

KASH ANALYSIS REPORT

OBSERVATIONS:

- The KASH standards which are absent in the three hospitals of the project under their respective heads are given below.
- The standards that are (*) marked are mandatory requirements, while the others are voluntary.
- The analysis of the data shows that Irinjalkuda Hospital fulfils 97.20 % standards required for KASH. While CHC Vellanikkara is having 52.39 % and PHC Vaniyampara is having 58.05 % standards as prescribed under KASH.

KASH STANDARDS ABSENT IN GENERAL HOSPITAL IRINJALAKKUDA:

1. Display of Services:

- The hospital name and address are available in adjoining areas of the hospital/main roads/ highways etc.
- Display of daily census of OP and IP with date *

2. Facilities:

- There are sufficient number of counters available to regularize the crowd if computerization is not done
- Secondary waiting area is available if primary waiting is not sufficient

3. Medication, treatment and its documentation:

- Fluoroscopy / special invasive investigations are carried out by the radiologists
- The events during a cardio pulmonary resuscitation are recorded and analyzed
- Medication orders are clear, legible, dated, timed and signed
- Verbal orders are documented and signed by the treating doctor within 24 Hours*

4. Data Collection, report and documentation:

- Hospital have format for data Collection
- The data are analysed and reported to the concerned authority
- Internal audit are being conducted at least once in six months
- Corrective and preventive actions are being taken based on the internal audit and the same is documented.

5. Statutory compliance with rules and regulations:

- No objection certificate from the Chief Fire Officer*
- No objection certificate under the Pollution Act*
- Radiation Protection Certificate in respect of all X-Ray, Cath lab and CT Scanners for BARC*
- PNDT Act*

6. Infrastructure requirements:

- Minimum bed strength
- Floor area of the hospital

7. Required Equipment:

- Echocardiogram

KASH STANDARDS ABSENT IN CHC VELLANIKARA CHC:

1. Display of services:

- The staff is oriented to these services
- Hospital has citizen charter in booklet
- Display of daily census of OP and IP with date *

2. Admission of patients:

- Patients are accepted only if the organization can provide the required service
- The hospital needs to provide only necessary admissions, prolonged stay of the patients only with reliable reasons.
- Managing patients during non-availability of beds could be done by temporary additional floor beds but no bed sharing

3. Assessment of patients:

- All patients are reassessed at appropriate intervals at least once in 24hours

4. Services and maintenance:

- Changing room/separate area for ensuring privacy of patients
- PNDT Act display in front of the ultrasound room
- Form B is displayed in the Ultra Sound imaging room
- Waste disposal are as per the laid down laws.
- Documented process for maintenance
- Calibration of the equipments are done periodically
- Periodic inspection of Personal Protective Equipments such as lead apron, gonad shields, thyroid shields, etc. and are documented
- The TLD badge is worn on body below the lead rubber apron while working with X-ray machine
- Fire extinguisher are placed in appropriate locations
- Documentation is available on film wastage and re-dos
- Critical result register is maintained with patient name, IP number, time and person who intimated to whom and signature of intimated person
- Register for maintenance of equipments, calibration, validation reports, report on Quality check are available
- Register for waste disposal is available

5. Manuals:

- Imaging services, quality assurance and safety aspects in manual form

6. Laboratory services:

- Instruction to patients regarding accepting and rejection criteria of samples to be displayed outside the laboratory
- Instruction to patients regarding grievance redressal to be displayed outside the laboratory
- Guideline for the critical value displayed inside the laboratory
- Laboratory identified a Quality manager for supervising the technical activities.

7. Uniform healthcare and service to all patients:

- Institution has a standard case sheet for all IP admissions
- Case record of the IP patient will be completed in 48 hours and care plan is countersigned by the clinician in-charge of the patient within 24 hours of admission
- Observation room with at least four beds is available in the casualty

8. Ambulance services:

- There is adequate access and space for the ambulance parking

- Ambulance have a log book for the maintenance of vehicle and daily vehicle checklist

9. Cardio-pulmonary resuscitation:

- Cardio-pulmonary resuscitation CPR team is identified and trained by the Institution (Code Blue)
- Periodical training in cardio pulmonary resuscitation at least once in 6 months *
- The events during a cardio pulmonary resuscitation are recorded and analyzed

10. Care of patients:

- High-risk obstetric patient's assessment also includes maternal nutrition.
- Intra-procedure monitoring includes heart rate, cardiac rhythm, respiratory rate, blood pressure, oxygen saturation, and level of Sedation.
- Informed consent is obtained before giving sedation *
- All Patients are monitored after giving sedation

11. Care of surgical services:

- Surgical patients have preoperative assessment and a provisional diagnosis documented prior to surgery
- An informed consent is obtained by the surgeon prior to each procedure *
- Name of the patients, IP number, Age, surgery, surgical site are verified before transferring the patient to OT, at OT and before surgery at the Operation Table *
- Separate Identification tag for all surgical patients and verify the name, IP number, surgical site with case record by the doctor and nurse *
- A brief operative note is documented prior to transfer of patient from recovery area

12. Policies and procedures:

- The organization has an ethics committee to oversee all research activities including students projects and has powers to discontinue a research when risks outweigh the potential benefits
- Patient's informed consent is obtained before entering them in research protocols and Patients are informed of their right to withdraw from the research at any stage and also of the consequences (if any) of such withdrawal *
- Patients are assured that their refusal to participate or withdrawal from participation will not compromise their access to the organization's services.
- All research activities are in accordance with guidelines published by Indian Council of Medical Research (ICMR) *

13. Nutritional services:

- When families provide food to the patient, they are educated about the patients' diet limitations
- Food is prepared, handled, stored and distributed in a safe manner

14. Manuals for care of patients:

- Policies and procedure for emergency care are documented
- Policies also address handling of medico-legal cases
- Policies and procedures guide the triage of patients for initiation of appropriate care
- Documented policies and procedures guide the uniform use of resuscitation throughout the organization
- The organization defines whether high-risk obstetric cases be cared for or not
- Policies and procedures prevent child/ neonates abduction and abuse
- The policies and procedures are documented for surgical procedures
- Documented policies and procedure exist to prevent adverse events like wrong site, wrong patients and wrong surgery

15. Inspection and maintenance:

- Fire extinguishers are installed and periodically inspected
- Hospital has a Drugs and Therapeutic committee

16. Medication administration:

- Medications, Dosage, Route, timings are verified with patients Name and patient number prior to administration and documented in the Case sheet.
- Prepared medication are labeled prior to preparation of second drug
- Adverse drug events are documented and reported within a specified time in CDSCO form and are analyzed by the treating doctor and practices are modified to reduce the same *
- Patients are educated about food drug interaction and safe and effective use of medication if applicable
- Self-administration of Medicine is documented in the case sheet, if any.

