
Annexures

2nd Edition

April 2016

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Annexure - 1

Introduction to Green Hospital

Green building refers to both a structure and the using of processes that are environmentally responsible and resource efficient throughout building's lifecycle.

A green building emphasises upon judicious use of its resources (water, power) and creates less waste, and has efficient solid and water waste management treatment. Green building which can also be called energy efficient building is the one which can reduce energy consumption by at least 40% as per few studies as compared to conventional buildings.

Similarly green hospital building can be defined as one which enhances the patient well-being, aids the curative process, while utilising natural resources in an efficient environment-friendly manner.

There is empirical evidence linking the physical environment with patient, family and staff leading to improved patient safety, improved clinical and psychosocial outcomes, patient satisfaction, and increased staff effectiveness in providing care, staff satisfaction and improvements in staff health.

The advantages of Green Hospitals are known to reduce patient recovery time, low energy and water consumption, increase health and wellbeing of the patients as well as employees leading to better quality of care. It is also seen that it decreases long term energy costs and leads to better patient outcomes and staff retention. It also reduces stress levels amongst hospital workers and leads to better indoor air quality.

The focus areas for Green Hospital Design include day light, recycling of material and resultant waste generation, better indoor air quality and increased fresh air ventilation, CO₂ monitoring, green housekeeping, clean & green interior building materials, proper waste disposal, etc.

Green hospital concepts will play an important part in the curative process in time to come. Instead of being referred to as a place that houses healthcare amenities,

hospitals of tomorrow will now focus on wellness and be transformed into welcoming spaces to get well.

The following are the suggestive measures to be adopted by organisation to move towards energy efficient Green Hospital concept.

- Efficient usage periphery area & terrace of organisation by creation of landscape gardening including planting suitable boundary, roadside & ornamental trees.
- The arriving at right water balance chart for both intake & reuse for newly constructed hospital using NBC (National Building Code) guidelines.
- The due consideration is to be given towards high energy efficient equipment (including medical equipment) during purchase of equipment.
- Step towards energy efficiency can be achieved by providing of more natural lights inside the organisation including patient care area ,usage of low power consumption lights, solar photo voltaic energy, usage of alternate energy source like wind energy. The dynamic harmonic filtration with Power Factor improvement system can considered as part of design. The installation of electrical energy meters across various locations and possible integration to building management system with energy meters is suggested.
- Water efficiency includes rain water harvesting, rain water recharge pits, high efficiency faucets, sterilisation of aerators used for water conservations once in six months, sewage treatment & reuse of waste water, usage of solar plant towards generation of 20% of hot water generation. Usage of water Level controllers in pumping systems, variable frequency drives usage. The installation of water meter across hospital and provision of water consumption monitoring is another suggested measured.
- Creation of building envelop for air reduction leakage & infiltration of air may cause bad air quality, energy efficiency in HVAC, lighting, electrical power and water heating. Areas under central air conditioning can be planned with individual controls using *Variable Air Volume system*. All Air Handling Units are planned with VFD's (Variable Frequency Drives) for fan speed modulations.

- Minimum fresh air for all air conditioning area conditioning as per national or international guidelines like ASHRAE, Less usage of VOC (volatile organic compounds) based paints/carpets to avoid bad environment quality, continuous ventilation around 36 hours (minimum of 12 hours) of all area before occupancy so that foul air of construction material can be flushed out.
- The provision of ventilation ducts, exhaust hoods compliance of statutory & manufacturers guidelines.
- The organisation having defined criteria, process and protocols for selection of cleaning products, mops and wipers like on-hazardous cleaning agents, environmental pollutants reduction , protection of the cleaning worker.
- The organisation having protocol for receiving, handling, storing and safe disposal of all kinds of waste including recyclables, hazardous, bio medical and e-waste. The organisation complies all bio-medical waste management rule and ensures biological waste is disposed as recommended by national regulations.
- The organisation to have procurement plan include purchase of environment friendly materials which can be reused or recycled as per manufacturer's recommendations. The organisation having purchase policy that reduces/avoids purchase of mercury containing equipment. The organisation having sustainable food purchasing policies and plan that support human and ecological health.
- The following strategy can be considered by organisation for optimisation of energy saving & usage.
 - Schedule of HVAC based on the requirement preferably using building management system.
 - Schedule for switching on & off of lights.
 - Schedule of operation of exhaust fan.
 - Flow restriction of water taps & showers.
 - Sensor based urinal flushing.
 - Operational control on hot water generation, chillers, lifts etc.
 - Monthly audit of power & water consumption.

- The organisation to have indicators for measuring the waste generation as per the category (hazardous, recyclable, bio-medical, e-waste etc.) through waste audit.

References:

ECBC guidelines, bureau of energy efficiency, Govt. of India, Best practices across various hospitals & AHPI checklist on green hospital

Annexure - 2

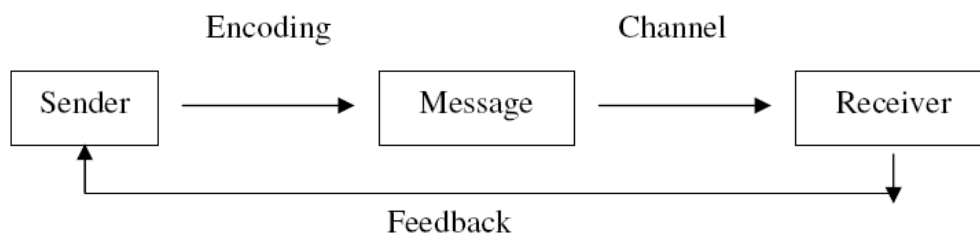
Communication in Healthcare

Introduction:

Delivery of healthcare is a complex process which involves lot of human interaction between patients/families and healthcare workers and among healthcare workers as well. It has been proven that majority of the errors that happen in healthcare are related to communication. Studies show that poor communication is the major cause for patient dissatisfaction, litigation and financial loss. It is also proven that the patient outcomes are better with good communication. Since good communication is not addressed in any healthcare curriculum, organizations have to try hard to improve the communication skills of its staff as communication plays a major role in quality.

What is effective communication?

By definition, “communication is a transactional process to create meaning”. There are 3 components of communication. Those are sender, receiver and message. In a typical doctor –patient interview, doctor assumes the role of sender as well as receiver. The meaning which needs to be communicated is not in the “message” as the doctor may have a different meaning and the patient may have a different one. So the purpose of effective communication is to share a common meaning.



An organisation has to train the staff to communicate effectively. Some areas like Consenting, patient doctor interviews, and Nursing assessment need to be stressed upon making the communication effective. The following is an indicative list which needs to be addressed to make communication effective.

- Greeting, establishing the rapport
- Listening patiently
- Having a favourable body language which includes the way we dress up, sitting posture, eye contact etc.
- Showing empathy (Putting ourselves in patient/family's position)
- Not using unnecessary medical jargon
- Not being judgmental
- Clearing the doubts and confirming whether they have any questions
- Greeting, thanking

Though apparently it appears that good communication demands more time, the literature has proven that on an average it takes only a minute more to communicate well once the skill is mastered.

Safe communication:

Communication is one of the cornerstones of patient safety. Some areas where communication leads to patient safety incidents are handing over, communication in emergency situations, and lack of assertiveness among nurses. There are various methods for doing the handing over. One of the easier examples is using **ISBAR** tool.

I: Identification (of the staff, patient)

S: situation (current problem)

B: Background (past problems, comorbidities, treatment given so far etc)

A: Assessment (Vitals, pain, drains etc)

R: Recommendation (Investigations to be done, medication to be given, consults to be taken , pending things, planning for discharge or move out etc).

The same tool can be used by doctors also for handing over during shifts, telephone conversations about a patient or for communications among different specialties.

Another tool which helps in achieving patient safety is a tool called “**Assertiveness saves lives**”. The steps are

1. Get Person's attention (Doctor, I am ...calling from ward..., I have a serious problem now)

2. Express concern (I am really concerned about Mr.....)
3. State problem (His pulse is 130, BP is 90/60, and he is looking pale...)
4. Propose Action (Doc, I would like you to come and see the patient immediately)
5. Reach decision (Doctor, So... you are busy in theatre, can I inform the Consultant, as I think a doctor is needed urgently to make a decision).

Special situations:

Though the principles of communication remain same whatever the situation, some special protocols need to be decided before hand and the concerned staff need to be trained on those. Some examples of those situations are

- Breaking Bad news
- Disclosing Death
- Handling an aggressive patient/family
- Communication in case of emergency/disasters
- Disclosure of an adverse event
- Managing an angry employee
- Handling patient-staff argument etc.

