Department of Economic Affairs

Green Book for Healthcare Sector

Guide for Practitioner's for PPP in Medical College

CONTENTS

GUIDE FOR PRACTITIONERS FOR MEDICAL COLLEGE

1. INTRODUCTION

The number of physicians per 10,000 population in India stands at 6, which is one of the lowest as compared to other countries like Germany (35 physicians), USA (27 physicians), UK (21 physicians), and China (14 physicians).The number of hospital beds per 10,000 population in India stands at 9, which is one of the lowest as compared to other countries like China (41 beds), UK (34 beds), USA (31 beds), Sri Lanka (31 beds) and Thailand (22 beds). The secondary and tertiary healthcare (surgical and non-surgical facilities) covers 70% to 80% of the unmet need in the healthcare sector in India.

Philosophically, the key objective of implementing medical college projects on public private partnership ("**PPP**")basis would be to provide access to [modern medical education to students from community, backward class and other section of the society]("**Student**") and healthcare services to certain sections of society such as economically weaker section patients/below poverty line patients ("**BPL Patients**"). In order to achieve the key objective set out hereinabove, the government ("**Implementing Agency**")proposes to develop/implement medical college and associated hospital in various parts of the country which will include construction and development of medical college and associate hospital and support infrastructure; installation of equipment's; and will provide medical education and other related services to such Students and clinical services, support clinical services and facility management services (such as housekeeping, maintenance, cafeteria etc.) to inpatients and outpatients.

With the intent to provide access to modern medical education and healthcare services, the Implementing Agency proposes to implement medical colleges ("**Medical Colleges**") and associated hospital in various parts of the country where there are no existing Medical College within the specified area or the existing capacity of the medical college is insufficient.

- **Capacity of Medical College:** For a Medical College, an associated hospital is necessary as per the MCI regulations. The minimum capacity in terms of number of beds of such hospital has to be as per the MCI requirements. For annual intake capacity of 50 MBBS seat medical college should have a minimum 300 bed hospital. Similarly for a 100 MBBS seat Medical College, the associated hospital should have a minimum 500beds. Thus the authority has to define the annual intake capacity of Medical College and the number of beds to be constructed in an associated hospital based on the project objective, regulatory requirements and feasibility study which would take into account the technical and commercials aspects of a project facility.

- **Services to be provided in Medical College**

  - Medical Education: The medical education must be provided for graduate level course i.e. MBBS as per the MCI guidelines. Additionally the agreement may also provide for the post graduate level of education and where found feasible other courses such as nurses and para-medical training.

  - Other Services relating to Medical College: These should include student residential facility, teaching and non-teaching staff residential facility and ancillary and recreational facility.

  - Clinical Services: The clinical services would cover both surgical facilities and non-surgical facilities in respect of secondary healthcare and tertiary healthcare.

  - Support clinical services: The support clinical services would include intensive care unit and critical care; emergency beds; new born hearing test for birthing patients; dialysis program; outpatient departments services; pharmacy; basic radiology and pathology services such as ultrasound, X-ray; blood bank; mortuary etc.

  - Facility management services: The facility management services would include help desk services, food services for patients and non-patients, housekeeping services, laundry/linen services, material services (management of goods and supplies), plant services including facility maintenance, repair, and replacement, patient portering, utilities management, parking services etc.

2. SCOPE OF THE PROJECT

- **Components of Medical College:** The project scope will vary according to the objectives of the Implementing Agency, however the key components of scope of Medical College and associated hospital project can be categorized into following:

  - Design: This includes all designs, drawings, calculations and documents pertaining to the project facilities i.e. the Medical College and the associated hospital. The concessionaire would need to prepare the designs for the project facilities in accordance with the standards & specifications prescribed by the Implementing Agency (please refer to para 8.1) and submit the same with the Implementing Agency. The Implementing Agency will review the same and provide comments to the Concessionaire. If the designs are not in conformity, then the concessionaire would need to revise and resubmit the same with the

Implementing Agency. Notwithstanding the review and comments of the Implementing Agency, complete responsibility for designs would vest with the concessionaire.

- *Infrastructure:* This includes construction of the building of Medical College (including hostel) and the associated hospital and related assets to provide Medical Education, health care services and allied services. The Implementing Agency should provide a detailed explanation of the infrastructure scope and standards & specifications in the schedule to the concession agreement in terms of the off-site, on-site development, building components, construction responsibilities, testing and commissioning of the structure (please refer topara8.1).Any sub-contract by the Concessionaire should be granted through open tender process in order to maximize competitiveness, to ensure greater transparency and maximizing financial efficiency.

- *Equipment's:* This includes procurement, installation and testing of the equipment and standards & specifications for the Medical College and the associated hospital (please refer to para. 8.2).Any sub-contract by the Concessionaire should be granted through open tender process in order to maximize competitiveness, to ensure greater transparency and maximizing financial efficiency.

- *Medical Educational Services:* The agreement should mention that the medical educational services should be provided to the minimum in accordance with the Medical Council of India (MCI) requirements for graduate course i.e. MBBS. Where project scope includes the provision of post-graduate courses in medical education it should be specified upfront in the concession agreement and as far as possible not provided as an option. Similarly where other health education services such as Nursing Course or Paramedic courses etc. can be provided it should be specified in the project scope itself and not be given as future option. This is due to fact that operations of such courses have financial implications in terms of additional revenue to the concessionaire the benefit of which should accrue to the authority in terms of lower capital grant required.

- *Clinical services:* Concessionaire would be required to provide through the associated teaching hospital, clinical service, this includes emergency services, general medical services, specialized medical services, maternal and child services, surgical services (general surgery, cardiac surgery, neuro-surgery etc.), renal services, intensive care services, rehabilitation services etc. At minimum the requirements of MCI or other relevant statutory bodies for clinical services for associated hospital in a Medical College should be provided.

- *Clinical support services:* This includes include medical imaging services, diagnostic/pathology services, IT and telecommunication services, health information management services, pharmacy services, blood bank, mortuary etc. Here again requirements of the various statutory bodies for the medical education courses concerned have to be adhered to in deciding the scope of services.