17. Narcotic and psychotropic medicines:

- Narcotic medicines are kept in Double lock (2 keys with 2 locks kept by the 2 different persons) as per the Narcotic act *
- Triplicate forms are used for outside narcotic prescription
- Doctors name, register number, signature with date and time in prescription of Narcotic medicine
- Empty ampoules are returned along with the narcotics administration detail sheet.
- Discarded Narcotic drug are documented with witness

18. Medical Gas:

- International Color code for cylinders, gas pipe line, outlet etc. *
- Fire extinguishers are installed in Manifold/ Cylinder storage area

19. Manuals and registers regarding medication:

- Essential Drug List
- Pharmacy manual
- Narcotic register

20. Patient grievance redressal mechanism:

- Display of information on how to voice a complaint

21. Prevention of Hospital Acquired Infection and Hospital Infection Control Committee

- Hospital have a designated infection control nurse for monitoring Hospital Acquired Infection
- Hospital have the availability of isolation /barrier nursing facilities.
- Health Care Institution has a policy for restricting visitors in the hospital during non-visiting time.
- Continued surveillance of hospital acquired infections is being done.
- Development and formulation of preventive and corrective programs in view of infectious hazards.
- Develops hospital antibiotic policy.
- Develop a system of identifying, reporting, investigating and controlling the hospital acquired infection.
- Periodically educate the healthcare workers of the institution on infection control policies and protocol.
- Conduct meetings for review of Hospital Acquired Infection.
- Monitor the methods of sterilization and disinfection.

22. Housekeeping and linen management:

- Hospital have a linen change policy consonance with the best practices.
- Washing protocol for the linens are according to type.
- Cleaning of the AC duct, replacement of filters, replacement or repair of plumbing, sewer line are done periodically.
- Periodical cleaning of the water storage area and alternate source are done and documented.
- Develop, implementation and monitoring of Checklist for housekeeping.

23. Biomedical waste management:

- Bio hazard symbol are displayed where applicable.

24. Availability of surveillance indices:

- Daily recording of the Invasive Procedure.
- Monitoring of Urinary Tract Infection.
- Respiratory Tract Infection.
- Intra vascular Device Infection.
- Surgical Site Infection.
- Adverse effect following immunization.
- Checklist for Housekeeping for Cleaning.
- Hand washing Surveillance.
- Biomedical Waste Management.
- Needle Prick injuries are monitored.

25. Sterilization:

- Central Sterile Supply Department (CSSD) or Autoclave room is in the suitable location with proper layout (unidirectional flow, zoning) and separation of clean and dirty areas *
- Bowie Dick tape test is carried out in autoclave every day.
- Batch number are specified in each sterilization procedure for traceability in the recall procedure.

26. Operation theatre:

- Operation theatre have zoning
- Infection control practices, Clinical Indicators of Operation theatre are monitored and followed.
- Air temperature in the Operation theatre is measured and Temperature chart is maintained.
- Operation theatre is air conditioned and preferably fitted with air filters.

27. Manuals:

- The Institutions have an Infection control manual which are updated at least once in a year.
- The manuals contains; Infection Control Committee, Surveillance, Staff Health Program, Isolation, Care of Systems & Indwelling Devices, Disinfection, Waste Management, House Keeping, Food Handling & Handlers, Laundry, Mortuary practices, Investigation of Outbreak, Special care Units and Visitors Policy.

28. Registers:

- Housekeeping Register.
- Equipment Sterilization Register.
- Invasive procedure Register in wards.
- Needle Prick injury Register.
- Post Exposure Prophylaxis Register.
- Training Register.

- Consolidate register.

29. Quality indicators and documentation:

- Bed occupancy rate per month in percentage *
- Average length of stay per month Number of Outpatient (OP), and In patient (IP) per month*
- Number of LSCS and normal deliveries per month *
- Percentage of Caesarian sections per month *
- Number of Notifiable disease reported per month *
- Incidence of sentinel, near miss and adverse events per month.
- No. of bed sores per thousand (Calculated for month).
- Percentage of Post Exposure Prophylaxis used in needle stick injuries *
- Percentage of staff vaccinated against Hepatitis B.
- Number of birth and death per month.
- Patient satisfaction of OP and / IP at least once in six month.
- Employee satisfaction survey once in a year.
- Indicators in Imaging and diagnostic services: Number of Errors / 1000 investigation per month AND Number of Redoes/ 1000 investigation per month.
- Indicators in Invasive procedure: Re-exploration/ resuturing rate per Month AND Hematoma at puncture site per month.
- Indicators for Adverse drug event and anesthesia: Percentage of medication error per Month AND Incidence of Adverse drug reaction per Month.
- Indicators for Medical Record Audit: Percentage of Medical records not having discharge summary, Percentage of Medical records which are incomplete AND Percentage of Medical records not having consent.
- Indicators for Infection control Audit are calculated: Urinary Tract Infection rate, Respiratory tract infection rate, Intravascular Device infection rate AND Surgical site infection rate.
- Hospital have Format for data Collection.
- The data are analysed and reported to the concerned authority.
- Internal audit are being conducted at least once in 6 months.
- Corrective and preventive actions are being taken based on the internal audit and the same is documented.