The protocols for these situations should include the following points though can be customized according to situations. Below is an example of Breaking Bad news.

- Who is the responsible person to handle it (the concerned treating consultant should be the one to disclose and not the junior doctors)
- What preparation should he have before (The doctor should have enough time, have a room where serious conversation can happen, know about the patient and relevant investigations, have sufficient knowledge about further plan, have an experienced nurse along to help the patient to deal with the emotions)
- Where to do the breaking bad news (Not on corridors, but in a comfortable confidential room)
- How to break the bad news(Assessing patient knowledge about illness, knowing the background information, and gently but unambiguously breaking the bad news without medical jargon)
- Plan (Further plans, curative, palliation, support etc)

This is just a very sketchy example of breaking bad news protocol. Similarly organisation should have protocols for different scenarios.

Communication barriers:

There are many barriers to effective communication. Many are internal barriers like fatigue, lack of interest and motivation, type of patients etc which need to be identified and handled by each healthcare professional. But one of the major communication barriers in this vast country is language. So the organisation should identify staff who can act as interpreters in case of need for a particular language, to help in the patient interaction and counselling. It is also necessary to identify patients with speech and hearing disability so that they can be appropriately counselled.

Unacceptable behaviour:

Unacceptable behaviour is the behaviour of a staff which is worse than the minimum expectation a patient or management would have about the staff. These types of behaviours will make the patient unhappy and the hospital to lose its patient base. So it is the responsibility of the management to identify such unacceptable behaviours. The management also should ensure a disciplinary action is taken against staff displaying unacceptable behaviour. List of unacceptable behaviour is exhaustive, but at least the common indicative list as below should be made public to the staff.

- Alcohol and smoking at workplace
- Abusing a patient
- Inappropriate behaviour with women
- Employees fighting in the corridors
- Disrespect to any religion
- Any behaviour violating the patient right
- Talking bad about professional colleagues of same or different specialty
- Talking bad about alternate approved system of medicine
- Corruption etc.

Monitoring effective communication:

With the help of patient feedbacks, complaints and analysis of incidents the issues which are communication related should be identified as this forms the major portion of root cause. Then appropriate dissemination of information in the form of training to concerned personnel should be given as a preventive action. Other ways of capturing information about communication are direct observations by peers and getting communication specific feedbacks from stakeholders.

Training on communication:

Communication in spite of being an important determinant of patient safety and satisfaction is not a part of healthcare curriculum. So the hospital aspiring for best quality should make an effort to train its staff in healthcare communication. The training requirements for each group of staff vary. As a first step, a group of internal trainers should be identified who can develop some relevant resources and train the others. The training can happen in the form of group discussions, role-plays, role modelling, videos etc. Communication training for front office staff can be some good etiquette to make the patient feel comfortable and welcome.

Communication is the back bone of healthcare communication and strategically the organisation has to plan regarding educating, monitoring and learning constantly the “good communication practices”.

Material for further reading:

1. Alexander Thomas. Communicate. care. cure - A guide to healthcare communication. 2nd ed. Wolters Kluwer and Bangalore Baptist Hospital;2015
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Annexure - 3

Clinical Audit

A write-up for carrying out clinical audit is given below for comprehending the process of auditing of the healthcare services. The text has been simplified so as to explain all aspects of the subject without compromising the basic tenants of the audit.

What is audit?

It is the process of reviewing of delivery of care to identify deficiencies so that they may be remedied.

What is clinical audit (CA)?

It may be defined as peer review for evaluation of medical care through retrospective and concurrent analysis of medical record.

What is the primary aim of CA?

To improve the quality of healthcare services rendered to the patients.

Who will carry out CA?

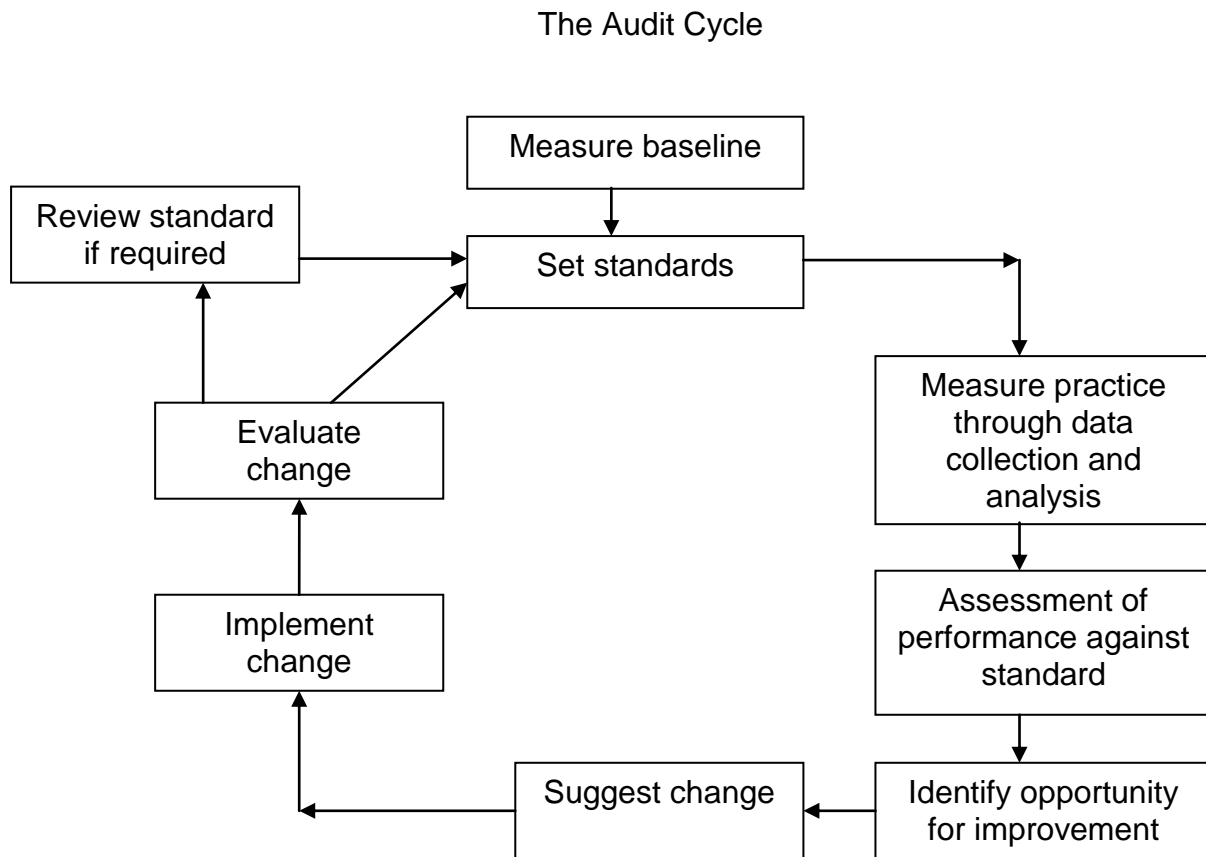
Clinical Audit Committee

- MS/Coordinator/Hospital Administrator
- Representatives of all disciplines

What are the prerequisites?

- Good record-keeping system
- Should be carried out by fair and impartial professionals
- Clinicians, nursing and other staff as well as patient anonymity to be maintained
- Purpose should be simple and clearly stated
- Intention should be to effect change for the better

How to audit?



Methodology

1. Selection of Topic

- a. Should be common because it is common or high risk or bears high cost.
- b. Should be having local clinical concern or known wide variance in clinical practice.
- c. Topic should be well defined, focused and amenable to standard setting.

Some topics

- a. Specific disease/specific operations
- b. Increase incidence of a disease
- c. Post Panchakarma therapy/treatment procedure or Post-operative infection / complications

2. Setting of standard

- a. To be set prior to the study
- b. Criteria to be based on objective measures

Criterion is an item of care or sure aspect of care that can be used to assess quality. It is a written statement. For example, all patients requiring urgent appointment will be seen that day only.

- c. Criteria should be well justified.
- d. Target should be set at realistic level for defined patient groups and take into account local circumstances.

A target describes the level of care to be achieved for any particular criteria. For example.

- i. 98 per cent of patients requesting for urgent appointment will be seen on that day.

