Gap Analysis of Front office, Laboratory & Imaging Department at Kukreja Hospital as per NABH Standards

A dissertation submitted in partial fulfillment of the requirements for the award of

Post-Graduate Diploma in Health and Hospital Management

by

Ravish Manchanda

International Institute of Health Management Research

New Delhi -110075

Jan-March, 2012

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Dr.Ravish Manchanda (P.T.)

International Institute of Health Management Research

New Delhi -110075

JAN-MARCH, 2012

Certificate of Internship Completion

Date: 2/04/2012

TO WHOM IT MAY CONCERN

This is to certify that Dr. Ravish Manchanda (P.T) has successfully completed his 3 months internship in our organization from Jan 02 , 2011 to March 31, 2012. During this intern he has worked on various assignments under me and my team's guidance at Octavo solutions Pvt. Ltd.

He has worked sincerely and diligently throughout the tenure.

We wish him good luck for his future assignments

Ms .Gauri Madan
Human Resource Manager,

Octavo Solutions Pvt.Ltd.

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Certificate of Approval

The following dissertation titled " **Gap Analysis of Front office, Laboratory & Imaging Department at Kukreja Hospital as per NABH Standards**" is hereby approved as a certified study in management carried out and presented in a manner satisfactory to warrant its acceptance as a prerequisite for the award of **Post- Graduate Diploma in Health and Hospital Management** for which it has been submitted. It is understood that by this approval the undersigned do not necessarily endorse or approve any statement made, opinion expressed or conclusion drawn therein but approve the dissertation only for the purpose it is submitted.

Dissertation Examination Committee for evaluation of dissertation

Name	Signature
PRAGYA T. GUPTA	
Kusha Udaya	

Certificate from Dissertation Advisory Committee

This is to certify that Dr.Ravish Manchanda (P.T.) , a graduate student of the **Post- Graduate Diploma in Health and Hospital Management**, has worked under our guidance and supervision. He is submitting this dissertation titled **"Gap Analysis of Front office, Laboratory & Imaging Department at Kukreja Hospital as per NABH Standards"** in partial fulfillment of the requirements for the award of the **Post- Graduate Diploma in Health and Hospital Management**.

This dissertation has the requisite standard and to the best of our knowledge no part of it has been Reproduced from any other dissertation, monograph, report or book.

Mrs. Kirti Udayai

Assistant Professor

International Institute for Health management & Research

New Delhi

Date 02/04/2012

Dr.Bidhan Das

Managing Director

Octavo Solutions Pvt. Ltd

B-4/167 Safdarjang Enclave

New Delhi -110075

Date: 02/04/2012

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Abstract

Gap Analysis of Front office, Laboratory & Imaging Department of Kukreja Heart Hospital as per NABH Standards

by

Dr.Ravish Manchanda (P.T.)

Keywords **:** Gap Analysis, NABH Norms, NABH Accreditation

Scope:

The gap analysis of Front office, Laboratory & Imaging Department of Kukreja Hospital as per NABH norms was done to assess the existing status of the hospital and prepare it for NABH accreditation. As the hospital is very keen on getting the NABH accreditation, so it becomes necessary for the hospital to review its status on regular basis. The hospital can focus on the areas where the gaps are more in number as well as prioritizing the gaps and move ahead for the achieving the accreditation status.

Methodology:

The gap analysis was done with the help of a departmental checklist and NABH Self Assessment Toolkit. For getting the required data the various activities in the Front office, Laboratory , imaging Department in the hospital were observed, policy manuals and records were referred and patients and hospital staff were interviewed and the checklist was filled. According to the toolkit the documentation and implementation of objective element was checked and scores were given according to NABH guidelines.

Findings:

The study shows the findings of the existing status of the Front office, Laboratory & Imaging Department of the hospital according to the departmental checklist which was made in accordance with the NABH standards. These were checked against the evaluation criteria for accreditation. The study focuses on the gaps according to the evaluation criteria for accreditation and suggests ways to fulfill the gaps. The analysis shows that there are some gaps in the various departments assessed in the hospital as per NABH norms .

Hence the department fulfills the required criteria only partially and requires great efforts and focus on the weak points so as to cover the gaps and to be prepared for getting the NABH Accreditation.

ACKNOWLEDGEMENT

It gives me immense pleasure to acknowledge my indebtedness and deep sense of gratitude to **Dr. Bidhan Das** (Managing director) who has bestowed on me the Opportunity to work in Kukreja Hospital and heart centre

Also I express my deep sense of gratitude to **Mrs. Kirti Udayai** for giving me valuable persistent encouragement and inspiring guidance in the due course of **Dissertation Report** for data collection, compilation, analysis and report writing.

I also want to express my heartfelt gratitude to **Dr. Rajneesh Kukreja (Managing Director)** Kukreja hospital and heart centre for providing thoughtful suggestions, encouragement and guidance during the entire duration of **Dissertation Report** compilation.

Also my warmest thanks to **Dr. Ram Aggarwal (General Manager)** and the entire staff of the hospital for their cooperation and for providing all the relevant information and sharing their knowledge and experience.

Table of Contents

Part -I

Part-II

ABBREVIATIONS

1. AAC	Access, Assessment and Continuity of care
2. COP	Care Of Patients
3. CQI	Continuous Quality Improvement
4. CSSD	Central Sterile and Supply Department
5. FMS	Facility Management System
6. HIC	Hospital Infection Control
7. HMIS	Hospital Management Information System
8. HRM	Human Resource Management
9. IHMR	Institute of Health Management Research
10. IMS	Information Management System
11. LAN	Local Area network
12. MOM	Management Of Medication
13. NABH	National Accreditation Board for Hospitals and Healthcare Providers
14. PRE	Patient Right and Education
15. RMO	Resident Medical Officer
16. ROM	Responsibilities Of Management
17. TQM	Total Quality Management

Part I - Internship Report

1.1 Introduction

I did my internship from Octavo Solutions Pvt.Ltd, New Delhi which is a Healthcare & Hospital consultancy for the period of three months from January 02 to April 30, 2012.

During my tenure I was posted as a quality consultant at Kukreja Hospital and Heart centre after requisite training by the parent organization.

