Part F – Feasibility Planning & Costing Guidelines

International Health Facility Guidelines

2023

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Part F: Feasibility Planning & Costing Guidelines

1 Introduction

The International Health Facility Guidelines (iHFG) have a number of fundamental objectives which are set out in Part A as follows:

- Establish the minimum acceptable standards for Health Facility Design and Construction.
- Maintain public confidence in the standard of Health Care Facilities.
- Determine the basis for the approval and licensing of hospitals.
- Provide general guidance to designers seeking information on the special needs of typical Health Facilities.
- Promote the design of Health Facilities with due regard for safety, privacy and dignity of patients, staff and visitors.
- Eliminate design features that result in unacceptable practices; and
- Eliminate duplication and confusion between various standards and guidelines.

These objectives promote and enable safe, reliable and appropriate healthcare through Private or Public facilities. However, the realization and long-term operation of healthcare facilities will require additional considerations from the earliest stages of planning to completion and operation.

2 Background

In recent years it has become increasingly obvious that some healthcare projects are not properly considered in terms of feasibility and there is inadequate provision for correct costing or funding. Some proponents appear to treat healthcare as a real-estate investment business rather than a critical, viable and sustainable service-oriented business.

Some projects are submitted to the health authorities for approval and licensing but are not necessarily built. The viability of some projects is not properly or realistically assessed at the start, resulting in un-realized or failed projects. Furthermore, the health authorities may have certain policies which govern the location of specialized, expensive and rare health services. Planners need to be aware of such policy directions and take them into account early in the planning process. Some may reason that private healthcare facilities, as businesses, should be allowed to fail; that the health authorities should not be concerned with the viability of private businesses.

Furthermore, others reason that public healthcare facilities are not subject to the profitability concerns of private healthcare and therefore, the health authorities should not be concerned with their feasibility. However, there is strong evidence that the consideration of the sustainability of business both for the private and public sector is in the best public interest.

Applications for public and private healthcare facilities which ultimately prove un-affordable and are not realised:

- waste money, time, and energy
- use the resources of health regulators and licensing agencies
- give a false impression of the up-coming future supply in healthcare
- affect the health authority's capacity planning due to unreliable supply estimates
- discourage other proponents to enter the market
- create a negative outlook for the healthcare business within financial sectors
- make the funding of new facilities harder
- distort the land-allocation decision-making for healthcare purposes.

In the case of facilities which are built but are found to be not sustainable as a viable business:

- the dependence of the patients and clinicians on the service facility cannot be maintained
- the quality and safety of operation is reduced to meet costs

- staff numbers and skills tend to be reduced to a minimum at a risk to the patients
- consultants and contractors are not paid, or payments are delayed
- services which were indicated in the licensing application are not delivered
- healthcare becomes increasingly un-affordable and inequitable.

In the case of specialized and regional health services:

- some low volume but high complexity services can only be provided safely from a few pre-approved central locations with adequate concentration of expertise, clinical skills and support facilities.
- most high volume, low complexity services can be distributed between central and remote areas subject to the provision of the necessary facilities and staff.

3 Purpose of Part F

The purpose of Part F of these Guidelines is to overcome the above issues as far as possible. Part F covers various subjects under Feasibility Planning and Costing. It is a framework for the healthcare industry to consider in relation to licensing and provides a methodology to be followed for license applications lodged with the relevant health authorities.
Specialists and those experienced in feasibility planning and costing can use their own methodology as long as they can demonstrate all the relevant issues as stated in this part are addressed and the deliverables are supplied. Alternatively, Part F provides a simplified methodology with supporting templates which may be used.
The deliverables of Part F are components of health facility licensing applications and are identified in Steps 1, 2 & 3 of the approval process outlined in Part A of these Guidelines.

4 The Structure of Part F – Feasibility Planning and Costing Guidelines

Part F covers the process of Feasibility Planning and Costing under the following structure:

- Executive Summary
- Strategic Context
- Investment Objectives
- Needs Analysis (Demand, Supply, Gap)
- Competitive Landscape
- Proposed Services and Facilities
- Options Generation and Evaluation
- Project Costing (Capital and Recurrent)
- Risk Analysis
- Financial Appraisal
- Options Selection
- Funding Strategy
- Procurement Strategy
- Timeframe and Staging
- Feasibility Self-check
- Deliverables.

5 Disclaimer

Disclaimer: The authors of these guidelines take no responsibility for the viability of commercial success of businesses relying on these guidelines. Owners/ operators and investors in the

healthcare sector must use their own judgement and satisfy themselves in relation to the feasibility of their projects. The same material required by local health Authorities as part of the deliverables of Part F may be used by the owners/ operators/ investors to support their funding applications. However, the recommendations of this Part, the Approval in Principle (AIP) or approval of Licensing Applications cannot be used as evidence of the feasibility of healthcare facilities for the purpose of funding.

6 Feasibility Planning and Costing

In the context of these Guidelines, "Feasibility Planning and Costing" is a process for the evaluation, documentation and approval of projects to assist with the development and procurement of sustainable healthcare infrastructure.
In the case of private facilities, they must be based on sound business principles, be capable of capital and recurrent funding and long-term operation. Public facilities must demonstrate value - for money and clear, holistic benefit to the community.

7 The terms used in these Guidelines

"Feasibility Planning" is a generic term used within these Guidelines. The same (or very similar subjects) may also be referred to as:

- Feasibility Study
- Business Case
- Service Procurement Plan
- Project Feasibility Plan
- Project Development Plan
- Financial Assessment

Within these Guidelines reference is made to "Service Lines" and "Diagnosis Related Groups" or DRG's. Consultants and industry groups may also be familiar with other terms which partly or wholly cover the meaning of these terms such as:

- Specialities
- Clinical Services
- Clinical Specialities
- Medical Disciplines
- HRG's
- IRDRG's
- SRG's

The applicants and consultants are encouraged to adopt the terms used in these Guidelines.

