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ANALYSIS OF THE  
HEALTH MANAGEMENT INFORMATION SYSTEMS  
OF THE FEDERAL MINISTRY OF HEALTH

LAGOS, NIGERIA  
June 3 - 18, 1986

Richard C. Owens, Jr., M.S.

**THE RESOURCES FOR CHILD HEALTH PROJECT**  
1100 Wilson Blvd., Ninth Floor  
Arlington, Virginia 22209  
USA

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**ATTACHMENTS:**

1. Routine Reporting Forms, Federal Ministry of Health, Directorate for National Health Planning and Research
2. Routine Reporting Forms, Federal Ministry of Health, Primary Health Care Coordinating Unit
3. Routine Reporting Forms, EPI
4. Routine Reporting Forms, ORT
5. Routine Reporting Forms, Family Planning
6. Alternative Hardware Systems and Initial Software Requirements for the Ministry
7. Specifications for Protected Battery Power Systems for Microcomputers
8. List of Primary Persons Contacted

## I. SUMMARY AND RECOMMENDATIONS

At the request of the Federal Ministry of Health (FMOH) and AID/Nigeria, a brief consultancy visit was made to Lagos from June 3 - 18, 1986.

The initial scope of this consultancy was an examination of microcomputer hardware and software currently in use by the FMOH and by AID/Nigeria to see what if any additional applications might be appropriate for automation. At the request of the Ministry, this scope was expanded to include an examination of the overall health management information effort of the FMOH. Accordingly, the following pages identify and discuss specific issues in the two areas of health management information systems and computer utilization.

### A. HEALTH MANAGEMENT INFORMATION SYSTEMS

Major recommendations for the Ministry's consideration are as follows:

- It is suggested that a small Health Management Information Systems Working Group consisting of the top decision-makers of the Ministry, at least one state and one local government area representative, and both Ministry and outside systems analysts be constituted under the authority of the Minister to coordinate the health management information systems efforts of the Ministry.

The purpose of such a group SHOULD NOT BE creation of a centralized data collection system, but rather coordination of the design, and approval of the dissemination of data reporting formats and instructions. Data collection and analysis should remain decentralized in the concerned directorates and sections of the Ministry, as is currently the case.

- It is suggested that this Working Group give attention as its first priority to significantly simplifying and reducing the amount of data that is routinely requested from the states and local government areas.

As indicated in Attachments 1 - 5, there are presently at least fifty separate and in many cases overlapping data reporting forms in use or proposed by various sections of the Ministry at the Federal level alone. It will never be possible, on either a manual or an automated basis, to process this amount of data into meaningful information at the Federal level. Regular routine reporting accordingly should be reduced to the absolute minimum needed for routine management purposes, preferably according to the theoretical methodology discussed in Section II of this

report. The proposed "Monitoring System for Primary Health Care", now in its final stages of design by the Primary Health Care Coordinating Unit, represents a major step in this direction.

- It is suggested that the Directorate for National Health Planning and Research and/or the the Primary Health Care Coordinating Unit recruit and train appropriate staff to establish a Statistical Survey Unit at the Federal level of the Ministry.

If routine reporting from the field is significantly reduced, the Ministry will need to gather more detailed health information on a sample survey basis, and should therefore develop the capability for regularly conducting such surveys in a statistically sound fashion. Cost-effective ways of conducting such surveys, including addition of a health module to the annual National Integrated Survey of Households conducted by the Federal Office of Statistics (FOS), and coordination of efforts with the Nigeria Demographic and Health Survey, should be further explored.

These recommendations for continued development of the Ministry's health management information systems are discussed more fully in Section III below.

#### **B. COMPUTER UTILIZATION**

Major recommendations for expanded utilization of computers at the Federal Ministry level are as follows:

- It is suggested that the Ministry standardize on IBM or IBM-compatible hardware for future microcomputer equipment, and on a short standard list of packaged programs and general purpose software for the Ministry's systems.

The Ministry's present microcomputer is an IBM PC, and applications planned for the immediate future (e.g. pilot automation of the family planning logistics management system) require IBM-compatible hardware. Attachment 6 suggests alternative IBM and IBM-compatible hardware and software systems which could be used as a standard for additional microcomputers the Ministry may procure, and Attachment 7 describes a protected battery power system which could be used to safely operate such systems.

- It is suggested that arrangements for stocks of spare parts and maintenance of microcomputer equipment be completed BEFORE any new equipment is imported to Nigeria.

Repair and maintenance capabilities for microcomputer equipment are very limited, and obtaining spare parts is very difficult. There are individuals and private firms who have the technical skills to troubleshoot microcomputers, but no formal arrangement exists for obtaining their services. Such formal arrangements should be made, and stocks of spare

parts should be imported at the same time any new machine is imported. If the Ministry decides to expand its automation effort substantially, a complete spare system should be procured, which can be used as a backup for any Ministry system which goes down.

- It is suggested that arrangements for training of Ministry staff in systems analysis, programming, and computer utilization be made before any significant expansion of computer efforts is attempted.

At present there is only one person in the Ministry who has significant training and experience in computers. Although he is very competent, and could easily manage an expanded computer effort, a significant number of additional trained staff would be required to accomplish an expanded workload. Capability to train lower level staff in routine utilization of computers, packaged programs, and data entry exists in-country. However, a small number of staff would require extensive or long-term training in systems analysis and programming if the Ministry's computer efforts are to become self-supporting.

Potential uses of microcomputers in the Ministry's information systems and logistics management systems are further discussed in Section IV below.

### C. CONCLUSION

It should be noted that the observations and recommendations presented in this report are the result of interviews conducted with Ministry and foreign donor staff over a very brief period of time, and therefore represent the opinions of the consultant based on limited information. The specific suggestions given here should be interpreted accordingly.

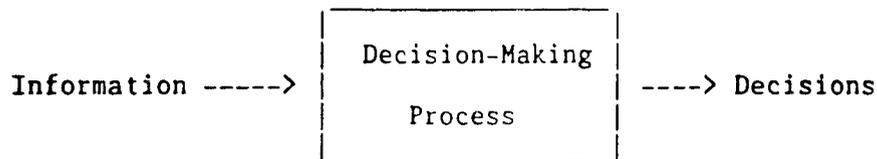
Thanks are due to Dr. A. B. Sulaiman, to Dr. A. D. Kolawole, and to a long list of their staff members, who gave their time generously and at short notice to assist in the work reported here. Attachment 2 lists the primary contacts made during this consultancy.

## II. CONSIDERATIONS IN THE DESIGN OF HEALTH MANAGEMENT INFORMATION SYSTEMS

This section presents a summary of some important principles of health management information system design, which could be used as a framework for further analysis of the current information systems of the Ministry. Although the concepts presented here are both simple and obvious, they are rarely practiced in either public or private sector organizations around the world.

### A. MANAGEMENT DECISION-MAKING

Collection of information should not be a goal in itself, but rather a means to improve the management of the service delivery system by improving the quality of management decisions. At the most fundamental level, the decision-making process can be viewed as a "black box", into which flows information, and from which comes decisions. Schematically:



Although this is a very simplistic view of what managers actually do, it serves to illustrate a number of very important points which are frequently overlooked in information systems development. First, if one's interest is in decisions, one must understand the decision-making process itself. Second, in order to improve decisions, one might attempt either to improve the information flowing into the box, or to improve the process within the box. These are two very different kinds of activities, and in most cases they must be undertaken concurrently in order to have any effect on decisions. Third, it is not possible to say what "better" information really is without understanding both the decisions being made and the decision-making process itself.

This is the most important single principle of information systems development. To design a relevant, useful system, one must first consider what decisions are being made, and second, how they are made. Only with this understanding is it possible to say what information is needed and how to collect it. The most frequent cause of information system failures is that they do not aim at supporting specific decisions.

## B. CHARACTERISTICS OF INFORMATION

The process of management decision-making takes place at all levels of the health system, although the decisions actually being made are quite different from level to level. A Health Centre Nurse engages in much the same process in planning next week's work that the central Ministry planner uses in developing annual plans.

Most information systems efforts consider the question of what data items should be collected at different levels of the system; content, however, is only one of several characteristics of information which should be considered in designing an information system, and which differ from level to level as well as from decision to decision.

Accuracy is another such characteristic. At the lowest level of the health system, information must be highly accurate to be useful: the health worker must know exactly which immunizations a child has had in order to decide which shots to give next. At higher levels of the health system, however, accuracy requirements are much less stringent: an error of five percent in the total number of immunizations given last year is unlikely to significantly affect the next five year plan.

Similarly, timeliness requirements of information differ significantly from level to level. Data six months or a year old may be quite adequate for five year planning, but last month's data is needed to calculate this month's needs for essential drugs at the health clinic.

The level of aggregation of data required at higher levels is much greater than at lower levels. It is unlikely that data on specific patients would ever be needed above the level at which services are actually provided. Also, information is used much less frequently at higher levels than at lower levels.

Lastly, the source and time horizon of information differ from level to level. In long-range planning, much information is required from outside the service delivery system, and this information is usually future-oriented. An important variable, for example, is the annual budget level, which is set outside the Ministry. By contrast, information needed at the lowest level is confined mostly to data internal to the health delivery system and historical in nature.

These considerations raise two very important points. First, it is widely assumed that "better" information is very accurate, detailed, and up-to-date. This assumption is at best expensive. Accuracy, detail, and timeliness increase greatly the cost in both time and money of the information system. One should be willing to bear that cost only if the decision being made requires high levels of accuracy, detail, and timeliness. At worst, this assumption results in creation of information systems which are so cumbersome that they are entirely unworkable.

Second, it is widely assumed that higher levels of management require simple summaries of the information needed at lower levels. Source and time horizon issues indicate that this is not true. In all cases, higher levels of management need some information that is not needed at lower

levels, and in most cases, lower levels require information that should never be sent to higher levels.

Thus, another important principle of information system development is that the content, accuracy, timeliness, level of aggregation, frequency of use, source, and time horizon of information may differ significantly from decision to decision. To be successful, an information system must take account of these differences. These relationships are depicted below.

Information Requirements by Decision Category  
and Health System Level

<u>Characteristics of Information</u>	<u>Operational Control</u>	<u>Management Control</u>	<u>Strategic Planning</u>
Source	Largely internal ----->		External
Scope	Well defined, ----->		Very wide narrow
Level of Aggregation	Detailed ----->		Aggregate
Time Horizon	Historical ----->		Future
Currency	Highly current ----->		Quite old
Required Accuracy	High ----->		Low
Frequency of Use	Very frequent ----->		Infrequent
	Local level ----->		Central Level

**C. EVOLUTIONARY SYSTEMS DEVELOPMENT**

Another frequent mistake in information systems development is the assumption that one should design the entire information system, and then implement it throughout the health system simultaneously. Such an approach almost never succeeds: it is rarely possible to foresee every potential difficulty until well into the implementation process. Furthermore, the health services delivery system itself is constantly changing in response to changing needs, and the information system must change with it. Thus the design process never really ends.

A much more reasonable approach is to start with a small portion of the total information system, implement it on a pilot basis, and expand the

system only after this initial experience has been gained. Thus the information system evolves as its users and developers evolve: after managers have experience in using some information, they are in a much better position to identify additional information needs.

In fact, at a certain stage in an information systems effort this development process must reverse: Information systems inevitably grow to the point that they become too cumbersome to provide complete and timely information for the decision-making process. At such times, the development effort must aim at reducing the amount of data that is gathered and processed to a relevant, manageable minimum.

#### D. FEEDBACK

Another important idea is the concept of information feedback to all participants in the information system. This is to say that each person or group who contributes to the system (by recording data) must get something out of the system (useful reports). What is not obvious about this statement is that it includes personnel at the lowest level of the service delivery system, who do most, if not all, of the recording of data. If these people do not see the information system producing useful information either for themselves or for their immediate superiors, they cannot be motivated to record data accurately.

#### E. COST OF INFORMATION

The evolution of massive data systems in health and other sectors in countries around the world indicates a lack of understanding of the true cost of information. The price includes not only forms, computer systems, paper, and consultants, but also the excessive time spent in recording and reporting by health service delivery staff who would be much better used in delivering services. Although many people profess to understand these facts, there seems to be an almost universal unwillingness to decide to do without a data item because it is too costly to obtain.

This last principle of information system development can be stated simply: Information should only be recorded and reported when the value of the information exceeds the cost of collecting it. This value can only be determined in light of the actual uses (NOT hypothetical uses) to which the information will be put.

#### F. THE AUTOMATION DECISION

The most important point to understand about automation of management information systems is that the automation decision should always come **AFTER** detailed consideration of the issues discussed above. Automating a poorly designed information system produces at best a poor computerized system, and at worst no system at all. Automating an existing manual system that does not work well produces only a more expensive system that does not work well.

In deciding whether and when to automate, it is imperative that the computer be viewed simply as a high-speed clerk: its function is to do the same things that humans would do by hand, but to do them faster. A computer can very quickly sum statistics for reports of service activity, but all it is doing is adding; if the report does not contain the information needed for management decisions, it is useless to have it more quickly.

Thus, the question of automation must be the last issue in information system design, and the question should be addressed in the context of the cardinal rule of computer science:

Garbage in ..... Garbage Out

### III. INITIAL SUGGESTIONS FOR THE HEALTH MANAGEMENT INFORMATION SYSTEMS OF THE FEDERAL MINISTRY OF HEALTH

Discussions were held with staff of the Primary Health Care Coordinating Unit, the Directorate for National Health Planning and Research, and the Epidemiological Division of the Directorate for Public Health Services, as well as with staff of the various related donor funded projects regarding past and present efforts in health management information system development. Other directorates of the Ministry were not visited. The following paragraphs summarize the current situation in these sections of the Ministry, and provide initial suggestions for next steps in information systems development.

It is emphasized again that the specific suggestions presented here are based on information gathered over a very brief time period, and should be interpreted accordingly.

#### A. THE DIRECTORATE FOR NATIONAL HEALTH PLANNING AND RESEARCH

Historically, a large share of the responsibility for maintenance of health management information at the Federal level has fallen to the Directorate for National Health Planning and Research, and an extensive data collection system has been established in which states are to report on a regular (weekly, monthly, quarterly, and/or annual) basis on information in the following major categories:

- Communicable Diseases: Number of cases and number of deaths for some 20 notifiable diseases are to be reported weekly, and an additional 13 are to be reported monthly. These reports are supposed to be sent both to the Medical Statistics Division of the Directorate for National Health Planning and to the Epidemiological Division of the Directorate for Public Health Services.
- Immunization Data: Immunizations given for BCG, DPT, Polio, Tetanus, Measles, Meningitis, Yellow Fever, Cholera, and Rabies are to be reported monthly to both the Medical Statistics Division and the Epidemiological Division.
- Vital Statistics: Births and deaths are to be reported quarterly by each state. As this data are very hard to obtain, only hospitals are required to report.
- Hospital Service Activity: Admissions, discharges, occupancy, operations performed, and average length of stay are to be reported monthly.

- Hospital Discharges: Individual in-patient discharge sheets are to be forwarded to the Medical Statistics Division by all hospitals with 150 or more beds. Diagnosis, treatment, and outcome data are included.
- Morbidity and Mortality: Hospitals with 150 or more beds are to report in-patient admissions, out-patient cases, and deaths by age and sex for a twenty-six page long list of diseases (according to the Ninth Revision of the International Classification of Diseases) on a monthly basis.
- Health Manpower: All institutions are to provide an annual report of their personnel and training activities.
- Health Institutions: All states are to provide an annual summary of status of their health institutions.
- Specialty Hospital Reports: Orthopaedic Hospitals, Neuro-Psychiatric Hospitals, and Teaching Hospitals are to report on separate proformas data similar to the above on an annual basis.
- HFA/2000 Data: A new series of nine reporting proformas including nutrition, water and sanitation, maternal child health/family planning, immunization, health education, diarrhoeal diseases, endemic diseases, essential drugs, and budget data to be reported on an annual basis have recently been distributed to the states.

The major recording forms for this system are included in Attachment 1 of this report.

#### B. THE PRIMARY HEALTH CARE COORDINATING UNIT

The Ministry of Health is anxious to operationalize the concept of Primary Health Care in a fashion most useful and feasible in Nigeria. To this end, it has been decided to implement a number of Primary Health Care Demonstration Projects in various geographic areas of the country. In order to ensure proper management and supervision of these Demonstration Projects, as well as a good geographic distribution, the following initial project sites have been chosen:

- Twelve PHC demonstrations to be managed by the 12 universities/Federal teaching hospitals;

- Twenty PHC demonstrations to be managed by the states themselves (including one to be managed in the Federal Capital Territory); and
- Twenty PHC demonstrations to be managed by the 20 schools of health technology,

for an initial total of 52 PHC demonstrations.

In addition to a routine management and supervision structure for this effort, the Federal Ministry of Health has identified twenty Federal Technical Coordinators for PHC, who will provide technical assistance as well as overall supervision for the PHC demonstrations. A related effort has been the development of the "Interim Manual of the Monitoring System for Primary Health Care", based on a workshop held in Ogun State in 1981, as well as a training module to be used in implementation of the system. This training has been given on a pilot basis in several states, and the recording and reporting formats are being revised based on this experience prior to wider implementation.

The monitoring system contemplates collection of a variety of data in the general areas of out-patient clinic attendance, incidence of "tracer" diseases, maternal health, child health, deliveries, health problems of reproduction, family planning, immunization, in-patient care, environmental health, community health activities, essential drug supply, manpower, facilities, and finance.

Attachment 2 reproduces the most recent draft of the recording and reporting formats for the proposed new system.

#### C. THE EPIDEMIOLOGICAL DIVISION OF THE DIRECTORATE FOR PUBLIC HEALTH SERVICES

The Epidemiological Division receives a subset of the same reporting forms which are sent by the states to the Medical Statistics Division. In particular, they receive the weekly and monthly reports of notifiable diseases included in Attachment 1.

In addition to its routine activities, the Epidemiological Division is responsible for the accelerated EPI and ORT efforts of the Ministry. Attachment 3 reproduces the accelerated EPI reporting forms, which track BCG, DPT, polio, measles, and TT immunizations given, number of immunization sites, number of sessions planned and held, problems if any with the cold chain, and population coverage. Attachment 4 reproduces the ORT reporting forms along with the combined EPI/ORT stock report and request form.

#### D. FAMILY PLANNING

With technical assistance from the Centers for Disease Control (CDC), considerable effort has been expended by the Ministry over the last several years in systematizing recording and reporting for family planning

services, with a particular emphasis on contraceptive and commodity management.

This system collects the following general categories of data:

- Acceptors: Data on new and continuing acceptors of family planning by method chosen is collected at service sites.
- Contraceptives: Data on contraceptives dispensed is collected for each patient.
- Inventory: Data on contraceptive inventory on hand, requested, and issued is collected at service sites.

Recording and reporting proformas for this system are included as Attachment 5. The project's current plans include the possibility of automation of the contraceptive recordkeeping portions of the system on a pilot basis in the coming year.

#### E. INITIAL SUGGESTIONS FOR THE HEALTH INFORMATION SYSTEM EFFORT

The above discussion indicates the tremendous level of effort which has been expended in the Ministry's health information systems to date. At this point, however, the system has grown to the point that many of its components are unmanageably large.