- *Facility Management services:* This includes general management services, help desk services, food services, patient portering, housekeeping services, laundry and linen services, material services, plant services, protection services, utilities management, parking services etc.

- *Other commercial services:* The scope should also define if any other commercial services such as cafeteria, restaurant, book shop, florist shop, ATM facility etc. are to be provided by the Concessionaire. The commercial services may be provided at market price and the entire revenue generated from such commercial services may (i) accrue to the concessionaire (i.e. may not be shared with the Implementing Agency) or (ii) may be shared between the concessionaire and the Implementing Agency. In the event such revenues accrue to the concessionaire (i.e. not be shared with the Implementing Agency), the same should be factored in by the bidders while submitting their financial bids.

- **Key issues to be address while defining project scope:** In defining the scope of the project, the concession agreement should clearly bring out the following:

  - *Capacity of Medical College:* The infrastructure and service requirements of Medical College and the associated hospital have to be as required under MCI regulations or other relevant statutory bodies for the specified number of annual student intake capacity in various medical education courses i.e. MBBS and post-graduate courses, and other health education courses such as nursing, para-medic courses etc..

  - *Capacity of hospital:* The infrastructure requirements in terms of number of beds, number and type of wards, operation theatres; outpatient department and clinics; blood bank; etc. should be defined in the schedules of the concession agreement. Minimum capacity of the hospital should be arrived at based on the MCI or other relevant authorities' requirements for the Medical College.

  - *Segmentation of the hospital capacity:* Different categories of patients

or distinction between the BPL Patients and any other patients, and reserving the capacity for BPL Patients. Such segmentation should be arrived at by factoring in the feasibility study, annual budget outlay of the Implementing Agency, regional demographics, socio-economic composition and such other relevant factors as may be considered.

- *Segmentation of the student mix:* Different categories of students or distinction between the government seats, management seats, NRI seats. Such segmentation should be arrived as per the state laws/regulations for private medical colleges where the project is being implemented.

- *Sub-contracting:* Any sub-contract by the Concessionaire should be granted through open tender process in order to maximize competitiveness, to ensure greater transparency and maximizing financial efficiency.

3. TERM OF THE AGREEMENT

- **Factors to be considered while deciding duration:** The concession agreement should specify the duration of the project. The factors to be taken into account while deciding upon the duration of the contract shall include:

  - Based on the scope of the project and services, cost and revenues from the project, the Implementing Agency will be required to determine the optimal duration for the financial viability of the project.

  - The service requirements of the Implementing Agency and the required quality and quantity outputs in the longer term; the expected life of the assets underpinning the service; any possible residual value; and the need for and timing of major refurbishment or asset refreshment programme during the concession agreement.

  - The factors such as service requirements, forecast quality and quantity, expected life of assets, construction and maintenance requirements, forecast of the base cost, option to extend the term of the concession.

  - The importance of continuity in the delivery of the service, including the degree of transition difficulties and inefficiencies that might be caused by changing/substituting the concessionaire. The affordability of the payments to be made by the Implementing Agency for the project.

  - A critical factor in deciding the duration of the project is the compliance to regulatory requirements. One of the requirements for

establishment of a medical college is that the land should be owned and possessed by the person or is possessed by the applicant by way of 99 years lease for the construction of the college. Thus where in the PPP model the land ownership remains with the authority the land lease should be for 99 years.

- **Recommended Approach:** The obligation to apply for MCI recognition vests with the Concessionaire. Section 2(2) of the Establishment of Medical College Regulations, 1999 provides that the land should be possessed by the applicant by way of 99 years lease, for the construction of the college. Thus, in accordance with the MCI regulation stipulated above, the concession period for a medical college should be 99 years including the development period of 2-3 years.

4. PATIENT MIX AND STUDENT MIX

4.1 Patient Mix

- **Options for Patient Mix:** In order to achieve to the key objective set out hereinabove, the Implementing Agency may provide differential benefits to BPL Patients and other patients. Based on the aforesaid, the term 'patient' may be divided into two categories under the concession agreement:

    - BPL Patients: This would include the vulnerable and targeted sections of society who falls under the definition of BPL Patient (as may be defined by the Implementing Agency).

    - *Non BPL patients:* This would include the patients who do not fall under the definition of BPL Patient ("**Private Patients**").

- **Recommended option for Patient Mix:** The concession agreement may provide for such segmentation/ categorisation of patients based on feasibility study, annual budget outlay of the implementing agency, regional demographics, socio-economic composition and such other relevant factors as may be considered.

- **Key issues to be addressed by Implementing Agency:** The categorization of patients requires concession agreement to address following issues:

    - *Mechanism for identification of BPL patients:* Where there is a segmentation of different classes of patients, the concession agreement should clearly specify the institutional mechanism for identification of BPL Patients. This may be in the form of Implementing Agency constituted cell.

- *Specifying proportion of healthcare infrastructure for different category of patients:* Where there is a segmentation of different classes of patients, the concession agreement should clearly specify a percentage of total beds which may be reserved for BPL Patients within in-patient health care services. For out-patients service, a time variance approach can be adopted for different categories of patients or alternatively different units can be built for BPL Patients and Private Patients specifying the minimum throughput to be achieved for BPL Patients.

4.2 Student Mix

In prescribing the Student mix, i.e. the distribution of annual intake capacity has to be based on State regulations as applicable to the private medical colleges and health education institutions. In general the following categorisation is done for the admissions.

- **Centralized/Government Seats:** For private medical colleges the State regulations require a certain percentage of seats to be allocated as government seats. For examples as per existing regulations in Andhra Pradesh, 60% of the seats are government seats. Similarly in state of Gujarat 75% of the annual intake are government seats. The admission for these seats is usually done through the centralized state medical college admission bodies. The state government prescribed admission procedures including eligibility criteria such as domicile is applicable for intake of students on these seats. Further for these seats reservations for various categories like OBC, SC & ST and sub-reservation for physically handicapped, sports persons, women etc. will be based on the existing policy of the State Government.

