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Second Revision

of

GUIDE LIST HYGEIA

Guide to UNICEF Aid for Maternity and Children's Services in Training and Service Hospitals

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Annexes A, B, C and D to SUNO-16 are being distributed separately. Each Annex comprises Parts I and II. Part III, devoted to x-ray equipment, will be issued upon completion of field tests on prototype units and WHO has made firm recommendations regarding approved models to UNICEF.

The Supplement to SUNO-16, on non-technical and specialized equipment, is under preparation and will be issued later.

(Additional copies of SUNO-16, complete, or of its separate components, may be requested from the Operational Services Unit, UNICEF Headquarters.)

KEY TO CATALOGUE REFERENCES

Code	Catalogue	
A & H	(1957)	Allen & Hanbury's Ltd., London, England
ALOE	No. 189 (1957)	A. S. Aloe Company, St. Louis, Mo., USA
AHSC	No. 110 (1959)	American Hospital Supply Corp., New York, N.Y., USA
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NALGENE	No. K-961	Nalge Company, Inc., Rochester, N.Y., USA
OLYMPUS	No. 38.10 3.MS	Olympus Optical Company Ltd., Tokyo, Japan
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Introductory Notes

List HYGEIA - Applicability and Function

1) List HYGEIA is offered as a guide and checklist for the preparation of requests for UNICEF aid to hospitals. It illustrates the nature and scope of equipment which UNICEF is prepared to provide in order to strengthen the maternity and child services in a general hospital for either training or service purposes.

HYGEIA, JASMIN, KATRINA, LENA - Before and After

2) The first revision of List HYGEIA showed the equipment UNICEF could provide to a large teaching hospital; the equipment that could be provided for smaller teaching hospitals was shown in Lists JASMIN and KATRINA. The first revision was applicable also to aid for a service hospital (district referral hospital) of 100 or more beds; the equipment that could be provided for a smaller service hospital of 30 to 50 beds was shown in List LENA. In the present revision of List HYGEIA, the material on hospital equipment, which has hitherto been spread over several lists, has now been consolidated in one list so as to simplify selection of the guide to follow when making up the Basic Supply List. HYGEIA now becomes the definitive listing for the hospital items in JASMIN/KATRINA (Part III-B) as well as in LENA (District Hospital).a/

Conditions of Assistance

3) The directive on UNICEF policy on aid to hospitals which accompanied previous editions of List HYGEIA is appended to these Introductory Notes. This provides the general background for the equipment lists of this guide. Part II of the Field Manual may also be consulted for general principles and practices on programming of aid to hospitals. Briefly, aid is given to hospitals only:

(a) when they are part of a co-ordinated plan for the extension of health services to the rural community, or

(b) when an integral part of the hospital's activities is to provide training in obstetrics and paediatrics for medical and para-medical personnel who will be working with mothers and children: doctors, midwives, general and paediatric nurses, public health nurses and auxiliary personnel.
(para.108 Part II of the Field Manual)

4) A hospital qualifying for UNICEF aid should:

(a) have an adequate proportion of its facilities and staff assigned to the care of mothers and children;

(b) have separate and distinct rooms for use as wards serving maternity, child and isolation patients;

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a/ The forthcoming revisions of JASMIN, KATRINA and LENA will take this into account.

(c) be adequately staffed by professional and technical personnel to meet the requirements of its training or service programme;

(d) have available safe water supply and other satisfactory sanitary arrangements in respect of excreta and waste disposal; and

(e) in the case of a referral hospital[a], be so situated as to be readily accessible for the transfer of patients from rural health centres.

What is Adequate?

5) There is no set rule on what proportion of the hospital's services should be assigned for MCH. What is "adequate" under one set of conditions may be impractical or unattainable in another. A common proportion met with in general hospitals - one-third to one-half, depending on the size of the hospital - has been used as the basis for the equipment lists, Annexes A through D (see para.10).

Staffing and Other Considerations

6) Suggested staffing patterns for teaching hospitals are outlined in paras. 9 and 10 of the Appendix. A minimum pattern that occurs fairly often in the case of small rural service hospitals of 25 to 30 beds is shown below b/. It is the pattern assumed for the purpose of constructing Annex A of this guide. It is not put forward as the ideal pattern; the ideal ratio of professional and technical staff to bed capacity and services is certainly larger.

7) Other considerations, pertinent to programming of aid to teaching hospitals, such as trainee accommodations, student enrolment, type and quality of training, are dealt with in the Appendix and in Part II of the Field Manual.

8) Where x-ray equipment is to be supplied, a hospital should have on its staff a medical officer or technician trained in the use of x-ray apparatus. Where laboratory equipment is to be supplied, a hospital should have on its staff a medical officer and/or technician(s) trained in clinical laboratory procedures.

