

**Internship
at
Sub District Hospital, Palitana- Bhavnagar (Gujarat)**

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Abbreviations

1. Introduction

Sir Mansinh Ji Hospital, Palitana is a Sub District Hospital of Bhavnagar District located at 50 km of southwest of Bhavnagar City and The town is a major pilgrimage center for Jains. As of 2011 India Census, Palitana had a population of approximately 175,000. Males constitute 52% of the population and females 48%. Palitana has an average literacy rate of 74%, higher than the national average of 59.5%: male literacy is 71%, and female literacy is 57%. In Palitana, 15% of the population is under 6 years of age.

The hospital came in existence in 1915 after donation by the King of Palitana Shri Mansinhji. That time the hospital was started with 20 bedded facilities including Operation Theater, Outpatient Department and one male and female ward respectively and residential quarters for the staff. The total construction area of the hospital was 2000 square meters.

During the first five year plan there was an addition of facilities and the total bed capacity was increased to 32 bedded.

In 1956, there was an establishment of Maharani Sitaba Prasuti Grah from the donation by Maharaja Bahadur Singhji, for the Maternal and Neonatal services. There were twelve beds services with fully functional maternity facilities. The total area of the Sitaba Prasuti Grah was 26406 Square meters, including staff quarters and three residential homes for the doctors.

In 1971, there was further up gradation of facilities has done in the benefit of the residents of the town and taking consideration of Jain pilgrims. Now the total 56 beds were available in which six beds were reserved for family planning purposes. There was one post for each Superintendent and Resident Medical Officer of Class -1 and four Medical Officers of Class -

2 sanctioned. There was a ward established for Burns patient and Blood bank was established.

In 1986, there was Post Partum (PP) unit was established and the new post was sanctioned for Obstetrics& Gynecologist and Pediatrician. There was separate ambulance provided for Post Partum Unit except one ambulance of hospital.

In 1999, government further added the 25 beds and developed a new ward to accommodate these additional beds. Now the total bed capacity of the hospital was eighty one beds services.

In 1999-2000, for proper disposal of Bio Medical Waste Incinerator was installed in separate compound by State Government.

Recently in 2006, the whole hospital building was renovated along with Sitaba Prasuti Grah. Now the hospital is running in that renovated building and caters the population of Palitana, surrounding villages and the jain Pilgrims who all comes from different parts of the country.

2. Organization Profile

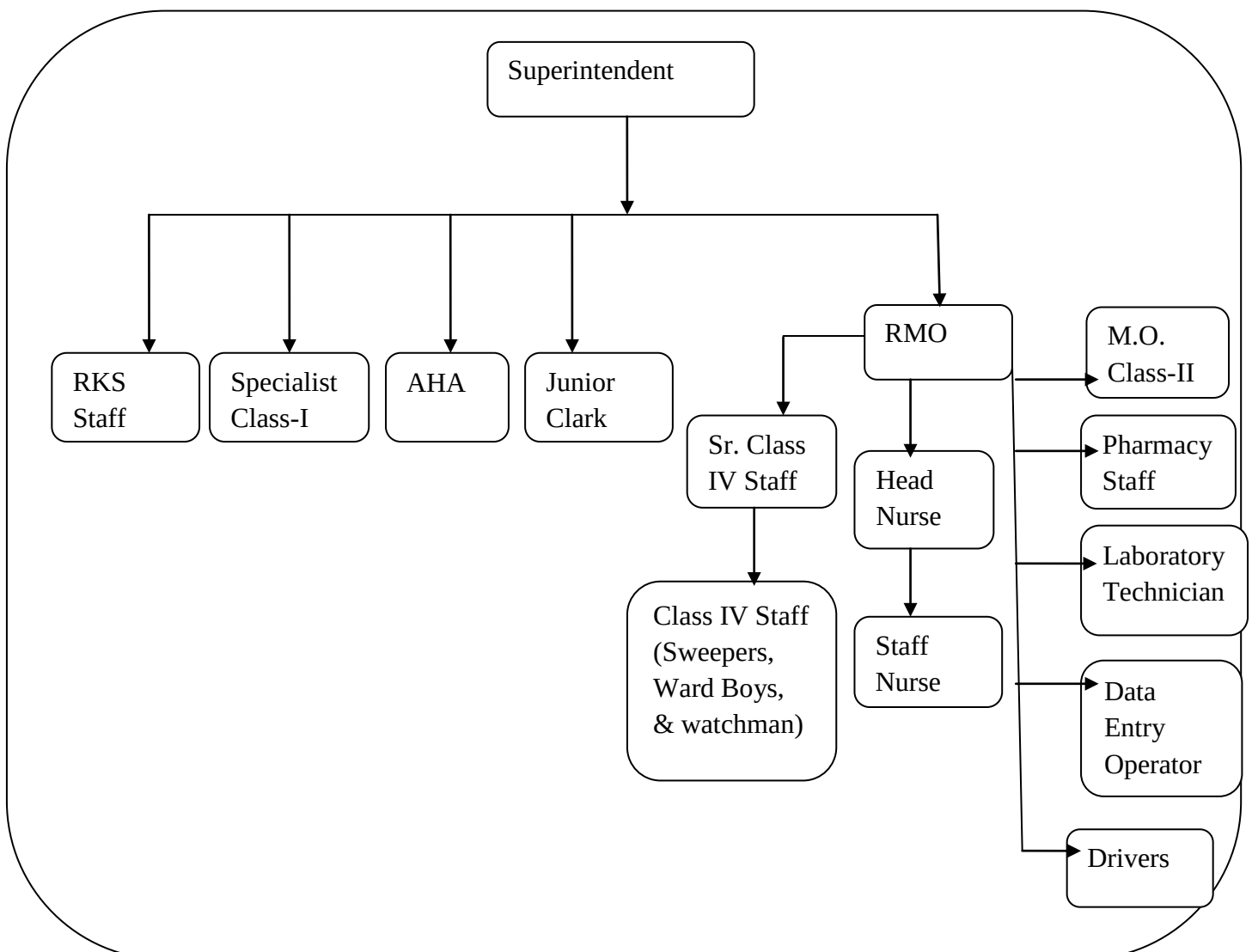
The hospital is situated in the center of the city and caters the population around 150,000 to 200,000. The hospital had 81 bedded sanctioned capacities with provision of specialty services to be provided but only 30 beds are working. The Hospital has two buildings, one is main building and another is Maternity building named as Sitaba Prasuti Grah.

The Outpatient Department, Inpatient Department, Emergency Room, Laboratory Services, Pharmacy Store, X-ray Unit, Operation Theatre and Administrative offices are situated in main Building.

The Labour Room and Maternity Ward are in the other building which is situated at distance of 100 meters approximately from main building. There is connectivity in between two by main road.

There is a committee in the hospital known as Rogi Kalyan Simiti Committee which is chaired by Dupty collector of the region and the Superintendent. There are total five members in the committee. There is regular meeting of committee once in a month. These committees will take the decision for welfare of the patients. The organization hierarchy of the organization as follows (Figure 1.)

Figure: 1 Organization Hierarchy



3. Services provided by Hospital

The hospital has 24*7 emergency services with medical officer on call. The outpatient department has one general OPD and two specialty OPDs for three hours a day under CM-SETU scheme of Government. Routine surgeries are not performed in the hospital due to shortage of skilled manpower including Anesthetics. The family planning surgeries are to be performed once or twice a week depending upon the case load. The following Figure 2 indicates the services provided by the hospital.