- **Management Seats:** For private medical colleges, state regulations define the maximum percentage of the annual intake capacity, as management category, admissions for which are to be undertaken by the private medical college management. For example in Gujarat the prescribed percentage under this category is 25% of the total annual intake capacity for various medical education courses. Most of the States also prescribe admission procedures for admission under this category, which will have to be adhered to by the concessionaire. The State regulations also specify the maximum percentage of annual intake capacity which can be allocated to the admission of non-resident Indian students. For example in Gujarat the prescribed percentage is upto 15% of the annual intake capacity and is part of the 25% management seats. The selection under this category is carried out by the Private medical college itself, however it is generally required to admit student to this category as per the eligibility requirements and procedure outlined.

- **Recommended option for student mix:** All the three categories can be

specified in the concession agreements along with the maximum limits for government seats and management and NRI category, as per the state regulations. However, such provision shall have to be adaptable to the change if any in such regulations. Where such allocation mechanism is not provided under the state regulations, it is important that the seat allocation principle are outlined by the Implementing Agency in the request for proposal (RFP) for the project, after acquiring due approvals from the state government and as per applicable law.

- **Key issues to addressed by Implementing Agency:** The categorization of students requires agreement to address following issues;

  - *Specifying applicable tuition fees for different category of students:* The tuition fee and other additional fee that can be charged from the students shall be as per the rules and regulations of the concerned state. In general the tuition fee for the government seats is on par with the fees specified for the government college. For other categories the States have set up committee to define the fee structure applicable. Where such provision exists the concessionaire will be required to adhere to them. Where such provisions are not present the authority should specify the tuition fees and other additional fees to be charged in the agreement along with escalation mechanism, for different category for students.

  - *Admission process:* The admission procedure to be followed by the private medical college in general is governed by the rules as prescribed by the state wherein the procedure for admission to government, management and NRI seats is specified. The process typically includes conducting a common entrance exam, counseling and merit based admission. There is a need to outline admission principles in the concession agreement applicable for the various categories. Such principles have to be in line with the state rule/ regulations and adaptable to change thereof.

5. PRICING MECHANISM[1]

5.1 Pricing for Patients

- **Options for pricing:** The pricing of the healthcare services is one of the

[1]***Note**: The pricing model adopted should be sensitive to Section 9(ii) of the Clinical Establishment (registration and regulation) Act, 2010 which provides that the clinical establishment shall charge the rates for each type of procedure and services within the range of rates determined and issued by the Central Government from time to time, in consultation with the State Governments.*

critical aspects in a healthcare PPP as it impacts both the affordability and accessibility of healthcare services. In this context, various options to determine pricing have been outlined below:

- *For BPL Patients*: The following options may be followed for pricing of services to BPL Patients:

  - Option 1 - Benchmarked to CGHS prices: The concession agreement can specify that the pricing applicable under Central Government Health Scheme ("**CGHS**") to be followed by the concessionaire in pricing the healthcare services. CGHS provides comprehensive health care facilities for Central Government employees, pensioners and their dependents residing in CGHS-covered cities. Generally, two models are adopted for application of CGHS pricing: (a) city pricing at applicable rates, and (b) city pricing at a discounted rate, or where city pricing is not available, CGHS rates applicable for a nearby city are discounted and used.

  - Option 2 - Benchmarked to SGHS prices: The concession agreement can specify that the pricing applicable under the State Government Health Scheme ("**SGHS**") to be followed by the concessionaire in pricing the healthcare services.

  - Option 3 – Agreement specified pricing: A detailed pricing structure can be included in the concession agreement, wherein the prices for all healthcare services which are to be delivered under the project can be specified in the concession agreement. This approach requires a thorough working out of the services to be delivered and the prices for each of the service. Alternatively, the prices can be benchmarked to a state hospital whereby the healthcare services to users can be provided as per the prevailing prices for such services in a benchmark state hospital.

- *For Private Patients (Non - BPL Patient)s*: The following options can be followed for pricing of services to Private Patients:

  - Option 1 - Benchmarked to CGHS prices: The concession agreement can specify that the pricing applicable under CGHS to be followed by the concessionaire in pricing the healthcare services. CGHS provides comprehensive health care facilities for Central Government employees and pensioners and their dependents residing in CGHS-covered cities. Generally, two models are adopted for application of CGHS pricing: (a) city

pricing at applicable rates, and (b) city pricing at a discounted rate, or where such city pricing is not available, CGHS rates applicable for a nearby city are discounted and used.

- Option 2 - Benchmarked to SGHS prices: The concession agreement can specify that the pricing applicable under the SGHS to be followed by the concessionaire in pricing the healthcare services.

- Option 3 – Agreement specified pricing: A detailed pricing structure included in the concession agreement, wherein the prices for all healthcare services which are to be delivered under the project can be specified in the concession agreement. This approach requires a thorough working out of the services to be delivered and the prices for each of the service. Alternatively, the prices can be benchmarked to a state hospital whereby the healthcare services to users can be provided as per the prevailing prices for such services in a benchmark state hospital.

- Option 4- Market pricing: The concession agreement will provide freedom to concessionaire to determine and charge the patients market determined prices for health care services. This approach is suitable where there is adequate competition for healthcare service delivery; else it would lead to a monopoly pricing.

- **Recommendation for pricing standards:** In order to implement the options set out hereinabove, there are two approaches for pricing the services:

  - *Option 1 - Uniform pricing*: Under this approach, there is no differentiation in pricing among different categories of patients (such as *BPL* Patients and Private Patients), and single price regime should be followed for health services provided to BPL Patients and Private Patients.

  - *Option 2 - Mixed Approach*: Under this approach, there is differentiation in pricing among different categories of patients (such as *BPL* Patients and Private Patients), and different price regime should be followed for health services provided to BPL Patients and Private Patients.

