KING EDWARD'S HOSPITAL FUND FOR LONDON

HOSPITAL ADMINISTRATIVE STAFF COLLEGE

BUILDING CONFERENCES REPORT

TEACHING HOSPITALS AND REGIONAL HOSPITAL BOARDS

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INTRODUCTION

This booklet contains the papers given at the ~~3rd Building~~ Conference (Teaching Hospitals and Regional Hospital Boards), arranged by King Edward's Hospital Fund for London and held at the Hospital Administrative Staff College from 5th - 8th November, 1963. Each paper during the Conference was amplified by subsequent discussion, and notes of the discussions which took place during both the 2nd and 3rd Conferences are appended to each paper. The final session of each Conference took the form of a general discussion with a team from the Ministry of Health; notes of these meetings are also included.

Apart from initiating and helping to organise these Building Conferences, Mr. P.H. Constable, O.B.E. acted as Chairman throughout all three. All the speakers, conference members and the College itself, wish to record their gratitude to him, for his contribution ensured the smooth running and success of the meetings.

During 1964, the Building Conferences are being followed up by six one-week courses relating to the Planning, Building and Commissioning of New Hospitals, scheduled as follows:-

The Work of Project Teams	March 9th & May 11th.
Problems in Planning, Building and Equipping	Feb. 10th & Sept. 28th.
Problems of Commissioning and Staffing New Hospitals	June 1st & Nov. 9th.

These courses are available to teams of up to three members from all staff concerned with the operation of the Hospital Plan, including technical staff. Enquiries should be made to the Registrar, Hospital Administrative Staff College, 2 Palace Court, Bayswater, W.2.

Objectives

In the Introductory Session of the 3rd Building Conference, Mr. F.R. Reeves, Principal of the College, stated the objectives of the Conference to be as follows :-

1. To learn from each other's experience.

2. To appreciate others' points of view, and in particular to discuss differences with representatives from the Ministry of Health.

3. To appreciate the magnitude of building programmes and the problems that have to be solved in tackling them.

HOSPITAL BUILDING

By Dr. A.L. Winner, O.B.E., M.D., F.R.C.P.,
Deputy Chief Medical Officer,
Ministry of Health.

The functions of an under-graduate teaching hospital are: Teaching, Research and Service to Patients. These are inextricably entangled: teaching is dependent on research and the supply of patients, research is dependent on the other two; and service to patients benefits from both (and pays a price).

Pre-1948, the teaching hospital was pre-eminent in every way, and patients were prepared to travel long distances to get the quality of service that simply was not available elsewhere. Nowadays, local district hospitals are developing in all centres; the quality of their service has much improved and goes on improving. In fact, their service is adequate nearly everywhere and is excellent in some places; it is convenient and accessible and - there are no students! The consequence is that teaching hospitals are beginning to lose their more distant patients; there has been a decline in their out-patient work, and in-patients are now mainly emergency or difficult cases, except for those sent by old students.

Thus the teaching hospital today must also be a district hospital, and must serve a large enough district to meet all its purposes. Its scope must, therefore, include all ordinary acute specialties, plus pyschiatry and short and longer stay geriatrics. The size of the new teaching hospital taking 100 students per annum, should, it is felt, be about 1200 beds, though, of course, siting and other difficulties may make this impossible in some instances.

In planning and building a new teaching hospital, there is the utmost need for consultation with the university, the U.G.C. and also the Regional Hospital Board; this is necessary in order to caterfor such problems as site difficulties, laboratory facilities, clinical theatres, and research. Above all, there is need for frequent and close consultation with the Ministry of Health. Formal submissions to it should never come as a surprise but as the expected outcome of discussion. The Ministry are particularly anxious to know how best they can help Boards to make rapid progress with their schemes.

Experience to date has shown the importance of orderly procedure and this is referred to in the Building Operations Handbook, with its emphasis on clearly defined stages. There are 6 stages:-

Stage 1 - Outline of functions.
Stage 2 - Operational policies and development plan.
Stage 3 - Schedules of accommodation.
Stage 4 - Sketch plans.
Stage 5 - Working drawings.
Stage 6 - Bringing building into use.

If the early stages are right, the rest should follow smoothly and quickly (given competent architects and engineers) and it is always worthwhile spending time to ensure that these early stages are thoroughly worked out.

Stage 1 - Outline of Functions

Originally, this was regarded as the stage leading simply to approval in principle, but now much more is involved. Essentially this is a stage when the overall nature and size of the various elements that will comprise the new hospital are determined. Not only must the overall number of beds, and a broad breakdown into specialties, be decided, but also the extent to which any special regional units (neurosurgery, etc.) shall be included in the teaching group. This will involve consultations with Regional Hospital Boards and university interests.

Quite apart from the question of beds, such matters as the number of operating theatres, number of x-ray rooms, extent of out-patient services should be settled for, if all these things are agreed with the Ministry at this stage, it will avoid delays later on.

It should be noted that in determining the outline of functions the architect is not professionally concerned and that responsibility rests fairly and squarely on the medical nursing and administrative sides, although there is, of course, great advantage in keeping the architect, and also the engineer, in touch with events even at this early stage; moreover their advice may be more specifically required for site investigations at this stage.

With non-teaching hospitals it is the S.A.M.O. and Secretary of the Regional Hospital Board who are responsible for the Stage 1 submission. Boards of Governors, of course, have no S.A.M.O. but if the experience of any of the Ministry's officers can be of help in formulating the Board's proposals, we should like to consider how they can best be made available. We think that informal discussions with the Board's representatives at the earliest possible opportunity would be most fruitful but we should like to know if you have any other suggestions.

Stage 2 - Operation Policies & Development Plan

It is at this stage that the architect comes in but while he can offer certain advice on operational policies the ultimate responsibility rests with Boards of Governors themselves. The real point is that the architect must know the decisions before he can start his design. Decisions on operational policies will include such matters as the method of food service to patients, the extent to which university accommodation shall be "embedded" in the hospital, methods of teaching, the special requirements of any department as regards operating theatres, special treatment facilities, etc.

The preparation of a development plan is, of course, essentially an architectural responsibility and it cannot be too strongly emphasised that a site development plan must be worked out before the detailed planning of any major development. To ignore this is to create difficulties for our successors. The preparation of a well thought-out development plan may be a very difficult task - this applies particularly

to a redevelopment of hospitals on their existing sites - but if we are to finish up with a well planned hospital, it is essential that adequate time should be allowed for its production. The main question which arises is the method to be adopted by Boards to produce a development plan. One solution is to employ a consultant architect specifically for this purpose. He would be paid a prescribed fee and he might or might not be responsible for the subsequent detailed planning of any particular phase of development. In any event it is worth reiterating that before a worthwhile development plan can be prepared it is necessary to determine the outline of functions from which it will be possible to judge the approximate size of the various departments and to decide on the operational policies. All this must be incorporated in the brief that the architect will require to enable him to produce his development plan. It is also important that priorities should not be over-locked at this stage. To avoid the possibility of subsequent delays it is important that this brief should be agreed with the Ministry, University and University Grants Committee before the architect starts to prepare his development plan.

Stage 3 - Schedules of Accommodation

What is really involved is a detailed architect's brief for the imminent phase of development. This may be regarded as the 2nd part of the architect's brief - the first being the brief to prepare a development plan - and it will include a detailed room by room schedule, with sizes, for each department as well as an outline specification of engineering services. Architects and engineers play an important part in the preparation of these schedules and specifications. It is the aim of our Building Notes to provide guidance in this respect. Much of the material in existing Building Notes will be applicable even though few deal with the specific requirements of teaching hospitals. We hope to fill this gap in the comparatively near future. A crucial feature of Stage 3 is the attachment of a provisional cost limit related to departmental requirements as evidenced by the schedules of accommodation. The whole object of attaching a cost at this stage is to enable Boards and the Ministry to budget realistically and so avoid frustrating delays and perhaps pruning of the scheme in its later stages.

The Later Stages 4 - 6

There is no need to deal with these stages in detail here. Provided cost limits are not exceeded, everything should run smoothly. Ministry officers will always be available to give advice on schemes throughout the country; but there should be no difficulties as long as the fundamental principles of planning (e.g. as regards aseptic precautions) are observed. Informal consultations during the formative stages are of the utmost value, i.e. before time is taken in refining drawings which may later have to be amended.

The Ministry's approach to any project will always be related to the stages that have been outlined in this paper. The Ministry is convinced that the complicated task of building a hospital, in which such a large number of people must play a part, can only be easily and smoothly accomplished if it is tackled in the logical steps that have been discussed.

DISCUSSION NOTES

Points arising from the Paper given by Dr. W.H.P. Minto, M.B., Ch.B., D.P.H., Senior Medical Officer, Ministry of Health, at the 2nd Building Conference.

1. It was urged that the Ministry should give a positive lead to Boards in defining the respective roles of teaching and Regional Hospital Board hospitals. These could not always be settled by inter-Board negotiation. The importance of conferences between Regional Hospital Board and teaching hospital doctors and of joint R.H.B./T.H. medical appointments was stressed.

2. The optimum size of the teaching hospital was discussed and it was pointed out that opinion was now moving towards 1,000/1,200 beds although some would say there should be no upper limit. It was argued that a teaching hospital must provide a full range of specialties not only for research and teaching but in order to avoid patients being passed from hospital to hospital. The importance of getting the University aspect of the Teaching Hospital into proper perspective was stressed; the primary function of any hospital was to treat the sick.

Points arising from Dr. Winner's Paper given at the 3rd Building Conference

1. The nursing profession had not been specifically mentioned in defining the functions of the teaching hospital, but nurse training certainly needs to be taken into account since it partly governs the size of new hospitals. It would, therefore, be useful to have some consultation with the various professional associations of nurses. It should also be borne in mind that a hospital where the emphasis was placed on research specialties was not the best place to train nurses.

2. When should the "cut-off" dates apply in building new hospitals? There are, in fact, a series of such dates running through the various planning stages; e.g. deciding on the location of departments, placing the fixed equipment, etc. But a good general rule is that there should be no changes after the sketch plans have been agreed. Planning must obviously allow for flexibility in future use by designing open-ended buildings, and incorporating rooms the functions of which can be readily changed.

   Results of studies in Birmingham were mentioned during the discussion of this point, showing that:-

   (a) About 70% of hospital activities occur in rooms of under 200 sq. ft. in size, and about 30% in rooms of 125-150

sq. ft. 70% of rooms in Out Patients' Departments are between 80 and 120 sq. ft.

(b) There has been very little internal rearrangement of rooms in the hospitals studied during the last century.

The commonly held belief with regard to "cut-off" dates, that hospitals would inevitably be out of date as soon as they are opened, thus seems to be disproved.