Similarly, the "Costing", both Capital and Recurrent referred to in these Guidelines may already be available for the given project under different titles such as:

- Cost Estimate
- Budget Estimate
- Cost Plan
- Order of Cost
- Priced Bill of Quantities
- Pre-tender Estimate
- Running Cost
- Operational Cost

- Internal Rate of Return
- Cost Benefit Ratio
- Net Present Value

If such documents are available for the given project, they may well satisfy the requirements of these Guidelines. In such a situation, the minimum requirement of compliance with these Guidelines is to:

- present the conclusions of the Study/Plan /Estimate into the “deliverables” format required
- complete and attach the required checklist
- attach a copy of the original document

In order to minimize misunderstandings and promote effective communication within the industry, in all applications to the health authority and documents specifically produced for submission to an authority, only the terms used in these Guidelines should be used. If other documents are supplied in support of the applications to the Authority, the clear meaning of the terms used in said documents under the terms of these Guidelines should be stated in a cover page, cover letter or similar communication.

Many complex issues can be expected in every proposal. These guidelines make no attempt to predict all such circumstances or provide a perfect solution for all conditions. These guidelines are not exhaustive. The key issues and expectations are covered with descriptions which apply to most facilities. Applicants and users of these guidelines should apply the principles stated or implied in these guidelines to circumstances which are not explicitly covered.

The key steps of Feasibility Planning and Costing are described in the following sections. Care should be taken not to repeat the same subject, but rather remain focussed and concise. If a subject does not apply to the given circumstances, a simple statement to this effect should suffice. As far as possible, the language of the study should be clear, simple and non-academic. The terminology used should match those used in the International Guidelines.

8 Structure & Methodology

Feasibility Planning involves a methodical study, which is documented and presented to assist in sound decision-making by private and public healthcare facility owners, operators, investors and developers. The minimum required structure is described below.

Executive Summary

Provide a one- page summary of the proposal and cover as a minimum the following:

- Name of the project
- The author of the Feasibility Study
- Location – provided through a diagram or map
- Key features
- Key quantities, numbers, size
- Timeframe for delivery
- Estimated Capital Cost

Strategic Context

The study should briefly establish the strategic context of the proposal. The typical elements of the strategic context are:

- The regulatory framework
- The current state of the healthcare industry
- Population factors
- Existing facilities reaching their limits or too hard to upgrade

- New neighborhoods and population centers
- New technology changing the patient's expectations
- Market opportunities, including Medical Tourism
- Opportunities to introduce new treatments.
- Desire for healthcare reform and increased efficiency
- New Models of Care to suit new facilities and treatments.

Investment Objectives

Each project involves an investment of time, money and valuable human resources. Here, the study should briefly describe the main Objectives of the Investment. The stated objectives should be an honest representation of the aims rather than what may be regarded as the "expected" answer. So, the Investment Objectives should be about what needs to be achieved rather than immediately justifying the pre-conceived solutions. The Investment Objectives should be used as a basis for the evaluation of the options within the study. Typical Investment Objectives may be:

New Facilities and Services (if any)

- Create and run a profitable healthcare business to meet the needs of the growing population.
- Expand the existing network of services to focus on the growing demand for integrated Oncology Services.
- Create a new facility in a new population cluster which is not well served by existing facilities.
- Create a new Clinical Services block to replace the existing, ageing facility which no longer complies with the required facility guidelines.

Existing Facilities and Services (if any)

In the case of existing facilities being upgraded, describe the key problem areas which have been identified, together with the opportunity to improve through the project development.
The problems may have been reported by the staff, through a complaint processing system, via regulator inspections or advice from consultants. Opportunities may be identified through internal consultation with the staff, engagement of specialist consultants, research or by following the recommendations of the iHFG. The following should be covered on a case-by-case basis, when applicable:

Problems

- Major reported problems
- Complaints from patients
- Complaints from staff
- Capacity constraints
- Internal risk assessment reports
- Conditions of Accreditation inspections
- Non-compliances with iHFG.

Opportunities

- Minor or major refurbishment/ remodeling of facilities
- Expansion of facilities
- New facilities
- Change of use
- Change of Models of Care

- Introduction of new systems and technologies
- Introduction of new services

9 Need Analysis

It is necessary to follow and demonstrate a rational process of Needs Analysis as the foundation of the proposal. The minimum steps required are as follows;

Define Health Service Catchment

Define the catchment for the proposed services and facilities. Depending on the nature of the proposal, this may be a simple statement of:

Population Numbers: The current or future population to be served e.g. 500,000 in 2018, projected to grow to 1m by 2025. The basic information on population numbers may be obtained from relevant health authorities and statistical centres.

Geographic Definition: Define the geographic catchment intended or estimated e.g. 80% of the new residential neighbourhood of XYZ and 15% of each of the adjoining neighbourhoods.

Population Type: Define the population types targeted e.g., citizens, residents and inflows from other regions/countries.

The above may be defined and described by words and schedules and, when appropriate and possible, by maps.

Health Service Demand Assessment

The study should provide an estimate of the minimum demand for the intended healthcare services in the catchment. The methodology used is not prescribed, but the study should honestly declare its assumptions.

In order to assist the health industry and to provide a common platform for the study of healthcare demand, health authorities frequently provide service planning information, made available on a regular basis. These can often be accessed freely through the web. The use of the information at these websites is at the planner's sole risk. Authorities make no representations in relation to the accuracy of the information or its application to the particular project.

If no particular methodology is preferred, then the following methods may be considered:

Method 1- projection of past trends

In this method a few years of historic data can be examined to establish a trend. For example if there is evidence that the demand for Maternity or Emergency beds has been growing by 3% P/A for the last 5 years and the current facilities have reached capacity, there is a possible indication of demand over the next few years. The study may start with the core services and then add all the support services which enable or enhance the core services.

A simple trend-based projection of demand has the advantage of speed and is most useful for the expansion of the existing facilities. In such facilities, if there is no intention to fundamentally reform the operations, the continuation of the trends can be intuitively judged and reasonably estimated. However, comparison to new services or trends obtained from facilities with vastly different circumstances can sometimes be misleading. The study should then apply, as far as possible correction factors or assume certain risks and address them.

Another risk in the use of past trends is encountered when the sample is too small or too old.

As a rough guide, trends of less than 5 consecutive years or trends older than 5 years should not be used.

