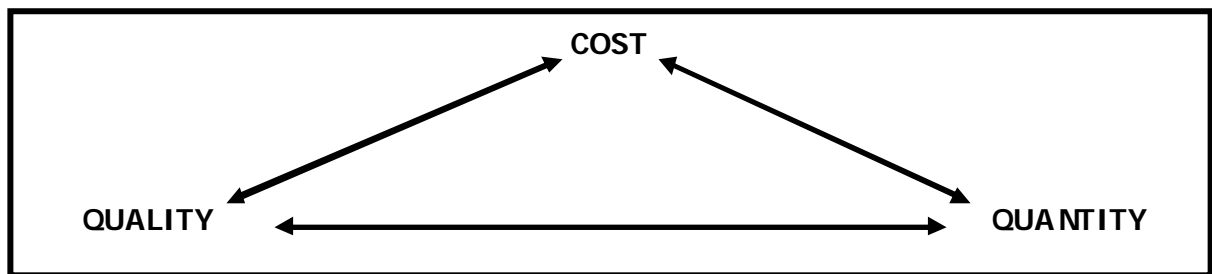


4. BUDGET AND FINANCIAL CONSIDERATIONS WITH THE PLANNING OF AN INSTITUTIONAL FOOD SERVICE UNIT AND DINING HALL

- Prior to starting with the planning of a new, or changes to an existing food service unit, a budget framework must first be compiled. The planning team must ensure that available funds are effectively distributed between the building costs, planning costs and equipment (refer to paragraph 6.5).
- It must be determined whether the new planning or changes being planned will be carried out as minor works or as major works. Minor works are building services and the supply of equipment of which the estimated cost may not exceed R50 000. Major works are building services and the supply of equipment of which the estimated cost exceed R50 000 (*amounts can be altered by Treasury prescriptions*).
- Building cost are influenced by many factors, all of which are related to one another. It is influenced by labour, building materials, quality and quantity of items needed and building plans. The three factors, cost, quality and quantity are continually related to one another.



- The planning of hospitals must take place according to the South African Hospital Norms (SAHNORMS).
- Placement of the food service unit on one level reduces the transport distance of food and the movement of people to a minimum. Compact work areas with the correct equipment and workflow contribute towards the saving of time, labour and production costs.
- When an existing food service unit is changed, the cost of these changes, as well as the new construction, new equipment, drainage, electricity-, steam- and water supplies must be taken into consideration.
- When changing an existing food service unit, arrangements must be made for the continuation of food preparation and serving of food. If other facilities must be used in the meantime, provision must be made for these additional costs such as the construction of a pre-fabricated building for temporary use.
- Future planning or extensions such as electricity, steam and water points must be taken into consideration during the planning stage.
- The estimation of equipment must take place with discretion with regard to type, capacity, operation, maintenance, durability and lowering in value to ensure an effective operation. The installation cost of equipment must also be determined and taken into consideration.
- The durability of materials and finishes used for example for floor and wall coverings must be taken into consideration to ensure that maintenance and later replacement costs are kept as low as possible.
- Refer to: *G.P.A. Branch: Health Services Manual Part Viii, paragraph 19.0, 19.1 and 19.3* with regard to building and maintenance services.

5. THE PLANNING TEAM

- No single person has the training or knowledge to singly manage the layout of the floor plan of a food service unit. Specialists from various disciplines are concerned to ensure an end product with an excellent standard.
- *A planning team is usually compiled as follows:*
 - Director Facility Planning – Provincial Health
 - Nursing Services manager – Provincial Health
 - Architect – Chief Directorate: Works
 - Assistant Director: HFBNP – Provincial Health
 - Medical Superintendent of the Hospital concerned
 - Hospital Secretary of the Hospital concerned
 - Nursing Services Manager in charge at the Hospital
 - Dietician/Food Services Manager in charge at the Hospital
 - Chief of the Hospital Maintenance Services (Chief Directorate: Works, Regional Office)
 - Private Architect appointed by the Chief Directorate: Works
 - Engineers for ventilation, heating, electricity, water supplies, drainage and other mechanical aspects such as equipment – Chief Directorate: Works
- *The following disciplines may also be part of a planning team:*
 - Consultants that supply information regarding building materials, equipment and wall-and floor finishes
 - Quantity Surveyors. Determine cost of design and construction of building.