30. Management responsibility to display information:

- Organogram is available.
- Mission, Vision, quality and safety policy are displayed at least in OP, Casualty, Administration department.
- Instructions to patient.
- Floor plan.
- Layout of hospital.
- Fire exit route / plan.
- Disaster management plan

31. Facility and safety assurance:

- Periodic plumbing inspection of: leakage, block, working condition of sanitary appliances, availability of maintenance staff.
- Documentation of the quarterly facility and safety round report with corrective and preventive action.

32. Emergency preparedness:

- Hospital have code blue team for Cardio pulmonary resuscitation.

- Training / mock drill in Emergency preparedness for all staffs.
- Hospital earmarked Triage area for combating mass casualty.
- Mock drill for disaster management and fire safety conducted.

33. Employee management and training:

- Selection, recruitment, jobs specification, job description, transfer, promotions, disciplinary actions, grievance handling mechanism, pre-employment health check-up, vaccination and credentialing.
- Training when there is job change/ new equipment installed and documented.
- Prepare Training schedule in areas of safety, infection control, and risk-management as per the need of the hospital.
- Yearly health check-up for all employees to be included in the personal records.

34. Statutory compliance with rules and regulations:

- Statutory compliance with rules and regulations Building Permit *
- No objection certificate from the Chief Fire Officer *
- No objection certificate under Pollution Act *
- Radiation Protection Certificate in respect of all X-ray, Cath lab and CT Scanners from BARC *
- PNDT act *

35. Medical record management:

- Operative and other procedures performed are incorporated in the medical record.
- When patient is transferred to another hospital, the medical record contains the date of transfer, the reason for the transfer and the name of the referred hospital.
- The medical record contains a copy of the discharge note duly signed by appropriate and qualified personnel.
- Care providers have access to current and past medical record.
- A documented procedure exists on how to respond to patients/ physicians and other public agencies requests for access to information in the medical record in accordance with the State and national law.
- Case sheet filed according to the IP number or reliable system developed by the Hospital.
- Fire extinguisher is available in the medical record department *
- Periodic Pest control is practiced Safety of the medical record room is ensured.

36. Equipment and infrastructure requirements:

- Solar water heater or photoelectric cell
- Staff room
- Operation theatre
- Labour room
- Central Sterile and Supply Department or Auto clave.
- Dietary Service
- Hospital Laundry
- Medical and General Stores
- Cardiac Monitor
- Cardiac Monitor with defibrillator
- B P apparatus
- Xerox machine

KASH STANDARDS ABSENT IN PHC VANIYAMPARA:

1. Display of services:

- The hospital name and address are available in adjoining areas of the hospital/main roads/highways etc.
- All the rooms and beds are numbered.
- The layout of the hospital is displayed at least in one prominent area.
- The hospital has citizen charter in booklet.*
- The hospital has citizen charter in display.*
- Display of daily census of OP and IP with date.*

2. Basic facilities of OP and casualties:

- Wheelchairs with trolley and safety belts are available.
- Toilets and toilets for physically challenged are available.

3. Imaging services:

- Imaging services comply with site approval of Department Of Radiation Safety and certification of registration by AERB.*
- Signage, time frame, patient education information, warning light is displayed.
- PNDR Act displayed in front of the Ultrasound Room and inside the room.*
- Form B is displayed in the Ultrasound Imaging Room.*
- The TLD badge is worn on body below the lead rubber apron while working with X-Ray machine.
- Fire extinguishers are placed in appropriate locations.
- Documentations are available on TLD badges with expiry date.*
- Documentation is available on film wastage and re-dos.
- Critical result register is maintained with patient name, IP number, time and person who intimated to whom and signature of intimated person.
- Register for waste disposal is available.

4. Manuals:

- Imaging services, quality assurance and safety aspects.

5. Laboratory:

- Available tests are displayed outside the laboratory.
- Tariff chart is displayed outside the laboratory.
- Turnaround times for routine, special and emergency tests are outside the laboratory.
- Instructions to patients regarding accepting and rejection criteria for samples are displayed outside the laboratory.
- Instruction to patients regarding grievance redressal is displayed outside the laboratory.
- Guidelines for the critical value are displayed inside the laboratory.
- Temperature chart is available in the laboratory.
- Access control is displayed in the laboratory.
- Laboratory identifies quality manager for supervising the technical activities.
- Periodic maintenance of equipment is done.
- Inventory management is adequate.
- Quantity of sample required for each test is documented.
- Separate area for collection of the sample is available.
- Toilet facility for patient is available.
- Samples are labelled with name and lab number or IP/OP number.

- Colour coded bins are available in the blood collection area as per the Biomedical Waste Management Rules.*
 - HIV consent form is used for HIV testing.
 - Internal quality control is done.
 - External quality assurance is done at least once in three months.
 - Evaluation of re-dos before and after dispatch.
 - Periodic reviews of complaints and feedback and corrective and preventive action are taken.
 - Personal protective equipment is being used.
 - Protocol for blood spill management is available.
 - Protocol for mercury spill management is available.
 - Protocol for hazardous material spillage is available.
 - Hazardous chemicals are stored in a separate shelf or cupboard.
 - Electrical safety is ensured in the lab.
 - Protocols for biomedical waste management are implemented.*
 - Fire extinguishers are placed in appropriate locations.
 - Laboratory Manuals: Quality manual, Sample collection manual, Standard Operating procedure, Safety manual.
 - Laboratory Registers: Critical value register, internal quality control register, External quality control register, Sample discard register, Complaints register, Reagents expiry register, Stock Register, Equipment register.
- 6. Cardio-pulmonary resuscitation:**
- CPR team is identified and trained by institution (Code Blue),
 - Periodical training in Cardio-Pulmonary Resuscitation at least once in six months*
 - The events during a CPR are recorded and analysed
- 7. Care for patients**
- There are bathrooms for physically challenged patients
 - High risk obstetric patients assessment also includes maternal nutrition
- 8. Policies and procedures:**
- The organization has an ethics committee to oversee all research activities including students' projects and has power to discontinue research risks outweigh the potential benefits.
 - All research activities are in accordance with the guidelines published by ICMR.
- 9. Nutritional service:**
- Food is prepared, handled, stored and distributed in safe manner.
- 10. Manuals for care of patients:**
- Policies and procedures for emergency care are documented.
 - Policies also address handling of medico-legal cases.
 - Documented policies and procedures guide the uniform use of resuscitation throughout the organization.
- 11. Maintenance and check:**
- Fire extinguishers are installed and periodically inspected.
 - Medicines are recalled based on letters from regulatory authority or internal feedback
- 12. Narcotic and Psychotropic medicines:**
- Triplicate forms are used for outside narcotic prescription.
 - Empty ampoules are returned along with the narcotic administration detail sheet.
 - Discarded narcotic drugs are documented with witness.
- 13. Medical gas:**