In circumstances where there are observed in-efficiencies in the current operation, the projection of those trends into the future would also carry the in-efficiencies forward. So, before such trends are used, the study should declare if there is any expectation or plan for efficiency gains through operational reforms. If so, the trends should be adjusted accordingly.

This methodology is usually best for projections of 5 years into the future.

Method 2- Benchmarks

In this method, a simple benchmarking process is used to apply the experience in one location to another, similar location. For example, a new population centre may not currently be served by

healthcare facilities, requiring the patients to travel long distances. This may be compared with similar population centres which are served by a few, busy and profitable healthcare facilities. In this example a benchmark comparison is used to conclude that there is a demand for at least one new healthcare facility (of a certain size and description) within the new population centre.

Method 3- pure population-based demand

This is possibly the most detailed and scientifically accurate method of demand projection. However, it will most likely require a specialist Service Planner to prepare the study and avoid possible pitfalls.

In a pure population-based demand study the data representing the healthcare activity of a reference population with a satisfactory health care system and outcome is used as a starting point. Then the activity rates are applied to the current and project population of the study catchment to arrive at the demand. This is another form of benchmarking, but at a much more granular level. The lowest common unit of the reference data is typically Diagnosis Related Groups (DRG's) which are then grouped together to represent Specialties. In practice, the reference data requires customisation and manipulation to correctly represent the current and future population profile of the study catchment where disease burden may be different. Therefore, this type of study requires high levels of skill and the use of various service planning tools available to specialists.

Once the activity is projected, then it can be converted into Key Planning Units (KPU's) being Beds, Operating Rooms, ICU bays, LDR rooms, ED cubicles etc. based on formulas which consider many factors such as Average Length of Stay (ALOS) and Occupancy percentage (e.g., 85%).

Health Service Supply Assessment

As far as possible the supply of similar healthcare services within the same catchment needs to be assessed. The comparison of Supply with Demand will require the use of the same units of measurement. The choice of unit depends on the preference of the proponents and their service planning advisors, but may include categories such as:

Key Planning Units or KPU's (Default in these Guidelines) including:

- Acute Beds
- Day Surgery Beds
- Operating Theatres
- Emergency Department Cubicles
- LDR Birthing Rooms
- Diagnostic facilities modalities (MRI, CT, PET etc.)
- Consulting Rooms

Some of the above KPU's such as Acute Beds may be further broken down into Adult vs Paediatric, Medical vs Surgical or classified by Service Lines (specialties).
Alternatively, the following activity-based supply measures may be used:

- Bed days
- Admissions
- Discharges
- Separations
- Episodes of Care
- Occasions of Service
- Operations P/A
- Presentations P/A
- Scans P/A

In practice, most Private (and some Public) healthcare facilities keep their activity confidential. This can make the Supply Analysis difficult or unreliable if there is too much reliance on such confidential information. Given the reality of the competitive market, it is often easier to obtain the KPU information from the facilities in the catchment as they are often proudly advertised or freely shared.

Alternatively, the applicants may approach their local health authority to see if such information is available in de-identified form. If so, the authority may consider providing it for the purpose of supply analysis. The authority may also consider providing this information in a publicly available website but without any guarantee of accuracy.

Authority websites, from time to time, provide links to Service Planning information. Proponents are encouraged to visit the sites frequently and obtain the information as it becomes available.

Permissible and Restricted Health Services

The health services which are permissible by a health authority should be verified as part of the Supply Analysis to avoid abortive work and disappointment. Even if the demand for certain services is identified, health authorities may choose to regulate their provision due to operational and safety factors.

A health authority deals with health services in three categories:

- Centralized Services
- Regional Services
- Standard Services

These are allocated by the health authorities at a service specialty and DRG level and may be obtained by applicants from the respective authority. The Feasibility Study must take these categories into account as part of the Supply Analysis and the proposed services for the given facility.

Centralised Services

Central Services are generally those which involve high complexity, high risk and low volume service. These are best provided by a few centrally located facilities which are carefully selected, checked and monitored. The centralised provision of these services is intended to ensure the minimum safe volume which in turn attracts the best specialised clinical talent and maintains the level of skill required. Such restricted Centralised services are defined by the health authorities service specialty or DRGs (Diagnosis Related Groups). Centralised services are generally subsidised by governments.

Allocation of centralised services to specific facilities will ensure that concentration of clinical experience can lead to improved clinical outcomes for patients, and a more efficient use of resources. Quality, access and cost outcomes will be reviewed regularly and Provider designation updated in light of these reviews.

Occasionally, a health authority may advertise such centralised services and seek applicants for their provision. The selected central locations may be a combination of Public and Private health facilities of the highest quality.

The following table provides a guide to the Centralised Services;

Description	Examples	Providers
Highly specialised Strong volume-based competency Low volume High cost	Burns Care Open Heart Surgery Oncology Surgery	Initially public (Subject to review)

Regional Services

A health authority may designate a limited number of “Regional” services, each serving a population of equal or greater than 250,000 residents. These services may be provided by regional facilities subject to the approval of the relevant health authority.

The following table provides a guide to the Regional Services;

Description	Examples	Providers
Moderate complexity Time dependency Some volume-based competency Middle volume Middle cost	Cardiac catheterization Specialist diabetes care	Public and Private

Important note: It is recognised that applicants may not be aware of the Regional Services which are already allocated to other providers or applicants. Therefore, the best course of action before proposing such Regional Services is to contact the relevant health authority, describe the intended catchment area and find out if such regional services are still available to applicants.

Standard Services

Other services for smaller population catchments, relatively low complexity and high volume may be provided by any licensed facility with an approved operator which complies with the requirements of these Guidelines.

The following table provides a guide to the Standard Services.

Description	Examples	Providers
Non-complex High volume Low cost	Basic diabetes care Family medicine Preventive services	Open market

Identified Health Service Gap

To put it simply, the Health Service Gap equals Demand minus Supply. This can be analysed for the current date as well as selected future dates (typically 5-year intervals).
In practice Service Gap is also affected by any planned healthcare reform which may interrupt the normal patterns of activity. For example, it may be reasonable to assume the gap will be smaller if a healthcare reform:

- Reduces the average length of stay over time
- Increases the occupancy level to the maximum recommended level (e.g. 85%)
- Reduces the need for hospital-based beds through the introduction of programs such as home-care, outreach, community care, ambulatory care, etc.