Example of Criteria and Target Applicable to Structure, Process and Outcome Variables

	Structure	Process	Outcome
Criteria	Staffing of Panchakarma Theatre	Monitoring during Panchakarma procedure	Vyapaths
Target	Not < 2 therapists per treatment room	Not < 90 per cent of the procedures done	Not to exceed 0.1 per cent for specified procedures

- e. Objective criteria are explicit but clinical judgment can be used to answer the question: "Was the management of this case satisfactory"? This is an implicit criterion.
- f. Use of explicit criteria should be preferred. The problem with implicit criteria is that important deficiencies in care may be overlooked and rates may differ in their assessments of the acceptability of management.

3. Worksheet preparation and methodology of administration

- a. Simplest for the purpose
- b. Only essential data is collected
- c. Suitable sample size is to be selected
- d. Probability of bias is to be considered
 - i. Non-response to a survey
 - ii. Unavailability of certain type of case note
 - iii. Selective referral of certain types of patients

iv. Failure of patient to turn up for follow up

4. Tabulation of evaluation

5. Interpretations

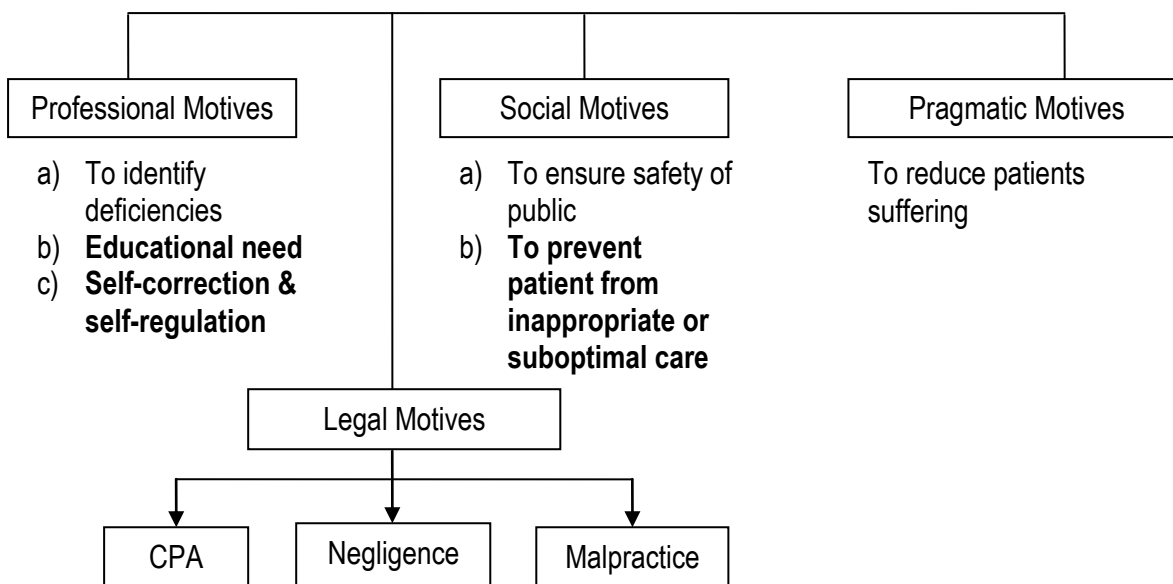
- a. Deficiency of care recognised
- b. Specific solutions are proposed. They may not be possible every time.
- c. Education impact is appreciated
- d. Planned programme for change
- e. All staff is involved
- f. Active feedback
- g. Audit is evaluated

Q) What are the motives for doing audit?

They can be broadly categorised as under:

- Professional
- Social
- Pragmatic
- Legal

A diagrammatic representation of the motives is given below



Conclusion:

Audit appears deceptively simple. Current care is observed so that it can be compared with standards and the necessary changes in patient care are implemented.

Once audit is understood and planned, it is one of the best ways to check quality of care being rendered, to bring about changes for improving care, to improve patient and employee satisfaction and for professional development.

Annexure - 4

Revised Guidelines for Air Conditioning in Operation Theatres

Air Conditioning in OT

- A. The air conditioning requirements for Operation Theatre in a HCO have been deliberated at length with manufacturers, engineers, technical committee members and other stake holders and the following guidelines have been finalized.
- B. For this purpose operation theatres have been divided into groups:
1. **Super specialty OT:** Super specialty OT means operation theatres for Neurosciences, Orthopaedics (Joint Replacement), Cardiothoracic and Transplant Surgery (Renal, Liver etc.).
 2. **General OT:** This includes operation theatres for Ophthalmology, District hospital OTs, FRU OT and all other basic surgical disciplines.
 3. **Day care centre:** Day surgery is the admission of selected patients to hospital for a planned surgical procedure, returning home on the same day, would fall under the category of general OT.
- C. The following basic assumptions have been kept in view:
- **Occupancy:** Standard occupancy of **5-8** persons at any given point of time inside the OT is considered.
 - **Equipment Load:** Standard equipment load of **5-7 kW** and lighting load of **1 kW** to be considered per OT. For super speciality OT the equipment load can be taken as **7 – 9KW**.
 - **Ambient temperature & humidity at each location** to be considered while designing the system.

REQUIREMENTS – Super Specialty OT

1. Air Changes Per Hour:

- Minimum total air changes should be **20** based on international guidelines although the same will vary with biological load and the location.
- The fresh air component of the air change is required to be minimum **4** air changes out of total minimum **20** air changes.
- **100 %** outdoor ventilation air systems are not mandatory. If HCO chooses to have 100% fresh air system than appropriate energy saving devices like heat recovery wheel, run around pipes etc. should be installed.
- The supply & return air ducts must be of non-corrosive material.
- No internal insulation or acoustic lining must be done on ducts as they can become breeding grounds.

2. Air Velocity:

- The vertical down flow of air coming out of the diffusers should be able to carry bacteria carrying particle load away from the operating table. The airflow needs to be unidirectional and downwards on the OT table. The air face velocity of **25-35 FPM** (feet per minute) from non-aspirating unidirectional laminar flow diffuser/ceiling array is recommended.
- **Positive Pressure:** There is a requirement to maintain positive pressure differential between OT and adjoining areas to prevent outside air entry into OT. Positive pressure will be maintained in OT at all times (operational & non-operational hours)
- Laminar flow boxes/diffusers should be installed in the OT for supplying majority air and also majority return air should be picked up **75-150 mm** above floor level.

3. The minimum **positive pressure** recommended is **2.5 Pascal** (0.01 inches of water)
4. **Outdoor Air intakes:** The location of outdoor air intake for an AHU must not be located near potential contaminated sources like DG exhaust hoods, lab exhaust vents, vehicle parking area.
5. **Air handling in the OT including air Quality:** Air is supplied through Terminal HEPA (High-efficiency particulate arrestance) filters in the ceiling. The HEPA can be at AHU level if it not feasible at terminal level inside OT. The minimum size of the filtration area should extend one foot (i.e. 304.8 millimetres) on each side of the OT table to cover the entire OT table and surgical team. The minimum supply air volume to the OT (in cubic feet per minutes CFM) should be compliant with the desired minimum air change. Air quality at the supply i.e. at grille level should be Class 100/ ISO Class 5 (at rest condition).

Note: Class 100 means a cubic foot of air should not have more than 100 particles measuring more than 0.5 microns or larger.

6. **Air Filtration:** The AHU (i.e. air handling unit) must be an air purification unit and air filtration unit. There must be two sets of washable flange type filters of efficiency 90% down to **10 microns** and 99% down to **5 microns** with aluminium/ SS 304 frame within the AHU. The necessary service panels to be provided for servicing the filters, motors & blowers. HEPA filters of efficiency 99.97% down to **0.3 microns** or higher efficiency are to be provided.
7. **Temp & RH for Super-specialty OT:** It should be maintained **21 C +/- 3 C** (except for Ortho for Joints replacement as **18 C +/-2 C**) with corresponding relative humidity between **20 to 60%** though the ideal RH is considered to be **55%**. Appropriate devices to monitor and display these conditions inside the OT may be installed.

REQUIREMENTS – General OT

1. Air Change Per Hour:

- Minimum total air changes should be **20** based on international guidelines although the same will vary with biological load and the location.
- The fresh air component of the air change is required to be minimum **4** air changes out of total minimum **20** air changes.

2. Air Velocity: should be same as per previous guide.

3. Positive Pressure: There is a requirement to maintain positive pressure differential between OT and adjoining areas to prevent outside air entry into OT. The minimum positive pressure recommended is **2.5** Pascal (0.01 inches of water).

4. Air handling/Filtration: It should be same as previous. When not possible, the OTs should be well ventilated with **2** levels of filtrations with efficiencies as specified previously (**pre** and **micro vee** filters should be in position at the AHU).