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a/ A referral hospital would normally serve from two to five rural health centres which refer to the hospital such patients as require more skilful medical treatment. It should be capable of providing simple, effective medical care, whether on an in-patient or out-patient basis, for all patients referred from health centres.

b/ Staff for a small rural service hospital of 25 to 30 beds, half of which are for maternity and children patients:

1 doctor, having at least 2 years' practical experience;
5 nurses and midwives (including at least 2 fully qualified);
1 dispenser;
1 x-ray technician (optional);
1 laboratory technician; and
- auxiliary aides, as required.

Assumptions Regarding Services and Facilities

9) HYGEIA is not a list of all equipment and supplies that may be used in a general hospital. In the preparation of this list, it has been assumed that certain common services - surgery, kitchen, laundry, housekeeping, etc. - already exist; therefore HYGEIA is oriented primarily to basic equipment required to strengthen and expand the maternity and child services in such a hospital. A limited range of optional equipment to permit small referral hospitals to cope with minor and emergency surgery has been included; a wider range of optional equipment is available for larger hospitals able to offer some specialized medical and surgical care.

The Separate Annexes

10) In the present revision, the item listings are presented in the form of four annexes since it was not possible to tabulate the equipment of four different sizes of hospital, with explanatory notes, side by side. In a way, this form of presentation will be a convenience, as a copy of the relevant annex could be left with each requisitioner for use as a checklist and guide in the preparation of his particular requirements. The annexes are:

ANNEX A, listing the equipment UNICEF is prepared to provide to a 25-bed general hospital with approximately 8 and 4 beds, respectively, for maternity and child patients;

ANNEX B, listing the equipment UNICEF is prepared to provide to a 50-bed general hospital with approximately 16-20 maternity beds and 4-6 children beds;

ANNEX C, listing the equipment UNICEF is prepared to provide to a 100-bed general hospital with a 25-bed maternity unit and a 25-bed paediatric unit;

ANNEX D, listing the equipment UNICEF is prepared to provide to a 200-bed general hospital with a 50-bed maternity unit and a 25-bed paediatric unit.

The bed strengths referred to above are exclusive of bassinets.

Aid as Related to Size of Hospital

11) The aid that may be provided to hospitals with interim facilities for the care of mothers and children may be determined by comparing the equipment listed in the different annexes. The amount of aid would be related to the relative importance of the maternity and child services in a hospital and not to the size of the hospital alone. A large general hospital with few maternity and children beds will not necessarily qualify for more aid than a smaller hospital with a generous proportion of its bed complement assigned to MCH services.

12) The size of hospital represented by each annex is used here as a backdrop against which requirements might be conveniently framed. Fifty beds for mothers and children are more likely to be found in a general hospital of 100 or more beds; a general hospital of this size is more likely to qualify as a training hospital; a general hospital of this size is more likely to be in a position to provide some specialized medical and surgical care; for these considerations, the list for such a hospital includes a wider choice of equipment than the list for a small rural hospital which is expected to deal only with uncomplicated cases.

Clinic and Ward Equipment

13) Part I of each annex covers, in its seven sections A through G, the general clinic and ward equipment that can be provided for maternity and child services of a given size. The quantities and types listed are modest but adequate for good work. Provisions are made for the nursing services, including treatment room facilities, delivery and labour suite, nursery, and maternity and paediatric out-patient clinic. Some equipment for common services, such as sterilizers and surgical instruments, is included but furniture and non-technical equipment are not.

Laboratory Equipment

14) Part II of each annex covers laboratory equipment. The basic provisions are designed as aids to the day-to-day examination of patients, using simple diagnostic tests which can be performed by a trained technician, such as urine analysis, blood counts, estimation of hemoglobin, examination of feces for helminth ova, examination of smears for malaria parasites or tubercle bacilli. Starter quantities of selected chemicals and stains required for these tests are also listed.

Bacteriology, Serology and Biochemistry

15) Part II of Annexes C and D lists, in addition to basic equipment, a number of optional items required for bacteriological cultures, serology and chemistry. These optional items may be provided to the teaching hospital training personnel at high professional levels, for the large hospital staffed to undertake a wider range of diagnostic work, and for the district or regional hospital responsible for public health as well as clinical laboratory work. A complete line of equipment for biochemistry is not covered, nor is any equipment included specifically for histo-pathology. The provision of additional expendables required for bacteriology, serology and chemistry will normally be the responsibility of local authorities.