A brief glance through the attachments to this report gives an indication of the amount of time which would be required for health service delivery staff to complete all of the reports which are requested of them. Recent experience shows that many of the reports are not completed at all, or are forwarded to the Federal level very late. The amount of time required for processing the reports at the Federal level has also grown out of proportion.

A number of sections of the Ministry, realizing these difficulties, have begun revising their own recording and reporting systems. The most extensive effort has been made by the PHC Coordinating Unit, as described above. Unfortunately, there has not been sufficient coordination of these efforts to date, leading to the present situation of several overlapping and duplicative systems in the various units.

The first recommendation for further development of the Ministry's health information systems is therefore as follows:

1. It is suggested that a small Health Management Information Systems Working Group consisting of the top decision-makers of the Ministry, at least one state and one local government area representative, and both Ministry and outside systems analysts be constituted under the authority of the Minister to coordinate the health

**management information systems efforts of the Ministry.**

The purpose of such a group SHOULD NOT BE creation of a centralized data collection system, but rather coordination of the design and dissemination of data reporting formats and instructions, so that duplicative systems development efforts can be avoided. To ensure that the resulting systems meet the needs of top Ministry decision-makers, they should ALL be included in the Working Group and should be given the authority to give final approval to proposed new systems and proformas as well as authority to discontinue reporting requirements which no longer meet the Ministry's needs.

In addition, systems analysts and programmers from within the Ministry and/or from outside, as well as representatives from the state and local level, should be included to ensure that each proforma developed meets the following criteria:

- It should be VERY easy for health service delivery staff to record the required data.
- The format of the data collection and reporting proformas should be amenable either to manual tabulation or to automated processing of the data.
- If automated processing is contemplated, recording formats should be developed which will NOT require a separate coding step prior to data entry.

Although coordination of the design of the Ministry's health management information systems is critical, data collection and analysis should remain decentralized in the concerned directorates and sections of the Ministry, as is currently the case. Even if data collection requirements are drastically reduced, the Ministry's total information system will still be too large for centralized processing. As the states themselves have limited capacity, considerable effort on the part of Federal staff in training and supervision of the data collection and reporting effort will be required for the foreseeable future. For these reasons, responsibility for data processing and reporting at the Federal level should remain with the concerned units themselves.

The PHC Unit's idea of developing a team of technical supervisory staff who can travel from site to site to assist in technical areas including information systems is a good one, and could perhaps be extended to other sections of the Ministry if it proves successful in PHC.

The second major recommendation is as follows:

2. It is suggested that this Working Group give attention as its first priority to significantly simplifying and reducing the amount of data that is routinely requested from the states and local government areas.

As indicated in Attachments 1 - 5, there are presently at least fifty separate and in many cases overlapping data reporting forms in use or proposed by various sections of the Ministry at the Federal level alone. As its first order of business, it is suggested that the Working Group undertake a simple decision analysis according to the framework outlined in Section II above. Each report and data item currently collected should be reviewed to see whether it in fact supports a current identifiable decision. If not, the report should be discontinued. For example, the twenty-six page Morbidity and Mortality Data Monthly Report asks for age/sex distribution data for literally hundreds of diseases. It seems very unlikely that the Federal Ministry is prepared to take action or to modify on-going programs on the basis of this data; if this is true, the report should be dropped.

The decision analysis should also include consideration of the requirements for accuracy and the other characteristics of information discussed in Section II above. For example, the Medical Statistics Division is collecting and keypunching inpatient discharge sheets from all hospitals which have more than 150 beds. It is unlikely that decisions regarding hospital disease patterns require 100% accurate data, and it is even more unlikely that a system which would process 100% of hospital discharge data in a timely fashion could be implemented. It is therefore suggested that consideration be given to dropping the current reporting requirement for hospital discharge data, and to collecting such data in the future on a statistical survey basis.

Finally, the decision analysis should consider realistically the potential costs of collection and processing for the data items to be kept. The new HPA/2000 reports of the Medical Statistics Division request a number of data items which would be interesting but VERY difficult to collect (e.g. "Reported cases of Nutritional marasmus"), as well as a significant number of items for which no use is immediately obvious (e.g. "Number of lactating mothers beginning breast feeding within 24 hours after delivery"; "Number of Quadruplets delivered"). It is suggested that this series of forms be scrutinized especially carefully.

The current revision of the PHC Coordinating Unit's proposed new monitoring system appears after brief review to be quite good and of a manageable size. The new forms developed in the family planning logistics effort, and in the accelerated EPI and ORT initiatives of the Epidemiological Division are also quite good. The Working Group may want to consider starting with these current and proposed forms as a basis for further analysis.

The third major recommendation is as follows:

3. It is suggested that the Directorate for National Health Planning and Research and/or the the Primary Health Care Coordinating Unit recruit and train appropriate staff to establish a Statistical Survey Unit at the Federal level of the Ministry.

If routine reporting from the field is significantly reduced as suggested above, the Ministry will need to gather more detailed health

information on a sample survey basis, and should therefore develop the capability for regularly conducting such surveys in a statistically sound fashion. Such a Statistical Survey Unit should include full time statisticians, systems analysts, programmers (if further automation is deemed appropriate), forms designers, and field data collection staff. Office space and logistical support for field work would also be required.

Cost-effective ways of conducting sample surveys, including addition of a health module to the annual National Integrated Survey of Households conducted by the Federal Office of Statistics (FOS), and coordination of efforts with the Nigeria Demographic and Health Survey, should also be further explored.

#### IV. POTENTIAL USES OF COMPUTERS FOR HEALTH MANAGEMENT INFORMATION AND LOGISTICS SYSTEMS

This section describes the current computer capacity of the Ministry, and details issues to be considered in expanding to additional applications. Although a number of the Ministry's systems could benefit from automation, it is strongly suggested that the decision analysis and simplification of existing manual systems proposed in Sections II and III above be undertaken BEFORE additional components of the Ministry's information systems are automated.

##### A. CURRENT COMPUTER CAPABILITIES OF THE MINISTRY

The Ministry's in-house computer equipment at present consists of an IBM Personal Computer, located in the Directorate for National Health Planning and Research. This machine has 640K of main memory, an 8087 math coprocessor, two double-sided, double-density floppy diskette drives, two removable 10 megabyte hard disk drives, and two printers. The major software packages and general purpose programming languages available for this machine include Wordstar, Wordex, Edex, Lotus, dBase-II and dBase-III, SPSS, SL-micro, Pascal, and Basic. At present, Wordstar is normally used for word processing, Lotus for spreadsheet budget analysis, dBase for data entry, and SPSS for statistical processing.

At this writing, the machine is in almost continuous use, primarily in processing of small scale research studies and other data analysis not only for the Directorate for National Health Planning but also for other sections of the Ministry.

The Federal Office of Statistics (FOS) has a small mainframe computer, the Data General MV8000, and is considering updating to an MV9600. Most of their programming is done in COBOL, but they have access to various special purpose packages developed by the United States Bureau of the Census, and have plans to install SPSS. Although the Federal Ministry of Health theoretically has access to the data processing services of FOS, in fact the FOS machine is loaded to capacity and likely to remain so for the foreseeable future.

FOS has also provided a number of keypunch staff directly to the Ministry, along with IBM cardpunching equipment. These staff are presently engaged only in keypunching hospital in-patient discharge records. As discussed in Section III above, the appropriateness of this system is questionable, and consideration should be given to discontinuing it.

The National Population Bureau has a large mainframe computer, the IBM System 370/145, which is capable of supporting a very large data entry effort. At present, this machine is down due to problems with its power system, and is likely to remain down for some time. Population Bureau staff have experienced considerable difficulties in the recent past in

maintaining the system, as the hardware itself is very old and the present maintenance services are less than reliable. The National Population Bureau has in the past done some data processing for the Ministry, but due to these hardware difficulties is not presently in a position to do so.

In consequence, the Ministry will have to depend on its own resources if it wishes to expand its automated data processing capabilities.

#### B. POTENTIAL COMPUTER APPLICATIONS IN THE MINISTRY

Many of the Ministry systems described above could potentially benefit from a well designed and carefully controlled automation effort. As discussed in Section II, however, any decision to automate should be made only AFTER the present manual systems have been rationalized and simplified, and it is imperative that staff understand that the computer will provide only fast calculation services, and not a magic solution to the information systems problems of the Ministry.

With these provisos, a number of areas could be considered for automation:

- Aggregation of Routine Management Information: A major personnel effort is required at the Federal level in tallying and aggregating data from the various health institutions, local government areas, and states. IF the routine data reporting requirement is reduced to a manageable minimum, this tabulation effort could be significantly eased through automation. Any of several existing data management packages (e.g. dBase) could be used.
- Survey Data Processing: Data processing for the size surveys that the Ministry is likely to conduct, even if it significantly expands its survey analysis activities, is well within the capacity of larger microcomputers. SPSS is currently used for this purpose; this package is likely to be appropriate for the foreseeable future.
- Essential Drug Management: As mentioned above, a pilot effort in automation of logistics data is planned by the Centers for Disease Control in the family planning area. They have developed special purpose computer programs for this purpose, as well as more general logistics management software which could be used for essential drug supply. If the family planning automation effort proves successful, consideration could be given to expanding this logistics tracking effort to other programs of the Ministry.

### **C. HARDWARE AND SOFTWARE CONSIDERATIONS**

The first major recommendation regarding future hardware and software procurement for the Ministry is as follows:

1. It is suggested that the Ministry standardize on IBM or IBM-compatible hardware for future microcomputer equipment, and on a short standard list of packaged programs and general purpose software for the Ministry's systems.

The Ministry's present microcomputer is an IBM PC, and applications planned for the immediate future (e.g. pilot automation of the family planning logistics management system) require IBM-compatible hardware. In consequence, it is suggested that IBM-compatible hardware be the standard for all future procurement for the Ministry.

The Ministry's present microcomputer is a single-user system, which means that only one person can use the machine at a time. Since all of the Ministry's applications are data intensive, the capacity for data entry, rather than processing speed or storage capacity, is now and will continue to be the major limitation to further automation. In consequence, it is suggested that in the future, the Ministry import microcomputers which have the capacity to support multiple users (or which can be expanded to do so). Such machines are of course initially more expensive than single-user systems, but the price for adding additional terminals is much less than purchasing an equivalent number of single-user machines.

Attachment 6 suggests alternative IBM and IBM-compatible hardware systems which could be used as a standard for additional microcomputers the Ministry may procure. An initial list of appropriate software packages is also shown in Attachment 6.

A major consideration is the provision of an adequate, protected power source for any new equipment. Attachment 7 describes a protected battery power system which could be used for future computer systems, and which can be put together from inexpensive components. At least one local firm, Advance Micro Technology, Ltd., has expressed interest in attempting local production of such power systems. Uninterruptible power supplies (UPS's) are also commercially available in the U.S. which would provide safe power, but these are very expensive and heavy to ship, and normally provide only a few minutes of "uninterrupted" power if the electricity is out.

The second major hardware recommendation is as follows:

2. It is suggested that arrangements for stocks of spare parts and maintenance of microcomputer equipment be completed BEFORE any new equipment is imported to Nigeria.

Repair and maintenance capabilities for microcomputer equipment are very limited, and obtaining spare parts is very difficult. There are individuals and private firms who have the technical skills to troubleshoot

microcomputers, but no formal arrangement exists for obtaining their services. Such formal arrangements should be made, and stocks of spare parts should be imported at the same time any new machine is imported. If the Ministry decides to expand its automation effort substantially, at least one complete spare system should be procured, which can be used as a backup for any Ministry system which goes down.

#### D. STAFFING CONSIDERATIONS

The third major recommendation relates to staffing:

3. It is suggested that arrangements for training of Ministry staff in systems analysis, programming, and computer utilization be made before any significant expansion of computer efforts is attempted.

At present there is only one person in the Ministry who has significant training and experience in computers. Although he is very competent, and could easily manage an expanded computer effort, a substantial number of additional trained staff would be needed to accomplish a significantly expanded workload.

Several distinct levels of staff and types of training are needed to ensure the success of any computer system:

- There must be a few well trained and highly qualified systems analysts and programmers who can design and initially implement new systems.

At the highest level, computer personnel must be able to select appropriate hardware and software, design system output reports in conjunction with Ministry decision-makers, develop input formats and recording proformas, and program the systems. In some cases (e.g. statistical survey analysis), packaged programs could be used; in others specific programs will have to be written.

- There must be a larger number of programmers who can maintain, operate, and manage existing systems.

Less experienced programmers can be used to maintain computer systems once they have been written. Such personnel would have to have some general purpose programming training, as well as good skills in operation of packaged programs.

- There must be a still larger number of data entry staff who have a working knowledge of computer use.

At the lowest level, data entry staff must be able to safely use the equipment for data entry purposes, and perhaps be able to execute programs

which perform the analysis. Such staff need not have significant programming skills.

Capability to train lower level staff in routine utilization of computers, packaged programs, and data entry exists in-country. However, a small number of staff would require extensive or long-term training in systems analysis and programming if the Ministry's computer efforts are to become self-supporting. It is the ability to recruit, train, and support such staff which will be the most important factor in expanding computer utilization in the Ministry. This issue should be thought through carefully before additional hardware is procured.

ATTACHMENTS

ATTACHMENT 1:

ROUTINE REPORTING FORMS, FEDERAL MINISTRY OF HEALTH,  
DIRECTORATE FOR NATIONAL HEALTH PLANNING AND RESEARCH

FEDERAL REPUBLIC OF NIGERIA  
OFFICIAL GAZETTE NO.2 VOL.51 OF 2ND JANUARY, 1964  
AND NO.42 VOL.60 OF 16TH AUGUST, 1973

Government Notice No.21

Notification of Communicable Diseases Throughout  
the Federal Republic of Nigeria

Schedule of Diseases

PART A

To be reported by:

Weekly telegram followed by  
Confirmatory letter by post  
in accordance with Form A on  
page 18 of the Gazette  
afore-mentioned.

1. Plague
2. Cholera
3. Yellow Fever
4. Smallpox
5. Louse-Borne Typhus
6. Louse-borne Relapsing Fever
- 7a. Cerebrospinal Meningitis
- b. Septic Meningitis (Post Gazette item)
8. Influenza
- 9a. Acute Poliomyelitis
- 9b. Paralytic Poliomyelitis
10. Anthrax (Human)
11. Chickenpox
12. Diphtheria
13. Measles
14. Rabies (Human)
15. Typhoid & Paratyphoid
16. Whooping Cough
17. Infectious Yaws
18. Infective Hepatitis
19. Food Poisoning
20. Malaria

PART B

To be reported by:

Post Monthly in  
accordance with  
Form B on page 19  
of the Gazette  
afore-mentioned.

1. Dysentery (a) Amoebic  
                 (b) Bacillary  
                 (c) Unclassified
2. Pneumonia
3. Tuberculosis
4. Tetanus
5. Leprosy
6. Ophthalmia neonatorum
7. Gonorrhoea
8. Syphilis
9. Trachoma
10. Filariasis
11. Onchocerciasis
12. Schistosomiasis  
                 (a) Vesical  
                 (b) Intestinal
13. Sleeping Sickness



(Insert State).....NIGERIA

MONTHLY RETURN OF COMMUNICABLE DISEASES FOR THE MONTH OF .....19...

Include diseases other than those already notified in the weekly Returns of Infections Diseases

LOCALITY Local Government Area or Local Area(Specify)	No. of Reporting Units	No. of Units Reported	Dysentery (Amoebic)		Dysentery (Bacillary)		Dysentery (Unclassified)		Pneumonia		Tuberculosis		Tetanus		Leprosy		Ophthalmia Neonatorum		Gonorrhoea		Syphilis		Trachoma		Filariosis		Onchocerciasis		Schistosomiasis (Vesical)		Schistosomiasis (Intestinal)		Sleeping Sickness	
			C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D		

TOTAL  
NOTES: C = Cases D = Deaths

Signed.....

Report: are to be underlined; Airports are to be specified. Administrative Divisions  
are exclusive of Seaports and Airports within them, which are returned separately.

MONTHLY IMMUNISATION ACTIVITY REPORT

STATE.....

L.O. No. ....

REPORTING CENTRE.....

MONTH.....

YEAR.....

Type of Immunisation	Procedure	No of Immunisation					Total
		Under 1 year	12.24 months	2.4 years	5.14 years	14+ years	
BCG	Primary Vaccination						
	Revaccination						
DPT	Primary Vaccination	1st dose					
		2nd dose					
		3rd dose					
	Booster	1st booster					
		2nd booster					
		Total					
Polio	Primary Vaccination	1st dose					
		2nd dose					
		3rd dose					
	Booster						
Tetanus	Total Vaccination (Toxoid)	1st dose					
		2nd dose					
		Booster					
	Vaccination in Pregnant Mothers	1st dose					
		2nd dose					
		Booster					
Measles							
Cerebro Spinal Meningitis (C.S.M.)	Vaccination						
	Revaccination						
Yellow Fever							
Cholera							
Rabies							
Other-(Specify)							

Statistical Officer.....Date.....

(Signature)

Head of Epidemiological Unit.....Date.....

(Signature)

Official Stamp

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EXPANDED PROGRAMME ON IMMUNIZATION NIGERIA  
MONTHLY SURVEILLANCE REPORT

STATE \_\_\_\_\_

L.G.A. \_\_\_\_\_

REPORTING CENTRE \_\_\_\_\_

MONTH \_\_\_\_\_

YEAR \_\_\_\_\_

VACCINATION STATUS	Measles		Diphtheria		Pertussis		Tetanus		Polio		Tuberculosis	
	cases	deaths	cases	deaths	cases	deaths	cases	deaths	cases	deaths	cases	deaths
VACCINATED												
UNVACCINATED												
UNKNOWN												
TOTAL												

VACCINATED: Classify cases deaths as vaccinated if the onset of the disease is 14 days or more after receiving the third dose of polio/pertussis vaccine the second dose of diphtheria - Tetanus vaccine, one dose of measles vaccine or if for tuberculosis a BCG Scar is present.

Head of Epidemiological Unit

Date \_\_\_\_\_

Month \_\_\_\_\_

Year \_\_\_\_\_

Signature \_\_\_\_\_

Statistics Officer \_\_\_\_\_

Signature \_\_\_\_\_

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MONTHLY REPORT FOR HOSPITAL

MONTH ..... YEAR .....  
 STATE .....  
 HOSPITAL .....

MONTHLY SUMMARY OF IN-PATIENT MOVEMENT

MONTHLY PATIENTS SUMMARY	MALE	FEMALE	TOTAL
Number of Patient at the 1st Day of Month			
Number of Patient admitted during the Month			
Number of Patients Discharged during the Month			
Number of Deaths during the Month			
Number of Patients Remaining at the end of Month			

a) Bed Occupancy Rate

Patient Days	Number	Bed Occupancy Rate

b) Average Length of Stay

Number of Patients Discharged (including Deaths)	Total Patients Days (Discharged)	Average Length of Stay Per Patient

OPERATION DURING THE MONTH

General Surgery	Gynaecology	Eye Operation	E.N.T.	Total

NOTE =: Bed Occupancy Rate =  $\frac{\text{No. of Patient Days}}{\text{No. of Days of the Month} \times \text{No. of Beds}} \times 100$

Average Length of State =  $\frac{\text{No. of Discharged Patients' Days}}{\text{No. of Patients Discharged.}}$

The above table should be filled during the Month and to be sent to the Federal Medical Statistics Division not later than the 5th of the next month.

