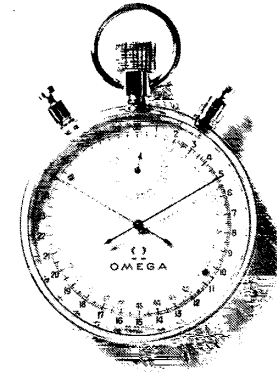
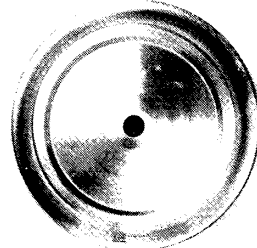
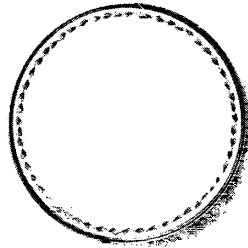
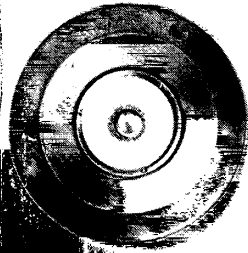


The Ganymede Tray Service in Hospital



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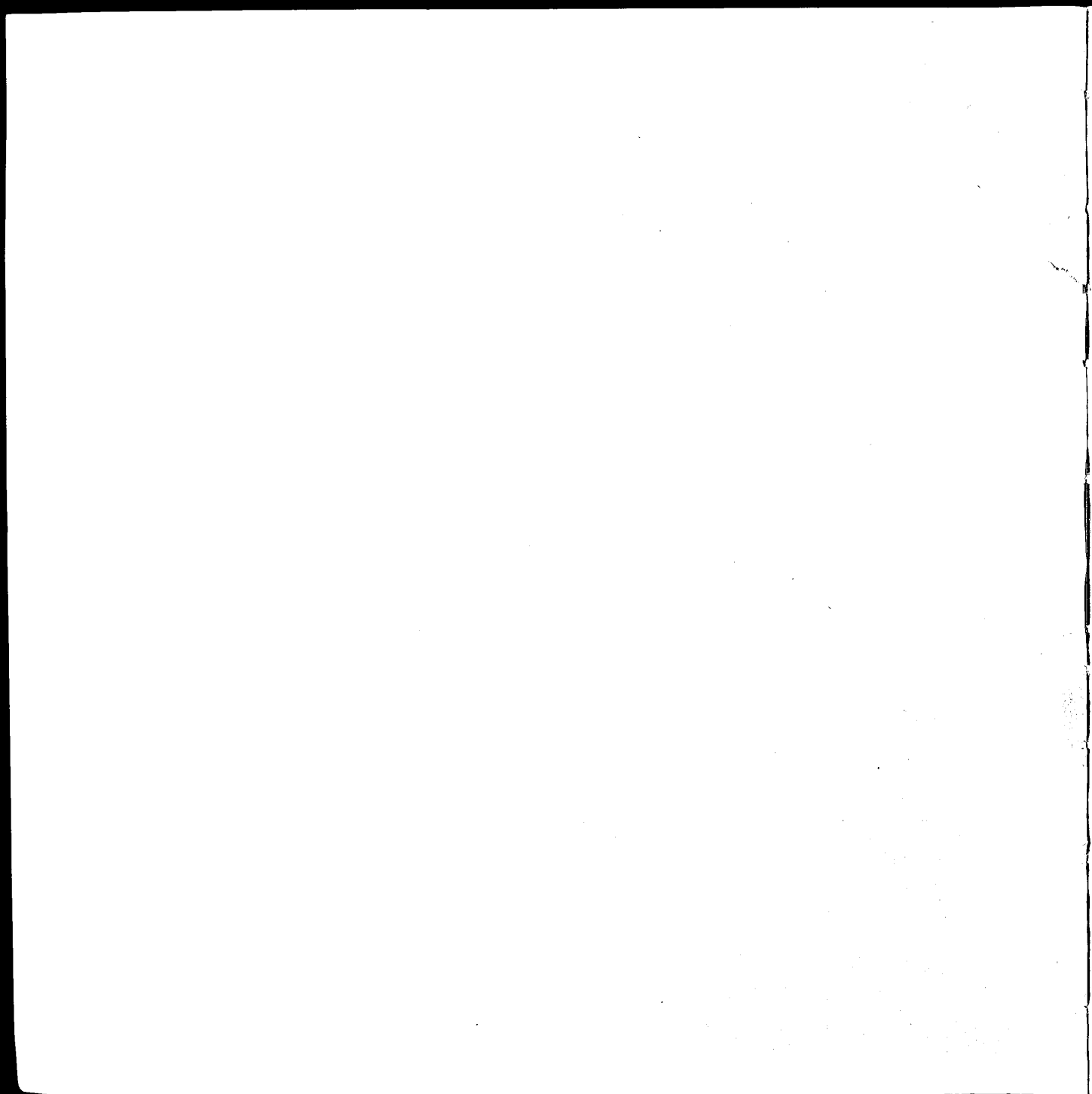
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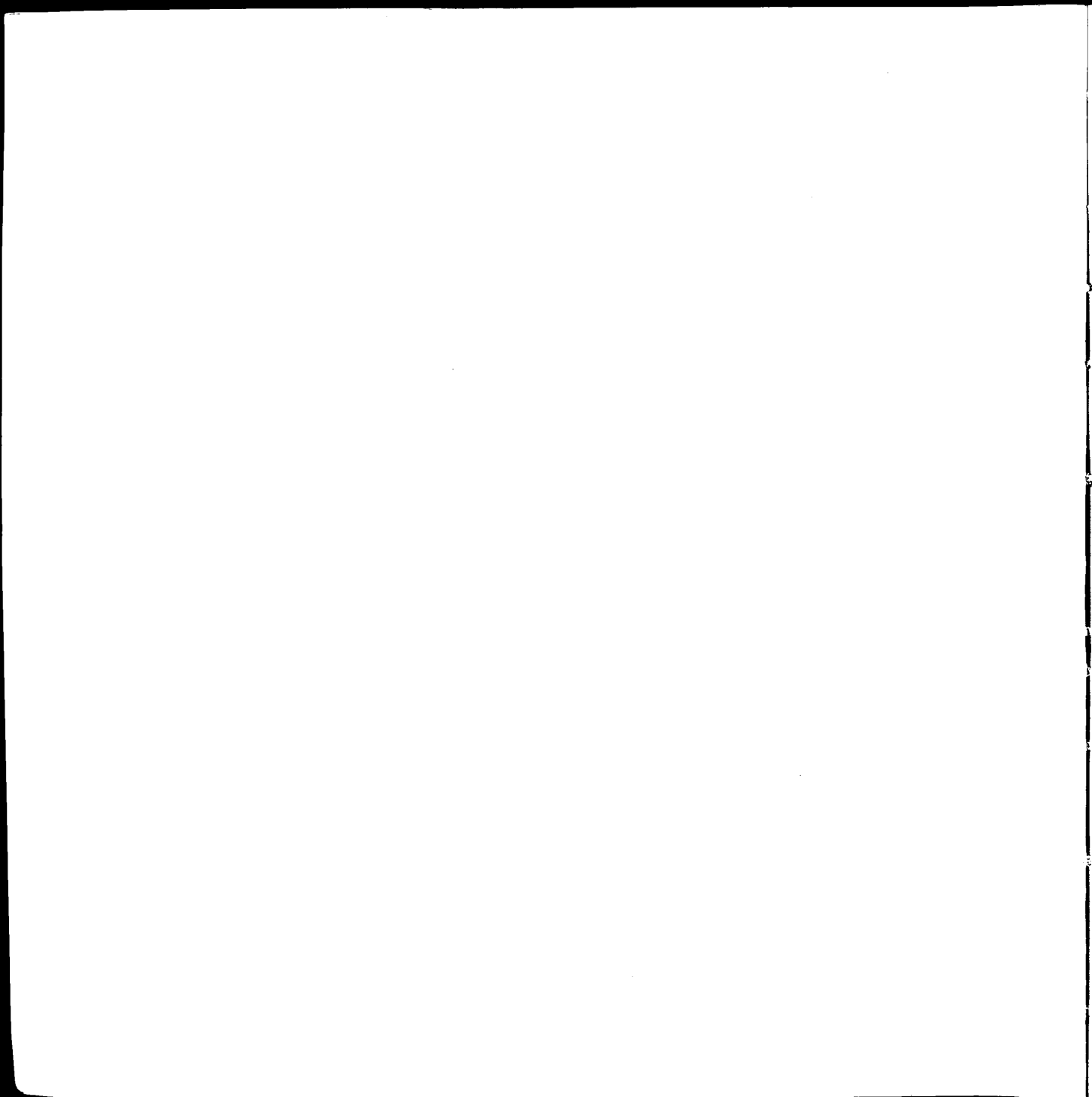
The Ganymede Tray Service in Hospital



*A Joint Report by King Edward's Hospital Fund for
London and North East Metropolitan Regional Hospital
Board on the Ganymede Tray Service at
Bethnal Green Hospital*

Prepared by the Fund's Catering Advisory Service and the
Board's Work Study Unit

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Part 1 Introduction and Synopsis of Findings

INTRODUCTION

- 1.** In 1962 the King's Fund sanctioned the expenditure of some £45,000 on the installation of the Ganymede meal service system in Bethnal Green Hospital and on providing a prototype kitchen and centralised washing up department for patients and staff.
- 2.** The decision to spend this large sum of money was made in order to provide within an existing hospital in the London area a working example of both a modern tray service to patients, and the very latest in kitchen layout and design. In the case of the tray service it was the Fund's intention to make a study and assessment of the system. This has now been done in collaboration with the North East Metropolitan Regional Hospital Board.
- 3.** In choosing a hospital for the project the Fund had in mind a typical general hospital catering for approximately 300 patients in the older type of building, within easy access of Central London and having a co-operative management with an interest in catering. Bethnal Green Hospital was selected as filling these requirements.
- 4.** The tray system and the prototype kitchen began to function in February 1964.
- 5.** During the planning stage and the initial three months of operation, the King's Fund worked closely with the group and hospital officers in determining what changes in the technical, organisational and staffing patterns were necessary. An account of the problems encountered and decisions taken and the preliminary assessment made by the King's Fund at the end of that period forms part of this report.
- 6.** From January to March, 1965, the Ganymede service was examined as part of an overall study into the catering function in the hospital. This study was mounted at the request of the Hospital Management Committee and with the approval of the Regional Board and King's Fund. The terms of reference of the study were to evaluate the Ganymede system of distributing food to patients, and to investigate the high catering costs at the hospital, with particular reference to provisions costs. A combined working party was formed to conduct the study, comprising a Catering Adviser from the King's Fund, three members of the Regional Work Study

Unit and a Cost Accountant from the Regional Treasurer's Department.

The Hospital

7. The hospital was built in 1900. It is an acute general hospital including maternity. The 19 wards vary in size from 6 to 20 beds. The wards are dispersed in five interconnected three storey blocks and the kitchen is centrally located on the ground floor.

The Ganymede System

8. The Ganymede Tray Service was developed in America a few years ago. Under this system meals selected by patients on individual menu cards are plated in the hospital kitchen and sent to the wards on trays. Food is kept at the correct temperature in transit by the use of pre-heated or pre-chilled pellets and insulated bowls. The name Ganymede was selected by the British manufacturers, Allied Ironfounders Ltd. In Greek mythology Ganymede was the cupbearer to the gods.

9. A number of claims have been made for this system and certain characteristics attributed to it. It is important, in trying to evaluate the system, to differentiate between those characteristics which are unique to Ganymede or are an integral part of it, and those which are not. The more important claims and attributes are examined below. (It is not suggested that the manufacturers or their agents are necessarily responsible for the claims.)

10. 'The food is always freshly cooked.' This is based on the presumption that food will be batch-cooked to be ready for serving at intervals during the half hour or so that meals are being plated. This presumption need not necessarily be true nor is batch-cooking unique to the Ganymede system – it can be applied to any distribution system, bulk or plated, provided the principle of staggered meals for patients is accepted.

11. 'Makes possible a selective food service.' This is true, though it is not unique to Ganymede.

12. 'Food reaches the patients in excellent condition.' This is subject to the proviso that the interval between plating in the kitchen and handing to the patient is not more than about 15 minutes. The same claim can probably be made for some other methods.

13. 'Allows portion control to be exercised, so cutting out waste.' Centralised portion control is an attribute of a central plating system and the validity of the claim is in direct ratio to the skill and training of the conveyor belt operatives and the quality of management. It is not necessarily true that centralised portion control is more accurate in relation to the needs of a given patient than if the ward sister were doing the plating, but it does, of course, permit a fairly rigid overall quantitative standard to be applied.

14. 'The time spent by nurses on food service is much reduced.' This is generally true of a central plating service.

15. Analysis of the various claims makes it clear that the Ganymede system, while possessing some novel design features, is not so different in its characteristics as to preclude comparison with other systems. A major aim of this report is to permit hospital managements to make such a comparison in respect of their own hospitals, first by showing the arrangements which need to be made to get it going and secondly by measuring or assessing the results achieved by it, including the effect on ward and kitchen staffs and provisions costs.

SYNOPSIS OF FINDINGS

Effectiveness as regards Patients

16. This section comprises an assessment of the actual and potential effectiveness of the Ganymede plate service and its implications on cooking techniques, staffing, catering management and so on. The costs, both capital and revenue, are also discussed and some broad conclusions drawn on the relation between cost and effectiveness.

17. At Bethnal Green, the standard of food in terms of quality, presentation and temperature, unquestionably rose significantly from 'average' when the new system started and, during the first few months, was extremely good. During the subsequent months, up to April, 1965, the standard fell somewhat, due partly to changes in menus and partly to the ending of the Special Ward Menu service (see para. 74). With the introduction of revised menus in late April, 1965, the standard again rose to 'good'. In terms of quantity, the standard reached appears to have been good for female patients, but only fair for male; there has been insufficient differentiation between 'small', 'medium' and 'large' portions, resulting in some men being given inadequate amounts.

18. In assessing the potential effectiveness in terms of quality, quantity, etc., the assumption must be made that catering management is of the right calibre and that communications between wards and kitchen are good. Given this, experience at Bethnal Green shows clearly that a consistent and high standard of quality, presentation and temperature is achievable together with a wide choice of both normal and special diets, including fried and scrambled eggs and similar 'difficult' dishes. There are, however, two inherent causes of unsatisfactory service:

- (a) there must inevitably be a period prior to the meal during which one cannot change one's mind;
- (b) there are considerable practical difficulties in preparing and serving 'small', 'medium' and 'large' portions, particularly of some protein foods (eggs, fish, sausages) and a central plating service tends to accentuate these difficulties.

19. Quantity control, therefore, will tend to be more exact in the aggregate

but perhaps less so in particular cases, while quality standards will tend to be higher than with conventional systems.

Effectiveness as regards Staff Meals

20. Although staff are not fed through the medium of the tray service, the standard of their food should materially improve in that more choices are available to them and quality and appearance should be enhanced. However, there is also the possibility at any one meal that the choice will be reduced due to underestimation of the patients' demands for individual dishes, and this occurred from time to time at Bethnal Green. This, of course, can apply to any system where a selective menu is offered.

Factors affecting the Achievement of the Potential Effectiveness

21. As with any complex system, a price must be paid for the ability to raise standards of service. The price is a heavy one, but can be very simply expressed as 'good catering management'. Without good management the result will be unduly high staff and provisions costs. Before venturing to install the tray service these factors which contribute to good catering management should be carefully considered. The most important are as follows.

Provisions Ordering

22. Under a multiple choice system, provisions costs could rise through over-ordering. The study has shown that the basis of sound provisions ordering is the fixed cycle of menus (14 days is suitable for acute hospitals, and perhaps 15 days for long stay). Only those commodities which are subject to seasonable or other sharp fluctuations are altered week by week; though the whole menus ought to be reviewed every three to six months. Fixed menus permit accurate estimations to be made of the quantities of the various 'choices' which will be made for each meal. Over-ordering can thus be reduced to an acceptable level.

Cooking Techniques

23. Staff who have been accustomed to cooking all food at least one hour before serving it to the patients find it difficult to adjust themselves to delaying the cooking of those items which require only a short time. To achieve a high standard of quality, appearance, and temperature, it is essential that the principle of continuous and batch-cooking during the service is accepted, and that kitchen management ensures that this is carried out.

24. The system can take a reasonable degree of over-ordering providing there is control in the kitchen to ensure that the items over-ordered are not cooked but kept, if perishable, refrigerated. Running parallel to this there is always a proportion of certain foods which cannot be well presented although palatable, such as trimmings of boiled ham, chicken legs, etc. These items can be used profitably during the next day or two as additional 'specialities' on the menu for a limited number of staff, the example given becoming chicken and ham vol-au-vent.

Kitchen Management

25. The staffing implications of the Ganymede service are discussed in paras. 32 to 36 below. The initial setting up of the new staff structure and its subsequent maintenance demands strong but tactful management action if the new and more arduous commitments are to be accepted by the cooks, domestics and porters. Conventional ideas about the division of labour must be discarded; failure to do this will inevitably result in excessive staff numbers.

26. The supplying, manning, and minute to minute control of the belt also demand close and competent supervision if the requirements of quality and time schedules are to be met.

Ward Management

27. Although the demands on the time of nurses and other ward staff are lessened, certain organisational problems are presented. Staggered meal times entail the re-timing of certain ward activities and there is also the essential need to keep the kitchen informed of any changes in the number or conditions of patients which may affect the next meal.

Training

28. In installing the tray service, a commitment is accepted for training the operatives. They must be both deft and precise in their actions and hygienic in their habits. It is helpful if, during their induction, they can spend several meal times in the wards.

Communications

29. Within hospitals it is unhappily true that communications are often far from good. The successful operation of a central meal plating service, however, makes heavy demands on communications and, unless they are really good (and this means not only the physical media but the awareness by ward and kitchen staffs of each others' needs and difficulties), the potential effectiveness cannot be realised. It is equally essential, of course, that the internal transport system of the hospital, whether porters or mechanical tugs or lifts, are available without fail at exactly the right time every day.

General

30. It will be apparent that the demands made on catering management are considerably higher than by the conventional bulk service, and it cannot be over-emphasised that the success of the Ganymede service is in direct ratio to the quality of management. It must further be stressed that 'management' means not only the catering officer and his supervisors but also each doctor, nurse and administrator, since from time to time each will need to constrain his own actions in order not to prejudice the effectiveness of the meal service. Without doubt, this was the major lesson derived from the Bethnal Green experiment.

Staff Implications

31. Installation of the Ganymede service also entails batch-cooking and, usually, centralised washing of crockery, etc. Thus additional staff may well be needed in the kitchen area.

Cooks

32. Except at breakfast, no more meals are required than hitherto but the preparation of food for a selective menu requires more organisation than for a set meal. Thus the main impact on cooks will be to raise the quality of staff required and supervision rather than total numbers.

Kitchen Domestics

33. Vegetable preparation, etc., is not affected, but the total daily work content of operating the belt, preparing it for the next meal, washing up and wrapping cutlery for a 300 bed hospital amounts to 50 manhours per day of effective time spread amongst two shifts each of 1 supervisor, 10 operatives and a porter. (See paras. 153-155)

34. Clearly it would be quite uneconomic to employ 24 domestic assistants (plus reliefs) solely for these duties. It is imperative, therefore, to determine to what extent existing staff within the kitchens, dining rooms and wards can be redeployed during the peak periods. This factor, plus the extent to which the time saved on the wards can be used elsewhere, will largely determine the minimum additional recruitment necessary; in practice this is likely to vary between 250 and 350 hours per week. If this comprehensive review is not carried out, then the equivalent of 15 to 20 full-time domestics will probably be required.

Clerk

35. The clerical work amounts to 5 hours daily or 35 hours a week, and will usually entail the employment of a full-time clerk.

Ward Staff

36. On an 18 bed ward, there is likely to be a saving of around 1 hour per day of nurses' time and $2\frac{1}{2}$ hours of ward orderly/domestic assistants' time, spread over the breakfast, lunch and supper periods.