- International colour code for cylinders, gas pipeline, outlet etc.*
- Empty, filled and running cylinders are labelled and stored in their designated area under safe custody.
- Fire extinguishers are installed in manifold/cylinder storage area.

14. Registers:

- Medical gas register
- List of high risk medication

15. Protection of patient rights:

- Hospital protect patient rights which includes-
 - General consent for all IP admission.
 - Informed consent before anaesthesia, blood and blood product transfusions and any invasive/high risk procedures/ treatments.
 - How to voice a complaint
 - The expected cost of the treatment
- Display of citizen charter and booklet.
- Display of user charges, tariff list, if any.
- Complaints and suggestion box in OP waiting area and wards.
- Display of information on how to voice a complaint.

16. Prevention of Hospital Acquired Infection and Hospital Infection Control Committee:

- The hospital has an infection control committee to minimize the risk of hospital acquired infection and to monitor the surveillance program.*
- Swabs for bacterial cultures are routinely collected from the designated sight identified by the hospital such as operation theatres, intensive care units/high dependence unit, labor room, CSSD/ auto clave, transfusion services unit, food handling areas, drinking water etc.
- Hospital has designated infection control nurse for monitoring hospital acquired infection.
- Post expos
- ure prophylaxis is available for the staff in an institution for 24 hours.*
- Hospital has the availability of isolation/barrier nursing facilities.
- Health care institution has a policy for restricting visitors in the hospital during non-visiting times.

17. Housekeeping and linen management:

- Develop, implementation and monitoring of checklist for housekeeping.

18. Biomedical waste management:

- Biohazard symbol are displayed where applicable.

19. Availability of surveillance indices:

- Checklist for housekeeping for cleaning
- Hand washing surveillance.

20. Infection control management manual:

- Manual contains: Infection control committee, Isolation, Care of systems and indwelling devices, Food handling and handlers, Mortuary practices, Investigation of outbreak, Special care unit and visitors policy.

21. Register:

- Post exposure prophylaxis register.

22. Quality indicators:

- Managerial Indicators: Percentage of post exposure prophylaxis used in needle stick injuries, *
Patient satisfaction of OP and IP at least once in six months.
- Indicators In Imaging And Diagnostic Services: Number of errors/1000 investigations per month, Number of re-dos/1000 investigations per month.
- Indicators For Adverse Drug Event And Anesthesia: Percentage of medication error per month.

23. Management responsibility to display information:

- Mission, vision, quality and safety policy are displayed at least in OP, causality, administration department.
- User charts/tariff lists if any.
- Floor plan.
- Layout of hospital.
- Fire exit route/ plan.

24. Facility and safety assurance:

- Periodic inspection of electrical facility round including: Signage and instruction board, Log book in generator room, Sand bucket and rubber mats in electrical rooms.
- Periodic plumbing inspection of Availability of maintenance staff.
- Periodic fire safety round including: Availability and inspection of fire extinguishers, Fire exit/plan, Awareness of staff, Dumping of combustible items, Instructions during fire outbreak etc.
- Other periodic services inspection including: Lift safety, Railing for ramps and toilets, Straps for wheelchairs and stretchers, Bed railing for vulnerable patients, Trolley for transportation of cylinders.

25. Emergency preparedness:

- Hospital has a code blue team for CPR.

26. Personal management:

- Selection, recruitment, job specification, job description, transfer, promotion, disciplinary actions, grievance handling mechanism, pre-employment health checkup, vaccination and credentialing.
- Yearly health checkup for all employees to be included in the personal records.

27. Statutory compliance with rules and regulations:

- No objection certificate from the Chief Fire Officer.*
- No objection certificate under the Pollution Act.*
- Radiation Protection Certificate in respect of all X-Ray, Cath lab and CT scanners from BARC.*

28. Medical Record(Refer The Case Sheet Developed By NRHM):

- Operative and other procedures performed are incorporated in the medical record
- When patient is transferred to another hospital, the medical record contains the date of transfer, the reason for the transfer and the name of the referred hospital
- In case of death the medical record contains the cause of death indicating the date and time of death.
- Fire extinguisher is available in the medical record department.*

29. Infrastructure and equipment:

- Medical records room
- Staff room

- Wards
- Cardiac monitor with defibrillator.
- Binocular microscope or digital microscope.
- Xerox machine

30. Immunization programs:

- Immunization services are displayed

31. Disease control program:

- Anti-malarial drugs are available

WHO IS RESPONSIBLE TO IMPLEMENT THE STANDARDS AS PRESCRIBED IN KASH?

As discussed before, the KASH Guidelines have laid down certain standards that are mandatory. These hospitals however, do not have the presence of some of them. All these are supposed to be implemented by the hospital or government authorities without failure. The rest of them are voluntary, but the implementation of the same would lead to a much developed and satisfactory service at these healthcare centres. Most of the standards are achievable within no time if the concerned authority acts with vision and plan.

Now, who is responsible for implementing the same in these hospitals; is it the hospital authority themselves or is it the local government – this is what will be dealt with in this analysis. In most of the case it is the joint responsibility of the concerned local government and the hospital administration.

- ❖ Let us first look into the situation at the **General Hospital Irinjalakkuda**, and who are responsible in implementing the missing standards there.