GENERAL HOSPITALS  
GOVERNMENT, MISSION AND PRIVATE OWNERSHIP

Stats. Form 12

IN-PATIENTS ONLY

FOR FEDERAL MEDICAL STATISTICS DIVISION  
USE ONLY

State

Year

Month

1. Hospital

2. Address of Hospital

Name of Patient

3. Home address of patient (including State)

4. Age (or age-group)

5. Sex

6. Date of Admission

7. Date of Discharge

8. Occupation/Job

9. Diagnosis

10. Other diseases and complication if found

11. In case of Injury give external cause

12. Result of Treatment (1) Cured  
(2) Improved  
(3) Not Improved  
(4) Transferred to other Hospital or Unit  
(5) Absconded  
(6) Died

IF DEAD

13. Disease or condition directly leading to death

14. The disease that led to the above cause

15. Other diseases that assisted death

Serial No.

Hospital

State of Patient

Age

Sex

Duration of Admission (in days)

Occupation

Disease

Other diseases

External cause of injury

Result of Treatment

Direct cause of death

Underlying antecedent cause of death

Other diseases that assisted death

# FEDERAL MEDICAL STATISTICS DIVISION

**MORBIDITY AND MORTALITY DATA (Monthly return of diseases and deaths)  
according to the Ninth Revision of ICD**

## CASES / DEATHS

(delete which is inapplicable)

MONTH OF .....19.....

SERIAL NO.	DISEASE GROUP	Detailed List Number	AGE GROUP										TOTAL			
			Under 1 Year		1-14		15-44		45-64		65 And Over					
			M	F	M	F	M	F	M	F	M	F	M	F		
1	INFECTIOUS & PARASITIC DISEASES															
01	Intestinal infectious diseases	001-009														
	010 Cholera	001														
	011 Typhoid fever	002,0														
	012 Shigellosis	004														
	013 Food poisoning	003,005														
	014 Amoebiasis	006														
	015 Intestinal infections due to other specified organisms	007,008														
	016 Ill-defined intestinal infections	009														
02	Tuberculosis															
	Primary tuberculous infection	010														
	020 Pulmonary tuberculosis	011														
	021 Other respiratory tuberculosis	012														
	022 Tuberculosis of meninges and central nervous system	013														
	023 Tuberculosis of intestines, peritoneum & mesenteric glands	014														
02	024 Tuberculosis of bones and joints	015														

SERIAL NO.	CAUSE GROUP	Detailed List Number	AGE GROUP										TOTAL				
			Under 1 Year		1-14		15-44		45-64		65 And Over		M	F			
			M	F	M	F	M	F	M	F	M	F					
03	025 Tuberculosis of genitourinary system	016															
	Other condition within the range (010-018) and not already indicated above	(017,018)															
	030 Plague	020															
	031 Brucellosis	023															
	032 Leprosy	030															
	033 Diphtheria	032															
	034 Whooping Cough	033															
	035 Streptococcal sore throat, scarlatina and erysipelas	034,035															
	036 Meningococcal infection	036															
	037 Tetanus	037															
	038 Septicaemia	038															
	- Other condition within the range (020-041) and not already indicated above	(021,022)															
		(024,025)															
	(026,027)																
	(028,029)																
	(031,039)																
	(040,041)																
04	Viral diseases																
	040 Acute Poliomyelitis	045															
	041 Smallpox	050															
	042 Measles	055															
	043 Rubella	056															
	044 Yellow fever	060															

SERIAL NO.	CAUSE GROUP	Detailed List Number	AGE GROUP										TOTAL		
			Under 1 Year		1-14		15-44		45-64		65 And Over		M	F	
			M	F	M	F	M	F	M	F	M	F			
045	Arthropod-borne encephalitis	062-064													
		070													
		071													
		076													
	- Other conditions within the range (045-079) and not already indicated above	(46,47)													
		(48,49)													
		(51,52)													
		(53,54)													
		(57,61)													
		(65,66)													
		(72,73)													
	(74,75)														
	(77,78)														
	( 79)														
05	Rickettsiosis and other arthropod-borne diseases														
	050 Louse-borne typhus	080													
	051 Other rickettsiosis	081-083													
	052 Malaria	084													
	053 Leishmaniasis	085													
	054 Trypanosomiasis	086													
	- Other conditions within the range (080-088) and not already indicated above	( 078)													
		( 088)													
06	Veneral diseases														
	060 Syphilis	090-097													
	061 Genococcal infections	098													

SERIAL NO.	CAUSE GROUP	Detailed List Number	AGE GROUP										TOTAL				
			Under 1 Year		1-14		15-44		45-64		65 And Over		M	F			
			M	F	M	F	M	F	M	F	M	F					
	- Other conditions within range (090-099) and not already indicated above	( 099)															
07	Other infectious & parasitic diseases & late effects of infectious and parasitic diseases	100-139															
	070 Non-syphilitic spirochaetal diseases	100-104															
	071 Mycosis	110-118															
	072 Schistosomiasis	120															
	073 Echinococcosis	122															
	074 Filarial infection & dracunculiasis	125															
	075 Ancylostomiasis	126															
	076 Other helminthiasis	(121,123)															
		(124 )															
		(127,129)															
	077 Late effects of tuberculosis	137															
	078 Late effects of acute poliomyelitis	138															
	- Other conditions within the range (100-139) and not already indicated above	(130,131)															
		(132,133)															
		(134,135)															
		( 136)															
11	NEOPLASMS																
08	Malignant neoplasm of lip, oral cavity & Pharynx	140-149															
09	Malignant neoplasm of digestive organs & peritoneum																
	090 Malignant neoplasm of oesophagus	150															
	091 Malignant neoplasm of stomach	151															



SERIAL NO.	CAUSE GROUP	Detailed List Number	AGE GROUP										TOTAL			
			Under 1 Year		1-14		15-44		45-64		65 And Over		M	F		
			M	F	M	F	M	F	M	F	M	F				
12	113 Malignant neoplasm of female breast	174														
	- Other conditions within the range (170-175) and not already indicated above	( 171)														
		( 175)														
	120 Malignant neoplasm of cervix uteri	180														
	121 Malignant neoplasm of placenta	181														
	122 Malignant neoplasm of uterus, other & unspecified	179,182														
	123 Malignant neoplasm of ovary & other uterine adnexa	183														
	124 Malignant neoplasm of prostate	185														
	125 Malignant neoplasm of testis	186														
	126 Malignant neoplasm of bladder	188														
13	- Other conditions within the range (179-189) and not already indicated above	( 184)														
		( 187)														
		( 189)														
	Malignant neoplasm of other & unspecified sites															
	130 Malignant neoplasm of brain	( 191)														
	- Other conditions within the range (190-194) and not already indicated above	( 190)														
		( 192)														
		( 193)														
		( 194)														

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SERIAL NO.	CAUSE GROUP	Detailed List Number	AGE GROUP										TOTAL				
			Under 1 Year		1-14		15-44		45-64		65 And Over		M	F			
			M	F	M	F	M	F	M	F	M	F					
14	Malignant neoplasm of lymphatic & haemopoietic tissue	(195)															
		(196)															
		(197)															
		(198)															
		(199)															
		140 Hodgkin's disease	201														
		141 Leukaemia	204-208														
		- Other conditions within the range (200-208) and not already indicated above	(200,202)														
			( 203)														
		15	Benign neoplasm														
150 Benign neoplasm of skin	216																
151 Benign neoplasm of breast	217																
152 Benign neoplasm of uterus	218,219																
153 Benign neoplasm of ovary	220																
154 Benign neoplasm of kidney & other urinary organs	223																
155 Benign neoplasm of nervous system	225																
156 Benign neoplasm of thyroid	226																
- Other conditions within the range (210-229) and not already indicated above	(210,211)																
	(212,213)																
	(214,215)																
	(221,222)																
	(224,227)																
	(228, 229)																
16	Carcinoma in situ	230-234															

SERIAL NO.	CAUSE GROUP	Detailed List Number	AGE GROUP										TOTAL				
			Under 1 Year		1-14		15-44		45-64		65 And Over		M	F			
			M	F	M	F	M	F	M	F	M	F					
17	Other and unspecified neoplasm	235-239															
III	ENDOCRINE, NUTRITIONAL, METABOLIC DISEASES AND IMMUNITY DISORDERS																
	Endocrine & metabolic disease, immunity disorder																
	180 Disorders of the thyroid gland	240-246															
	181 Diabetes mellitus	250															
	Hyperlipoproteinemia	272,0, 272,1															
	183 Obesity of non-endocrine origin	278,0															
	- Other conditions within range (240-259) and not already indicated above	(251,252) (253,254) (255,256) (257,258) ( 259)															
19	Nutritional deficiencies																
	190 Kwashiorkor	260															
	191 Nutritional marasmus	261															
	Other Protein-Calorie malnutrition	262,263															
	192 Avitaminosis	264- 69															
	- Other conditions within the range (270-279) and not already indicated above	(270, ) (274,275) (276,277) 279)															
IV	DISEASES OF BLOOD AND BLOOD-FORMING ORGANS																
	200 Anemia	280-285															

SERIAL NO.	CAUSE GROUP	Detailed List Number	AGE GROUP										TOTAL				
			Under 1 Year		1-14		15-44		45-64		65 AND OVER						
			M	F	M	F	M	F	M	F	M	F	M	F			
	Other conditions within range (286-289) and not already indicated above	(286-287)															
		(288, 289)															
V	MENTAL DISORDERS																
21	Mental disorders																
210	Senile & presenile organic psychotic condition	290															
211	Schizophrenic psychoses	295															
212	Affective psychoses	296															
213	Other psychoses	(291-294)															
		(297-299)															
214	Neurotic & personality disorders	300,301															
215	Alcohol dependence syndrome	303															
216	Drug dependence	304															
217	Physiological malnutrition arising from mental factors	306															
218	Mental retardation	317-319															
-	Other conditions within range (297-319) and not already indicated above	( - ,302)															
		( - ,305)															
		(307,308)															
		(309,310)															
		(311,312)															
		(313,314)															
		(315,316)															
VI	DISEASES OF THE NERVOUS SYSTEM & SENSE ORGAN																
22	Diseases of the nervous system																
220	Meningitis	320-322															

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SERIAL NO.	CAUSE GROUP	Detailed List Number	AGE GROUP										TOTAL							
			Under Year		1-14		15-44		45-64		55 And Over		M	F						
			M	F	M	F	M	F	M	F	M	F								
221	Parkinson's disease	332																		
222	Other degenerative & hereditary disorders of the central nervous system	(330,331) (333-336)																		
223	Multiple sclerosis	340																		
224	Infantile cerebral palsy & other paralytic syndromes	343,344																		
225	Epilepsy	345																		
-	Other conditions within range (320-359) and not already indicated above	(323,324) (325,326) (337,341) (342,346) (347,348) (349,350) (351,352) (353,354) (355,356) (357,358) (359)																		
23	Disorders of the eyes and adnexa																			
230	Glaucoma	365																		
231	Cataract	366																		
232	Blindness and low vision	369																		
233	Conjunctivitis	372,0-372,3																		
234	Disorders of lacrimal system	375																		

SERIAL NO.	CAUSE GROUP	Detailed List Number	AGE GROUP										TOTAL			
			Under 1 Year		1-14		15-44		45-64		65 And Over		M	F		
			M	F	M	F	M	F	M	F	M	F				
235	Strabismus & other disorders of binocular eye movements	378														
	Other conditions within range (360-379) and not already indicated above	(360,361)														
		(362,363)														
		(364,367)														
		(369,370)														
		(371,373)														
		(374,379)														
24	Diseases of the ear and mastoid process															
240	Otitis media and mastoiditis	381-383														
241	Deafness	389														
	- Other conditions within range (380-389) and not already indicated above	(380,384)														
		(385,386)														
		(387,388)														
VII	DISEASES OF THE CIRCULATORY SYSTEM															
25	Rheumatic fever and rheumatic heart disease															
250	Acute rheumatic fever	390-392														
251	Chronic rheumatic heart disease	393-398														
26	Hypertensive disease															
260	Hypertensive heart disease	402,404														
	- Other conditions within range (401-405) and not already indicated above	(401 )														
		(403, )														
		(405, )														

SERIAL NO.	CAUSE GROUP	Detailed List Number	AGE GROUP										TOTAL				
			Under 1 Year		1-14		15-44		45-64		65 And Over		M	F			
			M	F	M	F	M	F	M	F	M	F					
27	Ischaemic heart disease																
	270 Acute myocardial infarction	410															
	- Other conditions within range (410-414) and not already indicated above	(411,412)															
		413,414)															
28	Diseases of pulmonary circulation & other forms of heart disease																
	280 Pulmonary embolism	415,1															
	281 Cardiac dysrhythmias	427															
	- Other conditions within range (415-429) and not already indicated above	(415-419)															
		420-429)															
29	Cerebrovascular disease																
	290 Subarachnoid haemorrhage	430															
	291 Intracerebral & other intracranial haemorrhage	431,432															
	292 Cerebral infarction	433,434															
	293 Acute but ill-defined cerebrovascular disease	436															
	294 Cerebral atherosclerosis	437,0															
	- Other conditions within range (430-439) and not already indicated above	438,439															
30	Other diseases of the circulatory system																
	300 Atherosclerosis	440															
	301 Arterial embolism and thrombosis	444															
	302 Other diseases of arteries, arterioles, capillaries	442-443)															
		(446-448)															

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SERIAL NO.	CAUSE GROUP	Detailed List Number	AGE GROUP										TOTAL				
			Under 1 Year		1-14		15-44		45-64		65 And Over		M	F			
			M	F	M	F	M	F	M	F	M	F					
303	Phlebitis, thrombophelbitis, venous embolism and thrombosis	451-453															
304	Varicose veins of lower extremities	454															
305	Haemorrhoids	455															
-	Other conditions within range (440-459) and not already indicated above	(456-457)															
III	DISEASES OF THE RESPIRATORY SYSTEM																
21	Disease of the upper respiratory tract																
310	Acute tonsillitis	463															
311	Acute laryngitis and tracheitis	464															
312	Other acute upper respiratory infections	(460-462)															
		(465 )															
313	Deflected nasal septum & nasal polyps	470,471															
314	Chronic pharyngitis, nasopharyngitis & sinusitis	472,473															
315	Chronic diseases of tonsils & adenoids	474															
-	Other conditions within range (460-478) and not already indicated above	(475,476)															
		(477,478)															
32	Other diseases of the respiratory system																
320	Acute bronchitis & bronchiolitis	466															
321	Pneumonia	480-486															
322	Influenza	467															
323	Bronchitis, chronic & unspecified emphysema & asthma	490-493															



SERIAL NO.	CAUSE GROUP	Detailed List Number	AGE GROUP										TOTAL				
			Under 1 Year		1-14		15-44		45-64		65 And Over		M	F			
			M	F	M	F	M	F	M	F	M	F					
	345 Diverticula of intestine	562															
	346 Other functional digestive disorders	564															
	347 Chronic liver disease and cirrhosis	571															
	348 Cholelithiasis and cholecystitis	574 575.1															
	- Other conditions within range (530-579) and not already indicated above	(534,535)															
		(536,537)															
		( 555)															
		(556,557)															
		(558,565)															
		(566,567)															
		(568,569)															
		(570,572)															
		(573,576)															
		(577,578)															
		(579. )															
X	DISEASES OF THE GENITO-URINARY SYSTEM																
35	Diseases of urinary system																
	350 Nephritis, nephrotic syndrome & nephrosis	580-589															
	351 Infections of kidney	590															
	352 Urinary calculus	592,594															
	353 Cystitis	595															
	- Other conditions within range (580-599) and not already indicated above	(591,593)															
		(596,597)															
		(598,599)															

SERIAL NO.	CAUSE GROUP	Detailed List Number	AGE GROUP										TOTAL				
			Under 1 Year		1-14		15-44		45-64		65 And Over		M	F			
			M	F	M	F	M	F	M	F	M	F	M	F			
36	Diseases of male genital organs																
	360 Hyperplasia of prostate	600		XXX		XXX		XXX		XXX		XXX		XXX		XXX	
	361 Hydrocele	603		XXX		XXX		XXX		XXX		XXX		XXX		XXX	
	362 Redundant prepuce and phimosis	605		XXX		XXX		XXX		XXX		XXX		XXX		XXX	
	363 Infertility male	606		XXX		XXX		XXX		XXX		XXX		XXX		XXX	
	- Other conditions within range (600-608) and not already indicated above	(601,602)		XXX		XXX		XXX		XXX		XXX		XXX		XXX	
		(604,607)		XXX		XXX		XXX		XXX		XXX		XXX		XXX	
		(608. )		XXX		XXX		XXX		XXX		XXX		XXX		XXX	
37	Diseases of female genital organs																
	370 Diseases of breast	610,611	XXX		XXX		XXX		XXX		XXX		XXX		XXX		XXX
	371 Salpingitis and oophoritis	614.0-614.2	XXX		XXX		XXX		XXX		XXX		XXX		XXX		XXX
	372 Inflammatory diseases of pelvic cellular tissue & peritoneum	614.3-614.9	XXX		XXX		XXX		XXX		XXX		XXX		XXX		XXX
	373 Inflammatory diseases of uterus, vagina & vulva	615,616	XXX		XXX		XXX		XXX		XXX		XXX		XXX		XXX
	374 Uterovaginal prolapse	618	XXX		XXX		XXX		XXX		XXX		XXX		XXX		XXX
	375 Menstrual disorders	626.0-626.5	XXX		XXX		XXX		XXX		XXX		XXX		XXX		XXX
	376 Infertility, female	628	XXX		XXX		XXX		XXX		XXX		XXX		XXX		XXX
	- Other conditions within range (610-629) and not already indicated above	(617,619)	XXX		XXX		XXX		XXX		XXX		XXX		XXX		XXX
		(620,621)	XXX		XXX		XXX		XXX		XXX		XXX		XXX		XXX
		(622,623)	XXX		XXX		XXX		XXX		XXX		XXX		XXX		XXX
		(624,625)	XXX		XXX		XXX		XXX		XXX		XXX		XXX		XXX
		(627,629)	XXX		XXX		XXX		XXX		XXX		XXX		XXX		XXX









SERIAL NO.	CAUSE GROUP	Detailed List Number	AGE GROUP										TOTAL				
			Under 1 Year		1-14		15-44		45-64		65 And Over		M	F			
			M	F	M	F	M	F	M	F	M	F					
466	Sudden infant death syndrome	798,0															
467	Respiratory failure	799,1															
-	Other conditions within range (790-799) and not already indicated above	(780,781)															
		(782,783)															
		(784,786)															
		(787,790)															
		(791,792)															
		(793,794)															
		(795,796)															
XVII	INJURY AND POISONING																
47	Fractures																
470	Fracture of skull and face	800-804															
471	Fracture of neck and trunk	805-809															
472	Fracture of humerus, radius & ulna	812,813															
473	Fracture of neck of femur	820															
474	Fracture of other parts of femur	821															
475	Fracture of tibia, fibula & ankle	823,824															
476	Other fractures of limbs	(810-811)															
		(814-819)															
		(822,825)															
		(829 )															
-	Other conditions within range (800-829) and not already indicated above	(826,827)															
		28 )															
48	Dislocations, sprains and strains																