The air quality at the supply i.e. at grille level should be Class 1000/ ISO Class 6 (at rest condition).

Note: Class 1000 means a cubic foot of air must have no more than 1000 particles measuring 0.5 microns or larger.

5. Temperature and Humidity: The temperature should be maintained at **21C +/- 3 Deg C** inside the OT all the time with corresponding relative humidity between **20 to 60%**. Appropriate devices to monitor and display these conditions inside the OT may be installed.

Design considerations for Planning New Operation Theatres

OT Construction:

- a) The AHU of each OT should be **dedicated one** and should not be linked to air conditioning of any other area for all OT constructed.
- b) Window & split A/c **should not** be used in any type of OT because they are pure re circulating units and have convenient pockets for microbial growth which cannot be sealed.
- c) Paint- antibacterial, anti-fungal
- d) OT door – automatic/ Hermitically Sealed/Touch free (preferable)

- e) General Lights – Clean room lights
- f) Provision of safety against static charge.
- g) Separate power circuit for equipment like Laser.
- h) The anti-static flooring, walls and ceiling should be non-porous, smooth, seamless without corners (coving) and should be easily cleanable repeatedly. The material should be chosen accordingly. Anti-static Flooring – seamless, including skirting, should not be of porous stone as it absorbs moisture and could be a source of bio-burden.

Maintenance of the system

- During the non-functional hours AHU blower will be operational round the clock (may be without temperature control). Variable frequency devices (VFD) may be used to conserve energy. Air changes can be reduced to 25% during non-operating hours thru VFD provided positive pressure relationship is not disturbed during such period.
- **Validation of system** to be done as per ISO 14644 standards and should include:
 - ✓ Temperature and Humidity check
 - ✓ Air particulate count
 - ✓ Air Change Rate Calculation
 - ✓ Air velocity at outlet of terminal filtration unit /filters
 - ✓ Pressure Differential levels of the OT wrto ambient / adjoining areas
 - ✓ Validation of HEPA Filters by appropriate tests like **DOP** (Dispersed Oil Particulate) /**POA** (Poly Alpha Olefin) etc.; repeat after **6 month** in case HEPA found healthy.
- **Preventive Maintenance** of the system: It is recommended that periodic preventive maintenance be carried out in terms of cleaning of pre filters, micro vee at the interval of **15 days**. Preventive maintenance of all the parts of AHU is carried out as per manufacturer recommendations.

References

1. American Society of Heating, Refrigerating and Air Conditioning Engineers (ASHRAE) Standards. Ventilation for Indoor Air Quality. 2013
2. Previous NABH guidelines for air conditioning in operation theatre
3. Discussion by NABH TC & AC team on 25th April 2015.

ASSESSORS CHECKLIST DURING NABH AUDIT

1. To check the temperature, humidity inside OT.
2. The differential pressure inside & outside OT.
3. Maintenance record of AHU & filter cleaning frequency.
4. Last HEPA filtration report & HEPA validation report.
5. Is Air-conditioning done through split AC or AHU?

Annexure - 5

Sentinel Events

Definition:

An unexpected incident, related to system or process deficiencies, which leads to death or major and enduring loss of function* for a recipient of healthcare services.

Major and enduring loss of function refers to sensory, motor, physiological, or psychological impairment not present at the time services were sought or begun. The impairment lasts for a minimum period of two weeks and is not related to an underlying condition.

Event type description

1. Surgical events

- Surgery performed on the wrong body part
- Surgery performed on the wrong patient
- Wrong surgical procedure performed on the wrong patient
- Retained instruments in patient discovered after surgery/procedure
- Patient death during or immediately post-surgical procedure
- Anesthesia-related event

2. Device or product events Patient death or serious disability associated with:

- the use of contaminated drugs, devices, products supplied by the organisation
- the use or function of a device in a manner other than the device's intended use
- the failure or breakdown of a device or medical equipment
- intravascular air embolism

3. Patient protection events

- Discharge of an infant to the wrong person

- Patient death or serious disability associated with elopement from the healthcare facility
- Patient suicide, attempted suicide, or deliberate self-harm resulting in serious disability
- Intentional injury to a patient by a staff member, another patient, visitor, or other
- Any incident in which a line designated for oxygen or other came to be delivered to a patient and contains the wrong gas or is contaminated by toxic substances
- Nosocomial infection or disease causing patient death or serious disability

4. Environmental events

Patient death or serious disability while being cared for in a healthcare facility associated with:

- a burn incurred from any source
- a slip, trip, or fall
- an electric shock
- the use of restraints or bedrails

5. Care management events

- Patient death or serious disability associated with a hemolytic reaction due to the administration of ABO-incompatible blood or blood products
- Maternal death or serious disability associated with labour or delivery in a low-risk pregnancy
- Medication error leading to the death or serious disability of patient due to incorrect administration of drugs, for example:
 - omission error
 - dosage error
 - dose-preparation error
 - wrong-time error
 - wrong rate of administration error
 - wrong administrative technique error

- wrong-patient error
- Patient death or serious disability associated with an avoidable delay in treatment or response to abnormal test results

6. Criminal events

- Any instance of care ordered by or provided by an individual impersonating a clinical member of staff
- Abduction of a patient
- Sexual assault on a patient within or on the grounds of the healthcare facility
- Death or significant injury of a patient or staff member resulting from a physical assault or other crime that occurs within or on the grounds of the healthcare facility.

Annexure - 6

Patient Responsibilities (Indicative Guide)

Patient Responsibilities (Indicative Guide)

- Provide complete and accurate information about his/her health, including present condition, past illnesses, hospitalisations, medications, natural products and vitamins, and any other matters that pertain to his/her health.
- Provide complete and accurate information including full name, address and other information.
- To ask questions when he/she does not understand what the doctor or other member of the healthcare team tells about diagnosis or treatment. He/she should also inform the doctor if he/she anticipates problems in following prescribed treatment or considering alternative therapies.
- Abide by all hospital rules and regulations.
 - Comply with the no-smoking policy.
 - Comply with the visitor policies to ensure the rights and comfort of all patients. Be considerate of noise levels, privacy, and safety. Weapons are prohibited on premises.
 - Treat hospital staff, other patients, and visitors with courtesy and respect.
- To be on time in case of appointments. To cancel or reschedule as far in advance as possible in case of cancellation or rescheduling of the appointments.
- Not to give medication prescribed for him/her to others.
- Provide complete and accurate information for insurance claims and work with the hospital and physician billing offices to make payment arrangements.
- To communicate with the healthcare provider if his/her condition worsens or does not follow the expected course.
- To pay for services billed for in a timely manner as per the hospital policies.
- To respect that some other patient's medical condition may be more urgent than yours and accept that your doctor may need to attend them first.

- To respect that admitted patient and patients requiring emergency care take priority for your doctor.
- To follow the prescribed treatment plan and carefully comply with the instructions given.
- To accept, where applicable, adaptations to the environment to ensure a safe and secure stay in hospital.
- To accept the measures taken by the hospital to ensure personal privacy and confidentiality of medical records.
- To attend follow-up appointment as requested.
- Not to take any medications without the knowledge of doctor and healthcare professionals.
- To provide correct and truthful history.
- To understand the charter of rights and seek clarification, if any.

Annexure - 7

Key Performance Indicators

In the last years, performance has become a well-known term in the health services. Performance represents the extent to which set objectives are accomplished. The concept of performance in health services represents an instrument for bringing quality, efficiency and efficacy together. Consequently, the concept of performance is a multidimensional one, covering various aspects, such as: evidence-based practice (EBD), continuity and integration in healthcare services, health promotion, orientation towards the needs and expectation of patients.

Generally speaking, the mission of any hospital is to provide specific health services, which can solve the patients' health problems (efficacy) in the best manner (quality) and in the most economical way possible (efficiency). Key Performance Indicators (KPIs) help to systematically monitor, evaluate, and continuously improve service performance. In and of themselves, KPIs cannot improve performance. However, they do provide "signposts" that signal progress toward goals and objectives as well as opportunities for improvement.

Well-designed KPIs should help health sector decision makers to do a number of things, including:

- Establish baseline information (i.e., the current state of performance)
- Set performance standards and targets to motivate continuous improvement
- Measure and report improvements over time
- Compare performance across geographic locations
- Benchmark performance against regional and international peers or norms
- Allow stakeholders to independently judge health sector performance.