Figure 2 Services of the Hospital

S.N.	Department	
1	Out Patient Department	General OPD-1
		Pediatrics OPD-1
		Obstetrics and Gynecology OPD-1
2.	In Patient Department	Male Ward-8 bedded
		Female Ward-8 bedded
		Pediatrics Ward-6 bedded
3.	Operation Theatre	Family Planning Surgeries once in a week
4	Delivery complex	Labour Room
		Maternal Ward-8 bedded
5	Post Partum Services	Immunization and vaccination twice a week
		ANC checkups and registration under e-Mamta
6	Pharmacy Services	Only in OPD timings
7	Laboratory Services	Only Routine tests in OPD time
8	Emergency Room	First Aid only
9	RTI/STI Counseling	
10	Postmortem Room	

4. Departments visited/worked

- Out Patient Department
- Inpatient Department
- Accident & Emergency Department
- Laboratory Department
- Sitaba Prasuti Grah
- Operation Theatre
- HMIS Department
- Finance Department

5. Problems and issues in each department

Figure 3 Issues in each Department

S.N.	Department	Issues
1.	Registration	There is manual registration on a single case sheet and there is no duplicate copy of registration in hospital.
2.	Outpatient Department	There is only one general duty doctor at a time to see the regular OPD and no Outpatient record is available in the hospital.
3	Inpatient Department	This department is more or less likely day care center because maximum patient goes to home by the night and come back in next morning to continue treatment.
4	Delivery Complex	There is more than 50% cases are DAMA and New Born Care Center has to be developed.
5	Pharmacy	Regular stock outs are there and no pharmacist are available after OPD hours.
6	Laboratory	Lake of human resource impact the service mix of laboratory so only routine test are performed and turnaround time for reports are much high.
7	Operation Theatre	Very less utilization of the Operation Theatre and the surgical equipments are unutilized at a great extant due to lake of Anesthetics and other surgeons.
8	Accident and Emergency	This department caters only first aid and medical officer on call services and the majority of cases are referred to higher center which leads to higher case load on district hospitals.

6. Observation and learning

a. Comparative Hospital Performance of Last Three Months

Figure 4 Hospital Performance of last three Months

S.N.	Indicator	Janurary-2014	February-2014	March-2014
1.	No. of Total OPD Cases	7090	6863	8068
2.	No. of Total IPD Cases	309	260	289
3.	No. of Total Surgeries (Tubal Ligation)	17	7	13
4.	No. of Total Deliveries	96	88	82
5.	No. of Referred Cases	30	29	36
6.	No. of Delivery cases Referred	10	8	7

6.2 Inpatient Disease Profile of last Three Months

Figure 5 Inpatient Disease Profile of Last three Months

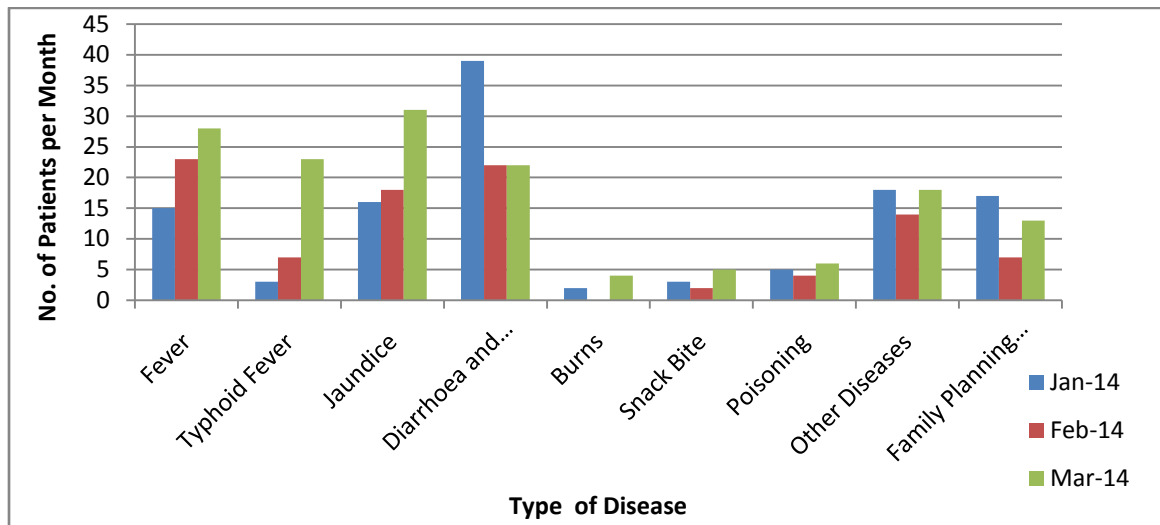


Figure 5 shows there is heavy case load of Diarrhea and vomiting followed by Jaundice in Inpatient department of hospital.

7. Gap Analysis according to Indian Public Health Standards (IPHS)

a. Introduction

Sub District (Sub-divisional) hospitals are below the district and above the block level (CHC) hospitals and act as First Referral Units for the Tehsil/Taluk/Block population in which they are geographically located. Specialist services are provided through these sub district hospitals and they receive referred cases from neighboring CHCs, PHCs and SCs. They have an important role to play as First Referral Units in providing emergency obstetrics care and neonatal care and help in bringing down the Maternal Mortality and Infant Mortality. They form an important link between SC, PHC, and CHC on one end and District Hospitals on other end. It also saves the travel time for the cases needing emergency care and reduces the workload off the district hospital. There are about 1200 such hospitals in the country with a varying strength of number of beds ranging from 31 to 100 beds or more.

The Government of India is strongly committed to strengthen the health sector for improving the availability, accessibility of affordable quality health services to the people. In order to improve the quality and accountability of health services a set of standards need to be there for all health service institutions including Sub-district hospitals.

Standards are a means of describing the level of quality the health care organizations are expected to meet or aspire to. The key aim of standard is to underpin the delivery of quality services which are fair and responsive to client's need, provided equitably and deliver improvements in health and well being of the population. Standards are the main drivers for continuous improvements in quality.

The Bureau of Indian Standards (BIS) has developed standards for hospital services for 30 bedded and 100 bedded hospitals. However, these standards are considered very resource intensive and lack the processes to ensure community involvement, accountability, the hospital management, and citizens' charter etc. peculiar to the public hospitals.

7.1.1 Objectives of Indian Public Health Standards (IPHS) for Sub-district Hospitals

1. To provide comprehensive secondary health care (specialist and referral services) to the community through the Sub-district Hospital.
2. To achieve and maintain an acceptable standards of quality of care.
3. To make the services more responsive and sensitive to the needs of the people of the Sub-district/Sub-division and act as the First Referral Unit (FRU) for the hospitals/centers from which the cases are referred to the Sub-district hospitals.

b. Rationale of the Study

The performance of Sub District Hospital can be assessed against a set of standards such as Indian Public Health Standards (IPHS) which contains the standards to bring the Sub-District Hospital to a minimum acceptable functional grade with Scope for further improvement in it.

c. Objective of the Study

1. To assess the existing service delivery status of the hospital as per IPHS guidelines.
2. To identify the gaps if any, as per IPHS guideline
3. To provide suggestion so as to meet the requirement as per IPHS guidelines.

d. Methodology

Information regarding the organization, location, history, manpower, organization hierarchy and other details were collected from hospital manual and concerned authorities. Various departments of the hospital were identified. A schedule of visit to the identified area was prepared and coordinator of that respective department was contacted. The surveillance findings and information collected were complied to generate a report. Both primary and secondary data were collected using IPHS facility survey format and observations were made along with interaction with concerned authorities. Hospital manuals and records were also studied.

e. Results

The finding of this study is comparative in nature , in which currently available services and facilities were compared against Indian Public Health Standards.

7.5.1 Services Provided by Sub-District Hospitals

The hospital services were analyzed against the actual bed requirement that is forty four beds strength. So according to Indian Public Health Standards this falls under Category-I, that is Sub District Hospital of 31-50 beds.

Figure: 6 Services to be provided by Sub-District Hospitals

S. N.	Service/Department	Essential/Desirable	Availability	Remarks
1	General Medicine	Essential	Available	
2	General Surgery	Essential		
3	Accidents and Emergency	Essential		

	Services including Poisoning and Trauma Care			
4	General Orthopedics	Essential		
5	Obstetrics & Gynecology	Essential	Available	
6	Family Planning Services like counseling, Tubectomy (both laproscopic and minilap), NSV, IUCD, OCPs, Condoms, ECPs, Follow up services	Essential	Available	
7	Paediatrics including Neonatology and Immunization	Essential	Available	
8	Anaesthesia	Essential		
9	Ophthalmology	Essential		
10	ENT	Essential		
11	Radiology including imaging services	Essential		
12	Dental Care	Essential		
13	DOT center	Essential	Available	
14	Designated Microscopy center	Essential		
15	AYUSH	Essential		
16	Public Health Management	Essential	Available	
17	Integrated Counseling and testing center	Essential		
18	Disability Certification	Essential		
19	Therapy and Appliances	Essential		
20	Services provided under National Health Programmes including lifestyle disorders	Essential		
21	Diagnostic and other Para clinical services	Essential		
22	Laboratory Services, X-ray, Ultrasound, ECG, Blood Transfusion and Storage	Essential	Available	
23	Safe Abortion Services	Essential		
24	Immunization	Essential	Available	
Total				

* No one Desirable Services are available.