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SERIAL NO.	CAUSE GROUP	Detailed List Number	AGE GROUP										TOTAL				
			Under 1 Year		1-14		15-44		45-64		64 And Over		M	F			
			M	F	M	F	M	F	M	F	M	F	M	F			
49	Intracranial and internal injuries, including nerves																
	490 Concussion	850															
	491 Other intracranial injuries	(851-854) (950-951)															
	- Other conditions within range (850-869) and not already indicated above.	(860,861) (862,863) (864,865) (866,867) (868,869)															
50	Open wound and injury to blood vessels																
	500 Open wound of eye and head	870-873															
	501 Open wound of upper limb	880-887															
	502 Open wound of lower limb	890-897															
	- Other conditions within the range (870-929) and not already indicated above	(874-879) (900-901) (902-904) (905-929)															
51	Effects of foreign body entering through orifice	930-939															
52	Burns																
	520 Burn confined to eye and adnexa	940															
	521 Burn of wrist and hand	944															
	- Other conditions within the range (940-957) and not already indicated above	(941,942) (943,945)															

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SERIAL NO.	CAUSE GROUP	Detailed List Number	AGE GROUP										TOTAL			
			Under 1 Year		1-14		15-44		45-64		65 And Over		M	F		
			M	F	M	F	M	F	M	F	M	F				
53	Poisonings and toxic effects	(946,947)														
		(948,949)														
		(950,951)														
		(952,953)														
		(954,955)														
		(956,957)														
53	530 Medicinal agents	960-979														
54	Complications of medical and surgical care	996-999														
	Other conditions within range (980-999) and not already indicated above	(980,981)														
		(982,983)														
		(984,985)														
		(986,987)														
		(988,989)														
55	Other injuries, early complications of trauma	(910-929)														
		(958-959)														
		(990-995)														
56	Late effects of injuries, of poisonings, of toxic effects and other external causes	905-909														
	SUPPLEMENTARY CLASSIFICATION OF EXTERNAL CAUSE OF INJURY AND POISONING:															
E47	Transport accidents															
	E470 Railway accidents	E800-E807														
	E471 Motor vehicle traffic accidents	E810-E819														
	E472 Other road vehicle accidents	E826-E829														
	E473 Water transport accidents	E830-E838														
	E474 Air and space transport accident	E840-E845														

SERIAL NO.	CAUSE GROUP	Detailed List Number	AGE GROUP										TOTAL			
			Under 1 Year		1-14		15-44		45-64		64 And Over		M	F		
			M	F	M	F	M	F	M	F	M	F				
	Other conditions within range (E800-E848 and not already indicated above)	(E820, E821)														
		(E822, E823)														
		(E824, E825)														
		(E846, E847)														
		(E848)														
E48	Accidental Poisoning															
E480	Accidental poisoning by drugs, medicaments and biologicals	E850-E858														
E481	Accidental poisoning by other solid & liquid substances	E850-E858														
E482	Accidental poisoning by gases & vapours	E867-E869														
E49	Misadventures during medical care, abnormal reactions, late complications	E870-E879														
E50	Accidental falls	E880-E888														
E51	Accidents caused by fire and flames	E890-E899														
E52	Other accidents, including late effects															
E520	Accidents due to natural & Environmental factors	E900-E909														
E521	Accidental drowning and submersion	E910														
E522	Foreign body accidentally entering orifice	E914, E915														
E523	Accidents caused by machinery, & by cutting and piercing instruments	E919, E920														
E524	Accidents caused by firearm missile	E922														

SERIAL NO.	CAUSE GROUP	Detailed List Number	AGE GROUP										TOTAL			
			Under 1 Year		1-14		15-44		45-64		65 And Over		M	F		
			M	F	M	F	M	F	M	F	M	F				
	- Other conditions within range (E900-E929) and not already indicated above	(E911, E912)														
		(E913, E916)														
		(E917, E918)														
		(E921, E923)														
		(E924, E925)														
		(E926, E927)														
		(E928, E929)														
E53	Drugs, medicaments causing adverse effects in therapeutic use	E930-E949														
E54	Suicide and self-inflicted injury	E950-E959														
E55	Homicide & injury purposely inflicted by other persons	E960-E969														
E56	Other violence															
	E560 Injury undetermined whether accidentally or purposely inflicted	E980, E989														
	E561 Injury resulting from operation of war	E990-E999														
	- Other conditions within range (E970-E999) and not already indicated above	(E970, E971)														
		(E972, E973)														
		(E974, E975)														
		(E976, E977)														
		( E978)														

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SERIAL NO.	CAUSE GROUP	Detailed List Number	AGE GROUP										TOTAL	
			Under 1 Year		1-14		15-44		45-64		65 And Over		M	F
			M	F	M	F	M	F	M	F	M	F		
VO	CONTACT WITH HEALTH SERVICES													
	Other reasons for contact with health services													
	V01 Supervision of pregnancy and puerperium	V22-V24												
	V02 Healthy live-born infants	V30-V39												
	V03 Persons encountering health services for specific procedures & after-care	V50-V59												
	V04 Persons encountering health services for psychosocial reasons	V60-V62												
	V05 Examinations & investigations of individuals and populations	V70-V82												
	- Other conditions within range (V00-V82) and not already indicated above	(V01-V21)												
		(V25-V29)												
		(V40-V49)												
	(V60-V69)													

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HEALTH MANPOWER IN NIGERIA  
(Government)\*

Date:

SITUATION AS AT 31ST DECEMBER, 19....

STATE OF NIGERIA

CATEGORY OF PERSONNEL	NATIONAL		NON-NATIONAL		WHOLE STATE
	M	F	M	F	TOTAL
1. MEDICAL PRACTITIONERS					
(a) Specialists					
(b) Generalists					
2. DENTISTS					
(a) Specialists					
(b) Generalists					
3. PHARMACISTS					
4. DISPENSING ASSISTANTS					
5. TUTORS-GENERAL NURSING					
-Midwifery					
-Psychiatric					
-Public Health					
6. PROFESSIONAL NURSING PERSONNEL					
(a) Public Health Nurse					
(b) Occupational Health					
(c) Nurse-Anaesthetist					
(d) Psychiatric Nurse					
(e) Tuberculosis (BRA) Nurse					
(f) Community Midwife					
(g) Midwife					
(h) Other Cadre					
7. AUXILIARY/CONTROLLED NURSE					
8. GRADE II MIDWIFE					
9. HEALTH AIDE/ATTENDANT ORDERLY					
10. NON-PHYSICIAN PERSONNEL:					
(a) -Health Educator					
(b) -Health Planner					
(c) -Statistician					
(d) -Others (specify)					
11. SANITARY/HOSPITAL ENGINEER					
12. PUBLIC HEALTH INSPECTOR/SUPT.					
13. RURAL HEALTH/DISPENSARY ASSISTANT					
14. MEDICAL LAB. TECHNOLOGIST					
15a. MEDICAL LAB. TECHNICIAN					
(a) Medical Lab. Assistant					
16a. RADIOGRAPHER					
(b) X-Ray Technician					
(c) X-Ray Assistant					
17. DENTAL NURSE					

CATEGORY OF PERSONNEL	NATIONAL		NON-NATIONAL		INDIGENOUS STATE
	M	F	M	F	TOTAL
18. DENTAL HYGIENISTS					
19a DENTAL TECHNOLOGIST					
(b) Dental Technician					
(c) Dental Surgery Assistant					
20a MEDICAL RECORDS OFFICER (ASSOCIATE)					
(b) Med. Records Officer (Non-Assoc.)					
(c) Med. Records/Statistical Asst					
(d) Card Issuer					
21. PSYCHIATRIC SOCIAL WORKER					
22. T. B. FAMILY VISITOR					
23. DIETICIAN					
24. HOSPITAL CATERING OFFICER					
25. HOSPITAL CATERING SUPERVISOR					
26. HOSPITAL COOK					
27. AUDIOMETRICIAN					
28. SPEECH THERAPIST					
29. OCCUPATION THERAPIST					
30. OCCUPATIONAL THERAPY INSTRUCTOR					
31. VACCINATOR/HEAR TESTER					
32. OPHTHALMIC OPTICIAN					
33. OPTOMETRIST					
34a PHYSIOTHERAPIST					
(a) Physiotherapy					
35a LIMB MAKER					
(b) Limb Fitting Technician					
(c) Plaster Cast Maker					
36. OTHERS (please specify)					

NOTE: M = MALE F = FEMALE NAT. = NATIONAL  
NON-NAT. = NON-NATIONAL

\*Please complete one form for Federal Government Institutions, one form for State.

Government Institutions and one form for local government institutions.

Please use - to signify nil

and ..... for not available

Please do not leave any blank space.



FEDERAL MINISTRY OF HEALTH, MEDICAL STATISTICS DIVISION, LAGOS  
HEALTH MANPOWER DEVELOPMENT IN NIGERIA  
Situation as at 31st Dec. 19..

[ ]  
STATE OF NIGERIA

1. Category of Trainees:
2. Field of Education and Training:
3. Training Institution:-  
(a) Name and Address: .....
- .....
- (b) Ownership:
- (c) Establishment Date:
4. Training Programme:-  
(a) Minimum Entry Qualification:
- (b) Length of Training:
5. Student Population:

	NIGERIANS		NON-NIGERIANS		TOTAL (Both Sexes)
	MALE	FEMALE	MALE	FEMALE	
Preliminary Class					
1st Year					
2nd Year					
3rd Year					
4th Year					
5th Year					
6th Year					
7th Year					
T O T A L					

6. Final Examination:-                      No. Entered:                      No. Successful:
7. Wastage (Resignation/Termination)
8. Hostel Accommodation:  
(a) No. of Rooms:                      No. of Beds:  
(b) Infrastructure: Adequate/Inadequate      (Remarks:      )  
(c) Essential Facilities: Adequate/Inadequate      (Remarks:      )
9. Practical work Facilities: Adequate/Inadequate      (Remarks:      )
10. Library Facilities: Adequate/Inadequate      (Remarks:      )
11. Number of Graduates/Graduands:-                      Total before 1970:  
Yearly (Since 1970) .....
- .....
12. Office Accommodation: Adequate/Inadequate      (Remarks:      )
13. Teaching Staff List:      (Please attach)
14. General Remarks:

NOTE: Please use one form for each category of Trainee.

Date: ..... 19.....

LIST OF REGISTERED HEALTH ESTABLISHMENTS

AS AT 1ST DECEMBER, 19.....



STATE OF NIGERIA

SERIAL	NAME OF HEALTH ESTABLISHMENT ACCORDING TO THE CLASSIFICATION AUTHORITY AREA	ADDRESS OR LOCATION	NO. OF BEDS	OWNERSHIP	NATURE OF CASES TREATED	NO. OF DOCTORS	NO. OF PROFESSIONAL PERSONNEL		ASSISTANT (NURSING) (CATHF)	REMARKS
							Midwives	Others		

Notes - Assistant Nursing Officers are included under 'Others'; 'Others' includes Sanitary Inspectors, Health Inspectors, Assistant & Dispensary Assistants.

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FEDERAL MINISTRY OF HEALTH, MEDICAL STATISTICS DIVISION, LAGOS

TABLE 1

NAME OF HOSPITAL: .....  
 MONTH AND YEAR: THE MONTH/YEAR ..... 19.....

PART 1: INPATIENTS

1. (a) ADMISSIONS

Bed capacity.....	
- Complement of staffed beds.....	
Average Daily Number of Beds available.....	
Average Daily Number of Beds occupied.....	
- Available Bed Days.....	
- Occupied Bed Days.....	
Percentage of occupancy.....	
Total Number of Discharged Patient Days.....	
Average Length of Stay Per Patient in Days.....	
Total Number of Patients Admitted during the Month.....	
Total Number of Patients Discharged During the Month.....	

1. (b) ADMISSIONS

CLASS OF DEPARTMENT OR SPECIALITY	BEDS		ADMISSIONS			DISCHARGES			DEATHS		
	Capacity	Available	M	F	TOTAL	M	F	TOTAL	M	F	TOTAL
MEDICAL											
PSYCHIATRY											
SURGICAL											
E. N. C.											
EYE											
GYNAEC.											
MAJORITY											
PEDIATRICS											
S. C. S. U.											
OTHER											

**TABLE 2**

1. (c) **DEATHS**

DISEASE	No. OF DEATHS	Males	Females	Race	Color	No. OF DEATHS IN INSTITUTIONS	No. OF DEATHS OUTSIDE INSTITUTIONS
GENERAL							
PSYCHIC							
SURGICAL							
B. N. T.							
DIS							
DIAG							
INSTITUTION							
PREVENTIVE							
S. N. T.							
TOTAL							

1. (d) **DEATHS**

AGE AT DEATH	No. OF DEATHS	No. OF LIVE BIRTHS		No. OF STILL-BORN		No. OF TWIN DELIVERIES		No. OF STILL-BORN DELIVERIES		No. OF INFANTIL DEATHS		BORN BEFORE ARRIVAL	
		M	F	M	F	M	F	M	F	M	F	M	F
Under 15													
15 - 19													
20 - 24													
25 - 29													
30 - 34													
35 - 39													
40+													
TOTAL													
Grand Total													

**NOTE:** Please indicate number of twin, triplet and others with appropriate entries in appropriate columns.

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149 FEMININE DEATHS BY AGE GROUP 19..... TABLE 3

AGE GROUP	LINE	FOUR	TOTAL
Under 25 years			
Under 1 year			
1 - 5			
6 - 10			
11 - 15			
16 - 20			
21 - 25			
26 - 30			
31 - 35			
36 - 40			
41 - 45			
46 - 50			
51 - 55			
56 - 60			
61 - 65			
66 - 70			
71 - 75			
76 - 80			
80+			
TOTAL			

PART 2. OUT-PATIENT SERVICES

TABLE 4

2 (a) CONSULTATIVE OUT-PATIENT CLINIC FOR..... .. 13 .....

CONSULTATIVE OUT-PATIENT CLINIC	NEW CASES			NO. OF CLINIC SESSIONS	AVERAGE DAILY ATTENDANCE
	MALE	FEMALE	BOTH		
<u>MEDICINE</u>					
1. General Medicine					
2. Asthma/Asthmoids					
3. Cardiac Hypertension					
4. Dermatology					
5. Diabetic					
6. Endocrine Disorders					
7. Gynecology					
8. Gastro-Intestinal					
9. Hematology					
10. Liver Diseases					
11. Nephrology					
12. Renal Diseases					
13. Respiratory Diseases					
14. Chest, T.L.					
15. Obesity					
16. Special Treatment					
.....					
.....					
<u>SURGERY</u>					
1. General Surgery					
2. Cancer (Oncology)					
3. Fracture					
4. Orthopaedic					
5. Neuro-Surgery					
6. Paediatric Surgery					
7. Plastic Surgery					
8. Surgical Otolaryngology					
9. Thoracic Surgery					
10. Urology					
11. Maxillo-Facial					
12. Dental					
13. ....					
14. ....					
M.R., N.C.S., & T.R.C.					
OPHTHALMOLOGY					
TOTAL OF					

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CONTINUITY OF CARE

TABLE 5

NAME OF TRADING HOSPITAL: .....

CONSULTANT CLINIC: .....

CONSULTANT CLINIC DEPARTMENT	SEX			TOTAL ATTENDANCE			No. OF CLINIC SESSIONS	AVERAGE DAILY ATTENDANCE
	MALE	FEMALE	BOTH	MALE	FEMALE	BOTH		
TOTAL								
<u>OBSTETRICS &amp; Gynaecology</u>								
1. Gynaecology								
2. Obstetric (Confinement)								
3. Ante-Natal	XXXXXX			XXXXXX				
	XXXXXX			XXXXXX				
4. Post - Natal	XXXXXX			XXXXXX				
	XXXXXX			XXXXXX				
5. Anaemic (Sickle Cell)								
6. M. T. D.								
7. Infertility								
8. Family Planning								
9. Others								
<u>PAEDIATRICS</u>								
1. General Paediatrics								
2. Anaemic (S. S. D.)								
3. Cardiac								
4. Children Emergencies								
5. Children Tuberculosis								
6. Nephrosis / Renal Diseases								
7. Neurology								
8. Nutrition								
9. I. W. C. (Neonatal)								
10. ....								
.....								
<u>RADIOLOGY</u>								
<u>ANAESTHESIA - RESPIRATORY</u>								
<u>OTHERS</u>								
.....								
.....								

2(b) SOURCES OF NEW PATIENTS ATTENDING CONSULTANTS' CLINICS

TABLE 6

SOURCES OF NEW PATIENTS	No. OF PATIENTS	% OF TOTAL
General Out-Patients Department		
Accident and Emergency Department		
Consultants to other Hospitals		
Other Hospitals, including Health Centres		
Private Practitioners		
Industrial and Workable Staff Clinics		
Non-referral patients from teaching Hosp. Doctors		
TOTAL		

GENERAL OUT-PATIENTS

2(c) G. O. P. D. NON-CONSULTATIVE CLINICS

SECTION	I.M.E		F.M.I.E		DEATHS	
	NEW	TOTAL	NEW	TOTAL	M	F
General Out-Patients (Adults)						
General Out-Patients (Paediatrics)						
Accidents and Emergencies (Adults)						
Accidents and Emergencies (Paediatrics)						
Road Traffic Accidents						
Staff Clinics						
Staff Medical Examinations						
Other Medical Examinations						
Dental General Out-Patients						
GRAND TOTAL						

2(d) DRUGS, INJECTIONS AND DAY CARE

Total Injections	
Total Injections	
Admissions into Day-Ward	

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FEDERAL MINISTRY OF HEALTH, MEDICAL SERVICES DIVISION, 1950

IMMUNISATION SERVICES  
FOR THE YEAR/MONTH ENDING ..... 19...

Date:.....

TYPE OF IMMUNISATION	PROCEDURE		NUMBER OF IMMUNISATIONS				TOTAL
			Under 1 year	1-4 years	5-14 years	15yrs. & Over	
1. BCG	Primary Vaccination						
	Re-vaccination						
2. DPT (Triple Antigen)	Primary Vaccination	1st Dose					
		2nd Dose					
		3rd Dose					
	Booster	1st Booster					
		2nd Booster					
3. Polio	Primary Vaccination	Type 1					
		Type 3					
		Type 2					
		Trivalent					
	Booster						
4. Smallpox	Primary Vaccination						
		Voluntary					
		International					
5. Measles							
6. Yellow Fever							
7. Cholera							
8. Rabies							
9. Others (Specify)							
10. Tetanus (Toxoid)	Primary Vaccination	1st Dose					
		2nd Dose					
	Booster						
	Pregnant Mothers		Under 20yrs	20-19 years	30-39 years	40yrs & over	Total
		1st Dose					
	2nd Dose						

FEDERAL MINISTRY OF HEALTH, MEDICAL STATISTICS DIVISION, LAGOS  
HEALTH MANPOWER AT NEURO-PSYCHIATRIC HOSPITAL  
AS AT 31ST DECEMBER, 19...

NAME OF HOSPITAL:.....

ADDRESS:- .....