6. THE PLANNING PROCEDURE

6.1 Needs List

- The Dietician or Food Service Manager in charge at the hospital where changes are planned to the food service unit, or where a new food service unit is being planned, is responsible for compiling a needs list. A needs list consists of a management philosophy and complete needs assessment.
- A management philosophy for the planning of an institutional food service unit described in summarised format the “what, who, where and how” in the management of an institutional food service unit.
- *Example:*

“A new institutional food service system, which will provide tasty, attractive, nutritious, cost effective and hygienic meals to clients for a 100 bed hospital, is being planned. A conventional food system with a pre-dished service system for patients and a scatter service system for personnel is recommended. The food service must be situated as near as possible to the service point(s), it must be within easy reach of provisioning and refuse removal”.
- The complete need’s assessment is then being done according to paragraph 12, 13 and 14.
- The needs list is sent by the hospital to Head Office Branch: Health Services who refers it for approval to the Chief Directorate: Works (refer paragraph 3.1).

6.2 Provisional Sketch Plans

- The appointed Architect compiles provisional sketch plans according to the needs list.

6.3 Planning Team Meeting

- A meeting is convened as soon as the provisional sketch plans are completed.
- All members of the planning team must be present.
- The sketch plans are evaluated and changes indicated.

- Afterwards meetings are convened on a regular basis until consensus is reached with regard to the lay-out, the flow of work, the construction, placement of equipment and other particulars.

6.4 Submission of Provisional Sketch Plans to Hospital Board

- After final approval of the plans, Head Office Branch: Health Services sends the plans back to the Hospital for submission to the Hospital Board of the particular Hospital for commentary or acceptance and signing.

6.5 Compilation of Specifications and Cost Estimation for the Service

- The Chief Directorate: Works, in co-operation with the Director Planning, the Architect, the Engineers and other persons involved in the planning process, are responsible for the details regarding the kitchen equipment, drainage, electricity and illumination, as well as ventilation, steam and condensate distribution. The kitchen equipment can be purchased on contract or it can be specified separately and purchased through specific tenders. In the building contract, the specifications for the above mentioned divisions such as drainage, electricity, illumination, ventilation, steam and condensate distribution are summarised in one contract document.
- A provisional cost estimation is done before the specifications are compiled and again re-estimated as soon as all documents are compiled and before tenders are requested.
- The expected time of completion of the building or division must also be specified in the tender document to serve as guidelines for the contractor.
- As soon as all specifications are compiled with regard to building-, electrical- and mechanical requirements, the necessary tenders are requested. Specifications must be compiled by the concerned experts.

6.6 Requesting Tenders

- If the estimation is R50 000.00 or less, informal tenders are requested which are advertised 3-5 weeks before the closing date. Formal tenders are requested for all estimations above R50 000.00, which are advertised 6 weeks before the closing date or as amended by Treasury Regulations.
- The tenders are requested through advertisement in the Government gazette as well as advertisements on Wednesdays in the daily newspaper with reference to the Government Gazette in which the tenders are advertised.
- The tender division can also send tender documents to several contractors with the choice to tender. This is applicable for tenders less than R50 000.00.
- The tender documents and official tender forms of the Provincial Administration is available on application to the addresses as indicated in the Government Gazette. Such documents as well as any tender conditions not stipulated in the tender documents are available for perusal at these addresses.
- All tenders must be submitted on the official tender forms and are handled according to official tender procedures.

6.7 Allocation of Tenders and Planning of a Work Program

- Tenders are evaluated and are then returned with a recommendation to the office of the State Tender Board for acceptance.
- The tender of a specified contractor is accepted after all particulars are audited. He is notified by letter that his tender has been successful and requested to pay a deposit of at least 10% of the contract value. As soon as this is completed, he is requested to sign the necessary documents in which the time within which the contract must be completed is again stipulated, as well as the fine which can be imposed in event of late completion of the services.