3. There was a plea for "free spaces", established for research purposes, to be included in the planning of new hospitals. This has not been allowed in the past and the Ministry would be reluctant to agree to such a designation appearing in plans. Although general sympathy was felt, a note of caution from the cost point of view was expressed, particularly since it is difficult to define the ultimate limits of unallocated space. The question of flexibility comes in here again since, looking to the future, although some departments will expand, allowance must also be made for the fact that others will contract.

4. Accommodation costs for teaching purposes (i.e. lecture theatres, research spaces, students' living quarters) are met by the University Grants Committee and not by the Ministry. Standards for these types of accommodation are not being included in Teaching Hospital Building Notes.

5. A discussion took place on the major problem of a teaching hospital also acting in the capacity of a district hospital. The danger to be avoided here, of course, is that of beds which are allocated to research purposes being swamped by routine cases. The possibility of a certain number of beds being exclusively reserved for research was disputed, though others thought it perfectly possible.

6. What place will the new district general hospitals have in teaching under-graduates? The Ministry representatives declared themselves puzzled by the present seeming lack of success in this field, and while still feeling that there was scope for development of teaching at this level, considered that post-graduate training may have a much brighter future in district hospitals.

MINISTRY GUIDANCE MATERIAL

By Mr. W.G. Wilson, O.B.E.,
Assistant Secretary, Ministry of Health.

The Ministry of Health regards it as no part of its responsibility to design actual buildings or to prescribe the detailed content of individual projects; these are essentially the functions of the Hospital Authority. The Department's responsibilities are:

(a) To ensure that the project is evolved in accordance with the general policies pursued by the Minister and the Government.

(b) To assist the hospital authority with such advice and guidance as appear appropriate.

(c) To make available to the hospital authority such useful information and experience as could be gathered from other hospital authorities who had in the past, or currently come up against, similar planning problems.

The Ministry has adjusted its guidance programme and its own internal structure to fit in with the pattern of operations described in Dr. Winner's paper.

So far as guidance material production is concerned, the Ministry aims to produce within the near future guidance documents on Assessment of Need and on the Teaching Hospital generally, to cover Stage I; on Operational Policies and the Preparation of a Development Plan to cover Stage II; the Building Notes and new series entitled Design Notes provide guidance of value at Stage III and IV; the Design Notes, which will be essentially documents of a technical nature containing recommendations on the use of dimensions and structural materials are intended for use by architects and engineers at the working drawing stage; and guidance material on such subjects as the Organisation of Design in Use Studies, Planned Maintenance, and Running Cost Estimation and Control, will be relevant at the commissioning stage, though they will also contain material of value at earlier planning stages, especially in the latter case at Stage II.

So far as the internal workings of the Ministry are concerned, the special responsibilities described above are discharged essentially by providing that at certain points in the planning procedure, the work of the project team must be submitted to the Ministry for approval before subsequent stages are embarked upon. Thus a submission to the Ministry is required at the end of Stage I, and the Ministry must seek the approval of the Treasury before giving its own approval to the work of the project team, so that the Central Exchequer is aware that a financial commitment, even though as yet unquantified, is being entered into. At the end of Stage III the Statement of Operational Policies, the Development Plan, the Schedules of Accommodation and the Provisional Cost Limit must be submitted to the Ministry which will at this stage

seek to satisfy itself that the general lines of the design, and the order of cost involved, agree with the policies adopted by the Ministry for the execution of the Hospital Building Programme as a whole, i.e. that they are in general alignment with the standards of service and accommodation envisaged, for example in Building Notes, and that the cost implications are not such as to distort the general pattern of allocation of the total amount available for the Hospital Building Programme over the country as a whole. At the end of Stage IV (Sketch Plans and Final Cost Limit), the plans and the cost limit are subject to the approval of the Ministry and of the Treasury, because it is at this stage that a firm figure is available for the cost of the works. This Final Cost Limit, once approved, must be strictly adhered to, by the operation of cost planning, throughout the period of Preparation of Working Drawings and through to tender and construction. Once the Final Cost Limit has been approved, it is unnecessary for the Board of Governors to refer again to the Department except in one contingency, namely if the lowest acceptable tender for the works exceeds the Final Cost Limit. If the excess is less than 2%, then the Board of Governors may award the contract after eliminating the excess and informing the Ministry of how this has been done. If the excess is over 2%, the Board of Governors must submit details of the tender to the Department, together with its recommendations on how the excess may be eliminated. The method by which this submission should be made is described in the Handbook of Building Operations. During the period of construction no variation in the works which would result in an excess over the contract sum can be allowed without prior reference to the Department.

The structure of the Ministry provides for these numerous processes to be gone through. Within the Ministry there exists a central branch in the Hospital Division responsible both for the production of guidance material (including guidance on planning procedures) and also for the final approval (or submission to the Treasury as appropriate) of the recommendations made by Boards of Governors at Stages III and IV. This branch also deals with cases involving excess tenders. But the direct contact between the Board of Governors and the Ministry is effected through the appropriate Regional (Administrative) Section of the Hospitals Division, and it is the responsibility of this section to work with the Board of Governors in the evolution of the project team's ideas throughout all the planning stages: in doing so, it naturally works in the closest collaboration with the Central Branch just mentioned. The Regional Section maintains close liaison with the Professional Branches of the Department (i.e. medical, architectural, engineering, nursing and quantity surveying) and within each Regional Section and each professional branch there is an individual officer who is personally charged with responsibility for each individual project. Thus, in effect, every project team working to a Board of Governors is complemented by a corresponding team in the Department, consisting of a Regional Section Administrator, an Architect, a Doctor, a Nurse, an Engineer, and a Quantity Surveyor, and all of them are in direct and intimate communication with the Central Branch from which design guidance emanates and which exercises centralised control over the finance of the hospital programme as a whole and of the individual projects which comprise that programme. It is cardinal to the smooth achievement of any project that there should be continuous and close informal consultation between the project teams and the hospital authority and the Ministry at every stage of the planning process.

Turning now to some aspects of design which may, and in some cases will, come up for serious examination in the near future, it is perhaps worth mentioning in particular the fact that the Central Government has adopted for all Government building programmes the system of preferred dimensions recently promulgated by the Ministry of Public Building and Works. This system postulates that all spaces in all public buildings, and the components which enclose or occupy them, should be dimensioned in multiples of 4" or 1" so far as dimensions in thickness are concerned, or of 1' in the case of dimensions where the 4" basic module would be impracticably small. Adherence to this pattern will permit the evolution of designs for structural components which will be standardised in themselves and therefore capable of bulk factory production. With this prospect, it is possible to envisage a building process which involves the use of standardised components assembled to any design considered necessary by the architect for a project to meet the requirements imposed upon him by the project team. The Department has set up a number of study groups to consider the design of such components in the architectural and engineering spheres and results are already beginning to appear from these groups. It is possible to envisage, for example, that all rooms in any hospital structure (apart from such spaces as lecture halls and assembly rooms) should have floor to ceiling height of either 8', 9' or 10'; and that with this concept there appears the prospect, which has also been worked through to the design stage by a study group, of a limited series of 15 standard door sizes capable of meeting any hospital need and produced as complete door assemblies, i.e. emerging from the factory with frame, door, fanlight, glazing and furniture complete. A standard range of ceilings and light fittings, standard window walls and partitions can also be, and are being, designed. These developments point to a situation in which the work of constructing a hospital will become increasingly a matter of assembly on site, with a minimum of skilled labour, of standard components prefabricated in factory conditions. Under such an arrangement, it is possible to look forward to an era of increasing speed in construction and possibly decreasing cost as the advantages of continuous factory production and bulk ordering and supply become available. To encourage these trends the Ministry will in the near future begin the publication of the series of Design Notes mentioned earlier and will encourage - or insist so far as this is possible - on the use of dimensionally co-ordinated components in hospital construction. It is to be noted that these advantages can be obtained without any diminution whatever of the freedom of the architect, or of the project team, to design the layout and space provision to meet the specific needs of each individual hospital authority.

DISCUSSION NOTES

Points arising from Mr. Wilson's Paper given at the 2nd Building Conference.

1. When the planning of a scheme began before the present building procedures were adopted the Ministry "allots it in" at an appropriate stage when it comes before them.

2. Generally the Ministry does not give any further formal approvals to a scheme after the sketch drawings and Final Cost Limit have been agreed. They like to see copies of tenders to help keep cost limits up to date but do not comment on them unless the one which it is proposed to accept exceeds the approved Final Cost Limit.

3. It takes a long time to get decisions out of the Ministry and these are sometimes reversed. However, it was pointed out in reply that in the conduct of any large capital programme there was a period of learning to walk. It looked as though, for the Hospital Programme, this was nearing its end and decisions were being made more firmly and speedily.

Points arising from Mr. Wilson's Paper given at the 3rd Building Conference

1. A question was asked as to whether amendments to Building Notes are made in the light of new experience (i.e. before the Note becomes due for its periodic revision) and if so, what publicity is given to the amendments? In fact, amendments are based almost exclusively on the results of experience gained on individual projects. When the Building Notes are revised these amendments are incorporated; in the meantime, the new ideas are brought into planning in considering current projects.

2. The question of rising costs is a constant concern to everyone and there is an element incorporated in building allowances to take rising costs into account. At the same time, it is hoped that costs will be kept in check by simplification and standardisation of the design of units and by using more efficient methods of construction, i.e. by increases in productivity within the building industry.

3. A demand was expressed for more guidance on functional units within the hospital. This will be catered for in a new guidance Note covering Planning Stage I, the assessment of needs of a new hospital.

UNIVERSITY GRANTS COMMITTEE - POLICY & METHODS

By Mr. E.R. Copleston, C.B.,
Secretary of the University Grants Committee.

The Government statement following the Robbins Report makes it clear that there will be changes in the present structure, and the Committee itself is to be re-styled the University Grants Commission. Nevertheless, it is clear that the principles of the present system will be maintained.

Quite simply, the U.G.C. and its Medical Sub-committee are not arbitrary dictators of policy, but try to distil and pass on what is best and most up-to-date in University thinking. It is obviously desirable for the Committee to have experts in the main university subjects; but when policy issues arise in a specialist field, the Committee do not rely simply on an individual member, but take the collective advice of one of their standing sub-committees.

The Medical Sub-committee is chaired by the Chairman of the main Committee and has three other members of the main committee, thus allowing an overlap of membership which enables close liaison to be maintained between the main Committee and the Sub-committee. The members of the Medical Sub-committee are: Professor Arnott, Sir Eric Ashby and Professor Brambell (of the main Committee) and Dr. Ellis, Professor Kellar, Sir Aubrey Lewis, Professor Milnes Walker, Mr. Seddon and Dame Janet Vaughan.

The Sub-committee has assessors from the Health Department, and whenever necessary, more formal meetings are held with its representatives. The absence of a pre-clinical representative is a gap which I hope will in due course be filled, in view of the importance of planning for new pre-clinical buildings and the growing integration of the various stages of medical education. The Sub-committee is advisory to the U.G.C. which normally accepts its advice on speciality issues, but may have to over-rule it on broad issues of general university policy.