The figure 1 shows that, There are total 24 clinical services are essential at Sub-District Hospital according to Indian Public Health Standards. But there are only 8 essential clinical services are available. So

Percentage of essential services available = $(8/24) \times 100$

=33.33%

There is only 33.33% essential Clinical services are available. The below figure 7 shows that there was 67% of non compliance in clinical Services.

Figure 7: Gap Analysis of Clinical Services

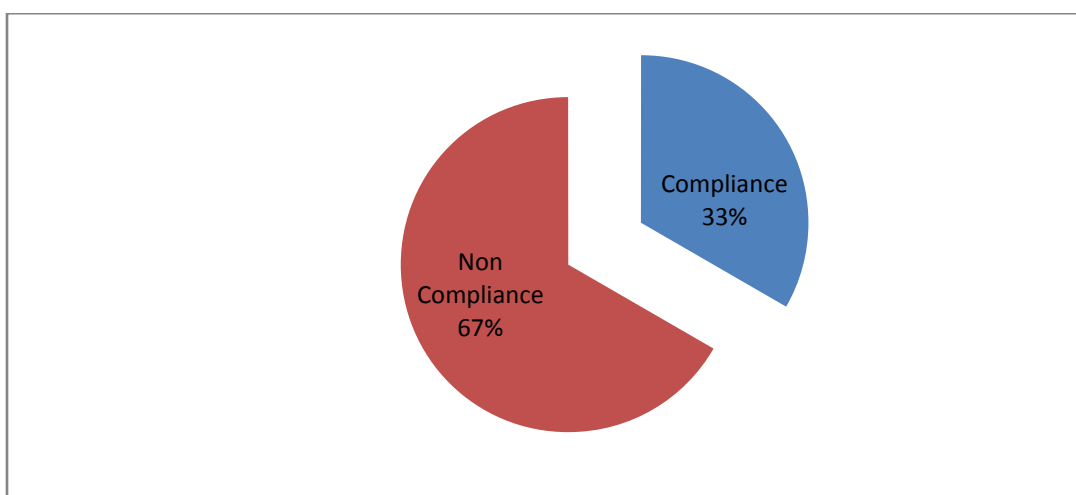


Figure 8: Support services to be provided by Sub District Hospital

S.N.	Services/Department	Essential /Desirable	Availability	Remarks
1	Finance	Essential		
2	Medico legal/postmortem	Essential	Available	
3	Ambulance Services	Essential		
4	Diatery Services	Essential		
5	Laundry Services	Essential		
6	Central sterile supply department	Essential		
7	Engineering and maintenance cell	Essential		
8	Security services including fire safety services	Essential		
9	Housekeeping and Sanitation	Essential	Available	
10	Medical Store and inventory management	Essential	Available	
11	Waste management	Essential	Available	

12	Medical Record department including MIS	Essential		
13	Standby power back up facility	Essential		
14	Office management	Essential		

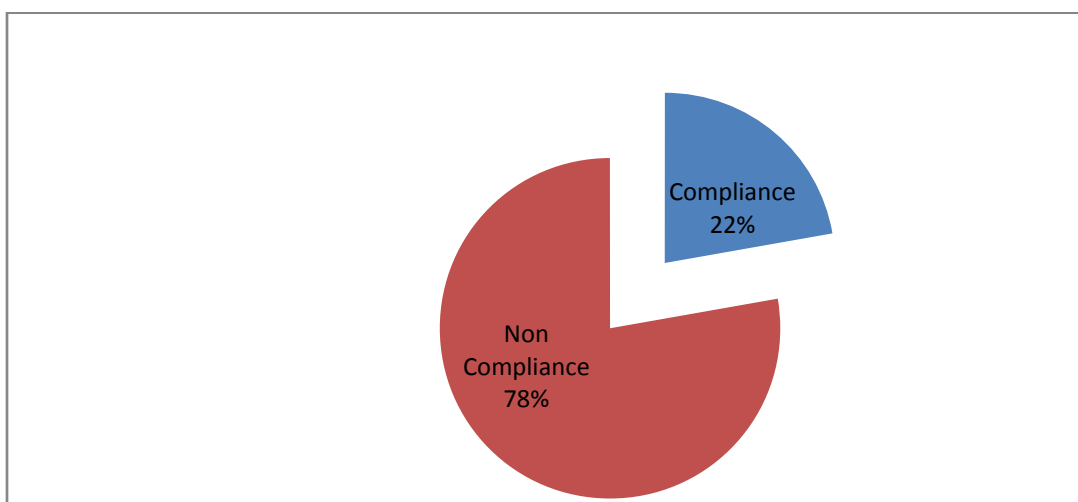
*No Desirable services are available.

There are total 14 support services are essential at Sub-District Hospital according to Indian Public Health Standards. There are only 4 essential support services are available. So

Percentage of Essential Support services available = $(4/14) \times 100 = 28.57\%$

The below figure 9 shows that, there is only 28.57% of essential support services are available.

Figure 9: Gap Analysis of Support Services



- Services under various National Health and family welfare programmes like Epidemic control and disaster preparedness and patient safety and infection control are to be followed.

7.5.2 Service Mix of Procedures in Medical and Surgical Specialties

The service mix of the hospital was analyzed against Indian Public Health standard for Sub District Hospital.

Figure 10: Service Mix of Procedures in Medical and Surgical Specialties

S.N.		
Medical		Total Services= 4
1	Pleural Aspiration	
2	Skin scraping for fungus/AFB	
3	Skin Biopsies	
4	Abdominal tapping	
OPD Procedures (Including IPD)		Total Services= 13
1	Dressing (Small, Medium, Large)	Available
2	Injection (I/M & I/V)	Available
3	Catheterization	
4	Steam Inhalation	
5	Cut down (Adult)	
6	FNAC	
7	Enema	
8	Stomach Wash	
9	Douche	
10	Sitz bath	
11	Blood Transfusion	
12	Hydrotherapy	
13	Bowel wash	
Skin Procedures		Total Services = 4
1	Chemical Cautery	
2	Electro Cautery	
3	Intra Lesional Injections	
4	Biopsy	
Pediatric Procedures		Total services = 8
1	Immunization as per National Immunization Schedule/ORT Corner	Available
2	Only cradle	
3	Incubator, nebulization equipment	
4	Radiant Heat warmer	Available
5	Phototherapy	
6	Gases (oxygen)	Available
7	Cut down	
8	Ventilator	

Cardiology Procedures and Diagnostic Tests		Total services = 3
1	ECG	
2	Defibrillator Shock	
3	Laproscopy (Diagnostic and Therapeutic)	

Physical Medicine and Rehabilitation (PMR) Services		Total Services = 10
Eye Specialist Services		Total Services = 25
ENT Services		Total Services = 28
Obstetrics & Gynecology Specialist Services		Total Services = 20
1	Episiotomy	Available
2	Forceps Delivery	
3	Craniotomy –Dead Fetus/Hydrocephalus	
4	Caesarian section, Caesarian Hysterectomy	
5	Female Sterilization (Mini Laparotomy & Laparoscopic)	Available
6	Dilatation and Cutettage (D &C)	
7	MTP/MVA	
8	IUCD services/ PPIUCD	
9	Bartholin Cyst Excision	
10	Suturing Perineal Tears	
11	Assisted Breech Delivery	
12	Cervical Cautry	
13	Normal Delivery	Available
14	Caesarian	
15	Examination under Anesthesia	
16	Mid-trimester Abortion	
17	Ectopic Pregnancy Ruptured	
18	Retain Placenta	
19	Suturing Cervical Tear	
20	Assisted Twin Delivery	
Dental Services		Total Services =14
Surgical Services		Total Services = 67
Urology Services (Desirable)		Total Services= 10
Plastic Surgery		Total Services = 10
Pediatric Surgery		Total Services = 1
Orthopaedic Surgery		Total Services = 7
Total Services = 224		Total Available= 8

Non Conformity= $100 - \{(8/224) \times 100\}$

$$= 100 - 3.57 = 96.42\%$$

The below figure 11 shows that there is only 4% of the services were available against Indian Public Health Standards for Sub District Hospital.

Figure 11: Gap Analysis of service mix of Hospital



7.5.3 Recommended Service Mix (Suggested Action)

The recommended service mix and further suggested action of that condition was compared with set standards for Sub District level hospital.