There are several main dimensions most frequently used to measure hospitals' performance viz Clinical efficiency (Clinical quality, evidence-based practices, health improvement and outcomes for individual and patients), Operational efficiency (Resource utilisation of services like reduction in waiting time or improvement in non-

productive OT time and provision of state-of-the-art medical equipment and technique), Personnel (Satisfying the human resources needs, providing proper conditions to keep the health of the hospital personnel safe and also to improve it, ensuring fair opportunities for continuous medical education), Social accountability and reactivity (Orientation towards community- response to needs and requirements, health promotion with abilities to adapt to increasing demands of the population) , Safety (for Patients, Healthcare worker and facility) and Focus on patient (Availability of services in accordance to scope towards patients, focusing on the patient and attendants, patient's satisfaction and patient's experience involving dignity, confidentiality, autonomy, communication).

Donabedian et al introduced a concept of key performance indicators being seen as structure, process and outcome based. NABH in its 2nd edition has 62 key performance indicators. Most of the indicators in hospitals are process based indicators with an intent that quality delivery and outcome improves.

Healthcare organizations are encouraged to capture all data which involves clinical and support services. The data needs to be analyzed and risks, rates and trends for all the indicators have to be demonstrated for appropriate action. The HCOs can gather data based on the sample size (Guidance tool: Table 1) and mode of data collection can be divided in three categories:

- a) Continuous
- b) Periodic (monthly)
- c) Periodic (quarterly)

The intent of the NABH KPIs is to have comprehensive involvement of scope of services for which an institution has applied for the accreditation program. Standardized definitions (Annexure 9) for each indicator along with numerator and denominator have been explained. Each HCO can have the data set, analyze the data and appropriate correction, corrective and preventive action can be formulated. In the 4th edition, an effort has been made to participate towards national programs and evolving databases.

Few essential health indicators like infant mortality, maternal mortality etc have been included as KPIs for regular reporting.

Each institution can also design their own methodology of data collection but a broad guidance note has been given to facilitate organization's compliance.

Suggested minimum sample size to be taken for various audits and KPIs as applicable. (Table at the end).

Annexure - 8

The Key Performance Indicators Expected to be Monitored by Healthcare Organisation

The Key performance indicators expected to be monitored by healthcare organisation

Sl. No	Standard	Indicator	Definition	Formula	Frequency of Data Collection / Monitoring*	Remarks**
1.	CQI 3a	Time for initial assessment of in-patient and emergency patients	<p>The time shall begin from the time that the patient has arrived at the bed of the ward till the time that the initial assessment has been completed by a doctor.</p> <p>In case of emergency the time shall begin from the time the patient has come to the door of the emergency till the time that the initial assessment is completed by a doctor.</p>	<p>Sum of time taken for the assessment</p> <hr/> <p>Total number of in-patients and emergency patients</p>		<p>The average time should be reviewed by the hospital, to see if this has impacted clinical care, outcome, or has reduced the efficiency.</p> <p><i>The outliers:</i> those taking more than 20% of the average time shall be audited.</p> <p>The hospital will make efforts to keep this measure at low levels, and track trends in times of increased patient flows.</p>

2.		<p>Percentage of cases (in-patients) wherein care plan with desired outcomes is documented and counter-signed by the clinician.</p>	<p>Desired outcome includes preventive, curative, rehabilitative etc.</p>	<p>Number of in-patient case records wherein the care plan with desired outcomes has been documented</p> <hr/> <p>Total number of patients X 100</p>		<p>The indicator shall be captured during the stay of the patient and not from the medical record department. It shall be collated on a monthly basis. The sampling base shall be patients who have completed 24 hours of stay in the hospital.</p> <p>However, immediate correction is to be initiated, when gaps are seen on a real time basis.</p>
3.		<p>Percentage of cases (in-patients) wherein the treatment plan is documented.</p>	<p>Treatment outcomes include that of Panchakarma treatments, Treatment procedures, Parasurgical procedures etc</p>	<p>Number of in-patient case records wherein treatment outcome is documented</p> <hr/> <p>Total number of patients X 100</p>		<p>The indicator shall be captured during the stay of the patient and not from the medical record department. It shall be collated on a monthly basis. The sampling base shall be patients who have completed 24 hours of stay in the hospital.</p> <p>However, immediate correction is to be initiated, when gaps are seen on a real time basis.</p>

4.	CQI 3b	Number of reporting errors/1000 investigations	Reporting errors include those picked up before and after dispatch. It shall include transcription errors.	$\frac{\text{Number of reporting errors}}{\text{Number of tests performed}} \times 1000$	continuous	<p>This shall be captured in the laboratory and radiology.</p> <p>Although the indicator is capture don a monthly basis, immediate correction is to be initiated when such instances happen.</p>
5.		Percentage of re-dos.	This shall also include tests repeated before release of the result (to confirm the finding).	$\frac{\text{Number of re-dos}}{\text{Number of tests performed}} \times 100$	continuous	This shall be captured in the laboratory and radiology
6.		Percentage of reports co-relating with clinical diagnosis.	Co-relation means that the test results should match either the diagnosis or differential diagnosis written in the requisition form.	$\frac{\text{Number of reports co-relating with clinical diagnosis}}{\text{Number of tests performed}} \times 100$	Refer to sample size table/Annexure	This shall be captured in the laboratory (at least histo-pathology) and radiology (at least CT and MRI).
7.		Percentage of adherence to safety		$\frac{\text{Number of employees adhering to safety precautions}}{\text{Number of employees}} \times 100$	Refer to sample size table/Annexure	This shall be captured in the laboratory and radiology.

		precautions by employees working in diagnostics.		Number of employees sampled	re	<p>This shall be captured by doing an audit on a monthly basis.</p> <p>Even if the employee is not adhering with any one of the organisation's/statutory safety precautions it shall be considered as non-adherence.</p>
8.	CQI 3c	Incidence of medication	A medication error is any preventable event	Total number of medication errors X 100	Refer to sample size	In addition to incident reporting, to detect

		<p>errors (Medication errors per patient days)</p>	<p>that may cause or lead to inappropriate medication use or harm to a patient (US-FDA). Examples include, but are not limited to:</p> <ul style="list-style-type: none"> • Errors in the prescribing, transcribing, dispensing, administering, and monitoring of medications; • Wrong drug, wrong strength, or wrong dose errors; • Wrong patient errors; • Wrong route of administration errors; and • Calculation or preparation errors. 	<p>Number of patient days</p>	<p>table/Annexure</p>	<p>medication errors the organisation shall either adopt medical record review or direct observation. The sample size for this shall be as per the preceding column. The average occupancy shall be of the preceding 3 months. Medication Error is to be calculated only in IP. OP calculations are beyond the scope.</p>
9.		<p>Percentage of admissions</p>	<p>Refer to glossary</p>	<p>Number of adverse drug reactions X 100</p>	<p>Continuous</p>	

		with adverse drug reaction (s)		Number of discharges and deaths		
10.		Percentage of medication charts with error prone abbreviations	Medication chart with illegible handwriting and un accepted error prone abbreviations	$\frac{\text{Number of medication charts with error prone abbreviations}}{\text{Number of medication charts reviewed}} \times 100$	Refer to sample size table/Annexure	This could be clubbed with the activity for capturing medication errors.
11.		Percentage of patients receiving high alert medications developing adverse drug event.	High risk medications are medications involved in a high percentage of medication errors or sentinel events and medications that carry a high risk for abuse, error, or other adverse outcomes.	$\frac{\text{Number of patients receiving high alert medications who have an adverse drug event}}{\text{Number of patients receiving high alert medications}} \times 100$	Continuous	The denominator can be captured from the pharmacy by having a master list of in-patients who have been dispensed high-alert medications.
12.	CQI 3 e	Urinary tract infection rate		$\frac{\text{Number of urinary catheter associated UTIs in a month}}{\text{Number of urinary catheter days in that month}} \times 100$	continuous	
13.		Basti infection rate		Number of Basti Associated infections in a month	continuous	