STATE OF NIGERIA

CATEGORY OF PERSONNEL	NIGERIAN		NON-NIGERIAN		TOTAL
	MALE	FEMALE	MALE	FEMALE	
1. Medical Practitioner					
(a) Specialist					
(b) Generalist					
2. Pharmacist					
3. Pharmaceutical Technician					
4. Pharmacy Assistant					
5. General Nurse Tutor					
6. Midwifery Tutor					
7. Psychiatric Nurse Tutor					
8. Public Health Nurse Tutor					
9. Clinical Instructor					
10. Matrons, all grades					
11. Public Health Nurses					
12. Occupational Health Nurses					
13. Psychiatric Nurse					
14. Nursing Sister/Supt. (TB)					
15. Anaesthetic Nurse					
16. Theatre Nurse/Sister					
17. ENT-Nursing Sister/Supt.					
18. Ophthalmic Nurse					
19. Paediatric Nurse					
20. Other Nursing Sister/Supt.					
21. Staff Nurse/Midwife					
22. Staff Nurse					
23. Community Midwife					
24. Staff Midwife					
5-24. All Professional Nurses					
25. Community Health Officer					
26.     "     Health Supervisor					
27.     "     Health Assistant					
28.     "     Health Aide					

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HEALTH MANPOWER AT NEURO-PSYCHIATRIC HOSPITAL  
AS AT 31ST DECEMBER, 19....

CATEGORY OF PERSONNEL	NIGERIAN		NON-NIGERIAN		TOTAL
	MALE	FEMALE	MALE	FEMALE	
29. Auxilliary/Enrolled Nurse					
30. Grade II Midwife					
31. Hospital Aide/Orderly					
32. Sanitary/Hospital Engineer					
33. Med. Equipment Maintenance Supt.					
34. Public Health Superintendent					
35. Medical Lab. Technologist					
36. Medical Lab. Technician					
37. Medical Lab. Assistant					
38. Radographer					
39. X-Ray Technician					
40. X-Ray Assistant					
41. EEG/ECT Technologist					
42. Dental Technologist					
43. Dental Surgery Assistant					
44. Medical Records Officers					
45. Medical Records Assistant					
46. Audiometrician/Audiologist					
47. Physiotherapist					
48. Physiotherapy Technician					
49. Occupational Therapist					
50. Occupational Therapy Instructor					
51. Clinical Psychologist					
52. Speech Therapist					
53. Psychiatric Social Worker					
54. Medical Social Worker					
55. Dietician					
56. Hospital Catering Officer					
57. Hospital Catering Supervisor					
58. Hospital Cook					
<b>SPECIALIST (DOCTORS)</b>					
1. Anaesthetist					
2. Dermatologist					
3. Paediatrician					

TABLE 3

HEALTH MANPOWER AT NEURO-PSYCHIATRIC HOSPITAL  
AS AT 31ST DECEMBER, 19....

CATEGORY OF PERSONNEL	NIGERIAN		NON-NIGIAN		TOTAL
	MALE	FEMALE	MALE	FEMALE	
4. Pathologist					
(a) Bacteriologist					
(b) Chemical Pathologist					
(c) Haematologist					
(d) Others (Specify)					
5. Physician					
(a) Cardiologist					
(b) Endocrinologist					
(c) Gastro-Enterologist					
(d) General					
(e) Neurologist					
(f) Others (Specify)					
6. Physical Medicine & Rehab.					
7-7. Public Health Physician					
(a) Epidemiologist					
(b) Malariologist					
(c) Medical Statistician					
(d) Medical Demographer					
(e) Health Educator					
(f) Nutritionist					
(g) Family Planning					
(h) Occupational Health					
(i) Tuberculosis					
(j) Others (Specify)					
8. Psychiatrist					
9. Radiologist					
10. Surgeon					
(a) General					
(b) Others (Specify)					
11. Other Specialists (Specify)					

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HEALTH MANPOWER AT NEURO-PSYCHIATRIC HOSPITAL  
AS AT 31ST DECEMBER, 19...

CATEGORY OF PERSONNEL	NIGERIAN		NON-NIGERIAN		TOTAL
	MALE	FEMALE	MALE	FEMALE	
<u>GENERALIST (DOCTORS)</u>					
12. Fully Registered Med. Officer					
13. NYSC Medical Officer					
14. House Officer					
15. Fully Regd. Dental Surgeon					
16. NYSC Dental Surgeon					
17. Dental House Officer					
<u>NON-PHYSICIAN PERSONNEL</u>					
18. Health Administrator					
19. Health Educator					
20. Health Planner					
21. Statistician					
22. Others (Specify)					

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FEDERAL MINISTRY OF HEALTH-MEDICAL STATISTICS DIVISION-LAGOS

NEURO-PSYCHIATRIC SERVICES IN NIGERIA

MONTHLY SUMMARY OF IN-PATIENT ACTIVITIES FOR THE YEAR, 1982

PARAMETER	1982			19.....		
	Male	Female	Both	Male	Female	Both
Admissions						
Ave. Duration of Stay(Days)						
Discharges						
Deaths						
Case Fatality Rate(%)						
Available Bed Days						
In-Patient Days						
% Total Bed Occupancy						
No. of Beds - Capacity						
- Available						
Ave. Daily Bed Occupancy						
Highest Daily Bed Occupancy						
Lowest Daily Bed Occupancy						
Special Procedures Done						
a) ECT(Electro-Convulsive Therapy)						
b) EEG(Electro-Encephalogram)						
c)						
d)						
Occupational Therapy-New Cases						
- Total Attendance						
Med. Social Services - New Cases						
- Total Attendance						

TRANSPORT FACILITIES (PREVIOUS YEAR DATA IN BRACKET)

TYPE OF FACILITIES	Number in Satisfactory Condition	No. in Unsatisfactory Condition	TOTAL
Ambulance			
All-Purpose Vans			
Other Vehicles(Specify)			
<u>OTHER FACILITIES</u>			
C.T. Machines			
E.E.G. Machine			
Stand-By Generator			
Autoclave			

Name & Address of Health Institution: \_\_\_\_\_

ANNUAL ENROLMENT (FIRST YEAR STUDENTS ONLY) BY CATEGORY

	Number			Cumulative No.	Number			Cumulative No.	Number			Cumulative No.
	Male	Female	Both		Male	Female	Both		Male	Female	Both	
Before '70												
1970												
1971												
1972												
1973												
1974												
1975												
1976												
1977												
1978												
1979												
1980												
1981												
1982												
1983												
1984												
1985												
1986												
1987												
1988												
1989												

(ANNUAL NUMBER OF GRADUANDS)

Before '70												
1970												
1971												
1972												
1973												
1974												
1975												
1976												
1977												
1978												
1979												
1980												
1981												
1982												
1983												
1984												
1985												
1986												
1987												
1988												
1989												

KEY:

\*

CATEGORY OF STUDENTS CONCERNED.



LIST OF PROFORMAS FOR ORTHOPAEDIC HOSPITALS

1. INPATIENT ADMISSIONS AT ORTHOPAEDIC HOSPITAL - TABLE 1 - 3
2. O. P. D. NEW CASES, BY AGE-GROUP SEX AND TYPE OF CLINIC - FPH/STATS/ORTHOPAEDIC-I
3. OUT-PATIENT DEPARTMENT CASES, ATTENDANCES AND DEATHS, BY SEX - FPH/STATS/ORTHOPAEDIC-II
4. OPERATIONS PERFORMED BY TYPE AND SEX - FPH/STATS/ORTHOPAEDIC-III
5. SUMMARY OF OUT-PATIENT DEPARTMENT ACTIVITIES- FPH/STATS/CPD-I
6. SUMMARY OF SOME ACTIVITIES OF THE DEPARTMENTS FOR ANCILLIARY SERVICES IN HOSPITAL- FPH/STATS/DAS
7. MONTHLY SUMMARY OF IN-PATIENT ACTIVITIES BY SEX - TABLE I
8. COMBINED MEDICAL FORM (HOSPITAL MORBIDITY AND MORTALITY) - CMF. 12

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**TABLE 1**

**FEDERAL MINISTRY OF HEALTH, MEDICAL STATISTICS DIVISION, LAGOS**  
**STAFF MANPOWER AT ORTHOPAEDIC HOSPITAL**  
**AS AT 31ST DECEMBER, 1985**

[ ]  
 STATE OF NIGERIA

CATEGORY OF PERSONNEL	NIGERIAN		NON-NIGERIAN		TOTAL
	MALE	FEMALE	MALE	FEMALE	
1. Medical Practitioner					
(a) Specialist					
(b) Generalist					
2. Pharmacist					
3. Pharmaceutical Technician					
4. Pharmacy Assistant					
5. General Nurse Tutor					
6. Midwifery Tutor					
7. Public Health Nurse Tutor					
8. Clinical Instructor					
9. Matrons, all grades					
10. Public Health Nurses					
11. Occupational Health Nurse					
12. Nursing Sister/Supt.					
13. Anaesthetic Nurse					
14. Theatre Nurse/Sister					
15. ENT-Nursing Sister/Supt.					
16. Ophthalmic Nurse					
17. Orthopaedic Nurse					
18. Paediatric Nurse					
19. Other Nursing Sister/Supt.					
20. Staff Nurse/Midwife					
21. Staff Nurse					
22. Community Midwife					
23. Staff Midwife					
5-23. All Professional Nurses					
24. Community Health Officer					
25.     "     Health Supervisor					
26.     "     Health Assistant					
27.     "     Health Aide					
28. Auxilliary/Enrolled Nurse					
29. Grade II Midwife					
30. Hospital Aide/Orderly					
31. Sanitary/Hospital Engineer					
32. Med. Equipment Maintenance Supt.					

HEALTH MANPOWER AT ORTHOPAEDIC HOSPITAL  
AS AT 31ST DECEMBER, 19...

NAME OF HOSPITAL:.....  
ADDRESS:.....

STATE OF NIGERIA

CATEGORY OF PERSONNEL	NIGERIAN		NON-NIGERIAN		TOTAL
	MALE	FEMALE	MALE	FEMALE	
33. Medical Lab. Assistant					
34. Radiographer					
35. X-Ray Technician					
36. X-Ray Assistant					
37. Medical Records Officers					
38. Medical Records Assistant					
39. Audiometrician/Audiologist					
40. Physiotherapist					
41. Physiotherapy Technician					
42. Occupational Therapist					
43. Occupational Therapy Instructor					
44. Ophthalmic Optician					
45. Optometrist					
46. Limb Maker					
47. Limb Fitting Technician					
48. Plaster Cast Maker					
49. Speech Therapist					
50. Medical Social Worker					
51. Dietician					
52. Hospital Catering Officers					
53. Hospital Catering Supervisor					
54. Hospital Cook					
<b>SPECIALIST (DOCTORS)</b>					
1. Anaesthetist					
2. Dermatologist					
3. Ophthalmologist					
4. Otorhinolaryngologist					
5. Pathologist					
(a) Bacteriologist					
(b) Chemical Pathologist					
(c) Haematologist					
(d) Forensic Pathologist					
(e) Parasitologist					
(f) Virologists					
(g) Others (Specify)					

TABLE 3

PERSONNEL AT ORTHOPAEDIC HOSPITAL  
AS AT 31ST DECEMBER, 19...

CATEGORY OF PERSONNEL	NIGERIAN		NON-NIGERIAN		TOTAL
	MALE	FEMALE	MALE	FEMALE	
6. Physician					
(a) Cardiologist					
(b) Endocrinologist					
(c) Gastro-Enterologist					
(d) General					
(e) Leprologist					
(f) Neurologist					
(g) Others (Specify)					
7. Physical Medicine & Rehab.					
8. Radiologist					
9. Surgeon					
(a) Cardio-vascular					
(b) General					
(c) Neuro-					
(d) Orthopaedic					
(e) Paediatric					
(f) Plastic & Reconstructive					
(g) Thoracic					
(h) Urologic					
(i) Others (Specify)					
10. Other Specialists (Specify)					
11. <u>GENERALIST (DOCTORS)</u>					
11. Fully Registered Med. Officer					
12. NYSC Medical Officer					
13. House Officer					
<u>NON-PHYSICIAN PERSONNEL</u>					
14. Health Administrator					
15. Health Educator					
16. Others (Please Specify)					

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O.P.D. NEW CASES, BY AGE-GROUP, SEX AND TYPE OF CLINIC-19...

AGE-GROUP	FRACTURE CLINIC			ORTHOPAEDIC CLINIC			BOTH CLINICS		
	Male	Female	Both Sexes	Male	Female	Both Sexes	Male	Female	Both Sexes
Under 1 month									
1 - 11 months									
1 - 2 years									
3 - 4 "									
5 - 9 "									
10 - 14 "									
15 - 19 "									
20 - 24 "									
25 - 29 "									
30 - 34 "									
35 - 39 "									
40 - 44 "									
45 - 49 "									
50 - 54 "									
55 - 59 "									
60 - 64 "									
65 - 69 "									
70 - 74 "									
75 - 79 "									
80 - 84 "									
85 yrs. & Over									
Unknown									
T O T A L									

LIMB FITTING SERVICES (LAST THREE YEARS)

SERVICES PROVIDED	NUMBER OF ITEMS		
	19...	19...	19...
Prosthesis Manufactured			
Prosthesis repaired			
Calipers manufactured			
Calipers repaired			
Orthopaedic Shoes made			
Orthopaedic Shoes repaired			
Orthopaedic Appliances made			
Orthopaedic Appliances repaired			
Others (specify)			
T O T A L			

OUT-PATIENT DEPARTMENT CASES, ATTENDANCES AND DEATHS, BY SEX - 19...

P A R A M E T E R	MALE	FEMALE	BOTH SEXES
(1) NEW CASES			
(a) Fracture (General O.P.D.) Clinic			
(b) Orthopaedic (and Staff) Clinic			
(2) OLD (FOLLOW-UP) CASES			
(a) Fracture Clinic			
(b) Orthopaedic Clinic			
(c) Spastic Clinic			
(3) TOTAL CASES (Seen by Doctors)			
(a) Fracture Clinic			
(b) Orthopaedic Clinic			
(c) Spastic Clinic			
(4) MISCELLANEOUS			
(a) Dressing			
(b) Physiotherapy Department			
(c) Limb Fitting Department			
(d) Minor Operation/Treatment			
(e) Attendance for Injections Only			
(5) TOTAL ATTENDANCE (Nos. 1 - 4)			
Number of Clinic Sessions held			
Number of O.P.D. Deaths			
Brought-In-Dead (B.I.D.)			
<u>STAFF CLINIC - O. P. D. (19...)</u>			
New Cases			
Old (Follow-up) Cases			
Total Attendances			
Number of Clinic Sessions held			
Number of Deaths			
Brought-In-Dead			
Major Causes of Attendances-			
(a)			
(b)			
(c)			
(d)			
(e)			
(f)			

SOURCES OF DATA: \_\_\_\_\_

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OPERATIONS PERFORMED, BY TYPE AND SEX - 19...

MAIN THEATRE/TRAUMATIC THEATRE (Delete Where Not Applicable)

TYPE OF OPERATION	NUMBER OF OPERATIONS PERFORMED			
	Male	Female	Both Sexes	
			Number	% Total
1. Dressing and Redressing				
2. Change of Plaster & Surgical Operation				
3. Manipulation under Anaesthesia				
4. Incision and Plaster of Paris				
5. Excision				
6. Extraction				
7. Osteotomy				
8. Sequestrectomy				
9. Amputation and Bone Graft				
10. Soft Tissue Operation				
11. Aspiration & Hydrocortison Injection				
12. Removal of Foreign Body				
13. Inspection				
14. Release & Erekeman's				
15. Nailing				
16. Osteoclasia				
17. Spinal Fusion				
18. Internal Fixation & Removal of Pins				
19. Insertion				
20. Exploration				
21. Calcisotomy and Ligature				
22. Arthroplasty				
23. Kintscher Traction				
24. Separation of fingers				
25. Drainage of Abscess				
26. Arthrodesis				
27. Open Reduction				
28.				
29.				
30.				
31.				
32.				
33.				
Others				
<b>T O T A L</b>				

SOURCE OF DATA: \_\_\_\_\_

\_\_\_\_\_

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FEDERAL MINISTRY OF HEALTH, MEDICAL STATISTICS DIVISION, LAGOS

SOURCE OF DATA:-

SUMMARY OF OUT-PATIENT DEPARTMENT ACTIVITIES FOR THE YEAR - 19

PARAMETER	MALE	FEMALE	BOTH SEXES
NEW CASES			
(a) General Clinic			
(i) Paediatric			
(ii) Adult			
(b) Casualty			
(c) Consultant Clinics			
Sources: (i) General OPD			
(ii) Staff Clinic			
(iii) Other Health Institutions			
(iv) Private Practitioners			
(v) Others (specify)			
TOTAL ADMISSIONS			
(a) General Clinic			
(i) Paediatric			
(ii) Adult			
(b) Casualty			
(c) Consultant Clinics			
DAY CARE UNIT (No. of Beds)			
(a) Paediatric Emergency			
(b) Adult Emergency			
DRESSINGS			
INJECTIONS			
MINOR OPERATIONS PERFORMED			
IMMUNISATION GIVEN			
- Type (a)			
(b)			
(c)			
STAFF HEALTH SERVICES			
(a) Number of Patients treated			
(i) Students			
(ii) Senior Staff			
(iii) Senior Staff Dependents			
(iv) Junior Staff			
(v) Junior Staff Dependents			
(vi) Domestic Servants & Dependents			
(vii) Visitors			
(viii) Others			
(b) Attendance of Patients			
(c) Attendance for Immunisation			
(d) Medical Examination			
(e) Attendances for Other Activities			
(specify)			
(f) Total Attendance			

FEDERAL MINISTRY OF HEALTH, MEDICAL STATISTICS DIVISION, LAGOS

SUMMARY OF SOME ACTIVITIES OF THE DEPARTMENT FOR ANCILLARY SERVICES  
IN HOSPITAL - 19....