X-Ray Equipment

16) Part III covers equipment for making radiographic and fluoroscopic examinations, and radiographic and darkroom accessories. It is preferable, but not a requirement, that a hospital has a professional radiologist on its staff; however, a well-trained technician is assumed to

be available for the proper operation of the x-ray unit and the processing of films; and it is further assumed that the examination of patients will be done under the supervision of doctors proficient in radiographic and fluoroscopic techniques. The equipment described is not inexpensive; it will be supplied only where the quality and quantity of work done at the hospital make it worthwhile to provide it. There should also be assurance that local financial and mechanical provisions are made for its operation and maintenance. Funds should be available for the regular supply of x-ray films and processing chemicals; UNICEF would not want to see the equipment provided used largely for fluoroscopy where radiography was indicated. Nor would UNICEF want to see such expensive equipment idled for lack of funds for needed replacement parts or repairs. Each request for x-ray equipment will be considered on its merits, hence justification in terms of the foregoing should accompany each request.

Normal Aid

17) The items listed in Parts I, II and III illustrate the nature and scope of aid that could normally be provided. Conditions under which certain equipment would be supplied are noted, but generally, the equipment items in these three Parts need no special justification for their provision where the general conditions for UNICEF aid are met.

The Supplement

18) The Supplement covers non-technical equipment, and complicated and highly specialized equipment that UNICEF does not regard as representing a justified use of its resources in normal circumstances but which could, nevertheless, be considered for aid in exceptional cases. Also listed in the Supplement are special instruments and equipment which could be provided to medical college hospitals offering special training in paediatrics to personnel at high professional levels (v. para.121(d), Part II of the Field Manual), or to large referral hospitals staffed and equipped to provide specialized services for mothers and children. Requests for equipment listed in the Supplement must be supported by background information showing clearly why special consideration is justified.

Format

19) Details for each article are given in tabular form with respect to specifications, quantity and cost. Articles are listed in alphabetical order of generic characteristics, and are identifiable by their serial number or Warehouse stock number (UNIPAC code number). A separate block of serial numbers has been assigned to the items in each annex: 1001 to 1999 for items in Annex A; 2001 to 2999 for items in Annex B; 3001 to 3999 for items in Annex C; and 4001 to 4999 for items in Annex D. High serial numbers have been used to avoid duplication with any number that has already been used in earlier versions of HYGEIA.

20) Item descriptions have been expanded without going too much into elaborate details. These descriptions should be sufficient for positive identification required in the programming of aid. The short description,

acceptable for the purpose of Basic Supply Lists (BSLs) and Procurement Requests (PRs), is underlined. This short description together with the Warehouse Stock Number is the minimum requirement for PR preparation. For equipment not carried by the Warehouse, i.e. articles marked NS in lieu of stock number, the HYGEIA item number is to be used as supporting identification with the short description.

21) Wherever possible, a trade catalogue reference has been included for the convenience of those who may wish to see an illustration, or to look into the more detailed characteristics of the article described. For the convenience of users of this guide, an attempt has been made to employ the least number of sources for such references, and to limit references to those catalogues which have already been distributed to all UNICEF Field Offices. (See Key to Catalogue References, on page 10) It will undoubtedly be noted that most of the references have been taken from American trade catalogues. This is coincidental. It is no indication that the bulk, or even an appreciable part, of the standard issues stocked in the Warehouse will be of American manufacture. Trade catalogues are used only for guidance in establishing or illustrating generic specifications. Since UNICEF procures according to these specifications, the phrase "..... or equal" is implied at the end of each description. From time to time, articles meeting generic specifications but differing slightly in minor details may be stocked and issued.

22) The suggested quantity for each article is shown. In Annexes C and D, those suggested for the maternity, paediatric and outpatient services are shown under separate columns headed OBS, PED and OPD respectively. Many quantities cannot be broken down, conveniently, in such a manner; some equipment would be shared between services; some articles, such as surgical instruments and equipment, would be used chiefly to supplement equipment in a common service. In some cases, an asterisk (*) indicates which service(s) has been considered in arriving at the total quantity shown. The asterisk has another connotation for those who have occasion to programme aid for only one or two of the service units listed, e.g. for the maternity unit alone, for the paediatric and out-patient units, and so on. For these, the asterisk indicates that the article, in a reasonable quantity (in some cases it might be the total quantity shown on the list), may be included for the particular service unit(s) for which aid is requested. For example, the asterisk in the PED column for Anesthesia Apparatus does not mean that this apparatus is considered a normal piece of paediatric ward equipment; it does, however, indicate that in the programming of aid for developing or upgrading the paediatric services in a general hospital, an anesthesia apparatus for the surgery could also be considered in special cases.