Apart from the Chairman himself, there are no academics in the U.G.C. The officers have to rely on correspondence or meetings of the Committee and its sub-committees in dealing with arrangements of accommodation, etc. This avoids any danger of the office itself forming views on academic policy matters; on the other hand, it has obvious disadvantages.

Under the ordinary university building programme the Treasury make a block allocation of funds and the U.G.C. are responsible for individual allocations to universities. The Treasury decide the total share of the cake, but do not in practice go beyond that - the universities and U.G.C. are free to decide priorities within this fixed total. But in teaching hospitals the priorities are settled by the Health Department on different considerations, and this may be difficult to reconcile with university priorities related to student expansion. So the university cost in

teaching hospitals could not be charged to the ordinary building programme. Moreover, the control procedures (costing, contracting, etc.) are different. One way would have been to charge the whole cost to Health Votes, but this would have put on the Health Votes what is clearly part of the cost of academic development. Accordingly a special subhead was opened on the U.G.C. Vote. This avoids any conflict of priorities, but since there is no competition between projects within a fixed total sum, the Treasury are bound in this field to scrutinise individual projects. The U.G.C. have to make a detailed case to the Treasury for any project exceeding £10,000 in cost. So while the money is "off ration", there is no blank cheque and there is tight scrutiny and control.

The amount of the subhead is going to grow very big over the years, since teaching hospitals account for a big slice of the hospital plan. The present subhead procedure may well, therefore, come under review since it offends one of the cardinal Treasurey principles about projects competing against each other.

There are, of course, difficulties in defining the university's share of the cost of a teaching hospital, since the academic and hospital areas become more and more integrated and rooms are no longer clearly labelled "University" or " Hospital". The Pater Formula gave a rough and ready approach, but in practice the apportionment is worked out 'ad hoc' and with a very broad brush between the U.G.C. and the Health Departments. It is undesirable for these questions of apportionment to worry too much the Hospital Boards and the Universities. Their job is to make a blue print for a really good teaching hospital, without looking over their shoulders at cost problems which are a matter for Whitehall (it is all taxpayers' money anyway).

The corollary of these arrangements is that the Hospital Board and the Department are responsible for the starting date of a new hospital, the appointment of architects, contractual procedure, etc.

So much for the chain of responsibility. What happens in practice? The consideration of schedules, etc., will be familiar to you, but there are a few points worth mentioning specially:

1. It is important that the Medical Sub-committee should see not only the academic accommodation but the whole hospital plan. There is sometimes misunderstanding about this: firstly, since it is a teaching hospital, issues may arise on any part of it on which the U.G.C. would wish to comment to the Health Departments; secondly, the U.G.C. cannot really assess such a part, except in the context of the whole plan.

2. Schedules may be almost meaningless by themselves. Up to about two years ago projects were comparatively small, and were dealt with by the officers consulting one or two members of the sub-committee and then corresponding with the university. But with the bigger schemes coming along several things became clear. Firstly, the Sub-committee as a whole will have to become involved in the responsibility; (it was too big for just one or two members). Secondly, the correspondence technique is tiresome and inadequate;

there is need for direct discussion and exchange of views. Thirdly, it is important that the discussion should take place early, before the schedules crystallise. So we have developed a procedure for fairly regular and full meetings of the Sub-committee and discussions with the universities and medical schools. This has worked must better, though there are still some delays, partly because it is difficult to get busy men to come together.

In all this, we have to keep in time with the Health Department, since the procedures mean that there have to be simultaneous submissions on each project to the Treasury.

Another point is that, because of the importance of the physical arrangements - embedding, etc. - the Sub-committee wish to see the sketch plan. The design stage is primarily a responsibility of the Boards and the Departments, but the U.G.C. may wish to raise points on it.

U.G.C. recognises the importance of giving as much planning guidance as possible. In the normal building programme, we have put out norms of accommodation, etc. It was difficult in the early stages to try to define the academic accommodation in new teaching hospitals, but now a good body of experience exists. Health Departments are compiling building notes and U.G.C. and the Sub-committee have agreed to co-operate in regard to teaching hospitals. It will always be difficult to lay down precise norms - indeed this would be undesirable, but it is hoped to give broad guidance for the planners.

This all sounds complicated, but it can and does work, especially if U.G.C. is brought in early and there is a full exchange of views. U.G.C. and Sub-committee do not claim monopoly of wisdom, but they have built up a fund of experience and advice. In any case, they are responsible and have to certify to the Treasury that the expenditure is justified. They have to satisfy themselves that plans are adequate, forward-looking, and in line with the best and most up-to-date medical thinking. In the last resort, therefore, they have to take the decision whether a particular investment should be made.

Policy

There are three cardinal objectives:-

1. The development of strong academic departments - professorial units - in the main subjects (medicine, surgery, etc., and, nowadays, psychiatry) with an adequate allocation of beds (50-60 per unit).

2. Beds should be concentrated in the main teaching hospital. It may be necessary in practice to work through a group of hospitals, but this is not ideal, if only because of the amount of travelling around. So U.G.C. are much concerned with the total number of beds. 800 was long regarded as the limit. But there is now general agreement that this is too small to cover the whole range of subjects and specialties required for teaching and research. Ideally, a new teaching hospital should probably have about 1,200 beds, but, of course, local considerations - population, etc. -

maymake the ideal impossible. However, it is a great advantage to have broken the 800 barrier.

3. Adequate research and investigation areas for staff and students. This covers part-time staff and consultants no less than the full-time units. Hence the U.G.C.'s emphasis on adequate space in or adjacent to wards, adequate research areas for the units and the consultants, etc.

It is important to remember that plans have to be made for a generation or more ahead. Firstly, this means that present research needs should not determine areas; the relation between the scientific area and the bed area is altering all the time in favour of the former. Secondly, planning must be flexible and not dominated by the present departmental vested interests.

Another point to be borne in mind is the increasing importance of universities and teaching hospitals in the development of post-graduate medical education as a whole in their regions.

More generally, if medical education is firstly to be integrated in all its stages, and secondly integrated with the university and made a real university education, teaching hospitals must ideally be on or adjacent to the university campus. This is likely to be the foremost consideration if and when new teaching hospitals come to be considered. It has not usually been practicable in the past and so the special problem of the pre-clinical departments has arisen. The Committee recognise that if there is a gap between the teaching hospital and the university, there is a dilemma about the pre-clinical departments. If they go with the hospital, then they suffer from being divorced from the pure science departments; if they stay with the pure science departments on the campus, they suffer from being divorced from the clinical work. It is a choice of evils, and the Committee have hitherto felt that a divorce between the clinical and pre-clinical was the lesser of the two evils. But, of course, the situation may change in the future with developments in medical education.

There is one other important distinction about the pre-clinical buildings. The special subhead applies only to accommodation which is complementary to, and has to be built at the same time as, the main hospital project. It is restricted, therefore, to the university clinical work and para-clinical needs in the hospital, and any new pre-clinical accommodation has to be charged against the normal building programme and take its turn among the university's priorities.

Finally, we do realise that London presents special problems in this field, e.g. the total size of teaching hospitals in relation to population movements, the relationship between medical schools and the university, etc., and the problem of the location of pre-clinical departments.

DISCUSSION NOTES

Points arising from Mr. Copleston's Paper given to the 2nd Building Conference

1. All hospital medical schools and post-graduate schools were parts of their respective universities. The money for everything other than clinical departments had to be found from grants made to the universities and not directly to the schools. The universities had, therefore, to decide on the priorities to give to medical school projects.

2. Disagreements between a university and a teaching hospital, or between the Department and the University Grants Committee, were resolved by discussion. There was no provision for formal arbitration. Disagreements could, of course, be resolved at ministerial level but very seldom went that far.

3. The mere token representation of specialties in teaching hospitals was useless. They should either be represented by viable units or not at all.

4. No formal enquiry into standards for medical schools was contemplated. In criticising proposals put to them and making suggestions the U.G.C. were drawing upon accumulated experience.

5. The "Pater formula" was in practice difficult to apply and a simpler method of apportioning costs between the hospital and the university was desirable. It was pointed out, however, that apportionment was for the U.G.C. and the Ministry to agree, and at hospital and university level there was no need for much time to be spent on the exercise.

Points arising from Mr. Copleston's Paper given to the 3rd Building Conference

1. Is the U.G.C. likely to widen its interests to encompass:

   (a) Post-graduate work?
   (b) Auxillary professional training supplementary to medical training, e.g. nursing?

   Mr. Copleston said 'no' to the former - a university has no funds at the moment for this sort of work in district general hospitals, and thus has no responsibility for it. If, however, in the future a university were to sponsor research facilities for trained doctors, then the U.G.C. would in turn become indirectly interested in the district general hospital.

   In the latter case (supplementary professional training), the U.G.C. would become interested only after a university was

prepared to take the initiative in running courses.

2. A question was asked about the U.G.C.'s attitude to raising the standards where they are inferior, e.g. lack of suitable accommodation, the employment of only part-time staff. While it is the policy of the U.G.C. to give grants to those who badly need it, the money is given to the university concerned with no strings attached. The university itself must decide how much of this money will go to the various departments of the school.

3. Considerable discussion took place about the establishment of educational centres at teaching hospitals to be shared by all students, both medical and "para-medical"; certainly in the case of the latter, this would aim to give a common basic education for nurses, radiotherapists, and perhaps some of the technical professions. A centre of this nature is at present being planned by the Oxford Regional Board.

4. The problem of staffing teaching hospitals of the proposed size of 1200 beds was debated at length. Points that were raised included the fact that with smaller hospitals tending to disappear, and an overall reduction in total number of beds, the actual nursing problem could be easier rather than more difficult. It was felt that more information is required about patients' needs, particularly of those who are in hospital for investigation and who do not require nursing care in its full sense.

Recent reports have indicated that as far as under-graduate training is concerned, hospitals of this 1200-bed size are necessary; indeed in view of the likely increased demand for under-graduate places, this may eventually mean the establishment of a new medical school somewhere in the country.

5. A real need was expressed for better forecasting of the sums of money required for maintaining new teaching hospitals, bearing in mind that costs are split between the university and hospital interests. The problem of these future costs (e.g. maintenance, drug costs in treating patients) must be solved. The point is not that the university objects to these costs - it is simply that they must know in advance how much they are being let in for, so that they can make due allowance.

6. To what extent does the U.G.C. influence university policy as regards expansion? This can only be done indirectly, when the U.G.C., in making its quinquennial grant, will say it has not taken account of some proposals. Nevertheless, it remains for the university to ignore such observations if it wishes to do so.

7. The U.G.C. supports the idea of Student Medical Services in principle, so long as they are kept within practical limits.

8. Does the General Medical Council play any part in U.G.C. activities? At present, no, but if future planning were to result, for example, in new ideas on syllabuses for training medical students, then they might possibly become more closely associated.