Capital Cost – 1963 Prices

37. Comparison of the capital costs incurred in installing the Ganymede plate service with other systems, is difficult, and will depend, amongst other things, on the size of hospital, number of wards and quality of equipment. If a 300 bed hospital with 10 wards were considered, comparative costs (1963 prices) might be as follows:

	Ganymede	Conventional Bulk Food Service
	£	£
Distribution and Service Equipment	10,000	3,000
Central Crockery Wash	4,500	—
Ward Kitchen Equipment	5,500	6,500
Total	£20,000	£9,500
Approximate cost per patient	£66	£32

38. These figures are based on certain assumptions.

(a) Ganymede. Central crockery wash, but cups and saucers washed in ward kitchens. If all crockery were washed centrally and cheaper equipment installed in ward kitchens (e.g. kettles instead of constant hot water boilers), there would be a saving of £250 per kitchen, bringing the cost per patient down to £58.

(b) Bulk Service. Good quality equipment installed in ward kitchens (e.g. stainless steel sinks, dish washing machines). If cheaper equipment were installed and dishwashing machines eliminated, the cost per patient could be reduced to £23.

39. In a hospital of 550 to 600 beds disposed in 20 wards (this is about the maximum size hospital which a single Ganymede installation could cater for) the cost per patient is likely to be rather less than £50 for Ganymede and £30 for a bulk service, assuming good quality equipment.

40. It is, therefore, clear that substantially heavier capital costs are likely to be incurred in installing the Ganymede service, but that, proportionately, the increase is less for a large than for a medium size hospital. On the face of it, there would not seem to be a case for installing the system in a hospital of much less than 300 beds.

Revenue Costs

41. Until accurate costing data is available from several hospitals, estimation of revenue costs of a Ganymede service can only be very approximate. This is particularly true in regard to installations in existing hospitals: the extent to which management can redeploy staff to cope with the three daily intense peaks of work; and the control over provisions costs, will be the main factors. The limited experience to date, however, suggests that, at the least, catering revenue costs are likely to increase marginally, and £5,000 extra per year for a 300 bed hospital, is not unlikely. At Bethnal Green the costs for both staff and provisions soared by over £15,000 a year, although no doubt the general increase in provisions costs and higher wages will account for some of this figure.

42. In regard to a new hospital, there is clearly the possibility of matching the ward and catering staff more closely to the requirements and not to employ staff specifically for Ganymede and the associated crockery wash except perhaps during the evening. This possibility is examined in Appendix A and it would seem that, for a 300 bed hospital, it may well be that the additional revenue cost attributable to Ganymede need not exceed £6,800 and that at least the equivalent amount, in terms of nursing and domestic time, could be made available.

Cost Effectiveness

43. Having determined the probable capital and revenue costs, the crux of the problem then facing hospital managements who are considering installing the Ganymede service can be crystallised into two questions.

- (a) To what extent will the extra capital and revenue costs be reflected in the standard of feeding?
- (b) Is the improvement in standard worth the extra cost?

44. The answers can be derived by comparing the performances of the various alternative methods, and attaching a price tag to each. There is not enough evidence available yet to permit this to be done with complete confidence, but the following points might be considered in relation to the different systems.

System	Characteristics	Costs
Tray Service	Type of Menu	Revenue (p.a.)
Bulk Food Service	Appearance of Food	Capital
Peripheral Finishing Kitchen	Portion Control	Other
Peripheral Kitchen	Presentation on Plate	
	Temperature	

General Conclusions

45. On the positive side, the Bethnal Green experiment has shown that the Ganymede service can be successfully applied to the patients in a general hospital; that the standard of feeding in most respects will be higher than the bulk food trolley system found in most hospitals; and that the amount of time saved by nurses, ward orderlies and ward domestics will depend on the degree of centralisation which might include such items as beverage making, serving of butter, marmalade, etc. At Bethnal Green an hour or so of nursing time and approximately two hours of domestic or ward orderly time are saved per day.

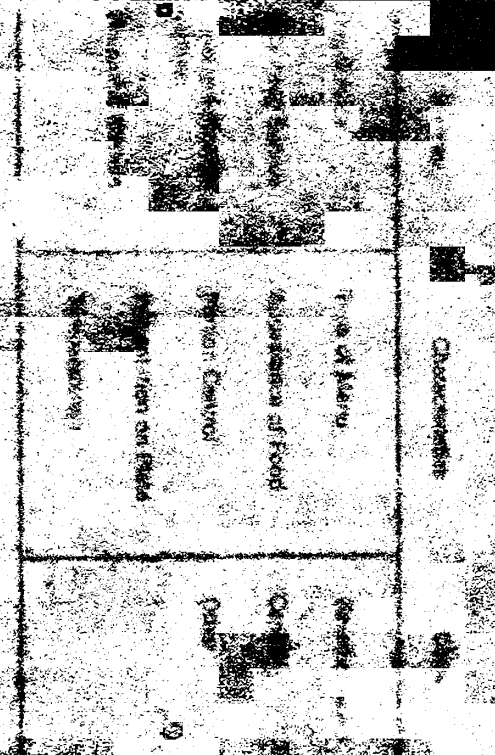
46. On the other hand, it has also been made clear that a high calibre of caterer is required, with adequate supervisory staff and that the degree of co-operation between wards and kitchen must be even higher than with conventional systems. Within wards, some re-adjustments of routine are called for and the need for nursing guidance and supervision over the patient's selection and changing appetite is, if anything, increased with the new service.

47. Capital and revenue costs will tend to be higher and hospital managements would be well advised to examine most carefully the benefits to be derived in relation to extra costs.

to provide the subject with a full and complete understanding of the situation and the importance of the situation.

These steps will ensure that the subject is fully informed and that the situation is understood.

It is not by considering the subject as a person, but as a person who is in a position to be able to understand the situation and the importance of the situation.



At the time of the observation, the subject was in a position to be able to understand the situation and the importance of the situation.

It is not by considering the subject as a person, but as a person who is in a position to be able to understand the situation and the importance of the situation.

Part II The Installation and Initial Operation of the Ganymede System

CATERING POLICY

48. Before the new service was introduced, the Catering Advisory Service of the King's Fund in collaboration with the hospital officers made a detailed survey of the existing catering arrangements within the catering department and on the wards.

49. The first step in planning the new system was the establishment of an overall catering policy on which to base the organisation and administration of the service. Particular attention was given to:

- (a) The Standard of Feeding.
- (b) The Staggering of Meals.
- (c) The Selection of Meals.
- (d) The Distribution of Meals.
- (e) The Centralisation of Crockery Washing.

Standard of Feeding

50. It was the Fund's aim to provide a fully selective menu for all patients at each of the three main meals daily, and as far as possible to centralise all cooking. Existing menus and patterns of feeding were examined with particular regard to the degree of selection available for patients on both general and therapeutic diets, and to the special requirements of children and old people. Thought was also given to the needs of the patients too ill to be tempted from the selective menu, or requiring meals at other than set meal times. It was decided that two types of menu should be available.

- (a) An individual selective menu (see specimen, Appendix B) offering a wide choice of dishes suitable for patients on both normal and light diets, and forming a basis for therapeutic diets.
- (b) A special menu (see specimen, Appendix C) offering a wide choice of easily digested dishes available at any hour of the day or night to patients who could not be tempted from the individual selective menu.

For the period of the study a 14-day menu (Appendix E) was compiled for the individual selective menu. This menu featured light egg dishes, omelettes, and certain grilled and fried dishes introduced to test the effectiveness of the new system in dealing with foods which were not normally sent to patients as they tended to spoil in transit.

Staggering of Meals

51. A continuous meal service is desirable in any food system and forms an essential part of the Ganymede service. In order to achieve this

continuous meals service it was necessary to introduce some staggering of the meals service over the 30-40 minutes estimated for plating the meals. Careful consultation took place with senior nursing staff to see how existing ward meal times might best be revised to give a staggered service at each main meal. Particular care was taken to ensure that the times between meals were constant and that each ward ate at the same time daily.

52. The needs of nursing mothers, children and elderly patients were considered with particular regard to meal times. The mothers had their babies to feed at certain hours, whilst children and elderly patients generally took longer than others to eat their meals and under existing arrangements took their evening meal one hour earlier than the rest of the patients.

53. It was decided to revise the timings of the meal service to be in accordance with those recommended in 'The Pattern of the In-Patient's Day*', and to stagger the service of meals to wards within that pattern. At the same time agreement was reached on an overall balanced pattern of feeding throughout the day and the extent to which staff would be involved in the catering service. A summary of the arrangements made is at Appendix G.

Meals Selection

54. It was the intention of the Fund to take the patients' meal orders as shortly as possible before the service of the meal, and to extend the personal selection of meals, under the guidance of the ward sister, throughout the hospital.

55. This was agreed with the hospital administration and thought was given to the comparative advantages of analysing or estimating the patients' meal orders. It was decided that initially the patients' orders for each meal should be analysed, but that at a later stage thought should be given to estimating these requirements. In the former system patients would be approached for their orders on the day before the meals were served. In the latter the approach might be made on the day of the service, or shortly before each meal.

56. With this in mind a record was kept of patients' selections as a basis for future estimating. It was decided that patients on therapeutic diets would choose from dishes on the normal selective menus adapted to meet their requirements. Each ward sister would have a daily diet guide (Appendix H) for each of the 14 days of the menu and on this guide would be set out a list of dishes suitable for each type of special diet. To

**Report from the Central Health Services Council, 1961, HMSO*

facilitate the service it was agreed that coloured stickers should be used to denote special diet orders, a different colour being used for each diet.

Meals Distribution

57. Under the Ganymede system patients' trays set up in the kitchen are distributed to the wards in unheated trolleys. It was agreed that these trolleys – of which there would be one per ward – would be despatched to the wards over approximately 30-40 minutes with one trolley leaving the kitchen every 2-3 minutes. In order to minimise the period between the tray leaving the kitchen and being presented to the patient the lifts should be reserved for catering service only during the meal service except for cases of emergency. It was also agreed that the trays should be distributed by the ward staff immediately on arrival in the ward. The same trolleys would be used to return the trays to the kitchen after the meals service. Hospital porters would take the tray trolleys to and from the wards.

Central Crockery Wash

58. The washing of crockery at a central point adjacent to the kitchen is a corollary of the Ganymede system. Accordingly a central wash was introduced, which would be capable of dealing with the dirty crockery from the wards for all meals of the day. In the first instance, however, it was agreed that ward washing would be dealt with in two stages.

Stage 1. Washing of crockery from three main meals.

Stage 2. Washing of crockery from three main meals and refreshments daily.

At a later stage it would be considered whether staff crockery could be dealt with in between the washing up of the ward meals.

Individual Packs

59. It was decided that a certain number of unit packs be introduced with the new service to get an indication of their usage, cost and acceptability. The packs included salt, pepper, mustard, marmalade and butter.

ORGANISATION AND ADMINISTRATION

60. The introduction of the new system entailed a considerable re-organisation, both within the wards and the catering department. The main points are summarised below.

61. Ward Organisation

(a) Menus were to be distributed daily and patients asked to indicate their choice for the following day's meals. The completed forms were to be checked by ward sisters and returned to the catering office by 2.0 pm.

(b) Newly admitted patients were to complete a menu as soon as possible after arrival.

(c) Ward sisters were asked to inform the catering office by telephone of any changes in diet, cancellation of meals and so on.

(d) Responsibilities for preparation of meals and refreshments were allocated as follows,

Early morning refreshment – ward staff.

Breakfast – ward staff for sugar, cold milk and beverages; kitchen staff for remainder of meal.

Midmorning refreshment – ward staff.

Midday meal – Kitchen staff for all except beverages.

Afternoon Tea – ward staff.

Supper – Kitchen staff for all except beverages.

Late Evening Beverage – ward staff.

(e) Ward staff were to be responsible for washing up and storing cups, saucers and teaplates and associated cutlery. All else was dealt with by the central wash. Special arrangements were to be made for T.B. and 'barrier nursed' patients.

62. Catering Office Organisation

(a) Individual menus were to be printed from the basic two-week rotating menus.

(b) The catering clerk was to visit each ward daily to distribute menus and note any changes since the previous day.

(c) Each day, patients' selections were to be analysed by item and Kitchen and Special Diet Summaries prepared.

63. Kitchen Organisation

Although the main kitchen was not required to cook for more patients than before, the increase in the number of cooked breakfasts, and the improvements in quality, particularly of supper, led to some re-organisation and a small increase in the establishment of cooks. It was intended that the kitchen domestics should man the conveyor belt, but the cooks (apart possibly from the special diets cook) should solely concern themselves with cooking and replenishing the service stations.

64. Conveyor Belt Organisation

It was intended to man the conveyor with a supervisor and five to seven 'platers', and five other staff to set and check trays and load to trolleys. (This is slightly at variance with the manufacturers' recommendations.) A sketch plan of the conveyor belt and ancillary equipment is at Appendix D. The planned rate of plating was eight a minute, giving an overall time of 30-40 minutes per meal for 250-290 patients.

65. Portering Services

Four porters were to load and deliver trolleys, one at a time, to wards and to collect them afterwards and return them to the central wash.

66. Central Crockery Wash

The Flight spray type washing machine was to be manned by a supervisor and five operators. The washing process for each meal was planned to take 40 minutes. After washing, crockery was to be placed in the

Ganymede storage equipment; cutlery was to be wrapped in serviettes. A sketch plan of the layout and operator positions is at Appendix L.

67. Staff Levels

- (a) **Office.** Additional clerical work amounting to 35 hours a week was expected and a full time clerk appointed.
- (b) **Cooks.** To ensure adequate cover it was found necessary to recruit one cook and one assistant cook, both full-time.
- (c) **Kitchen Domestics and Porters.** Minor changes in hours of work were made to ensure maximum availability when the conveyor belt was operating.
- (d) **Conveyor Belt and Central Crockery Wash.** Total manhours to be spent on the conveyor belt and central wash each day was estimated at 110. Of these nine manhours could be met from the existing establishment. The remainder was provided by recruiting two supervisors and 24 domestics working two shifts and totalling 714 hours (i.e. 17 E.F.T.) per week.
- (e) **Wards.** On balance the wards were expected to gain from the new system, but since both nurses and ancillary staff were affected, it was unlikely that any tangible saving could be made.

INITIAL OPERATION OF THE NEW SERVICE

68. As was to be expected, a number of difficulties were encountered when the service began operation, and a number of changes were made. During the initial three months opportunity was also taken to obtain the reaction of patients by means of a questionnaire, two-thirds of which were completed. The remaining third was not completed because of the age or condition of the patient, and this included the Children's and Geriatric wards in addition to the very ill patients. Whenever possible the views of these patients were sought verbally. A fairly full account of these early experiences is included in this report in the belief that it will be of interest to managements considering the introduction of a new meals service.

Menus

69. The proportion of patients choosing any particular dish was very much as envisaged when the menu was written. There was an even distribution of selection over most items featured, particularly in the breakfast menu; the requirements for this meal were easy to forecast. An interesting side light on the menus was the extent to which cheese and biscuits, and dessert fruit were chosen in preference to cooked sweets. These items were on the menu daily and formed nutritious and acceptable 'alternatives' involving little preparation and no cooking. One difficulty which stemmed from the standard menu was that vegetable and fruit were not always changed to accord with seasonal variations. It is, of course, imperative, if provisions costs are not to soar, to keep the menu in line with market conditions.

70. The menus had been compiled to offer patients the opportunity of having three cooked meals a day with up to three courses available for the lunch and supper meals. It was considered that the opportunity of taking one, two or three courses according to appetite was preferable to enforcing a fixed regime.

71. Patients were asked their views on the selective menu and 95 per cent stated that it provided for their likes and dislikes. Reservations were expressed by patients who were unhappy with the menu terminology, the continental dishes featured and the special diet selection.

Menu Terminology

72. The use of catering terminology to describe particular preparations is a subject on which many people have strong views. Where there is no restriction on the size of menu there is no reason why the preparation cannot be written out fully in English. However, where the size of menu is restricted the use of catering terminology is obligatory if the mode of food preparation is to be accurately described. The use of the term 'sauté' to describe potatoes which have been boiled, sliced and fried in shallow fat until brown, is a case in point.

Continental Dishes

73. The few patients who objected to continental dishes on the menu did so in the main because of the 'fancy names' which they did not understand. A Glossary of menu terminology should largely eliminate this problem. (Appendix K)

Special Diet Selection

74. (a) The adaptation of a basic menu for patients on special diets is widely practised in a number of hospitals. Few hospitals, however, offer the patient on special diet a choice of menu. Dissatisfaction with the special diet selection at Bethnal Green probably arose because the choice of adapted dishes was not always available. This particularly applied to diabetic juices, fruits in water, etc. Another important factor was the organisation of the meals service for special diets and this is dealt with later. By and large, however, the principle of offering the special diet patient a choice from the basic menu was favourably received, for in this way the patient is educated as to what foods he can or cannot take and the manner in which acceptable foods must be adapted for his diet.
- (b) Ward sisters were asked how frequently they used the Special Ward Menu and whether they found it satisfactory. Only a minority of sisters used the menu and then only on rare occasions. All sisters approached, however, welcomed it as meeting the needs of the occasional patient for whom they would normally have catered in the ward kitchen.

Pattern of Feeding

Continental Breakfast

75. Patients' views were sought on the Continental breakfast and the revised afternoon tea meal introduced with the new service.

76. The proportion of patients taking the Continental breakfast dropped from 20 per cent in the first instance to 5-10 per cent over the three month period, which was lower than had been anticipated. It is felt that the drop in the demand was primarily due to the fact that patients were wakened some considerable time before breakfast was served and this, with the fact that their last meal had been served some fourteen hours previously, meant that they were hungry and ready for a more substantial meal. A further contributory factor might be that the presentation of the Continental breakfast was not always to the high standard planned. However, even with the comparatively low proportion of patients taking this type of uncooked breakfast at Bethnal Green it was well worth continuing as it gave a meal at a reduced cost and involved no cooking. It was demonstrated, however, that the presentation of such a meal is of the utmost importance if it is to 'sell'.

The Afternoon Tea Meal

77. The revised type of afternoon refreshment of a pastry or biscuit and a cup of tea was found adequate by 86 per cent of patients approached. The remaining 14 per cent preferred either a more substantial tea of, say, bread, butter and jam; or they preferred a savoury to a cake. A certain number of diabetic patients' opinions could not be considered as special arrangements had been made for them. However, the experiment showed that a high proportion of patients are willing to forego the elaborate afternoon tea meal when they know that they will be served with a cooked meal of their own choice within a little over two hours. It is felt that the substantial tea meal in many hospitals is welcomed by many patients as a safeguard against an unknown supper meal.

Presentation

78. Some 99 per cent of the patients liked the presentation of the meal under the new system and considered it an improvement on the traditional service. A great many superlatives were used by patients commenting on the presentation and the only two adverse comments received were directed against the menus and organisation of the service rather than the appearance of the tray.

79. Patients were asked whether they found it acceptable to have up to three courses of a meal on the tray together, and 96 per cent answered in the affirmative. One or two of these patients said that whilst they would prefer to have their meal presented course by course they were happy to accept the three courses together for convenience. Two patients felt it would be distasteful to anyone feeling sick, although they did not mind having all three courses on their own trays; on the other hand another patient commented that as the plate and bowl were covered it did not matter.

80. Observation showed that this system gave the opportunity for a better presentation of the meal as the catering officer could see it as it would be put before the patient. Dishes were garnished with parsley, watercress, etc., and dishes which are difficult to present attractively, such as eggs in potato nests, were plated under expert supervision. When a sauce or gravy was featured it was put on or next to the meat in the proper manner.

81. With regard to the bulk of dishes upsetting the sick patient it is felt that this can be controlled on the ward as previously. When a patient is sick he will not normally select a three course meal and this position will only normally arise due to a change in the patient's condition between the selection and service of the meal. In this event it is felt that the nursing staff will either present the meal in an acceptable form, course by course, or ask the kitchen to change or cancel it.