- On completion of these formalities, the Chief Directorate: Works sends a letter to the Regional Office with the instruction to hand over the site to the contractor if the Regional Office is involved. If not, the private architect hands over the site to the contractor.
- After these formalities the contractor has the right to move in on site to carry out his instructions. As soon as he moves in on site and starts with his instructions, he is subject to the conditions stipulated in the Act on Machinery and Occupational Safety, 1983 as amended (Act No. 6 of 1983).
- If a private architect has been appointed to supervise, he is in full control of the execution of the activities and the Regional Office only exercises quality control.
- If the Regional Office is responsible for full supervision, the regional personnel controls all the activities. Monthly progress reports of the service are completed for capital services and submitted to the Chief Directorate: Works.
- Progress payment certificates are issued monthly by the Architect or Regional Office, approved by the Regional Representative and submitted for payment.

6.8 Taking over and Occupying the Completed Building or Division

- When the service is approximately 80% completed, a provisional inspection is carried out by the planning team to determine if the planning has been executed correctly.
- When all the specified items on the contract are completed, a first taking over of the service is arranged by the planning team.
- Once the service is approved, it is handed over to the specific division of Health Services for taking into use. A second last payment certificate is completed and sent to the Chief Directorate: Works for payment.
- After occupation, a retention period of 3 months follows, during which all faulty items, or items which break and for which the contractor is responsible, must be replaced by the contractor or manufacturer. Just before the 3 months lapse, a final inspection is carried out by the architect and Regional Office personnel. A list of shortcomings is compiled and handed to the contractor for corrective actions. On completion of the retention period and after the contractor has completed the necessary corrections, a final payment certificate is submitted to the chief Directorate: Works for payment.

7. THE PLACEMENT OF A FOOD SERVICE UNIT AND DINING HALL

The environment greatly influences the successful operation of each food service unit. Our proposed food service lay-out or floor plan will not necessarily be applied successfully in all circumstances, but the proposed principles must always be taken into consideration. Aspects such as the ground formation, the available terrain and the placement of other necessary services must be taken into consideration. It is practical and preferable to plan dining halls adjacent to the food service unit. The Dining Halls must be easily accessible by clients from their offices or boarding facilities. It is desirable to plan food service units on ground level. The food service unit must be close as possible to the service points (patient ward and dining halls). For easy and quick distribution and serving of meals and not necessarily close to the delivery area (general stores).

7.1 Placement of a Food Service Unit

7.1.1 Delivery of supplies

- The delivery policy of supplies is of importance during the planning of a food service unit. It is directly connected with the size of storage areas. Vehicle access to the food service unit or general stores is essential for the delivery of supplies and refuse removal.

- The Delivery policy can be the following:
 - Dry supplies daily, weekly or twice per week
 - Fresh vegetables and fruit daily or twice per week
 - Some perishable products daily such as bread, milk, meat.
- The delivery policy and size of storage areas are also influenced by public holidays and weekends. To enable the delivery vehicles to reach the delivery platform of the building, the goods entrance must be planned with a yard special enough for the vehicles to turn. This yard must have a smooth surface, a concrete or tar coating and sufficient drainage for effective cleaning.
- Where possible an elevated platform area (1,5 meter high) must be available under a roof, to enable the vehicles to park adjacent to it and then deliver goods on a flush level. This platform should have a bumper to ensure that the vehicles do not damage the finish or edge of the platform.

7.1.2 Transport and distribution of food to divisions

- In hospitals/institutions there is a need that food is transported as effectively as possible from the preparation area to the service points.
- The distance and time in which food must be transported and distributed must be as short as possible.
- The service elevators by which food must be transported to wards/divisions, must be close to the food service unit. The service elevators must be reliable and be provided with emergency power. The transport corridors must be covered with an even surface. Alternative routes must be kept in mind for emergency situations.

7.1.3 Dining Halls

- Well considered planning is necessary to deliver an efficient client service in a dining hall. The serving unit must be as close as possible to the food preparation unit but also easily accessible for the clients to whom meals are being served.
- The lobby in front of the dining hall must be spacious enough to allow groups of people to linger before the meal is served. Flocking together and unorganised entrance to the dining hall will negatively influence the speed of the service. There must thus be an effective flow of clients to the service point(s) to prevent cross-traffic.

