPTEMBER | | | | |
| OCTOBER | | | | |
| NOVEMBER | | | | |
| DECEMBER | | | | |
| JANUARY | | | | |
| FEBRUARY | | | | |
| MARCH | | | | |
| APRIL | | | | |
| MAY | | | | |
| JUNE | | | | |
| TOTAL NUMBER ISSUED | | | | |

FORM 15: Health Center and Dispensary Non-Kit Drugs

PURPOSE: The instrument is used to record the quantities of non-kit drug items issued from the Medical Officer of Health. This information will be used to develop average costs for specified service delivery and to assess efficiency, productivity, and the cost saving potential at a facility.

SOURCES OF DATA: Data can be collected from bin cards at the Medical Officer of Health's office or from S11 forms at the health facility.

WHO SHOULD COLLECT DATA: Data can be collected by an enumerator trained in identifying common drugs, preferably a nurse or pharmacist.

HOW TO USE INSTRUMENT: The period to be recorded is an entire fiscal year. List the facilities for which data is to be recorded on page 1 and indicate if it is a health center or dispensary. The non-kit drug items received by a health facility, and the units for recording are:

- 1) tablets (units of 100);
- 2) bottles (liquids less than 1 litre);
- 3) liters; and
- 4) injections (units of 100).

On a separate sheet of paper, identify all these items that the facility received each month. Enter the data from the worksheet onto pages 2 and 3 of the questionnaire. Total the number of drug items received by the facility at the last column.

FORM 16: THEATRE SERVICES UTILIZATION

FACILITY: _____ Code:

| | | |
|--|--|--|
| | | |
|--|--|--|

DATA COLLECTOR: _____ Code:

| | |
|--|--|
| | |
|--|--|

(Enumerator)

DATE: _____ Code:

| | | | | | |
|--|--|--|--|--|--|
| | | | | | |
|--|--|--|--|--|--|

INSTRUCTIONS: Record number of operations performed for each theatre. Leave blank if no data found for month. Do once for each fiscal year.

THEATRE (MAJOR OPERATIONS) FISCAL YEAR _____

| | JUL | AUG | SEP | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN |
|-----------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| THEATRE 1 Total Operating Days | | | | | | | | | | | | |
| THEATRE 2 Total Operating Days | | | | | | | | | | | | |
| THEATRE 3 Total Operating Days | | | | | | | | | | | | |
| THEATRE 4 Total Operating Days | | | | | | | | | | | | |
| THEATRE 5 Total Operating Days | | | | | | | | | | | | |
| THEATRE 6 Total Operating Days | | | | | | | | | | | | |
| THEATRE 7 Total Operating Days | | | | | | | | | | | | |
| THEATRE 8 Total Operating Days | | | | | | | | | | | | |

THEATRE (MINOR OPERATIONS) FISCAL YEAR _____

| | JUL | AUG | SEP | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN |
|-----------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| THEATRE 1 Total Operating Days | | | | | | | | | | | | |
| THEATRE 2 Total Operating Days | | | | | | | | | | | | |
| THEATRE 3 Total Operating Days | | | | | | | | | | | | |
| THEATRE 4 Total Operating Days | | | | | | | | | | | | |
| THEATRE 5 Total Operating Days | | | | | | | | | | | | |
| THEATRE 6 Total Operating Days | | | | | | | | | | | | |
| THEATRE 7 Total Operating Days | | | | | | | | | | | | |
| THEATRE 8 Total Operating Days | | | | | | | | | | | | |

FORM 16: Theatre Services Utilization

PURPOSE: This form will provide the data necessary to allocate cost of support services to separate wards or clinics which receive theatre services. Theatre services data provide descriptive information on the volume of services and may be compared among hospitals to assess the level of under- or over-utilization of resources.

SOURCE OF DATA: Raw data are typically recorded in a register indicating the date, patient's name and number, inpatient ward or outpatient clinic, and service performed.