1. Display of Services:

- The hospital name and address are to be made available in adjoining areas of the hospital/main roads/ highways etc. by the government. These are things that could be done as soon as possible, as it is generally important for the public to know the exact location of these hospitals.
- The display of daily census of OP and IP with date is a mandatory standard that is to be maintained by the Hospital authority.

2. Facilities:

- Sufficient number of counters available to regularize the crowd if computerization is not done is to be maintained by the Hospital
- Secondary waiting area is to be made available if primary waiting is not sufficient, and this is for the government to handle, if more space is needed for the same.

3. Medication, treatment and its documentation: To be maintained by the Hospital

4. Data Collection, report and documentation: To be implemented by the Hospital

5. Statutory compliance with rules and regulations is mandatory and it is the government who should check its implementation at least once in a year and the Hospital authority must comply with it without fail.
6. Infrastructure requirements such as minimum bed strength and floor area of the hospital to be maintained with the help of the government.
7. The one required Equipment here, is the Echocardiogram which should be bought with government funding.

❖ **The second Hospital is the CHC at Vellanikkara.**

The authority to bring about the KASH Standards here are stated below:

- The staff should be oriented to the services and this is the responsibility of the hospital authority
- Hospital has to maintain citizen charter in booklet
- Hospital should Display of daily census of OP and IP with date.
- Patients are to be accepted only if the organization can provide the required service this is to be checked by hospital authorities under strict government guidelines
- The hospital needs to make sure that they provide only necessary admissions and that prolonged stay of the patients only with reliable reasons.
- Managing patients during non-availability of beds could be done by temporary additional floor beds but no bed sharing. The Government can provide for extra beds or funding for the same and make the hospital authorities look after that no bed sharing is done.
- All patients are reassessed at appropriate intervals at least once in 24hours is to be inspected by Hospital authorities
- Changing room/separate area for ensuring privacy of patients should be provided by Government.
- PNDT Act must be displayed in front of the ultrasound room by the Hospital.
- Form B is displayed in the Ultra Sound imaging room to be again made by the Hospital
- Hospital must ensure that Waste disposal is as per the laid down laws.
- Hospital must have documented process for maintenance
- Calibration of the equipment are to be done periodically by Hospital authority, with periodic inspection of government.
- Periodic inspection of Personal Protective Equipment such as lead apron, gonad shields, thyroid shields, etc. and are documented, and this should be ensured by the government once every year and regularly by the hospital authorities.
- Whether the TLD badge is worn on body below the lead rubber apron while working with X-ray machine is to be checked by Hospital

- Hospital should place Fire extinguisher in appropriate locations.
- Documentation on film wastage and re-dos must be maintained by Hospital
- Critical result register is to be maintained with patient name, IP number, time and person who intimated to whom and signature of intimated person by the Hospital.
- Register for maintenance of equipment, calibration, validation reports, and report on Quality check are to be made available by the hospital.
- Hospital must maintain Register for waste disposal
- Imaging services, quality assurance and safety aspects in manual form should be maintained by Hospital
- Instruction to patients regarding accepting and rejection criteria of samples are to be displayed outside the laboratory by the hospital.
- Instruction to patients regarding grievance redressal is to be displayed outside the laboratory by the Hospital
- Guideline for the critical value to be displayed inside the laboratory by the Hospital
- Laboratory to identify a Quality manager for supervising the technical activities
- Institution should have a standard case sheet for all IP admissions, and this is the responsibility of the Hospital.
- Hospital to make sure Case record of the IP patient will be completed in 48 hours and care plan is countersigned by the clinician in-charge of the patient within 24 hours of admission
- Government is to provide observation room with at least four beds available in the casualty.
- Government is to make sure there is adequate access and space for the ambulance parking by providing ample sample for the same.
- Ambulance should have a log book for the maintenance of vehicle and daily vehicle checklist and this the duty of the Hospital to maintain the same.
- Cardio-pulmonary resuscitation; CPR team is to be identified and trained by the Institution (Code Blue)
- With the guidance of the government, the hospital authority must conduct Periodical training in cardio pulmonary resuscitation at least once in 6 months. This is a mandatory standard to be maintained.
- The events during a cardio pulmonary resuscitation are to be recorded and analysed by the doctors or nurses.
- High-risk obstetric patient's assessment should also include maternal nutrition, and this is to be seen to by the Hospital.

- Intra-procedure monitoring must be done by the staff, inspected by the authority which includes heart rate, cardiac rhythm, respiratory rate, blood pressure, oxygen saturation, and level of Sedation.
- Hospital authority should check whether informed consent is obtained before giving sedation, whether all Patients are monitored after giving sedation, Surgical patients have preoperative assessment and a provisional diagnosis documented prior to surgery and whether an informed consent is obtained by the surgeon prior to each procedure.
- Name of the patients, IP number, Age, surgery, surgical site are to be verified before transferring the patient to OT, at OT and before surgery at the Operation Table. This is to be ensured by the Hospital.
- Separate Identification tag for all surgical patients and verify the name, IP number, surgical site with case record by the doctor and nurse should be maintained by the hospital.
- A brief operative note is to be documented by the staff prior to transfer of patient from recovery area. It is the responsibility of the Hospital to ensure the same.
- The hospital organization should have an ethics committee to oversee all research activities including student projects and has powers to discontinue a research when risks outweigh the potential benefits
- Patient's informed consent is to be obtained before entering them in research protocols and Patients are informed of their right to withdraw from the research at any stage and also of the consequences (if any) of such withdrawal . This a mandatory requirement to be ensured by hospital.
- Patients are to be assured by the hospital that their refusal to participate or withdrawal from participation will not compromise their access to the organization's services.
- All research activities are to be in accordance with guidelines published by Indian Council of Medical Research (ICMR). It is the duty of the Hospital to ensure this mandatory standard.
- When families provide food to the patient, they must be educated about the patients' diet limitations by the doctors or nurses.
- The hospital must keep complete check on the way Food is prepared, handled, stored and should be distributed in a safe manner.
- Policies and procedure for emergency care are to be documented by the Hospital, Policies should also address handling of medico-legal cases and Policies and procedures guide the triage of patients for initiation of appropriate care
- Documented policies and procedures should guide the uniform use of resuscitation throughout the organization. This is to be seen to by the Hospital.
- The organization, i.e., hospital authority should define whether high-risk obstetric cases be cared for or not.
- Policies and procedures should prevent child/ neonates abduction and abuse this is to be followed under strict Government directions.