Basic vs. Optional vs. Special

23) For programming purposes, the articles listed in Parts I, II and III may be classified into basic, optional or special items. In a sense,

all articles listed in HYGEIA are optional, to be taken up only as required. Unlike the ANNA, BERTHA, FLORA and other assemblies which, for all practical purposes, can be regarded as standard assemblies, and which can be requisitioned as sets of equipment, there is probably no occasion when HYGEIA can be asked for as a "set". Some of the equipment listed will already be available to the service units to be aided, and need not be supplied by UNICEF. Others may not be required if they are not normally used in the routines practiced in the hospital.

24) Basic items are those which will usually be required to enable good work in the MCH services of the hospital. They are the items most often requested for these services, and are largely responsible for the current pattern of stocks kept in the UNICEF Warehouse for medical and health programmes. There are, admittedly, a number of minor low-cost articles included among basic items which are not of very high priority for UNICEF to supply to hospitals. But they are sometimes called for, and they are available from stocks which must be maintained for standard assemblies (DINAH, FLORA, etc.). It is mainly for these reasons that they were included in the equipment lists of this guide.

25) Optional items are so designated for several reasons, depending on the case. Some are additional items that may be provided for special services not common to all hospitals qualifying for aid, e.g. water-baths, reciprocal shakers, autoclaves, etc. for serological and bacteriological work in hospitals that may also be responsible for some public health laboratory work. Some are expendable or locally producible articles normally not supplied by UNICEF but which could be requisitioned for teaching hospitals, as an exception, e.g. breast shells, bedpan brushes, backrests, etc. Some are articles on which opinions are divided as to their utility in good nursing practice, e.g. dressing drums, invalid cushions, water sterilizers, etc. Some are articles for general surgery, for which UNICEF does not attempt to make elaborate provisions. And some are articles which are more or less alternatives for basic items.

26) Special items are those which will normally be supplied only to teaching hospitals training personnel in paediatrics at a high professional level, or to selected large referral hospitals with special paediatric services and able to offer specialized care for mothers and children. A more comprehensive listing of special items will be found in the Supplement.

The Notes

27) The Notes of HYGEIA serve several purposes. In some cases they give the conditions under which optional and special items would be supplied. In others, they serve as simple reminders on checks to be made, or factors to consider, before requisitioning certain articles. Or the Notes may just give additional specifications or information not considered necessary to include with the item description. Past experience and the results of correspondence between Field Offices and Headquarters are chiefly responsible for most of the entries in the Notes column.

Budgetting

28) The permissive budgets for Parts I, II and III are roughly the sums of costs for basic items shown in the Total Cost column. For service hospitals, these sums should not be regarded as representing the minimum assistance that UNICEF would provide but rather as budget ceilings which should not be exceeded under normal circumstances. For teaching hospitals, higher ceilings to include optional and/or special items would be considered.

Typical Aid, Not Mandatory

29) HYGEIA shows, where certain conditions are assumed, what the typical pattern of aid is, rather than what that aid must be. It is recognized that although similarities in equipment patterns exist under these assumptions, each hospital is of itself an entity to a certain degree. As such, it presents variations from a typical pattern because of local situations and differences in services provided. Adjustments, within budget ceilings, are permissible to adapt selections and quantities to local needs and preferences. It is expected, however, that the more usual adjustment will be in the nature of reductions to allow for equipment already available.

Advantages of Standardization

30) The proper application of guide lists has established their usefulness for programming and supply operations. Most of the articles selected for inclusion in HYGEIA are those most frequently and widely requested for upgrading or development of MCH services in general hospitals. General acceptance of these articles as being more or less standard for aid to hospitals has enabled procurement and supply actions which are good economy and an effective use of UNICEF resources. It is also good economy to keep requisitions within Warehouse stocks as much as possible as this enables processing and filling of Procurement Requests with greater efficiency and less administrative effort or expense. Although requests for items not carried by the Warehouse are not precluded, the need to programme such items must be carefully weighed against the added administrative cost involved in providing them. In many cases this extra cost can be greater than the acquisition cost of the items concerned.

31) One further advantage of keeping requisitions within Warehouse stocks is the possibility, in almost all cases, of assembling all the supplies for one consignee for delivery in one shipment. This would simplify onforwarding operations of supplies to ultimate consignee at the country level.

Validity of Item Descriptions and Cost Estimates

32) From time to time, the characteristics of the items actually procured and issued may depart somewhat from the specifications shown. Departures may be reflections of current availabilities or they may be necessary in the interest of obtaining better value for money spent and of making an effective use of country contributions to the Fund. Some

of these departures may be temporary in nature, others may be permanent. The cost of many items which have not so far been purchased for stock is not known at the time this guide goes to print; some of the estimates shown may not be as close to actual costs as we would have liked to see them. Current specifications and costs of the items which will actually be issued will be those shown in the UNICEF Warehouse Catalogue.