CO-OPERATION BETWEEN REGIONAL HOSPITAL BOARDS & TEACHING HOSPITALS IN HOSPITAL PLANNING

By Dr. James Fairley, M.D., B.Chir.,
Senior Administrative Medical Officer,
South East Metropolitan Regional Hospital Board.

I have assumed that the subject of this talk embraces the planning of both teaching and regional hospitals, from the point of view of the functional role of each, the influence of one upon the other and of both upon the areas they serve.

The architects of the National Health Service in associating one or more teaching groups with each hospital region presumably hoped that in this way the regions could look to the teaching hospitals, because of their special functions, for inspiration and leadership. In Scotland the teaching hospitals are part of the regional system and on the whole this operational and administrative arrangement works smoothly, whereas in England and Wales the Boards of Governors of the teaching hospitals are autonomous and any influence or inspiration they exert cannot be expected as a right by the Regional Hospital Board. It can only be secured by a partnership of co-operation, goodwill and understanding.

In this autonomous structure, the day-to-day management rests directly with the Governors, without the intervention and influence, sometimes good, sometimes bad, and at others indifferent, of a Hospital Management Committee. This very autonomy can profoundly influence the planning of a hospital region, particularly the immediate vicinity in which the teaching hospital is situated, and this can determine the type of "District" service.

As the administrative structure of teaching and regional hospitals differ, so do their FUNCTIONS. Regional hospitals are primarily and basically concerned in providing a service for patients and to train nurses. It is incidental rather than fundamental that the patients are used for training doctors. The teaching hospitals, with their associated medical and other schools, whilst, of course, providing a high standard of patient service, have two main over-riding responsibilities:-

1. The training of doctors.
2. Research and the advance of medicine.

and the whole organisation is geared to these two onerous tasks, and the arrangements for patient services are necessarily moulded to these aims. If doctors-to-be are trained in surroundings where the nursing is of the highest standard, both in quality and quantity, with every possible up-to-date piece of equipment to meet the advances in medicine, and the physical structure is equally good, the high ideals so set, will influence doctors and others to accept no lower standards when they leave the cocoon of their teaching hospital. This outlook should and does directly influence the planning of regional hospitals.

But these high ideals, very largely being achieved in the teaching hospitals take a very large and perhaps disproportionate slice of the financial cake. This is reflected both in the high cost for each bed and each patient treated, and so to gain the greatest benefit from this additional cost it is essential that patients are kept only in the highly costly surroundings for so long:

(a) As their clinical condition justifies these surroundings,

or

(b) Their usefulness for teaching continues,

and here, the regional hospital has a part to play which I will refer to later.

The National Health Act of 1946 set out to provide a comprehensive hospital service for the public on their doorstep with the result that hospitals around the teaching group have been so upgraded that the patient can obtain very nearly the full range of specialist care without the need of going to the teaching hospital, as they did in the past. The teaching hospital may therefore be starved of clinical material for student teaching. This is a very real and serious matter and Regional Hospital Boards, particularly in London, must recognise this danger and not plan their district services in isolation or without adequate consultations with the teaching group.

To attract students to their medical school the teaching hospital must have the full range, not only of general clinical material but also highly specialised units such as Radiotherapy, Open Heart Surgery and so on. In London, with 12 under-graduate teaching hospitals and an equal number of post-graduate institutes all competing for students and clinical material, the duplication of special units may well lead to under use through over-provision and this, of course, is wasteful, of money as well as highly skilled staff and complicated apparatus. This wholesome desire of each and every teaching group to be self-sufficient may need co-ordination and certainly the same risk of duplication by the Regional Board entering this competitive field must be avoided.

This problem is unlikely to arise in the provinces where normally there is only one teaching group in the hospital region.

It seems, therefore that of all the JOINT PLANNING PROBLEMS the two most important are:-

1. To secure adequate suitable clinical material for the viability of the medical school.

2. The co-ordination of specialised units or centres.

How can these be achieved? As well as the usual direct referrals from general practitioners or following domiciliary vists and the mass of casual attendances, clinical material may come in other ways:

1. (a) By an ASSOCIATION between the medical school and a nearby regional hospital, in which a block of beds (say 200) is made available for student teaching by the staff of the teaching group, who under contract with the Regional Hospital Board,

take clinical charge of the case. This arrangement does increase the amount of clinical material but only partially meets the full needs, since the separation of in- and out-patient teaching, on different sites, the inability to readjust total beds to establish professorial units, and the absence of admission selection to the block of beds prevents continuity of training.

(b) DESIGNATION of a nearby regional hospital to the teaching group is probably the most satisfactory way of ensuring adequate general clinical material, with the possible disadvantage of further extending the autonomous influence of the Board of Governors. This sort of rationalisation may seem to the uninitiated and prejudiced, a "take-over bid" by the big autocractic teaching hospital but by explanation of the merits and adequate consultation this can be resolved.

My Board is at present examining a proposal for designation and here again is the opportunity for co-operative planning, and whilst recognising the critical needs for teaching, the legitimate desires of the population to use their "local" hospital must not be overlooked. There is a very real fear that patients of special interest for teaching coming from a distance might deny a local resident a bed.

(c) A third way of providing clinical material, by INDIRECT means, is to establish homeward bound units in a regional hospital. Beds and services are allocated in selected specialties to which staff of the teaching hospital transfer and continue to treat suitable cases. The principle of this arrangement is the transfer of a patient from the teaching hospital when either -

(a) The special skills and facilities in the teaching hospital are no longer needed.

(b) The patient has recovered beyond the point when the condition is of teaching interest.

Whichever reason applies, the early transfer from the teaching hospital does allow a faster through put of patients, and if in the main specialties consultants on the teaching hospital staff have out-patient clinics in the regional hospital as well, the pick up of clinical material from the district is assured.

Such an arrangement exists between Guy's and the Bermondsey Group and works well, whole-heartedly supported by the Hospital Management Committee, and provides:-

(a) Homeward-bound accident and emergency service.
(b) Rehabilitation unit.
(c) Hostel beds for radiotherapy.

in all 100 beds under the clinical care of the teaching hospital consultants and nursed by Hospital Management Committee staff. Expansion for geriatrics and long-stay, and psychiatry is being developed not only for in-patients but also in Day Centres.

The second main sphere of co-operation in planning is the -

2. Provision of Specialised Units or Centres for which geography, distance and density of population must be considered but it would be exceptional to find a specialised unit in a regional hospital within the district catchment area of the teaching centre. On the fringe and in the periphery of the Region it is necessary to establish regional centres for certain specialties on an area basis.

What are these special units?

(a) The Accident and Emergency Service of the future will be based only in selected district hospital. In the area of the teaching hospitals the region should not establish such units, but can be PARTNERS in the organisation by providing the homeward bound unit, the primary admission centre being in the teaching hospital.

(b) Surgical centres for cardio-vascular, thoracic, neurological, plastic and urological cases.

(c) Poison centres and metabolic units, mobile teams.

(d) Respiratory physiological laboratory.

(e) Radiotherapeutic units, with high voltage equipment and the requisite supporting physics laboratories.

All these highly specialised units require not only particular highly developed professional skills, medical and nursing, but also highly complicated costly equipment, and on this score alone, specialised units should not be established without full regard to a well proven need.

Where, for whatever reason, a specialised regional centre is justified, within reasonable distance of the teaching centre, the two should be complementary, and so organised that through joint medical, technical and perhaps nurse staffing, the highly developed specialised skills and the costly complicated machines, will be fully and economically used.

The training of nurses must not be overlooked in the provision of patient services and the teaching of medical students.

Is the teaching hospital now presented with a clash between the requirements of medical students and those of a top nurse training school?

Probably the most able girls are attracted to the teaching hospitals and so, with a reasonably satisfactory recruiting position, it is a temptation to meet the ever-expanding nursing needs of medical teaching, by staffing the hospital with more student nurses than the training facilities can satisfy. But with the high proportion of specialised wards and departments and the needs of the professorial units, will the teaching hospital in future, alone, be able to give the comprehensive training and experience so necessary to provide the matrons for the developing large regional hospitals?

Is there not another opportunity for co-operation by devising joint nurse training arrangements in a similar manner to that of the exchange of doctors in rotating senior registrarship?

In addition to the very extensive provision of patient services. there are other problems, of which Civil Defence and Area Nurse Training are but two, in co-operative planning but the success of any joint enterprise does not depend only on the adequacy of the plan, but on the understanding and wish of people to co-operate, either individually or as a body.

How can this understanding be achieved?

There are many ways such as:-

(a) Joint membership of Statutory bodies:

Board of Governors
Regional Hospital Board
Hospital Management Committee.

(b) Under-graduate deans to be members of the Regional Hospital Board.

(c) Consultants of teaching hospitals to have contracts in Regional Hospital Board hospitals.

(d) Teaching hospital staffs, medical nursing and lay, to be members of Regional Committees such as Civil Defence, Reviews of Staff (Platt, Nursing) and specialty sub-committees and research committees.

(e) Exchange schemes of senior medical trainees.

In all this the S.A.M.O. should establish and further the basis of essential co-operation. The very extent and complexity of planning a regional service with the difficulties and frustrations of the building development programme gives the S.A.M.O. knowledge and experience which should be fully used by those at the teaching hospitals concerned with plans and planning. As a planner and co-ordinator to a board for the major development schemes in the Ten Year Plan, I am only too conscious of the pressures, conflicting claims, jealousies, empire-building and bickering that occurs, and perhaps because of bias, I cannot see how the complex developments of the teaching hospitals and medical schools can be contained within the not inconsiderable slice of the national financial cake, as it becomes available, and proceed on time unless one medically qualified administrator is given the responsibility and the requisite authority to make the final decisions. It is an onerous, thankless task and I honestly believe that it is asking too much to expect the same person to do this as well as teach medical students, treat patients and perhaps pursue private practice as well.

In conclusion, what are we hoping for from the co-operative planning that has been outlined?

I suggest a balanced teaching hospital, accepting as in the past

the responsibilities of providing the medical care for the surrounding local community. Today it is exceptional to find total community care provided by the teaching hospital, the emphasis being more on the acute events in the patient's trouble.

The long-stay sick, mentally or physically afflicted, are a community problem and responsibility and, if the teaching hospitals are to survive as independent bodies, they must accept true community and district responsibilities. Tradition dies hard. Unless the present inflexible attitude of the teaching hospitals changes, they may well die of tradition.

DISCUSSION NOTES

Points arising from Dr. Fairley's Paper given to the 2nd Building Conference

1. Teaching hospitals needed medically qualified administrators with whom the final authority in planning matters should lie. (This was not unanimously accepted, but it was agreed that any teaching hospital with a development programme on hand needed at the very least a doctor of consultant status to give a substantial part of his time to planning. The difficulties of finding consultants who were willing to give up any clinical work in order to do this were stressed.)