Octavo Solutions Pvt. Ltd. (OSPL) came in operation in October 2006, formally incorporated as private limited company on 26th February 2007 vides **Reg. No. U72400DL2007PTC159745** as a multidisciplinary Health & Hospital Management Consulting firm, established and managed by health management experts, supported in its initiatives and efforts by experienced and reputed experts in field (like Architecture, Engineering, Public Health, Bio-medical Engineering, Clinical Experts, National and International Quality Gurus, Project Management experts), who have successfully undertaken health, hospital and other infrastructure projects ranging from small nursing homes to large medical college hospitals, including public health. We are associated with a number of reputed consulting organizations and thus can draw upon qualitative and latest expertise as and when required. With our ongoing in-house research and quality improvement efforts, we always strive to be up-to-date and able to provide the client qualitative, cost effective and comprehensive solutions. Our experts have worked with QCI, JCI and Australian Council of Health Standard International (ACHSI) and donor-funded projects like, the World Bank and the distinguished clients served includes the Ministry of Health, Govt. of India; State Governments, Private clients, Corporate House & Charitable Hospitals

Octavo Solutions Pvt. Ltd. is the first Consulting firm registered with Quality Council of India (National Accreditation Board for Education and Training) for providing consulting services in field of Healthcare (NC07 01)

The name OCTAVO is derived from Indian Mythology of "Ashtadikpalas" meaning "Rulers of Eight Directions", it is said that if we worship, revere and respect the lords of the eight directions, they will shower on us their blessings and benefits. They would grant us wealth and all comforts, prosperity and progress in life, pleasure, wisdom, knowledge, religiosity and divinity, long life, health and strength energy, vigour, strength, help vanish fears about our enemies and ensure purity and cleanliness.

The logo of an 'inverted key' signifies that we have solutions for all problems.

Color **green** has been chosen as it symbolizes growth, harmony, freshness, and fertility. It has strong emotional correspondence with safety and also commonly associated with money. It has great healing power and suggests stability and endurance. It indicates growth and hope.

SERVICES

1. Project & Strategic Planning
- Business Case Writing
- Facility Plan Draft, Architect Briefs
- Equipment Planning
- Equipment Procurement
- Turn Key Project
- Vision Documents
- Resources Plan Draft

3. Quality Healthcare Certifications
- Gap Analysis & Preparation for Accreditation
- NABH Accreditation
- ISO 9001:2008 Certification
- ACHS International Certification

5. Public & Rural Health

we take up advisory/ consulting role on boards of NGO/ Government/ PSU/ Corporate for planning, implementing or monitoring of their projects in the fields of

- Epidemiology
- Bio Statistics
- Vital Statistics & Surveillance
- Environmental Health
- Health Services Administration
- Training & Education of Public health force
- Health Communication
- Maternal & Child Health
- Disaster Control & Emergency Services

2. Operations & Systems Development
- Managed Operations Contract
- Systems & Policy Development
- Cross Sectional Studies/ Audits
- Process Flow & Mapping
- Change Management
- Facilities Management
- Supply Chain Management

4. Public Private Partnerships

We partner with **Delloitte Teusche/ Feedback Ventures/ Abacus Legal Group** for taking up transaction advisors role in providing consulting services to Government for PPP projects

6. Capacity Building
- Manpower (Resource) Allocation & Planning
- Recruitment Contracts
- Continuous Education & Training

7. Knowledge Management

We collect, collate, analyze, store and share latest know how's within domain of healthcare sector

KUKREJA HOSPITAL &

HEART CENTRE PVT. LTD

C-1, Vishal Enclave, Rajouri Garden, New Delhi -110 027

1 Kukreja Hospital has been dreams come true since the group started with a small clinic 20 years ago. This 101 bed super-specialty multi services hospital is one of the best private hospitals in West Delhi. The hospital caters to patients from all over Delhi/NCR towns. The Salient features of this Hospital are the specialized OPD with over **8** specialists and super specialists in various fields aided by a team of over 200 staff members.

1 Round the clock availability of a host of facilities such as Ambulance Services, Causality& Emergency Services, Lab & Diagnostic Services, Chemist Shop ensure smooth & efficient patient care. Kukreja Hospital & Heart Centre Pvt. Ltd., Rajouri Garden has a well equipped 14 bedded critical care unit with Ventilators, Defibrillator, Pulse Oximeter, Monitor and major operation theaters.

2 The clean and peaceful surroundings, organized process, minimum waiting time add value to our services. KHHC has a highly Professional and experienced team of doctors who can manage all type of patients with acute Heart Attack including primary Angioplasty and stenting., 0ver 10,000 surgeries at a success rate of 99.6%.

3 Over the past 20 years, KHHC has become a well recognized referral centre for management of Heart Attack Patients, while providing treatments for all types of cardiovascular diseases at affordable cost.

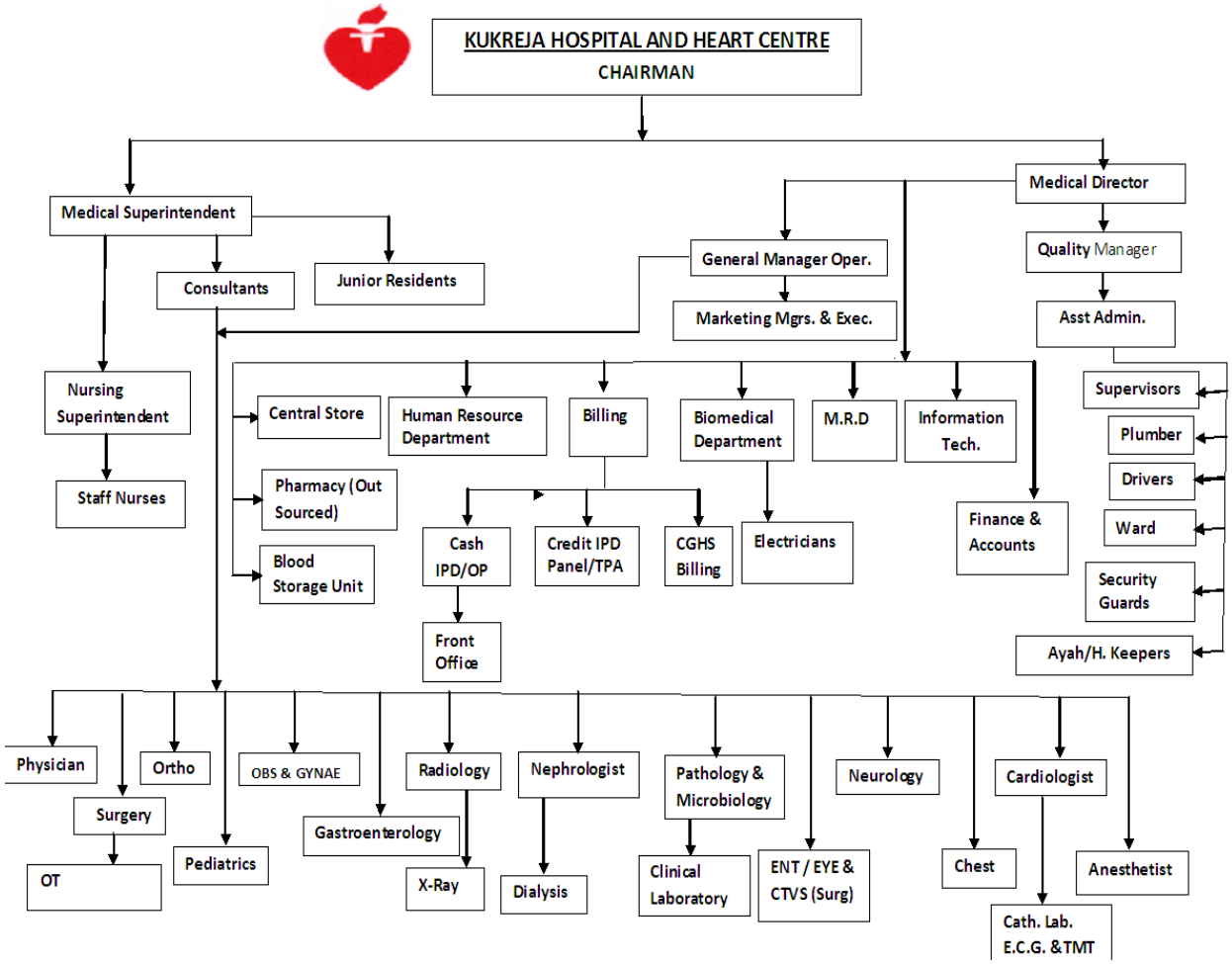
4 KHHC is on the panel of corporate like CGHS, DGEHS, ECHS, AAI, INDIAN AIRLINES, DVB, MTNL, BSNL, NDPL, NDMC, MCD, DELHI UNIVERSITY, DDA, FCI, PUNJAB &