.....But Not Least

33) HYGEIA supplies general information upon which to plan for specific requirements. This guide list is not the end but only the beginning of BSL preparation. From it, equipment must be selected to fit local conditions and needs.

34) The task of programming aid requires not only a knowledge of the equipment UNICEF could provide but also an understanding of the hospital's physical design as well as the types and extent of services to be upgraded or developed. Consideration should be given these interrelated aspects in drawing up the BSL.

35) Check the availability of professional and technical staff. This is the most important criterion in deciding whether an institution qualifies for UNICEF aid. There must be budget lines for the staff and the staff must be on the job before UNICEF equipment should be released to the hospital.

36) Use the annexes as checklists to determine what major equipment items are already available, so as to avoid unnecessary duplication of existing equipment.

37) It is always desirable for a representative of UNICEF or WHO to visit the hospital requesting UNICEF aid to check equipment needs before the supplies are released to the institution. Where such visits are not practical, the information relating to staff, services, existing facilities and major equipment may be elicited by questionnaires. Questionnaires devised by several field offices have been used effectively for many years.

38) Begin BSL preparation early. PR action, delivery and final placement of equipment take time.

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APPENDIX to list "HYGEIA, Rev.2":

UNICEF POLICY ON AID TO HOSPITALS

.01 This directive outlines the conditions on which UNICEF may assist hospitals. It has the concurrence of WHO Headquarters which is distributing it to WHO field offices. It is identical in content with the memorandum appended to the "Proposed List of Technical Equipment for Maternity and Children's Services in a Training Hospital" issued 25 March 1954.

.02 UNICEF policy on aid to hospitals is based upon recommendations made by the Joint (WHO/UNICEF) Committee on Health Policy at its Sixth Session held in May 1953. Paragraphs 23 through 28 of the report of this session read as follows: (E/ICEF/228)

"Aid to Hospitals

23. The Committee reviewed the policy of UNICEF aid to hospitals which had not been considered by the JCHP since 1949 when in its Third Session it endorsed recommendations of the Expert Committee on Maternal and Child Health and recommended that requests be acted upon concerning "maternity and children's hospitals, premature baby units and child health institutes" (JC3/UNICEF-WHO/33, paragraph 19). In order to ensure a wise investment of UNICEF funds and with due regard to the importance of assisting requesting countries as effectively as possible, the Committee considered it desirable to recommend guiding principles in granting aid to training and service hospitals. TheCommittee therefore recommended that continued assistance be given to hospitals but restricted to maternity or children's services in general hospitals and sanitaria or maternity or children's hospitals. The fact that government can obtain medical hospital equipment from UNICEF should not induce them to attach to pediatric hospitals special services which can be provided by the equivalent departments of general hospitals. Aid to hospitals should not be given by UNICEF unless the proper function is assured and personnel for operation (and training where appropriate) is available.

24. The Committee recommended that assistance to training hospitals should be given priority and such training should be an integral part of the hospital's activity. The training could be at any level of professional competence, but would be for personnel who would be working with mothers and children. It would therefore concern hospitals used for training in obstetrics and pediatrics of doctors, midwives, general and pediatric nurses, public health nurses and auxiliary nursing personnel as appropriate.

25. The Committee stressed that among forms of aid, teaching aids would have the highest priority. Technical equipment and non-technical equipment (beds, bedding, laundry, kitchen equipment) would follow in that order. The amount of both technical and non-technical equipment would depend on a review of each case on its merits, including whether the facilities for which aid is requested were to be fully used for training purposes. A contribution towards the equipment of a general hospital not specifically for mothers and children, such as surgery, laboratory x-ray treatment, kitchen, laundry, etc., should be considered on the basis of the relative importance of the maternity or pediatric services in the hospital. Where non-technical equipment is given, this should be on a "starter" basis, with the clear understanding that the government will make budgetary provision for replacement, when necessary.

26. The Committee considered that equipment for service hospitals for mothers and children, including maternity homes, may be considered for UNICEF aid in provincial centres and rural areas where they form part of a network of health centres providing maternal and child health services. Such aid might be given to hospitals where they are primarily used for cases referred by such centres, and where they form part of adequate integration of curative and preventive services. Here also UNICEF aid should not in general encourage the setting up of separate small pediatric and maternity hospitals which would be uneconomical to run, but should rather be used to aid the development of general hospitals with an adequate proportion of maternity and pediatric facilities. Careful consideration needs to be given to recurring expenses to the country before requests of this type are approved. The type of technical equipment to be provided and the conditions for such provision would be mutatis mutandis the same as described under Equipment for Training Hospitals. The non-technical equipment should in principle be provided by the government.