2. A teaching hospital must have a district role and should ideally have its own district within which the Regional Hospital Board exercised neither operational nor administrative control of beds. In practice this might be difficult to arrange since existing links should not be broken merely for administrative convenience. Regional services might be essential but, if so, the medical staff of the teaching and Regional Hospital Board hospitals should hold joint appointments.

3. To measure the size of a hospital by its bed complement or the required size of a teaching hospital by using a ratio of beds per student was no longer realistic and there was a great need for new standards.

4. Teaching hospitals would have to decide whether or not to have general practitioner beds. They might well not do so but at least they should provide library, educational and club facilities.

5. It was the function of the Regional Board to act as planning authority for the whole Region including the teaching hospitals within it. The Ministry of Health was the central co-ordinator but was not equipped for the work of detailed planning.

Points arising from Dr. Fairley's Paper given to the 3rd Building Conference

1. Some teaching hospitals have established "homeward bound" units to which patients who are well on the way to recovery are transferred. Some fear of this was expressed by the nurses present, that unless there was a nurse inter-change, those in teaching hospitals will receive training only of intensive care, while nurses employed in the 'secondary' hospitals will be taught only convalescent care.

2. In discussion, Dr. Fairley expressed some apprehension about particular items of research being duplicated simply because one investigator did not know that similar work was being undertaken elsewhere. Information of research undertaken throughout the Hospital Service is now available from Mr. Cornish at the Ministry of Health.

3. The role of the Matron of the future in a 1200-bedded hospital was discussed. Is she going to lose her traditional role as a 'mother' to the patients and staff and become a nursing qualified administrator, possibly responsible even to the general administrator of the hospital? While there is a tendancy in this latter direction, the complete change of role is unlikely to happen in the foreseeable future.

4. There is a movement towards 'splinter' teaching by clinical tutors in the larger regional general hospitals. It was felt that this movement, together with post-graduate training, may help to break down some of the traditions associated with teaching hospitals. Linked with this, the question was asked - what are the teaching hospitals going to do about geriatrics and general practice? There are, too, dangers of spreading out teaching too thinly and of students missing something by being away from university life. Also, too many attachments will spoil the personal relationship which should exist between teacher and student.

5. There was a long discussion on geriatrics, debating the questions whether there was need for this specialisation or whether old people should be 'shared' among other physicians and surgeons. There was general agreement that there was need to get rid of the feeling that people over 65 were geriatric problems simply because of their age.

6. Finally, there was some speculation of the possibility of allocating beds in teaching hospitals to general practitioners to enable them to follow their patients through. The other specialists would then look after any other patients of the hospital. Attractive as this idea seemed to some members, it was fully realised that the ease of operation of this scheme was much greater in urban than rural areas. If put into practice, the idea might cause considerable confusion among ward sisters and when trying to define links with health visitors and district nurses.

COST LIMITS AND FINANCIAL CONTROL

By Mr. L.McL. Watson, M.A., F.R.I.C.S.,
Chief Quantity Surveyor,
Ministry of Health,

The basis of the Hospital Building programme is financial. Money has been allocated by the Treasury over a period of ten years. To convert this into named schemes it is necessary to know how much each scheme is likely to cost. It follows that an early evaluation on a broad basis is required. "The Bed" basis is unreliable because of the uneven content of each hospital. The content of a hospital consists of the various departments - wards, operating theatres, outpatients, etc. - and the only way to define the content of a hospital is to state the function that each department is required to perform. The Ministry have evolved a series of Building Notes which relates function to building requirements and sizes, and from this information it is possible to attach figures of cost. These figures are known as Cost Allowance. This means that in future it will be possible to estimate more accurately the cost of schemes for which the function has been determined, and each yearly revision to the 10 year programme, which is always 10 years ahead, becomes more realistic.

The existence of the cost allowances allow us to go a stage further. We can add them together for all departments, calculate the likely cost of external works such as roads, etc., evaluate the cost of abnormal features of the site, and with this result say that this is the amount of money, allocated out of the total sum available in the 10 year programme, available for this scheme and to which design solutions should conform. This sum of money then becomes known as the "Cost Limit" for the scheme. We therefore approach the cost of a scheme in two ways (i) what is the sum available? i.e. the cost limit? and (ii) what is the probable cost of the design solution, i.e. the estimate? Our problem is to ensure that the estimate does not exceed the cost limit.

This brings us to a process which is known as Cost Planning. We have seen how a cost limit is built up, and the next sequence is to break down the same cost into the various building processes and components such as structure, partitions, doors, fittings, engineering works, decorations, etc. These sub-divisions of building are known as elements. From experience, it is possible to distribute the total money available in a way that strikes an even balance of quality as between the various elements. By designing and costing each element separately, we are able to recognise very early on if the cost limit is being exceeded and the direction in which to look for savings.

It is essential that we should go through this process of matching design to the money available. The penalty of failure is what is known as the form 'c' exercise which involves attempting to cut back the cost after tenders are received, when pressures from all sources - political, a contractor awaiting instructions and perhaps withdrawing his tender, Ministry intervention, etc. - are frustrating; they lead to delay and are seldom entirely successful.

I have mentioned that the pricing of the elements in a cost plan is based on experience. Our experience is growing and we hope to set up shortly in the Ministry a pool of information resulting from experience of the whole country and on which all will be able to draw.

The procedures outlined so far take cost control up to tender stage only. It is essential that control during the contract should be just as firm. No guidance has been issued on this point but it is essential that the client, i.e. the project team, should set up a routine for checking costs constantly throughout the works and to keep control of variation orders with a view to keeping the final cost of the works within the approved sum.

DISCUSSION NOTES

Points arising from Mr. Watson's Paper given to the 2nd Building Conference.

1. Cost limits would be enforced as strictly as possible and would be reviewed as rarely as possible.

2. The trend was towards cutting out the P.C.L. and having one cost limit only.

3. The tendency of any programme was to generate delays so that it might well be possible to avoid imposing artificial delays on schemes whose cost exceeded the original estimate. However, control by starts so that the cost of the programme did not exceed the annual allocation was an essential part of the Department's policy.

Points arising from Mr. Watson's Paper given to the 3rd Building Conference

1. Concern was expressed about the fact that some tenders may come within cost limits almost fortuitously; for example, because a contractor is already working in the area, he thus avoids the cost of building up a labour force and obtaining mechanical plant from elsewhere. In addition to this, few large national contractors seem to be interested in hospital building, and their tender prices are higher than those of local firms; they have expressed a lack of interest in competing with local firms which lack their resources as regards speed of construction and consultation. The Ministry has stated that they will not pay for these services.

   Where local contractors are not available, there may appear to be a case for a sliding scale of cost allowances to take account of higher costs (e.g. the need to set up a labour camp in a thinly populated area) - but the Ministry have rejected this idea.

2. The point about the client joining site discussions with the architect, engineer, quantity surveyor and contractor was discussed at length. 'Client' here means the House Governor or the Secretary of the Regional Board concerned, whose main function in this respect would be a close control of variation orders.

3. Mr. Watson explained two methods whereby building can be undertaken in stages, but using the same contractor:-

   (a) "Run on" contracts have been devised where subsequent stages are clearly linked to the first stage and may even be repetitive to some extent.

(b) Parallel contracts, where the Authority goes out to tender on fixed basis for the first stage, and then uses the contractor's expertise to plan further stages.

TEACHING HOSPITAL BRIEF FOR AN ENGINEER

By Mr. S. Mulcahy, B.E., A.M.I.E.E., M.Cons.E.
of Steensen, Varming & Mulcahy,
Consulting Engineers.

I would like at the outset to say that I do not think there should be a brief for an engineer. Mechanical and electrical hospital services are so integral with the fabric and structure, they so influence the planning and use of space, that they cannot, at the briefing stage especially, be thought of apart.

There should be one brief; a comprehensive one of space, services and relationships for all members of the design team.

In order to prepare such a brief you, members of the planning team, should be aware of the nature and principal characteristics of building services. They are systems which assist man and nature in performing tasks which, unaided, they perform poorly and laboriously. The uncertain natural environment can be controlled or replaced. The laborious transport of supplies and the transmission of information can be mechanically assisted or indeed fully automated. Happily, and perhaps unexpectedly, all services have much in common and can be illustrated by a single simple diagram. The main elements consist of:

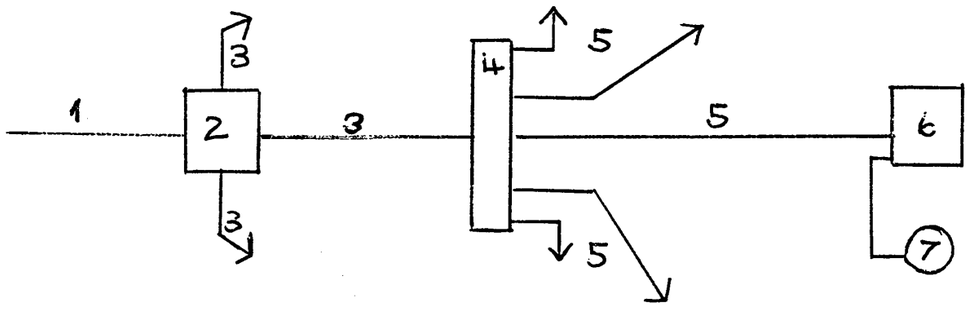
1. Intake.
2. Conversion plant.
3. Primary distribution.
4. Manifold.
5. Final distribution.
6. Terminal.
7. Control.

Essentially the system is a continuous one and its purpose is to serve the terminals and the controls. You must identify and establish clearly the use to which these terminals will be put and must be clear what measure of control is required; whether it be coarse or fine, continous or intermittent, vital or desirable. It is then the engineer's role to design a system to suit and the architect's to see that the building structure and fabric accord with and accommodate these systems.

Service systems are prone to many ailments of corrosion, thermal stress and wear of moving parts. Adequate surrounding space is required for maintenance. Architects are somewhat obsessed by economy of space (this is generally a measure of good design) and are encouraged in this by the Ministry who directly relate space and money, overlooking the fact that plant and duct space is relatively inexpensive. The area brief should from the start allow generous provision here. Ministry guidance would be extremely useful.

Of all buildings, the hospital is the most widely and intensely

MASTER DIAGRAM FOR BUILDING SERVICES SYSTEMS



		SERVICE SYSTEM				
		HEATING	VENTILATION	WATER	ELECTRICAL	TELEPHONE
COMPONENT	1. Intake	fuel	air	water	electricity	G.P.O. lines.
	2. Conversion Plant	boiler	fan	tank	transformer	exchange
	3. Primary Distribution.	main pipe	main duct	main pipe	main cable	cables
	4. Manifold	pump	zone heater	header	fuseboard	sub-exchange
	5. Final Distribution	branch pipe	branch duct	branch pipe	final circuit	cables
	6. Terminal	radiator	grill	basin	light	telephone
	7. Control	valve	damper	tap	switch	dial

serviced, containing as it does all the elements of commercial, industrial, scientific and residential buildings. Additional factors influencing the provision of services are twentyfour-hour occupancy, the need for extreme cleanliness, and the possible loss of life on failure of control. The teaching hospital differs from others in its requirements for research and teaching which create a demand for extensive and adaptable laboratory space. Planning should take account of modern communication techniques for teaching.