SIND BANK, ALLAHABAD BANK, UGC, UTI, all Delhi Government Departments; Autonomous bodies, PSUs and all major TPAs providing Cashless Mediclaim insurance.

SERVICES AVAILABLE AT HOSPITAL

General Medicine
Respiratory Medicine
Gastroenterology
General Surgery
Urology
Cardiology
Cardiac Surgeries
Angiography
Angioplasty
Obstetrics and Gynecology
Pediatrics and Neonatology
Orthopedics
Ophthalmology
ENT
Anesthesia
Physiotherapy
Radiology and Imaging
Pathology
Ambulance

ORGANOGRAM OF THE HOSPITAL



VISION & MISSION STATEMENT OF THE HOSPITAL

Vision Statement

"We Care to Cure"

Mission Statement

"We commit to provide a service with a multi-disciplinary approach and valuable knowledge in medical care to patients of all ages in a relaxed, comfortable and clean environment."

HOSPITAL LAYOUT PLAN

C-1 BUILDING, WING -A

BASEMENT	OPD chambers
	Emergency
	Reception
	Waiting lounge
	X ray room
	Toilets-2
	Cashier/ Billing section
	Sample Collection Room
	Chemist Shop
	Medical superintendent's room
	Chairman & Director's Room
GROUND FLOOR	General OT

	Catheterization Laboratory
	Recovery room
	Doctors room
	Technician room
	Waiting area
	Blood Storage Room
1st FLOOR	Wards- Deluxe , Semi Deluxe & Private
	Duty doctor's room
	Nursing Station
2nd FLOOR	Wards-Semi private and General
	Nursing Station
3rd FLOOR	Laundry
	Kitchen

C-14 BUILDING, WING-B

BASEMENT	Waiting area
	Path Lab
	Central store
	Dialysis
	Conference room
GROUND FLOOR	ICU
1st FLOOR	Wards- Super deluxe and Private
	Nursing station
2nd FLOOR	Semi private
	Nursery
	TMT room
	Nursing Station
3rd FLOOR	Accounts Department
	Billing section

BASEMENT	OPD chambers
	Emergency
	Reception
	Waiting lounge
	X ray room
	Toilets-2
	Cashier/ Billing section
	Sample Collection Room
	Chemist Shop
	Medical superintendent's room
	Chairman & Director's Room
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1st FLOOR	Wards- Deluxe , Semi Deluxe & Private
	Duty doctor's room
	Nursing Station
2nd FLOOR	Wards-Semi private and General
	Nursing Station
3rd FLOOR	Laundry Kitchen

1.2 Tasks Undertaken

- Collection and verification of MIS (Management Information system) of 25 healthcare facilities of Maharashtra including District , Sub-district, Referral Hospitals ,primary health centre
- Drafting of "AS IS Reports" of Rajapur Rural Hospital and Jawhar Sub –Divisional Hospital in coordination with the onsite consultants.
- Preparation of gap report of Kukreja Hospital & Heart Centre as per the NABH Standard.
- Preparation of Financial and technical Proposal For planning of a 250 Bedded Hospital and Paramedical college in Dhanbad.
- Assisted in Drafting of structural standards for various healthcare facilities ranging from sub-centre to a multi-speciality hospital

1.3 Managerial Tasks Performed

Co-ordinated the working schedule as well as lead a team of 14 onsite consultants in Maharashtra .

1.4 Learning Experiences

- Learnt about process of ISO Certification.
- Knowledge about the various steps involved in NABH Accreditation
- Learnt a lot about Planning of Hospitals.

PART –II

Chapter 1

1.1 Introduction

NABH

National Accreditation Board for Hospitals & Healthcare Providers (NABH) is a constituent board of Quality Council of India, set up to establish and operate accreditation programme for healthcare organizations. The board while being supported by all stakeholders including industry, consumers, government, has fully functional autonomy in its operation.

Accreditation

A public recognition of the achievement of accreditation standards by a healthcare organization, demonstrated through an independent external peer assessment of that organization's level of performance in relation to the standards.

Benefits of accreditation

Accreditation benefits all Stake Holders. **Patients** are the biggest beneficiaries. Accreditation results in high quality of care and patient safety. The patients get services by credential medical staff. Rights of patients are respected and protected. Patient satisfaction is regularly evaluated.

Accreditation to a **Hospital** stimulates continuous improvement. It enables hospital in demonstrating commitment to quality care. It raises community confidence in the services provided by the hospital. It also provides opportunity to healthcare unit to benchmark with the best.

The **Staff** in an accredited hospital are satisfied lot as it provides for continuous learning, good working environment, leadership and above all ownership of clinical processes. It improves overall professional development of Clinicians and Paramedical staff and provides leadership for quality improvement within medicine and nursing.

Accreditation provides an objective system of empanelment by insurance and other **Third Parties** . Accreditation provides access to reliable and certified information on facilities, infrastructure and level of care.

General Objective

To prepare Kukreja Hospital and Heart Centre , New Delhi for NABH accreditation.