WHO SHOULD COLLECT DATA: This task can be performed by a university student enumerator with some training or by a department clerk.

HOW TO USE THIS INSTRUMENT: Count and record number of output units (operations) provided for each ward or clinic. This data should be collected monthly over a period of two fiscal years in order to produce stable estimates of the proportions of costs to be allocated to each ward or clinic.

FORM 17: INPATIENT UTILIZATION

FACILITY: _____ Code:

| | | |
|--|--|--|
| | | |
|--|--|--|

DATA COLLECTOR: _____ Code:

| | |
|--|--|
| | |
|--|--|

(Enumerator)

DATE: _____ Code:

| | | | | | |
|--|--|--|--|--|--|
| | | | | | |
|--|--|--|--|--|--|

INSTRUCTIONS: Fill in this form for each inpatient ward for each fiscal year. If data is not available for a particular item (e.g., transfer) make a note and leave row blank.

Inpatient Ward: _____ Ward # _____

FISCAL YEAR _____

| | JUL | AUG | SEP | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN |
|-----------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Number of Beds | | | | | | | | | | | | |
| Number of Cots | | | | | | | | | | | | |
| Admissions | | | | | | | | | | | | |
| Discharges | | | | | | | | | | | | |
| Transfers Out | | | | | | | | | | | | |
| Transfers In | | | | | | | | | | | | |
| Deaths | | | | | | | | | | | | |
| Well People | | | | | | | | | | | | |
| Sick Patients | | | | | | | | | | | | |
| Abscondees | | | | | | | | | | | | |
| Bed Days | | | | | | | | | | | | |

FORM 17: Inpatient Utilization

PURPOSE: This instrument will provide the information necessary to examine the volume of services that are provided within the hospital wards. It will be used to relate utilization to costs of service delivery, to in- and outpatient demand, and to assess whether certain conditions could be treated with the same outcome in an outpatient health center or dispensary rather than a hospital.

While inpatient and outpatient utilizations are distinct, they are nonetheless related by referrals which send outpatients for inpatient admission. To the extent that data is available on referrals, it is important and useful to link demand for outpatient care to subsequent inpatient care.

SOURCES OF DATA: Monthly summaries in the medical records office are data sources for the inpatient data utilization form. These monthly summaries begin with daily morning and evening ward censuses. Each evening, at approximately six pm, the nurse in charge counts patients in his or her ward and completes a matron's report for the night shift. This report includes the number of admissions, discharges, deaths, and transfers for that day, along with notes about specific patients. The night shift nurse completes a similar report, at approximately six am, the next day for the day shift. Each day the hospital matron receives these censuses from the wards and compiles a report of admissions, discharges, deaths, transfers, and patients for each ward in the hospital. This report is forwarded to the medical records officer who produces a summary at the end of each month.

WHO SHOULD COLLECT DATA: This instrument can be completed by a person with some medical records training. Alternatively, a university student can be trained to record the figures from existing monthly summaries onto this instrument.

HOW TO USE THIS INSTRUMENT: This instrument is to be completed for each hospital ward for each fiscal year. Calendar years are not used because budgets and allocations of funds are done on a fiscal year basis. Information should be collected for an entire year to get a complete picture and avoid potentially misleading interpretations. Each of the data items are explained below.

1. Number of Beds

The number of beds in each ward (for each month) are used to compute utilization statistics of bed occupancy rates, turnover intervals, and average length of stay (ALOS). Care should be taken

to determine whether in fact the number of ward beds during a particular month is constant. If it varies, then the actual number of bed days in the month must be adjusted accordingly. Beds are not necessarily fixed and there may be good reasons for moving beds from one ward with low occupancy to another, overcrowded ward. Beds may not be available due to lack of staff or need of repairs. It is important to accurately determine the actual number of available beds since this number will be used for utilization statistics. If there are cots available in a ward which are used when necessary then these should be added to the number of "beds" available.