	OUT-PATIENT	IN-PATIENT	OTHER HOSPITALS	TOTAL				
<p>RADIO-DIAGNOSIS:-</p> <p>(a) Number of Patients</p> <p>(b) Total Attendance</p> <p>(c) No. of Special Examination</p> <p>PATHOLOGY DEPARTMENT:-</p> <p>(a) Specimen Examined</p> <p>    i) Histopathology</p> <p>    ii) Haematology</p> <p>    iii) Chemical Pathology</p> <p>    iv) Medical Microbiology</p> <p>    v) Virus</p> <p>    vi) Others (Specify)</p> <p>(b) Autopsies</p> <p>(c) Blood Transfusion Service:-</p> <p>    (i) Blood-Grouping done</p> <p>    (ii) Donors Bled</p> <p>    (iii) Cross-Matches done</p> <p>    (iv) No. of Patients transfused</p> <p>    (v) Units of Blood transfused</p> <p>    (vi) Others (Specify)</p> <p>PHYSIOTHERAPY DEPARTMENT:-</p> <p>(a) Number of Patients</p> <p>(b) Total attendance</p> <p>OCCUPATIONAL THERAPY DEPARTMENT:-</p> <p>(a) Number of Patients</p> <p>(b) Total Attendance</p> <p>DEPARTMENT OF MEDICAL SOCIAL SERVICES:</p> <p>(a) No. of Patients seen at Hospital</p> <p>(b) Total Attendance</p> <p>(c) No. of Patients seen at Home</p> <p>(d) No. of Home Visits</p> <p>DEPARTMENT OF COMMUNITY HEALTH</p> <p>(a) Health Visiting Unit:-</p> <p>    (i) No. of Sessions held</p> <p>    (ii) Total Attendance at Sessions</p> <p>    (iii) No. of Immunisation given.</p> <p>(c) Other activities (Specify with Data)</p>								

TABLE - I

FEDERAL MINISTRY OF HEALTH - MEDICAL STATISTICS DIVISION, LAGOS

SOURCE OF DATA: \_\_\_\_\_ MONTH \_\_\_\_\_

MONTHLY SUMMARY OF IN-PATIENT ACTIVITIES, BY SEX-19

PARAMETER	19 .....			19.....		
	Male	Female	Both Sexes	Male	Female	Both Sexes
Admissions						
Average Duration of Stay(Days)						
Discharges						
Deaths						
Case Fatality Rate (%)						
Available Bed Days						
In - Patient Days						
% Total Bed Occupancy						
Number of Beds - Capacity						
- Available						
Average Daily Bed Occupancy						
Highest Daily Bed Occupancy						
Lowest Daily Bed Occupancy						
Major Operations Performed						
Minor Operations Performed						
Total Operations Performed						
(a) General Surgery						
(b) E.N.T.						
(c) Gynaecology						
(d) Obstetric						
(e) Ophthalmic						
(f) Orthopaedic						
(g) Others (specify)						
Pathology Department						
(a) Specimen Examined						
(i) Histopathology						
(ii) Hematology						
(iii) Chemical Pathology						
(iv) Medical Microbiology						
(v) Virus						
(vi) Others (specify)						
(b) Autopsies						
Radio-Diagnosis-New Patients						
-Total Attendance						
Physiotherapy - New Patients						
- Total Attendance						
Operational ... New Cases						

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MSD/HFA 2000/2

FEDERAL MINISTRY OF HEALTH - MEDICAL STATISTICS DIVISION  
INDICATORS FOR MONITORING WATER SUPPLY AND BASIC SANITATION

Name of Local Government Area:

Name of State:-

	I N D I C A T O R S	1984	1985
1.	No. of Households.....		
2.	No. of Households with water at home.....		
3.	No. of Households with water within 15 minutes walk or 250 m distance.....		
4.	No. of Households with water beyond 15 minutes walk or 250 m distance.....		
5 a)	No. of Households with Septic tanks or water closet.....		
b)	No. of Households with Septic tanks or water closet in immediate vicinity.....		
6 a)	No. of Households with sanitary latrine.....		
b)	No. of Households with sanitary latrine in immediate vicinity.....		
7.	No. of Households provided with dust bins.....		
8.	No. of Households provided with regular collection service.....		

NAME OF LOCAL GOVERNMENT AREA:-

NAME OF STATE:-

I N D I C A T O R S	1984	1985
1. CHILD WELFARE SERVICES		
a) No. of Clinic Sessions Held.....		
b) No. of children who attended Child Welfare Sessions.....		
c) No. of New Babies for Clinic.....		
d) No. of Old (Previous Year) Babies.....		
e) Total No. of Children under 5 years old.....		
f) No. of well children seen at Clinic Sessions.....		
g) No. of sick children seen at Clinic Sessions.....		
h) No. of premature children seen at clinic Sessions.....		
i) No. of Malnourished children seen at Sessions.....		
j) No. of Motherless Babies seen at Sessions.....		
k) No. of deaths recorded among children seen at Sessions.....		
l) No. of children given Malaria Prophylaxis.....		
m) No. of Nutrition (Food Demonstration) Clinic Held.....		
2. <u>DISEASES CONDITIONS AND DISABILITIES AMONG CLINIC CHILDREN</u>		
a) Mental Retardation.....		
b) Respiratory Infections.....		
c) Gastro-Intestinal Infections.....		
d) Skin-Infections.....		
e) Infections Diseases.....		
Measles.....		
Whooping Cough.....		
Tuberculosis.....		
Tetanus.....		
Polio-myelitis.....		
Diphtheria.....		
f) Deficiency Diseases.....		
Endemic Goiter.....		

FEDERAL MINISTRY OF HEALTH - MEDICAL STATISTICS DIVISION

MSD/HFA2000/3b

INDICATORS FOR MONITORING M.C.H./P.P.

NAME OF LOCAL GOVERNMENT AREA:-

NAME OF STATE:-

I N D I C A T O R S		1984	1985
3.			
a)	Total No. of Births		
	Male		
	Female		
b)	No. of Live Births		
	Male		
	Female		
c)	No. of Still-Births		
	Male		
	Female		
d)	No. of Early Neonatal Deaths (Under 7 days)		
e)	No. of Neonatal Deaths (Under 28 days)		
	No. caused by:- Prematurity		
	Asphyxia		
	Jaundice		
	Others (Specify)		
f)	No. of Infant Deaths		
	(0 - 12 months)		
	Male		
	Female		
g)	No. of Child Deaths (1 - 4 years old)		
	Male		
	Female		
4.	Mid-years population Estimate		

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FEDERAL MINISTRY OF HEALTH - MEDICAL STATISTICS DIVISION

INDICATORS: FOR MONITORING MCH/FP

I N D I C A T O R S	UNDER 15 YEARS		15-19 YEARS		20-34 YEARS		35 YEARS & ABOVE		TOTAL	
	1984	1985	1984	1985	1984	1985	1984	1985	1984	1985
<b>II. Fertility Rate: Pregnant Women having:-</b>										
(a) One living child.....										
(b) Two living children.....										
(c) Three living children.....										
(d) Four living children.....										
(e) Five living children.....										
(f) Six living children.....										
(g) Over six living children.....										
No. of women attending services for Infertility										
<b>III. Deliveries:</b>										
(a) No. of booked patients for delivery.....										
(b) No. of Unbooked patients.....										
(c) Total No. of deliveries.....										
No. of Singles Delivered.....										
No. of twins Delivered.....										
No. of Triplets delivered.....										
No. of Quadruplets delivered.....										
(d) No. of Post-Partum hemorrhage.....										
(e) Total No. of Maternal Deaths										
- Among patients booked for delivery.....										
- Among unbooked patients.....										

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1984-1985

INDICATORS FOR MONITORING HEALTH SERVICES

INDICATORS	UNDER 15 YEARS		15-19 YEARS		20-29 YEARS		30 YEARS AND ABOVE		TOTAL	
	1984	1985	1984	1985	1984	1985	1984	1985	1984	1985
f) No. of deliveries attended by										
- Doctors.....										
- Professional Midwives.....										
- Community Health Workers.....										
- Trained Traditional Birth attendant (T.B.A.).....										
- Others.....										
IV) a) Total Attendance at Post-Natal Clinics...										
b) Total No. of Women using Family Planning Services.....										
c) No. of New Acceptors.....										
d) No. using -- Oral contraceptives.....										
- I.U.C.D.....										
- Injectibles.....										
- Others (specify).....										
V) a) Abortion Cases treated.....										
by type:- Complete.....										
- Incomplete.....										
- Inevitable.....										
- Threatened.....										
- Induced.....										
- Septic.....										
- Missed.....										
- Habitual.....										

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MSD/HFA.2000/3<sup>f</sup>

FEDERAL MINISTRY OF HEALTH - MEDICAL STATISTICS DIVISION  
INDICATORS FOR MONITORING MCI/FF

INDICATORS	UNDER 15 YEARS		15-19 YEARS		20-34 YEARS		35 YEARS AND ABOVE		T O T A L	
	1984	1985	1984	1985	1984	1985	1984	1985	1984	1985
V b) Abortion cases by Marital Status										
- Single										
- Married										
- Divorced										
- Separated										
- Widowed										

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FEDERAL MINISTRY OF HEALTH - MEDICAL STATISTICS DIVISION  
MSD/HFA.2000/5 INDICATORS FOR MONITORING HEALTH EDUCATION

NAME OF LOCAL GOVERNMENT AREA:-

NAME OF STATE:-

I N D I C A T O R S	1984	1985
11. a) Total number of Primary Schools		
b) Primary School New Entrants (Year 1)		
Male		
Female		
c) Total Primary School Population (Year 1 to Year 6)		
2. a) Total Number of Secondary Schools		
b) Number of Secondary School enrolment		
Male		
Female		
3. a) Total Number of Mass Literacy Schools		
b) Number of Adult aged 18 and above (Mass Literacy School graduants)		
Male		
Female		
4. Number (per month) of Health Education Session in:- a) Clinics		
b) Mass Media:- Radio		
Television		
Newspaper		
c) Other (Specify)		
5. Number of Posters, Pamphlets etc. distributed per month on: a) E.P.I.		
b) O.R.T.		
c) Other Primary Health Care Programme (Specify)		
6. Number of Health Educators working in the Local Government Area		
7. Number of Community Members participating in Immunization activities in the L.G.A.		
8. Number of people trained in Community Mobilization in the L.G.A.		
9. Total number of Villages		
210. Number of Village with Village Head Development Committee		

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FEDERAL MINISTRY OF HEALTH-MEDICAL STATISTICS DIVISION

MSD/HFA2000/6<sup>2</sup>

INDICATORS FOR MONITORING  
CONTROL OF DIARRHOEAL DISEASES

<u>ACTIVITY</u>	<u>DESIRED OUTPUT</u>		<u>ACTUAL OUTPUT</u>	
	1984	1985	1984	1985
<b>A. <u>PRODUCTION AND DEVELOPMENT</u></b>				
1. Produce or obtain ORS Packets				
2. Establish ORS Production Facility				
3. Establish use of ORT in Health Facilities				
4. Establish use of ORT in Villages				
5. Produce Training & Promotional Materials for (a) Health Facility Staff (b) Voluntary Health Worker (c) Commercial Distributors (d) Mothers				
6. Develop Training Courses				
<b>B. <u>DISTRIBUTION</u></b>				
7. Select Storage & Delivery Points				
8. Select Government & Commercial Distribution System				
9. Distribute Packets & Training Materials				
<b>C. <u>TRAINING</u></b>				
10. Train Health Staff Voluntary Health Worker				
<b>D. <u>EDUCATION/PROMOTION</u></b>				
11. Train Mothers in Preparing & Administering ORT and in related Health Care Practices				
<b>E. <u>EVALUATION</u></b>				
12. Monitor Quality of ORS being produced				
13. Monitor flow of ORS & Material from Production to Delivery Points				
14. Determine No. of Health Facilities and VHWS receiving adequate amount of ORS				

FEDERAL MINISTRY OF HEALTH-MEDICAL STATISTICS DIVISION

MSD/HFA2000/6b

INDICATORS FOR MONITORING  
CONTROL OF DIARRHOEAL DISEASES (CDD)

DIARRHOEAL MORBIDITY AND MORTALITY AMONG UNDER 5 YEAR-OLD CHILDREN

	Under One year		1 - 4 Years		Total	
	1984	1985	1984	1985	1984	1985
<b>F. <u>NO OF OUT-PATIENT CASES</u></b>						
- Proportion with Diarrhoea						
- No. Treated with ORS .....						
- No. referred for IV infusion.....						
- No. of Deaths .....						
- No. of Diarrhoea Associated Deaths....						
- After ORS Treatment .....						
- Without ORS Treatment.....						
<b><u>NO. OF IN-PATIENTS ADMISSIONS</u></b>						
- Proportion with Diarrhoea						
- No. treated with ORS .....						
- No. of Deaths .....						
- No. of Diarrhoea Associated Deaths ...						
- After ORS Treatment .....						
- Without ORS Treatment .....						

INDICATORS FOR MONITORING CONTROL OF  
LOCAL ENDEMIC DISEASES

NAME OF LOCAL GOVERNMENT AREA: -

NAME OF STATE: -

I N D I C A T O R S	1983	1984
Number of Reported Cases of:-		
1. Infective and Parasitic Diseases		
i) Malaria .....		
ii) Dysentery and Diarrhoea .....		
iii) Measles .....		
iv) Gonorrhoea .....		
v) Whooping Cough .....		
vi) Schistosomiasis .....		
vii) Chicken Pox .....		
viii) Tuberculosis .....		
ix) Leprosy .....		
x) Filariasis .....		
xi) Guinea Worm .....		
xii) Meningitis .....		
xiii) Onchocerciasis .....		
xiv) Cholera .....		
xv) Trachoma .....		
xvi) Ophthalmia Necnatorum .....		
xvii) Food Poisoning .....		
xviii) Tetanus .....		
xix) Infective Hepatitis .....		
xx) Typhoid .....		
xxi) Diphtheria .....		
xxii) Poliomyelitis .....		
2. Nutritional Diseases		
i) Kwashiorkor .....		
ii) Nutritional Marasmus .....		
iii) Vitamin A Deficiency .....		
iv) Endemic Goitre .....		
v) Others .....		
3. Respiratory Diseases		
i) Pneumonia .....		
ii) Bronchitis .....		
iii) Asthma .....		
iv) Viral Influenza .....		

FEDERAL MINISTRY OF HEALTH-MEDICAL STATISTICS DIVISION

MSD/HFA2000/8

INDICATORS FOR MONITORING PROVISION OF  
ESSENTIAL DRUGS

NAME OF LOCAL GOVERNMENT:-

NAME OF STATE:-

I N D I C A T O R S	1984	1985
1) TOTAL NUMBER OF HEALTH ESTABLISHMENTS		
ii) Number of Health Establishments having a list of Essential Drugs (P.H.C. list)		
iii) Number of Health Establishments having Essential Drugs (P.H.C. list) available Continuously (C) or Occasionally (O)		
a) Anaesthetics Local	(C) (O)	
b) Analgesics	(C) (O)	
c) Anti-Allergics	(C) (O)	
d) Antidote(Activated charcoal powder)	(C) (O)	
e) Anti-Convulsant Drug	(C) (O)	
f) Anti-Infective Drug	(C) (O)	
g) Drugs Affecting Blood	(C) (O)	
h) Dermatological Drugs	(C) (O)	
i) Gastrointestinal Drugs	(C) (O)	
j) Hormones - (Oral Contraceptives)	(C) (O)	
k) Ophthalmological Drugs	(C) (O)	
l) Oxytocic(Ergometrine injection or tablet)	(C) (O)	
m) Respiratory Tract Drug	(C) (O)	
n) Water/Electrolyte Balance (ORS)	(C) (O)	
o) Immunological Vaccines	(C) (O)	

FEDERAL MINISTRY OF HEALTH-MEDICAL STATISTICS DIVISION

MBD/HFA2000/9

INDICATORS FOR MONITORING HEALTH BUDGET

NAME OF LOCAL GOVERNMENT:-

NAME OF STATE:-

INDICATORS	1984	1985
1. TOTAL BUDGET		
2. TOTAL HEALTH BUDGET		
3. ACTUAL EXPENDITURE		
a) Curative Services		
b) Primary Health Care Services		
i) E. P. I. only		
ii) O. R. T. only		

ATTACHMENT 2:

ROUTINE REPORTING FORMS, FEDERAL MINISTRY OF HEALTH,  
PRIMARY HEALTH CARE COORDINATING UNIT

ROUTINE REPORTING FORMS, FEDERAL MINISTRY OF HEALTH  
PRIMARY HEALTH CARE COORDINATING UNIT

Shown here are the proposed monthly regular reporting forms for the health unit level. An identical set of annual reports for the health unit level is also proposed, along with a similar set of monthly and annual summary reports for the LGA level.

The proposed system is supported by several daily log sheets and tally sheets, which are not shown here.



# CHILD HEALTH CLINIC MONTHLY RECORD (Under-Five) of the Health Unit

Health Unit \_\_\_\_\_

Name of LGA \_\_\_\_\_

Month and Year \_\_\_\_\_

Date	Attendance by Age-Group					Tracer Diseases (Cases)							
	Under 1 Year		1 - 4 Years			Measles	Whooping Cough	Malaria	Diarrhoea	Malnutrition	Accidents	Others	Total
Days of the Month	New Attendance	Re-Attendance	New-Attendance	Re-Attendance	Total								
<b>TOTAL</b>													

\_\_\_\_\_  
Officer-in-Charge

MATERNAL HEALTH & FAMILY PLANNING MONTHLY RECORD at health unit

Health Unit \_\_\_\_\_

Name of LGA \_\_\_\_\_  
 Month and Year \_\_\_\_\_

Date	New-Attendance	ANTENATAL.			FAMILY PLANNING BY METHODS							
		Re-Attendance			Total	Oral	IUD	Spermicides	Condoms	Periodic abstinence	None	Total
Days of the Month		2nd	3rd	4th								
TOTAL												

\_\_\_\_\_  
 Officer in - Charge

FAMILY PLANNING CLINIC MONTHLY RECORD at health unit

Name of UGA. \_\_\_\_\_

Month and Year \_\_\_\_\_

Health Unit \_\_\_\_\_

Date	Family Planning Methods by Type of Attendance												Total	
	Orals		I. U. D		Spermicides		Condoms		Peripha Attendance		Others			
Days of the Month	New-Attendance	Re-Attendance	New-Attendance	Re-Attendance	New-Attendance	Re-Attendance	New-Attendance	Re-Attendance	New-Attendance	Re-Attendance	New-Attendance	Re-Attendance		
<b>TOTAL</b>														

\_\_\_\_\_  
Officer-in-Charge



# Deliveries and Health Problems of Reproduction Monthly Record

Name of L.G.P. \_\_\_\_\_

Month and Year \_\_\_\_\_

Health Unit \_\_\_\_\_

Date Days of Month	Deliveries Attended					Among deliveries attended				
	By formally- Trained staff		By Trained TBAS		TOTAL	Live births		Still births		Maternal death
	M	F	M	F	M	F	M	F		

\_\_\_\_\_  
Officer-in-charge

# IMMUNIZATION MONTHLY RECORD

Health Unit \_\_\_\_\_

Name of L.G.A. \_\_\_\_\_

Month and Year \_\_\_\_\_

Date	IMMUNIZATIONS																			
	D. P. T.						POLIO								B.C.G		MEASLES		T. T.	
	Under 1 year			1 yr and above			Under 1 year				1 year and above				< 1 yr	≥ 1	< 1	> 1	1st dose	2nd dose
	1st dose	2nd dose	3rd dose	1st dose	2nd dose	3rd dose	1st dose	2nd dose	3rd dose	4th dose	1st dose	2nd dose	3rd dose	4th dose						
Days of the month																				
TOTAL																				

\_\_\_\_\_  
Officer in Charge

# ENVIRONMENTAL HEALTH MONTHLY RECORD at health unit

Health Unit \_\_\_\_\_

Name of L.G.A. \_\_\_\_\_

Month and Year \_\_\_\_\_

Date Days of Month	Environmental		Health	Activities		
	New Bore Holes	New dug wells	New Stand Pipes	New Latrines	No of Sanitary- Inspection	No of Food hygiene Inspections.
TOTAL						

\_\_\_\_\_  
Officer in Charge

HEALTH EDUCATION ACTIVITIES MONTHLY RECORD at health unit

Health Unit: \_\_\_\_\_

Name of L.G. U. \_\_\_\_\_

Month and Year \_\_\_\_\_

Date Days of the Month	Health Education		Activities	
	No of Homes Visited	No of Home Re-visited	No of Health Education- Sessions	No of nutritional demonstrations.
<b>TOTAL</b>				

\_\_\_\_\_  
Officer-in-Charge

HEALTH UNIT MONTHLY SUMMARY REPORT ON SELECTED SUPPLIES  
 - at health unit

Name of L.G.A. \_\_\_\_\_

Health Unit \_\_\_\_\_ Month & Year \_\_\_\_\_

ITEMS	QUANTITIES		
	Received during the month	Use during the month	Balance at end of month
Procaine-Penicillin G (vials of) 4 mega Unit			
chloroquine tablets (in thousands)			
Measles Vaccine doses			
Vaccine (dose) B C G			
DPT Vaccine (doses)			
Polio Vaccine (doses)			

Officer in Charge

ATTACHMENT 3:

ROUTINE REPORTING FORMS, EPI

11/11

NAME OF VACCINATION SITE \_\_\_\_\_  
 DATE OF REPORT \_\_\_\_\_  
 SIGNATURE OF REPORTER \_\_\_\_\_

VACCINATION TALLY SHEET  
 (Immunization Site)

TYPE OF VACCINES	(UNDER ONE YEAR)	
	< - 1 YEAR	12 - 24 MONTHS
B.C.G.		
D.P.T. 1		
POLIO 1		
D.P.T. 2		
POLIO 2		
D.P.T. 3		
POLIO 3		
MEASLES		
TOTAL		

GRAND TOTAL ( < - 1 YEAR + 12-24 MONTHS ) \_\_\_\_\_

New Cases (Monthly Number) \_\_\_\_\_

No. of Completed Cases \_\_\_\_\_

T.T. to Pregnant Mothers: 1st Shot \_\_\_\_\_

T.T. to Pregnant Mothers: 2nd Shot \_\_\_\_\_

T.T. to Pregnant Mothers: TOTAL \_\_\_\_\_

A VACCINATION TALLY SHEET IS USED TO RECORD THE NUMBER AND TYPES OF VACCINATIONS GIVEN DURING EACH VACCINATION SESSION.