  Thus, there can be two kinds of approach for pricing within which there can be different options (such as specified CGHS pricing for BPL Patients coupled with market pricing for Private Patients or uniform pricing for both). The

primary issue associated with mixed pricing approach is that it might lead to discriminatory treatment towards BPL Patients, as the pricing fixed for these patients is typically lower than the pricing fixed for Private Patients. Hence, it is recommended that the uniform pricing approach should be adopted.

- **Key issues to addressed by Implementing Agency:** In defining price regime, following issue need to be addressed;

  - *Revision of Prices:* The PPP agreements usually have a long tenure in such cases, so the cost of the service delivery is likely to go up during the concession period. To provide for such eventuality, the concession agreement needs to provide for a mechanism for revision of prices, which can be done in following ways:

    - Market Pricing Regime: Under market pricing regime, there is no need to incorporate price revision or indexation provisions. However, in such cases it is prudent to have an Implementing Agency check point to ensure that the health care services prices do not become arbitrarily high.

    - Specified Pricing Regime: In cases where prices for services are specified in the concession agreement, the concession agreement should also provide for the revision procedure for such prices. The revision procedure should incorporate the principles for inflation indexation.

  - *Non-Inclusion of free services:* In setting up a pricing regime, the Implementing Agency should refrain from obliging the concessionaire from providing free services (no reimbursement to concessionaire for such treatment) to BPL Patients, as it may create potential for discrimination by the concessionaire against BPL Patients. A better approach is to price the services for all and develop a payment mechanism for such services which benefits the BPL Patients.

5.2 Pricing for Students

- **Options for pricing:** Unlike other asset classes where inter-alia the objective of the state government is to provide healthcare services at affordable rates for under-privileged classes (like BPL in case of hospitals), in case of Medical College projects, the objective of the state government is to increase the level of medical education to the state citizens, which will invariably help in reducing the scarcity of medical, nursing and para-medical staff in the state. Accordingly, in line with the students mix for the medical colleges, the following pricing principle is to be adopted:

- **Notified Pricing:** The concession agreement can specify that the pricing as per the state laws/regulations for private medical colleges is to be followed by the concessionaire in setting the tuition fees and other fees. States, in general have notified rules and set up committees for fixation of fees for MBBS, post-graduate courses and other healthcare education courses, the private medical colleges and other health care education institutions, these fee structure will therefore be applicable to the project.

- **Agreement specified pricing:** Where the State has not notified the fee structure to be followed by the private medical colleges for different category of students, Agreement specified pricing can be adopted in respect of tuition fee and additional fees for the different categories of the student as specified in the student mix. In such cases escalation mechanism shall also be provided.

6. USER FEE/PAYMENT FOR THE SERVICES

6.1 Payment for services to patients

- **Introduction:** Collection of User Fee and the payment mechanism lies at the heart of the concession agreement and forms the consideration for which parties have entered into the concession agreement.

- **Options for Payment for health care services:** For payment of healthcare services provided to BPL Patients, the following options can be adopted in the concession agreement:

  - *Option 1 - Reimbursement by the Implementing Agency for treatment of BPL Patients:* Under this approach, the Implementing Agency would reimburse the concessionaire for the treatment provided to the BPL Patients.

Cap on Reimbursement: The objective of the Implementing Agency is to extend medical benefits to BPL Patients. While pursuing such objective, it is equally important that the total consideration to be paid/ reimbursed by the Implementing Agency for the treatment given to BPL Patients should be within the budget of such agency. Accordingly, concession agreement may provide for caps on such reimbursement. Typically, there are two approaches within the healthcare sector to sustain the affordability:

- *Budgetary cap on reimbursements*: In this approach, a budgetary cap is fixed by the Implementing Agency in respect of the maximum reimbursements to be made to the concessionaire for treatment of BPL Patients.

- *Cap on number of BPL patients*: In this approach, a maximum limit is fixed on the total number of patients for whom the Implementing Agency will reimburse the charges.

The above stated models should be based on a thorough analysis of the Implementing Agency's budget outlay, projected demand for healthcare services, regional demographics and socio-economic assessment. Such budgetary cap should have adequate built in margins, to factor the increase in population. Further, the concession agreement should provide suitable safeguards to go above and beyond the reimbursement caps in case of emergency, natural calamities, epidemics etc.

- *Option 2 - Reimbursement through central/state insurance schemes for treatment of BPL Patients:*

Under this approach, central/state insurance provider would reimburse the concessionaire for the treatment provided to the BPL Patients. For e.g.an insurance scheme may specify surgical/non-surgical services in respect of which the entire sum (as set out under such insurance cover) would be paid by the central/state insurance provider. In this case, there would not be any reimbursement from Implementing Agency.

- *Option 3– Partial reimbursement through Central/State Insurance Scheme and the balance Implementing Agency:* This approach can be used in conjunction with the reimbursement by Implementing Agency i.e. central/state insurance provider, through the government insurance scheme, would reimburse the concessionaire for the treatment provided to the BPL Patients to the extent of insurance cover and shortfall, if any from applicable tariff structure would be reimbursed by the Implementing Agency. For example, an insurance scheme could involve a fixed cover of say Rs. 150,000 (Rupees One Lakh Fifty Thousand only) per family per annum and in case the medical expenditure exceeds the specified limit, such excess shall be reimbursed by the Implementing Agency to the hospital.

For payment of healthcare services provided to Private Patients, the concessionaire should directly collect charges from Private Patients for services provided to them.

- **Recommended Option:** Among the above models of reimbursement, reimbursement via government health insurance schemes could work out as the most effective tool for ensuring payment for the health care services. However, this model has limitations as many states do not have state insurance policies. Thus, the optimal option is to provide for reimbursement by the

Implementing Agency for the health care services in states, where the state insurance policies are non-existing. This option fulfills the objective of providing accessible and affordable health care to BPL Patients.

6.2 Payment for medical education services:

- The payment for medical educational services is to be done by the students of the Medical College as per the state laws/regulations for private medical colleges. Authority shall not be liable for any reimbursement in respect of tuition fee or additional fee of reserved category students.