- The policies and procedures are to be documented by the Hospital authorities for surgical procedures .
- Documented policies and procedure exist to prevent adverse events like wrong site, wrong patients and wrong surgery. These should be maintained by the hospital.
- Fire extinguishers should be installed and periodically inspected. This should be implemented and inspected by the government.
- Hospital should have a Drugs and Therapeutic committee.
- Medications, Dosage, Route, timings are to be verified with patients and the Name and patient number prior to administration and documented in the Case sheet by the concerned hospital authority.
- Prepared medication are to be labelled prior to preparation of second drug by the hospital staff or authority.
- Adverse drug events must be documented and reported within a specified time in CDSCO form and is to be analysed by the treating doctor and practices are modified to reduce the same.
- Patients should be educated about food drug interaction and safe and effective use of medication if applicable by the doctors.
- Self-administration of Medicine is documented in the case sheet, by the hospital staff.
- Narcotic medicines are kept in Double lock (2 keys with 2 locks kept by the 2 different persons) as per the Narcotic act. This should be implemented by the government and maintained by the hospital authority
- Triplicate forms are to be used for outside narcotic prescription by the hospital.
- Doctors name, register number, signature with date and time in prescription of Narcotic medicine must be followed.
- Empty ampoules should be returned along with the narcotics administration detail sheet. It is the duty of the hospital to adhere to this standard.
- Discarded Narcotic drug are documented with witness by the Hospital staff.
- International Colour code for cylinders, gas pipe line, outlet etc. are to be mandatorily maintained by the Hospital.
- Fire extinguishers are supposed to be installed in Manifold/ Cylinder storage area by the hospital.
- The following too are to me maintained by the Hospital: Essential Drug List, Pharmacy manual, Narcotic register, Display of information on how to voice a complaint (patient grievance redressal mechanism)
- Hospital should bring in a designated infection control nurse for monitoring Hospital Acquired Infection
- Hospital must bring forward the availability of isolation /barrier nursing facilities.

- Health Care Institution has a policy for restricting visitors in the hospital during non-visiting time, and this is to be regulated by the Hospital authorities
- Continued surveillance of hospital acquired infections is being done by staff appointed by the hospital authority.
- Development and formulation of preventive and corrective programs in view of infectious hazards. This is to be developed by the Government implemented by the Hospital.
- Hospital authority should develop hospital antibiotic policy.
- Hospital authority should develop a system of identifying, reporting, investigating and controlling the hospital acquired infection.
- Periodically the hospital authority and also the government should educate the healthcare workers of the institution on infection control policies and protocol.
- Hospital should conduct meetings for review of Hospital Acquired Infection.
- Monitor the methods of sterilization and disinfection.
- Hospital authority should bring a linen change policy consonance with the best practices.
- Washing protocol for the linens should be according to type, and this is to be monitored by the hospital authorities.
- Cleaning of the AC duct, replacement of filters, replacement or repair of plumbing, sewer line are to be done periodically and it's the responsibility of the hospital authority to look into this matter.
- Periodical cleaning of the water storage area and alternate source are done and documented. (Hospital)
- Develop, implementation and monitoring of Checklist for housekeeping to be done by the Hospital authorities.
- The following too are to be monitored by the hospital authority: Bio hazard symbol are displayed where applicable, Daily recording of the Invasive Procedure, Monitoring of Urinary Tract Infection, Respiratory Tract Infection, Intra vascular Device Infection, Surgical Site Infection, Adverse effect following immunization, Checklist for Housekeeping for Cleaning, Hand washing Surveillance, Biomedical Waste Management and also Needle Prick injuries.
- Central Sterile Supply Department (CSSD) or Autoclave room is in the suitable location with proper layout (unidirectional flow, zoning) and separation of clean and dirty areas. This is to be implemented by the hospital with the government.
- Bowie Dick tape test is carried out in autoclave every day. It is the work of the hospital to monitor it.
- Batch number are specified in each sterilization procedure for traceability in the recall procedure by the hospital authority.

- Operation theatre is to have zoning, and this is to be implemented by the hospital authority.
- Infection control practices, Clinical Indicators of Operation theatre are to be monitored and followed by the Hospital.
- Air temperature in the Operation theatre is to be measured and Temperature chart is to be maintained by the hospital authorities.
- Operation theatre is air conditioned and preferably fitted with air filters. This although a voluntary standard, is to be implemented by the government.
- The Institutions have an Infection control manual which are updated at least once in a year which is to be regulated by the hospital authority.
- The manuals are supposed to contain; Infection Control Committee, Surveillance, Staff Health Program, Isolation, Care of Systems & Indwelling Devices, Disinfection, Waste Management, House Keeping, Food Handling & Handlers, Laundry, Mortuary practices, Investigation of Outbreak, Special care Units and Visitors Policy. This is to be implemented by the hospital.
- The following registers are to be maintained by the hospital authorities: Housekeeping Register, Equipment Sterilization Register, Invasive procedure Register in wards, Needle Prick injury Register, Post Exposure Prophylaxis Register, Training Register, and Consolidate register
- The following are to be documented by the hospital staff or authorities: Bed occupancy rate per month in percentage, Average length of stay per month Number of Outpatient (OP), and In patient (IP) per month, Number of LSCS and normal deliveries per month, Percentage of Caesarian sections per month, Number of Notifiable disease reported per month, Incidence of sentinel, near miss and adverse events per month, No. of bed sores per thousand (Calculated for month), Percentage of Post Exposure Prophylaxis used in needle stick injuries, Percentage of staff vaccinated against Hepatitis B, Number of birth and death per month, Patient satisfaction of OP and / IP at least once in six month, Employee satisfaction survey once in a year., Indicators in Imaging and diagnostic services: Number of Errors / 1000 investigation per month AND Number of Redoes/ 1000 investigation per month, Indicators in Invasive procedure: Re-exploration/ resuturing rate per Month AND Hematoma at puncture site per month, Indicators for Adverse drug event and anesthesia: Percentage of medication error per Month AND Incidence of Adverse drug reaction per Month, Indicators for Medical Record Audit: Percentage of Medical records not having discharge summary, Percentage of Medical records which are incomplete AND Percentage of Medical records not having consent, Indicators for Infection control Audit are calculated: Urinary Tract Infection rate, Respiratory tract infection rate, Intravascular Device infection rate AND Surgical site infection rate.
- Hospital authority ought to maintain and follow the following including Format for data Collection where the data are analysed and reported to the concerned authority, Internal audit are being conducted at least once in 6 months, also, Corrective and preventive actions are being taken based on the internal audit and the same is documented.