In England, unlike Scotland, a hospital is a teaching hospital when it has not got a Regional Engineer, nor, indeed, any other Regional Board Officials. In London we have found the Ministry Officials extremely helpful and accessible. In Scotland the Board Officials take part in teaching hospital planning. English teaching hospitals outside of London are certain to benefit from the special knowledge of our Regional Board Officials, especially at the brief stage. Without question, services engineering expertise must be available to the building team so that the implications of services are accommodated. The major difficulty is posed by the fact that we are engaged on a vast design programme coincidental with, rather than following research and development. The earliest possible opportunity should be taken to standardise nationally on hospital department design rather than continue to build individual untested prototypes.

It seems, on analysis, that hospital services can conveniently be grouped under a number of headings, each of which influences hospital planning in a somewhat different way. It may be useful to list these with short comment here. More detailed comment is available in the Preliminary Sketch Plan Report for the New Teaching Hospital and Medical School at Ninewells, Dundee, which is available from the Eastern Regional Hospital Board.

1. <u>Supply Intake and Main Distribution Plant</u>:

(1) Fuel storage and boiler plant.
(2) Water supply, pressurisation and storage.
(3) Gas incoming main and meter position.
(4) Electricity incoming supply and transformer station.
(5) Telephone incoming lines and exchange.

Obviously in considering the site for a hospital it is imperative that these supplies are available. It may be said that these services, although vital, have little bearing on the layout planning beyond the need to be satisfactorily accommodated.

2. <u>Process Installations</u>:

These include:

(1) Catering.
(2) Sterilizing.
(3) Laundry.
(4) Incineration and Refuse Disposal.

The planning of each department must be closely related to the equipment and should also consider possible innovation, such as pre-cooked frozen meals in the case of catering. The location of each department within the overall plan is primarily related to ease of delivery.

A major task here is to cope with and to see that the services solution does not aggravate any or all of the environmental nuisances of heat gain, excessive contrasts in lighting, excessive noise, dirt and contamination - sometimes known as "blare, flare, glare, stain and stink". These characteristics must be kept in mind when considering the specification of equipment and the location of process.

3. Environmental Services:

(1) Ventilation.
(2) Space heating and cooling.
(3) Lighting.
(4) Noise control.

The facility of control of the artificial environment in terms of ventilation, heating and lighting is of special value in the hospital and permits more compact planning. Full air conditioning in the patient bed area should not be necessary in this climate, although a basic mechanical ventilation system ensures the necessary minimum ventilation rate and generally offers many advantages.

These services exert considerable influence on planning and structure. Ventilation plant makes the highest demand on plant space throughout the hospital rather than in a centralised position.

4. Piped or Utility Services:

(1) Steam.
(2) Water.
(3) Gas.
(4) Compressed Air.
(5) Electricity.
(6) Soil Waste.
(7) Medical Gases.
(8) Medical Vacuum.
(9) Laboratory Vacuum.
(10) Central Vacuum Cleaning.

These services have little influence on overall planning, but have considerable influence on the specification of internal fabric and structure, and on the disposition of equipment and furniture within the rooms. They are greatly influenced by considerations of future flexibility and increased demand. In contrast to the environmental terminals which tend to give general coverage, these terminals must be precisely located to suit the users. It becomes necessary to list the precise requirements on room sheets. It may well repay to have a work study assessment of the tasks to be performed to ensure that the correct utilities are available.

5. Communications and Monitoring:

(1) Telephone.
(2) Patient-to-Nurse Call.
(3) Staff Location and Register.
(4) Special Point-to-Point Call.
(5) Fire Alarm.
(6) Radio and Television.
(7) Directional Signals and Signs.
(8) Clocks.
(9) Central Dictation.

The implication of these services at the planning stages lies in the reduction of internal traffic and in the speed up of communication. Future flexibility and additional services must be anticipated here and a system of routes must be made available.

6. Mechanical Handling and Transport:

(1) Bed Lifts.
(2) Passenger Lift.
(3) Service Lifts.
(4) Pneumatic Dispatch.

The influence of these services on the layout planning is paramount. Tall compact planning increases the demand for vertical transport but can enable automatic handling equipment to be installed. On the other hand, a low development greatly reduces the need for vertical transport but creates a need for horizontal transport which is difficult and costly to automate. A general mechanically assisted system seems more appropriate to a horizontal layout.

7. Equipment:

Details of the electro-medical equipment to be used in the hospital are required relatively early in the planning to enable the correct provision of space and services. The specification of such equipment should aim to minimise the nuisance factors referred to earlier.

8. Commissioning:

A modern teaching hospital is essentially a highly complex and prototype machine, many parts of which will not at first work satisfactorily. A period of at least six months will be required to commission this machine and to instruct the operators in its use.

DISCUSSION NOTES

Points arising from Mr. Mulcahy's Paper given to the 2nd Building Conference

1. Artificial ventilation was acceptable for spaces in which people spent comparatively little time but was not necessarily so in patient areas. It was possible to design a building which could be efficiently ventilated artifically in some parts and naturally in others.

2. In the interests of flexibility, main services should be provided throughout a building whether there was an immediately identifiable need for them or not. Terminal points need not be provided until they were wanted.

Points arising from Mr. Mulcahy's Paper given to the 3rd Building Conference

1. It is essential that equipment lists are kept up-to-date as changes in accommodation are made through the various planning stages.

2. When should escalators be used? These are only efficient when there are large numbers of people travelling between 2 and 3 floors (as in large departmental stores). Hospital traffic tends to be more a trickle of people over greater distances. The use of a Paternoster lift for staff purposes was again mentioned here.

3. The strain on lifts in existing hospitals was discussed. It was felt that hospital management need to investigate the movement of people about the hospital, as some experiments have shown that a regular porter/messenger system through the hospital can cut down the movement of a great many people.

4. A discussion also took place about the possibility of using a central signals office for all calls systems throughout the hospital; one big advantage here is that multi-cord channels are very cheap.

5. References:

"Sources of Information for Hospital Design" by A.E. Fountain, Librarian Ministry of Health, published in the "Builder" July 13, 1962.

A noted bibliography of Hill Burton Publications published by the U.S. Department of Health, Education and Welfare, Division of Hospital and Medical Facilities, Washington 25 D.C.

A BRIEF FOR THE ARCHITECT - STAGES IN PLANNING

By Mr. J. Weeks, A.A.Dip., A.R.I.B.A.
of Llewelyn Davies & Weeks.

Systems have recently been evolved by the Ministry of Health and the Regional Hospital Boards for the briefing of architects for the design of hospitals, and the publication of advice notes and cost control systems has also been organised. In the next years more teaching hospitals will be designed and there are many indications that aspects of the briefing methods used in the Regional Hospital Boards might be by the Boards of Governors of teaching hospitals.

The first stage is to assess the case of need and to obtain Ministry of Health approval in principle. The paper deals with the stages in planning after this important step is complete.

A teaching hospital comprises two organisations which are inter-dependent - the hospital and the medical school. It is essential therefore that from the earliest stage of considering planning the committee structure shall consist of representatives of both bodies. To illustrate the importance in terms of space of the medical school, it has been estimated from schedules of accommodation for new teaching hospitals an average figure of 5,000 sq. ft. per student/year/intake will be necessary for a new medical school. This includes the pre-clinical areas, laboratories, lecture rooms and other accommodation but does not include residential accommodation.

In the Regional Hospital Board briefing committees, the architect is protected from direct intervention by the eventual users of the hospital. This is not so in the teaching hospital where the committees may be made up of men who expect to use accommodation in the new building. Wisdom and strength are therefore required by the Chairman and other key members of the committee if special interests are not to take priority over the more general interests of the scheme as a whole. In order to complete the schedules of accommodation in a reasonable time (a year at the outside would be the target), great drive and concentration by many people is necessary. Meetings may be needed at least weekly attended by members of both the medical school and the hospital and ideally these should take place during the day and not in the evening. At the intensive period meetings may last 3½ hours. It is essential that from the earliest time very complete minutes shall be kept of these meetings and a note made of all decisions reached. It would be advisable if these decisions were recorded in systematic fashion so that at a later stage they may be used as a reference dossier.

During the scheduling period the architect must bring to the notice of his client, whenever necessary, advice on various points which has been published by the Ministry, and all other questions. The committee will then have to judge, when variations from this advice are required, whether a case to the Ministry of Health can be

made satisfactorily even if these variations are likely to cost more than the normal cost allocations. This will become increasingly important as more departments are covered by the Ministry of Health building notes. Time spent at the scheduling stage on making arguments specific will result in a shorter approval phase.

Before any detailed planning proceeds, it is necessary for a development plan to be drawn up to cover the whole of the expected building for the foreseeable future. This development plan must show the extent, the priorities, and the stages of the work during the course of its achievement. At this stage the adequacy or otherwise of the site can be seen and the future policy of the hospital properly argued. A small site will result in a less flexible scheme than a large one. Further, a small site will make it much more difficult to design for building in stages, since the scheme will need compressed accommodation resulting in taller, denser development with more complicated interweaving of departments. In any event the development plan must show the main communication ways which will be used to join up the various departments in a systematic way, and which will be viable throughout the course of the development. Although a development plan cannot show the shapes and sizes of the future buildings and departments accurately, it can show the pattern around the communication grid.

Factors which will have to be taken into account in drawing up a development plan include the town planning regulations for the area. In the London area, for example, the L.C.C. has recommended that a plot ratio of 2 : 1 shall be normally regarded as the maximum allowable except in the most densely built-up central areas. The development plan will show also whether the hospital is likely to be conspicuous in the landscape and thus whether the progress of the scheme will be easy or whether it will raise some measure of public disapproval or hardship which could involve the delay of a public enquiry.

Ministry of Health acceptance of the development plan is an absolute essential before permission to proceed with detailed work is given.

The departmental accommodation schedule is more than a list of rooms. It is the basis used for calculation of the preliminary cost limit and can only be drawn up as a result of an agreed philosophy of work for each of the departments. For example, the presence or absence of a central supply unit will affect the sizes of service rooms in most of the departments of the hospital. The inclusion or otherwise of an intensive patient care area will affect the planning of wards, not only so far as patient areas are concerned, but also in the details of the ancillary accommodation. In the case of a teaching hospital, it is vital that the schedules reflect also the degree of inter-dependence between the hospital and the medical school. It is my personal view that the medical school and the wards should have a floor by floor relationship so that the area given over to clinical research or service departments can be varied from floor to floor according to changing needs. The schedules will, therefore, reflect not only the philosophy behind the work of the departments but - no less than the development plan - the philosophy behind planning of the whole institution.