10 Competitive Landscape

No healthcare facility or service operates in isolation. The proponents for healthcare services should assume that at any given time, many other groups may be planning for the same identified service gap. This may be easier for the owners and operators of existing facilities than the proponents of entirely new facilities. It is also not unknown that as soon as there is preliminary news regarding a new facility, others will also take note and adopt defensive strategies, such as boosting service and upgrading their facilities in order to retain both the patients and the clinicians.

The competitive landscape is not only a concern for the private healthcare providers. In a marketplace strongly influenced by private insurance, public healthcare facilities may also be required to compete for patients and clinicians. One typical example of this type of competition is that public facilities lose the relatively low risk, routine, standardised and day only treatments to the private sector.

All of the above factors should be considered, and the proponents should satisfy themselves that the development is not overly sensitive to the competitive landscape.

Then any issues which arise from the above considerations should be recorded and strategies developed for market positioning, market differentiation, speed to market or synergies through associations, networking alliances and an established referral base.
The deliverable of Part F only requires a summary of the considerations rather than an exhaustive and detailed analysis. The proponents should indicate an understanding of the issues rather than try to convince a third party.

11 Proposed services and facilities

Considering the Identified Service Gap and the issues covered under the Investment Objectives and the Competitive Landscape, the study can then propose a range of viable services and facilities. The choices depend on the organisations priorities and preferences; however, a methodical thought process and logical reasoning will be expected.

Private

In the case of Private facilities, the reasoning may be as simple as choices which have the best chance of financial return or improved market share. Private Healthcare operators are not obliged to cover all specialties or the whole of the population catchment. Effectively they can choose what they wish to offer as long as they are competently and safely delivered and approved by a healthcare regulator.

Public

In the case of the Public health sector, profit is not expected to be the driving force behind decisions and priorities, although the allocated annual budget still needs to be met. Instead, the logical

reasoning should focus on the achievement of the greatest benefit for the population catchment in line with the long-and short-term health authority policies for the given area.

Restricted Services

As previously explained, Private and public operators are advised to contact their respective health authority to enquire about the services which may be restricted to a few centralised facilities. Such services are typically those which require extensive resources and skills but involve relatively small number of patients. Such services are best provided from one or more central locations to maintain a minimum patient volume that justifies the provision of resources and maintains a concentration of specialised clinical skills. This in-turn will make the delivery of these services safer for the patients. Restricted services may be centralised or regional. From time to time a health authority may inform the industry of the service specialties at DRG level which may be restricted.

Minimum Requirements

Ideally, for large and complex proposals, a dedicated Clinical Services Plan (CSP) should be commissioned and attached to the Feasibility Plan. However, the submission of an external CSP is not mandatory in these Guidelines. In any event, the description of the Services and Facilities should be focussed on “What” needs to be provided rather than “How” it may be provided.

The minimum requirement of these Guidelines is to clearly state the proposed services and facilities. This can be presented in the form of a table of KPU’s stating the delivery year(s) and a brief description of each service, facility or improvement. These Guidelines also require a table of proposed clinical services along with their designation as centralised, regional or standard. The pro-forma for this table is available under Part A- Appendix 15 – Pro-forma for the proposed Clinical Services.

12 Options Generations

The purpose of Options Generation is to explore different ways of achieving the “Proposed Services and Facilities”.

Feasibility Studies for private facilities and services must include at least one option with a clear, brief and understandable description. Since these Guidelines (Part F) are part of the overall iHFG, it is expected that most of the details of the proposal are already covered under guideline requirements. Therefore, they should not be repeated here. The additional details which are developed from meeting these requirements are:

- Project synopsis
- Drawings (either Schematic or Detailed)
- Schedules of Accommodation
- Various attachments and reports.

Ideally, the private healthcare proponents should consider more than one option before selecting one (see the next section).

In the case of Public Health sector, the generation of multiple options is mandatory in order to demonstrate that the best solution is identified in the public interest. In this context, the options for public healthcare facilities should follow these guidelines:

- The options should be sufficiently clear to permit easy evaluation or short listing.
- None of the obvious options should be missed or dismissed.
- In the case of the upgrading of existing facilities and services, Option 1 must always be: “Do Nothing – keep safe and operating”, even if, in the opinion of the project stakeholders, it is unrealistic and unwise. This option will be seen as base case.
- When possible, options for the refurbishment of existing facilities should be contrasted against options for new facilities
- As far as possible lower cost options should be contrasted against higher cost options
- Options which immediately show greater potential may be detailed to a greater degree

- After a preliminary review of the options with the project stakeholders, a smaller number of options may be shortlisted for costing and evaluation. The minimum number of options for public healthcare facilities is 4 including the base case “Do Nothing”.

13 Project Costing

Each of the options generated and shortlisted should be costed. The minimum number of options for Private healthcare is 1. The minimum number of options for the Public healthcare is 4. There are several aspects to costing and each should be covered separately:

Capital Cost (CAPEX)

Capital Cost represents the total cost of construction including all necessary fees and charges to completion, but not the cost of borrowing, leasing or land. Capital costing for the purpose of compliance with these Guidelines must comply with Appendix 1- Capital Costing Guidelines.
The Capital Costs may be estimated and provided in a number of ways which are acceptable:

- Actual quotation from a builder
- Estimate by a qualified Quantity Surveyor
- In-house estimate by the Facilities Management or Engineering Department.

It is sufficient to present the capital costing in the same format as Appendix 1 or 2.
Alternatively, attach the written and signed costing provided by the Builder, the QS or the Facilities Manager/Engineer and then only provide the Cost Summary under the terms provided in Appendix 1.
As a minimum, the Capital Cost should cover the following:

- Site establishment and builders sheds
- Demolition & site work
- New construction
- Refurbishment under 3 categories (Minor Refurb, Medium Refurb and Major Refurb)
- Builders overhead and profit
- Furniture and Fittings, Fixtures and Equipment (FF&FE)
- Professional Fees including Project Management costs
- Authority Charges including application fees, utility contributions and other costs
- Escalation, if any.