Specific Objectives

1. To assess the existing service delivery status of the Front office, Laboratory & Imaging department of the hospital.

2. To identify the gaps in the Front office, Laboratory & Imaging department of the hospital. As per NABH guidelines.

3. To give suggestions so as to meet the requirements

Chapter 2

Data and Methods

- Information regarding the organization, location, history, manpower, organizational hierarchy, and other details were collected from hospital's 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 observational findings and the information collected were compiled and a report was prepared

Types of data collected:

1. Primary data
2. Secondary data

Data collection techniques:

For primary data –

- Observation
- Personal Interviews with concerned authorities
- Departmental checklist

For secondary data –

Hospital manuals and records

Self assessment toolkit

The assessment of Kukreja Hospital & Heart Centre as per NABH norms has been done by using the self assessment toolkit as well as with the help of departmental checklists. The organization is evaluated against 100 standards and 514 objective elements. The following criteria are used for scoring:

Compliance to the requirement – 10

Partial compliance – 5

Non Compliance – 0

Not applicable - NA

Chapter 3

Results and Findings

After conducting a survey of the front office, Laboratory and imaging department and using the departmental checklist, the following gaps were identified department wise

FRONT OFFICE

Front office is situated on the ground floor. It caters to the following services

(i) Reception & Registration

(ii) Enquiry Information

(iii) Admission

Existing service delivery at the Front office

Patient reports to OPD reception desk

↓

Patient is in one of following state of mind
Does not know any particular doctor, but knows the specialty and want guidance about doctor.
Knows the disease symptoms but does not know the specialty/ specialist to be seen
Has already spoken to the doctor and wants an appointment to meet him / her

↓

The necessary guidance to the patient is given based on the referral guidelines
The OPD consultation schedule provides information on consultant availability by specialty
Appointment is given to the patient based on schedule

↓

The patient data is fed in to the System; a unique patient ID number is generated along with a OPD Registration Card

A fee slip for registration and doctor's appointment is also generated
Then patient/ relatives make payment for the same.

A registration card is then generated and patient is directed to the concerned OPD

- Follow up patients go to OPD registration desk / or counter for old patients, who checks appointment time given, concerned doctor's OPD scheduling, patient visit history & other necessary details.
- OPD services are on credit basis to patient of certain panel (List provided at reception).

Pre scheduling follow up appointments

- Patients follow up date and time written in patient file / doctor's prescription/ discharge summary.

Records Generated

- Registration form for O P D Patient
- Payment Slip

IPD REGISTRATION (AAC 2b)

Source of patients for admission are from –

- OPD
- ER
- Direct pre-scheduled

Admission of a patient is done only when his/ her needs matches with the services provide with the hospital (AAC 2c)

Admission from OPD

- Patient or patient's attendant reports to the Admission Section after consultation with doctor in OPD.
- Admission advice duly filled by doctor is presented at admission counter.
- Patient Admission Section Checks room availability
- Check all papers and mode of payment, i.e. corporate, insurance or self-payment
- Consent form and given to patient / attendant
- Patient's details are fed in to the System.
- Unique Admission number is generated.
- Patient file is generated for admission
- Payment is made by patient / patient attendant
- State the amount of advance payment category wise
- In Patient Guide Book & Visitor's passes issued to patient's attendants depending on bed category / ward type like ICU, etc.

Admission from Emergency

- If a patient comes to emergency and requires to be hospitalized, admission is done.
- In case of urgent admission casualty officer communicates the IPD registration counter to know the availability of bed in ward/ICU.
- Patient is sent to the respective bed directly and attendants are directed to make necessary formalities at IPD registration counter as stated above.

Patient of Insurance/ Corporate

- Insurance Admission desk checks and records
- The insurance policy number and insurance company details.
- The company details (letter from referring company).
- Verify the employees type of admission and coverage amount
- Identity / smart card and inform TPA
- CGHS / ECHS Polyclinic referral letter
- Identity number and registration number
- Type of policy and its coverage
- Coverage amount
- Pre authorization form is sent to the respective TPA.
- In both the cases of approval or denial patient party is informed by phone call or email.
- In case of approval admission procedure starts, in this case Declaration from patient party is taken to settle the unpaid dues by Insurance Company during the course of treatment if any.
- Approval letter is given to the patient party and directed to IPD registration counter for above mentioned admission procedure