2. Number of Cots

When cots are used as beds, they have the same implications for occupancy, turnover, throughput, and staffing. These cots should be counted as available beds. If it is certain that cots are kept primarily to be used by well people (i.e., a parent), then these cots should not be counted as beds. Cots may also be used for infants in which case they are counted as beds a paediatric ward or nursery.

3. Admissions

Admissions represent demand for inpatient care. Enumerators should ascertain whether admission counts include transfers. A graph of monthly admissions can show seasonal changes in demand which can help determine staff requirements and leaves.

4. Discharges

Monthly ward discharges are used to determine ALOS, throughput, turnover intervals, and staffing ratios. Discharges also provide another measure of demand. Enumerators should ascertain whether discharges include deaths or transfers. If transfers to another ward in the hospital occur they should be counted as discharges twice, once from each ward.

5. Transfers Out

Transfers out of one hospital to another should be counted as discharges. Transfers from one ward to another in the same hospital should be counted as two separate discharges. To compute ALOS for particular episodes of illness or disease, such transfers need to be taken into consideration.

6. Transfers In

Transfers into a ward should be added to admissions unless they are already included in admission counts. The total number of transfers within a hospital should equal the total number of transfers out to other wards.

7. Deaths

Deaths should be added to discharges unless they are already included.

8. Well People

In certain cases parents or relatives accompany a patient during a hospital stay. If such a person occupies a bed or cot then that bed or cot is not technically available to patients and should be deducted from both total available beds and total occupied beds. If the bed is treated as available if necessary, that is, if the well person would be forced to vacate the bed or cot to accommodate a sick patient, then the bed is not occupied and is technically available.

9. Sick Patients

The average number of sick patients each day during a month is used to calculate the number of occupied beds. The number of occupied beds is used to determine the bed occupancy rate, turnover interval and ALOS. Care should thus be taken to ensure that the number of sick patients is recorded accurately. If monthly summaries include daily censuses, then some of these should be double checked for accuracy. In wards with occupancy rates exceeding 100 percent, the number of occupied beds or patients per day exceeds the number of available beds by definition.

10. Absconders

Absconders from a ward should be included in the total number of discharges. They may reflect lost revenue and risk carrying infectious diseases back into a community before treatment.

11. Bed Days

When completing the inpatient utilization data form for a ward, the enumerator should enter patient or bed days whichever is available. Record both if they are available. To obtain bed days, multiply the number of patients in a month by the number of days in the month.

FORM 18: OUTPATIENT UTILIZATION

FACILITY: _____ Code:

| | | |
|--|--|--|
| | | |
|--|--|--|

DATA COLLECTOR: _____ Code:

| | |
|--|--|
| | |
|--|--|

(Enumerator)

DATE: _____ Code:

| | | | | | |
|--|--|--|--|--|--|
| | | | | | |
|--|--|--|--|--|--|

INSTRUCTIONS: Fill in this form once for each type of outpatient clinic at this facility. Record the data according to the categories available; if data is not available by adult/child or male/female make a note and leave box blank. Do once for each fiscal year. Note that each person should only be counted once.

Type of Outpatient Clinic: _____

FISCAL YEAR _____

| | JUL | AUG | SEP | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN |
|-------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Operating Days | | | | | | | | | | | | |
| New Clients | | | | | | | | | | | | |
| Old Clients | | | | | | | | | | | | |
| New Male Clients | | | | | | | | | | | | |
| Old Male Clients | | | | | | | | | | | | |
| New Male Adult | | | | | | | | | | | | |
| Old Male Adult | | | | | | | | | | | | |
| New Male Child | | | | | | | | | | | | |
| Old Male Child | | | | | | | | | | | | |
| New Female | | | | | | | | | | | | |
| Old Female | | | | | | | | | | | | |
| New Female Adult | | | | | | | | | | | | |
| Old Female Adult | | | | | | | | | | | | |
| New Female Child | | | | | | | | | | | | |
| Old Female Child | | | | | | | | | | | | |
| New Child | | | | | | | | | | | | |
| Old Child | | | | | | | | | | | | |