Effect on Food

82. In assessing the effect of the Ganymede hot plate and insulated bowls on the food, attention was paid to the temperature of the food and its condition both at the time of plating in the kitchen and time of consumption in the ward. As previously stated foods were introduced into the menus which would have been spoilt in the previous service. Particular attention was paid to how these items were affected by the new service.

83. The Ganymede hot plate and insulated bowls have to maintain the temperature of the foods from the time of plating on the belt, to the final time of consumption by the patient. This varies according to the period in transit from kitchen to patient, the number of courses selected by the patient and the speed with which the meal is eaten. At Bethnal Green the longest distance normally took 10 minutes. Patients who selected a three course meal usually took 5 minutes to drink their soup, 10 minutes to eat the main dish and 5 minutes for the sweet. Food was thus required to be kept hot and in good condition up to 15 minutes in the Ganymede pellet set and up to 25 minutes in the insulated bowls.

Ganymede Pellet Set

84. Tests on the Ganymede pellet set revealed a loss in temperature of approximately 10°F. after 10 minutes. The effect on the food was to keep it in excellent condition for 10 minutes and good condition for 20 minutes, although certain wet foods might keep longer. Tests on fried eggs and chips showed that the eggs were still warm and soft with no evidence of condensation after 20 minutes, but were noticeably cooler after 30 minutes although the appearance was still good. Chips were hot and firm after 20 minutes but noticeably cool and soggy after 30 minutes.

Insulated Bowls

85. Tests on the Ganymede insulated bowls showed a loss in temperature of approximately 35°F. after 20 minutes and 45°F. after 25 minutes and 55°F. after 30 minutes. The effect of the bowl on the food was to keep

it warm (135°F.) and in fair condition for up to 20 minutes after plating but with a certain amount of condensation on the lid with very hot liquids.

86. In conclusion it can be said that the effect of the hot pellet set and insulated bowls at Bethnal Green was to keep the food hot and in excellent condition up to 10 minutes from plating and in good and acceptable condition up to 20 from plating. Beyond this time there was a noticeable loss of heat and in some cases spoilage of the foods.

87. Patients were questioned on the heat of the meal when it came before them and 95 per cent said it was hot on arrival; 90 per cent said the sweet kept hot until they were ready to eat it. The 5-10 per cent who disagreed stated that the sweets were cool by the time the soup and main dish were eaten.

Waste

88. It is the claim of the Ganymede service that food waste is reduced by a tighter control over the portions sent to the wards. A check of the ward food waste was made both before and after the new service was introduced to assess this claim. It was found that the average ward waste a day, i.e. plate and container leftovers, with the original trolley service was 7.5 oz. per head. A similar check on the new tray service revealed an average ward waste a day of 6 oz. per head, i.e. leftovers on the plate from main meals and other meals. The reason for the 20 per cent reduction was considered to be largely due to the tighter control over portions sent to the wards, the extension of the selective menu for all meals, and the fact that central washing brought waste to the immediate attention of the catering staff and permitted follow-up action to be taken with the ward concerned.

89. Approximately one tray in ten held plate waste which was considered to be excessive, and caused comment by many visitors to the kitchen. In a number of cases one or more courses of a meal were returned to the kitchen untouched. To ascertain the reason for this a hundred trays were examined on a number of days and where there was evidence of excessive plate waste a follow-up was made to the patient. The most frequent reasons found for the waste were:

- (a) a change in the condition and/or appetite of the patient;
- (b) the discharge of the patient without notifying the catering department;
- (c) a misunderstanding of the menu;
- (d) the wrong size of portion sent.

Change in Condition

90. The change in the condition of the patient from the time of ordering the meal will always occur to some extent in hospitals. Maternity cases will go into labour and lose all interest in their meals, as will acutely ill patients change their conditions with very little if any warning being given

in either case. Again the sickly may only pick at a meal no matter how carefully and attractively that meal is presented. The change in appetite may be hours or minutes before the meal, and the onus is on the ward sister to enquire of her patients up to say ten minutes before the meal arrives to give the kitchen time to cancel or adapt the orders for the meal. The structure for making these changes within the Ganymede system depends upon the communications between ward and kitchen which may not always be easy.

Discharge of the Patient

91. The discharge of a patient without the kitchen being notified is a common reason for food being sent to the wards in excess of requirements. At Bethnal Green it was reduced by having the catering clerk going to each ward about one hour before the midday meal on five days a week to get the names of patients being discharged. Nevertheless this helped only to a limited extent. As with the change in a patient's condition good communication must exist between the wards and the kitchen if this source of waste is to be overcome.

Misunderstanding of the Menu

92. There is a high proportion of overseas patients at Bethnal Green Hospital and a number of these patients cannot understand English. In addition many do not understand our menus and choose the wrong type of dish. The guidance of the patients in the type of dish they can eat is a nursing duty and one on which the catering officer can give help by talking to the patient or introducing the occasional national dish. However, when the patient does not speak or read English this can be rather difficult.

Wrong Size of Portion Sent

93. The reason for the wrong size of portion being sent to a patient was that staff on the conveyor belt did not always adjust the size of portion to that indicated on the menu. This was mainly due to:

- (a) the method of indicating the size of portion on the menu accepted by the hospital was not obvious enough to the server (It was the intention of the Fund to indicate small and large portions by marking the menu with a large $\frac{1}{2}$ or $1\frac{1}{2}$ by the side of selections. The practice adopted by the hospital, however, was a small red cross at the top of the menu on one of the boxes marked small, normal or large. This was not so obvious to the server who had to look in two places for the size and type of selection.);
- (b) the conveyor belt was in some instances moving too quickly (In certain items where particular care was required to plate a dish the speed of the belt precluded taking that care in the presentation and at the same time the size of portion requested.);
- (c) small portions of certain dishes were not always available when requested, particularly meat and certain pre-plated items. Small portions of meat or fish were prepared but were not

always available at the time of service when batch-cooking was operated. Care has to be taken that small, large, and normal portions are cooked in batches throughout the service period unless standard portions of protein food be agreed for all patients. The same problem was encountered where foods were cooked in portions or pre-plated before the meals service. Here again reasonably small portions might be the answer for these types of dishes.

94. Other reasons for excessive waste were that patients asked for 'large' portions or three course meals to be on the 'safe' side but found they were unable to eat them. Further a number of the very elderly patients had particularly fickle appetites and with many of them suffering from malnutrition when brought in they were not used to eating regularly and had to be encouraged, not always with success, to eat the meal chosen.

Selection of Meals

95. The method of selecting meals on individual menus was welcomed by 96 per cent of the patients who said they found the menus easy to fill up. The 4 per cent who disagreed did so because of menu terms rather than the method of selecting.

96. The system of choosing meals up to 24 hours ahead was acceptable to 98 per cent of patients completing the questionnaire. As previously stated, however, these patients did not include the very ill, who might feel differently but who would normally be catered for from the special ward menu.

97. In the case of the very ill, the handicapped, the very young and the very old, ward staff filled in the menus, where practicable approaching the patients for their selections. For certain of the very elderly who were living in a world of their own, ward staff made the choice for them. There is, however, a need to guard against the general acceptance of all the very young or very elderly being included in this category and it is a need of which a good nurse is well aware. The opportunity of selecting their own meals, with the ward sister giving guidance on nutritional balance, can give these patients a sense of independence and dignity and enlivens their interest. Children particularly enjoyed the opportunity of choosing their own meals and appetites were stimulated as a result of this interest. There was no question of their not eating their selections and there were lively exchanges between children on the merits of dishes chosen.

Staggering of Meals

98. An essential feature of the Ganymede system is that meal services to patients shall be staggered over a 30-50 minute period. This permits a higher standard of feeding to be achieved, but clearly raises a number of problems for ward sisters. However, the matron of Bethnal Green and

her sisters welcomed the opportunity of introducing the system and in most wards the initial difficulties were soon overcome.

The wards that were last to be served were worst affected – supper tended to run into the visiting hour so that patients hurried over the meal, the established rest hour and baby feeding time in the maternity ward were broken into, and cleaning routines were upset. To ease these difficulties, the service to the Maternity, T.B., Children's and Geriatric wards were brought forward and cleaning routines were retimed.

Central Crockery Wash

99. The layout of the central crockery wash was carefully planned to facilitate the washing and storage of the items used in the shortest time, with the minimum of staff. To this end a conveyor belt was introduced into the tray stripping end of the machine and a waste disposal unit sited between it and the machine. The Flight machine was selected to eliminate the use of racks and the rehandling of crockery. A hot air blower was placed at the end of the machine to help dry the plastic bowls and trays. The general effect of the machine on the various types of glass, crockery, steel and plastic ware put through was good, although several problems were encountered in the washing of cutlery and plastic ware, and there was evidence of detergent deposit on most items put through the machine. How far the planned layout and dishwashing equipment was successful in dealing with the thousands of pieces washed after each meal is detailed below.

Cutlery

100. The washing of the cutlery presented a few problems. It is the policy of the machine manufacturers to recommend that cutlery be mixed into cutlery sectional racks, eating ends uppermost to give the best wash without masking. This meant, however, that once washed the mixed cutlery had to be sorted into tray sets which involved a considerable amount of time. Again the type of plastic bowl supplied for cutlery did itself mask the cutlery and it was seen that a fine mesh type of bowl would be required to give a better wash. It was thus decided to design special cutlery bowls to be made of fine wire, each bowl holding one individual setting of cutlery. The setting would merely be removed from the patient's tray and placed eating ends uppermost into individual cutlery racks in a special basket. At the discharge end of the machine the clean individual sets of cutlery would be emptied from the bowls straight into paper napkins ready for the next meal service. Another problem which had to be faced was the drying of food onto the cutlery before it reached the crockery wash. This was overcome by soaking the cutlery baskets in a tank before passing them through the machine. Whilst these two measures gave a good wash there was still some evidence of a detergent deposit on the cutlery, and this could not be satisfactorily overcome.

Plastic Ware

101. (a) *Insulated Bowls.* The main problem encountered in the washing of the insulated plastic bowls was their extreme

lightness. Placed bottom uppermost on the pegs of the machine the bowls were overturned by the pressure of the bottom jets, and consequently came out of the machine full of water. Considerable thought was given to the best way of overcoming this problem and the choice was basically of sending the bowls through in racks or reducing the pressure of the sprays in the machine. Either solution entailed washing the bowls in batches. It was decided to introduce racks for the bowls, which gave satisfactory results, but the additional racking and rehandling led to an increase in the washing and storage time.

(b) *Plastic Trays*. Plastic trays were put through the machine in batches on their sides. This gave an adequate wash but meant that the spacing of trays had to be a minimum of 12 in. if masking was to be avoided and air drying achieved. Because of this 12 in. spacing rarely being achieved, trays had to be hand dried on most occasions.

The Equipment

102. (a) The scraping conveyor belt proved invaluable to the quick stripping of trays. It might, however, with advantage have shelving fitted over to accommodate certain items in racks and a tray guide at the end to direct the trays into the trayholder.
- (b) The waste disposal unit supplied did not have an overhead water feed into the waste chutes. This resulted in the chutes being clogged on occasions. Otherwise the unit worked well and any reservations on its usefulness are really related to policy. Experience suggests that plate waste should be collected in a receptacle and inspected and weighed prior to disposal remote from the actual stripping area of the wash up.
- (c) With the one exception of the detergent carry over, the Flight machine did its work very well. The system of condensing and utilising the steam within the machine proved very successful and meant a considerable saving in trunking as well as a more pleasing and hygienic wash up room. However, the detergent carry over must be eliminated if an ideal wash is to be achieved.
- (d) The hot air drying section after some preliminary trouble worked well and aided the drying of the plastic ware.

Detergent Dispensers and Rinse Injectors

103. The detergent dispenser and rinse injector incorporated in the machine worked effectively. Nevertheless there is some reservation on the usefulness of a rinse injector when a hot air blower is used. Similarly whilst the use of detergent facilitates the removal of grease the quantity needed and its effectiveness using a machine of this size with softened water gives rise to doubt.

Individual Packs

104. The individual packs for salt, pepper, mustard, marmalade and butter were welcomed by the great majority of patients. The packs were

hygienically and attractively wrapped in 'airline' style, and gave an excellent control of portions. They were, however, costly and certain of them, particularly salt, pepper and mustard were of rather generous portions. The cost of a set of salt and pepper for one meal was $2\frac{1}{4}$ d., the cost of mustard was just under $3\frac{1}{2}$ d. The usage of salt and pepper packs were probably one and a half meals a day as a fair proportion came back unopened and could be used again. This would bring the cost down to approximately 3.375d. daily. However, the hospital still considered that the cost of these items outweighed their usefulness and they were replaced by conventional cruet sets held on wards.

105. The marmalade and butter packs cost $1\frac{1}{2}$ d. and $1\frac{1}{4}$ d. each respectively and gave an excellent control of portions. The $\frac{1}{2}$ oz. marmalade pack was sufficient for one slice of bread, toast or roll and the 10 gram butter pack two slices of bread, toast or roll. At Bethnal Green butter was only sent to the wards with the breakfast meal, with biscuits and cheese, or where there was a bread accompaniment to the menu. In this way the expenditure on butter was kept down. It will be seen, however, that where butter is used more frequently the high cost of the butter packs may off-set the advantages of portion control.

Wards

106. The agreed organisation of the wards worked well although there was some initial difficulty. Because the hospital was unable to find a clerk to work over the weekend, menus for Saturday and Sunday were called for on the previous Friday, and Monday's menus on Saturday. This displeased the patients and caused a great deal of confusion when a patient was admitted, discharged or transferred, as up to eight menu cards had to be adjusted for these three days. To overcome this problem it was decided to estimate the weekend requirements and have the menus returned from the wards on the actual day of the meals service. This helped the position but the cards had still to be collected, checked and adapted which involved a considerable amount of work.

Catering Office

107. The agreed organisation of the catering office worked effectively with the exception of the weekend arrangements. By the third month the system of analysing ward orders moved completely over to estimating orders although the collection of menus for meals on the same day was not achieved.

Kitchen

108. The kitchen operated efficiently but the service of special diets presented a problem. The recommended policy that the varied components of the special diets menu be plated at the normal serving stations was rejected by the hospital in favour of one station only serving all courses of the meal. This involved the person at the special diet station with a considerable amount of work in plating up to three courses of the meal on a moving tray.

Conveyor Belt

- 109.** (a) The operation of the conveyor belt proved effective and only slight adjustments were made to those proposed.
(b) The service of three hot dishes and a cold dish from the hot and cold entrée section was found too taxing for one person so the cold meal was pre-plated and placed on the belt at the sauces station.
(c) The speed of 8-10 trays a minute was readily attained for those meals where the food being plated was easily handled (e.g. breakfast) but on occasions was reduced to give better presentation and portion control.
(d) The preparation and cooking of certain menu items in portions rather than in bulk was encouraged to save valuable seconds on the service and give an impression of individual cooking to the patient. Individual bowls and crescents were favoured for cold sweets and individual salads as they are very much cheaper than the insulated bowls and can add to the appearance of the tray.

Initial Capital and Revenue Costs

110. Approximately one-third of the £45,000 spent on up-grading the catering arrangements at Bethnal Green was spent on service and crockery washing equipment for the Ganymede system. The complete Ganymede installation costs about £10,000.

111. The cost of staffing the system was appreciable. The wages of the additional staff engaged on the conveyor belt and wash up amounted to £142 per week (£7,384 p.a.) and the clerk's salary was £14 3s. 0d. per week (£736 p.a.). This gives a total extra wage bill of some £8,120 a year. The individual menu cards cost £450 p.a. and paper napkins £200 p.a. making a total of £8,770 p.a.

Conclusions

112. The initial three months of operation, despite the inevitable teething troubles, showed that the new meals service was welcomed by the great mass of patients and staff, and that one of its primary aims – the raising of feeding standards to those of a good hotel – was achieved.

113. At the same time, events showed that a high calibre of caterer with adequate supervisory staff, was required to control kitchen staff so that food was cooked as close as possible to the time of service and, in some instances, during service. A high quality of supervision on the wards was also shown to be necessary; indeed the need for nursing guidance and supervision over the patient's selection and changing appetite was, if anything, increased with the new service. No less important was the maintenance of close and sympathetic co-operation between wards and kitchen, plus a thoroughly reliable transport service. Failure in any of these respects would only result in a standard of feeding no better – and possibly worse – than by conventional systems.

Conveyor Belt

- (a) The operation of the conveyor belt proved effective and only slight adjustments were made to those proposed.
- (b) The service of the hot water and cold water supply and cold water supply was found to be satisfactory for one part of the belt and the cold water supply was placed on the belt and the cold water supply was placed on the belt and the cold water supply was placed on the belt.
- (c) The speed of 3-10 days a minute was readily achieved for these meals while the food being served was easily handled.
- (d) The food was served in a satisfactory manner and the food was served in a satisfactory manner and the food was served in a satisfactory manner.
- (e) The food was served in a satisfactory manner and the food was served in a satisfactory manner and the food was served in a satisfactory manner.

Initial Capital and Revenue Costs

The initial capital and revenue costs of the system were estimated at £1,000. The capital costs of the system were estimated at £1,000. The revenue costs of the system were estimated at £1,000.

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Conclusions

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Part III Joint Examination by the R.W.S.U. and the King's Fund of the present Organisation and Methods of Work

114. In this Part of the Report is recorded a factual summary of the mode of operation of the Ganymede system and associated cooking and washing up equipment during January to March 1965, and the team's comments arising immediately therefrom. The overall findings in relation to the service are in Part I of this report. Since there were some quite significant variations between the intended mode of operation, as described in Part II, and that actually practised, we have thought it worthwhile including a fairly full description of the latter.

Overall Catering Organisation

115. The catering officer was responsible to the hospital secretary for the overall catering service. He had no deputy, but a dietician had recently been appointed. The staff of the department were disposed as follows:

- (a) Nine cooks, under the direction of a kitchen superintendent, worked in shifts which gave complete cover from 6.0 a.m. to 9.0 p.m. and one cook on night duty from 8.0 p.m. or 9.0 p.m. to 6.0 a.m.
- (b) Seven domestic assistants working in two shifts from 6.0 a.m. to 9.0 p.m. prepared vegetables and washed up the pots and pans used in the preparation and cooking of food.
- (c) A supervisor and 10 domestic assistants were employed from 7.30 a.m. to 3.30 p.m. and a supervisor and 10 domestic assistants from 5.30 p.m. to 8.30 p.m. each day to pre-plate food for patients at the conveyor belt, wash up the Ganymede containers, clean the conveyor belt, operate the central washing up machine and wrap the patients' cutlery.
- (d) One full-time clerk was employed to check and summarise the meals ordered onto summary sheets, visit wards to add or cancel menus and to check special diet arrangements.

116. There was a distinct division of duties between the 'Kitchen' and 'Ganymede' domestics, e.g. no 'Ganymede' domestic prepared vegetables and conversely no domestic on vegetable preparation operated the Ganymede system. This is, of course, at variance with the original intention, which is discussed in para. 25 above.

Menus

117. We found that major changes had been made in the menus and that those in use during the evaluation bore little resemblance to the original. In particular, frequently the choice available was often not contrasting

enough, e.g. curried beef, minced beef or cold beef salad were featured for the same meal.

118. One of the objects of selective menu planning is to reduce the number of special diets by providing suitable dishes in the main menu. We found that on certain days the number of diets increased quite substantially as there was no suitable dish available. For example, for one meal the choice lay between curried eggs, sardines on toast and egg mayonnaise, none of which is suitable for gastric or geriatric patients. Examples of menus which illustrate these points are shown at Appendix I.

119. During our study, revised menus were prepared by the catering officer and the King's Fund and were introduced at the beginning of April; they provide a selection of diets and a more balanced choice of main dishes. The revised menus are shown at Appendix J.

120. Menus offering breakfast, lunch and supper divided by vertical perforations (see Appendix B) were printed for the first three months of operation. This was altered to lunch, supper, breakfast before the next printing, this being the sequence of meals chosen.