The Capital cost should be based on the same project timeline included in the Feasibility Study.
The results of the Capital Costing for each option should be summarised under 4 categories defined in Appendix 1 as follows:

Net Construction Cost	NCC
Gross Construction Cost	GCC
Total Project Cost	TPC
Total End Cost	TEC

For a better understanding of each of the above 4 categories, please refer to Appendix 1.
Note: Under these Guidelines Part A Step 1, only a preliminary Cost Statement is required. This may be a statement based on benchmarks such as Cost per square meter or Cost per bed etc., since at that stage a full design may not be available. The basis and assumptions for this preliminary cost estimate should be stated. The statement should be included in the Project Synopsis as per the Self Check provided under ‘4.1 Executive Summary’.

Transition Costs

Transitional costs are one-off costs which are neither part of the Capital costs (as typically quoted by builders) nor a Recurrent Cost. However, they are necessary in order to realise the proposed project. Therefore, they should be part of the budget. Transitional costs include:

Decanting Costs

This involves the decanting (relocation) of existing facilities and services to an alternative location so that the current location can be refurbished, expanded, re-modelled or re-built. The cost of decanting should include the capital cost of temporary modifications, relocation costs, Additional staff costs, cleaning costs etc. It should be noted that some complex projects may require double-decanting before the normal operations are resumed.

Temporary Facilities

This includes facilities which are required during the project execution within existing healthcare campuses such as temporary power generators and water tankers.

Recruitment Costs

This includes the cost of hiring recruitment agents, recruitment staff, training costs and temporary accommodation costs, if any.

Change Management Costs

Some large projects may require a cultural shift from the existing facilities to new facilities. This in-turn may require special provisions to re-train or coach the existing staff using specialists. It may also require one-off changes to software and business systems used, graphics, brochures, telephone numbers, email campaigns, PR, advertising etc. The study should state the transitional costs with a short description for each category of cost.

Opportunity Costs

Opportunity costs may be positive or negative. Negative means income loss and positive means income gain. Opportunity costs include the following:

Income loss

This refers to income which would normally be expected but lost due to the construction activities or the project implementation. This may be short or long term.

Income gain

This may include sale of land, buildings, second hand equipment etc.

Recurrent Costs

Recurrent Cost is also referred to as Running Cost or Operational Cost. It should be prepared and presented in accordance with the categories indicated in this section.
Recurrent Costs should be shown under 2 major categories, HR and G&S Costs as follows:

HR Costs

Human Resource (HR) cost is also referred to as Employment Cost or Staff Cost. Initially the HR numbers should be estimated with a minimum level of detailed breakdown as follows:

- Doctors
- Nursing
- Medical Support
- Hotel Services
- Site Services
- Administration and Clerical.

Under each category the HR numbers should be expressed as Full-Time Equivalents (FTE's). A full-time employee is regarded as 1 FTE. An employee of the owner/operator who is assigned to the given healthcare facility 50% of the time is regarded as 0.5 FTE. The purpose of calculating HR via the FTE unit is to avoid double counting.
The FTE's are not confined to staff present at a given time. They include all staff numbers including all shifts in a 24-hour period. They also include staff employed but not present due to leave, training and relief. In short, the total FTE represents the full-time equivalent staff that need to be employed

and paid in order to run the facility regardless of whether or not they are actually present on the premises at a given time.
As a minimum the HR FTE's should be stated for the present condition (if any) and the first year of operation for the project components (which are the subject the Feasibility Study). For complex multi-stage projects, FTE's should be provided for each year when a major new component of the project is commissioned.
In some of those years, partial opening of certain components may be intended. If so, the percentage completion or occupancy percentage should be stated, then the FTE's should be adjusted to represent the required HR for that level of partial opening.
HR costing involves applying an average annual salary rate to each of the employment categories above. The additional on-costs or staff benefits such as training costs, relief, holidays, insurance contribution etc. may be added to the salary rates or added at the end of the calculations. The HR costs should then be simply summarised for each employment category and totalled.

G&S Costs

Goods and Services costs (G&S) represent the balance of the recurrent costs other than HR costs. G&S costs should be provided in summary form with a minimum breakdown as follows:

- Administration
- Domestic Supplies and Services
- Drugs
- Equipment Leasing
- Food Supplies
- Medical & Surgical Supplies
- Motor Vehicle Expenses / Travel
- Other Goods and Services
- Patient Transport (including ambulance)
- Rental Accommodation
- Repairs Maintenance and Renewals
- Support & Special Services
- Utilities
- Insurance and Legal Costs
- Other Goods and Services.

As a minimum the G&S should be stated for the present condition (if any) and the first year of operation. For complex multi-stage projects, G&S should be provided for each year when a major new component of the project is commissioned.

Note: Healthcare facilities typically involve a cycle of renewals which may involve internal or external painting, replacement of equipment, major repairs, and change of carpet or vinyl. The typical cycle is around 7 years. The G&S estimates should include a portion of the budget set aside for these under the category of "Repairs, Maintenance, and Renewals". This effectively means that the funds are set aside (or accounted) every year until they are needed in year 7. The allocation of a budget for such periodical renewals is necessary for the safe and sustainable delivery of healthcare services.

Total Recurrent Costs

The HR costs and G&S costs should be totalled for each year of the study. As a minimum this should include the present year (if facilities exist) and the first year of full operation after the completion of the project.

Life Cycle Cost

Should the client or the Health Authority require it explicitly in writing, provide a full Life Cycle Cost. This will involve all the recurrent costs including HR and G&S stated for the present year (if any) as well as a minimum of 10 years into the future from the date of project completion.
The annual costs should also incorporate the periodical renewals (typically every 7 years).
Then the Net Present Value (NPV) for this period should be calculated for each option and presented as a summary.