7. PAYMENT SAFEGUARDS

- **Options for payment safeguard:** A critical area of concern is that concession agreement defined timelines for payments of service fees may not be adhered to by the authorities. This can lead to the problem of liquidity and reduce the project viability. To resolve this issue, the concession agreement can follow two options:

    - *Option 1 No payment safeguard:* No safeguards are provided to the private partner. However, the concession agreements may provide for penal interest for delay in payment by the Implementing Agency, which is linked to SBI PLR + 2-4% per annum.

    - *Option 2-Payment safeguards:* Typically, two types of payment safeguards are available for protecting the interest of the concessionaire:

        - **Payment reserve account**: The concession agreement can provide for a payment reserve account (PRA), wherein the Implementing Agency has to deposit specified months revenue. In the event of any default or delay in payment by the Implementing Agency, the concessionaire can withdraw such amount from the PRA without notice. The Implementing Agency has to replenish the PRA within specified number of days.

        - **Letter of credit**: The concession agreement can provide that the Implementing Agency provides for an irrevocable and revolving letter of credit equivalent to specified months revenue to the concessionaire, as a security for payment of service fee. In the event of any default or delay in payment by the Implementing Agency, the concessionaire can invoke the letter of credit without notice. The Implementing Agency has to replenish the letter of credit within specified number of days.

- **Recommended option:** Though interest provisions intend to compensate the

aggrieved party for the delay in payment, by far this has failed to prove as a standalone safeguard mechanism, and it can lead to dispute over payment of interest. On the other hand, option 2 of providing the payment safeguard such as a payment reserve account or a letter of credit can be an effective safeguard mechanism which can ensure payment discipline on the part of the Implementing Agency and protect the interest of the private player.

8. PERFORMANCE SPECIFICATION

To effectively manage performance and optimize risk transfer, the concession agreement should contain, at a minimum, the following elements:

- **Performance specifications:** Describing the requirement in terms of measurable outcomes rather than by prescriptive or input methods.

- **Measurable performance standards:** To determine whether performance outcomes have been met and define acceptable performance.

- **Performance assessment plan:** Describing how the concessionaire's performance will be measured and assessed against performance standards. (Quality Assurance Plan or Quality Assurance Surveillance Plan).

- **Remedies to poor performance:** Describe procedures that address how to manage performance that does not meet performance standards (please refer to para. 8.5). While not mandatory, incentives should be used, where appropriate, to encourage performance that will exceed performance standards. Remedies and incentives complement each other.

The project scope varies from project to project, based on the scope PPP arrangement in the healthcare sector, specifications would typically fall into the following four categories:

8.1 Infrastructure specification

- **Design specification:** The concession agreement should elaborate the design specifications in terms of the output required where in the following approach can be taken:

    - Design as per the specified regulations/frameworks: Where applicable design of the Medical College and hospital can be required to follow the specified regulations, such as those of the Medical Council of India (MCI) and Indian Public Health Standards guidelines (IPHS).

    - In addition, the concession agreement can provide for output based specifications for the design of the Medical College and Hospital.

Where this approach is followed, the concession agreement shall provide for the following to ensure design quality:

- Technical standards and requirements which are to be achieved, to ensure optimal functioning of the project facility. This should be achieved not by specifying the design but by describing the output required from the structure and other structural elements as well as and functional integration of the healthcare services to be delivered.

- Design quality plan, wherein the concessionaire should be required to submit its strategy along with timelines for formulation of design, including consultation with stakeholders, experts involved, internal review mechanism and submit the same to the independent monitor and Implementing Agency for review. The concessionaire should carry out revisions in the design quality plan based on the comments of the independent monitor and the Implementing Agency and also demonstrate achievement of the optimal functional integration of the services delivery.

- **Construction performance requirements:** The construction performance specifications are also to be provided in the concession agreement for this the following framework can be utilized.

  - Defining the construction scope: The concession agreement should specify all the structural elements and components of the project facility which is to be constructed. This will have close correspondence with the design specifications. The construction scope should clearly bring out the work required to be carried out for different components of the project facility.

  - Construction Standards: In defining the scope of construction, the second aspect is to define the standards which have to be adhered to, in creation of different components, including the regulated standards which have to be achieved.

  - Construction Timelines: The concession agreement should clearly specify the timelines for various stages of the construction. Delay in achievement of such timelines should be penalized.

  - Construction Quality Plan: The concessionaire should be required to submit a construction quality plan. Such a plan should be submitted prior to start of the construction and should be approved by the independent monitor. The plan should outline the approach to and

adherence to the design, applicable quality standards, time lines and tests. Tests to be conducted at different stages of construction should be elaborated along with the rectification measures required in case of failure of such test.

8.2 Equipment Specification

In outlining the equipment specification the following framework can be adopted, wherein there is an equipment list and an equipment data sheet for each individual equipment. This has to be supplemented by the equipment maintenance plan to be submitted by the concessionaire. The Equipment Specification should be divided into two parts wherein, separate equipment specification should be provided for Medical College and the associated hospital. These elements are described below.

- **Equipment List:** A list may be provided enumerating the equipment's in following format:

Equipment identification Number	Reference	Location	Item Description	Further Description	Quantity	Procurement Category
	To Clinical/ Clinical Support/Facility management service for which equipment would be utilized.	Spatial description (such as Operating room)	The Name of the equipment	The description of attachment and ancillaries		By the Concessionaire/ Implementing Agency

- **Equipment Data Sheet:** These would need to be developed by the Implementing Agency for each individual equipment, as described in the equipment list. This would detail out the minimum acceptable **performance** requirement as per the current standards of technology and anticipated project requirements**.** Here, the approach can be either to provide a detailed specification for each of the equipment, as required. However, this approach can be constraining as there may be a possibility that at same cost, the concessionaire may be able to procure better equipment. Thus, an optimal approach is to set the minimum standards by referring to a manufacturer and model number for the equipment, as it would be available at the time. The data sheet should provide detailed specification of the equipment identified. The Concessionaire in its procurement must meet or exceed the specifications of the referenced manufacture or model number. The equipment data sheet format can be as below:

Particulars	Description
Item description	Matching the description on the equipment list
Equipment number	Matching the description on the equipment list

Particulars	Description
Reference Manufacturer-Model Number	Provide reference to manufacturer(s) and model number(s) for equipment.
Detailed description	Here detailed specifications should be provided for the referenced equipment.
Performance Standards	Installation and tests Daily and monthly minimum utilization levels for the equipment Uptime requirement of the equipment Problem rectification timelines Standby arrangements in case of equipment failure for services delivery

- **Equipment Maintenance Plan:** As the third aspect of the performance requirement the Concessionaire should be required to submit equipment maintenance plan, where in the concessionaire should list out:

    - The schedule for routine or planned maintenance for each of the equipment.