Figure 12: Recommended Service Mix (Suggested Action)

S.N.	Name of illness	Suggested Action	Status
1	Bleeding during first trimester	Treat	Compliance
2	Bleeding during second trimester	Treat	Compliance
3	Bleeding during third trimester	Treat	Compliance
4	Normal delivery	Yes	Compliance
5	Abnormal Labour (Mal-presentation, prolonged Labour, Obstructed Labour)	Treat	Non-Compliance
6	PPH	Treat	Non-Compliance

7	Puerperal Sepsis	Treat and refer if necessary	Non-compliance
8	Ectopic Pregnancy	Diagnose and refer if necessary	Non-Compliance
9	Hypertensive Disorders	Conservative management and follow up services	Non-compliance
10	Septic Abortion	Treat and refer if necessary	Non-Compliance
11	Medical Disorders complicating Pregnancy (Heart Disease, Diabetes, Hepatitis)	Diagnose and refer	Non-Compliance
12	Bronchial Asthma	Diagnose, first aid and delivery	Non-Compliance
Gynecology			
1	RTI/STI	Treat	Compliance
2	Dysfunctional Uterine Bleeding (DUB)	Treat	Non-Compliance
3	Benign disorders (Fibroid, prolapsed, ovarian masses, initial investigation at PHC/Gr III level)	Diagnose and treatment, refer if necessary	Non-Compliance
4	Breast Tumor	Refer	Non-compliance
5	Cancer cervix screening initial investigation at PHC/ Gr III level	Collection of PAP SMEAR and biopsy	Non-compliance
6	Cancer cervix/Ovarian initial investigation at PHC/ Gr III level	Diagnose and refer	Non-Compliance
7	Infertility	Investigate and refer	Compliance
8	Prevention of MTCT	Treat	Non-Compliance
9	MTP/MVA services	Treat	Compliance
10	Tubectomy	Yes	Compliance

The above figure 12 shows that only 40 % of the compliance in the service mix of the sub district hospital was found.

7.5.3.1. General Medicine

The below figure 13 shows the comparative analysis of service mix of general medicine department.

Figure 13: General Medicine

S.N.	Name of illness	Suggested Action	Status
1	Fever- Short duration (< 1 week)	Basic investigation and treatment	Compliance
	Fever- Long duration (>1 week)	Investigation and treatment, Refer if necessary	Compliance
	Typhoid	Treat	Compliance
	Malaria/Filaria	Treat	Compliance
	Pulmonary Tuberculosis	Treat	Compliance
	Viral Hepatitis	Treat	Compliance
	Leptospirosis/Meningitis and Haemorrhagic fever	Treat and Refer if necessary	Compliance
	Malignancy	Refer	
2	Common Respiratory illness		
	Bronchial Asthma/Pleural effusion/Pneumonia/Allergic Bronchitis/COPD	Diagnose and Treat	Compliance
3	Common Cardiac Problem		
	Chest Pain	Treat and decide further management	Compliance
	Giddiness	Diagnose and treat	Compliance
4	G I Tract		
	G I Bleed/Portal hypertension/Gall Bladder disorders	Emergencies-treat and refer if necessary	Non-Compliance
	AGE/Dysentery/ Diarrheas	Treat	Compliance
5	Neurology		
	Chronic Headache	Refer	
	Chronic Vertigo/ CVA/ TIA/ Hemiplegic/Paraplegia	Refer	
6	Hematology		
	Anemia	Basic investigation and Treatment	Compliance
	Bleeding Disorders	Stabilize Refer to tertiary	
	Malignancy	Refer	
7	Communicable Diseases		
	Cholera, Measles, Mumps, Chickenpox	Treat	Compliance
8	Psychological Disorders		
	Acute psychosis/Obsession/Anxiety neurosis	Screening, emergency care and referral	Compliance

7.5.3.2 Paediatrics

The below figure 14 shows the comparative analysis of paediatric service mix against set standards.

Figure 14: Paediatrics Service Mix

S.N.	Name of illness	Suggested Action	Status
1	ARI/Bronchitis Asthmatic	Investigate, diagnose, Nebulization, Treat, Refer if no improvement	Compliance
2	Diarrohoeal Diseases	Diagnose, Treat (ORS, IVF), ORT Corner, Refer if no improvement	Compliance
3	Protein energy Malnutrition and Vitamin Deficiencies	Diagnose, Treat and Refer	Compliance
4	Pyrexia of unknown origin	Investigate, diagnose, treat, refer if no improvement	Compliance
5	Bleeding disorders	Treat and refer if necessary	Compliance
6	Diseases of Bones and Joints	Treat	Non-Compliance
7	Childhood Malignancies	Early diagnosis and refer	Non-Compliance
8	Liver Disorders	Diagnose and refer	Non-Compliance
9	Paediatric Surgical Emergencies	Early diagnosis and refer	Non0Compliance
10	Poisoning, Sting, Bites	First aid, treat and refer if necessary	Compliance

7.5.3.3 Neonatology

The below figure 15 shows the comparative analysis of neonatal service mix against set standards.

Figure 15: Neonatology Service Mix

S.N.	Name of illness	Suggested Actions	Status
1	Attention at Birth (to Prevent illness)	SBA	Compliance
2	Hypothermia	Warm Chain	Compliance
3	Birth asphyxia	Resuscitation and Treatment	Compliance
4	Hypoglycemia	Treat	Compliance
5	Meconium Aspiration syndrome	Treat	Compliance
6	Convulsions (Seizures)	Treat	Compliance
7	Neonatal sepsis	Treat	Non-Compliance
8	Low Birth Weight (LBW)	1800-1500 gm. Treat with kangaroo care	Compliance
9	Neonatal Jaundice	Treat	Compliance
10	Pre-term	Warm Chain, feeding, kangaroo care	Compliance
11	Congenital Malformation	Examine and refer	
12	R.D.S., ARI	Manage and refer	
13	Dangerously ill Baby	Identify, manage and refer	Non-Compliance
14	Feeding Problems	Identify and manage	Compliance
15	Neonatal Diarrhoea	Diagnosis and Manage	Non-compliance
16	Birth Injury	Minor-Manage, Major-Refer	Non-Compliance
17	Neonatal Meningitis	Manage and refer	Non-compliance
18	Renal Problems/Congenital Heart Disease/ Surgical Emergencies	Refer	Non-Compliance
19	HIV/AIDS	Follow up and refer to ART Center	Compliance
20	Hypocalcemia	Manage	Compliance
21	Metabolic Disorders	Identify and refer	
22	Hyaline membrane Diseases	Diagnose and refer	
23	Neonatal Malaria	Manage	Non-compliance
24	Blood Disorders	Manage	Non-Compliance
25	Developmental Delays	Diagnose and Manage	Non-Compliance
26	UTI	Manage	Compliance
27	Failure to Thrive	Manage and refer	Compliance

7.5.3.4 Service Mix of other Specialties

The below figure 16 shows the comparative analysis of the service mix of other specialties.

Figure 16: Service Mix other specialties

S.N.	Speciality	Total Services	Status/Available
1	Dermatology	7	0
2	Chest Diseases	6	0
3	Psychiatry	8	0
4	Diabetology	6	0
5	Nephrology	8	0
6	Neuro Medicine and Neuro Surgery	6	0
7	General Surgery	7	0
8	Ophthalmology	10	0
9	Ear, Nose, Throat	14	0
10	Orthopaedics	4	0
11	Urology	20	0
12	Dental Surgery	8	0
		104	0

7.5.3.5 Health Promotion and Counseling

The below figure 17 shows the comparative analysis of the health promotion and counseling service against set standards.

Figure 17: Health Promotion and Counseling

S.N.	Name of illness	Suggested Action	Status/Available
1	CHD/M.I.	Counseling	
2	Diabetes	Safe style change/Physiotherapy	
3	Substance Abuse	Vocational Rehabilitation	
4	HIV/AIDS	HIV counseling	Available
	Total Services	4	1

7.5.3.6 Community Health Services

The below figure 18 shows the comparative analysis of the community health services against set standards.

Figure 18: Community Health Services

S.N.	Name of illness	Suggested Action	Status
1	Community & Vaccine preventable Diseases	Health Promotional Activities like ORT canon, Immunization camps	Available
2	Non Communicable Diseases	Epidemic Health investigation, Health Promotion & Counseling activities	
3	Adolescent & School Health	Adolescent & School Health Promotional Activities	
4	Family Planning	Counseling services; Camp; Follow up of Contraceptive users	Available
5	HIV/AIDS	HIV Counseling and Testing; STI Testing; Blood Safety; STI syndromic Treatment	Available
	Total Services	5	3

7.5.4 Physical Infrastructure

7.5.4.1 Size of Hospital

The size of a Sub-district hospital is a function of the hospital bed requirement which in turn is a function of the size of the population serve. In India size of Sub-district hospital varies from 1,00,000 to 5,00,000.