121. The Special Ward Menu which was introduced to provide suitable dishes for very ill patients on a 24-hour basis, and which was rarely used during the initial stage, had ceased to be either asked for or available on an 'on demand' basis. We were not able to find out conclusively if the demand ceased because there was no service, or *vice versa*.

Preparation and Cooking of Food

122. To assess the effectiveness of batch-cooking on the work load of the cooks we observed the preparation and cooking times in relation to the demands made by the service. These observations showed that certain undesirable cooking practices had been introduced and that batch-cooking, which is one of the main features of the Ganymede service, had been almost entirely abandoned.

123. Criticism was made by the cooks of the cooking equipment, indicating that it was not adequate for the quantity of food to be cooked. The equipment was of course intended to meet the demands which would be made on it by batch-cooking, in consideration of the menu content. We did not observe any shortage of equipment but make no further comment in view of the shortcomings found in the methods and times of cooking and the content of the menu in use at that time. A detailed account of the preparation and cooking of food and our recommendations have been given to the Hospital Management Committee.

124. The work of the domestic assistants employed on vegetable preparation was not studied in detail although the times at which the main tasks took place, e.g. vegetable and salad preparation, pot wash and cleaning, were noted. The duties of the Ganymede domestic assistants were studied in more detail as they were directly related to the operation of the pre-plating service, cutlery preparation and the central washing up process. We found a clear case for integrating the domestic staff for some kitchen and meal service duties. We further recommend that, when the establishment for the new staff cafeteria is completed, the catering officer should consider integrating all the domestic assistants employed in his department.

Utensil Preparation

125. Clean cutlery was wrapped in the central wash up area after each meal by six to 10 domestic assistants, who were engaged on this task for 45 minutes, a total daily average of 18 hours. We consider, however, that this could be completed by two domestics in a total daily time of $4\frac{1}{2}$ hours, although with the present division of labour there is little to be gained by completing the task more quickly as there appears to be no other work available.

126. During the study there was a shortage of cutlery, particularly knives, and patients were expected to use the same knife for bread, butter and marmalade after eating their hot breakfast dish. Ordinary knives were used for fish and it was difficult to get rid of the smell which persisted even after the cutlery had been washed two or three times.

Crockery, Pellets, Bains Marie

127. After being washed, the crockery, pellets, containers, bases and lids were taken to the Ganymede belt and loaded into their respective dispensers. The pellet ovens and bains marie were switched on approximately an hour before they were required. We noticed a shortage of side plates for breakfast rolls, and patients complained of difficulty in handling rolls when plastic bowls were used instead.

Conveyor Belt Organisation

128. A complete layout of the Ganymede conveyor belt, showing the positions for the service of all dishes, is at Appendix D.

129. The same type of food was always served from a particular station, but at each more than one item were served but they were usually alternatives. The sweet and diet stations, however, were required to serve two items (e.g. plums and custard, or mince and puréed vegetable), onto any one tray. The consistently heaviest station was the one serving the sweets; it is the first point after the trays have been placed on the belt, so making it possible for the tray setter to dispense the tray, menu and cutlery at a speed which will keep pace with this station. The diet station, which was operated by the diet cook, was busiest during the service to medical wards; this was particularly noticeable on a day when the menu

was unsuitable for diet patients.

130. Our observations showed the sequence to be a logical one and the allocation to give as even a distribution as was practicable.

Mode of Operation

131. Food was put into the bains marie containers at various times by the cooks before the actual service. Approximately 2-5 minutes before the meal service began all operators were at their stations by the belt. Wards were always served in the same sequence and the belt started with the T.B. ward. The first operator picked up the menu, placed it in a holder, picked up a tray and a bundle of wrapped cutlery, placed the tray on the belt, put on the cutlery and positioned the menu vertically on the tray, facing down the belt so that each operator could clearly see it as it moved forward. The second operator looked at the menu to see if a hot meal had been ordered, picked up a base, dispensed a pre-heated pellet into the base from the pellet oven, picked up a plate, placed it on the base and put the whole onto the moving tray. As the tray approached each station the operator looked at the item with which she was concerned to see if she need take action and if so the size of portion required. The operator then served the portion, either by putting it straight onto the plate on the tray or, where a portion of vegetable or the sweet was required, by serving to a plastic bowl which was then placed on the tray. Liquids, such as soup, fruit juices, etc., were served last to avoid spillage. Salads were normally put on the tray near the end of the belt, presumably to avoid their becoming too limp from the heat surrounding the belt.

132. The Ganymede supervisor stood at the dispatch end to check that the food on the tray corresponded to that requested, put a metal lid on the main course and stopped and started the belt when necessary. An operator to the right of the supervisor simultaneously put lids on the bowls and handed the tray to a porter who loaded it to a trolley. These operations were repeated until each trolley had been loaded and dispatched to the wards. The service took on average 40 minutes, including stoppages, for around 270 meals, and the total for the day, with 11 operators and one kitchen porter was thus 24 manhours, plus three for 'immediate' preparation.

133. During our observations no plating errors were passed but the presentation of food varied and was not rectified when not up to standard. On one occasion seven trays left the kitchen without cutlery; this was a frequent complaint from ward sisters when we visited the wards.

134. The belt operated at the same speed during our visits, regardless of the meal, e.g. breakfast or lunch which have a varying number of dishes to be served, although the Ganymede supervisor said that it was

regulated where necessary. We observed the belt operations during several meals, and found the belt stopped on average 12 times per meal for the following reasons.

- (a) *Diets*. Where several diet menus followed one another, the diet cook found it impossible to keep pace with the speed of the belt.
- (b) *Deficiencies on the tray*. No cutlery, an item missing from the selected menu or the wrong food served.
- (c) *Waiting for the tray trolleys*. The dispatch of trolleys was very quick but if an empty trolley was not immediately available the belt had to be stopped, even though only for a few seconds.
- (d) *Lack of plates or covers*. The operator who dispensed the base, pellets and plates called to the supervisor to stop the belt when the plate dispenser was empty. We noticed that this was due to a number of dirty plates which were rejected. The dinner plates, though not insufficient for the demand, do not allow for a margin of rejects. The operator dispensing plate covers did not always keep the dispenser topped up; stoppages occurred when the supply ran out until the dispenser could be replenished.

135. In order to reduce the pressure on the diet station, the belt should operate more slowly for wards which have a number of special diets, and the clerk should intersperse diet menus with ordinary ones.

136. The service of food to plates and bowls was reasonably good, but more attention should be given to the provision and correct use of serving implements which make the difference between an attractive and a sloppy presentation, e.g. non-drain spoons were used for vegetables and tinned tomatoes, and forks, which can cause a slice of freshly cooked meat to fall into pieces, instead of a slice or tongs. We consider that the Ganymede operators, as part of their training, should be shown round a ward at meal times to show them how closely their work is related to the patients' well-being.

Portion Control

137. We saw very little difference between the 'large', 'medium', and 'small' portions served except for potatoes. Protein foods were served in the same quantities regardless of the request, e.g. one sausage, two medium slices of meat. Salads were standard and consisted of two lettuce leaves, three pieces of tomato and meat or egg, etc., according to the menu. Fish, liver and chops were all prepared to one size. A patient requesting two boiled eggs for breakfast, although not having bacon or sausage, received one, the other was deleted by the catering office. New patients did not always know which combination of dishes they could order and, for example, would request bacon, egg and tomato for breakfast.

138. It is important that there should be a definite distinction between

the size of portions, including meat, fish, salad and green vegetables, as well as potatoes. Fish, liver, etc., should be so prepared as to provide small and medium size helpings, which could be combined to give large portions where required. The number of persons selecting a small portion will at least balance those with larger appetites and, in fact, we consider that more careful control over the preparation and serving of the portions will reduce rather than increase the provisions costs and reduce plate waste. When revised portions have been agreed, the Ganymede operators should be instructed and given diagrams so that they are conversant with the portions and the methods of presentation.

Distribution to the Wards

139. The trolleys were loaded and distributed by four general porters under the control of the head porter. One trolley was delivered to each ward where it was handed over to the orderly or domestic and the process repeated until all 18 trolleys had been delivered. This part of the service was efficiently conducted and we saw no instances of undue delay.

Meal Trolleys

140. We noted that on several occasions trays which were slightly warped slipped off the rather narrow brackets inside the trolleys. On one ward seven trays collapsed; from these only four meals could be salvaged. We understand that this problem has been referred to the trolley manufacturers for rectification. We found the trolleys to be heavy and unwieldy.

Service on Wards

141. On arrival at a ward the trolley was pushed to the centre of the ward by a ward orderly or domestic assistant. The trays were distributed from this point by the ward sister or senior nurse. A tray of condiments was brought from the ward kitchen and placed near the trolley. The sister removed a tray from the trolley, checked the menu content and the patient's name and handed the tray to one of her staff, who picked up a set of condiments, placed it on the tray and took it to the patient. The distribution of trays normally took 5-6 minutes in an 18 bed ward. After the meal, the trays were collected by the domestic and orderly staff, the condiments removed and the trays put into the trolley which was then pushed onto the landing to await collection by a porter.

Effect on Ward Staff

142. Before the Ganymede service was introduced staff on the 18 bed wards spent about $5\frac{3}{4}$ hours daily on the service (excluding beverage making), cleaning and washing up for three main meals in the following proportions:

Nursing time	..	..	..	..	2	hours
Ward Orderlies time	..	..	..	..	$2\frac{1}{2}$	hours
Ward Maids time	..	..	..	..	$1\frac{1}{4}$	hours
						—
Total manhours	..	..	..	..	$5\frac{3}{4}$	hours

143. Once the Ganymede service was introduced, the work associated with meal service was, of course, reduced, and we assessed the new work load as follows. Tea was served on most wards during or after each meal; it was prepared, served and washed up by an orderly or domestic assistant and this work amounted to $1\frac{1}{4}$ hours per day. Serving and clearing the three main meals amounted to 1 hour a day. The total work content therefore was $2\frac{1}{4}$ hours, a reduction of $3\frac{1}{2}$ hours per day on most wards. The exception was the T.B. ward, which washed and sterilised its own crockery before sending the crockery to the central wash. In this ward the domestic hours were increased slightly to cope with the extra items to be washed, but the nursing time spent on meal distribution decreased. In total, we estimate that 48 hours per day are saved throughout the hospital, of which about one-third is nursing time.

144. We understand that the saving of domestic time has enabled the domestic superintendent to re-schedule certain cleaning work formerly carried out on the wards in the afternoons. Ward maids are now withdrawn from the large wards at 1.0 p.m. daily. In the afternoons they are employed on departmental cleaning or in cleaning teams operating mechanical equipment. Although a net fall of about 5 per cent in the overall numbers of ward orderly and domestic staff employed has occurred and a higher standard of cleanliness has been achieved, it is difficult to isolate the savings directly attributable to the Ganymede service and central wash up from those resulting from better methods of cleaning and floor maintenance. No evidence has been disclosed of the alternative use made of ward orderly time released by their reduced work-load in the preparation, serving and clearing of main meals.

Opinions of the Patients and Ward Sisters

145. Visits were made to the wards and 200 patients were questioned to obtain their views of the service and food; to find out if they had been patients at either Bethnal Green or another hospital within the last five years and to determine if the patients actually made their choice from the menu or if it was done for them. We have analysed the questionnaires and outline the main comments below.

(a) Nobody disliked the individual tray service and the majority of patients were very appreciative; several said it made them feel important to be able to choose their dish and have it brought to them individually prepared. It was considered to be an improvement on the system which some had previously experienced either in Bethnal Green or at other hospitals although a few male patients missed the chance to have a second helping.

(b) The cooking and presentation were considered good by the majority. The only complaints on the choice available and the cooking were from a minority group of 10 young women under 35 who disliked the food generally.

(c) The food was generally considered hot, although there were

a few complaints that the soup was lukewarm.

(d) Only one female patient said she did not get enough to eat; the majority considered they had sufficient and a few patients thought the portions on occasion were too large. Most male patients under 50, particularly those recovering from accidents or minor operations, felt that the portions were too small and apart from the potatoes could see little difference between the size of portions, e.g. one sausage was inadequate for a requested 'large' portion.

(e) Salads were criticised as being dull and insufficient and there was a general comment that gravy should be available with more dishes or as an optional extra.

(f) Dirty cutlery was criticised by a few, and others said they had received trays without cutlery. Some patients objected to using the same knife for all courses and also the use of plastic bowls for rolls and butter instead of side plates.

(g) A few patients failed to understand either the method of ordering or the content of the dish; this was overcome where staff were able to explain the menu and manner of selection, but occasionally a new patient was not told the combination of dishes which were available.

(h) Only those patients who were unable to mark their own menu had it done for them, usually by an orderly but by the sister on one ward. Of these only the very ill or infirm were not asked their choice of dish, although in some instances the ward sister changed the selection where she considered it unsuitable for the patient.

146. The ward sisters appreciated the speedier service of meals which released their staff for other duties but several made comments on the lack of cutlery, shortage of the right crockery and lack of difference between the size of portions. Two sisters carried out their own 'portion control' by taking food from one plate and putting it onto the plate of a patient with a larger appetite. Several sisters commented unfavourably on the tray trolley, with particular emphasis on the ease with which trays could be misloaded, and warped trays could slide off the rather narrow brackets.

Central Washing Up

147. The trolleys containing the trays and dirty utensils were brought from the wards by the general porters and pushed into the central wash up area. Six Ganymede domestics were engaged on the machine, four at the loading and two at the unloading end. Each tray was removed from its trolley, plate waste scraped into the waste disposal unit and the utensils put onto the conveyor belt tray by tray. Cutlery was removed and washed by hand before going through the machine. The machine was in use for about 40 minutes after each meal; including 2-3 minutes for preparation and for tidying up. The total daily manhours consumed in

crockery and cutlery washing amounted to 13.

148. A number of plates were rejected by the unloading operator as being dirty, and we assessed this operation to be only 75 per cent effective. The special racks referred to in paragraph 101 (a) were not being used, and plastic bowls were always wet when removed from the machine and were allowed to drip dry.

149. Despite the pre-wash, cutlery was not always properly cleansed and the result was impacted food, particularly on the prongs of the forks. The sterility was also prejudiced by unhygienic methods of handling the cutlery when it was wrapped in a paper serviette. Because of this, sisters on several wards indicated that they would prefer to have the cutlery back under their control. They could then also ensure that patients had the correct pieces.

150. We discussed the difficulties and apparent shortcomings of the machine with the manufacturers, who were very concerned that this expensive equipment was not functioning correctly. They pointed out that the machine was not being maintained in accordance with their instructions and that the type of detergent being used was not one which they would recommend as suitable. We understand that a powder detergent of the type recommended by the manufacturers of the washing machine would be more suitable than the liquid used at present.

151. It will be important thereafter that the machine be operated and maintained in accordance with their instructions. Certain daily and periodic cleaning and maintenance tasks must be carried out to obtain maximum efficiency from the machine. The daily duties of the kitchen porter should include:

- (a) removing and thoroughly cleaning all scrap trays;
- (b) removing the pump filters, freeing of all food matter, washing and replacing;
- (c) keeping wash tube shots free of blockages.

Additionally, the hospital engineer should periodically inspect the pre-scraping jets and rinse jets to ensure their correct operation.

152. It is important that this expensive equipment be used to its fullest extent, both to achieve maximum labour saving and to provide sterile utensils. We, therefore, recommend that all cutlery and crockery, both for patients and staff, be processed through it. It will, however, be necessary to strengthen supervision at the unloading end of the machine, while the cutlery is being wrapped, and on the Ganymede belt, to ensure that patients always receive the correct amount of clean cutlery.

Summary of Work Content

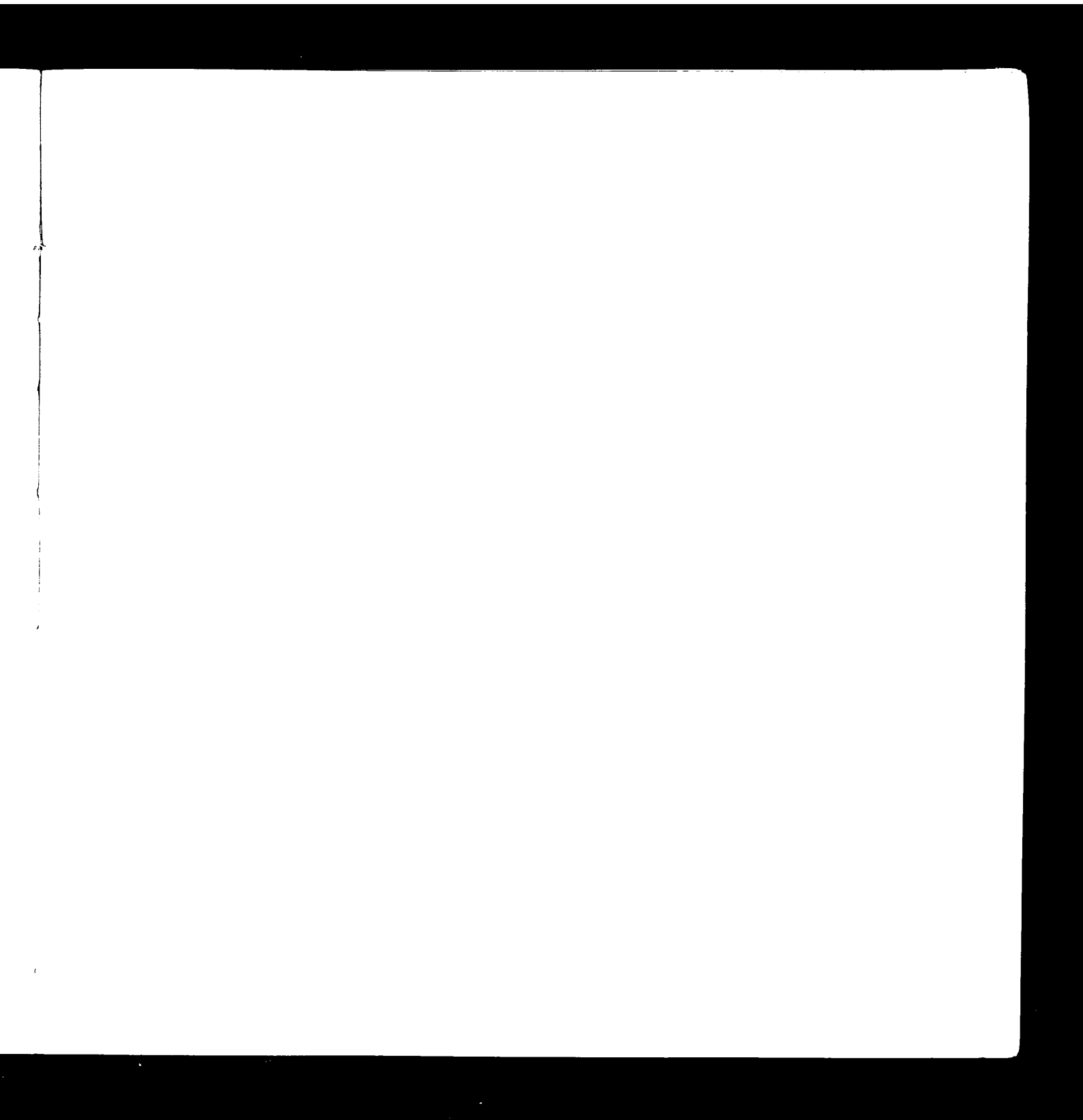
153. No detailed time studies were made of the various activities making