27. The Committee recommended that requests for aid for equipping hospitals under construction, or for existing hospitals with inadequate equipment, should be judged by the same criteria above indicated, with special attention to availability of personnel.

28. The Committee advised that hospitals receiving UNICEF aid should reserve as large a proportion as possible of free beds for needy cases.

.03 This directive seeks to clarify the way in which the above recommendations are applied in assessing particular requests for UNICEF aid.

.04 UNICEF seeks to support preventive public health measures and its attitude to helping hospitals arises in this context. We want to help new hospitals only to the extent that they are a part of a comprehensive plan for the progressive extension of health services to the rural community. UNICEF's reluctance to contribute to new hospitals is based primarily on the cost to the country of maintaining them, which may represent not the best use of its slim health budget and then divert resources and personnel from preventive measures with a higher priority, or may leave the hospital with inadequate money, expenses and full of hungry patients. Some examples of costs in relation to health budgets are given in the paper JC6/UNICEF-WHO/3, which should be read in this connection. Individual requests should be analyzed in a similar way, with the more detailed and accurate information available for each particular case.

.05 This objection does not apply to aiding existing hospitals, to strengthen their many frailties. It also does not apply to any additional equipment to existing hospitals where justified by the present equipment inventory and the degree of use to which it would be put. The objection applies with less force to the addition of maternity and children's services to existing hospitals than to the building of complete new hospitals.

.06 Training Hospitals

Almost all hospitals do some training. Since we give priority to training hospitals, there is a natural tendency to justify any aid to any hospitals as "aid to training". This needs careful analysis. A training hospital - so far as we are concerned - must have a serious training programme. The Committee recommends that training could be at any level of professional competence but for personnel who would be working with mothers and children. However, the categories of highest interest to UNICEF, are midwives, nurses and auxiliary personnel; and among these, we are more interested in the training of nurses in public health for rural work, and in the training of midwives to staff MCH centres, to perform and supervise domiciliary midwifery, than in training for hospital work. Whilst training of auxiliary personnel has the highest priority for UNICEF, effective opportunities in hospitals are infrequent because of the necessity for training auxiliary personnel in rural conditions similar to those under which we want them to work.

.07 A nursing or midwifery school must be training a fairly large number - at least ten admissions a year, making 20 or 30 pupils in all - otherwise the academic training cannot be of sufficient quantity, and a multiplication of small schools giving apprentice-type training is not desired. Unfortunately, there are too many cases in all countries where trainees are used mainly as cheap labour.

.08 This can be judged by whether the hospital pays for sufficient regular staff to do most of its work (one nurse to ten hospital beds is the usual requirement) leaving the trainees sufficient time for attending lectures and study.

.09 There must be adequate living quarters for the trainees, and teaching and demonstration rooms. There must be a full-time senior nurse or midwife to take charge of the courses of instruction, and part-time teachers from hospitals and health centres for clinical and community training. The facilities for practical nursing training should include a hospital of at least 50 beds with an out-patient department and a diagnostic laboratory. Such a hospital needs an adequate staff, including 3 full-time doctors of whom one is resident. For training of midwives a maternity ward of 25 beds capacity in a general hospital is sufficient for a class of 10 pupils. If the midwifery teaching is done in a maternity hospital, it is preferable that the hospital have not less than 50 beds; otherwise, it will not be economical to run. There should then be two full-time doctors, of whom one is resident. So far as fully trained nursing and midwifery staff is concerned, the minimum over a 24-hour period for work on the wards should be as follows:

General wards:	1 to 20 patients
Children's wards:	1 to 10 patients
Maternity wards:	1 to 5 patients

In maternity wards, at least 60% of the staff should be qualified midwives. In addition, there should be at least one nursing-aid for every 10 patients over a 24-hour period.

.10 These are the requirements for staffing the wards and do not include the full-time senior nurse or midwife to be in charge of teaching, nor do they include specialist staff required for operating theatre, labour room, administration, O.P.D. etc.

.11 In public health training, there is needed a district health or MCH centre covering MCH communicable disease control and school health, and staffed with 1 full-time doctor, 2 nurses and 2 midwives.

.12 In training assistant midwives, a smaller unit may be considered provided the same ratio of fully trained staff to beds as in the larger unit is maintained. In all midwifery schools, provision should be made for experience and training in domiciliary midwifery.

.13 The quality and type of training will have to be assessed in each case by WHO in the light of the above criteria. The type of personnel being trained should fit into the general public health scheme of a country. There is, for instance, a case in which a private hospital with government sponsorship has approached UNICEF for help in its training programme. The kind of training offered is different from the kind developed in UNICEF-assisted governmental training schemes in the same country. UNICEF-aid cannot be extended until it is shown that the training offered by this hospital can really be integrated into the general public health/MCW plans of this country.