- The hospital authority has to organise certain things, and monitor it, including: Availability of Organogram, the Mission, Vision, quality and safety policy are displayed at least in OP, Casualty and Administration department, Instructions to patients are given, Floor plan, Layout of hospital as well as Fire exit route / plan.
- A Disaster management plan has to be implemented according to government guidelines.
- Periodic plumbing inspection of: leakage, block, working condition of sanitary appliances, availability of maintenance staff are to be monitored by the hospital authorities with government inspection.
- The following too are standards that are to be implemented by the hospital authority: Documentation of the quarterly facility and safety round report with corrective and preventive action and that Hospital have code blue team for Cardio pulmonary resuscitation.
- The following are to be implemented by the government as a tool for emergency preparedness; Training / mock drill in Emergency preparedness for all staffs, Hospital earmarked Triage area for combating mass casualty, Mock drill for disaster management and fire safety conducted.
- The hospital authority also has to handle with employment and employee management including Selection, recruitment, jobs specification, job description, transfer, promotions, disciplinary actions, grievance handling mechanism, pre-employment health check-up, vaccination and credentialing, Training when there is job change/ new equipment installed and documented, Prepare Training schedule in areas of safety, infection control, and risk-management as per the need of the hospital, Yearly health check-up for all employees to be included in the personal records.
- Statutory compliance with rules and regulations is mandatory and it is the government who should check its implementation at least once in a year and the Hospital authority must comply with it without fail.
- Hospital authority also had to deal with effective medical record management Operative and other procedures performed are incorporated in the medical record, When patient is transferred to another hospital, the medical record contains the date of transfer, the reason for the transfer and the name of the referred hospital, The medical record contains a copy of the discharge note duly signed by appropriate and qualified personnel, Care providers have access to current and past medical record, A documented procedure exists on how to respond to patients/ physicians and other public agencies requests for access to information in the medical record in accordance with the State and national law, Case sheet filed according to the IP number or reliable system developed by the Hospital, Fire extinguisher is available in the medical record department, Periodic Pest control is practiced Safety of the medical record room is ensured. All these have to be inspected to make sure it is maintained effectively.
- It is the responsibility of the government to bring good working equipment and suitable infrastructure into these hospitals including those absent here including: Solar water heater or photoelectric cell, Staff room, Operation theatre, Labour room, Central Sterile and

Supply Department or Auto clave, Dietary Service, Hospital Laundry, Medical and General Stores, Cardiac Monitor with defibrillator, B P apparatus and Xerox machine

❖ **The third hospital is the PHC Vaniyampara.**

- The rooms and beds are to be numbered and this is the responsibility of the hospital authorities.
- It is the responsibility of the government to display the hospital layout at least in one prominent area of the hospital.
- Record of the citizen charter and a display of daily census of OP and IP with date must be maintained by the hospital authorities.
- It is the duty of the government to provide wheel chairs, trolley with safety belts for the hospital.
- Toilets and toilets for physically challenged must be provided by the government.
- It is the duty of government to see to it that imaging services complies with site approval of department of radiation safety and certification of registration by AERB.
- The hospital should also maintain morning lights, record of signage, time, patient admission info; they should also display the PNDT Act and Form B in front and inside the ultrasound room.
- The hospital in charge must investigate that TLD badge is worn on body below the lead rubber apron while working with X-ray machine.
- It must be ensured by the hospital authorities that fire extinguishers are placed in appropriate locations at the hospital.
- Hospital must ensure that documents are available on TLD badges with expiry date and also on film wastage and redo.
- They must maintain a critical result register with patient name, IP number, time and person, who intimated to whom and signature of the intimated.
- Register regarding waste disposal must be maintained by the hospital.
- The hospital must ensure proper imaging services, quality assurance, safety aspects and keep a list of available tests outside the laboratory along with a tariff chart.
- Details regarding turnaround times for routine, special and emergency tests must be displayed outside laboratory.
- Instructions to patients regarding accepting and rejection criteria for samples are to be displayed by the hospital outside the laboratory.
- Instructions for patient regarding grievance redressal are also to be displayed outside the laboratory.