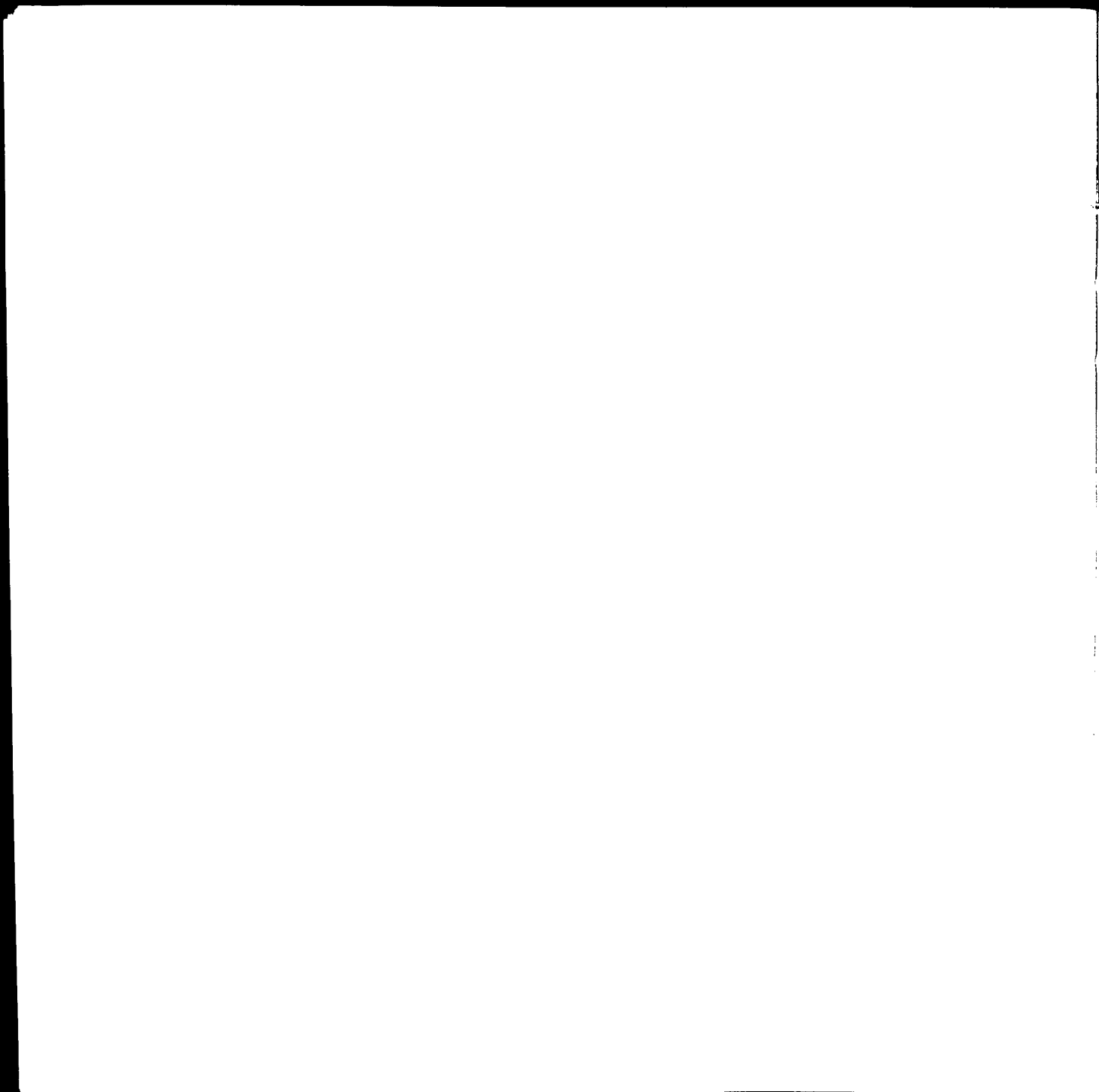
up the Ganymede plating service and associated central plate and cutlery wash. However, the total times spent on each activity plus the related preparation and cleaning up were recorded over several days. We have accepted the manning level of the conveyor belt (one supervisor, 10 operatives and one kitchen porter for dinner and supper and one supervisor, eight operatives and one porter for breakfast), and the production rate of seven-eight trays per minute, as being reasonable. We have estimated the work content of cutlery wrapping as 90 manminutes per meal.

154. We assess the total work content for a 300 bed hospital to be approximately as follows:

Activity	Staff	Man-minutes	Times/ Days	Total Hours/ Day
Belt operation, dinner and supper	12	45	2	18
Belt operation, breakfast	10	45	1	7½
Plate and crockery wash	6	45	3	13
Preparing and cleaning belt and equipment	10	10	3	5
Wrap cutlery	2	45	3	4½
				48

155. For practical purposes this may be taken as 50 hours a day or 350 hours a week of 'effective' time. Additional time will need to be allowed for personal hygiene, holiday and sickness allowance and so on, but this will vary and is a matter for each hospital to determine. It is unlikely to be much less than 75 manhours per week, and will be considerably in excess of this if, as at Bethnal Green, the conveyor belt and central wash operatives are employed solely for these duties. The initial assessment of labour required at Bethnal Green was indeed 110 hours a day (see para. 67 above).





Part IV Provisions Costs

156. The provisions costs, which were under the regional average before the Ganymede and the choice menu service were installed, rose quite considerably during 1964 and when the evaluation started the cost was six shillings per in-patient week above the regional average.

157. A complete study of the numbers of persons fed, the purchase of provisions, and an analysis of menus to determine the quantities required for the portions served, was undertaken. A check was also made on the amount of plate waste from each ward after several meals.

158. Our findings and recommendations have been submitted to the former Central Group Hospital Management Committee (now part of East London HMC). Several points and our conclusions are outlined below.

159. We have found no reason to attribute the high provisions costs to either the operation of the Ganymede pre-plating service or to the selective menu. A selective menu provides sufficient information, when correctly collated and interpreted, to enable the catering officer to calculate his needs accurately and so to keep the provisions costs within reasonable limits.

160. We found plate waste higher than is to be expected where a selective menu and a pre-plating service is operating and this must be related to incorrect portion control, from the ordering to the plating stages; to lack of control over presentation; and to faulty cooking techniques.

161. We consider that if the purchase of provisions is based upon accurate estimates of dishes required, and the number of persons to be fed is related to the Ministry of Health scale of portions per person per week, the catering costs can be contained within the regional average without detriment to the patients or staff.

Part IV Provisions Costs

156. The provisions costs, which were under the regional average for the Gwynedd and the choice menu were installed, rose quite considerably during 1964 and when the evaluation started the cost was six shillings per in-patient week above the regional average.

157. A complete study of the methods of persons fed, the provision of provisions, and in addition of means to determine the quantities required for the patients served, was undertaken. A check was also made on the amount of plate waste from each ward after several meals.

158. Quantitative and qualitative recommendations have been submitted to the Joint Hospital Group Hospital Management Committee (now part of the London HMC). Several points and conclusions are outlined below.

159. We have found no reason to attribute the high provisions costs to either the operation of the Gwynedd pre-portioning service or to the selective menu. A selective menu provides sufficient information when correctly collated and interpreted, to enable the catering officer to calculate his needs accurately and to keep the provisions under control within reasonable limits.

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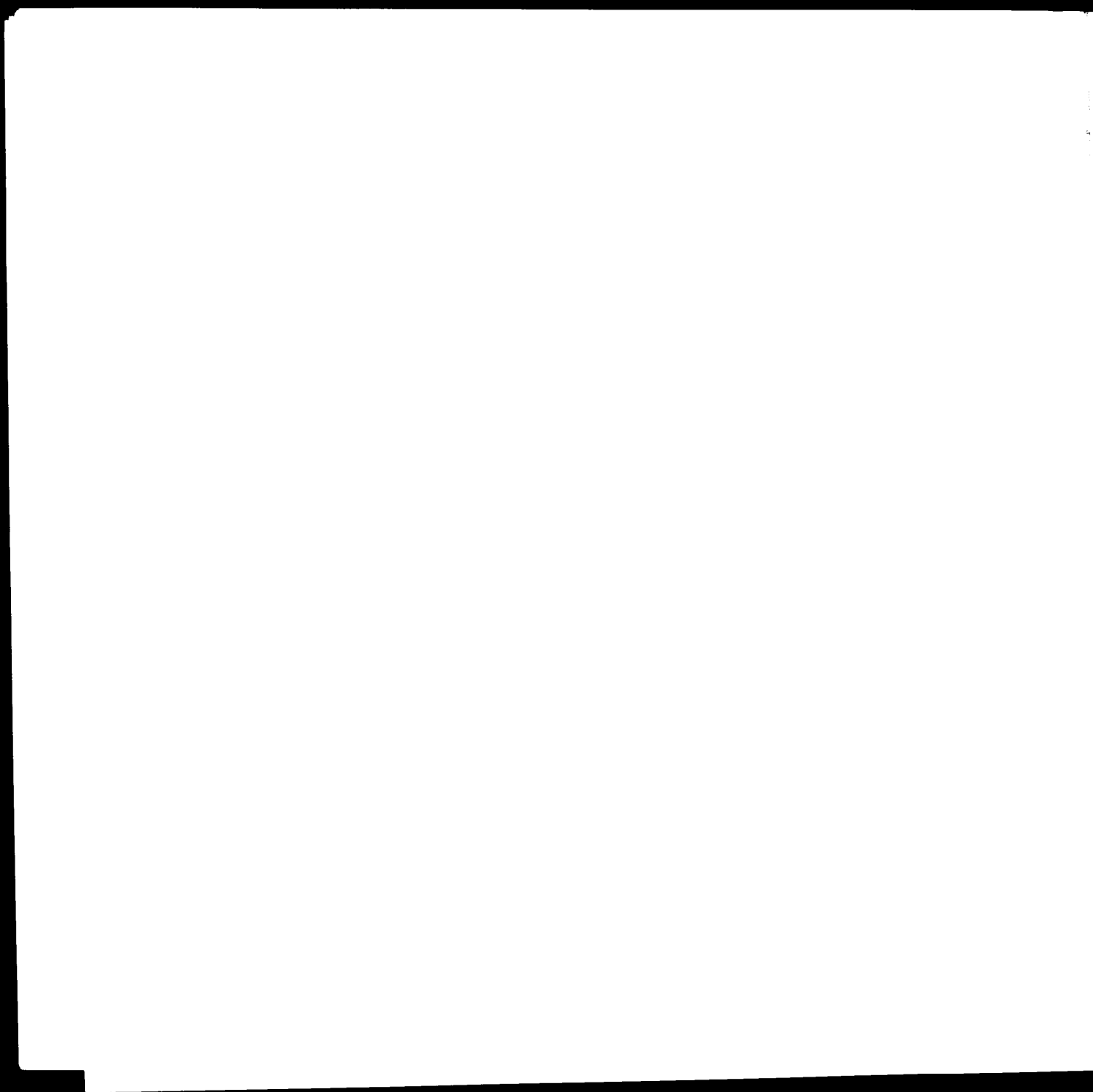
161. We consider that if the purchase of provisions is based upon accurate estimates of dishes required, and the number of persons to be fed is related to the Ministry of Health scale of portions per person per week, the catering costs can be contained within the regional average without detriment to the patients or staff.

Part V General Conclusions

162. The conclusions reached are that the claims made for this system of tray service from a kitchen can be met providing the management is good and there is adequate co-operation between staffs concerned.

163. It is also essential to train the servers in how to serve, to ensure that the cooks continue to cook during the service operation and that the conveyor belt is travelling at a speed which gives the servers time to plate the food in an acceptable manner. To achieve these objects there must be an adequate number of supervisors and/or managers to cover a seven-day week service.

164. To offset the increased number of staff required in the kitchen, work of ward ancillary staff should be under central direction in order that the time saved can be fully utilised. If some similar centralisation could be applied to nurses, the overall staff costs should not materially increase. However, if this cannot be achieved, it will then be up to each management committee who are considering this system of service to consider whether the improved service and presentation of food is worth the extra cost involved.



Appendices

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*Estimated Effect of Installing Ganymede Service on
Revenue Costs at a 300 Bed Hospital*

In assessing the effect of installing Ganymede, it has been assumed that the belt's complement of 10 operatives and a porter will be drawn partly from the kitchen (i.e. the number of vegetable preparers and cooks' assistants should be such as to enable them to spend the necessary time on the belt as well as to complete their normal tasks), and partly from the staff restaurant, where the staff level should again take account of the extra commitment. An extra supervisor will probably have to be employed, and during the evening it will almost certainly be necessary to employ extra staff specifically for the conveyor and central wash.

It has further been assumed that it will not be possible to re-allocate any nursing time on the wards, but that the domestic staffing of each ward can be planned at a level of about 3 hours per day less than with a bulk food service system. Some reduction in staff levels of the restaurant should also be achieved by using the central wash for staff crockery, etc.

On this basis, the extra cost can probably be reduced to a minimum, as shown on page 51.

Factor	Effect on Cost (per year)	
	Plus £	Minus £
	(To nearest £50)	
STAFF		
Domestics for conveyor belt and central wash (assuming reasonable integration with existing kitchen and dining room staffs)	4,500	
Supervisor	750	
Domestics on wards (assuming partial redeployment found feasible)		2,000
Porters to take trolleys to and from wards	No change	
Cooks	No change	
Clerical (assuming no catering clerk employed at present)	750	
Nurses	No change	
EQUIPMENT		
Washing machine – maintenance	marginal	
Food trolleys – maintenance		marginal
Conveyor belt – maintenance	marginal	
*PROVISIONS		
Theoretically nil, but in practice it will depend on the quality of management		
SUPPLIES		
Menu cards (100,000 per year)	450	
Napkins (300,000 per year)	200	
Insulated bowls (@ 30/– each)	150	
Other crockery, cutlery and implements	No substantial change	
SERVICES		
Heat, power, light, etc.	Unknown but probably not substantial	
Totals	£6,800	£2,000
*Plus	?	

Appendix B

Individual Selective Menu

Bethnal Green Hospital

Ward Name
 Day & Diet
 Date
 Size of Portion: ☐ Small ☐ Normal ☐ Large

BREAKFAST

☐ CONTINENTAL BREAKFAST
 *Warm Breakfast Rolls, Butter and Marmalade
 with Coffee or Tea
 or

FULL BREAKFAST

☐ *Cereal
☐ *Porridge
☐ Grilled Bacon and Tomato
☐ Grilled Sausage and Tomato
☐ *Boiled Egg
☐ *Poached Egg
☐ *Scrambled Egg
☐ Fried Egg
☐ Grilled Kipper and Herring
☐ *Smoked Haddock Fillets
☐ *Breakfast Roll, Butter and Marmalade
 Coffee or Tea

Please indicate your choice by putting an X in the box provided to the left of the dish chosen.

*Suitable for Light Diet.

Ward Name
 Day & Diet
 Date
 Size of Portion: ☐ Small ☐ Normal ☐ Large

LUNCH

☐ Orange Juice
☐ *Cream of Cauliflower Soup

☐ Grilled Lamb Cutlet
☐ *Fricassée of Veal
☐ *Parsley Omelette
☐ Cold Brawn

☐ *Creamed Potatoes
☐ Sauté Potatoes

☐ *Grilled Tomato
☐ Peas
☐ Green Salad

☐ Apple Flan and Custard
☐ *Rice Pudding
☐ Dessert Fruit
☐ *Cheddar Cheese and Biscuits

Ward Name
Day & Diet
Date
Size of Portion: ☐ Small ☐ Normal ☐ Large

SUPPER

- ☐ *Chicken Broth
- ☐ Cornish Pasty
- ☐ *Poached Fillet of Sole
- ☐ Ravioli in Tomato
- ☐ Egg Mayonnaise
- ☐ *Parsleyed Potatoes
- ☐ Chipped Potatoes
- ☐ *French Beans
- ☐ Sliced Carrots
- ☐ Tomato and Chicory Salad
- ☐ *Caramel Cream
- ☐ *Strawberry Mousse
- ☐ Dessert Fruit
- ☐ *Cheshire Cheese and Biscuits

Appendix C

Special Ward Menu

Bethnal Green Hospital

Items on this menu are available from the kitchen at any hour of the day or night. They are restricted, however, to the very ill patient who cannot be tempted from the normal selective menu.

Soups	Chicken Broth
	Beef Tea
Eggs	Boiled
	Poached
	Scrambled
	Baked
	Omelettes
Fish	Poached Sole
Meats	Creamed Veal
Fowl	Creamed Chicken
Sweets	Baked Egg Custard
	Fruit Trifle
	Junket
	Ice Cream
	Blancmange
	Jelly
	Milk Jelly
	Milk Pudding

Plan of Conveyor Belt and Ancillary Equipment



Appendix E

14 - day Menu

Luncheon Menu	1	2	3	4
Week 1	Monday	Tuesday	Wednesday	Thursday
1	Pineapple Juice	Grapefruit Juice	Orange Juice	*Tomato Juice
2	*Celery Soup	Minestrone Soup	*Cream of Cauliflower Soup	*Mushroom Soup
3	Lamb, Bacon and Mushroom Kebab with Risotto	Fried Whiting Fillets	Grilled Lamb Chop	Curried Beef with Rice
4	*Poached Codling in Parsley Sauce	Casserole of Lamb	*Fricassée of Veal	*Grilled Whittings
5	*Egg Mornay Style	*Baked Egg in Potato Nest	*Parsley Omelette	*Cauliflower Cheese
6	Sliced Mortadella Sausage	*Cold Roast Beef	Cold Sliced Brawn	Cold Pressed Beef
7	Sauté Potatoes	Chipped Potatoes	Sauté Potatoes	Chipped Potatoes
8	*Duchesse Potatoes	*Mashed Potatoes	*Creamed Potatoes	*Plain Boiled Potatoes
9	*French Beans	*Cauliflower au Gratin	*Grilled Tomatoes	*Brussels Sprouts
10	*Grilled Tomatoes	Braised Celery	Peas	Sliced Carrots
11	Salad	Salad	Salad	Salad
12	Apple Fritters	Gooseberry Pie	Apple Flan and Custard	*Ice Cream with Wafer
13	*Ice Cream and Blackcurrant Sauce	*Rhubarb Fool	*Rice Pudding	*Bread and Butter Pudding
14	Dessert Fruit	Dessert Fruit	Dessert Apples	Gooseberries and Cream
15	*Cheese and Biscuits	*Cheese and Biscuits	*Cheese and Biscuits	*Cheese and Biscuits

CHEESE AND SALADS TO BE NAMED DAILY
 POTATOES, FRESH VEGETABLES AND FRUIT VARIED ACCORDING TO SEASON
 *Suitable for Light Diet.

5	6	7
Friday	Saturday	Sunday
Grapefruit Juice	Orange Juice	Pineapple Juice
*Cream of Vegetable Soup	*Leek and Potato Soup	*Asparagus Soup
Fried Plaice with Lemon	Griddled Pork Sausages	Roast Leg of Lamb
Braised Steak and Vegetables	*Poached Haddock in Mushroom Sauce	*Boiled Chicken Suprême
*Poached Eggs on Spinach	Spaghetti Bolognaise	
Veal, Ham and Egg Pie	*Cold Ox Tongue	*Cold Ham
Buttered Potatoes	Lyonnais Potatoes	Roast Potatoes
*Duchesse Potatoes	*Boiled Potatoes	*Creamed Potatoes
*French Beans	Baked Beans in Tomato	Buttered Cabbage
Braised Celery	Peas	*French Beans
Salad	Salad	Salad
Baked Stuffed Apple	Mincemeat Slice	Rhubarb and Custard
*Semolina Pudding	*Baked Egg Custard	*Fruit Trifle
Dessert Oranges	Stewed Plums	Dessert Bananas
*Cheese and Biscuits	*Cheese and Biscuits	*Cheese and Biscuits

Supper Menu	1	2	3	4
Week 1	Monday	Tuesday	Wednesday	Thursday
1	*Chicken Noodle Soup	*Pea Soup	*Chicken Broth	*Kidney Soup
2	Grilled Herrings	Individual Pork Pie	Cornish Pasty	Grilled Beefburgers
3	Braised Kidneys with Mushrooms	*Diced Chicken in Cream Sauce	*Poached Sole in Potato Nests	Stuffed Tomatoes
4	*Scrambled Eggs with Tomato	*Fish Soufflé	Ravioli in Tomato Sauce	*Scrambled Egg with Chopped Ham
5	Cheese Salad	*Cold Ox Tongue	Egg Mayonnaise	Sliced Chopped Pork
6	Baked Jacket Potatoes	Croquette Potatoes	Fried Sliced Potatoes	*Roll and Butter
7	*Boiled Potatoes	*Parsleyed Potatoes	*Parsleyed Potatoes	*Creamed Potatoes
8	Peas	Baked Beans in Tomato Sauce	*French Beans	Peas
9	Braised Chicory	Mixed Vegetables	*Cauliflower	*Broad Beans
10	Salad	Salad	Salad	Salad
11	Prunes and Cream	*Sherry Trifle	*Banana Custard	*Milk Jelly
12	Dessert Fruit	Sliced Melon	Dessert Oranges	Dessert Pears
13	*Cheese and Biscuits	*Cheese and Biscuits	*Cheese and Biscuits	*Cheese and Biscuits

CHEESE AND SALADS TO BE NAMED DAILY
POTATOES, FRESH VEGETABLES AND FRUIT VARIED ACCORDING TO SEASON
*Suitable for Light Diet.