14 Revenue and Profitability

Revenue

In order to evaluate the feasibility of the proposed project (and its options), the proponents should calculate the expected revenue.
The revenue may be a combination of:

- Insurance payments
- Direct patient payments
- Tenancy leases
- Charity grants
- Government funding (in the case of public facilities)

The proponents should estimate the revenue whilst stating their own assumptions. The methodologies used for revenue calculation vary considerably but may include;

- Direct calculations based on the expected throughput and rates of payment
- Benchmark against other existing operations
- Project the past revenue into the future and update for any increased volume

Profitability

It is not mandatory for private or public healthcare facilities to be profitable or cash-positive upon commencement. It is common for new facilities to require some time (several years) to reach profitability. However, as part of the deliverables of these Guidelines (Part F) it is necessary to demonstrate a strategy to reach a break-even point over a predictable period of time. Without such a strategy, it should be assumed that the feasibility of the project has not been established.

In the case of private facilities, the degree of profitability beyond the break-even point is a matter for the investors to determine, require or approve. In the case of public facilities the study must demonstrate the break-even point based on the expected or requested budget in order to allow the decision-makers to evaluate the project in an informed manner.

To summarise, it is sufficient to compare the stated costs with the expected revenue and provide a clear statement in relation to profitability or break-even timing.

15 Options Evaluation

The process of Options Evaluation is necessary in order to select one option out of many.
The minimum requirement of these Guidelines is one option for Private Facilities and 4 options for Public facilities.

Even for one option, the evaluation process should be conducted and recorded.

Based on the key elements of the feasibility study as stated above, the proponents should develop a number of evaluation criteria. These should normally focus on service improvements, value for money, patient satisfaction and long-term business sustainability.

To keep the evaluation focussed and understandable, the evaluation criteria should be grouped into 5-10 categories. The options evaluation matrix should summarise and tabulate the following:

- Short descriptions of options 1 to 4

- Summary of KPU's e.g. bed numbers, operating room numbers, etc.
- Summary of SOA or simply the Gross Floor Area
- Cost summaries including Capital Cost, Recurrent Cost, Transition Costs, Opportunity Costs, Life Cycle Costs
- Revenue and Profitability
- Short general remarks in relation to the options in the context of the Investment Objectives
- Short remarks under each of the evaluation criteria
- Short discussion of the expected risks and risk mitigation strategies

Options Selection

The above tabulated options evaluation should follow with free-form reasoning to conclude that one option is preferred. It is not necessary for the reasoning to be convincing to all readers, but the main point is to demonstrate that there has been a thought process and the issues have been recognised and considered, rather than overlooked.

Financial Appraisal

Should an approving authority find the costs or assumptions submitted as part of the deliverables of this Part (F) unconvincing, then the proponents (public or private) may be required to subject their proposals to an independent Financial Appraisal. If requested explicitly and in writing by a health authority, a reputable Financial Consultant with experience in Healthcare should be engaged and supplied with a copy of the Feasibility Study and Costing. The Financial Consultant may then request additional information or proof of certain assumptions. Then the result of the independent review by the Financial Consultant should be submitted for a further review. In the case of public facilities a health authority may choose to appoint a Financial Consultant directly without reference to the Applicant.

16 Funding Strategy

Assuming that up to this point the results of the Feasibility Study and Costing are convincing and promising, there is a need to demonstrate the capacity to fund the project.

Capacity to Fund

The capacity for funding can be demonstrated in a number of ways:

- Statement of financial capacity to fund the project directly.
- Statement from a reputable Bank to indicate that the proponents have the capacity to borrow sufficient funds for the project.
- Statement from investors indicating that collectively they wish to invest the necessary funds in the project.
- Statement from the Financial Controller stating that funding has been set aside from the overall organisational cash reserves (or in the case of public projects) from the promised Capital funds in order to implement the project.
- In the case of public projects if the funding is subject to approval after the submission of the Feasibility Study and Costing, a statement to that effect should be provided.

All the above statements should be in writing, indicating that the Author(s) have seen the Feasibility Study and Costing.

17 Procurement Strategy

The procurement strategy is a synopsis of the method of delivery intended at the time of the preparation of the Feasibility Study. The strategy may well chance at a later stage and depending on commercial circumstances. However, it is important to demonstrate at lease one rational and convincing procurement strategy incorporating the following:

Timeframe and Staging

Provide a simple summary of the timeframe for the project. A Gant chart is preferred with key links between the activities including:

- Project Commencement
- Completion of the Sub-structure
- Completion of the Super-structure
- Completion of internal Fit out
- Equipment commissioning
- Practical Completion
- Hand-over.

In the case of multi-stage projects where certain components are completed and occupied whilst other components are being completed, provide the above timeframe for each of the stages.

Contract Type

Make a statement in relation to the type of contracting to be used for the execution of the project. This may include but not be limited to:

- Open lump sum tender (or Prime Contract)
- Invited lump sum tender
- Design & Build tender
- Construction Management, Cost Plus
- In-house construction team
- PPP and Turnkey

Governance Structure and Reporting

Make a short statement in relation to the Governance structure to be put in place to oversee the successful, safe and competent healthcare facility. Such a governance structure may include a number of individuals, positions and reporting procedures. For example the following may be considered and included:

- Project Steering Group to meet once a month and represent the client organisation. The Steering group exclusively handles financial and budgeting issues whilst monitoring the project at a high level
- Project Control Group (PCG) to meet fortnightly to review the project and report to the Steering group
- Project Team Meetings to be weekly including the Project Manager, client stakeholders and the consultants. The Project Team Meetings are managed by a Client Liaison who reports to the PCG.
- Consultants Meetings to be weekly including the builder's representatives. The Consultants report to the PCG via the Project Manager.
- Defects inspections to be carried out by consultants and "clerks of works". The results submitted to the builder and the PM concurrently.
- Inspections to be attended by the relevant consultants and builder's representatives. Issues which arise to be addressed and reported to the PCG.

The Governance structure may also include the following:

- Communication Strategy-who issues public statements
- Complaint handling-who monitors complaints and ensures remedial action

- Emergency strategies-who is available to handle emergency situations such as accidents.

18 Appendix 1 – Capital Costing Guidelines

This section provides additional methodology and defines the terminology expected as part of the submission of the Capital Costing required by Part F Feasibility Planning and Costing.