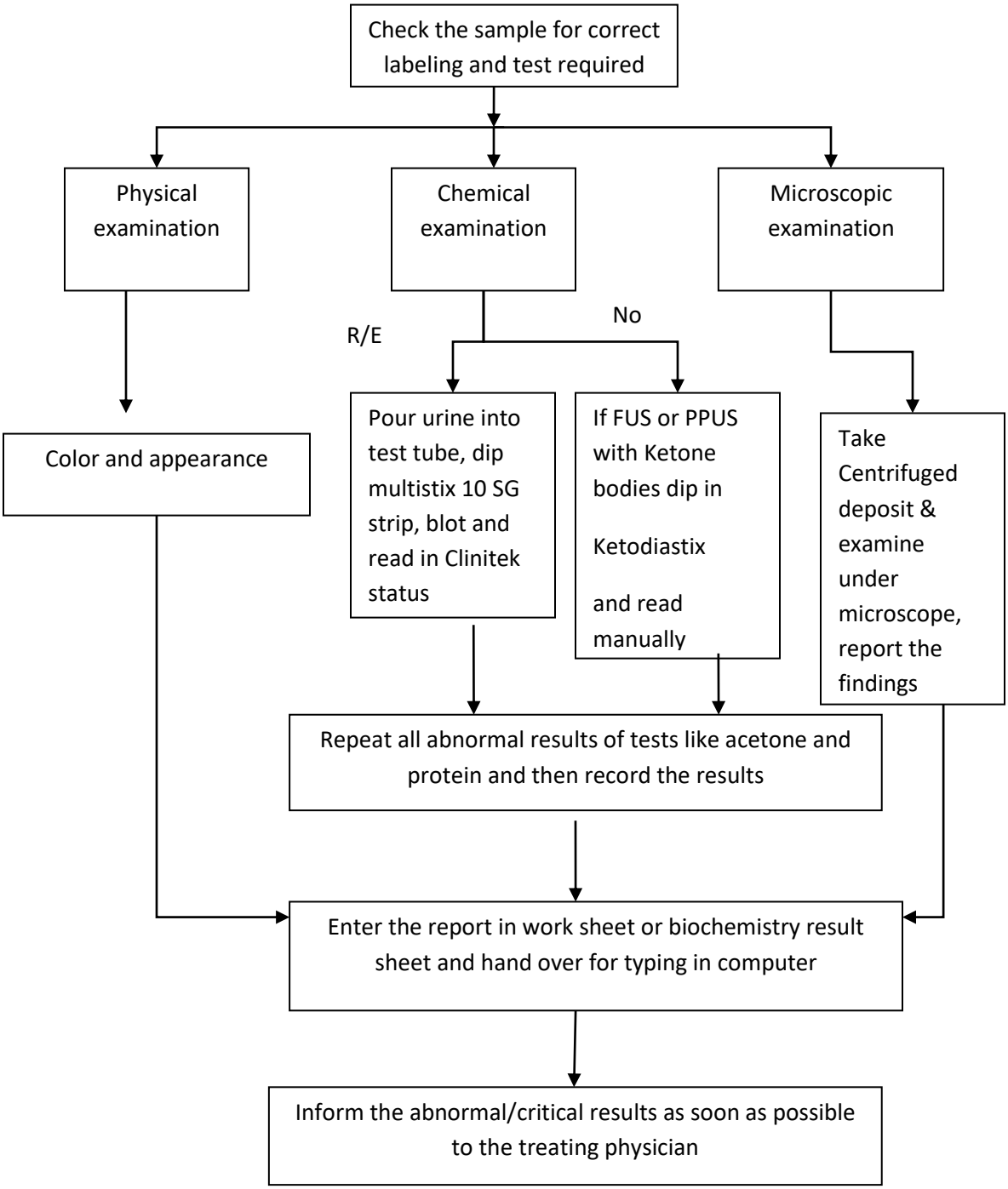
IDENTIFIED GAPS

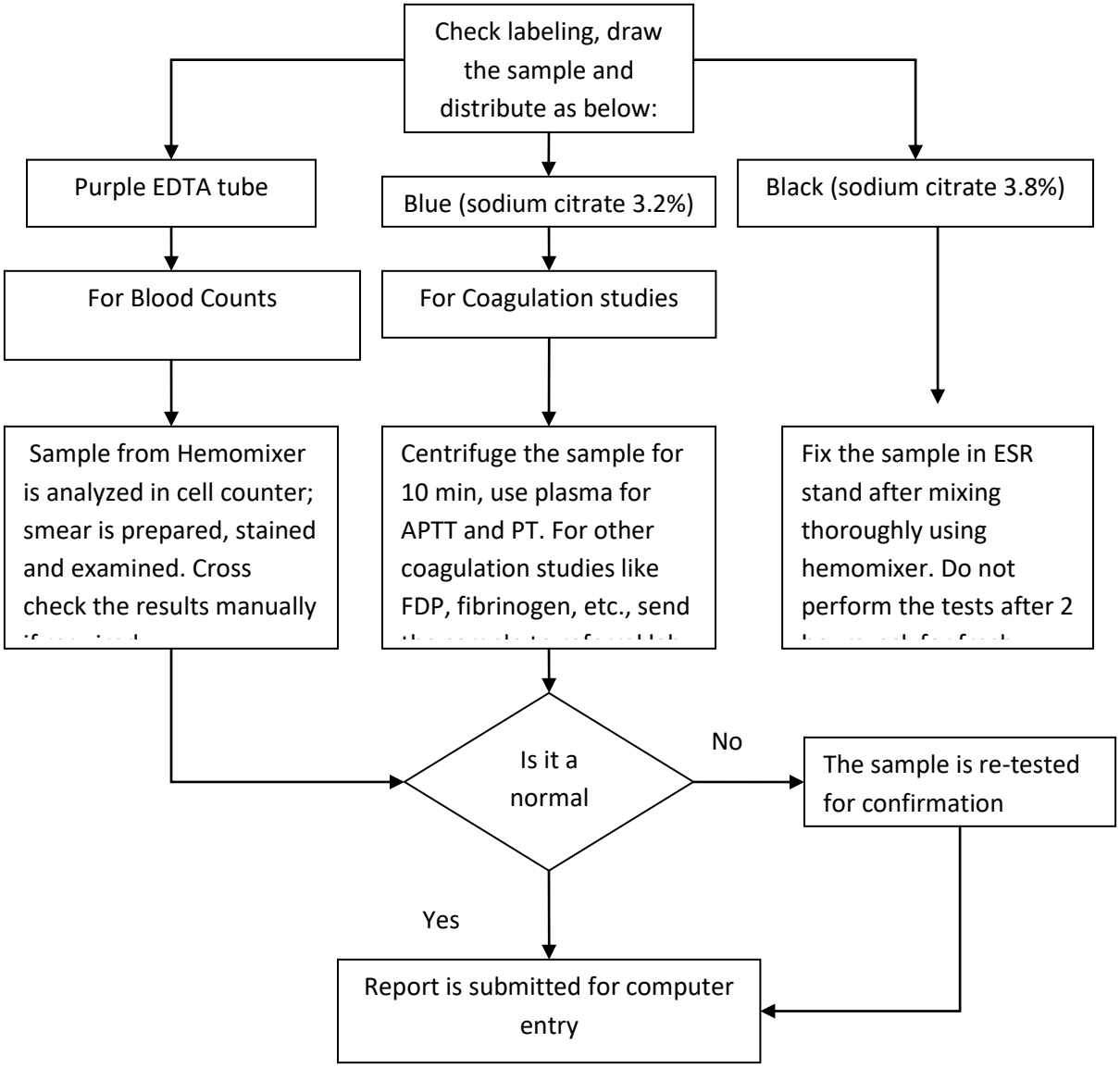
	STRUCTURAL GAPS	
1	Signage is not proper (NOT bilingual)	AAC1 b
2	Citizen charter not displayed.	AAC 1c
3	Scope of services provided by the hospital not displayed	AAC1 b
4	Patient's Rights and Responsibilities not displayed	PRE 1b
	PROCESS GAPS	
1	Policy as regards to services provided by the hospital has been defined but the staff is only partially oriented	AAC.1c
2	Fire Exit plan not displayed	FMS 2b
3	There are documented Policies and Procedures for Front Office but the staffs are not trained on the same.	HRM 3b
4	No Training schedule for the staff on soft skills.	HRM 3b