.14 There is also the question of whether the area to be served by the graduates of a particular hospital actually needs them. This may sound strange when we think of the extreme shortage of trained personnel which is typical of most under-developed countries. Nevertheless, there have been instances in which UNICEF has been asked to help produce more nurses or mid-wives for the territory which was already well supplied with them.

.15 A closely related problem is whether there are good prospects for the proper employment of the graduates. Whether their subsequent employment will be in government services or in private practice depends on the general social structure of the country. It is probable that midwives will serve their function in one way or another whether or not there are specific government undertakings to employ them. On the other hand, public health nurses or "lady health visitors" - by the nature of their work - must rely on public employment. We have already found that the graduates of an excellent school which has received substantial UNICEF aid, are finding difficulty in being placed. From now on, we should see to it that the means to use graduates are developed from the start and that the necessary local commitments are made at the time that UNICEF is asked to help training. A practical solution where it can be worked is to have local authorities nominate for training a person whom they undertake to employ upon graduation.

.16 When personnel will not start graduating until 3 or 4 years after UNICEF aid is voted, the initial Government commitment may have to take the form of accepting as its objective the employment of graduates in MCW programmes. This would have to be followed up year by year with establishing necessary "lines" for staff in the Government's budget and the inclusion of the necessary funds in the budget.

.17 Maternity and Children's services:
The JCHP recommended that assistance be extended to maternity and children's services in general hospitals and sanitaria, and maternity and children's hospitals. Maternity and Children's services comprise maternity and pediatric wards, delivery and labour rooms, and the O.P.D.

.18 Types of Equipment:
Teaching aids: Comprise nursing arts equipment, models, charts, visual aids, books, typewriters and duplicators. UNICEF is also ready to provide paper, and, if absolutely necessary, the cost of printing local language text books for trainees, if suitable texts can be produced by the national and international teachers working on the project; when multiple copies of books are requested, check whether they can really be read by the students. a/

.19 In many cases UNICEF is asked to provide teaching aids only to training hospitals which are otherwise reasonably equipped. The cost of a set is typically about $800-$1,000.

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a/ see lists JASMIN and KATRINA

.20 Technical equipment for maternity and children's services can include sterilizers, scales, instruments for examining patients, obstetrical beds and examination tables, and part of the equipment for the diagnostic laboratory. The moderately large sterilizer needed can cost up to $1,500. Many small items may be included in the above classes. Sometimes technical equipment is also requested for the general hospital services, e.g. equipment for surgery, X-ray diagnosis and treatment, and laboratory. These are all very expensive items. Modest equipment for surgery will not cost less than $12,000 and requests received would often near $25,000 and upward. Hence attention is drawn to the committee recommendation that such services should not be attached to pediatric or maternity hospitals if they can be provided by equivalent departments of general hospitals. In other words, it is generally better to attach maternity and pediatric wards to a general hospital than to provide full hospital services completely separate. It is further to be noted that merely because maternity or pediatric services are in a separate building does not make it impossible for them to use the special services of a related hospital in the same city.

.21 If it is really justified to establish new general hospital services, then UNICEF may make a contribution based on the relative importance of the maternity or pediatric services in the hospital. For example UNICEF would not give complete surgical, X-ray and laboratory equipment because the hospital contained some maternity and pediatric beds. If one-quarter of the beds were maternity and pediatric, UNICEF might consider contributing one-quarter of the cost of the general technical equipment.

.22 Requests for general equipment frequently include items which UNICEF considers too expensive and elaborate. There is a conflict between the natural view of the clinician who wants the best possible equipment for cases coming into the hospital, and an organization that has to conserve its money. Elaborate equipment has to be appraised by the amount of use it could have as well as the availability of reliable electric current, servicing, etc.

.23 Non-technical equipment: ordinary beds, bedding, laundry, and kitchen utensils are of lower priority than technical equipment. The following considerations apply:

a. UNICEF will consider only items that cannot be bought locally (including considerations of satisfactory substitutes);

b. for expendable items, UNICEF contribution can only be a "starter" with other commitments being made for replacement;

c. as in the case of technical equipment, the UNICEF contribution to general services such as the laundry should not exceed the share of maternal and children's services (most obviously represented by beds) - in all the services of the hospital;

d. only in exceptional cases would hospitals be considered for non-technical equipment.

.24 Service Hospitals are those for which equipment is requested not for training purposes. Even a training hospital that does not need further equipment for that purpose sometimes asks for equipment on the same justification as a service hospital.