7.1.4 Central Refuse Removal Area

- All refuse must be daily removed from the food service unit to a central area where municipal refuse removal services will further take place. The route through which the refuse is removed, must be the shortest possible route to the refuse removal area. The removal of refuse from the refuse storage area to the central refuse removal areas must take place through an exit door with a ramp.
- The removal of refuse to the central refuse removal area usually takes place with trolleys and should take place over a smooth surface.

7.2 Factors Influencing Meal Service in a Dining hall

7.2.1 Number of meals served per session

- *The following information must be available:*
 - Number of meals served M
 - Time * it takes for the meal (minutes) P
 - Time * it takes for each client
 - Meal from occupation of seat
 - to vacation of seat (minutes) t

- Serving rate (diners per minute) r
- Number of seats available S
- Number of times** each seat
- is occupied during the meal N

**Average time is determined*

***Average amount of sessions are determined*

- Number of seats $S = \text{speed of service} \times \text{duration of meal}$
 $S = r \times t$
- Number of meals $M = \text{number of seats} \times \text{number of sessions}$
 $M = S \times N$
- Duration of meal $P = \text{Duration of client meal} \times (\text{number of sessions} + 1)$
 $P = t(N + 1) \text{ minutes}$

7.2.2 Examples of calculations

- With a serving tempo of 9 persons per minute and an average eating time of 25 minutes, 225 seats will be occupied during this time. To serve 500 meals, 2,2 sessions will be needed and the eating time will stretch over 80 minutes.
- If the tempo of serving is increased to 12 persons per minute, a maximum of 300 seats can be occupied and 500 meals can be served in 1,7 sessions which will stretch over a total meal time of 67,5 minutes.
- A meal time can be reduced by 20 minutes by providing for example a separate coffee bar. If the serving tempo is 12 persons per minute, 240 seats will be needed and 500 meals can be served in 2,1 sessions in a shorter time of 62 minutes.

7.2.3 Space Determination of a Dining hall

- Space determination for a dining hall is based on the number of persons eating per session and the number of sessions taking place per meal in the dining hall, as the number of people eating a meal increases, the space allowance decreases relatively, especially when clients are clearing the used crockery and cutlery themselves.
- The recommendations vary from 0,37m² to 1,67m² per person per session eating a meal in a dining hall.

7.2.4 Examples of recommendations

- For 120 meals per session 0,56m² is required per person
 Total floor space = 67m²
- For 150 meals per session 0,51m² is required per person
 Total floor space = 77m²
- For 200 meals per session 0,47m² is required per person
 Total floor space = 94m²
- For 250 meals per session 0,42m² is required per person
 Total floor space = 105m²
- For 300 meals per session 0,37m² is required per person
 Total floor space = 111m²

7.2.5 Layout of Dining halls

- The serving counter(s) can be slightly secluded with for example plants or lattice-work, to ensure that clients being served or exercising their choice, do not disturb clients already eating.
- Clients are served at the serving counter according to their own choice, or they make a choice from pre-dished courses for example dessert. In some instances the clients dish up their own food according to their own preferences. The tray railing must be planned so that it supports a tray ($\pm 540 \times 310 \times 10\text{mm}$) with ease. There must be no joints which can cause a construction. The tray railing must preferably be constructed from stainless steel.
- There should be sufficient space in the serving counter to store warm and cold courses during the mealtime. If the distance between the food service unit and serving counter is far from each other, mobile units should be used which fit exactly underneath and/or behind the counter. The pass-through back-up-system can also be utilised between the food service unit and the serving counter. The sequence in which dishes are presented, should be such that it ensures an effective flow of clients.
- There should be sufficient space if someone wishes to pass by, not wanting to be served with all the dishes. The route the client will follow with the tray, must have a smooth surface with no stairs, or blind corners or cross-traffic and must have a slip resistant floor.
- The placement of specially designed tray trolleys or a conveyor belt should be such that clients can place trays with used crockery and cutlery on it when they leave the dining hall. Cross-traffic on this route must be avoided.
- The wash-up area for crockery and cutlery must be conveniently close to the dining hall, but it must be planned to prevent that noise, heat and steam disturb clients in the dining hall.