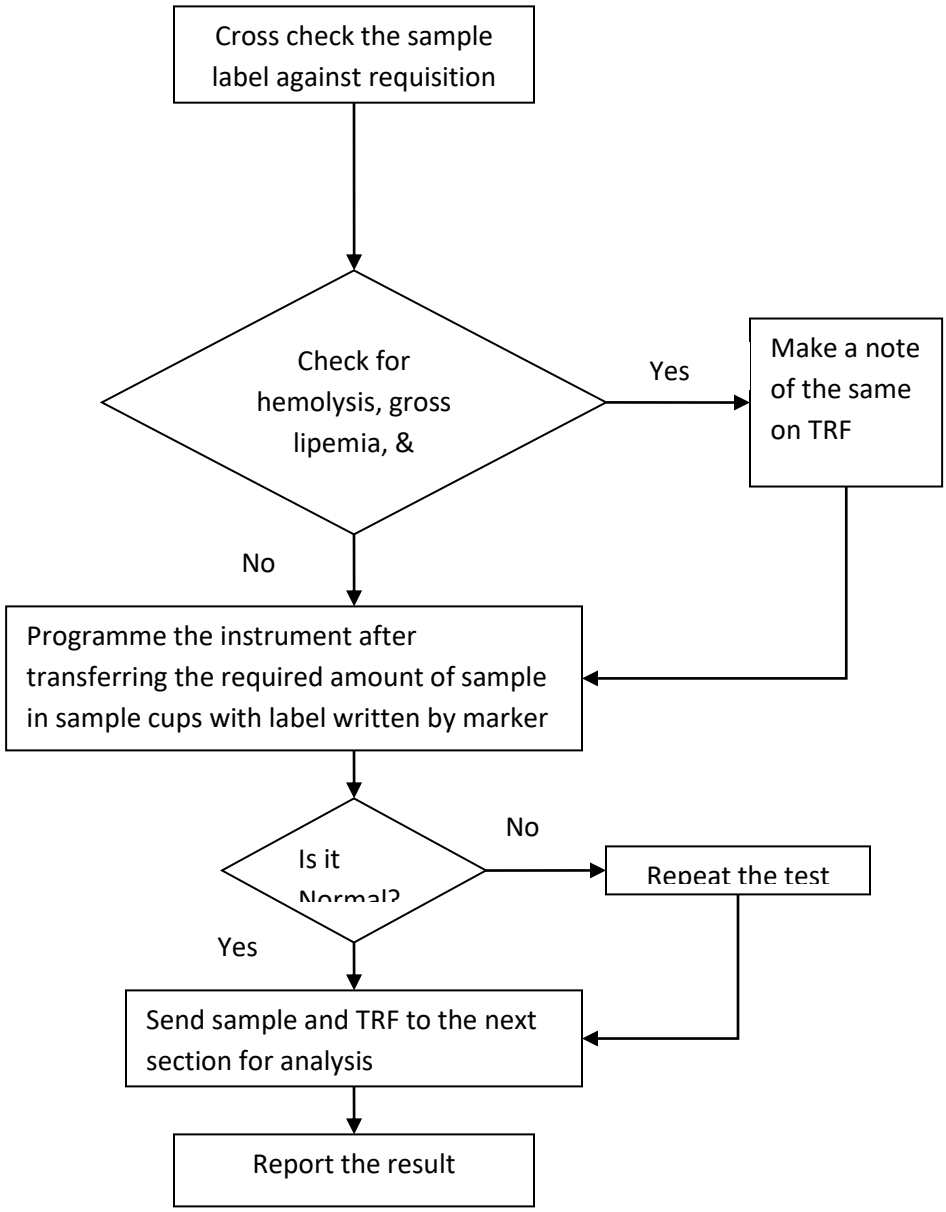
LABORATORY

Laboratory: This unit consists of hematology, biochemistry and clinical pathology. There is no clear demarcation of sub-area within laboratory. Tests related to microbiology and histopathology are outsourced to another Labs/ hospitals.

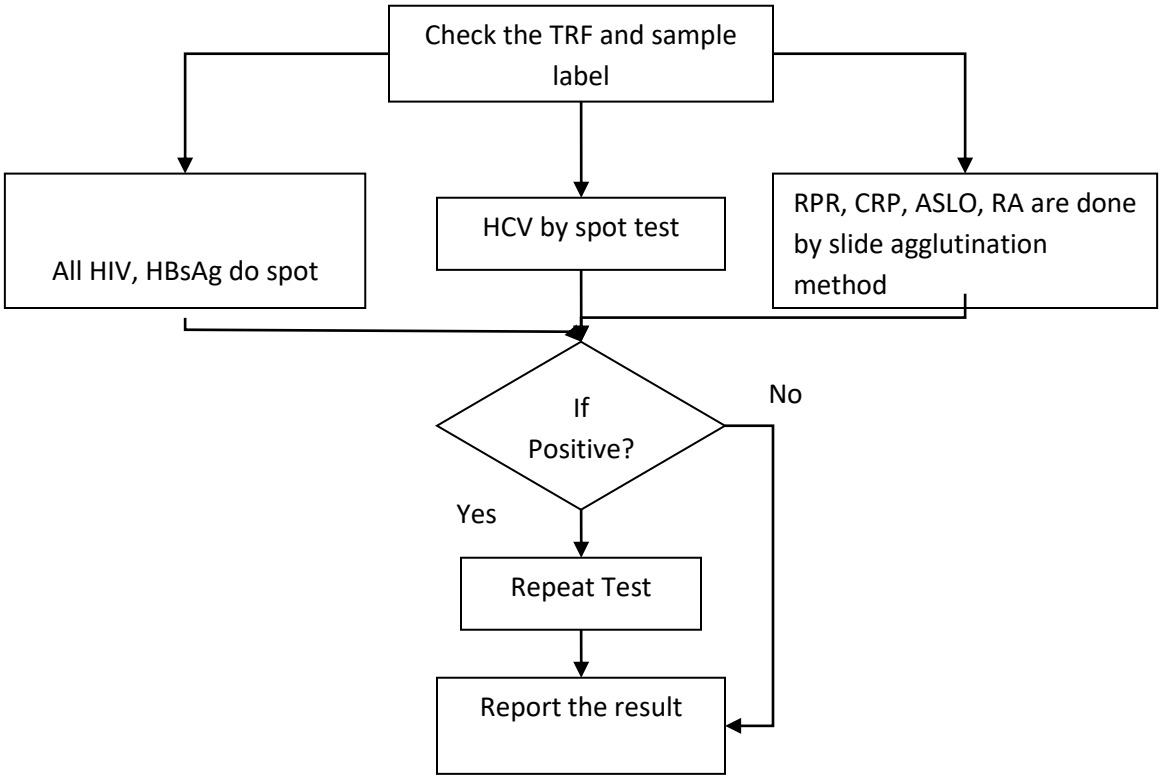
Process Flow : Laboratory - Urine Analysis




Check labeling, draw the sample and distribute as below:
Purple EDTA tube
Blue (sodium citrate 3.2%)
Black (sodium citrate 3.8%)
For Blood Counts
For Coagulation studies
Sample from Hemomixer is analyzed in cell counter; smear is prepared, stained and examined. Cross check the results manually
Centrifuge the sample for 10 min, use plasma for APTT and PT. For other coagulation studies like FDP, fibrinogen, etc., send
Fix the sample in ESR stand after mixing thoroughly using hemomixer. Do not perform the tests after 2
Is it a normal
No
The sample is re-tested for confirmation
Yes
Report is submitted for computer entry


Cross check the sample label against requisition
Check for hemolysis, gross lipemia, &
Yes
Make a note of the same on TRF
No
Programme the instrument after transferring the required amount of sample in sample cups with label written by marker
Is it Normal?
No
Repeat the test
Yes
Send sample and TRF to the next section for analysis
Report the result