The population of Palitana Tehsil is 175000 so the coverage area not exceed 2, 00,000.

Based on assumptions of the annual rate of admission as 1 per 50 population. And the average length of stay in a hospital is 5 days. So number of bed required:-

Total number of Admissions per year = $200000 * 1/50 = 4000$

Bed Days per year = $4000 * 5 = 20,000$

Total number of bed required when occupancy is 100% = $20000/365 = 55$ Beds

Total number of bed required when occupancy is 80% = $(20000/365) * (80/100) = 44$ Beds

7.5.4.2 Area of the Hospital

According to Indian Public Health Standards an area of 65-85 m² per bed has been considered to be reasonable. This area will include the service areas such as waiting space, entrance hall, registration counter etc. In addition, Hospital Service buildings like Generators, Heat Ventilation and Air Conditioning plant (HVAC plant), manifold rooms, Boilers, Laundry, Kitchen and essential staff residences are required in the hospital campus. So

The area will required = $44 * (65-85) \text{ m}^2 = 2860-3740$ Square meters

The available space at Sir Mansinhji Hospital including Sitaba Prasuti Grah = 5250 square meters

1. Building and Space Requirement

The below figure 19 shows the comparative analysis of the building and space requirement against set standards.

Figure 19: Building and Space Requirement

S.N.	Requirement	Available according to set Standards
1	Signage	Not Available according to set Standards
2	Disaster Prevention Measures	Fire Fighting equipments are available.

3	Environmental Friendly Feature	Not Available as per set Standards
4	Administrative Block	Available
5	Circulation Areas	Available
6	Floor Height	Available
7	Entrance Area	Not Available as per set Standards
8	Ambulatory Care Area (OPD)	Not Available as per Standards
9	Diagnostic Services	Available
10	Blood Storage Unit	Not Available
11	Inpatient Nursing units	Available
12	Patient Convenience	Available
13	Pharmacy	Available
14	Accident and Emergency services	Not Available as per Standards
15	Operation Theatre	Available
16	Delivery Suite Unit	Available
17	Post Partum Unit	Available
18	Physical Medicine and Rehabilitation	Not Available
19	Management Information System	Not Available
20	Central Sterile Supply department	Not Available
21	Hospital Laundry	Out Sourced
22	Medical and General Stores	Not Available
23	For Storage of Vaccines and other Logistics	Available
24	Mortuary	Available
25	Engineering Services	Not Available
26	Public Health Engineering	Not Available upto the mark
27	Waste Disposal System	Available

28	Fire Protection System	Available
29	Telephone and Intercom	Available
30	Medical and cooking gas	Available
31	Building Maintenance	Not Available
32	Parking	Available
33	Annual Maintenance Contract	Not Available
34	Residential Quarters	Not as Per Standards
	Total Required Parameters =34	Available= 17

The above figure 19 depicts that 50% compliance in the building and space requirement.

7.5.5 Manpower Analysis

The manpower analysis of clinical and non clinical fertility according to Indian Public Health Standards was done through comparative analysis.

7.5.5.1 Manpower – Doctors

Man power analysis is done according to actual requirement of the hospital (Bed Strength =44). The below figure shows the comparative analysis of man power requirement of Doctors against set standard for sub district hospitals.

Figure 20: Medical Manpower analysis

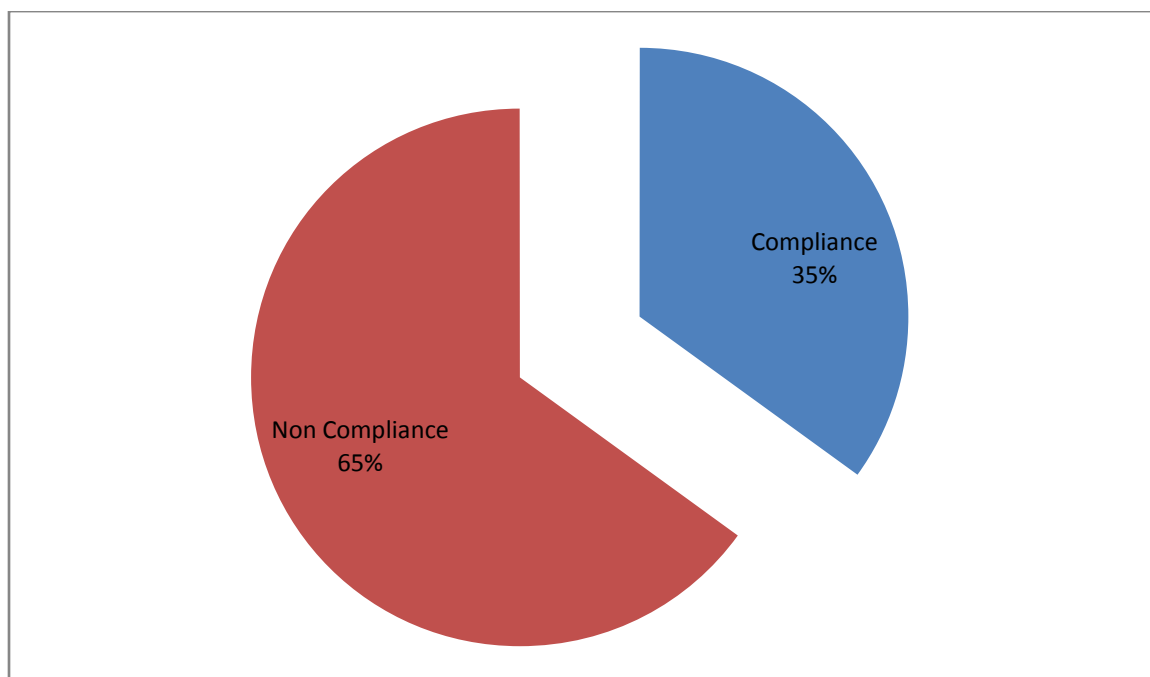
S.N.	Staff	Essential	Desirable	Available	Remarks
1	Hospital Superintendent	1		1	
2	Medicine Specialist	1	+1	0	
3	Surgery Specialist	1		0	
4	O&G Specialist	1	+1	1 [*]	Part Time (CM Setu)
5	Dermatologist/Venereologist		1	0	
6	Pediatrician	1		1 [*]	Part Time (CM Setu)
7	Anesthetist (Regular/Trained)	1		0	
8	ENT Surgeon	1		0	

9	Ophthalmologist	1		0	
10	Orthopaedician	1		0	
11	Radiologist	1		0	
12	Casualty Doctors/General Duty Doctors	7(3 Lady MOs)		3* (Including RMO)	1 on Deputation
13	Dental Surgeon	1		0	
14	Public Health Manager	1		1	
15	Forensic Expert			0	
16	AYUSH Physician	1		0	
17	Pathologist with DCP/MD (Micro)/MD (Path.)/MD(Biochemistry)			0	
18	Psychiatrist			0	
	Total	20	23	7	

Non Conformity = $\{100 - (7/20) \times 100\} = 100 - 35 = 65\%$

The below figure 21 depicts that only 35% of the compliance in man power of doctors according to the Indian Public Health standard for sub district hospital