5	6	7
Friday	Saturday	Sunday
*Tomato Soup	Onion Soup	*Clear Vegetable Soup
Fried Eggs and Bacon	Fried Cod in Batter	Welsh Rarebit
*Creamed Chicken and Rice	Cottage Pie	*Poached Haddock in Milk
Cheese and Potato Pie	*Sliced Egg in Parsley Sauce	
Roll Mop Herrings	Cold Pork Pie	Sliced Hard-boiled Egg Salad
Sauté Potatoes	Chipped Potatoes	*Bread and Butter
*Mashed Potatoes	*Duchesse Potatoes	*Boiled Potatoes
*Grilled Tomatoes	*Brussels Sprouts	Peas
Mixed Vegetables	Buttered Carrots	
Salad	Salad	Salad
*Gooseberry Fool	*Blancmange	*Ice Cream and Chocolate Sauce
Pineapple Pieces with Syrup	Dessert Oranges	Dessert Pears
*Cheese and Biscuits	*Cheese and Biscuits	*Cheese and Biscuits

Luncheon Menu Week 2	8 Monday	9 Tuesday	10 Wednesday	11 Thursday
1	Grapefruit Juice	*Tomato Juice	Orange Juice	Pineapple Juice
2	*Cream of Chicken Soup	*Celery Soup	*Cauliflower Soup	*Mushroom Soup
3	Braised Liver and Bacon	Fried Codling with Tartare Sauce	Grilled Pork Chop	Steak and Kidney Pudding
4	Minced Steak with Vegetables	Cutlet of Lamb Boulangère	Boiled Salt Beef	Minced Lamb with Assorted Vegetables
5	*Mushroom Omelette	*Creamed Veal	*Bacon Omelette	*Poached Sole in Sauce Duchesse
6	Cheese Salad	Salami	Sliced Liver Sausage	Pork Luncheon Meat
7	Parmentier Potatoes	Chipped Potatoes	Lyonnais Potatoes	Fondante Potatoes
8	*Mashed Potatoes	*Parsleyed Potatoes	*Boiled Potatoes	*Mashed Potatoes
9	*Cauliflower	*French Beans	*Brussels Sprouts	*Buttered Cabbage
10	Buttered Swedes	Whole Young Carrots	Vichy Carrots	Peas
11	Salad	Salad	Salad	Salad
12	Apple Crumble	Treacle Tart	Steamed Orange Pudding	Plum Pie
13	*Tapioca Pudding	*Lemon Mousse	*Creamed Rice Pudding	*Caramel Custard
14	Mandarin Oranges and Cream	Mixed Stewed Fruit	Grapefruit	Dessert Fruit
15	*Cheese and Biscuits	*Cheese and Biscuits	*Cheese and Biscuits	*Cheese and Biscuits

CHEESE AND SALADS TO BE NAMED DAILY
POTATOES, FRESH VEGETABLES AND FRUIT VARIED ACCORDING TO SEASON

*Suitable for Light Diet.

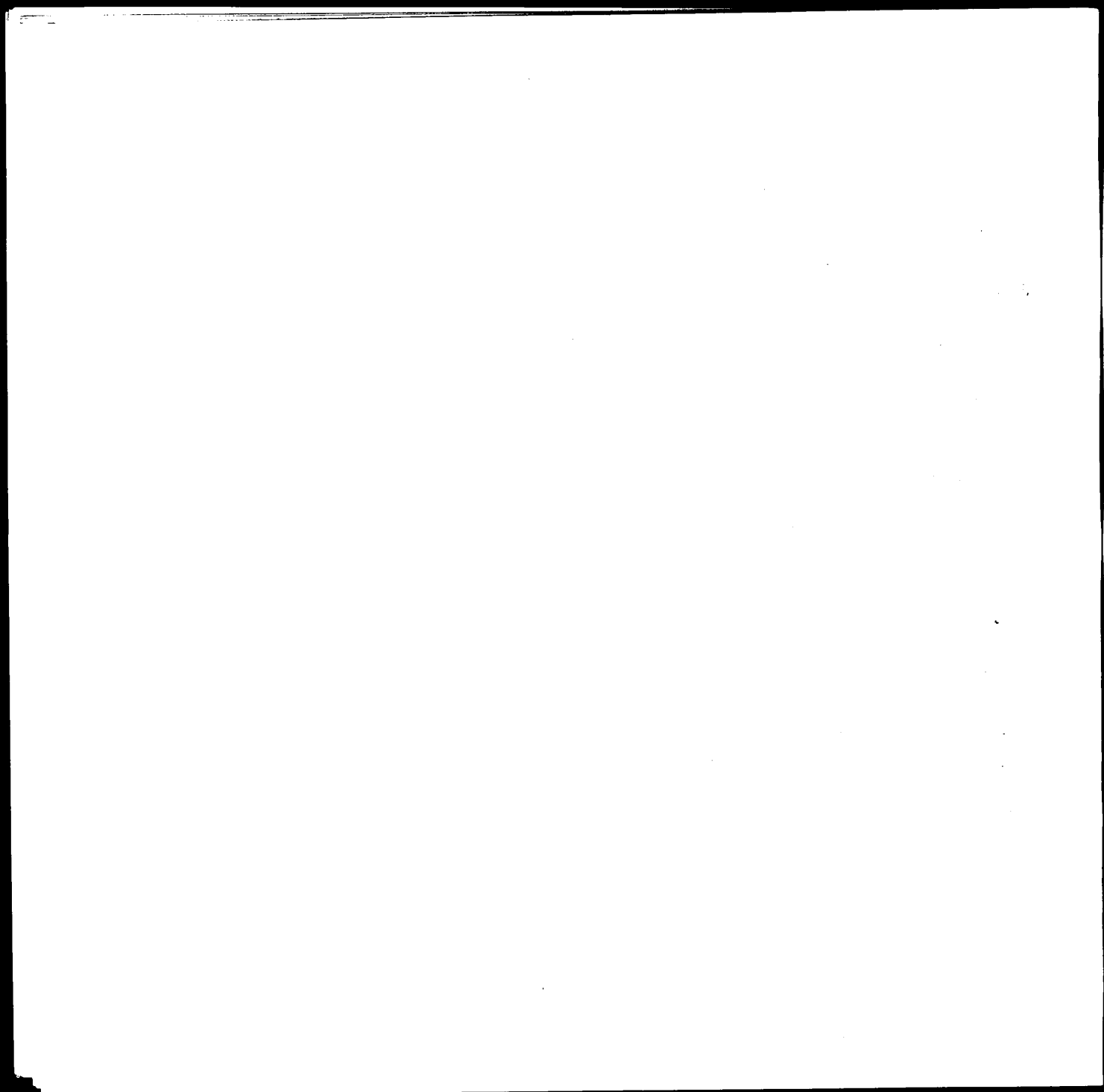
12 Friday	13 Saturday	14 Sunday
Grapefruit Juice	*Tomato Juice	Orange Juice
*Tomato Soup	*Leek and Potato Soup	*Chicken Soup
Fried Codling with Tartare Sauce	Fried Chicklettes	Roast Beef and Horseradish
Hot Saveloys	Cottage Pie	*Poached Chicken in Suprême Sauce
*Blanquette of Veal	*Grilled Haddock	
Cold Lambs Tongue	Pressed Beef	Cold Jellied Veal
Chipped Potatoes	Croquette Potatoes	Roast Potatoes
*Parsleyed Potatoes	*Creamed Potatoes	*Parsleyed Potatoes
*Pease Pudding	Buttered Swedes	*Brussels Sprouts
Braised Celery	*Cauliflower au Gratin	Whole Young Carrots
Salad	Salad	Salad
Lemon Meringue Flan	Compote of Fruit and Cream	Baked Apple Pie
*Bread and Butter Custard	*Tapioca Pudding	*Chocolate Mousse
Sliced Melon	Dessert Fruit	Dessert Fruit
*Cheese and Biscuits	*Cheese and Biscuits	*Cheese and Biscuits

Supper Menu Week 2	8 Monday	9 Tuesday	10 Wednesday	11 Thursday
1	*Pea Soup	*Chicken Noodle Soup	*Chicken Broth	*Kidney Soup
2	Frankfurter Sausages	Toasted Bacon and Tomato Sandwich	Curried Eggs and Rice	Bacon and Beans on Toast
3	Soft Roes on Toast	*Macaroni Cheese	Stuffed Tomatoes	*Poached Eggs
4	*Cheese Soufflé	*Flaked Fish and Egg Kedgeriee	*Creamed Chicken and Ham Duchesse	Cheese and Potato Croquettes
5	Cold Roast Lamb	Corned Beef	Stuffed Pork and Veal Gelatine	Sliced Luncheon Meat
6	*Creamed Potatoes	*French Bread and Butter	Parmentier Potatoes	Sauté Potatoes
7	Baked Jacket Potatoes	*Mashed Potatoes	*Creamed Potatoes	*Duchesse Potatoes
8	*Grilled Tomatoes	Peas	*Butter Beans	*French Beans
9	Sauerkraut		Mixed Vegetables	Carrots
10	Salad	Salad	Salad	Salad
11	*Pear Condé	*Fruit Table Creams	Pineapple Jellies	*Ice Cream and Cherries
12	Dessert Apples	Dessert Bananas	Dessert Fruit	Dessert Fruit
13	*Cheese and Biscuits	*Cheese and Biscuits	*Cheese and Biscuits	*Cheese and Biscuits

CHEESE AND SALADS TO BE NAMED DAILY
POTATOES, FRESH VEGETABLES AND FRUIT VARIED ACCORDING TO SEASON

*Suitable for Light Diet.

12	13	14
Friday	Saturday	Sunday
*Clear Vegetable Soup	Onion Soup	*Asparagus Soup
Veal and Ham Vol-au-Vents	Scotch Eggs	Toasted Cheese and Chutney Sandwich
*Gnocchi in Cheese Sauce	*Boiled Bacon	*Poached Golden Cutlets in Milk
Sardines on Toast	Farfalletti Bolognaise	
Cold Brawn	Tuna Salad	Cold Roast Beef
*Boiled Potatoes	Sauté Potatoes	Chipped Potatoes
*Warm French Bread and Butter	*New Boiled Potatoes	*Creamed Potatoes
Grilled Tomatoes	Sauerkraut	Peas
Peas	*Grilled Tomatoes	
Salad	Salad	Salad
*Apricot Condé	Fresh Fruit Salad	Plums and Cream
Dessert Fruit	Dessert Fruit	Grapefruit
*Cheese and Biscuits	*Cheese and Biscuits	*Cheese and Biscuits



Organisation and Administration of the Ganymede System

The introduction of the new meals service entailed a considerable reorganisation in the wards where the meal orders were taken and meals distributed; the catering office where the orders were analysed; and the kitchen. The installation of a central crockery wash also raised some problems. The decisions which were taken on the organisation and staff levels are outlined below.

WARD ORGANISATION Menus

1. (a) Each patient is offered an individual selective menu. The menus are taken to the wards from 10-11 a.m. daily by the catering clerk and distributed to patients before lunch for the following day's meals.
(b) The ward sisters give guidance to the patients on their selection using the Dietician's Guide to Special Diets (Appendix H) and the Glossary of Catering Terms (Appendix K) and all menus are checked for proper completion prior to their return to the catering office by 2 p.m.
(c) Patients who cannot take the normal selective menu are offered a dish from the Special Ward Menu (Appendix C). Dishes on this menu are available at any hour of the day or night.

New Admissions

2. Newly admitted patients complete menus as soon as possible after their arrival.

Cancelled Meals

3. (a) Meals may be cancelled due to a change in the patient's condition or the patient's discharge from hospital. The catering office should be notified immediately.
(b) Details of newly admitted patients, meal cancellations and discharge of patients are given to the catering clerk daily on her ward round, or sent to the catering office direct.

Meals Service

4. The service of meals at ward level conforms to the policy indicated under meal arrangements (Appendix G). Ward staff involved are as shown below.
 - (a) *Early Morning Refreshment.* Tea is made by ward staff for those patients who desire it. A trolley is set out with cups, saucers, teaspoons, jug of milk, bowl of sugar and pot of tea, and wheeled around the ward. Cups are washed at ward level.
 - (b) *Breakfast.* Breakfast trays come from the main kitchen at the

pre-arranged time. The trays are complete with the exception of sugar and cold milk for cereals and porridge and beverages. Prior to the arrival of the breakfast trays from the kitchen, the ward trolley is set up with sugar sifter and jug of milk and jug of coffee and/or pot of tea, cups, saucers, teaspoons and sugar.

(c) *Midmorning Refreshment*. This is prepared by ward staff. A trolley is set out with beverages, cups, teaspoons, sugar, etc., as for the early morning refreshment. Biscuits are available if desired, and cups are washed at ward level.

(d) *Lunch*. The complete lunch meal is trayed in the main kitchen and distributed at ward level in the normal manner. At the completion of the meal, the trays are loaded back into the tray trolley and returned to the main kitchen for washing and storage. In those wards where beverages are proffered they are dealt with by ward staff when the meal trays have been cleared. Cups and saucers are washed at ward level.

(e) *Afternoon Tea*. This meal is prepared by ward staff. To the usual beverage trolley are added a plate of pastries with tea plates and tea knives. No bread, butter or preserves are featured at this meal unless it is considered desirable because of a patient's age or condition. All items are washed at ward level.

(f) *Supper*. As for lunch service.

(g) *Evening Beverage*. As for midmorning refreshment.

Washing Up

5. For the first stage of the service, only the main meals are washed centrally as indicated. At a later stage in the service the crockery for refreshment meals and beverages may be washed centrally for an experimental period. In this event spare sets of crockery will be issued to the wards.

Crockery and Cutlery

6. The only crockery held in wards are cups and saucers for beverages, and sideplates for afternoon tea; the only cutlery are teaspoons and tea knives or cake forks. All other crockery and cutlery, except that used on the T.B. ward and Children's ward, is held in the central crockery wash.

Ward Issues

7. Beverages, sugar, milk, biscuits and pastries, sauces, are requisitioned from the store. Cereals, butter, marmalade, mustard and cruets, and bread rolls are sent up from the kitchen according to the patient's orders. Bread, butter and jam are available from the stores for those patients who require them.

T.B. Ward and 'Barrier Nursed' Patients

8. The meals service for this ward and these patients conforms to the general ward pattern with the following exceptions.

- (a) Special trays and bowls are used which will withstand sterilisation temperature.
- (b) Cutlery is held on the ward.

(c) All crockery and trays are washed and sterilised on the ward before being returned to the central crockery wash.

Children's Ward

9. Meals for the very young are prepared on the ward from proprietary foods as and when required. Cutlery is held on the ward and is smaller than that used on other wards. The ward sister is free to order on her daily requisition whatever type of food she requires.

CATERING OFFICE ORGANISATION Menus

10. Individual menus are printed from the two-week rotating menu for each of the patients. These menus are taken to the wards between 10 and 11 a.m. daily and returned to the catering office by 2 p.m. for the following day's meals. The completed menus are checked for proper completion, marked for small or large portions and special diet menus are extracted.

Meals Selection

11. (a) The patients' selections are counted meal by meal on the office adding machine, one key being used for each menu item. The total is posted to the Kitchen Summary sheet.
(b) Special diet selections are summarised on the Special Diet Summary sheet.
(c) Menus are kept in ward order and put into four specially sectioned boxes each section clearly marked with the name of the ward, one box being kept for each meal and one spare.

New Admissions

12. Menus for newly admitted patients are given out by the catering clerk on the daily ward round and collected by the ward orderlies.

Cancellations

13. Cancellations are recorded by the catering clerk in her daily round or notified by the ward staff. In dealing with new admissions and cancellations it will be appreciated that up to three meals will be involved. It is hoped at a later stage to organise the system to take the patients' selections for lunch and supper on the actual day they are served. In this event patients' requirements will be estimated from previous records.

KITCHEN ORGANISATION

14. The kitchen continues to deal with the same number of patients and staff as before. However, there has been some reorganisation of existing arrangements to cover the new policy of batch-cooking for the new service. To this end the number of staff on duty for the breakfast, lunch and supper meals has been revised to permit last minute cooking throughout the service periods and possibly service on the belt.

Cooks

15. Cooks are not required to serve the meals on the conveyor belt. They are involved in the continuous cooking and replenishment of dishes for patients and staff throughout the meals service.

Domestics and Porters

16. Domestics and porters are to take position on the conveyor belt

when required.

Diet Kitchen

17. All special diets are prepared by the diet cook in bulk and these dishes are loaded into the mobile bain marie by the conveyor belt just prior to and during the meals service.

CONVEYOR BELT ORGANISATION

18. The layout of the Ganymede conveyor belt and ancillary equipment at Bethnal Green Hospital is set out in Appendix D.

19. The belt is in operation for approximately 30-40 minutes at each meal serving the 250-300 patients at the recommended rate of 8-10 a minute. All ancillary equipment for the meal (viz. pellet ovens, plate warmers, heated bains marie, etc.) is in position and switched on up to 1½ hours before the meals service starts.

20. The food is plated from mobile serving stations or bains marie at each side of the belt, and each station, which is attended by one girl, serves one section of the meal.

Serving Stations

21. The number of serving stations at Bethnal Green varies from five at breakfast to seven at lunch, as shown below:

Breakfast		Lunch and Supper	
Cereals and porridge	1	Fruit juice and soup	1
Rolls, marmalade and butter	1	Hot and cold entrées	1
Egg dishes	1	Vegetable and salads	1
Fish dishes,		Potatoes	1
bacon and sausage dishes	1	Sauces, gravies and garnishes	1
Special diets	1	Hot and cold sweets, desserts, cheese and biscuits	1
		Special diets	1
<hr/>		<hr/>	
Total	5	Total	7

22. However, in addition to the 5-7 staff serving from these stations there are a further 5-6 who are required at each meal regardless of the menu. These staff are:

1. Conveyor Belt Supervisor
2. Tray Setter
3. Pellet Oven Operator
4. Tray Checker
5. Bowl and Plate Litter
6. Loader

23. The staffing of this service line at Bethnal Green differs from the recommendation of Allied Ironfounders (Ganymede) in that a conveyor

belt supervisor and a lidder have been employed but no runner. In regard to the last mentioned, as the belt is sited in the middle of the kitchen within a pace or so of cooking equipment it was not thought necessary to have a runner to replenish the serving stations. The onus for replenishment is on the cooks.

The Supervisor

24. It was felt that a conveyor belt supervisor with the same standing as a dining room supervisor should be on duty at each meal. This supervisor would be responsible to the catering officer for the service of the meal rather than the kitchen superintendent or head cook as favoured by Allied Ironfounders. It was felt that the kitchen superintendent would be better occupied in continuing to supervise the cooking operations. The supervisor trains the staff and is responsible to the catering officer for the service of the patients' meals. She moves around the belt checking portion sizes and presentation, and forms a link with the cooks.

The Tray Setter

25. She places the menu in its holder and puts it and the wrapped cutlery on to a tray, and sends the tray down the belt.