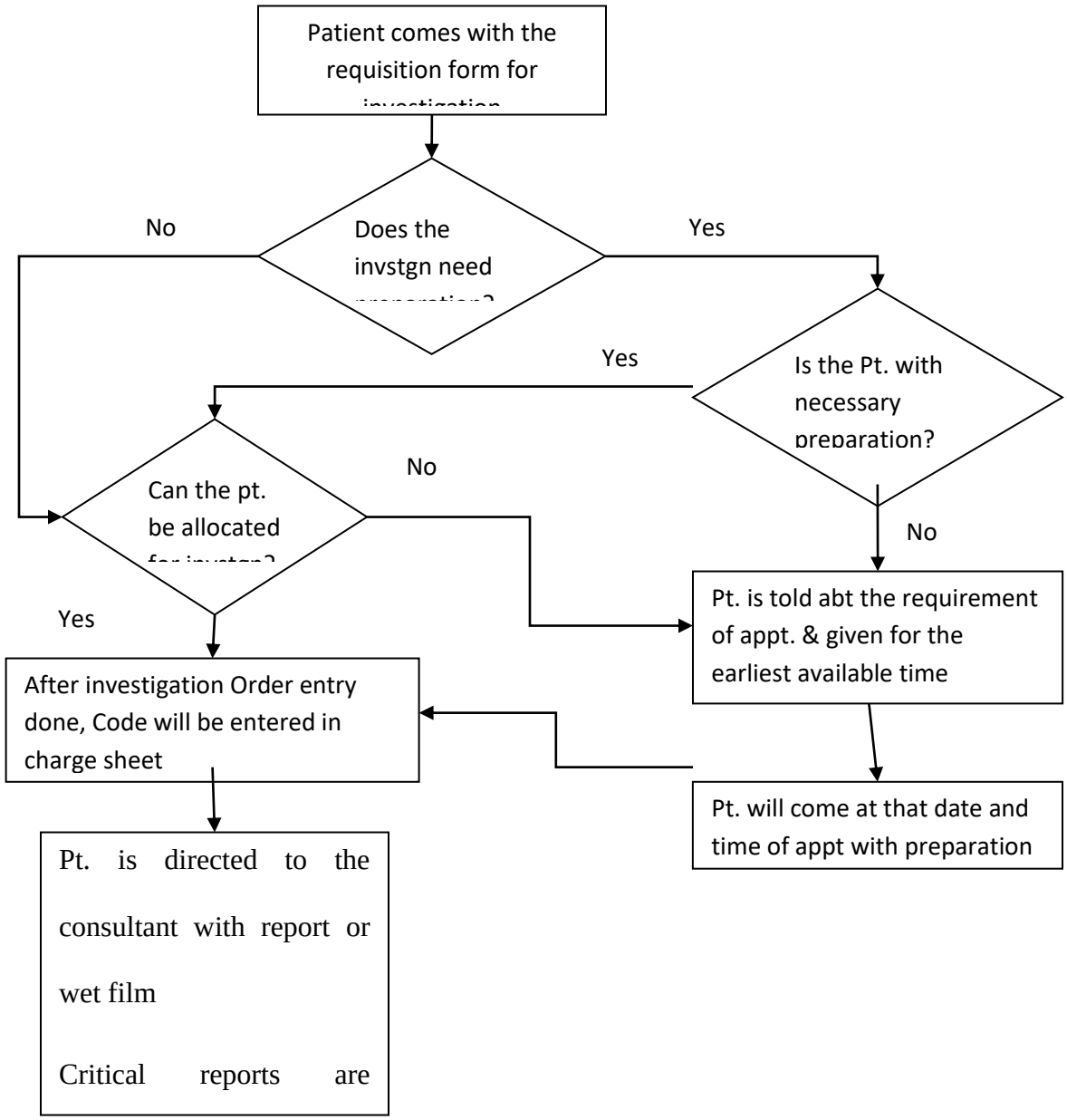
SEROLOGY


Check the TRF and sample label
All HIV, HBsAg do spot
HCV by spot test
RPR, CRP, ASLO, RA are done by slide agglutination method
If Positive?
No
Yes
Repeat Test
Report the result

IDENTIFIED GAPS		
	STRUCTURAL GAPS	**Standards**
1	All equipments do not have a label containing particulars like AMC valid dates, last calibration done & due date for next calibration on it.	AAC 8b
	PROCESS GAPS	
1	Policy as regards to services provided by the hospital has been defined but the staff is only partially oriented	AAC 1c
2	Policy & Procedure manual has been evident but revision in required as per the existing facility and training has to be imparted to all the staff.	
3	Outsourcing policy and procedures to be defined for test not available in the facility.	AAC 7f
4	BMW management in Lab was not as per the law.	HIC 8b
	OUTCOME GAP	
1	Turnaround time for investigations not measured.	AAC 7 d
2	Indicators shall be monitored more efficiently; few of them are not monitored at all. (No of reporting errors/1000 investigation, no of re-do, percentage of reports co-relating with clinical diagnosis & percentage of adherence to safety precautions by the employees working in diagnostics)	AAC 7 e

IMAGING DEPARTMENT

Imaging: This unit is located at the basement of the A-wing.



IDENTIFIED GAPS

	STRUCTURAL GAPS	
1	AERB Approvals are available but not displayed in the department.	
2	Calibration and AMC of equipments to be carried out by appropriate agencies and the stickers to pasted on the equipments	
	PROCESS GAPS	
1	Policies & Procedure manual has been evident but the same needs revision and awareness among the departmental staff.	
2	Safety & Quality controls for the department effectively measured (no of re-do ,percentage of reports co-relating with clinical diagnosis & percentage of adherence to safety precautions by the employees working in diagnostics)	

OUTCOME

X-RAY

Month	Total	Utilization in %
Jan,12	361	4.18
Feb,12	323	3.74

Mar,12	261	3.02

Number of X-ray Machine = 2 (1 fixed and 1 portable)

Working Hours In a day = 24 hrs per day.

Avg. Time taken per case = 10 min

Working notes:-

No. of X-Ray Machine = 2

Working hrs in a day = 24hrs which is 1440 min / day

Average time taken for 1 X-ray = 10 min.

Hence total no. of X-ray that can be done in:

a) one machine per day = 1440/10 = 144

b) Two machines per day = 288 (144 * 2)

c) Two machines per month = 8640 (288 * 30)

Hence utilization rate for the month of Jan, 12 = 361/8640 * 100 = 4.18%

ULTRA SOUND

Month	Total	Utilization in %
Jan,12	87	15.10
Feb,12	54	9.48
Mar,12	87	15.10

USG Machine in the Hospital = 1

Working Hours In a day = 8 hrs per day.

Avg. time taken per case = 25 min

Working notes:-

No. of USG Machine = 01

Working hrs in a day = 8 hrs which is 480 min / day

Average time taken for 1 USG = 25 min.