Traditionally, departmental planning does not commence until the completion of the schedules. My personal view is that it is unnecessary to await this. On the basis of published material the accepted development plan and the architect's pre-knowledge of hospital planning, it should be possible to proceed some way towards detailed planning, once the broad allocation of clinical interests within the hospital has been decided. Should this overlapping of planning and schedules be possible, very considerable savings in time may be achieved in the overall planning programme.

During the next phase of the operation departments are planned in detail. One of the techniques which has been developed in the Regional Boards is the use of the "Room Loading Sheet". This is a form and there is one of these to every room in the hospital and medical school on which is noted all the information which the architect and the mechanical engineers will need to size it, service it and put in equipment and furniture suitable to its function. The work of completing these forms is lengthy, tedious and exceedingly important. It might be that in time the Ministry of Health will find itself able to issue basic sheets on which variations can be placed by individual hospitals. These sheets have to be checked by the users and, when agreed, can be handed to the architects and consultants to use as a basis of detailed planning.

It is preferable that departmental specialists should not sit continually on the briefing committee but should be co-opted as occasion requires, either to sit with the main committee, or as part of specialist working parties. Here again it is necessary to emphasise the need for very efficient secretarial service. Each of the working party meetings as well as the main committees must be minuted and its decisions reported accurately. The importance of the secretariat is such that more than part time attention by one of the hospital secretariat is necessary if a rapid timetable is to obtain. In a project I am presently concerned with the secretariat consists of a hospital administrator and two juniors who are experienced at dissecting meetings and compiling concise minutes, and two shorthand typists. The work of the secretariat is not only concerned with minute taking but with holding together the work of the various teams and bringing the material to the parent committee against a definite and detailed programme of work. This programme should be drawn up as soon as a place in the ten year plan has been secured and progress of work through the committees must be constantly checked against it.

During the detailed departmental planning stage the client should expect from the architect drawings at frequent intervals which will mark significant stages in the progress of the client's decision making. These drawings will be rough and produced quickly. The client should not expect, and the architect should not attempt, to make these sketch drawings examples of drafting art. In my own office, these drawings are always done in freehand. They should never be done in committee because as soon as planning begins in the committee everybody joins in. It is not that members of the committee will not have good ideas but simply that it is a waste of the committee's proper energy. Finally before a presentation set is produced these sketch plans should indicate the approximate number and positions of fixed equipment and the larger items of moveable equipment such as beds, operating tables, etc.

As soon as details of the first departments and room designs have been approved the next stage can begin, in which the architect will begin his work on the contract drawings. These include every detail required by the contractor. Whilst this work is being done in the architect's and engineer's offices the client will need to begin work on his selecting of moveable and fixed equipment.

Throughout this complex design process it is absolutely essential that the programme, assuming it to be a workable one, be adhered to in every detail. Unless really unforeseen difficulties occur planning should be completed even if 100% satisfaction has not been achieved on the due dates. My personal view is that a good approximation to the detailed requirements is necessary but that further refinements should be considered very carefully before they are undertaken if such refinement means a hold up in the programme.

The classic way to design hospitals involves a sequence of operations as described above. Each of these processes can, in my view, be telescoped and made to overlap the ones on either side of it. I am quite sure that in addition to giving consideration to variations on the normal contract procedure - a problem now actively being considered by the Ministry - the architect can, by understanding the design problems that beset the mechanical and structural consultants in the early stages of any project, permit a variety of re-arrangements to occur during the planning phase. This will enable the time taken to design a hospital to be considerably reduced from what is nowadays considered normal.

DISCUSSION NOTES

Points arising from Mr. Weeks' Paper given to the 2nd Building Conference

1. The architect was ultimately responsible for the work of all consultants. He must see that they were properly briefed and reported to him.

2. The problem of wind noise was becoming more serious with the trend towards tall buildings.

3. A medical school required about 5,000 sq. ft. per student of intake excluding pre-clinical and patient care areas.

Points arising from Mr. Weeks' Paper given to the 3rd Building Conference

1. Mr. Weeks had advocated that project teams should meet at least weekly, and even twice a week, and that each meeting should last about 3½ hours. Some of the Conference members considered this to be impracticable. Mr. Weeks' reply was that people composing project teams should only be selected from those who are available for frequent meetings; in any case, these teams may often be working parties reporting back to the main committee.

2. Following up the figure of 5,000 sq. ft. per student intake per annum, which gives the floor space of a teaching hospital, was there any guidance available about the size of post-graduate areas? There are, in fact, very few schedules available at the moment, although what little experience there is suggests that a slightly smaller area is required than for under-graduate teaching. At the same time it is difficult to generalise because of the wide variety of post-graduate work associated with different specialities.

   As regards cubic space, Mr. Weeks advocated that the heights of rooms should be standardised at about 10 ft. in order to keep down the costs of building.

3. The architect must, of course, report to the client any depature from his brief, and must be able to justify this departure with very good reasons.

4. The question of a planning library was raised. Although the Hospital Centre provides a very good service, some members felt a need for having a "short list" of reading more readily available. Mr. Weeks felt the following should be included:

(a) Ministry's Building Notes.
(b) Standard system for laboratories and other departments.
(c) Such plans that have been published for hospitals already built.

5. Mr. Weeks felt there is no real alternative in preparing the brief to the architect than for a separate brief to be written for each department; these should then be brought together to fit in with overall requirements.

The brief should start with a policy statement for the hospital as a whole and also for each department; these will set out a series of numbers and systems and describe the type of work to be undertaken, so that the whole will be easily understood by everyone concerned.

6. There should be a nurse as a member of the planning team, preferably one seconded full-time, who has recently worked in a ward. She should, however, first be given the opportunity of travelling about to see other hospitals and different types of wards. She should also be given some sort of introductory training, for example, in reading plans and learning architects' jargon, in order to broaden her outlook. It was pointed out that this need is being met to some extent by the King's Fund courses that have been run at the College for Matrons and the Hospital Administrative Staff College.

7. Although the shape of a building will obviously react on the feeling of nurses about it, it is difficult to measure these feelings quantitatively so as to incorporate them into the design of the hospital.

Similarly, it is very difficult to take account of patients' wishes (for example, single rooms or not), because their views are so diverse. An interesting discussion followed, stemming from the fact that members of planning teams usually themselves come from a fairly narrow social class which is different from that of many patients. Thus the feeling of planners about single rooms may not be the same as the feelings of many patients who are unaccustomed to, or do not like, being in a room on their own. One aspect of flexibility of designs that is necessary, therefore, is that of the need to meet different social demands.

8. Pursuing this question of flexibility, the main point here, of course, is that units which are designed of indefinite size can be expanded. Designers should do everything to leave open ends for expansion, even in multi-storey blocks. The possibility of internal change of functions of rooms must also be borne in mind in designing. This is the basic idea behind "duffle coat" planning which allows variety of use; this will provide a design which should be acceptable insofar as it is good enough to do the job. It is much more efficient to plan in this way than to go on straining after perfection.

The problem of partitions, and sound-proofing, was touched on; partitions must be heavy if rooms are to be sound-proof.

While accepting the basic concept of flexible planning, a plea was made for each planning team to concentrate on certain special features of their hospitals, so as to contribute in this way to overall progress in design.

9. The modification of old buildings - the efficiency of the building begins to decline as soon as it has been opened. Periodic maintenance and alterations may slightly improve the then existing level of efficiency, but this will never return to its original point. After about 50 years, the level of efficiency falls to such an extent that a major modification may be undertaken which will undoubtedly bring about a big improvement; the process of decline will then start again immediately. In fact, when the point is reached that major modifications are necessary, the real answer is to pull down the buildings concerned and re-build them completely.

DISCUSSION WITH MINISTRY OF HEALTH TEAM (2nd Building Conference)

1. In reply to a request for information about the date of publication, the contents and the pre-publication consultations on the new joint publication for Teaching Hospitals the Ministry representatives confirmed that the document would be a Building Note entitled "The Teaching Hospital" and would be the teaching hospital version of Building Note No. 3. The draft had been prepared and it was now to be considered by the drafting team in the Ministry. It was hoped that the Ministry would be ready to circulate the draft to Boards of Governors and to Universities via University Grants Committee for comments in about a month's time. These comments would be incorporated in a new draft which would again be circulated for final comments and it was hoped that the final draft would be ready to go to the printers about the end of January. Boards would be sent copies of the final version when it went to the printers so that they could start following the advice it would give. The document would deal with the general relationship between the Ministry, the Board of Governors, the University Grants Committee and the University, the functions of the Teaching Hospital, i.e. Hospital, Teaching and Research and other items which were of general interest to Teaching Hospitals. The document would not deal with areas, sizes and cost, as these items would be covered later either in a separate series of notes or in supplements to the existing notes. Boards of Governors would again be given the same opportunities for comment as they would be given on the main note.

2. On the question of speed in planning, it was pointed out that the Building Notes were helping to save considerable planning time for a district general hospital and it was hoped that the notes would also produce considerable savings in time in teaching hospital planning. It was, however, appreciated that the planning of most teaching hospital schemes was already fairly well advanced and therefore the saving of time would not be as much as could be expected. The Ministry was considering the use of the critical path method to speed schemes along and hoped to be able to arrange instruction in this method for any interested planning team.

3. In reply to a question on the Ministry acting as arbiter in disputes on the apportionment of cost it was pointed out that the Ministry only required the Board of Governors to <u>suggest</u> the division of the cost. The final responsibility for the apportionment of cost was between the Ministry and the University Grants Committee. Similarly where any reductions were necessary to bring the scheme within its cost limit it was for the Ministry and the U.G.C. to decide where the cuts should be made. It was also pointed out that there should be no delays in the hospital programme because of lack of funds for the University part of the work as the University was always aware of the teaching hospital work being planned and the University would therefore be able to give the hospital scheme priority once the plans had been approved.

4. On the suggestion that the Pater formula should be replaced by by a more simple fraction which could be applied to all schemes, it was pointed out that a set fraction for every scheme would not be acceptable to either the Ministry or the U.G.C. as each was responsible for expenditure only on its own portion of the work. In any case it was the Ministry's and the U.G.C.'s responsibility to decide how the cost should be apportioned and the Board was only required to indicate a suggested split.

5. In reply to a question on the teaching hospitals' contribution to nurse training, the Boards' nursing representatives made the following points:-

(a) Concern was felt over the lack of suitable nurses for future matrons and other leaders posts and it was suggested that the teaching hospitals should play a more dominant role in training with a combined University degree and nurse training course.

(b) The very small difference in salary between the auxiliary nurse and the enrolled nurse was a disincentive to nurses becoming trained.