				Number of basti days in that month	X 100	
14.		Para-surgical site infection rate		Number of Para-surgical site infections in a month	X 100	continuous
				Number of Parasurgeries in that month		
15.	CQI 3 f	Percentage of re-scheduling of parasurgical procedure	Re-scheduling of patients includes cancellation and postponement (beyond 4 hours) of the procedure.	Number of cases re-scheduled	X 100	continuous
				Number of surgeries performed in that month		
16.		Percentage of cases where the		Number of cases where the procedure was followed	X 100	Not applicable
						This could be checked in the post-op/recovery room and documented

		organisation's procedure to prevent adverse events like wrong site, wrong patient and wrong procedure have been adhered to		Number of procedure performed in that month		in a register/system.
17.	CQI 3 g	Percentage of re-scheduling of Panchakarma therapies/ Treatment procedure	Re-scheduling of patients includes cancellation and postponement (beyond 4 hours) of the Panchakarma therapy/ Treatment procedure.	$\frac{\text{Number of cases re-scheduled}}{\text{Number of Panchakarma/ treatment procedure performed}} \times 100$	Not applicable	
18.		Percentage of cases where the organisation's procedure to prevent adverse events like wrong site,		$\frac{\text{Number of cases where the procedure was not followed}}{\text{Number of Panchakarma therapies and treatment procedures performed}} \times 100$	Not applicable	This could be checked in the Panchakarma treatment record/ treatment procedure record and documented in the register/system.

		wrong patient and wrong procedure have been adhered to				
19.	CQI 3 h	Percentage of research activities approved by Ethics committee		$\frac{\text{Number of research activities approved by ethics committee}}{\text{Number of research protocols submitted to ethics committee}} \times 100$	Continuous	This indicator shall be captured on a quarterly basis.
20.		Percentage of patients withdrawing from the study		$\frac{\text{Number of patients who have withdrawn from all on-going studies}}{\text{Number of patients enrolled in all on-going studies}} \times 100$	Continuous	This indicator shall be captured on a quarterly basis.
21.		Percentage of protocol violations/		Number of protocol violations/ deviations reported	Continuous	This indicator shall be captured on a quarterly basis.

		deviations reported		Number of protocol violations/ deviations that have occurred	X 100		Any protocol violation/ deviation that gets reported based on an internal/external assessment finding shall be considered as deemed to have happened but not reported. Hence, even though it gets reported it shall be included to only calculate the denominator and shall not be included in the numerator.
22.		Percentage of serious adverse events (which have occurred in the organisation) reported to the ethics committee within the defined timeframe.	The timeframe for reporting shall be as per ICMR guidelines or as laid down by the sponsor. As per ICMR guidelines, within the defined timeframe is the most essential which is 24hrs and sponsored trial expresses timeframe as 3 days.	Number of serious adverse events reported within the defined timeframe		Continuous	This indicator shall be captured on a quarterly basis.
				Number of serious adverse events reported within and outside the defined timeframe	X 100		
23.	CQI 4a	Percentage of drugs and consumables	These include drugs and consumables which are not included	Number of items purchased by local purchase		Continuous	This includes medicines or consumables which were used by the

		procured by local purchase	in the hospital formulary at the time of prescription, but are then arranged by the hospital pharmacy itself for the patient with in a short time.	Number of drugs listed in hospital formulary and hospital consumables list $\times 100$		patients before admission and need to continue but it is not included in the hospital list (generic). To capture this, organisation should maintain a register in the pharmacy and stores (and also if necessary in the wards) wherein all such events are captured.
24.		Percentage of stock outs including emergency drugs	A stock out is an event which occurs when an item in a pharmacy or consumable store is temporarily unable to provide for an intended patient.	Number of stock outs $\times 100$ Number of drugs listed in hospital formulary and hospital consumables list	Continuous	To capture this, organisation should maintain a register in the pharmacy and stores (and also if necessary in the wards) wherein all such events are captured.
25.		Percentage of drugs and consumables rejected before preparation of Goods Receipt Note	All materials received not in conformity with the specifications and requirements ordered for in the purchase order shall be rejected.	Total quantity rejected $\times 100$ Total quantity received before GRN	Continuous	Please note that the denominator is total quantity and not number. For example, a single order may have 30 items of "X" consumable. Of the 30, 10 may be rejected. In this case the formula will be 10/30.

26.		Percentage of variations from the procurement process	Variations from the written standardised procurement process of acquiring supplies from licensed, authorized, agencies, wholesalers/ distributors.	$\frac{\text{Total number of variations from the defined procurement process}}{\text{Total number of items procured}} \times 100$	Continuous	
27.	CQI 4b	Number of variations observed in mock drills	Mock drill is a simulation exercise of preparedness for any type of event. It could be event or disaster. This is basically a dry run or preparedness drill. For example, fire mock drill, disaster drill, Code Blue Drill.	Total number of variations in a mock drill	Continuous	To capture the variation it is suggested that every organisation develop a checklist to capture the events during a mock drill.
28.		Incidence of	The US Department of	$\frac{\text{Number of falls}}{\text{Total number of items procured}} \times 100$	Continuous	Falls may be:

		falls	<p>Veteran Affairs National Centre for Patient Safety defines fall as</p> <p>“Loss of upright position that results in landing on the floor, ground or an object or furniture or a sudden, uncontrolled, unintentional, non-purposeful, downward displacement of the body to the floor/ground or hitting another object like a chair or stair.”</p> <p>It is an event that results in a person coming to rest inadvertently on the ground or floor or other lower level.</p>	Total number of patient days		<ul style="list-style-type: none"> • at different levels – i.e., from one level to ground level e.g. from beds, wheelchairs or down stairs • on the same level as a result of slipping, tripping, or stumbling, or from a collision, pushing, or shoving, by or with another person • below ground level, i.e. into a hole or other opening in surface <p>All types of falls are to be included whether they result from physiological reasons (fainting) or environmental reasons. Assisted falls (when another person attempts to minimize the impact of the fall by assisting the patient’s descent to the floor) should be included. (NDNQI, 2005)</p>
29.		Incidence of bed sores after admission	A pressure ulcer is localized injury to the skin and/or underlying tissue usually over a	Number of patients who develop new /worsening of pressure ulcer	Continuous	The organisation shall use The European and US National Pressure Ulcer Advisory panels

		(Bed sores per 1000 patient days)	bony prominence, as a result of pressure, or pressure in combination with shear and/or friction.	Total no. of patient days	X 1000		(EPUAP and NPUAP) staging system to look for worsening pressure ulcers.
30.		Incidence of burn injury during treatment procedures		Number of patients with burn injury		Continuous	
				Number of patients receiving treatment procedures that include heat application	X100		
31.		Percentage of employees provided pre-exposure prophylaxis	Pre-exposure prophylaxis is any medical or public health procedure used before exposure to the disease causing agent, its purpose is to prevent, rather than treat or cure a disease. (Wikipedia)	Number of employees who were provided pre-exposure prophylaxis		Continuous	This shall include at a minimum prophylaxis against Hepatitis B. The denominator shall include new employees (working in patient care areas) and existing employees whose booster dose is due in that month.
				Number of employees who were due to be provided pre-exposure prophylaxis	X 100		
32.	CQI 4 d	Bed occupancy rate and	The bed occupancy rate is the percentage of official beds	Number of inpatient days in a given month	X 100	Continuous	For a bed to be included in the official count, it must be set up, staffed,

		average length of stay	occupied by hospital inpatients for a given period of time. – (Basic statistics for health information management technology By Carol E. Osborn) The occupancy rate is a calculation used to show the actual utilisation of an inpatient health facility for a given time period.	Number of available bed days in that month		equipped and available for patient care. <i>Inpatient Days:</i> A patient day is the unit of measure denoting lodging provided and services rendered to inpatients between the census taking hours (usually at midnight) of two successive days. A patient formally admitted who is discharged or dies on the same day is counted as one patient day, regardless of the number of hours the patient occupies a hospital bed. For patients switched from observation to inpatient status, the patient day count should begin on the day the patient was officially admitted as an inpatient.
			Length of stay (LOS) is a term used to measure the duration of a single episode of hospitalization. Inpatient days are calculated by	Number of inpatient days in a given month Number of discharges and deaths in that month	Continuous	<i>Available bed days-</i> It is the product of number of inpatient beds and number of days in that month. <i>Number of inpatient</i>

			subtracting day of admission from day of discharge. However, persons entering and leaving a hospital on the same day have a length of stay of one			<p>days-It is a sum of daily inpatient census.</p> <p>While calculating the overall length of stay and available number of inpatient beds, emergency, rehabilitation and day care beds should not be considered.</p>
33.	Panchakarm a theatre, treatment procedure room and OT utilisation rate	<p>Utilisation is defined as the quotient of hours of OT time actually used during elective resource hours and the total number of elective resource hours available for use.</p> <p>The degree of utilisation depicts the average utilisation of beds in per cent. The actual bed occupancy is set in relation to the maximum bed occupancy. The maximum bed capacity is the result of the product of installed beds and the number of calendar days in the reporting year. The actual bed occupancy</p>	<p>Utilisation rate =</p> $\frac{\text{Utilisation time in hours}}{\text{Resource hours}} \times 100$ <p>Equipment utilisation =</p> $\frac{\text{Number of equipment utilized days}}{\text{Equipment days available}} \times 100$ <p>Bed utilisation =</p> $\frac{\text{Number of bed utilized days}}{\text{Total population}}$	Total population	<p>Resource hours - total number of hours scheduled to be available for performance of procedures</p> <p>Equipment days available = Number of equipment X 30 days</p>	

			is the sum of calculation days and occupancy days, because every patient occupies one bed per inpatient day in the facility	Bed days available X 100		
34.		Critical equipment down time	The term downtime is used to refer to periods when a system is unavailable. Downtime or outage duration refers to a period of time that a system fails to provide or perform its primary function	Sum of down time for all critical equipment in hours Patient days X 1000	Continuous	Check list of all equipment should be updated in the unit on daily basis to monitor equipment utilisation and downtime.
35.		Paricharaka-patient ratio for wards		Number of staff Number of beds To be calculated for every shift	Continuous	The HCOs should calculate the staffing patterns separately for the wards. The in-charge/supervisor of the