    - The planned replacement of the equipment depending upon the equipment life

    - Reactive maintenance plan, where in the equipment should be categorised into rank order of importance/criticality for delivery of different health services. Based on this categorisation adequate timelines for rectification of problems should be mandated in the concession agreement. Non-rectification within the timeline should be regarded as quality failure.

    - Where service failure is being monitored and service standards are in place, separate penalty for equipment failure should not be warranted. However, adequate protection should be there for continued non-availability of the mandated number of equipment's. This will constitute a quality failure.

8.3 Performance specification of medical education and services:

- **Introduction:** The key objective of the Medical College project is to provide medical education and healthcare services to different types of patients. Depending on the project scope and regulatory requirements, the Medical College has to provide wide range of medical education services to students. Consequently the associated hospital may be required to provide a wide range of clinical and support clinical services, and these services should be made available to both outpatients as well as inpatients.

    - Medical education services should include, Administrative services, teaching services (course wise such as MBBS, PG, Nursing, Paramedic

etc. and within each course department wise such Anatomy, Medicine, Pediatrics, Orthopedics etc.), laboratory services, student admission services, student welfare services, library services, IT and telecommunication services etc.

- Clinical services may include emergency services, general medical services, specialised medical services, maternal and child services, surgical services (general surgery, cardiac surgery, neuro-surgery etc.), renal services, intensive care services, rehabilitation services.

- Clinical support services may include medical imaging services, diagnostic/pathology services, IT and Telecommunication services, health information management services, pharmacy services

- **Service Specification:** It is important that a comprehensive detailing of the services to be delivered in the project facility is carried out and service specifications are developed for each service. The concession agreement should bring out the output services specification for medical education services and each of the clinical and support clinical services in detail. The framework for performance specification of clinical and clinical support services is provided below:

S.N	Parameter	Detail
1.	Service Description	The service description should provide as applicable, an overview of the clinical, education and research scope of the service. It should also bring out any specific service exclusion that is either provided as part of other services or is not provided at the facility at all.
2.	Operational Description	Operational parameters for each service should be defined in terms of the following elements
(a)	Minimum hours of operation	The availability of the service in terms of hours and days. Unavailability of service during mandated hours will constitute service failure.
(b)	Patient Management Process	The patient flow process can be worked out from entry into the service system to exit. Based on this patient flow process service standards can be established for services.
(c)	Patient Information Management	This section will describe the information and record management for the patient. Ready availability and processing of the patient information will constitute service performance standard.
(d)	Staff Work Process	On the basis of the patient management process the staff work process can also be developed. Service level standards based on the staff work process can be established.
(e)	Linkage to non-clinical services	Here linkage to non-clinical service in terms of material services required, housekeeping services required and equipment required can be elaborated.
3	Projected Handling Capacity	Here minimum expected level of the patient traffic that the services should be able to handle should be provided. Inability to meet the minimum patient traffic will serve as service failure
4	Staff Requirements	Here the minimum staff required for the optimal performance and delivery of the services may be stated. Inadequate availability of

S.N	Parameter	Detail
		staff would constitute service failure.
5.	Service Standards	For each element of the service as discussed above the service standards should be specified along with monitoring frequency. Non-achievement of service standards should comprise a service failure event.
6	User satisfaction Survey	Provision can be made for quarterly survey of the user satisfaction survey for the services delivered.

- **Example of Performance specification for General Clinic Services:**

S.N	Parameter	Performance Requirement	Indicative Service Standards
1.	Service Description	Scope of General Clinic Services will include: Provision of facilities for the examination, consultation and treatment of new patients, follow up patients. Provision for patient to consult the general consultant, specialist consultants and also with dietician, pharmacist and nurses. Provision for patient to be referred to the diagnostic testing and examinations.	
2.	Operational Description		
(a)	Minimum hours of operation	The General Clinic will operate from 0800 to 1700 hours, 365(6) days annually.	Unavailability of the clinic
(b)	Patient Management Process	Reception/registration/booking Diagnostics if required Consultation Follow up appointment or further diagnostics if required	Time taken for patient registration Waiting time for patients at different stages
(c)	Patient Information Management	Patient registration, Insurance Processing, Availability and accessibility of patient charts, diagnostic report, treatment prescription	Time taken in registering patient. Time taken in processing the insurance formalities. Time taken in delivering the diagnostic report to the patients
(d)	Staff Work Process	Reception Functions Appointment booking Preparation of chart Consultation/Examination/Procedure	Time taken in completion of various stage of process Minimum number of faults in execution of each stage Development of defined consultation/examination and treatment protocol for various ailments and adherence to it.
(e)	Linkage to non-clinical services	Material services Housekeeping services Equipment requirement	As per the performance standards mentioned in facility management service specification
3	Projected Handling Capacity	New patient consult Follow up visits	At minimum 500 new patients daily or 15,000 patients monthly

<table>
<tr><th>S.N</th><th>Parameter</th><th>Performance Requirement</th><th>Indicative Service Standards</th></tr>
<tr><td></td><td></td><td></td><td>At minimum 200 follow up patients daily</td></tr>
<tr><td>4</td><td>Staff Requirements</td><td>An indicative approach to specifying number of staff required:
<table>
<tr><td>Health service</td><td>Nurse</td><td>Consultant</td><td>Specialist</td></tr>
<tr><td>Maternal Health</td><td>4</td><td>2</td><td>1</td></tr>
<tr><td>Child Health</td><td>4</td><td>2</td><td>1</td></tr>
<tr><td>General/ ENT</td><td>4</td><td>3</td><td>1</td></tr>
<tr><td>Cardiology</td><td>4</td><td>2</td><td>1</td></tr>
<tr><td>Orthopedic</td><td>4</td><td>2</td><td>1</td></tr>
</table></td><td>Availability of requisite staff at all times of general clinic operation</td></tr>
</table>

8.4 Outcome Indicators for Clinical Performance

- **Introduction:** In addition to the service performance indicators explained above, the concession agreement may also include outcome based indicators to monitor the wellbeing of the patients treated at the hospital.