The Pellet Oven Operator

26. He ejects the hot pellets from the oven on to the plate base, puts a warm plate on top and sets the plate and base on to the tray.

The Tray Checker

27. She checks the complete tray against the menu selection.

The Lidder

28. A lidder was engaged as it was felt that this would take some work off the checker who, Allied Ironfounders suggest, does the covering of bowls and plates and speeds the service. She places the covers and lids on the plates and bowls. The lidder is not usually required at breakfast because there is rarely more than one plate or bowl to cover and therefore the operation is carried out by the checker.

The Loader

29. He takes the trays off the belt and puts them in the trolleys.

PORTERING SERVICES ORGANISATION Distribution of Tray Trolleys

30. Four porters collect the tray trolleys from the kitchen and take them to the wards, one trolley at a time between the hours of:

7.45-8.20 a.m. for breakfast.

11.45-12.20 p.m. for lunch.

5.45-6.30 p.m. for supper.

Trolleys are loaded in the kitchen an average of one every 2-3 minutes starting with the geriatric, children's and maternity wards and follow a set sequence for each meal.

Collection of Tray Trolleys

31. Four porters collect the tray trolleys from the wards and return them to the central crockery wash between the hours of:

8.20-9.00 a.m. for breakfast.

12.20-1.00 p.m. for lunch.

CENTRAL CROCKERY WASH ORGANISATION

6.30-7.00 p.m. for supper.

32. The central crockery wash deals with the washing and storage of the patients' crockery, cutlery, trays, plates and glasses for the three main meals of the day.

33. The Flight spray type crockery washing machine in this section incorporates a waste disposal unit, three wash tanks and one rinse tank and hot air dryer. It is automatically fed with detergent and rinse additive to facilitate washing and drying. The dirty trays are received on to a moving belt at the receiving end of the machine and are dealt with by a minimum of one supervisor and five operators for the two hours of the washing process.

34. As the ward crockery is washed it is removed from the machine and immediately placed in the Ganymede storage equipment for the next meal service. Cutlery is wrapped at the end of the washing period.

35. The work of the operators as planned for this section is set out below.

36. Operator 1. He removes tray from trolley and places it on the conveyor belt placing menu holders, cutlery, fruit juice glasses into baskets and paper napkins and menus into waste bin.

37. Operator 2. She removes plastic bowl lids and puts them into the machine. The waste is emptied from the bowls then they are sent through the machine.

38. Operator 3. She takes Ganymede plate from the tray, the hot pellet is ejected into the pellet bin, sends base and cover through the machine, scrapes plate and sends it through the machine. She also sends trays through the machine.

39. Operator 4. She removes and stores clean bowls and lids.

40. Operator 5. She removes and stores plates, bases, and covers.

41. Supervisor. She generally supervises, helping out as required by removing trays from end of belt, bringing up storage units, etc., checks breakages and makes replenishments when necessary, organises cutlery counts, etc.

42. Layout. A plan of layout was given in Appendix L.

43. In determining the staffing of the tray service, every effort was made

CATERING STAFF

to utilise existing catering staff where possible. In a number of cases times to work were slightly adjusted to give further coverage of meals within the working day. However, the taking over by the catering department of the complete meal, analysing, serving, washing and storing could not be expected within the existing framework even with reorganisation. Set out in the following paragraphs are the number and grade of additional staff engaged, together with an account of their duties.

Office

44. The new system involves a considerable amount of extra clerical work, as follows.

- (a) Daily visits to wards with menus.
- (b) Checking and summarising meals orders on to summary sheets.
- (c) Checking special diet requirements with Diet Summary sheet.
- (d) Adding and cancelling menus.

It was estimated that this would take a minimum of five hours daily or 35 manhours weekly over seven days. Unfortunately the hospital have been unable to find anyone to work over the weekends in this capacity so a full-time clerk has been engaged working a 5½ day week of 38 hours in which she prepares menus for the weekend in advance.

Kitchens

- 45.**
- (a) **Cooks.** The new system affects the cooking staff in that the accepted policy of continuous cooking throughout the meal period means more staff are required mornings and evenings than were needed with the former system. This could not have been achieved within the existing staffing structure without the complete revision of the hours of duty which had been long established. Consequently the kitchen establishment was increased by one cook and one assistant cook to give coverage for the additional hours required.
 - (b) **Domestics.** The hours of the kitchen domestics were slightly revised so that the early shift started in time to help out if required on the lunch service. Both shifts finished earlier so no extra hours are involved.
 - (c) **Porters.** The porters' hours were also slightly revised to a minimum of one porter daily on duty at each meal service. No extra hours are involved.

Conveyor Belt and Central Crockery Wash

46. In considering the type of staff who would be recruited for the conveyor belt and central crockery wash, thought was given to the use of existing ward staff, such as orderlies and domestics for the meals service. However, it was decided by the hospital that rather than use ward staff in the catering department extra catering personnel would be recruited. The total manhours spent on the Ganymede conveyor belt and central crockery wash amounted to 110 daily. Of these manhours,

nine are spent by existing staff helping on the conveyor belt as shown below:

Kitchen porters (operating pellet oven)	approx.	3 hrs. daily
Domestics (serving)	"	3 hrs. daily
General porters (loading trolleys)	"	3 hrs. daily

Total	9 hrs. daily
-------	--------------

The remaining 101 hours are spent by two conveyor belt supervisors and 24 full and part-time staff working on an early shift (7.30 a.m.-3.30 p.m.) and a late shift (5.30 p.m.-8.30 p.m.). In full-time units this is equivalent to:

Supervisors	$1\frac{22}{42}$ and
Domestic Assistants	$15\frac{20}{42}$

47. A comparison of the number of catering staff involved in the old and new meals service is set out below.

	Old System	New System	Additional Staff
Administrative and Clerical Staff			
Catering Officer	1	1	
Catering Clerk		1	1
Kitchen Staff			
Kitchen Superintendent	1	1	
Head Cook	1	1	
Assistant Head Cook	1	1	
Cooks	3	4	1
Assistant Cooks	3	4	1
Porters	3	3	
Domestics	9	$24\frac{20}{42}$	$15\frac{20}{42}$
Supervisors		$1\frac{22}{42}$	$1\frac{22}{42}$
	22	42	20

Appendix G

Meal Arrangements

The following are the patterns of feeding for the Ganymede Tray Service at the hospital.

MEAL	DESCRIPTION	STAFF INVOLVED
Early Morning Refreshment 7.00 a.m.	Tea if desired	Ward Staff
Breakfast 8.00-8.30 a.m.	Choice of Continental or full breakfast from a selective menu	Milk, sugar and beverages by Ward Staff. Complete Meal from kitchen
Midmorning Refreshment 10.00 a.m.	Milk drink and biscuit	Ward Staff
Lunch 12.00-12.30 p.m.	Choice of a three-course meal from a selective menu of four main dishes	Beverages by Ward Staff. Complete Meal from kitchen
Afternoon Refreshment 3.00 p.m.	Tea and pastry	Ward Staff
Supper 6.00-6.30 p.m.	Choice of a three-course meal from a selective menu of three/four main dishes	Beverages by Ward Staff. Complete Meal from kitchen
Evening Refreshment 8.00 p.m.	Milk drink and biscuit	Ward Staff

Appendix H

Sample of Dietician's Guide to Special Diets

Monday - Week A Daily Diet Guide

	D	R	S.F	SF/R	LP	HP	LF	G.2	G.3	LR	Total
Pineapple Juice	-	-	✓	-	✓	✓	✓	-	-	✓	
" " Unsweetened	15	-	-	✓	-	-	-	-	-	-	
Celery Soup	-	-	S.F	-	-	+ skm	skm	-	-	-	
" " Sieved	-	-	-	-	-	-	-	✓	✓	✓	
D.M. Soup	✓	✓	-	S.F	-	-	-	-	-	-	
Lamb	✓	✓	-	-	-	✓	-	-	-	-	
Bacon - Lean	✓	✓	-	-	-	✓	-	-	-	-	
Mushroom	✓	✓	-	-	-	✓	-	-	-	-	
Risotto	-	-	S.F	-	✓	-	-	-	✓	✓	
Poached Codling	-	-	S.F	✓	1½ oz.	✓	✓	✓	✓	✓	
Parsley	-	-	-	✓	✓	-	1	-	-	-	
Parsley Sauce	-	-	S.F	-	-	+ skm	-	-	-	-	
Hard Boiled Egg Salad	✓	✓	-	✓	-	-	½	-	-	-	
Sauté Potatoes	✓	-	S.F	-	✓	✓	-	-	-	-	
Boiled Potatoes	-	-	-	-	-	-	✓	-	-	-	
Mashed Potatoes	✓	-	S.F	-	✓	✓	-	✓	✓	✓	
French Beans	✓	✓	S.F	S.F	✓	✓	✓	-	-	-	
" " Sieved	-	-	-	-	-	-	-	-	✓	✓	
Grilled Tomato	✓	✓	S.F	S.F	✓	✓	✓	-	-	-	
" " Sieved	-	-	-	-	-	-	-	-	✓	✓	
Salad	✓	✓	✓	✓	✓	✓	✓	-	-	-	
Apple Fritters	-	-	✓	-	✓	✓	-	-	-	-	
Stewed Apple (no sugar)	✓	✓	-	S.F	-	-	-	-	-	-	
" " (with sugar)	-	-	-	S.F	-	-	✓	-	-	-	
Ice Cream	✓	-	✓	-	-	✓	-	✓	✓	✓	
Blackcurrant Sauce	-	-	✓	-	-	✓	-	✓	✓	✓	
Banana	-	-	-	-	✓	-	✓	-	-	-	
Cheese and Biscuits	✓	✓	-	-	-	-	-	-	-	-	

	D	R	S.F	SF/R	LP	HP	LF	G.2	G.3	LR	Total
Chicken Noodle Soup	-	-	S.F	-	✓	+ skm	✓	-	-	-	
" " " Strained	-	-	-	-	-	-	-	✓	✓	✓	
Chicken Broth	✓	✓	-	S.F	-	-	✓	✓	✓	✓	
Braised Kidney - Thick Gravy	-	-	S.F	-	1 oz. + skm	-	-	-	-	-	
" " Thin Gravy	✓	✓	-	-	-	-	✓	✓	✓	✓	
Mushrooms	✓	✓	S.F	S.F	-	✓	✓	✓	✓	✓	
Scrambled Egg	-	-	-	S.F	-	-	-	1	-	-	
" " With Tomato	-	-	S.F	S.F	-	-	$\frac{1}{2}$	-	✓	✓	
Cheese Salad	✓	✓	-	-	1 oz.	✓	-	-	-	-	
Baked Potatoes (Jacket)	-	-	S.F	-	✓	✓	✓	-	-	-	
Boiled Potatoes	-	-	-	-	-	-	✓	-	-	-	
Mashed Potatoes	-	-	S.F	-	✓	✓	-	✓	✓	✓	
Bread	✓	✓	-	-	-	-	-	-	-	-	
Peas	✓	✓	S.F	S.F	-	-	✓	-	-	-	
Peas Sieved	-	-	-	-	-	-	-	✓	✓	✓	
Braised Chicory	✓	✓	-	S.F	✓	✓	✓	-	-	-	
Salad	✓	✓	✓	-	✓	✓	✓	-	-	-	

Appendix I

Menus in use in January 1965

LUNCHEON

Week 1

	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7
1	Fruit Juice	Fruit Juice	Fruit Juice	Fruit Juice	Fruit Juice	Fruit Juice	Fruit Juice
2	Celery Soup	Cream of Chicken Soup	Clear Soup	Cream of Cauliflower Soup	Clear Soup	Mushroom Soup	Clear Soup
3	Roast Beef	Stewed Steak	Boiled Beef and Dumplings	Boiled Bacon and Pease Pudding	Roast Lamb and Mint Sauce	Fried Haddock	Fried Cod
4	Boiled Chicken	Minced Beef	Poached Fish	Fricassée of Chicken	Grilled Whiting	Irish Stew	Grilled Beef Sausages
5		Fried Cod	Casserole of Lamb	Poached Haddock	Cauliflower Cheese	Poached Eggs on Spinach	Spaghetti Bolognaise
6	Ham Salad	Cheese Salad	Veal and Ham Pie Salad	Pork Pie Salad	Corned Beef Salad	Pork Roll Salad	Egg Salad
7	Roast Potatoes	Chipped Potatoes	Boiled Potatoes	Creamed Potatoes	Roast Potatoes	Chipped Potatoes	Boiled Potatoes
8	Creamed Potatoes	Mashed Potatoes	Parsleyed Potatoes	Boiled Potatoes	Boiled Potatoes	Mashed Potatoes	Chipped Potatoes
9	Cabbage	Cabbage	Carrots	Grilled Tomatoes	Cabbage	Carrots	Grilled Onions
10	Swedes	Turnips	Cauliflower	Cabbage	Garden Peas	Grilled Tomatoes	Parsnips
11	Rhubarb and Custard	Stewed Damsons and Custard	Stewed Apricots and Custard	Stewed Pears and Custard	Ice Cream with Wafer	Stewed Peaches and Custard	Stewed Plums and Custard
12	Fruit Trifle	Tapioca Pudding	Blancmange	Rice Pudding	Bread Pudding	Semolina Pudding	Baked Egg Custard
13	Dessert Fruit	Dessert Fruit	Dessert Fruit	Dessert Fruit	Dessert Fruit	Dessert Fruit	Dessert Fruit

SUPPER

1	Clear Vegetable Soup	Clear Soup	Chicken Noodle Soup	Clear Soup	Kidney Soup	Clear Soup	Onion Soup
2	Welsh Rarebit	Grilled Beef Sausages	Grilled Bacon	Chicken and Veal Pie	Grilled Beefburgers	Fried Egg and Bacon	Steak and Kidney Pie
3	Poached Haddock	Baked Fish	Macaroni Cheese	Poached Cod	Scrambled Egg	Creamed Chicken and Rice	Egg Mornay
4	Egg Salad	Luncheon Meat Salad	Corned Beef Salad	Ham Salad	Veal, Ham and Egg Pie Salad	Cheese Salad	Corned Beef Salad
5	Parsleyed Potatoes	Mashed Potatoes	Sauté Potatoes	Fried Sliced Potatoes	Boiled Potatoes	Sauté Potatoes	Mashed Potatoes
6	Boiled Potatoes	Boiled Potatoes	Mashed Potatoes	Parsleyed Potatoes	Creamed Potatoes	Mashed Potatoes	Duchesse Potatoes
7	Carrots	Grilled Onions	Tomatoes	Carrots	Tomatoes	Garden Peas	Cabbage
8	Ice Cream and Chocolate Sauce	Peach Condé	Fruit Table Cream	Banana Custard	Milk Jelly	Gooseberry Fool	Blancmange
9	Cheese and Biscuits	Cheese and Biscuits	Cheese and Biscuits	Cheese and Biscuits	Cheese and Biscuits	Cheese and Biscuits	Cheese and Biscuits

LUNCHEON**Week 2**

	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7
1	Fruit Juice	Fruit Juice	Fruit Juice	Orange Juice	Fruit Juice	Fruit Juice	Fruit Juice
2	Asparagus Soup	Cream of Chicken	Clear Soup	Cream of Cauliflower Soup	Clear Soup	Mushroom Soup	Clear Soup
3	Roast Lamb and Mint Sauce	Curried Beef and Rice	Roast Pork and Apple Sauce	Grilled Lamb Chop	Roast Beef	Steak Pudding	Shepherds Pie
4	Boiled Chicken	Minced Beef	Baked Fish	Fricassee of Veal	Grilled Haddock	Grilled Beef Sausages	Poached Haddock
5		Fried Cod	Creamed Veal	Boiled Salt Beef	Cauliflower Cheese	Poached Cod	Spaghetti Bolognaise
6	Salmon Salad	Cold Beef Salad	Veal and Ham Pie and Salad	Egg Salad	Pork Roll Salad	Corned Beef Salad	Pork Pie Salad
7	Roast Potatoes	Sauté Potatoes	Roast Potatoes	Roast Potatoes	Roast Potatoes	Boiled Potatoes	Lyonnaise Potatoes
8	Creamed Potatoes	Mashed Potatoes	Parsleyed Potatoes	Creamed Potatoes	Mashed Potatoes	Mashed Potatoes	Parsleyed Potatoes
9	Garden Peas	Cabbage	Cauliflower	Parsnips	Cabbage	Swedes	Cabbage
10		Swedes	Carrots	Garden Peas	Turnips	Grilled Onions	Mixed Vegetables
11	Treacle Tart	Stewed Apples and Custard	Stewed Gooseberries	Stewed Apricots and Custard	Plum Pie	Baked Apple	Stewed Apple
12	Chocolate Mousse	Tapioca Pudding	Blancmange	Rice Pudding	Semolina Pudding	Caramel Custard	Bread and Butter Pudding
13	Dessert Fruit	Dessert Fruit	Dessert Fruit	Dessert Fruit	Dessert Fruit	Dessert Fruit	Dessert Fruit

SUPPER

1	Clear Soup	Clear Soup	Chicken Noodle Soup	Chicken Broth	Kidney Soup	Clear Soup	Onion Soup
2	Scotch Egg	Chicken and Veal Pie	Stewed Steak	Steak and Kidney Pie	Curried Eggs and Rice	Fried Whiting	Stewed Steak
3	Poached Cod	Soft Roes on Toast	Macaroni Cheese	Cheese and Potato Croquettes	Sardines on Toast	Creamed Chicken and Rice	Egg Mornay
4	Cold Lamb Salad	Cheese Salad	Pork Roll Salad	Brawn Salad	Egg Mayonnaise	Roll Mop Herring Salad	Ham Salad
5	Chipped Potatoes	Mashed Potatoes	Boiled Potatoes	Sauté Potatoes	Chipped Potatoes	Chipped Potatoes	Mashed Potatoes
6	Boiled Potatoes	Duchesse Potatoes	Mashed Potatoes	Parsleyed Potatoes	Creamed Potatoes	Mashed Potatoes	Fried Sliced Potatoes
7	Cabbage	Grilled Tomatoes	Mixed Vegetables	Butter Beans	Carrots	Cabbage	Carrots
8	Pear Flan	Pear Condé	Pineapple Jellies	Ice Cream and Fruit Sauce	Fruit Table Creams	Apricot Condé	Fresh Fruit Salad
9	Cheese and Biscuits	Cheese and Biscuits	Cheese and Biscuits	Cheese and Biscuits	Cheese and Biscuits	Cheese and Biscuits	Cheese and Biscuits

Appendix J

Menus introduced in April 1965

LUNCHEON

Week 1

Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7
1 Fruit Juice	Fruit Juice	Fruit Juice	Fruit Juice	Fruit Juice	Fruit Juice	Fruit Juice
2 Cream of Cauliflower Soup	Asparagus Soup	Onion Soup	Clear Vegetable Soup	Green Split Pea Soup	Cream of Tomato Soup	Chicken Noodle Soup
3 Braised Chops	Steak and Kidney Pie	Curried Beef and Boiled Rice	*Poached Ling and Parsley Sauce	*Braised Ham and Brown Sauce	Roast Beef and Yorkshire Pudding	Fried Liver and Grilled Bacon
4 *Cheese and Rice Soufflé	*Poached Chicken in Cream Sauce	*Roast Lamb and Mint Sauce	Boiled Salt Beef and Dumplings	Irish Stew	*Roast Chicken Stuffing and Bread Sauce	Casserole of Lamb
5 *Baked Fillet of Cod and Parsley Sauce	*Grilled Whiting and Lemon	*Poached Cod Steak and Cream Sauce	*Poached Egg Mornay	*Grilled Fillet of Cod and Tomatoes		*Poached Mock Halibut and Duglere Sauce
6 Luncheon Meat Salad	Corned Beef Salad	Gala Pie Salad	Cheese Salad	Egg Salad	Cold Ox Tongue	Luncheon Tongue and Salad
7 Vichy Carrots	Cabbage	Butter Beans	Peas	Mixed Vegetables	Cauliflower	Broad Beans
8 Braised Celery	Mixed Vegetables	Cauliflower	Parsnips	Cabbage	Green Beans	Diced Carrots
9 Sauté Potatoes	Boiled Potatoes	Roast Potatoes	Chipped Potatoes	Duchesse Potatoes	Roast Potatoes	Boiled Potatoes
10 Creamed Potatoes	Creamed Potatoes	Creamed Potatoes	Creamed Potatoes	Boiled Potatoes	Creamed Potatoes	Creamed Potatoes
11 *Eve's Pudding and Custard	*Cabinet Pudding and Cream	Gooseberry Crumble and Custard	Baked Apples and Custard	Steamed Chocolate Sponge and Chocolate Sauce	Peaches and Cream Sauce	Minced Meat Slice and Custard
12 Fruit Jelly	Stewed Rhubarb and Custard	*Lemon Mousse	Trifle	Stewed Apricots and Cream		Stewed Green-gages and Custard
13 *Tapioca Pudding	*Semolina Pudding	*Rice Pudding	*Macaroni Pudding	*Tapioca Pudding	*Rice Pudding	*Semolina Pudding
14 Dessert Fruit	Dessert Fruit	Dessert Fruit	Dessert Fruit	Dessert Fruit	Dessert Fruit	Dessert Fruit
15 Cheese and Biscuits	Cheese and Biscuits	Cheese and Biscuits	Cheese and Biscuits	Cheese and Biscuits	Cheese and Biscuits	Cheese and Biscuits