L.G.A. REPORTING \_\_\_\_\_

NIGERIA: LGA MONTHLY IMMUNIZATION ACTIVITY PERFORMANCE MONITOR

1. No. of Immunization Sites:

- Static \_\_\_\_\_
- Outreach \_\_\_\_\_
- Mobile \_\_\_\_\_

<u>No. of Sessions Planned</u>	<u>Number Held</u>	<u>% Held</u>
Static _____	_____	_____
Outreach _____	_____	_____
Mobile _____	_____	_____

3. Was there any breakdown in the Cold Chain?

Yes  No

If yes, specify problem and mention action taken:

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

4. Were there enough vaccines and supplies in the LGA during the month to meet all needs?

Yes  No

If no, specify:

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

5. How many immunization sites were supervised during the month? \_\_\_\_\_

6. What percent of monthly target population of under 1 was immunized with:

	<u>Monthly Immunization</u>	<u>Monthly Target</u>	<u>% Coverage</u>
BCG	_____	_____	_____
DPT 1	_____	_____	_____
POLIO 1	_____	_____	_____
DPT 2	_____	_____	_____
POLIO 2	_____	_____	_____
DPT 2	_____	_____	_____
DPT 3	_____	_____	_____
POLIO 3	_____	_____	_____
MEASLES	_____	_____	_____
T.T. 1	_____	_____	_____
T.T. 2	_____	_____	_____

7. Other issues for the attention of the State EPI Manager:

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

NIGERIA: EPI SUPERVISORY CHECKLIST - IMMUNIZATION SITE

1. Cold Box Temperature (0-8°) \_\_\_\_\_
  2. Is there sufficient vaccine to meet all needs? Yes  No   
If no, what is problem? \_\_\_\_\_
  3. Are all children 0-23 months visiting clinic screened for immunization?  
Yes  No  If not, why? \_\_\_\_\_
  4. Is every child screened as soon as he/she comes and vaccinated straight or they are accumulated till all mothers arrive?  Screened and vaccinated  
 Accumulated
  5. Are vaccine dilutions (PCG and Measles) done with cold diluent in correct volume? Yes  No
  6. Are all immunizations given with sterile needle and syringe? Yes  No   
If not, why? \_\_\_\_\_
  7. Are vaccine dosage correct?
 

Folio - check vial label 2 drops or 3 drops	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
BCG 0.05 ml (0 - 11 months)	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
0.1 ml (12 - 23 months) Intradermal	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
DPT 0.5 ml intramuscular	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
Measles 0.5 ml subcutaneous	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
  8. Are mothers informed about:
 

Possible reactions	Yes	<input type="checkbox"/>	No	<input type="checkbox"/>
How to treat	Yes	<input type="checkbox"/>	No	<input type="checkbox"/>
When to return	Yes	<input type="checkbox"/>	No	<input type="checkbox"/>
  9. Is there a smooth flow of patients? \_\_\_\_\_
  10. Are staff friendly to mothers? \_\_\_\_\_
  11. Is record keeping and reporting system in accordance with the standard format? Yes  No   
If not, why? \_\_\_\_\_
  12. Other observations: \_\_\_\_\_
- Date \_\_\_\_\_ Signature \_\_\_\_\_  
 L.G.A. \_\_\_\_\_ Clinic in Charge \_\_\_\_\_  
 Clinic \_\_\_\_\_  
 Supervisor \_\_\_\_\_

NAME OF VACCINATION SITE \_\_\_\_\_  
 DATE OF REPORT \_\_\_\_\_  
 SIGNATURE OF REPORTER \_\_\_\_\_

VACCINATION TALLY SHEET  
 (Immunization Site)

TYPE OF VACCINES	(UNDER ONE YEAR)	
	< 1 YEAR	12 - 24 MONTHS
B.C.G.		
D.P.T. 1		
POLIO 1		
D.P.T. 2		
POLIO 2		
D.P.T. 3		
POLIO 3		
MEASLES		
TOTAL		

GRAND TOTAL (< 1 YEAR + 12-24 MONTHS) \_\_\_\_\_

New Cases (Monthly Number) \_\_\_\_\_

No. of Completed Cases \_\_\_\_\_

T.T. to Pregnant Mothers: 1st Shot \_\_\_\_\_

T.T. to Pregnant Mothers: 2nd Shot \_\_\_\_\_

T.T. to Pregnant Mothers: TOTAL \_\_\_\_\_

A VACCINATION TALLY SHEET IS USED TO RECORD THE NUMBER AND TYPES OF VACCINATIONS GIVEN DURING EACH VACCINATION SESSION.

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L.G.A. REPORTING \_\_\_\_\_

NIGERIA: LGA MONTHLY IMMUNIZATION ACTIVITY PERFORMANCE MONITOR

1. No. of Immunization Sites:

- Static \_\_\_\_\_
- Outreach \_\_\_\_\_
- Mobile \_\_\_\_\_

2. No. of Sessions Planned

Number Held

% Held

Static	_____	_____	_____
Outreach	_____	_____	_____
Mobile	_____	_____	_____

3. Was there any breakdown in the Cold Chain?

Yes  No

If yes, specify problem and mention action taken:

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

4. Were there enough vaccines and supplies in the LGA during the month to meet all needs?

Yes  No

If no, specify:

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

5. How many immunization sites were supervised during the month? \_\_\_\_\_

6. What percent of monthly target population of under 1 was immunized with:

	<u>Monthly Immunization</u>	<u>Monthly Target</u>	<u>% Coverage</u>
BCG	_____	_____	_____
DPT 1	_____	_____	_____
POLIO 1	_____	_____	_____
DPT 2	_____	_____	_____
POLIO 2	_____	_____	_____
DPT 2	_____	_____	_____
DPT 3	_____	_____	_____
POLIO 3	_____	_____	_____
MEASLES	_____	_____	_____
T.T. 1	_____	_____	_____
T.T. 2	_____	_____	_____

7. Other issues for the attention of the State EPI Manager:

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_



NIGERIA: EPI SUPERVISORY CHECKLIST - IMMUNIZATION SITE

1. Cold Box Temperature (0-8°) \_\_\_\_\_
2. Is there sufficient vaccine to meet all needs? Yes  No   
If no, what is problem? \_\_\_\_\_
3. Are all children 0-23 months visiting clinic screened for immunization?  
Yes  No  If not, why? \_\_\_\_\_
4. Is every child screened as soon as he/she comes and vaccinated straight or they are accumulated till all mothers arrive?  
 Screened and vaccinated  
 Accumulated
5. Are vaccine dilutions (BCG and Measles) done with cold diluent in correct volume? Yes  No
6. Are all immunizations given with sterile needle and syringe? Yes  No   
If not, why? \_\_\_\_\_
7. Are vaccine dosage correct?  

Folio - check vial label 2 drops or 3 drops		<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
BCG 0.05 ml (0 - 11 months)	Intradermal	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
0.1 ml (12 - 23 months)		<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
DPT 0.5 ml intramuscular		<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
Measles 0.5 ml subcutaneous		<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
8. Are mothers informed about:  

Possible reactions	Yes	<input type="checkbox"/>	No	<input type="checkbox"/>
How to treat	Yes	<input type="checkbox"/>	No	<input type="checkbox"/>
When to return	Yes	<input type="checkbox"/>	No	<input type="checkbox"/>
9. Is there a smooth flow of patients? \_\_\_\_\_
10. Are staff friendly to mothers? \_\_\_\_\_
11. Is record keeping and reporting system in accordance with the standard format?  
Yes  No   
If not, why? \_\_\_\_\_
12. Other observations: \_\_\_\_\_

Date \_\_\_\_\_ Signature \_\_\_\_\_  
 L.G.A. \_\_\_\_\_ Clinic in Charge \_\_\_\_\_  
 Clinic \_\_\_\_\_  
 Supervisor \_\_\_\_\_

ATTACHMENT 4:  
ROUTINE REPORTING FORMS, ORT

**MONTHLY EPI/ORT REPORT AND REQUEST**  
(FEDERAL OSHODI STORES)

**TO BE SUBMITTED WITH ALL EPI/ORT REQUESTS**

YEAR \_\_\_\_\_

REPORTING MONTH ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( )  
JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC

REPORT SUBMITTED BY \_\_\_\_\_ (NAME) \_\_\_\_\_ (STATE)

SECTION I VACCINE ON HAND AT BEGINNING OF MONTH	Vaccine		Number of Doses		
		B.C.C.			
		D.P.T.			
		POLIO			
		MEASLES			
		T.T.			
SECTION II VACCINE USAGE	Vaccine	Total Doses Used	Number of Immunizations Given		USAGE
	B.C.C.				
	D.P.T.				
	POLIO				
	MEASLES				
	T.T.				
SECTION III VACCINE ON HAND AT END OF MONTH	Vaccine		Number of Doses		Expiration Date
		B.C.C.			
		D.P.T.			
		POLIO			
		MEASLES			
		T.T.			
SECTION IV VACCINE REQUEST	Vaccine	VACCINE ON HAND AT DAY OF COLLECTION		REQUESTED	RECEIVED
		No. of Doses		No. Doses	No. Doses
		B.C.C.			
		D.P.T.			
		POLIO			
		MEASLES			
	T.T.				
SECTION V ORAL REHYDRATION SALTS	PACKETS ON HAND AT BEGINNING OF MONTH	PACKETS USED DURING MONTH	PACKETS ON HAND AT DAY OF COLLECTION	NUMBER OF PACKETS REQUESTED	NUMBER OF PACKETS RECEIVED
	1 Litre				
	600 ml				
	6 Litre				
SECTION VI OTHER VACCINES REQUESTED	VACCINE	USE LAST 3 MONTHS	ON HAND	REQUESTED	RECEIVED
	Y/FEVER				
	CHOLERA				
	C.S.M.				

REMARKS \_\_\_\_\_

FEDERAL EPI GOLD CHAIN CO-ORDINATOR, FED. OSHODI STORES.

NATIONAL EPI/ORT CO-ORDINATOR, FEDERAL EPID. DIVISION.

SIGNATURE OF REQUESTING STATE OFFICIAL \_\_\_\_\_

(TITLE) \_\_\_\_\_ (STATE) \_\_\_\_\_





MONTHLY DIARRHOEA REPORTING,  
ORS USAGE AND REQUEST FORM

(CDD/ORT UNIT)

HEALTH FACILITY:

Hospital

Reporting Month

Health Centre

AGE	NO. OF DIARRHOEA CASES	TREATMENT			OUTCOME		
		ORS	i/v	OTHERS	RECOVERED	DEATH	REFERRED/ ADMITTED
4 Years and Under ( <- 4)							
5 Years and Over ( 5 ->)							
TOTALS							

	ORS PACKET SIZE		
	1 LITRE	600 ML	6 LITRE
Quantity Received During Month			
Quantity Used			
Quantity in Stock			
Quantity Needed Next Month			

\_\_\_\_\_  
Signature of Reporting Officer

\_\_\_\_\_  
Reporting Unit

\_\_\_\_\_  
Name (Print)

\_\_\_\_\_  
Date

ATTACHMENT 5:

ROUTINE REPORTING FORMS, FAMILY PLANNING



SUMMARY OF FAMILY PLANNING USERS & CONTRACEPTIVES ISSUED/DISPENSED

*1 x 10/10/10*

CLINIC \_\_\_\_\_ ZONE \_\_\_\_\_ STATE \_\_\_\_\_

REPORTING PERIOD: FROM (Month) \_\_\_\_\_ TO (Month) \_\_\_\_\_, 19 \_\_\_\_\_

	No OF CLIENT VISITS	ORAL CONTRACEPTIVES					IUCD'S					FOAMING TABLETS	INJECTION	CREAM, JELLY, FOAM	DIAPHRAGM(S) (One Size)	MFP KITS	OTHER (Specify)	ZONE (Specify Zone)
		FEMENAL	MORIDAY	NEOGYNON	EUGYNON	OTHER	LIPPES C	LIPPES D	Cu T	OTHER	CONDOMS							
CLIENTS																		
ACCEPTORS																		
DISPENSED																		
TOTAL VISITS																		
INITIALS																		
AMOUNT																		
ISSUED																		
ISSUED, ISSUED																		
ISSUED, BALANCE																		

1x st. tex n-7h

MONTH	ACCEPTERS		ACCEPTERS		ACCEPTERS		ACCEPTERS		ACCEPTERS		ACCEPTERS	ACCEPTERS	
	PILLS		TUCD		CONTINUOUS		FOAM TABS		INJECTIONS		OTHER	TOTAL	
	NEW	C/USER	NEW	C/USER	NEW	C/USER	NEW	C/USER	NEW	C/USER		NEW	C/US
JAN.													
FEB.													
MAR.													
APR.													
MAY													
JUNE													
JULY													
AUG.													
SEP.													
OCT.													
NOV.													
DEC.													
TOTAL													

TOTAL NEW ACCEPTERS = \_\_\_\_\_

TOTAL CONTINUOUS USERS = \_\_\_\_\_

GRAND TOTAL = \_\_\_\_\_

NUMBER OF CLINICS REPORTING \_\_\_\_\_

YEAR \_\_\_\_\_

12/6

CONTRACEPTIVE SUPPLY STATUS

(New) 1st 5th month  
NOT YET IN USE!

LOCATION CODE

--	--	--	--	--	--

DATE OF REPORT

19

NAME OF LOCATION

REGION

DISTRICT

REPORTING PERIOD: FROM (MONTH)

TO (MONTH)

19

CONTRACEPTIVE METHOD	BEGINNING BALANCE	RECEIVED	DISPENSED, ISSUED	ENDING BALANCE	REQUESTED	ISSUED
FEMENAL						
NORIDAY						
NEOGYNON						
EUGYNON						
OTHER ORAL						
LIPPES C						
LIPPES D						
Co T						
OTHER IUD						
COLORED CONDOMS						
PLAIN CONDOMS						
FOAMING TABLETS						
INJECTION						
CREAM, JELLY, FOAM						
STERILIZATION						
DIAPHRAGM						
HFP KIT						
OTHER						
OTHER						
OTHER						

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ATTACHMENT 6:

ALTERNATIVE HARDWARE SYSTEMS AND INITIAL SOFTWARE  
REQUIREMENTS FOR THE MINISTRY

ALTERNATIVE HARDWARE SYSTEMS AND INITIAL SOFTWARE REQUIREMENTS  
FOR THE MINISTRY OF HEALTH

Since the Ministry's existing microcomputer system and the microcomputer systems already running in related sections of the Federal Government of Nigeria are IBM PC's, and since Ministry of Health staff have been trained in use of IBM software, it is appropriate to standardize on IBM-compatible equipment for future procurement.

HARDWARE

A wide variety of computer vendors sell "IBM-compatible" hardware. Some of this hardware is in fact entirely "compatible"; some is not. Some vendors are reputable and stable, and some are not. Two alternative hardware systems are shown below: the IBM PC/AT itself, and the Compaq DeskPro 286. The Compaq was selected as an alternative to the IBM because it is entirely compatible, because several Compaq machines have already been successfully installed in Lagos, because the Compaq is reputed to be more rugged and reliable than the IBM, and because it is substantially less expensive.

Regardless of whether IBM or Compaq is selected, it is suggested that an Iomega 20 + 20 megabyte external hard disk be used for each machine, rather than an internal hard disk. This strategy will allow easy backup of system programs and data, since the Iomega uses two 20 megabyte removable disk cartridges, and staff can simply copy one cartridge to the other. This strategy will facilitate data protection, since staff working on different projects can remove their disk cartridge and take it away. The Iomega 20+20 hard disk costs substantially less than the technically equivalent alternative (use of an internal hard disk plus a tape backup system).

In both cases, the maximum system configuration is shown, due to the small price difference between minimum and maximum systems relative to the high cost of procuring, shipping, and importing the equipment to Nigeria. In light of these costs, and the long lead times which will likely be involved in procurement of the systems, it seems most reasonable to initially procure the largest affordable machines. Networking hardware and software which could in the future be used to link inexpensive PC's to the larger machines is also discussed below.

1. ALTERNATIVE 1: IBM PC/AT HARDWARE

<u>Part Number</u>	<u>Quantity</u>	<u>Description</u>
5170068	1	PC/AT System Unit with 512K RAM, 1.2MB Diskette Drive
6450207	1	PC/AT 360KB Diskette Drive
5154001	1	Enhanced Color Display - ECD

<u>Part Number</u>	<u>Quantity</u>	<u>Description</u>
1501200	1	Enhanced Graphics Adaptor - EGA
6450211	1	AT-MATH CO-PROCESSOR
6205093	1	Maestro 128K Multi-Function Card
1525612	1	Printer Cable - Approx. 6'
56X9792	1	Proprinter XL
S0700030	1	Iomega Alpha 20 Bernoulli Box Dual Drive (20 + 20 MB) Subsystem
S0700046	1	Iomega Advanced IBM Bootable Interface
	1	Complete set of diagnostic and service manuals.

IBM does not sell the Iomega drive itself; the drive and interface would have to be procured separately.

If a decision is made to procure IBM hardware, but the price of the above configuration is too high, then a monochrome display can be substituted for the color display. A monochrome system would be US\$500 - US\$800 less expensive (depending on discounts available), but would not be able to take advantage of the many software packages which use color. If such a strategy seems desirable, then the following items:

5151001	1	IBM Monochrome Display
1504900	1	Display and Printer Adapter Card

should be substituted for the Enhanced Color Display and the Enhanced Graphics Adaptor. Such a system would be workable, but less desirable. If cost is a significant issue, the Compaq would be a better choice.