Capital Costing: Definitions and Methodology

Net Construction Cost or (NCC)

Net Construction Cost is composed of the following:

Departmental (FPU) Costs

These represent the Net Internal Construction cost of each Functional Planning Unit (FPU) otherwise referred to as Departments. The cost per M2 varies for each FPU depending on the level of complexity, density of fit out, level of building services, typical types of finishes etc.
Furthermore, the FPU rates are linked to the Role Delineation Level (the level of service being provided) or (RDL), so the cost of the same FPU varies from one RDL to another. A higher RDL is more expensive than a lower RDL.
The FPU rates are applied to Gross areas including the circulation space within each department. The area measurement method is known as the No-Gap method. In this method, the Gross departmental (FPU) area is the simple sum of the individual rooms plus the internal circulation corridors but not Travel and Engineering space.
The room areas are measured as follows:

- To the inside face of outside walls
- To the centre of side walls
- To the outside face of circulation corridors
- Circulation corridors are measured to the face of the walls.

Departmental (FPU) Gross areas can be estimated early in the project on the basis of the Briefing Information and Schedules of Accommodation (SOA). Later in the project these can be measured off the plans and compared with the briefing estimates. A variance of more than a few m2 per department would normally be unacceptable in a new building design but tolerable in refurbishment projects.
A special note must be made in relation to “Shell Space”. Some projects include shell space for future internal expansion. This is based on the theory that building shell space for the future now is cheaper than building it in the future. This conclusion is not universally accepted. There should be no automatic assumption that for public or private facilities it is necessary to provide shell spaces for the future. However, if this is the intention, they should be identified and correctly costed.

Travel and Engineering (T&E) Costs

Travel refers to the major corridor links between the Departments (or FPU’s). These are measured to the face of the walls.
Travel also includes Stairs (measured once per floor), Lift lobbies, internal Ramps but not voids such as lift voids.
Engineering refers to plant rooms, service cupboards, service tunnels etc. Holes in the slabs for risers are not counted.
T&E may be estimated as a percentage of the Gross Areas or measured off the plan depending on the stage of project (before design or after design). If T&E is estimated at briefing time, it is entered as a percentage, separate to FPU areas. If T&E is measured off the plans, it is entered separately as Travel FPU and Engineering FPU. Then the T&E % is entered as 0.

Building Shell and Site Conditions

Each building or building type is designed to an Architectural shell with certain external features responding to the site and design preferences including materials finishes. The Departmental rates cover all the internal costs for the building(s). The “Building Shell and Site Conditions” will estimate the balance of the cost including the following:

- Bulk Earthworks
- Fire Compartmentation
- Demolition Works
- External Works
- Façade
- Infrastructure Services
- Landscaping
- Roof
- Site Preparation
- Special Provisions
- Sub Structure
- Super Structure
- Transportation Services
- Civil Works
- Outbuildings.

The assumptions for each of the above vary from one project to the next. So, unlike the FPU costs, the above costs must be site-specific. However, for may components of the above categories, it is possible to develop benchmarks which are applied to similar facilities. For example, the Façade system or Super Structure in one project may be very similar to another. So, it is possible to simply quote the cost from a recently tendered project, identifying those elements.

Project Specific Costs

A number of project costs are regarded as on-off costs and cannot be estimated based on formulas applied to variables of the project. These costs are entered as cash estimates.
These may include:

- Utility mains upgrade
- New generators
- Contribution to road extensions or repairs
- Cash already spent towards the project.

FF & FE Costs

Normally the cost of Furniture, Fittings, Fixtures and Equipment (FF&FE) would be estimated separately based on generic equipment lists and the room types present in the brief or design. However, on occasions where such an equipment list does not exist, FF&FE are entered as a percentage of building cost (for example 35% pf CAPEX).

Gross Construction Cost (GCC)

Gross Construction Cost (GCC) is composed of NCC plus the following “Contract Costs”:
Each procurement contract type has different on-costs which should be applied. These on-costs can be calculated as follows:
Table of on-costs included in GCC based on the intended contract type

1	Net Construction Cost (NCC)	% applied to NCC	Applied to	Cost (USD)
2	Preliminaries Cost (1)	e.g. 10%	1	???
3	Contractors Margin	e.g. 10%	1+2	???
4	Design Contingency	e.g. 5%	1+2+3	???
5	Locality Factor (2)	e.g. 0%	1+2+3+4	???
6	Risk Factor	e.g. 5%	1+2+3+4+5	???

7	Project Agreement (3)	e.g. 0%	1+2+3+4+5+6	???
	Subtotal of on-costs			**???**

Notes:

- Preliminaries include site establishment and direct labor by the builder
- Locality Factor is the cost difference for the same facility if built in a Capital City vs a regional or remote city with special circumstances. Costs are benchmarked to the nearest capital city, then for each other city a Regional Factor is applied to compensate for the difference in costs. Therefore, when costs are done for a Capital City, the regional factor is 0. When costs are done for other cities, the regional factor is a positive or negative % of NCC.
- Project Agreement refers to any special contractual agreement for labor penalties for harsh conditions, extra hours or similar

Please note the order of calculations shown in the above table. Changing the order will change the results. In order to maintain a central benchmark for costing, these Guidelines require the above order of calculations to be maintained.
The typical contract costs which vary the above on-costs are:

- Prime Contractor (Lump Sum)
- D&B (Design and Build) also called Design-Construct
- DD&C (Design Develop and Construct)
- Managing Contractor (or Cost +)
- Public Private Partnership (PPP) or Turnkey
- Construction Management
- Direct Contract (or owner-build).

One of the above generic contract descriptions needs to be selected or assumed in order to arrive at the benchmark percentages. It should also be noted that the benchmark percentages are those achieved over many projects and many years as measured at the end of the project. Initial optimistically low percentages inserted into various contracts are not a good benchmark to use as the impact of variations during the contract must be considered and allowed.
The above benchmarks are usually available to clients and Quantity Surveyors experienced in healthcare projects.