- A display of critical values must be displayed inside the laboratory apart from temperature charts and access control chart.
- The hospital laboratory should identify quality manager for supervising technical activities for supervising technical activities in order to ensure periodic maintenance and inventory management of equipment.
- Regarding sample collection, the hospital must document the quantity of sample required for each test.
- It is the responsibility of the government to ensure a separate area for sample collection like toilet activity.
- The hospital should ensure that samples are labelled with name and lab number or IP or OP number. They must make sure that colour coded bins are available in the blood collection area as per bio medical waste management rules.
- TO avoid ethical issues, it is the responsibility of hospital authorities to get HIV consent from patient for HIV testing.
- It is the responsibility of the government to ensure external quality control must be done at least once in 3 months apart from the internal quality control which is to be performed by the hospital.
- The hospital authority must evaluate redo before and after dispatch.
- The hospital must investigate the periodic reviews of complaints and feedback and corrective and preventive actions must be taken.
- It is the responsibility of the hospital to ensure laboratory safety including the use of personal protective equipment, to have a protocol for blood/mercury spill, hazardous material spill management and bio medical waste management and to have proper electrical safety in the lab.
- Quality manuals of sample collection, standard operating procedures apart from safety manuals are to be maintained by the hospital/government.
- The hospital must ensure that a proper record must be maintained regarding critical values, internal and external quality controls, samples discarded, complaints register, reagent expiry register, stock register and equipment register.
- It is their responsibility to identify and train a CPR team (CODE BLUE)
- Periodic training in cardiac pulmonary resuscitation must be ensured by the hospital at least once in 6 months.
- Events during a CPR must be recorded and analysed by hospital authorities.
- High risk obstetric patient assessment including maternal nutrition must be taken care by the hospital.
- An ethical committee must be ensured by the hospital or the government to oversee all research activities including student projects.

- It must be taken care by the hospital authorities that all research activities are in accordance with guidelines published by ICMR.
- Hospital must ensure that food is prepared, handled, stored and distributed in a safe manner.
- The hospital must maintain manuals for proper policies and procedures for emergency care that also address handling of medico-legal cases.
- They must document the policies and procedures that guide the uniform use of resuscitation throughout the organisation.
- The government or hospital authorities must install/inspect fire extinguishers.
- The hospital must ensure that medicines are recalled based on letters from regulatory authorities or internal feedback.
- Hospital must ensure that triplicate forms are used for outside narcotic prescription; empty ampules are returned along with narcotic administration detail sheet and discarded narcotic drugs must be documented with witness.
- International colour code for cylinders, gas pipelines and outlets must be properly followed. Empty, filled and running cylinders must be labelled and stored in designated area under safe custody; installation of fire extinguishers in cylinder storage area, maintenance of medical gas register and a list of high-risk medications must be maintained by the hospital as per standards prescribed by KASH.
- Hospital must ensure that they protect patients' rights and responsibilities including general consent for all IP admissions, they must receive informed consent before anaesthesia, blood and blood product transfusions and any invasive or high risk procedures/treatment; how to voice a complaint and expected cost of treatment.
- The hospital must display the rights and responsibilities of the patient, citizens charter and booklet, user charges, tariff list if any.
- Complaint and suggestion box in OP waiting room area and wards must be kept by the hospital.
- The hospital must ensure an infection control committee with nurses to minimize the risk of hospital acquired infections and monitor the surveillance program.
- It is the responsibility of the hospital to remove swabs of bacterial culture from designated site identified by the hospital such as operation theatre, ICU high dependence unit, labour room, CSSD/Autoclave, Transfusion services unit, food handling areas, drinking water etc.
- Post exposure Prophylaxis register is to be made available for staff in an institution, isolation barrier according to standards prescribed by KASH; nursing facilities must also be available.
- Healthcare institutions must also have a policy for restricting visitors in hospital during non-visiting times. This is the responsibility of the hospital.

- The hospital infection committee must develop, implement and monitor a checklist for housekeeping.
- Bio hazard symbols must be displayed wherever applicable. This is the responsibility of the hospital.
- Surveillance indices like checklists for housekeeping and hand washing surveillances must be made available by the hospital.
- The government or hospital must ensure proper manuals that contain isolation, care of systems and in-dwelling devices, food handling and handlers list, mortuary practices, investigation of outbreaks, special care unit and visitor's policy.
- The hospital must maintain managerial indicators including the percentage of post exposure prophylaxis used in needle stick injuries, patient satisfaction of OP and IP at least once in 6 months.
- It is the duty of the hospital to display indicators in imaging and diagnostic services including number of errors per thousand investigations per month, number of redo per thousand investigations per month and also display indicators for adverse drug events and anaesthesia including percentage of medication error per month.
- The hospital must ensure that data collection details and reports are documented as per standards of KASH.
- It is the responsibility of the hospital management to display information like Mission, Vision, Quality and Safety policy at least in OP, Casualty, Administration department; display user charts, tariff list, floor plan, layout of hospital including fire exit route.
- The government/hospital must ensure proper facility and safety assurance in periodic inspection of electrical facility round including signage and instruction board log book in generator room, sand buckets and rubber mat in electrical room. They must ensure availability of maintenance staff for periodic plumbing inspection.
- Periodic fire safety rounds must be done to ensure availability of fire extinguishers and fire exit plan. Awareness among staff must be created regarding dumping of combustible fuels and instructions to be followed during the outbreak.
- Periodic service inspection regarding lift safety, railings for ramps and toilets, straps for wheelchairs/stretchers, bed railing for vulnerable patients, trolley for transportation of cylinders must be taken care by hospital and government.
- The hospital must have proper emergency preparedness which also includes CODE BLUE team for CPR.
- The hospital must have a team for selection, recruitment, job specification, job description, transfer, promotion, disciplinary action, grievance handling, pre-employment health check-up, vaccination and credentialing.
- The hospital must maintain personal records of yearly health check-up for all employees.

- The hospital management must have no objection certificate from chief fire officer, no objection certificate under pollution act, radiation protection certificate in respect of all X-ray, Cath lab and CT-scanners from BARC according to standards prescribed by KASH.
- Hospital authorities must ensure that operative and other procedures must be performed and incorporated in medical records.
- They must maintain medical records that records, details and information when a patient is transferred to another hospital including date and reason for transfer and name of referred hospital and in case of death, the record must contain the cause of death indicating the date and time of death.
- The hospital must keep a display of immunisation services available.
- Government should have a record regarding medical rooms available, staff room, wards etc. They must provide cardiac monitor with defibrillator, binocular microscope or digital microscope, Xerox machine.
- The government must ensure that anti-malarial drugs are available in the hospital.

CONCLUSION:

The above mentioned hospitals are supposed to follow the KASH Guidelines and as stated above, the concerned authorities are supposed to take initiatives for the implementation of KASH standards in their respective hospitals.