SUPPER

1 Clear Soup	Kidney Soup	Cream of Mushroom Soup	Celery Soup	Mulligatawny Soup	Scotch Broth	Cream of Vegetable Soup
2 Fried Fish Fingers	Grilled Beef Chipolata Sausages	Cheese Croquettes	Scotch Egg	*Cheese Custard	Sauté of Kidney	Roast Pork and Apple Sauce
3 Beefburgers and Fried Onions	Spaghetti Bolognaise	*Hot Boiled Ham and Tomatoes	Chicken and Ham Vol-au-Vent	Cornish Pasty	*Baked Hake and Mushroom Sauce	Cheese and Onion Pie
4 *Braised Veal	*Fish Kedgeriee	Minced Beef Slice	*Macaroni Cheese	Grilled Sausages and Fried Onions		*Shepherds Pie and Tomato
5 Cheese Salad	Stuffed Pork Roll and Salad	Sardine Salad	Luncheon Meat Salad	Jellied Veal Salad	Corned Beef Salad	Tuna Fish Salad
6 Spaghetti in Tomato Sauce	Vichy Carrots	Brussels Sprouts	Braised Tomatoes	Peas	Tomatoes	Cabbage
7 Creamed Potatoes	Boiled Potatoes	Sauté Potatoes	Creamed Potatoes	Chipped Potatoes	Lyonnaise Potatoes	Duchesse Potatoes
8 Parmentier Potatoes	Creamed Potatoes	Creamed Potatoes	Croquette Potatoes	Creamed Potatoes	Creamed Potatoes	Boiled Potatoes
9 *Fruit Fool	*Pear Condé	Prunes and Custard	*Banana Custard	Stewed Apples and Custard	*Caramel Custard	Pineapples and Custard
10 Cheddar Cheese and Biscuits	Dessert Fruit	*Ice Cream	Biscuits and Cheese Spread	*Neapolitan Ice Cream	Dessert Fruit	*Jelly and Blancmange
11	Cheese and Biscuits	Cheese and Biscuits		Cheese and Biscuits	Cheese and Biscuits	Cheese and Biscuits

CHEESE TO BE NAMED DAILY. POTATOES, FRESH VEGETABLES AND FRUIT VARIED ACCORDING TO SEASON

*Suitable for Light Diet.

LUNCHEON
Week 2

	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7
1	Fruit Juice	Fruit Juice	Fruit Juice	Fruit Juice	Fruit Juice	Fruit Juice	Fruit Juice
2	Spring Vegetable Soup	Cream of Chicken Soup	Thick Pea Soup	Ox Tail Soup	Minestrone Soup	Mock Turtle Soup	Green Split Pea Soup
3	Lancashire Hot Pot	Roast Beef and Yorkshire Pudding	*Tomato Omelette	Fried Fish in Bread Crumbs and Tartare Sauce	Casserole of Lamb	*Roast Lamb and Mint Sauce	Sauté of Beef
4	Curried Eggs and Boiled Rice	*Casserole of Veal	Steak and Kidney Pudding	Sauté of Beef	*Braised Pig's Liver	Chicken Pie	*Cheese Eggs in Potato Nests
5	*Baked Fresh Haddock and Anchovy Sauce	*Poached Cod Fillet and Egg Sauce	*Grilled Whiting and Lemon	*Chicken and Suprême Sauce	*Poached Fillet of Mock Halibut and Parsley Sauce		*Grilled Cod Steak Tomato and Mushroom Luncheon Tongue and Salad
6	Luncheon Meat Salad	Cheese Salad	Corned Beef Salad	Gala Pie and Salad	Egg Salad	Salmon Salad	
7	Cauliflower	Vichy Carrots	Cabbage	Green Beans	Peas	Diced Carrots	Spring Greens
8	Mixed Vegetables	Celery	Parsnips	Carrots	Mixed Vegetables	Sprouts	Butter Beans
9	Fondante Potatoes	Roast Potatoes	Boiled Potatoes	Creamed Potatoes	Boiled Potatoes	Roast Potatoes	Sauté Potatoes
10	Creamed Potatoes	Creamed Potatoes	Creamed Potatoes	Chipped Potatoes	Creamed Potatoes	Creamed Potatoes	Creamed Potatoes
11	Steamed Victoria Pudding and Custard	Apple Pie and Custard	Bread and Butter Pudding	Apricot Flan and Cream	Manchester Tart	Mixed Fruit Cocktail	Steamed Rhubarb Milk Jelly
12	Chocolate Mousse	Fruit Jelly	Stewed Gooseberries and Custard	Trifle	Stewed Golden Plums and Custard	*Rice Pudding	*Semolina Pudding
13	*Tapioca Pudding	*Semolina Pudding	*Rice Custard	*Tapioca Pudding	*Macaroni Pudding		
14	Dessert Fruit	Dessert Fruit	Dessert Fruit	Dessert Fruit	Dessert Fruit	Dessert Fruit	Dessert Fruit
15	Cheese and Biscuits	Cheese and Biscuits	Cheese and Biscuits	Cheese and Biscuits	Cheese and Biscuits	Cheese and Biscuits	Cheese and Biscuits

SUPPER

1	Leek and Potato Soup	Clear Soup	Mulligatawny Soup	Scotch Broth	Yellow Split Pea Soup	Onion and Potato Soup	Mixed Vegetable Soup
2	Grilled Lamb Chops	Fillet of Plaice Meunière and Lemon Slice	Poached Smoked Haddock	Beef Chipolata Sausages	Cheese and Onion Pie	Casseroled Steak	*Creamed Ham Vol-au-Vent
3	Savoury Mince	*Roast Lamb	Hamburgers and French Fried Onions	*Sauté of Kidney	Sausage Roll	*Braised Ham	Curried Lamb and Boiled Rice
4	*Fish and Rice Soufflé	Sausage Toad	*Cottage Pie	*Poached Eggs	*Creamed Veal		*Cauliflower Cheese
5	Boiled Egg Salad	Cornish Pasty and Salad	Cheese Salad	Corned Beef Salad	Sardine Salad	Pilchard Salad	Jellied Veal and Salad
6	Green Beans	Buttered Beans	Broad Beans	Roast Parsnips	Tomatoes	Cabbage	Carrot Bâtons
7	Creamed Potatoes	Creamed Potatoes	Creamed Potatoes	Sauté Potatoes	Boiled Potatoes	Mayonnaise Potatoes	Creamed Potatoes
8	Croquette Potatoes	Roast Potatoes	Chipped Potatoes	Creamed Potatoes	Duchesse Potatoes	Creamed Potatoes	Parmentier Potatoes
9	*Banana Custard	*Pear Hélène	*Peach Condé	Cherry Tartlet	Pineapple and Custard	*Coffee Cream	*Orange Gateau
10	Biscuits and Cheddar Cheese	*Rice Pudding	Dessert Fruit	Biscuits and Cheese Spread	*Ice Cream and Fruit Sauce	Dessert Fruit	*Egg Custard
11		Cheese and Biscuits	Cheese and Biscuits		Cheese and Biscuits	Cheese and Biscuits	Cheese and Biscuits

CHEESE TO BE NAMED DAILY. POTATOES, FRESH VEGETABLES AND FRUIT VARIED ACCORDING TO SEASON

*Suitable for Light Diet.

Appendix K

Glossary of Terms

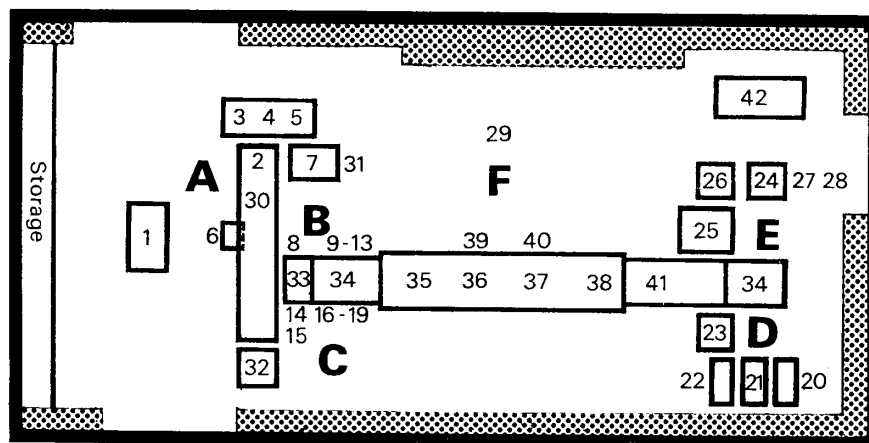
Bethnal Green Hospital—Glossary of Catering Terms used in the King's Fund Menu

The menu terms are explained in the order in which they appear on the 14-day menus. French terminology which is widely accepted, such as blancmange has been ignored.

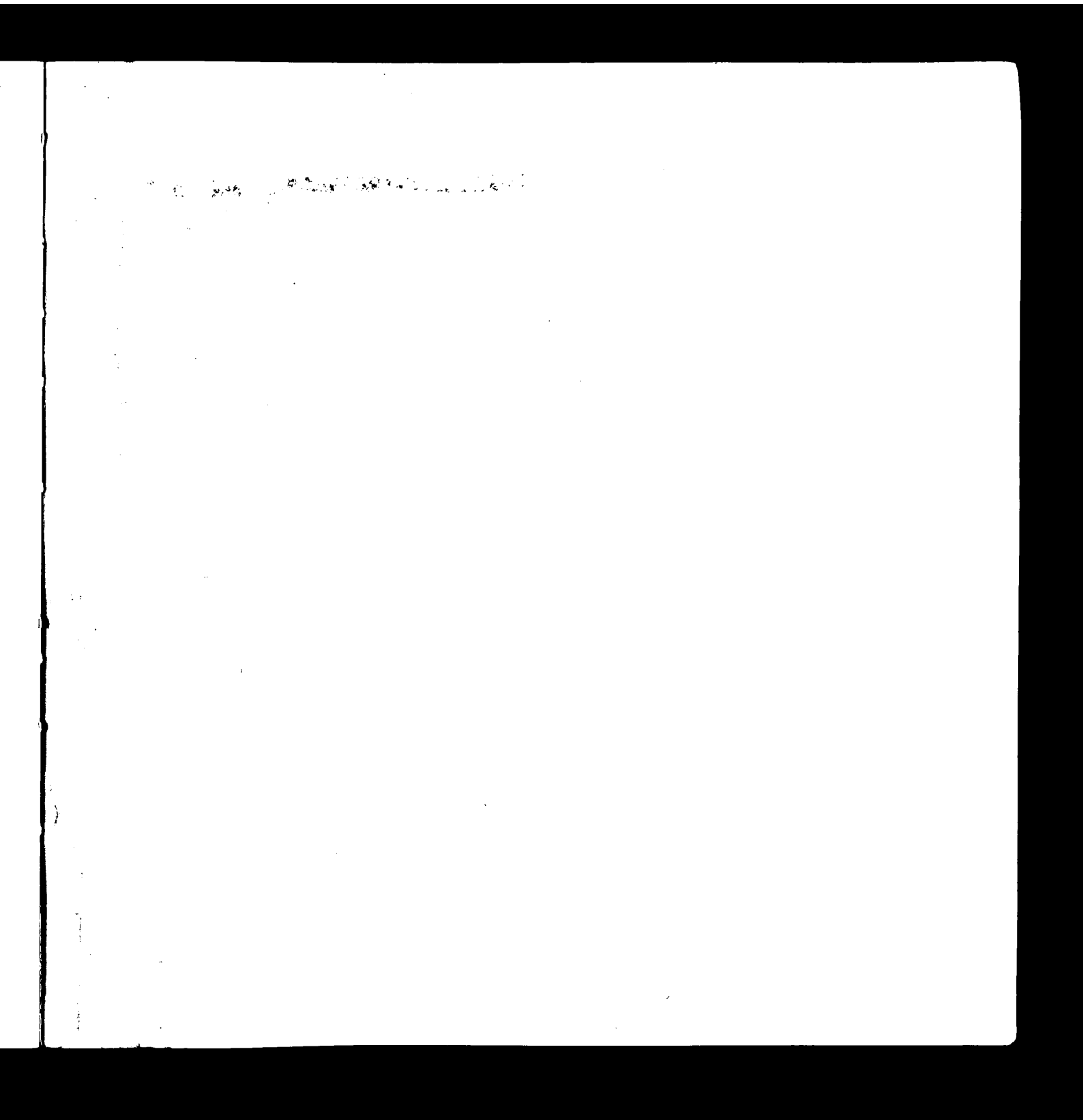
Day 1	Kebab	This is a Turkish term for meat grilled and served on a skewer.
	Risotto	Rice and onions, first tossed in butter or oil and then cooked in white stock until the rice is tender and the stock absorbed.
	Mornay Style	Covered with cheese sauce and browned under the grill.
	Mortadella Sausage	A large smooth textured type of cooked sausage of Italian origin made from pork.
	Sauté Potatoes	Sliced boiled potatoes browned in butter or oil.
Day 2	Cauliflower au Gratin	Cooked and drained cauliflower covered with cheese sauce, sprinkled with grated cheese and browned.
	Fish Soufflé	Fish cooked and mashed into a white sauce bound with eggs and beaten egg whites and baked in the oven until firm.
	Croquette Potatoes	Mashed potatoes bound with egg yolks, cylinder shaped, breaded and fried in deep fat.
	Fricassée	A kind of stew cooked with its garnish in white stock and thickened until creamy.
Day 4	Ravioli	A light type of Italian 'paste' stuffed with forcemeat.
	Duchesse Potatoes	Mashed potatoes thickened with egg yolks. Piped into whips and browned in the oven.
Day 6	Spaghetti Bolognaise	Commonly accepted as spaghetti served with minced beef, herbs and onions, and grilled cheese. Tomatoes may be added.
	Lyonnaise Potatoes	Sauté potatoes mixed with fried onions.
Day 7	Chicken Suprême	Poached chicken coated with a creamy chicken sauce.

Day 8	Parmentier Potatoes Frankfurter Sausages	$\frac{1}{2}$ in. cubed potatoes cooked in oil or butter. A German speciality, usually accompanying sauerkraut, made of lean beef and pork forcemeat poached in water. As for fish soufflé but with cheese. Finely shredded pickled cabbage. Pear cooked in syrup served cold on a bed of sweet rice and coated with apricot sauce.
	Cheese Soufflé Sauerkraut Pear Condé	
Day 9	Tartare Sauce	A cold sauce normally comprising mayonnaise mixed with capers, chopped gherkins and chives.
	Cutlet of Lamb Boulangère	Lamb cutlet coloured and moistened with white stock covered with sliced potatoes and cooked in the oven until potatoes are nicely brown.
	Salami	A coarse textured cooked sausage of Italian origin flavoured with garlic – made from pork.
	Flaked Fish and Egg Kedgeree	A very light cold dish comprising flaked cooked fish, chopped hard boiled egg and parsley, mixed with well seasoned cooked rice.
Day 10	Vichy Carrots	Carrots, often sliced, boiled with sugar and butter and when glazed sprinkled with chopped parsley.
	Creamed Chicken and Ham Duchesse	Diced cooked chicken and ham mixed with a creamy chicken sauce and served in a nest of piped duchesse potatoes.
Day 11	Fondante Potatoes Poached Sole Duchesse	Potatoes roasted in the oven in a little white stock. Poached sole coated with sauce and served in a nest of piped duchesse potatoes.
	Potato and Cheese Croquettes	As potato croquette but the mashed potato mixed with cheese before breading.
Day 12	Blanquette of Veal Vol-au-Vents Gnocchi with Cheese Sauce	As for fricassée but garnish, if any, cooked separately. A flaky pastry case filled with a mixture bound in sauce. An Italian paste made of cooked, well seasoned semolina mixed with egg yolks and left to cool in a buttered tin. It is then cut into shapes coated with cheese sauce and browned in the oven.
Day 13	Farfalletti Bolognese	Farfalletti is an Italian paste shaped like a butterfly or bowtie.

*Plan of the Layout and Operator Positions of the
Crockery Washing Unit*



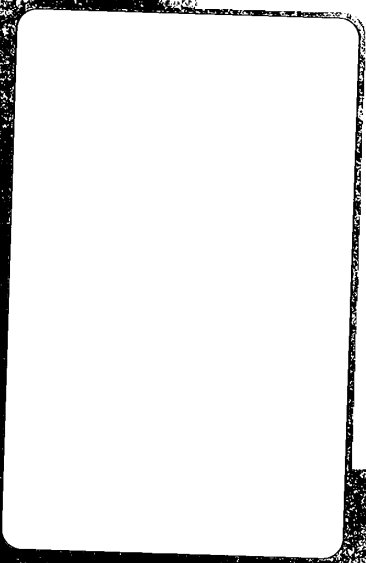
- | | | |
|----------|---------------------------------------|------------------------------------|
| A | 1 Trays from Trolley | 22 Plate Bases to Dispensers |
| | 2 Trays to Conveyor | 23 Trays to Dispensers |
| | 3 Fruit Glasses to Racks | |
| | 4 Cutlery to Racks | E |
| | 5 Menu Holders to Racks | 24 Bowl Lids to Dispensers |
| | 6 Menus & Napkins to Bin | 25 Bowls to Dispensers |
| B | 7 Cutlery Racks to Soak Tank | 26 Menu Holder Racks to Dispensers |
| | 8 Plate Waste to Waste Disposal Unit | 27 Fruit Glass Racks to Trolley |
| | 9 Bowl Lids to Machine | 28 Cutlery Racks to Wrapping Table |
| | 10 Bowls to Machine | |
| | 11 Menu Holder Racks to Machine | F |
| | 12 Fruit Glass Racks to Machine | 29 Supervisor |
| | 13 Soaked Cutlery Racks to Machine | 30 Dirties Reception Conveyor |
| C | 14 Plate Waste to Waste Disposal Unit | 31 Mobile Soak Tank |
| | 15 Pellets to Bin | 32 Tray Stack Trolley |
| | 16 Plate Covers to Machine | 33 Waste Disposal Unit |
| | 17 Plates to Machine | 34 Peg Conveyor of Machine |
| | 18 Plate Bases to Machine | 35 Pre-Wash |
| | 19 Trays to Machine | 36 First Wash |
| D | 20 Plate Covers to Dispensers | 37 Second Wash |
| | 21 Plates to Dispensers or Trolleys | 38 Rinse |
| | | 39 Detergent Dispenser |
| | | 40 Rinse Injector |
| | | 41 Hot Air Dryer |
| | | 42 Cutlery Wrapping Table |





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King's Fund



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