.25 These have a lower priority for UNICEF than training hospitals. To be considered, such a hospital must be integrated into a scheme of service to rural areas, i.e.it must have a working relationship with a net-work of rural MCW or public health centres. This cannot be a casual or haphazard relationship but rather must be part of a serious scheme for providing comprehensive services to the rural areas. Rural MCW centres or public health centres can attend to only simple cases. The more complicated cases must be referred to district hospitals. To judge this relationship information is needed on the proportion of admissions that are referred by the rural centres.

.26 In this connection, the JCHP made the following recommendation:

"UNICEF aid should not in general encourage the setting up of separate small pediatric and maternity hospitals which would be uneconomical to run, but should rather be used to aid the development of maternity and pediatric facilities in general hospitals."

However, in certain circumstances, for instance where the distance of the fully trained midwife from the villages she serves makes supervision difficult, or where communications are bad - two or three beds may be attached to a health centre. This does not turn the health centre into a hospital. Where there is a fully trained nurse or midwife in charge all the time, these few beds may be used for observation and delivery. Naturally there should also be a nurse-aid or midwife-aid to do the domestic and other work. As a working hypothesis until local data are obtained, it may be assumed that about 95% of births are normal and can be serviced through domiciliary midwifery. About 4% present minor difficulties and would be better delivered in bed in a health centre. About 1% need hospitalization and skilful treatment.

.27 Private Hospitals

Private hospitals are not excluded in principle, if the request is sponsored by the government. For such hospitals, however, a number of additional questions need answering. If the hospital is offering training, will this be for the categories of personnel used in the country's scheme for rural services or will it be for example for service in other hospitals or for service in related private hospitals? Is training offered for the more responsible posts, or do these always remain in the hands of foreign personnel? Is the hospitals' policy about religious affiliation (e.g. of trainees) and about proselytization in accordance with the government's policy for a hospital to be assisted by UNICEF? In regard to the services offered by the hospital, is

the objective to serve the typical indigenous population or is it serving the market of the high-fee cases in the cosmopolitan community?

.28 Information needed by UNICEF

Requests for hospitals are complicated and many have come through in the past with inadequate information. Of course, less is needed to justify a $800 set of simple ward instruments for a training hospital than equipment for a new hospital.

a. Regarding Requests for Training Aids Only

Present and planned course, numbers of students and how they will be supported during training; teachers indicating qualifications and whether full time; practical training facilities (number of beds in hospital; OPD, link with rural centres); prospects for employment of graduates.

b. Regarding Requests for Additional Equipment for Existing Hospital or Ward

General set-up - the control of the hospital, the services provided, the wards in the hospital, staff, workload, budget. In these cases, particular importance attached to existing inventory of related equipment - many requests still come forward as if an existing hospital had nothing. If it was equipped by UNRRA, or other services since the war, the need for further equipment should be explained. In explaining elaborate items, the prospective workload or degrees of use must be given.

c. Regarding Equipment for New Hospitals or Wards

Control and organization of the hospitals and how it fits into national health plan; floor plan of the new building showing number of beds, any accommodation for trainees (dormitories and classrooms); staffing, (doctors, full-time, resident and part-time, sisters, nurses, midwives and hospital aids); proposed teaching staff; proposed financing, both for construction and equipment, and annual running expenses; what proportion of beds will be free; proposed workload including OPD.

29. Hospital Equipment which UNICEF Normally Does Not Supply

Following is a partial list of items that UNICEF does not regard as representing a justified use of its resources in normal circumstances.

a. Non-technical equipment (often local supplies will serve)

Administrative supplies and equipment

Furniture and fixtures

- Wooden furniture, all types
- Reception room furniture
- Storage cabinets
- Bedside tables
- Overbed tables
- Linen hampers
- Bed lamps
- Fans
- Food conveyors
- Sinks, taps and plumbing

Linens and uniforms

Bedding

- Airfoam mattresses
- Cut bandages, sterile dressings
- Surgical drapes
- Disposable towels and tissues

Machines and gadgets

- Washing machines
- Liquid soap dispensers
- Slide rules for infant measurement
- Electric needle sharpeners
- Heating pads
- Bedpan sterilizers

Kitchen equipment

- Cooking utensils
- Crockery
- Tableware

Other Items

- Ointment jars
- Paper cups
- Wooden tongue depressors

b. Complicated and highly specialized equipment
(Expensive to operate and maintain)

Deep therapy X-ray machines
Diathermy apparatus
All electro-surgical apparatus
Electrocardiographs
Physiotherapy equipment
Dental equipment
Elaborate anaesthesia apparatus
Spectrophotometers
Microtomes
Analytical balances
Autopsy equipment