- **Indicative Framework for Specifying Outcome Indicator:** Outcomes are states of health or events that follow care and that may be affected by health care. An ideal outcome indicator would capture the effect of care processes on the health and wellbeing of patients and populations. Outcomes can be expressed as 'The five Ds': (i) death: a bad outcome if untimely; (ii) disease: symptoms, physical signs, and laboratory abnormalities; (iii) discomfort: symptoms such as pain, nausea, or dyspnea; (iv) disability: impaired ability connected to usual activities at home, work, or in recreation; and (v) dissatisfaction: emotional reactions to disease and its care, such as sadness and anger. An example of framework for specifying outcome indicators is shown in table below.

Category	S. No	Indicators
Clinical Service Specific Outcome Indicators (compiled for each inpatient Clinical Service offered at the project)	GO1	Number of patients treated
	GO2	In-patient mortality
	GO3	Average length of stay
	GO4	Unscheduled returns to the operating room
	GO5	Post treatment infection rate
	G06	Patient satisfaction

- Outcome of care is determined by several factors related to the demography, patient, the illness, and health care. Differences in outcome may be due to case mix and other confounding factors. Standardized data collection and risk adjustment are therefore important for interpreting outcomes data.

- The Concessionaire should be obliged to provide data and reports on the

specified outcome indicators on regular basis to the authority. Authority upon any deterioration overtime in any of the indicators may be empowered to take suitable remedial action.

8.5 Performance Indicators with respect to the BPL patients

- The authority may define a composite set of performance indicators to monitor the service delivery to the target vulnerable segment including the BPL patients. Here a twofold approach can be adopted;

    - Separate indices for the specified standards: under this approach the service performance for the BPL patient can be separately tracked and maintained for the specified service standards, as developed based on the methodology outlined in the section 8.3. Similarly performance pertaining to BPL patients can be tracked for the outcome indicators as developed based on the methodology indicated in the section 8.4. Such performance monitoring will allow a comparison on the performance standards achieved for the BPL patients with the overall performance on service delivery to patients.

    - BPL patient specific Indicators: The concession agreement may supplement above or as standalone define BPL patient specific indicators for monitoring service delivery to such patients. Such Indicators may include as below;

Category		Indicators
Service Access and Quality Indicators	BAQO1	% of BPL inpatient to total inpatient
	BAQO2	% of BPL outpatient to total outpatient
	BAQO3	% of BPL inpatient to % of BPL outpatient
	BAQ04	Average waiting time for BPL patients
	BAQ05	% Adherence to defined treatment protocol for BPL patients
	BAQ06	BPL complaints rectification rate

8.6 Performance Specification of non-clinical services

- **Introduction:** The concession agreement schedule should bring out in detail all the non-clinical services which are to be performed by the Concessionaire. The non-clinical services in a hospital project will comprise of general management services, help desk services, food services, patient, housekeeping services, laundry and linen services, material services, plant service, protection services, utilities management, parking services, etc.

- **Facility management service performance specification framework:**

	Services Specification	For example if we take the House keeping service

<table>
<tr><td></td><td></td><td></td></tr>
<tr><td>(a)</td><td>General Requirement</td><td>This Section should include the general performance requirements for the service in terms of delivery, general standards, obligation under the concession agreement, integration with other clinical and non-clinical services etc.</td></tr>
<tr><td>(b)</td><td>Elements of Service</td><td>House Keeping service consist of three main elements as follows
Cleaning and waste management services
Pest Control services
Quality Monitoring</td></tr>
<tr><td>(c)</td><td>Element wise facility management service specific performance requirements</td><td>These are specific performance specifications for each element of the service. Where required the regulations and standards to be met for each component are can also be included. The service requirements also include as applicable the required service standards.For example for cleaning and waste management the specific service requirements may include
ESP-1: Cleaning to the standards as required under the concession agreement and as required under the applicable quality standards
ESP-2: Provide a routine cleaning service on a 24 hour a day, 365(6) days per year basis to meet the requirements of this concession agreement in all areas of the project facility.
ESP-3: Provide a reactive cleaning service on a 24 hour a day, 365(6) days per year basis to address the ad-hoc emergency, urgent/or routine cleaning requirements within the service response time specified for such categories(emergency, urgent, routine).</td></tr>
<tr><td>(d)</td><td>Define Performance Indicators and FM service benchmarks</td><td>For each element of the service the key performance specifications (service requirements) should be taken as the performance indicators. Where the Parameter is defined, type of service failure (quality failure event or delivery failure event), category (high, medium low for quality failure) or (A-E for service failure based on facility component where such failure takes place) may be defined and monitoring frequency is defined. Service standards should be set up for performance parameter as applicable. Example of Performance Indicators for Cleaning and Waste Management.