FORM 18: Outpatient Utilization

PURPOSE: Outpatient health care plays an important role in the delivery of both curative and preventive services. Curative services provide a less costly alternative to hospitalization for the treatment of certain conditions, and screen inpatients prior to admission. Preventive health care also complements curative hospital health care delivery by bringing education, immunization and other preventive/primitive methods to the community, thus reducing the demand for curative services. Outpatient care is usually delivered through a general, curative clinic and possibly several specialty clinics at the hospital. Health centers and dispensaries are almost entirely devoted to providing outpatient services. Care is often provided through a series of visits that provide follow up.

HOW TO USE INSTRUMENT: The information collected in this instrument will be used to assess the volume of services that are provided in terms of:

- 1) average number of visits per day or per month;
- 2) number of visits per month over-time; and
- 3) productivity measures relating the number of visits to the number of staff.

It is important to identify and count both the number of new cases seen and the number of revisits or re-attendances. If available, it is also useful to identify the gender and age of each client. For this reason, the instrument is designed to accommodate any level of detail from the clients. Finally, record the number of operating days each month as some specialty clinics are typically held only once or twice a week.

SOURCES OF DATA: The medical records officer is responsible for collecting outpatient utilization data on a daily basis and compiling monthly totals.

WHO SHOULD COLLECT DATA: This data can then be transcribed directly onto the outpatient utilization data form by a university student enumerator with some training.

FORM 19: Inpatient Morbidity

PURPOSE: Morbidity refers to the variety of medical conditions or diseases which are treated in a given context, such as an inpatient ward or an outpatient clinic. Morbidity plays an indirect role in facilitating or justifying comparisons between hospitals (or wards) since hospitals with similar case mixes should share other characteristics. The purpose of this information is to characterize the main conditions treated in a ward and to portray the variation in diagnoses treated. For example, if 10 diagnoses account for 75 percent of the cases, then it would also be informative to know how many different diagnoses are represented in the remaining 25 percent of the cases.

SOURCES OF DATA: Morbidity data for individual wards is seldom available in summary form and must be compiled from individual ward admission and discharge registers. In most cases, only an admission diagnosis (and in several cases, multiple admission diagnoses) is available. Principal or discharge diagnosis information is usually available only through an examination of individual medical records.

WHO SHOULD COLLECT DATA: An enumerator can be trained to list and tally every diagnosis found. This can be performed by a university student enumerator trained to identify diagnoses and compile such a list. A medical records technician or other health professional should review the list and group the diagnoses into clinical categories by combining related or synonymous conditions and eliminating duplicates or abbreviations. Collection of morbidity data from medical records requires advanced training and familiarity with medical terminology. This is also true to a lesser extent for collection of these data from an admission/discharge register as enumerators may not recognize many common medical abbreviations.

HOW TO USE THIS INSTRUMENT: Complete the instrument for each ward for each fiscal year. Complete it with data compiled from the admission/discharge register kept in each ward. These data include each diagnosis encountered and monthly tallies of the number of cases of each diagnosis. The list should be reviewed by a medical professional familiar with disease names and abbreviations. Related conditions should be grouped together and the list should be sorted into clinically coherent categories. The reduced and sorted list should then be recorded on the instrument along with the number of diagnosis in the list. It is important to collect this data for at least one 12 month period in order to capture seasonal variations in the incidence of different diseases. Where there are multiple or questionable admission diagnoses, the first diagnosis should be recorded but an effort should be made to identify combinations of diagnoses which occur frequently. A principal discharge diagnosis is also preferable.

FORM 20: OUTPATIENT MORBIDITY

FACILITY: _____ Code:

| | | |
|--|--|--|
| | | |
|--|--|--|

DATA COLLECTOR: _____ Code:

| | |
|--|--|
| | |
|--|--|

(Enumerator)

DATE: _____ Code:

| | | | | | |
|--|--|--|--|--|--|
| | | | | | |
|--|--|--|--|--|--|

INSTRUCTIONS: Tally the number of cases for each of the following diagnoses. Use the outpatient register or the monthly statistical reports.