Figure 21: Gap Analysis of Essential Medical Manpower



7.5.5.2 Man Power- Para Medical

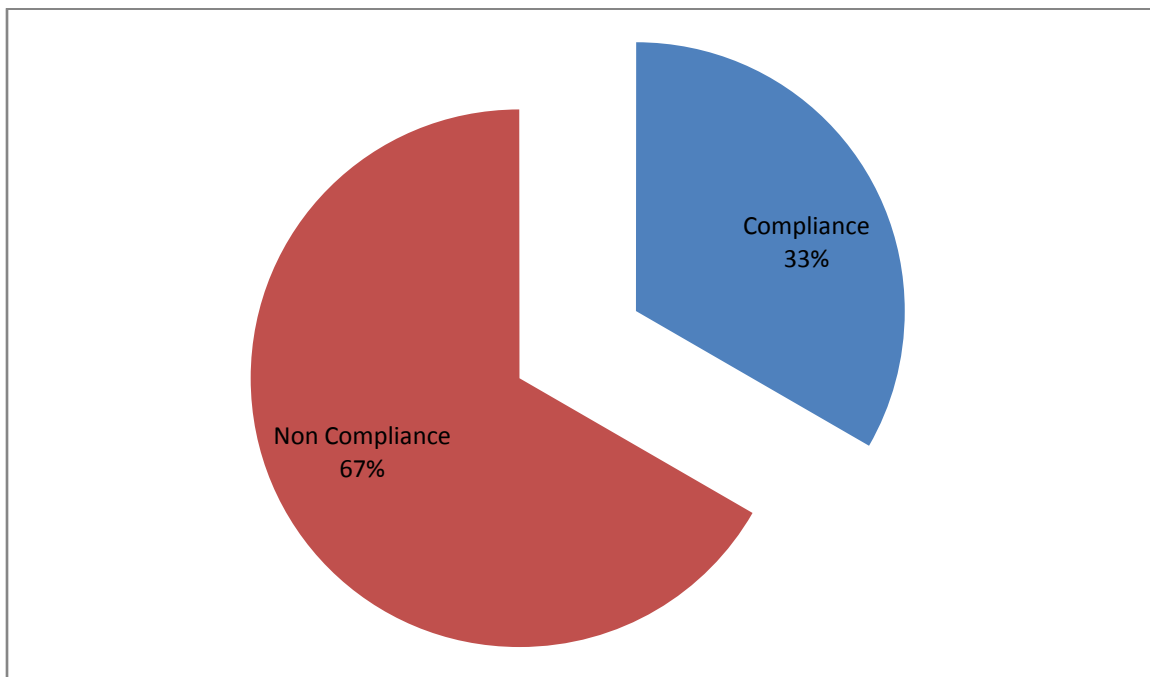
The paramedical staff requirement against set standard in a sub district hospital was analyzed and results as shown in figure 22.

Figure 22: Comparative analysis of Paramedical manpower Requirement

S.N.	Staff	Essential	Desirable	Available	Remarks
1	Staff Nurse*	18	+2	10	
2	Sister In charge			1	
3	General Duty Attendant/Hospital Workers (Including Cold Chain Handlers**)	6		0	
4	Ophthalmic Assistant/Refractionist	1		0	
5	ECG Technician	1		0	
6	Audiometrician	1		0	
7	Laboratory Technician (Lab + Blood Storage)	4		1	
8	Laboratory Attendant (Hospital Worker)	2		0	
9	Radiographer	1		0	
10	Pharmacist	3*		2*(1 on Contract basis)	
11	Dietician		1	0	
12	Dental Assistant/Dental Technician/Dental Hygienist	1		0	
13	Physiotherapist/Occupational Therapist/Rehabilitation Therapist	1		0	
14	Counselor			1(Female)	
15	Multi Rehabilitation Worker	2		0	
16	Statistical Assistant	1		0	
17	Medical Record Officer/Technician	1		0	
18	Electrician	1		0	
19	Plumber	1		0	
20	Cold Chain & Vaccine Logistics Assistant	1		0	
	Total	45	48	15	

The below figure depicts that there was only 33% of compliance there for paramedical staff availability.

Figure 23: Gap Analysis of Paramedical Manpower Requirement



7.5.5.3. Man Power- Administrative Staff

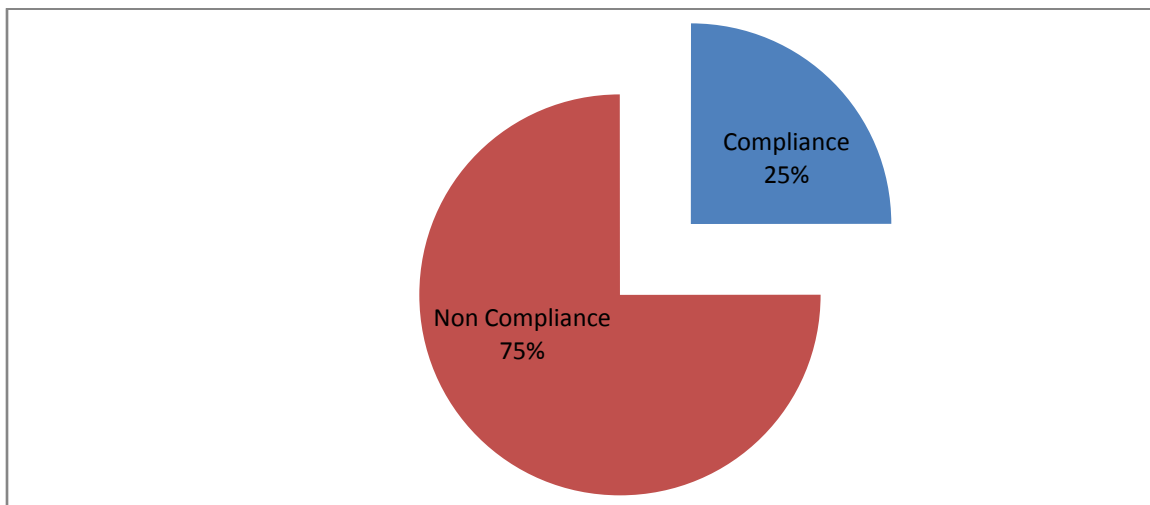
The below figure 24 shows the comparative analysis for administrative manpower requirement.

Figure 24: Comparative analysis of Administrative staff requirement

S.N.	Staff	Essential	Available	Remarks
1	Junior Administrative Officer/Office Superintendent	1	1	
2	Accountant	2	1	
3	Computer Operator	4	0	
4	Driver	1	0	
5	Peon	2	1	
6	Security Staff	2	0	
	Total	12	3	

The below figure 25 depicts that only 25% of the compliance in administrative staff availability.

Figure 25: Gap Analysis of Administrative Manpower Analysis



7.5.5.4. Staff Requirements in other Facility Areas

The below figure 26, 27 & 28 shows the comparative analysis of staff required in other facility areas.

Figure 26: Man Power Operation Theatre

S.N.	Staff	Emergency/FW OT	Available	Remarks
1	Staff Nurse	2	2	
2	OT Assitant	2	0	
3	Safai Karamchari	1	1	
	Total	5	3	

Figure 27: Man Power – Blood Storage Unit

S.N.	Staff	Essential	Available	Remarks
1	Staff Nurse	1	0	
2	Attendant	1	0	
3	Blood Bank/Storage Technician	1	0	
4	Safai Karamchari	1	0	
	Total	4	0	

Figure 28: Man Power- Post Partum Unit*

S.N.	Staff	Desirable*	Available	Remarks
1	Doctor: MBBS with PG in Obstetrics and Gynaecology	1	0	
2	Staff Nurse	1	0	
3	Counselor cum Data Entry Operator	1	0	
	Total	3	0	

*In case Delivery Load is more than 75 per month.

The above figures 26, 27 & 28 shows that there was only 25 % of the compliance according to Indian Public Health standards.

7.5.6 Equipments

The below figures from 29 to 42 were shows the comparative analysis of the different equipments availability against set parameters of Indian Public Health Standards.

Figure 29: Imaging Equipments

S.N.	Name of the Equipment	Essential	Available
1	100 M.A. X-ray Machine	1	1
2	Dental X-ray Machine	1	0
3	Ultra Sonogram	1+1(Desirable)	1
X-ray Room Accessories			
1	x-ray developing tank	1	1
2	Safe light X-ray dark room	1	1
3	Cassettes X-ray	4	4
4	X-ray lobby single	2	2
5	Lead Apron	1	2
6	Intensifying screen X-ray	1	1
		13	13

Figure 30: Cardiopulmonary Equipments

S.N.	Name of Equipment		
1	ECG machine computerized	1	1 (ordinary)
2	Cardiac Monitor	1+1(Desirable)	2
3	Pulse Oxymeter	1+1(Desirable)	3

4	Infusion pump	1	4
5	B.P. apparatus table model	6+4(Desirable)	4
6	B.P. apparatus stand model	4	1
7	Stethoscope	2+10(Desirable)	3
8	Nebulizer	1	1
9	Peak Expiratory Flow Rate Meter (PEFR)	1(Desirable)	0
10	Ventilators (Adult)	0	1
11	Ventilators (Pediatrics)	0	2
	Total	18	22