						<p>area shall not be included for calculating the number of staff.</p> <p>For example, if in the wards there are a total of 15 Paricharakas who work in 3 shifts the numerator will be 5 (15/3) and if there are 15 beds the ratio is 1:3. Similarly for wards.</p>
36.	CQI 4 e	Out patient satisfaction	Patient Satisfaction is defined in terms of the	Average Score achieved	Refer to sample size	The sample shall be derived from repeat

		index	degree to which the patient's expectations are fulfilled. It is an expression of the gap between the expected and perceived characteristics of a service (Lochoro, 2004).	Maximum possible score	X 100	table/Annexure	patients. It is preferable that patients who are coming to the hospital for the first time not be included as it is possible that they would not be in a position to give feedback on some aspects. The organisation could also capture satisfaction for various individual parameters (as laid down in its feedback form). In case the organisation is not capturing an overall feedback but instead only for various parameters, the index shall be calculated by averaging the satisfaction of various parameters.
37.		In patient satisfaction index		Average Score achieved	X 100	Refer to sample size table/Annexure	Refer to remark for out patient satisfaction index.
				Maximum possible score			
38.		Waiting time for services including diagnostics and out-	A waiting time is a length of time which one must wait in order for a specific action to occur, after that action	Sum (Patient-in Time for Consultation/ Procedure - Patient Reporting Time in OPD/Diagnostics)		Continuous	Waiting time for diagnostics is applicable only for out-patients.

		patient consultation	<p>is requested or mandated.</p> <p>Waiting time for diagnostics is the time from which the patient has come to the diagnostic service (requisition form has been presented to the counter) till the time that the test is initiated.</p> <p>Waiting time for out-patient consultation is the time from which the patient has come to the concerned out-patient department (it may or may not be the same time as registration) till the time that the concerned consultant (not the junior doctor/resident) begins the assessment.</p>	<p>Number of patients reported in OPD/ Diagnostics</p>		
39.		Time taken for discharge	Discharge is the process by which a	Sum of time taken for discharge	Continuous	In case patients request additional time to leave

			<p>patient is shifted out from the hospital with all concerned medical summaries after ensuring stability.</p> <p>The discharge process is deemed to have started when the consultant formally approves discharge and ends with the patient leaving the clinical unit.</p>	Number of patients discharged		the clinical unit that shall not be added. The discharge is deemed to have been complete when the formalities for the same have been completed.
40.	CQI 4 f	Employee satisfaction index	Employee satisfaction index is an index to measure satisfaction of employee in an organisation	$\frac{\text{Average Score achieved}}{\text{Maximum possible score}} \times 100$	Refer to sample size table/Annexure	Refer to remark for out-patient satisfaction index. The satisfaction shall be captured from all categories of staff and at least once in six months.
41.		Employee attrition rate	Attrition rate is the percentage of people leaving the organisation.	$\frac{\text{Number of employees who have left in the month}}{\text{Number of employees at the beginning of month} + \text{newly joined staff}} \times 100$	Continuous	
42.		Employee absenteeism rate	Absenteeism in employment law is the state of not being present that occurs	$\frac{\text{Number of employees who are on unauthorised absence}}{\text{Total employees}} \times 100$	Continuous	

			when an employee is absent or not present at work during a normally scheduled work period.	Number of employees		
43.		Percentage of employees who are aware of employee rights, responsibilities and welfare schemes	Employee awareness is the state or condition of being aware; having knowledge; consciousness about employee rights, responsibilities and welfare schemes.	$\frac{\text{Number of employees who are aware of employee rights, responsibilities and welfare schemes}}{\text{Number of employees interviewed}} \times 100$	Refer to sample size table/Annexure	
44.	CQI 4 g	Number of sentinel events reported, collected and analysed within the defined timeframe	Refer to glossary	$\frac{\text{Number of sentinel events analysed within the defined timeframe}}{\text{Number of sentinel events reported,}} \times 100$	Continuous	<p>If there is deviation in either reporting/collecting/analysis it shall not be included in the numerator.</p> <p>Organisations should consider using a portfolio of tools-including incident reporting, medical record review, and analysis of patient claims-to gain a comprehensive picture of sentinel events.</p>
45.		Percentage of near	A near miss is an unplanned event that	$\frac{\text{Number of near misses reported}}{\text{Number of employees}} \times 100$	Continuous	A key to any near miss report is the "lesson

		misses	<p>did not result in injury, illness, or damage – but had the potential to do so.</p> <p>Errors that did not result in patient harm, but could have, can be categorized as near misses.</p>	Number of incident reports		learned". Near miss reporters can describe what they observed of the beginning of the event, and the factors that prevented loss from occurring.
46.		Incidence of blood body fluid exposures	<p>An exposure is when blood, blood components or other potentially infectious materials come in contact with a staff's eyes, mucous membranes, non-intact skin or mouth. (Adopted from Joan Viteri Memorial Clinic "PEP" Post Exposure Prophylaxis)</p>	<p>A. In IPD Areas: $\frac{\text{Number of blood body fluid exposures}}{\text{Number of in-patient days}} \times 1000$</p> <p>B. In OPD Areas $\frac{\text{Number of blood body fluid exposures}}{\text{Number of OPD patient visits}}$</p>	Continuous	<p>All exposures to blood/body fluids should be assessed on a case-by-case basis. Like:</p> <p>Vamna Fluids Basti Fluids Bleeding procedures etc.</p>
47.		Incidence of needle stick	Needle stick injury is a penetrating stab wound	Number of parenteral exposures	Continuous	Parenteral exposure means injury due to any

		injuries	<p>from a needle (or other sharp object) that may result in exposure to blood or other body fluids.</p> <p>Needle stick injuries are wounds caused by needles that accidentally puncture the skin.</p> <p>Needle stick injuries are a hazard for people who work with hypodermic syringes and other needle equipment. These injuries can occur at any time when people use, disassemble, or dispose of needles. When not disposed of properly, needles can become concealed in linen or garbage and injure other workers who encounter them unexpectedly. (Canadian Centre for Occupational Health and Safety)</p>	Number of in-patient days X 100		<p>sharp.</p> <p>All incidences of needle stick injuries should be assessed on a case-by-case basis.</p> <p>Analyze needle stick and other sharps related injuries in the workplace to identify hazards and injury trends. Data from injury reporting should be compiled and assessed to identify:</p> <p>(1) where, how, with what devices, and when injuries are occurring and</p> <p>(2) the groups of health care workers being injured.</p>
48.	CQI 4 h	Percentage of medical records not	A discharge summary is the part of a patient record that summarizes	Number of medical records not having discharge summary X 100	Continuous	Every medical record that comes to the MRD from the clinical unit

		having discharge summary	<p>the reasons for admission, significant clinical findings, procedures performed, treatment rendered, patient's condition on discharge and any specific instructions given to the patient or family (for example follow-up medications).</p> <p>It is a summary of the patient's stay in hospital written by the attending doctor.</p>	Number of discharges and deaths		following the discharge of a patient shall be immediately checked for the presence of discharge summary. If this is not present at this stage it shall be captured as a part of the numerator.
49.		Percentage of medical records having	Consent is the willingness of a patient to undergo examination/	$\frac{\text{Number of medical records having incomplete and/ or improper consent}}{\text{Total number of medical records}} \times 100$	Refer to sample size table/Annexure	