FISCAL YEAR _____

| TYPE OF DISEASE | JUL | AUG | SEP | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN |
|--|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Diarrhoeal Disease | | | | | | | | | | | | |
| Tuberculosis | | | | | | | | | | | | |
| Leprosy | | | | | | | | | | | | |
| Whooping Cough | | | | | | | | | | | | |
| Meningitis | | | | | | | | | | | | |
| Tetanus | | | | | | | | | | | | |
| Poliomyelitis | | | | | | | | | | | | |
| Chicken Pox | | | | | | | | | | | | |
| Measles | | | | | | | | | | | | |
| Infectious Hepatitis (Jaundice) | | | | | | | | | | | | |
| Mumps | | | | | | | | | | | | |
| Malaria | | | | | | | | | | | | |
| Gonorrhoea | | | | | | | | | | | | |
| Urinary Tract Infection | | | | | | | | | | | | |
| Bilharzia | | | | | | | | | | | | |
| Intestinal Worms | | | | | | | | | | | | |
| Malnutrition | | | | | | | | | | | | |
| Aneamia | | | | | | | | | | | | |
| Eye Infection | | | | | | | | | | | | |

Notes:

FORM 20: OUTPATIENT MORBIDITY

| TYPE OF DISEASE | JUL | AUG | SEP | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN |
|---|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| Cataract | | | | | | | | | | | | |
| Ear Infection | | | | | | | | | | | | |
| Diseases of Circulatory System | | | | | | | | | | | | |
| Diseases of Respiratory System | | | | | | | | | | | | |
| Pneumonia | | | | | | | | | | | | |
| Abortion | | | | | | | | | | | | |
| Diseases of Puerperium & Childbirth | | | | | | | | | | | | |
| Neoplasms | | | | | | | | | | | | |
| Diseases of Blood & Blood Forming Organs | | | | | | | | | | | | |
| Mental Disorders | | | | | | | | | | | | |
| Dental Disorders | | | | | | | | | | | | |
| Diseases of the Skin (incl. Ulcers) | | | | | | | | | | | | |
| Rheumatism, Joint Pains, etc. | | | | | | | | | | | | |
| Congenital Anomalies | | | | | | | | | | | | |
| Pyrexia of Unknown Origin | | | | | | | | | | | | |
| Poisoning | | | | | | | | | | | | |
| Accidents (incl. Fractures, Burns, etc.) | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| All Other Diseases | | | | | | | | | | | | |

Notes:

FORM 20: Outpatient Morbidity

PURPOSES: Outpatient morbidity data is collected for the same reasons as inpatient morbidity data.

SOURCES OF DATA: The diseases listed in the instrument correspond to those for which data is currently collected and submitted to Health Information Systems (HIS). HIS provides a form to all MOH facilities for compiling daily and monthly outpatient morbidity returns. This data flow begins with daily tallies made by clinical officers on preprinted forms designed for tallying cases by disease. These tally sheets are forwarded to the medical records clerk who records the daily morbidity returns and volume of services (new cases and revisits). In some health centers and dispensaries, the tally sheets are not used but instead there is a register which is examined each day in order to fill in the daily morbidity returns.

WHO SHOULD COLLECT DATA: These data can be tabulated and recorded by a university student enumerator with some training.

HOW TO USE THIS INSTRUMENT: This form is to be completed for each month for a period of two fiscal years. The analysis of these data involves presentation of: frequency distributions which indicate by type of facility, the number of cases of each disease for each facility; and graphs of the incidence of common diseases over time. Attempts should be made to relate preventive health care to curative health care. For example, do increases in the number of child welfare clinic visits correspond to a reduction in subsequent demand for curative paediatric care?