Figure 31: Labour ward & Neo Natal Equipment

S.N.	Name of Equipment		
1	Baby Incubators	1	6
2	Phototherapy unit	1	1
3	Emergency Resuscitation Kit-Baby	2	2
4	Standard weighting scale	2	2
5	New Born care Equipment	2 Set	2
6	Double Outlet Oxygen Concentrator	2	4
7	Radiant Warmer	1	5
8	Room warmer	2	1
9	Foetal Doppler	1+1(Desirable)	6
10	Delivery Kit	2	1
11	Episiotomy kit	1	1
12	Forceps Delivery kit	1	0
13	Silastic vacuum extractor	1	1
14	Pulse Oxymeter baby & Adult	1	3
15	Cardiac Monitor Baby	1(Desirable)	0
16	Nebulizer baby	1	1
17	Weighing Machine adult	2	2
18	Weighing machine infant	2	2
	Total	26	40

Figure 32: Immunization Equipment

S.N.	Name of Equipment		
1	ILR & DF with stabilizer	ILR (L)-1, & DF (L)-1 for immunization at hospital purpose	ILR -1, DF(L)-1
2	Spare ice pack box	One from each equipment	
3	Waste disposal twin bucket, hypochloride solution/bleach	2 per ILR bimonthly	2
4	Freeze tag	Need base	
5	Thermometer Alcohol (stem)	2	2

6	Almirah for vaccine logistics	2	2
7	Almirah for vaccine logistics	1	1
8	Immunization table	5	2
9	Chair	3	3
10	Stools for immunization room	2	2
11	Bench for waiting area	1	1
12	Dustbin with lid	One from each equipment	
13	Water Container	1	1
14	Hub Cutters	2	2
15	5 KVA Generator with POL for immunization purpose	1	
		24	20

Figure 33: Ear Nose Throat Equipment

S.N.	Name of the Equipment		
1	Indigenous Digital Audiometer	1	0
2	Impedance Audiometer	1(Desirable)	0
3	Operating Microscope(ENT)	1	0
4	Head Light (ordinary) (Boyle Davis)	2	0
5	ENT Operation set including headlight, Tonsils	1	1
6	Ear Surgery Instruments	2 set	2
7	Mastoid Set	1	1
8	Micro Ear Set myringoplasty	1	0
9	Micro drill system	2 set	2
10	Stapedotomy set	1	1
11	Stapedioplasty	1	1
12	ENT Nasal Set (SMR, Septoplasty, Polypectomy, DNS, Rhinoplasty)	1(Desirable)	1
13	Laryngoscope fiberoptic ENT	1(Desirable)	1
14	Laryngoscope indirect	2	2
15	Otoscope	2	2
16	Oesophagoscope Adult	1	1
17	Oesophagoscope Child	1	1
18	Head Light (Cold Light)	1	1
19	Tracheostomy set	2	1
20	Tuning fork	1	0
21	Oto Acoustic Emission (OAE) OAE Analyzer	1(Desirable)	0
22	Sound proof Room	1(Desirable)	0
		23 (essential)	18

Figure 34: Eye Equipment

S.N.	Name of Equipment		
1	Ophthalmoscope- Direct	1	1
2	Slit Lamp	1	1
3	Retino scope	1	1
4	Perimeter	1	1
5	Binamags	1	1
6	Distant Vision Charts	1	1
7	Foreign Body spud and needle	1	1
8	Lacrimal cannula and probes	1	1
9	Lid retractor (Desmarres)	1	1
10	Near Vision Charts	1	1
11	Punctum Dialator	1	1
12	Rotator Visual acuity drum	1	1
13	Torch	2	2
14	Trial frame Adult/Children	1	1
15	Trial Lens Set	1	1
16	IOL Operation set	2	2
17	YAG Laser	1	1
18	Operating Microscope	1	1
19	A-Scan Biometer	1	1
20	Keratometer	1	1
21	Auto Refractometer	1	1
22	Flash Autoclave	1	1
23	Applanation Tonometer	1(Desirable)	
		24	24

Figure 35: Dental Equipments

S.N.	Name of Equipment	Essential	Available
1	Total no of Dental Equipments	5	0

Figure 36: Operation Theatre Equipments

S.N.	Name of Equipment	Essential	Available
1	Auto Clave HP Horizontal		1
2	Auto Clave HP Vertical (2 Bin)	1	2
3	Operation Table Ordinary Paediatric		0
4	Operation Table Hydraulic Major	1	2
5	Operation Table Hydraulic Minor	1	1
6	Operation Table non-hydraulic field type	1	0
7	Operating Table Orthopaedic		1
8	Autoclave with Burners 2 Bin		1
9	Autoclave vertical single bin	1	0

10	Shadow less Lamp Ceiling type major	1	2
11	Shadow less lamp Ceiling type Minor	1	1
12	Shadow less lamp Stand model	1	4
13	Focus Lamp Ordinary	1	1
14	Sterilizer Big (Instruments)	1	1
15	Sterilizer Medium (instruments)	2	2
16	Sterilizer Small (Instruments)	2	3
17	Bowl Sterilizer- Big	1	0
18	Bowl Sterilizer- Medium	1	0
19	Diathermy Machine (Electric Cautry)	1	1
20	Suction Apparatus- Electrical	2	3
21	Suction Apparatus- Foot operated	1	3
22	Dehumidifier		0
23	Ultra violet lamp Philips model 4 feet	2	0
24	Ethylene Oxide Sterilizer		0
25	Microwave Sterilizer		0
		22	29

Figure 37: Laboratory Equipments

S.N.	Name of Equipment	Essential	Available
1	Binocular Microscope	2	2
2	Balance (Electric Monopan)		
3	Simple Balance	1	1
4	Electric Colorimeter	1	1
5	Auto Analyzer	1	
6	Semi auto Analyzer		1
7	Micro Pipettes of different volume range	1	3
8	Water Bath	1	
9	Hot Air Oven	1	
10	Lab Incubator	1	1
11	Distilled Water Plant	1	
12	Electricentrifuge Table Top	1	2
13	Cell Counter Electronic	1	
14	Hot Plates	2	
15	Rotor/Shaker	1	
16	Counting Chamber	2	4
17	PH Meter	1	
18	Paediatric Glucometer/Bilirubinometer		1
19	Glucometer	1	1
20	Haemoglobinometer	1	1
21	TCDC count apparatus	1	1

22	ESR Stand with Tubes	1	1
23	Test Tube Stands	3	2
24	Test Tube Rack	3	2
25	Test Tube Holders	3	1
26	Spirit Lamp	4	1
27	Timer Stop watch	1	1
28	Alarm Clock	1	
29	Lab Autoclaves	2	
30	Refrigerator	1	2
31	Bio-Safety Cabinet (Class-I)		
32	Automatic Blood Gas Analyzer	1	
33	Whole Blood Finger Prick HIV Rapid Test and STI Screening Test Each	2000	Available as per requirement
	Total Equipments	41	29

Figure 38: Surgical Equipment set

S.N.	Name of Equipment	Essential	Available
1	P.S.Set	1	1
2	MTP Set	1	1
3	Biopsy Cervical Set	1	1
4	D & C Set	1	1
5	I.U.C.D. Kit	1	2
6	LSCS Set	1	1
7	MVA Kit	1	1
8	Vaginal Hysterectomy	1	1
9	Proctoscopy Set	1	1
10	P.V.Tray	1	1
11	Abdominal Hysterectomy Set	1	1
12	Laparotomy set	1	1
13	Formalin Dispenser	1	3
14	Kick Bucket	4	4
15	General Surgical Instrument Set Piles, Fistula, Fissure	1	1
16	Knee Hammer	1	1
17	Hernia, Hydrocele	1	1
18	Varicosevein set		0
19	Gynae Electric Cautery		1
20	Vaginal Examination Set	2	1
21	Suturing Set	2	1
22	MTP Suction Apparatus	1	0
23	Thoracotomy set		
24	Neuro Surgery Craniotomy Set		
25	I M Nailing Kit		

26	SP Nailing		
27	Compression Plating Kit		
28	AM Prosthesis		
29	Dislocation Hip Screw Fixation		
30	Fixation Fracture Hip		
31	Spinal Column Back Operation set		
32	Thomas Splint	3	0
33	Paediatric Surgery Set	1	0
34	Mini Surgery set	1	1
35	Urology kit		1
36	Surgical Package for Cholecystectomy		
37	Surgical Packages for Thyroid		
38	GI Operation Set	1	1
39	Appendicectomy set	1	1
40	L.P.Tray	1	1
41	Urethral Dilator Set	1	1
42	TURP resectoscope		
43	Haemodialysis Machine		
44	Amputation Set	1	1
45	Universal Bone Drill		
46	Crammer Wire Splints	6	0
47	Colposcope	1	
48	Cryoprobe	1	
		43	32

PMR Equipments are desirable and that are total 30 in number.