		<p>incomplete and/or improper consent</p>	<p>procedure/ treatment by a health care provider. Informed consent is a type of consent in which the health care provider has a duty to inform his/her patient about the procedure, its potential risk and benefits, alternative procedure with their risk and benefits so as to enable the patient to take an informed decision of his/her health care.</p> <p>If any of the essential element/requirement of consent is missing it shall be considered as incomplete.</p> <p>If any consent obtained is invalid/void (consent obtained from wrong person/consent obtained by wrong person etc.) it is considered as improper.</p>	<p>Number of discharges and deaths</p>		
50.		<p>Percentage of missing</p>	<p>A medical record is considered as missing</p>	<p>Number of missing record X 100</p>	<p>Continuous</p>	<p>Regular checks should be in place to ensure</p>

		records	when the record could not be found out from the MRD after the 72nd hour of the record request.	Number of records		that there are no missing medical records or medical records are filed in the wrong place.
51.	CQI 3 k	Percentage of modification of anaesthesia plan	The anaesthesia plan is the outcome of pre-anaesthesia assessment. Any changes done after this shall be considered as modification of anaesthesia plan.	$\frac{\text{Number of patients in whom the anaesthesia plan was modified}}{\text{Number of patients who underwent anaesthesia}} \times 100$	Continuous	The modification is anaesthesia plan could be captured in a register/system before the patient is shifted out of the OT.
52.		Percentage of unplanned ventilation following anaesthesia		$\frac{\text{Number of patients requiring unplanned ventilation following anaesthesia}}{\text{Number of patients who underwent anaesthesia}} \times 100$	Continuous	Every anaesthesia plan shall invariably mention if there is a possibility of the patient requiring ventilation following anaesthesia. Every case wherein a patient required ventilation but this was not captured in the anaesthesia plan shall be a part of the numerator.
53.		Percentage of adverse anaesthesia events	Adverse anaesthesia event is any untoward medical occurrence that may present during	$\frac{\text{Number of patients who developed adverse anaesthesia event}}{\text{Number of patients who underwent anaesthesia}} \times 100$	Continuous	

			treatment with an anaesthetic product but which does not necessarily have a causal relationship with this treatment.	Number of patients who underwent anaesthesia		
54.		Anaesthesia related mortality rate	Any death where the cause is possible, probable (likely) or certain to be due to anaesthesia shall be included.	$\frac{\text{Number of patients who died due to anaesthesia}}{\text{Number of patients who underwent anaesthesia}} \times 100$	Continuous	
55.	CQI 3e	Percentage of unplanned return to OT		$\frac{\text{Number of unplanned return to OT}}{\text{Number of patients operated}} \times 100$	Continuous	
56.		Percentage of re-scheduling of surgeries	Re-scheduling of patients includes cancellation and postponement (beyond 4 hours) of the surgery.	$\frac{\text{Number of cases re-scheduled}}{\text{Number of surgeries planned}} \times 100$	Continuous	
57.		Percentage of cases where the		$\frac{\text{Number of cases where the procedure was followed}}{\text{Number of cases}} \times 100$	Not applicable	This could be checked in the post-op/recovery room and documented

		organisation's procedure to prevent adverse events like wrong site, wrong patient and wrong surgery have been adhered to		Number of surgeries performed		in a register/system.
58.		Percentage of cases who received appropriate prophylactic antibiotics within the specified time frame		$\frac{\text{Number of patients who did receive appropriate prophylactic antibiotic (s)}}{\text{Number of surgeries performed}} \times 100$	Continuous	<p>It is equally important that the antibiotic should have been given not more than two hours prior to the incision.</p> <p>This indicator could be captured in a register/system before the patient enters the OT.</p> <p>Appropriate prophylactic antibiotic should be according to hospital policy.</p>
59.	CQI 3 m	Percentage of transfusion	A systemic response by the body to the	$\frac{\text{Number of transfusion reactions}}{\text{Number of transfusions}} \times 100$	Continuous	Any adverse reaction to the transfusion of blood

		reactions	administration of blood incompatible with that of the recipient. The causes include red blood cell incompatibility; allergic sensitivity to the leukocytes, platelets, plasma protein components of the transfused blood; or potassium or citrate preservatives in the banked blood.	Number of units transferred		or blood components shall be considered as transfusion reaction. It may range from an allergic reaction to a life threatening complication like TRALI and Graft Versus Host Disease.
60.		Percentage of wastage of blood and		Number of blood and blood products wasted X 100	Continuous	This also includes blood products found unfit for use.

		blood products		Number of blood and blood products issued from the blood bank		<p>In case the organisation does not have a blood bank of its own, the denominator shall be the total number of blood and blood products collected/indented from the blood bank.</p> <p>It is important that the organisation capture the number of blood and blood products used and not just the number of transfusions carried out. At times more than one blood bag or components may have been given in a single transfusion.</p>
61.		Percentage of blood component usage		$\frac{\text{Number of components used}}{\text{Number of blood and blood products used}} \times 100$	Continuous	
62.		Turnaround time for issue of blood and blood components	The time shall begin from the time that the order is raised to blood/blood component reaching the clinical unit.	$\frac{\text{Sum of time taken}}{\text{Total number of blood and blood components issued}}$	Continuous	This will include blood outsourced from other Blood Banks, for those organisations not having in house Blood Banks.

The indicators shall be indicated in both rates/percentages/ratios and absolute numbers

A. Indicator frequency has been described under:

Continuous: implies data/reports needs to be monitored on daily basis for all events/episodes/activities and analysed atleast on monthly basis followed by corrective and prevention actions.

Periodic monthly basis: The data needs to be compiled and analysed atleast on monthly basis followed by corrective and preventive actions based on sample size.

Periodic with audits been done atleast quarterly: This type of indicators can be reviewed on periodic basis using well designed audits with a goal to improve the patient care and patient safety. The audits can be done through open and/or closed files *using a suggestive sample size* as tabulated in sample size annexure below.

B. Indicator results/data presentation:

The presentation of indicators shall be helpful for easy understanding of the data to all relevant stakeholders. Thus data can be presented as:

1. Indicator results presented in a bar graph: Here, the results can be presented in the form of bar graph with periodicity monthly/quarterly etc. on x-axis and magnitude of the indicator on y-axis. The graph shall depict change in results over period of time.
2. Indicator results presented in a statistical process control chart: In such charts, results can be depicted in more dynamic fashion and comparison with the control line graphs. Action points can be easily identified and impact post interventions can be assessed in easier manner.
3. Indicator mix graphs can be used to understand impact of intervention/or one indicator over the other. E.g. Hand hygiene compliance of particular surgical unit can be plotted along with surgical site infection rates or hand hygiene compliance can be plotted along with ventilator associated pneumonia rates in a graph.

C. Sample size annexure

Screening Population	Sample Size*
50	44
100	79
150	108
200	132
500	217
1000	278
2000	322
5000	357
10000	370
20000	377

*For the recommended sample size, all the samples should be taken on continuous basis.

The following data has to be sent to NABH office at the end of each quarter in prescribed format.

General information

1	Name of the Hospital
2	Total number of hospital operational beds
3	Total number of ICU beds
4	Total number of non-ICU beds
5	Average number of Doctors on hospital rolls in specified period of time
6	Average number of Nurses on hospital rolls specified period of time
7	Total number of operation theatre tables
8	Average number of admissions/ day (excluding day care)
9	Average number of patients visiting OPD/ day
10	Average number of patients visiting Emergency/ day
11	Average number of elective surgeries/ day
12	Average number of emergency surgeries/ day
13	Average number of day care surgeries/ day
14	Average units of water consumed/ month (KL)
15	Average units of electricity consumed/ month (Units)
16	Average Length of Stay
16.1	Average Length of Stay (excluding day care and obstetric cases)
17	Bed Occupancy

Key performance indicators

S. No.	Indicator Name
1.1	Incidence of medication errors (Medication errors per patient days)
1.2	Prescription Errors
1.3	Dispensing Errors
2.	Percentage of cases who received appropriate prophylactic antibiotics within the specified time frame
3.	Percentage of transfusion reactions
4.	Catheter Associated Urinary tract infection rate (CAUTI)
5.	Para Surgical site infection rate (SSI)
6.	Compliance to Hand Hygiene
7.	Incidence of fall
8.	Incidence of bed sores after admission
9.	Incidence of needle stick injuries
10.	In IPD Areas
11	In OPD Areas

Annexure - 9
Minimum Standard Requirements for the Ayurveda
Colleges and associated hospitals

Refer the minimum standard requirements for the Ayurveda colleges and associated hospitals as published by The Gazette of India vide their notifications dated 18th July 2012 and 22nd April 2013.