(c) As nursing opinion was required at the various stages of planning a teaching hospital, it was suggested that some training should be given to these nurse planners. The Ministry representatives said they were considering arranging a series of talks or short courses for nurse planners so that the nursing problems could be discussed.

(d) The Ministry representatives assured the meeting that they were well aware of the staffing problems which were facing the nursing profession.

DISCUSSION WITH MINISTRY OF HEALTH TEAM
(3rd Building Conference)

1. The team was asked if addenda can be made as required to Building Notes rather than await for their biennial revision. This question had been raised once before during the Conference, and the Ministry are prepared to meet the point wherever possible. For example, a supplement to the O.P.D. Note dealing especially with provision for dental work was being produced in advance of the general revision of the Note.

Mr. Wilson spoke in more general terms about the immediate future plans for his department. A Building Note dealing with the principles of design will shortly be produced, and will be followed by teaching hospital supplements to the Building Notes on individual departments. During 1964 the Ministry staff hoped to undertake:

(a) An educational role to establish closer relationship between project teams and the Ministry staff with whom they work.

(b) Evaluation studies of designs already in use.

(c) The revision of guidance material.

2. The question of incurring additional running costs as the result of the recent developments was discussed at some length. Mr. Westmore of the Scottish Eastern Regional Hospital Board submitted the following figures as examples:

	REVENUE/RUNNING COSTS
C.S.S.D.	£25,000
Operating theatres, reception, and recovery works	£ 7,000
Ward clerks	£9 - 18,000
Patients' meals: Central plating	£30,000
Disposable bedpans/urinals	£ 7,000
Pn/tic tubes	£ 3,000
Maintenance) Central Core) Automatic door) Window blinds	?
INCREASE	£75,000 +

Decisions on all these matters must be taken at the planning stages, and yet there is no guidance on financial policy as regards increased running costs. Policy may further be complicated by improved ideas requiring a higher capital outlay initially, but effecting a reduction of total costs in the long run (for example, using materials that cost little to maintain).

The Ministry representatives explained that a guidance document was being prepared on the estimation and control of running costs. This would be a preliminary document couched in the most general terms, but it is hoped to supplement it in due course by considering particular segments of running costs.

Some guidance on planned maintenance is about to be issued. As far as new hospitals are concerned, the systems recommended will be applied as from the commissioning stages, in conjunction with manufacturers' instructions on the way to maintain their equipment.

3. Central plating was one of the items on Mr. Westmore's list. A Conference member from Newcastle pointed out that in their experience the expense of this system is not justified. Further

information on this point will be available in the near future as the result of the King's Fund experiment which is being carried out at the present time at Bethnal Green.

4. Some current nursing staff problems were then touched on:-

(a) How could married nurses be retained in hospitals? One suggestion put forward was the possibility of having creches for young children.

(b) As far as nursing ratios are concerned, Mr. Cornish of the Ministry is at present conducting a fact-finding study related to the definite grades of nurses and where they are employed; it is intended that this will lead to more special studies. As a result, some sort of norm may be produced for comparison purposes, but this carries no suggestion of any attempt to standardise nursing ratios.

(c) There is a danger of an increase in the demand for 24 hour nursing services in some of the new hospitals being planned, and this suggests a review of the types of care given to patients and perhaps grouping patients according to their nursing needs.

(d) The problem of the build-up of nursing staff during the commissioning stages of a hospital was mentioned; this may include an anticipation of student nurses as far as 3 years in advance of opening, if the right proportion of various grades of nurses is to be maintained. In fact, the Ministry are prepared to allow a quota of staff in anticipation of the opening of a new hospital.

5. A discussion then followed on some of the problems of commissioning new hospitals, of such length that the proposition eventually arose that the H.A.S.C. might run a special conference on this subject. Obviously, the attitude that everything will be "right on the night" is wrong, but there has been no published guidance as to the correct methods of commissioning and this is left entirely to the hospital authority concerned.

The actual costs involved in commissioning (for example, holding and training staff) are considerable, and yet no direct allowance is made for this in the capital sum made available for putting up the new buildings. The Ministry's view was that these costs can only be met from the total finance available, since the ceiling of this is strictly defined.

6. When Ninewells Hospital was being planned at Dundee, the Scottish Department of Health seconded one of its senior staff as a member of the planning team and this greatly speeded up the whole process, particularly as regards gaining approval for, or making decisions on particular points. Could the Ministry of Health take similar action in allocating one of their senior staff to project teams on major hospital schemes south of the Border? The Ministry said that from the point of view of staffing, it would be impossible

to deal with the volume of work (with some 250 projects at various stages) in this way. What actually happens at present is that a group of staff within the Ministry are available for consultation and might be designated as a project team, matching the hospital authority's own team.

CONFERENCE MEMBERS

Building Project Conference (Teaching Hospitals)
25th to 28th June, 1963.

Charing Cross Hospital

Mr. Frank Hart, D.P.A., F.H.A., J.P.	House Governor & Secretary.
Mr. P.F. Philip, M.S., F.R.C.S.	Consultant Surgeon.
Miss L.P. Smith, S.R.N., R.F.N.	Nursing Advisor to the Planning Committee.

The London Hospital

The Hon. J.L.C. Scarlett, M.A.	House Govenor.
Dr. G.P. Fox, M.R.S.C., L.R.C.P., F.F.A.R.C.S.	Anaesthetist.
Miss M. Kneale Jones, S.R.N.	Deputy Theatre Superintendent.

Queen Charlotte's & Chelsea Hospitals

Mr. Leslie E. Turner, F.H.A.	House Governor & Secretary.
Mr. R.M. Feroze, M.D., F.R.C.S., F.R.C.O.G.	Consultant Surgeon.
Miss B.W. Rowles, S.R.N., S.C.M., M.T.D.	Matron, Queen Charlotte's.

Westminster Hospital

Mr. R.P. MacMahon, M.A., A.H.A.	House Governor.
Dr. P.A. Emerson, M.D., M.R.C.P.	Consultant Physician.
Miss E. Gibbon, S.R.N., S.T.D.	Principal Tutor, Wolfson School of Nursing.

Ministry of Health

Mr. G.S. Gillard, M.I.Mech.E., M.I.H.V.E.	Superintendent Engineer.
Mrs. J. Heyward	Hospital Nursing Officer.
Dr. C. Muir, M.B., Ch.B., M.R.C.P., D.P.H.	Senior Medical Officer.

Mr. D.J. Petty, M.B.E., M.A. Dip.Arch.(Lond.), A.R.I.B.A.	Senior Architect.
Mr. T.B. Williamson	Assistant Secretary
Mr. G.W. Mortimore	The Treasury.

Attending some sessions :-

Ministry of Health

Mr. R. Radford, A.R.I.B.A.	Architect's Department.
Mr. W.G. Wilson, O.B.E.	Assistant Secretary.
Mr. C. Davies, A.R.I.B.A.	Architect.
Mr. J.D. Twells-Grosse	Architect.

University Grants Committee

Mr. E.R. Copleston, C.B.	Secretary.
Mrs. D.R. Williams	

2nd Building Conference for Teaching Hospitals
1st to 4th October, 1963.

The United Sheffield Hospitals

Miss M.S. Welbon, M.A., D.N.(Lond.)	Matron, Royal Hospital.
Mr. J.C. Anderson, O.B.E., F.R.C.S.	Consultant Surgeon.
Mr. K. Sumner, F.C.A., F.H.A.	Chief Administrative Officer.

The Royal Free Hospital

Miss A.E. Hardman, S.R.N., S.C.M.	Matron.
Dr. N.D. Compston, M.A., M.D., F.R.C.P.	Consultant Physician.
Mr. R.G. Heppell, F.C.A.	Administrator.

St. George's Hospital

Miss J. Nash, S.R.N., S.C.M., S.T.D.	Nurse Co-Ordinator, Development Department.
Dr. J.L. Stafford, M.B., Ch.B., M.R.C.S., L.R.C.P.	Consultant Haematologist.
Mr. R. Ellis, LL.B., D.P.A., F.H.A.	House Governor & Secretary.

St. Mary's Hospital

Miss G.O. Gardiner, S.R.N., S.C.M.	Matron.
Dr. J.W. Litchfield, B.M., F.R.C.P.	Consultant Physician.
Mr. Alan Powditch, M.C., F.H.A.	House Governor & Secretary.

Ministry of Health

Mr. D.J. Petty, M.B.E., M.A., Dip.Arch.(Lond.), A.R.I.B.A.	Senior Architect.
Mr. E.L. Wallis	Principal.
Attending some sessions :-	
Mrs. J. Heyward	Hospital Nursing Officer
Dr. R.M. Shaw, M.B., D.P.H.	Principal Medical Officer
Mr. T.B. Williamson	Assistant Secretary.
Mr. W.G. Wilson, O.B.E.	Assistant Secretary.

3rd Building Conference for Teaching Hospitals & Regional Hospital Boards 5th - 8th November, 1963.

Eastern Regional Hospital Board

Miss L.J. Thom, R.G.N.	Regional Nursing Officer.
Dr. C.C. Wade, M.B., B.S.	Assistant Senior Administrative Medical Officer.
Mr. P.J. Westmore, M.Inst.W.S.	Teaching Hospitals Planning Officer.

King's College Hospital

Miss B.J. Wylie, D.N.(Lond.)	Sister Matron.
Mr. J.D. Banks, M.A.	House Governor.
Dr. C.E. Stroud, M.R.C.P., D.C.H.	Consultant Paediatrician.

Newcastle Regional Hospital Board

Miss E.M. Watt, S.R.N., S.C.M., M.T.D.	Regional Nursing Officer.
Mr. A.B. Baker	Principal Assistant Secretary.
Dr. E.D. Mackie, M.B., Ch.B., D.P.H.	Principal Assistant Senior Administrative Medical Officer.

Oxford Regional Hospital Board and The United Oxford Hospitals. (Representatives of Joint Planning Team)

Miss I. James, S.R.N.	Regional Nursing Officer.
Dr. D.J. Badenoch, D.M., F.R.C.P.	Consultant Physician, United Oxford Hospitals.
Dr. J.A. Oddie, D.S.C., M.B., B.S.	Deputy Senior Administrative Medical Officer.
Mr. F.J. Webb	Assistant Secretary (Planning) Oxford R.H.B.

The United Cambridge Hospitals

Miss E. Reed	Assistant Matron, Planning.
Dr. M.H. Gleeson-White, M.B., B.S.	University Bacteriologist, The John Bonnett Clinical Laboratories.
Mr. W.G. Cannon, M.A., A.H.A.	Deputy Secretary.

Ministry of Health

Mrs. J. Heyward	Hospital Nursing Officer
Mr. D.J. Petty, M.B.E., M.A., Dip.Arch.(Lond.),A.R.I.B.A.	Senior Architect
Mr. E.L. Wallis	Principal.

University Grants Committee

Attending some sessions:-

Mrs. D.R. Williams.