Figure 39: Endoscopy Equipment

S.N.	Name of Equipments	Essential	Available
1	Endoscope fiber optic (OGD)		
2	Arthroscope		
3	Laproscope operating major with accessories		1
4	Laproscope diagnostic and for sterilization	1	1
5	Colonoscope and sigmoidoscope		
6	Hysteroscope		
7	Colposcope		
		1	2

Figure 40: Anesthesia Equipments

S.N.	Name of Equipment	Essential	Available
1	Anaesthetic- Laryngoscope magillis with four blades	2	2
2	Endo tracheal tubes sets	1	1
3	Magillis forceps (two size)	3	3
4	Connector set of six for ETT	3	3
5	Tubes connecting for ETT	4	4
6	Air Way female	4	4
7	Air way male	8	8
8	Mouth Prop	6	6
9	Tongue Depressors	6	6
10	O ₂ cylinder for Boyles	6	6
11	N ₂ O Cylinder for Boyles	6	6
12	CO ₂ Cylinder for Laproscope	2	2
13	Pulmonary Function Test machine		
14	Anaesthesia Machine with Ventilator/ Boyles apparatus with Fluotec and circle absorber	1	1
15	Multi-Parameter Monitor	1	1
16	Pipeline supply of Oxygen, Nitrous oxide, compressed Air and suction		
17	Defibrillators	1	0
18	Infusion Pumps		4
19	Regional Anaesthesia Devices		
20	O ₂ Therapy Devices		
21	Exchange Transfusion Sets		
		54	57

Furniture and Hospital Accessories as per need -----Sufficient stock available

Figure 41: Post Mortem Equipments

S.N.	Name of Equipments	Essential	Available
1	Mortuary table (Stainless steel)	2	1
2	P.M. Equipment	3	2
3	Weighting machine (Organs)	1	1
4	Measuring Glasses (Liquid)	2	
5	Aprons	10	5
6	P.M. Gloves (Pairs)	10	10
7	Rubber Sheets	4	4
8	Lens	1	1
9	Spot Lights	1	1
10	Cold Box for preserving dead bodies	1	0

		35	25
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Figure 42: Linen

S.N.	Name of Equipment	Essential	Available
1	Bed Sheets	200	225
2	Bed Spreads	300	65
3	Blankets Red and Blue	20	100
4	Towels	100	20
5	Table Cloth	30	12
6	Draw Sheet	30	30
7	Doctor's overcoat	20	
8	Hospital Worker OT coat	25	
9	Patients house coat (for female)	150	
10	Patient Pyjama (for male) shirt	100	
11	Over shoes pairs	As per Requirement	
12	Pillows	60	40
13	Pillow Covers	150	50
14	Mattress (Foam) Adult	50	81
15	Paediatric Mattress	6	
16	Abdominal Sheet for OT	30	30
17	Pereneal Sheets for OT	30	30
18	Leggings	20	
19	Curtain Cloth window and doors	As per requirement	
20	Uniform/Apron	As per requirement	
21	Mortuary Sheet	10	
22	Mats (Nylon)	30	
23	Mackin-tosh Sheet (In Meters)	100	
24	Apron for Cook	As per requirment	

Figure 43: Other Equipments

S.N.	Name of Equipments	Essential	Available
1	Teaching Equipments	8	3
2	Administration	7	4
3	Refrigeration & AC	26	16
4	Hospital plants	2	0
5	Transport	2	1
	Total	45	24

The above figures from 29 to 42 depicts that there was 374 equipments were essential (excluding Linen and furniture), and currently there was 335 available, it shows 90% compliance to Indian Public health Standards.

7.5.7 Laboratory Services

The laboratory services were analyzed against set standards, results as shown in Figure 30.

Figure 44: Essential Laboratory Services

S.N.	Specialty	Diagnostic Services/Tests	
Clinical Pathology			
	Haematology	Haemoglobin estimation	Available
		Total Leucocyte count	Available
		Differential Leucocyte Count	Available
		Absolute Eosinophil count	
		Reticulocyte Count	
		Total RBC Count	Available
		ESR	Available
		Bleeding Time	Available
		Clotting Time	Available
		Prothrombin Time	
		Peripheral Blood Smear	Available
		Malaria/Filaria Parasite	Available
		Platelet count	
		Packed Cell Volume	
		Blood Grouping	Available
		Rh typing	Available
		Blood Cross Matching	
	Urine Analysis	Urine for albumin, sugar, Deposits, Bile salts, Bile pigments, Aceton, Specific gravity, reaction(PH)	Available
	Stool Analysis	Stool for Ova and Cysts	Available
		Hanging drop for V.Cholera	Available
		Occult blood	Available
	Semen Analysis	Morphology, Count, Motility etc.	Available
	CSF Analysis	Analysis, Cell Count etc.	
	Aspirated fluids	Cell Count, Cytology	
Pathology			
	Sputum	Sputum Cytology	Available
Microbiology			
		Smear for AFB (Acid Fast Bacilli), KLB(Diphtheria Bacilli)	Available
		Gram Stain for Meningococci	
		KOH study for Fungus	

		Gram Stain for Throat swab, Sputum etc.	
Serology			
		RPR Card Test for Syphilis	Available
		Pregnancy Test (Urine Gravindex)	Available
		WIDAL Test	Available
		Rapid Test for HIV, HBs Ag , HCV, Stocking of rapid H ₂ S based test for bacteriological examination of Water	Available
Biochemistry			
		Blood Sugar	Available
		Blood urea, Cholesterol, Lipid Profile	
		Liver Function test	
		Kidney Function test	
		Stocking of OT test for residual chlorine in water	
		CSF for protein, sugar	
Cardiac Investigation			
		ECG	
Ophthalmology			
		Refraction by using Snellen's chart	
		Ratioscopy	
		Tonometry	
		Biometry	
		Ophthalmoscopy	
ENT			
		Audiometry	
Radiology			
		X-ray for chest, skull, spine, abdomen, bones	
		Dental X-ray	
		Ultrasonography with colour Doppler	
Endoscopy			
		Laprosopy (Diagnostic)	
Respiratory			
		Pulmonary Function Test	
		Total available	=23/48

The above figure 30 depicts that there was almost 50% compliance in the available laboratory services according to Indian Public Health standards.

Total drugs and consumables essential at FRU level- 430 and almost 90 % off the drugs were available in the pharmacy inventory.

7.5.8 Statutory and Regulatory Compliance

Sub-District hospital shall fulfill all the statutory and regulatory requirements and comply to all the regulations issued by local bodies, state and union of India. It shall have copy of these regulations /acts.

Figure 45: Statutory and Regulatory Compliance

S.N.	License Name	Status
1	No Objection certificate from the Competent Fire Authority	Not Available
2	Authorization under Bio-Medical waste (Management and handling) Rules, 1998	Available
3	Authorisation from Atomic energy Regulation Board	Not Available
4	Excise Permit to store Spirit	Available
5	Vehicle registration certificate for Ambulances	Available
6	Consumer Protection Act	Not Available
7	Drugs & Cosmetic Act 1950	Not Available
8	Fatal Accidents Act 1855	Not Available
9	Indian Lunacy Act 1912	Not Available
10	Indian Medical Council Act and Code of Medical Ethics 2002	Not Available
11	Indian Nursing Council Act	Not Available
12	Maternity Benefit Act 1961	Not Available
13	Boilers Act as amended in 2007	Not Available
14	MTP Act 1971	Not Available
15	Persons with Disability Act 1995	Not Available
16	Pharmacy Act 1948	Not Available
17	Pc & PNDT Act 1994	Not Available
18	Registration of Births and Deaths Act	Available
19	License for Blood Bank or Authorization for Blood Storage facility	Not Available
20	Right to Information Act	Not Available
21	Narcotics and Psychotropic substance act 1985	Not Available
22	Type and site Approval from AERB for X-ray, CT Scan Unit	Not Available
23	Clinical Establishments (Registration and Regulation) Act 2010	Not available
24	Mental Health Act 1987	Not Available

The above figure 31 shows that there was only 16 % compliance in the area of statutory and regulatory compliance.

7.6 Conclusion:

The study findings suggest that there were much non compliance in Manpower and services available, according to the Indian Public Health standards, whereas there was less non compliance in infrastructure availability.