## 2. ALTERNATIVE 2: COMPAQ DESKPRO 286 HARDWARE

The less expensive, technically equivalent alternative to the above hardware configuration is the Compaq DeskPro 286, as follows:

<u>Quantity</u>	<u>Description</u>
1	Compaq DeskPro 286 (desk top) computer with 640KB memory
1	high density (1.2MB) floppy disk drive
1	low density (360KB) floppy disk drive
1	RS-232C serial port
1	Parallel port
1	Quadram EGA Color Graphic Controller
1	Princeton HX-12E Color Monitor
1	Internal, battery operated clock
1	80287 8 Mhz. (Intel) Math Co-processor
1	Epson LQ-1000 printer with tractor feed and cable (parallel interface)
1	Iomega Alpha 20 Bernoulli Box Dual Drive (20 + 20 MB) Subsystem

<u>Quantity</u>	<u>Description</u>
-----------------	--------------------

- |   |  |
|---|--|
| 1 | Iomega Advanced IBM Bootable Interface   |
| 1 | Complete set of diagnostic and service manuals. (Specify that the system is destined for Lagos, Nigeria, which has no authorized service center for Compaq equipment.) |

### ACCESSORIES AND SUPPLIES

It is essential that adequate supplies be imported for each machine. Each computer installation will require:

- |     |   |
|-----|---|
| 1   | Head cleaning kit for 5.25" Diskette Drives |
| 200 | 5.25" DSQD (high density) floppy diskettes  |

The Iomega hard disk will require:

- |   |   |
|---|---|
| 1 | 8" Drive "Cleaning Care Kit", part number S0100003                            |
| 5 | 20 MB Cartridge Tri-Pack, part number S0700027<br>(e.g., 15 cartridges total) |

The printer will require:

- Extra ribbons
- Paper

(No investigation of the availability of either ribbons or computer paper was made at the time of this visit. A printer ribbon will last from one to three months, depending on the amount of utilization. If ribbons are not locally available, several year's supply should be ordered with each machine. Pin feed paper will also have to be procured if it is not locally available.)

### SPARE PARTS

IT IS ABSOLUTELY ESSENTIAL THAT ADEQUATE STOCKS OF SPARE PARTS BE IMPORTED AT THE TIME HARDWARE IS PROCURED. At the time of this consultancy visit, the National Population Bureau's IBM 370/145 -- equipment worth hundreds of thousands of dollars -- had been down for nearly six months for want of parts for its power system. It is strongly recommended that an additional complete system be imported and held in reserve for use only when one of the Ministry's production systems goes down for repairs. In ADDITION to such a reserve system, the following spare parts should be imported and kept in stock for repair purposes:

- |   |  |
|---|--|
| 1 | Extra Power Supply for each two production systems in service (minimum, 1 spare)           |
| 1 | Extra 1.2MB Diskette Drive for each three production systems in service (minimum, 1 spare) |

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- 1 Extra 360KB Diskette Drive for each three production systems in service (minimum, 1 spare)
- 1 Extra Printer Cable
- 1 Extra Print Head

If IBM configuration is chosen:

- 2 Banks (18 chips each) 150 ns, 256K memory cards
- 1 Bank (9 chips) 150 ns, 64K memory card

If Compaq configuration is chosen:

- 2 Banks (18 chips each) 150 ns, 64K memory cards

### SOFTWARE

A complete software needs analysis was not undertaken during this brief consultancy visit. At minimum, the following software packages, along with complete user documentation, will be required for each installation:

- MS-DOS, Version 3.0 or later
- Lotus 1-2-3, Release 2 or later
- WordStar, Version 3.3 or later
- dBASE-III Plus with LAN
- Norton Utilities
- SPSS PC Plus

### NETWORKING HARDWARE AND SOFTWARE

The major limitation of the Ministry's current IBM PC is that only one person can use it at a time. For many -- perhaps most -- of the potential applications of the Ministry, the time required for data entry will be the major constraint. Accordingly, it will be very desirable to establish hardware and software systems which have (or can be expanded to have) multiuser capability. The most cost-effective way to establish such capability is to have one larger machine (the PC/AT or Compaq 286 systems specified above) connected by a "Local Area Network", to one or more smaller machines (for example, plain IBM PC's, which may cost as little as U.S. \$ 1,500). The larger machine is called the "server", and is used to maintain the data bases and communications network, and to manage the various peripheral devices (e.g., the Iomega hard disk and the printer). The smaller machine(s) can be used independently for smaller jobs (e.g., word processing), as well as for data entry to the server's data bases. Any machine in the network can access any of the peripheral devices independently, allowing, for example, multiple users to share a single printer.

Either of the above systems can support a Local Area Network. If budgets permit, hardware and software for this function should be procured at the time the initial hardware procurement is made. If the initial procurement is to include more than one machine for any section of the Ministry, consideration should be given to setting up a network system

immediately, rather than procuring multiple AT's or 286's which are not interconnected.

A local area network system requires an additional piece of hardware for each machine which will be linked into the network, additional software for the network as a whole, and perhaps additional communications devices depending on the number of machines to be included in the network. Again, two alternative networking systems, one sold directly by IBM and an IBM-compatible system have been investigated. It should be noted that neither of these networking systems have been tested by JSI, and it is STRONGLY suggested that the systems be tested before a final procurement decision is made. Specifications for these alternative systems are as follows.

1. ALTERNATIVE 1: IBM TOKEN RING NETWORK SYSTEM

Each network requires one copy of the following software:

- 1 IBM PC Network Program v1.1, part number 6280083
- 1 IBM Token Ring NETBIOS Program, part number 6467037

Each machine to be included in the network requires the following hardware:

- 1 IBM PC Token Ring Adapter Card, part number 6339100
- 1 IBM Cabling System Component Housing, part number 6091078

For each eight machines to be included in the network, the following hardware is required:

- 1 MultiStation Adapter, part number 6091014

2. ALTERNATIVE 2: NOVELL ARCNET TOKEN RING NETWORK SYSTEM

For the first two machines to be connected, the following package is required:

- 1 Advanced NetWare/SM-2, two ArcNet interface cards with 20' RG-62 cables, keycard, NetWare OS operating system, manuals, part number 850-41-001

For each additional machine beyond the initial two, the following hardware is required:

- 1 ArcNet Interface Card with 20' RG-62 cable, part number 883-24-001

And for each three machines to be located up to 100' from the server:

- 1 ArcNet Passive Hub, 4 ports, part number 132-56-001

(If machines are to be located more than 100' from the server, a different hub is required. Additional hard disks can also be added.)

ATTACHMENT 7:

SPECIFICATIONS FOR PROTECTED BATTERY POWER SYSTEMS FOR  
MICROCOMPUTERS

14/01

**SPECIFICATIONS FOR PROTECTED BATTERY POWER SYSTEMS**  
**FOR MICROCOMPUTERS**

A significant problem in use of microcomputers in both the developing and the developed world is providing a clean and consistent source of power for the equipment. The difficulty is not limited to power outages, but also includes voltage variations of long duration ("surges" and "sags"), sudden short voltage variations ("spikes"), and variations in frequency (cycles). The limited protection built into most microcomputers is NOT adequate for the wide variations in electrical power experienced in most of the developing world, and it is quite possible to "fry" an unprotected machine with a voltage spike so short that it is invisible to the human eye.

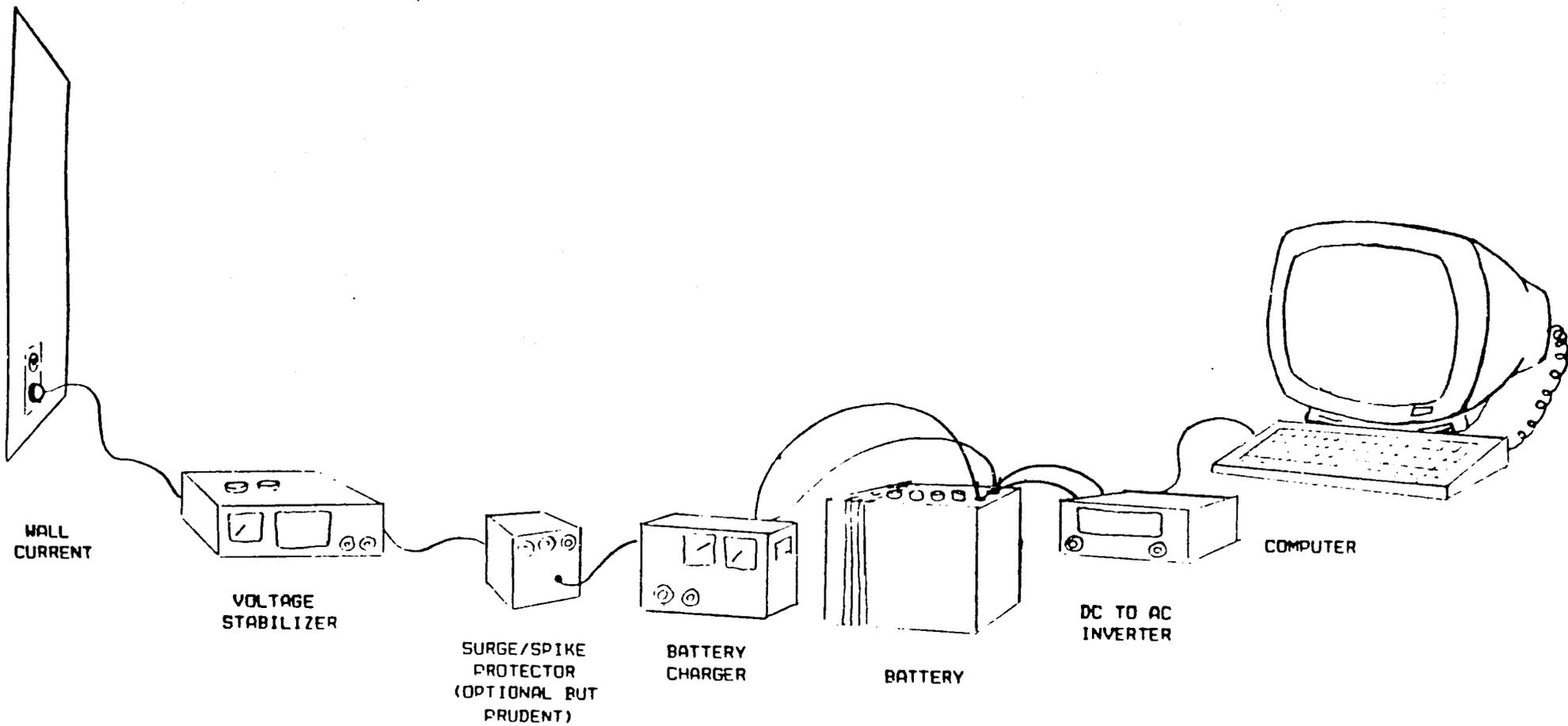
A variety of private companies in the developed world market Uninterruptable Power Supplies, or UPS's, which provide both protection and continuous current. Unfortunately, these UPS's are designed to provide clean power in the developed world. Some cannot handle the larger variations frequently encountered in the developing world, and most provide only a few minutes of reserve power. Many commercially available UPS's are bulky and heavy, which is a problem if they are to be shipped long distances, and most are quite expensive relative to the cost of the microcomputer itself.

Fortunately, it is possible to put together a less expensive and much more appropriate battery power system from individual components, some or all of which are typically available in most developing countries. Such a system (originally developed in Nepal by Dr. Gerold van der Vlugt of the U.S. Agency for International Development) is shown in Figure 1. This system fully protects the microcomputer equipment, and allows four to eight hours of computer operation in the event of a complete power outage. In addition, all but the least expensive components of the power system itself can be protected from extreme variations in the wall current. Anyone with sufficient mechanical skills to install a car battery can construct such a system, presuming all the components are available.

In the power systems originally developed for Nepal, the wall current was routed to a locally-purchased, Japanese-made voltage stabilizer. Such stabilizers should be available in most developing countries, since they are needed for other types of electrical appliances (e.g., refrigerators). The voltage stabilizer takes as input whatever the wall current provides, and produces as output either 110 or 220 volt AC current, or both. Unfortunately, most voltage stabilizers available in the developing world are mechanical, and there is therefore a time lag between changes in wall current and the stabilizer's adjustment. Worse, some stabilizers are designed to produce output within a specified range (e.g., 220 volts plus or minus 20). Few stabilizers provide protection against sudden voltage spikes, which pass through so quickly that the stabilizer cannot respond. Thus voltage stabilizers alone are adequate for refrigerators, but not for computers.

POWER AND PROTECTION SYSTEMS

FOR MICROCOMPUTER EQUIPMENT



The output of the voltage stabilizer should therefore be routed into a surge/spike protector. In Nepal, protection is provided by a simple safety switch that instantaneously opens (cuts out) if the voltage is not within a small range of 110 or 220. This switch is placed just after the voltage stabilizer, in order to protect the rest of the power system as well as the computer.

Surge/spike protection switches that are fit either onto the wall socket or onto the computer itself are now available from several computer equipment manufacturers. These switches close if a surge or spike is detected, instantly grounding the circuit to which they are attached. The advantage of this type of switch is that the power in the circuit stays on. The disadvantage is that it is ESSENTIAL that the circuit be properly grounded to true earth, which is frequently not the case in the developing world. If such a switch is used on the computer, then the separate surge/spike protector shown in Figure 1 can be eliminated, IF AND ONLY IF a proper ground can be guaranteed.

In any event, the AC current goes next into a standard 12 volt battery charger. These are available in the United States at any auto parts store and most department stores, and are also usually available in developing countries. A 10 ampere charger is the absolute minimum needed for a typical single-microcomputer installation, and a higher-capacity charger should be used if at all possible. An automatic charger, which shuts itself off when the battery is fully charged, is very convenient, since it is frequently necessary to run the charger longer than the computer itself runs in order to keep the battery fully charged. If a simple manual charger is used, it is helpful to install a small muffin fan (available from all electronics and radio stores) to cool the charger, since most simple chargers are not designed to be run for extended periods of time.

If locally-available chargers are sufficiently robust to operate from the wall current directly without damage, then the voltage stabilizer discussed above can be eliminated, since the battery itself provides ample protection for the computer.

The battery charger is connected to a regular 12 volt car or truck battery. The length of time that the computer can operate when the wall current is completely out depends, of course, on the size of the battery. A fully charged 12 volt 200 amp-hour truck battery will run a small microcomputer with no hard disk for about eight hours. A machine with a hard disk can be run for about four hours. An important note: the battery water should be checked at least monthly and topped up as necessary, lest it deliver less than the required 12 volts. Another important note: the computer should never be run until the battery is completely discharged, since most power inverters are not protected against low input voltage, and may in such cases deliver less than the required output voltage.

The battery is connected to a 12 volt DC to AC power inverter, which outputs either 110 or 220 volt AC current. Inverters may or may not be available in-country (they are manufactured locally in Nepal), but are readily available from electronics supply houses in the developed world. A 500 watt inverter is sufficient for a small microcomputer with or without

a hard disk drive, but may not be sufficient to run the printer as well. A frequency-controlled model gives better performance for some microcomputers than the simpler inverters, and is not much more expensive.

Finally, the computer and its peripheral devices are connected to the inverter. The machine always runs from clean power delivered by the inverter through the battery, and is thus completely protected from variations or outages in the wall current. Whenever the wall current is on, the battery is charged, so that the system is always fully charged when the wall current goes out.

If the battery system proves too small to run the printer as well as the computer, then the printer can be connected between the surge/spike protector and the battery charger shown in Figure 1, and used only when the wall current is on. In this case, separate surge/spike protection as shown in Figure 1 is much better than having surge/spike protection only on the computer itself. Connecting the printer directly to the output of a voltage stabilizer is possible, but not prudent.

This power system is inexpensive in comparison with most UPS's available in the developed world. The most expensive components are likely to be the truck battery and the voltage stabilizer, depending on local purchasing conditions. A top quality frequency controlled 500 watt power inverter ordered from the United States at this writing costs less than U.S. \$300; a 1000 watt model costs about U.S. \$425. Simple manual battery chargers cost less than U.S. \$50. Spike protectors range in price from less than U.S. \$10 to \$50. All of these parts are light, and therefore inexpensive to ship.

As this discussion indicates, no electronics or electrical skills are required to construct such a power system from the individual components, unless it is necessary to install a muffin fan on the charger or to ground the power circuit to which the system is to be attached, both simple processes which any competent electrician can perform. Where individual components are not locally available, it may be possible to interest local electronics firms in producing them, since such power systems can have wide application outside the microcomputer field (e.g. video recorders). In Nepal, for example, ALL the components of these power systems are constructed and maintained locally, and presently provide clean, safe power for some one hundred microcomputers in use in both public and private sectors.

Any questions regarding how to construct these power systems can be addressed to:

Mr. Richard C. Owens, Jr.  
Vice President  
John Snow, Inc.  
210 Lincoln Street, 6th Floor  
Boston, MA 02111  
USA

Phone: 617-482-9485  
Telex: 200178 JSI UR

Dr. Gerold V. van der Vlugt  
Chief of Health, Population, and  
Nutrition, Africa Bureau  
U.S. Agency for International  
Development  
Department of State  
AID/AFR/TR/HPN  
Washington, D.C. 20523  
USA

Phone: 202-647-8174

ATTACHMENT 2:

LIST OF PRIMARY PERSONS CONTACTED

LIST OF PRIMARY PERSONS CONTACTED

1. Directorate for National Health Planning and Research, Federal Ministry of Health  
Dr. A. B. Sulaiman, Director  
Dr. A. O. Okusanya, Director, National Health Planning Unit  
Dr. B. A. A. Dada, Chief Consultant, Medical Statistics Division  
Dr. O. A. Adelaja, Senior Consultant, Medical Statistics Division  
Mr. T. A. Ubuane, Senior Medical Records Officer (Statistics), Medical Statistics Division
  
2. Primary Health Care Coordinating Unit, Federal Ministry of Health  
Dr. A. D. Kolawole, Chief Coordinator (Primary Health Care)
  
3. Directorate for Public Health Services, Epidemiological Division, Federal Ministry of Health  
Mr. Gideon Chiazor, Senior Medical Records Officer  
Mr. Paul Lichfield, UNICEF/CDC Advisor
  
4. National Population Bureau  
Dr. B. C. Morah, Research and Training Officer  
Mr. I. A. Akinnola, Chief (Computer Division)  
Mr. B. D. Adeniyi, Operations Manager  
Ms. B. Bukumirovic, UNFPA Advisor
  
5. Federal Office of Statistics  
Mr. O. E. Umoh, Director  
Mr. John Robertson, U.S. Bureau of the Census Advisor
  
6. AID/Lagos  
Mr. L. R. Eicher, Health Development Officer  
Ms. H. O. Shitta, Program Specialist  
Mr. R. O. Callisto, Commodities Field Officer  
Mr. A. A. Iginla, Logistics Specialist
  
7. UNICEF/Lagos  
Mr. R. R. N. Tuluhungwa, Resident Representative  
Mr. G. R. Gleason, Programme Communication Officer

8. UNFPA/Lagos

Dr. K. B. Sagoe, National Programme Officer  
Mr. G. Nsiah, Senior Programme/Administrative Assistane

9. WHO/Lagos

Dr. H. C. A. M. van Vliet, Epidemiologist