Total Project Cost (TPC)

Total Project Cost (TPC) is composed of the GCC plus the following:
Fees, Charges and Contingencies- These are the balance of the on-costs mentioned above under GCC. The on-costs which are included in the TPC are as follows:
Table of on-costs included in the TPC

		% applied to NCC	Applied to	Cost (USD)
8	Construction Contingency	e.g. 5%	1+2+3+4+5+6+7	???
9	Consultants Fees	e.g. 12%	1+2+3+4+5+6+7+8	???
10	Authority Charges	e.g. 2%	1+2+3+4+5+6+7	???
11	Other Charges	e.g. 0%	1+2+3+4+5+6+7	???
	Subtotal of on-costs			**???**

The reason these are included in the TPC and not GCC is that on many projects these costs are separated and paid by the Client. So, it is beneficial to separately note these costs.
Project FF&FE Costs-This refers to the cost of Furniture, Fittings, Fixtures and Equipment. The default costing methodology is to estimate these based on briefing information such as Room Data Sheets. If, however, these are not available, they can be entered directly as Project-Specific Costs. The FF&FE procurement costs are in 6 default categories:

- Group 1- Supplied and Installed by the builder

- Group 2- Supplied by the client and installed by the builder
- Group 3- Supplied and installed by the Client
- Group 1T- Existing items transferred and Installed by the builder
- Group 2T- Existing items supplied by the client and installed by the builder
- Group 3T- Existing items supplied and installed by the Client.

Even if there is no intention to procure the FF&FE according to the above groups, it is beneficial to separate them as such for benchmarking purposes. Obviously, items which are supplied and/or installed by the client will not attract a builder's margin. However, the builder is required to make allowances for the building to accommodate and serve them.

Total End Cost (TEC)

The Total End Cost (TEC) is composed of the TPC plus the following:

Escalation

This represents the rise in costs between the time the estimate is prepared and the end of the project when the final payment is made to the builder.
This does not assume that the building contract allows for rise and fall. This is simply a component of cost estimation which will vary from one locality to the next and should be separated for benchmarking purposes. It should in fact be assumed that the TEC is the contracted price.
Escalation is based on several factors:

- Estimate Date: This is the date the estimate is prepared
- Project Commencement: This is the date of the construction commencement
- Project Completion: This is the date of construction completion
- Escalation rate: This is the rate of escalation per annum.

Escalation is calculated as follows:
A= The rate of escalation is applied fully to the TPC for the period between the Estimate Date and Project Commencement.

B= The rate of escalation is applied to the escalated cost (including A) for the period between the Construction Commencement and mid-point of construction. This allows for an assumed expenditure curve from the beginning of the construction to the end.
C= A+B is the total project escalation between the Estimate Date and Project Completion.
Escalation rate can be expressed in two methods. Both methods can be used for escalation calculation, although method 2 is generally regarded as more accurate. It is usually provided by industry bodies, Municipalities or Governments. When it is not available, then Method 1 is used. These are described as follows:
Method 1- Escalation % per annum. This is a percentage estimated by quantity surveyors.
Method 2- Building Price Index (BPI). BPI is expressed by numbers which are estimated for the current as well as future years. The difference between the numbers represents the escalation factor.

Cost Summary

The above 4 major categories of Cost need to be summarised an presented similar to the following:

1	**NCC**	**USD ???**
2	**GCC**	**USD ???**
3	**TPC**	**USD ???**
4	**TEC**	**USD ???**

Warning

As the logic of the costing methodology described above would indicate, there are many factors which result in the Total End Cost (TEC), the cost that really matters.

Therefore, it is inappropriate to take the end result of this type of costing and convert it into a lower-level benchmark such as a simple Cost per Square Meter, or worse, a Cost Per Bed. These types of low level cost benchmarks are misguided and inaccurate. We strongly caution against their use, even though they may be convenient in daily conversation. It can be demonstrated that their use actually results in bad decisions and outcomes.

19 Cost Benchmarking Issues

This section is not part of the Guidelines but provides an overview of some of the observed issues in cost benchmarking between projects.

Benchmarking generally refers to an estimate of cost for a project in comparison with other, similar projects or project types. This is usually intended for the verification of costs so that when problems are discovered corrective action may be taken in the future.

An important factor which should be considered in costing is that high-cost building environments tend to justify and reinforce these costs through the entire eco-system of the construction industry. Once, for any reason a City, Country or Industry falls into a pattern of initial high construction costs, cost escalation during construction or unreliable cost estimates then the following will most likely follow:

- For new projects clients employ cost consultants (QS's) to estimate the market cost to within an acceptable margin of accuracy (plus/minus 5%).
- Cost Consultants look at historic, current and future patterns in that City, Country or Industry and give an estimate. This may be an accurate Market estimate, but it may not be a fair Price.
- This process does not discover why in certain areas, costs are unusually high.

So, in environments where there are numerous changes to the projects during the construction, the client or head contractors do not pay on-time, designers do not provide adequate detailed information and there is no early signed-off for the project brief, each party within the construction echo-system will add its own contingency. Then each cost consultant advising the various parties anticipates this and allows for the prevailing high market rate. The client's QS does the same, otherwise both the tenders and end project costs will prove him wrong and unreliable.

So, the client gets advice in relation to the costs which, not surprisingly confirms the current high-cost environment. So, if a new project is judged by such a benchmark, its high costs appear justifiable, even when in reality they are not.

In order to discover this phenomenon and quantify it, various benchmarking techniques can be used to by-pass the above feedback loop. The results, if lower than the current cost environment, may not be immediately achievable, but they will hopefully highlight the problem to be addressed.

20 Appendix 2 – Feasibility Study Template

The Owners or Operators of Health Facilities are required to provide a Feasibility Study as part of Steps 2 and 3 of both Schematic and Detailed licensing applications described in these Guidelines. The template which appears on the following page may be completed and used for this purpose. Alternatively, if a separate, Feasibility Study has already been prepared by specialists, then its conclusions without further elaboration may can be inserted into the template and submitted along with a full copy of the original Feasibility Study.

The Feasibility Study which is prepared as part of the Schematic application may be re-checked, updated and re-submitted as part of the detailed submission.