<table>
<tr><th>Ref</th><th>Parameter</th><th>Failure type</th><th>Category</th><th>Monitoring Frequency</th></tr>
<tr><td>ESP-1</td><td>All components of the different functional areas of facility cleaned to the standard as specified in appendix</td><td>Quality Failure</td><td>High</td><td>Weekly/ Monthly</td></tr>
<tr><td>ESP-2</td><td>Routine Cleaning service completed to quality standards and infection control policies as per the schedule</td><td>Delivery Failure</td><td>A-E</td><td>Weekly/ Monthly</td></tr>
<tr><td>ESP-3</td><td>Reactive Cleaning services completed to the quality standards and infection control policies within the specified response time</td><td>Delivery Failure</td><td>A-E</td><td>Weekly/ Monthly</td></tr>
</table></td></tr>
<tr><td>e)</td><td>Provisions for customer feedback and User satisfaction survey for the service</td><td>The concessionaire should also provide for system of recording and acting on customer feedback and satisfaction through customer service survey conducted quarterly which can also be one of the performance parameter.</td></tr>
</table>

8.7 Options for Remedies of Poor Performance

The poor performance of the concessionaire has to be disincentivized through concession agreement provisions. The concession agreement should set up a defined performance regime in respect of the service delivery and based on such performance standards service failure event should be defined. The implementation of the remedies for poor performance in monetary terms is as follows:

- **Service failure event deductions:** Service Failure events are service performance failures related to services to be delivered by concessionaire within the facility including clinical, clinical support and facility management services, for **example** non-availability of operation theatre constitutes surgical service failure. Service Failure events can be recorded and deductions calculated on a daily basis. Service Failure event deduction can be based on:
    - **Criticality factor**: The relative importance of the service affected by the failure event. The criticality factor can be the Rupees amount per service, detailed in the schedule and is based on significance weighting of zero to five of the service.
        - Number of days affected by the failure event
        - The severity of the failure event, i.e., the failure event category. The failure event category can be assessed based on the inconvenience, remaining functionality and incapacity of the service delivery resulting from the failure event and in accordance with the output specifications. Percentage deductions range from 10% for category "A" failure event or routine failures to 100% for a category "E" failure event or “unavailable or unused.”
    - For most failure events, a rectification period may be allowed within which the failure can be corrected in which case it would not be marked as a failure event.
    - Relief measures can also be provided against failure events, such as providing suitable alternative accommodation to carry out the services.
- **Quality failures deductions:** Service performance failures are not related to delivery of services but the quality of such services, where in the services fail to meet the quality standards outlined in the service specifications; for example the operation theatre is available but the cleanliness and sterile

environment is not up to specified standards. Herein a surgical service quality failure has occurred which can be recorded and deductions can be calculated as per the specified formula. Such performance failures can be monitored either on a daily basis or as in the case of quality satisfaction failures, on periodic basis. A quality failure deduction is based on three factors:

- Relative importance of the service in delivery of which the quality failure occurs. Each service can be given a weighting in proportion to the criticality factor.
- Severity of the quality failure, and the quality failure category, ranging from 1% for a low priority failure to 2% for a high priority failure
- The time period over which the quality failure occurred
- Quality satisfaction failures can be assessed based on a survey of services' users; failure deduction percentage ranges from 0.5% for a minor failure to 2% for a significant failure.

- **Incorporation in payment mechanism:** Both the deductions have to be incorporated in the calculation for payment due for the period in which the failure event occurs. In cases where the concessionaire is not being paid by the Implementing Agency in any form, the penalty will be recovered by the Implementing Agency on a monthly basis.

9. PERFORMANCE MONITORING

- **Introduction:** There must be a mechanism under the concession agreement which enables the Implementing Agency to monitor the concessionaire performance against the performance requirements so that the project can operate effectively. The Implementing Agency should also be able to identify performance problems so that remedies for poor performance can be pursued if necessary. This entails a need for mechanism to ensure monitoring of the project.

- **Levels of Performance Monitoring:** Depending on the project magnitude, the monitoring should occur at six levels:

a. *Independent Monitor:* The concession agreement must provide for an independent monitor to review the performance against the performance indicators. There may be a need to appoint following independent monitors during the construction phase and the operations phase of the project.

   - Independent Engineer: An independent engineer can be

appointed for monitoring during the construction phase to inspect, test and monitor the construction works. In the operations phase the independent engineer would be responsible for inspection, verification and testing for building and equipment maintenance requirements.

- Independent Health Consultant: In the operations phase, the independent health consultant will be required to monitor medical education, clinical, support clinical services and facility management services as per the required performance standards. Such Consultant should be appointed prior to operations date so that they can be part of testing of equipment's prior to issue of completion certificate.

b. *Concessionaire:* A systematic self-monitoring by the concessionaire through a quality management system, measuring availability and performance of services to the specified performance standards. The concessionaire should report the outcome of such monitoring on a periodic basis (monthly) to the independent monitor.

c. *Patient Satisfaction Survey:* The ability for users to report failures by way of including the complaint mechanism and user survey provisions.

d. *MCI recognition/Renewal*: The Concessionaire will be required to obtain the recognition of MCI or such other relevant bodies prior to start of the operations of the project and the medical education. Such recognition has to be maintained throughout the concession period ensuring the renewal of such recognition as and when required under the regulations of such statutory bodies.

e. *Accreditation Requirement:* The concession agreement will provide provisions for requirement of accreditation from specific agencies, such as national accreditation board for hospital (NABH) for hospitals and national accreditation board for medical imaging.

f. *Disclosure on Website*: The concession agreement will provide that the Medical College should update on its website on everyday basis the number of beds used by and available for BPL Patients. Further, in order to provide transparency, all reports should be published at the website of the Medical College. The Students record should also be disclosed on the website for each year including available seats under each course for different category of intake, seats filled against each intake category and students in each year across courses against the intake category.

- **Recommended performance monitoring mechanisms:** There is no single

best option; the most optimal approach is to have a multi-layered monitoring framework. In the multi-layered framework the key elements will be the Independent Monitor and the user satisfaction survey. Around these elements other options can also be included in the concession agreement. The layered approach to monitoring provisions needs to be in line with the magnitude and scope of the project. This will ensure that where it is possible to have a less onerous system, it will be in the interest of all parties to do so. Equally, where the scope is large and project magnitude demands, a rigorous monitoring system needs to be specified in the concession agreement.