Hence total no. of USG that can be done in:

a) One machine per day = 480/25 = 19.2

b)One machines per month = 19.2 * 30 = 576

Hence utilization rate for the month of Jan, 12 = 87/576 * 100 = 15.10%

Chapter 4: Discussion

The study shows that there are some structural, process and outcome gaps in Front office department, laboratory, imaging department of the hospital as per NABH norms. As the hospital wishes for NABH accreditation so it must be prepared according to the evaluation criteria for assessment. As of now the hospital fulfills the required criteria partially. No standard must have more than one zero to qualify. Thus the hospital is presently not prepared for pre – assessment and requires great effort and focus on the weak points so as to cover the gaps and to be prepared for getting NABH accreditation.

Chapter 5

Conclusion and Recommendations

S.No.	Gaps / Partial Gaps	Corresponding Objective Element	Recommendations to the organization
FRONT OFFICE			
1	Services being provided by the hospital are clearly defined and documented, staff is oriented to these services, but the services were not displayed	AAC 1b	Arrangements are made to display the services provided by the hospital at the reception of the hospital
2	Standardized policies and procedure exist in the hospital for admission and registration. Patients are admitted only if hospital can provide the services. Staff is partially oriented to these services.(front office)	AAC 2e	The organization should train the staff in Standardized policies and procedure for admission and registration.
LABORATORY			

4	Though policies and procedures with respect to collection, transportation and disposal, staff awareness for the same was evidenced in the sample collection facility. Lab does not monitor turnaround time of test results in haematology, biochemistry and microbiology	AAC 7d	1. The organization is suggested to define the turnaround time for each test including haematology, biochemistry and microbiology tests. 2. Explained the lab staff on how to monitor turnaround time for the tests 3. They have started monitoring for all labs
5	Critical Results alerts are not evidenced for all sections of the labs	AAC 7e	Critical alerts are intimated in all sections of the lab
5	Lab Quality Assurance Program is not documented for histopathology& microbiology. .	AAC 8a	Quality Assurance Program for histopathology& microbiology is documented. Annexure 2:Revised version of the Manual.
6	There is no documentation for corrective and preventive measures in all sections of the lab	AAC 8e	Corrective and preventive measures in all sections of the labs are now being documented
IMAGING DEPARTMENT			

7	HCO has applied for PCPNDT (renewal) certificate, though USGs are being performed. There is no monitoring of turnaround time for imaging results .	AAC 10 e	The Staff is trained on monitoring of the turnaround time for each test for imaging.
8	No corrective and preventive actions are documented for imaging services.	AAC 11e	The staff is trained to document corrective and preventive measures in imaging department.
9	There is no documentation of training of imaging personnel in radiation safety measures	AAC 12f	There is an Radiation Safety Officer in the HCO who periodically trains all the imaging staff and also monitors the scattered radiation. The organization is advised to keep the record of the training..

Conclusion:

The analysis shows that there are some gaps in the hospital in the various departments assessed as per NABH norms. There are major gaps in the implementation part as the documentation work has been done up to some extent. So, major focus on implementation of norms is required. As the hospital wishes for NABH accreditation so it must be prepared according to the evaluation criteria for assessment. As of now the hospital fulfills the required criteria partially. No standard must have more than one zero to qualify but the analysis shows that out of the 5 clinical chapters analyzed, few standards having more than one zeros. Also, some standards have average score less than the required score of 5.As far as Access, Assessment and continuity of care is concerned the average score is around 7 which is satisfactory. But still the hospital is presently not prepared for pre – assessment and requires great effort and focus on the weak points so as to cover the gaps and to be prepared for getting NABH accreditation.

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Annexure

Annexure-I

AUDIT OF KUKREJA HOSPITAL AS PER NABH STANDARDS

Chapter 1: ACCESS, ASSESSMENT AND CONTINUITY OF CARE (AAC)						
AAC.1: The organization defines and displays the services that it can provide.						
	A	The services being provided are clearly defined.			10	
	B	The defined services are prominently display.			0	
	C	The staff is oriented to these services.			10	
				Average Score	**6.7**	
AAC.2: The organisation has a well-defined registration and admission process.						
	a.	Standardized policies and procedures are used for registering and admitting patients			10	
	b.	The policies and procedures address out- patients, in-patients and emergency patients			10	
	c.	Patients are accepted only if the organization can provide the required service			10	
	d.	The policies and procedures also address managing patients during non availability of beds			10	
	e.	The staff is aware of these processes			0	
				Average Score	**8.0**	

AAC.3 There is an appropriate mechanism for transfer or referral of patients who do not match the organisation resources.				
	a.	Policies guide the transfer of unstable patients to another facility in an appropriate manner	10	
	b.	Policies guide the transfer of stable patients to another facility	10	
	c.	Procedures identify staff responsible during transfer	5	
	d.	The organization gives a summary of patient's condition and the treatment given	5	
		Average Score	**7.5**	
AAC.4 During admission the patient and/ or family members are educated to make informed decision.				
	a.	The patients and/ or family members are explained about the proposed care.	10	
	b.	The patients and/ or family members are explained about the expected results.	5	
	c.	The patients and/ or family members are explained about the possible complications.	0	
	d.	The patients and/ or family members are explained about the expected costs.	10	
		Average Score	**6.3**	
AAC.5 Patients cared for by the organisation undergo an established initial assessment.				
	a.	The organisation defines the content of the assessments for the out patients, in patients and emergency patients.	10	
	b.	The organisation determines who can perform the assessments.	5	
	c.	The organisation defines the time frame within which the initial	10	

		assessment is completed.		
	d.	The initial assessment for in-patients is documented within 24 hours or earlier as per the patient's condition or hospital policy.	10	
	e.	Initial assessment includes screening for nutritional needs.	10	
	f.	The initial assessment results in a documented plan of care.	10	
	g.	The plan of care also includes preventive aspects of care.	5	
		Average Score	**8.7**	
AAC.6 All patients cared for by the organisation undergo a regular reassessment.				
	a.	All patients are reassessed at appropriate intervals.	10	
	b.	Staff involved in direct clinical care document reassessments.	10	
	c.	Patients are reassessed to determine their response to treatment and to plan further treatment or discharge	5	
		Average Score	**8.33**	
AAC.7 Laboratory services are provided as per the requirements of the patients.				
	a.	Scope of the laboratory services are commensurate to the services provided by organization	10	
	b.	Adequately qualified and trained personnel perform and/or supervise the investigations	10	
	c.	Policies and procedures guide collection, identification, handling, safe transportation, processing and disposal of specimens.	10	
	d.	Laboratory results are available within a defined time frame.	0	
	e.	Critical results are intimated immediately to the concerned personnel.	0	
	f.	Laboratory tests not available in the organization are outsourced to organization(s) based on their quality assurance system.	5	

		Average Score	**6.0**	
AAC.8 There is an established laboratory quality assurance programme.				
	a.	The laboratory quality assurance programme is documented.	5	
	b.	The programme addresses verification and validation of test methods	10	
	c.	The programme addresses surveillance of test results	10	
	d.	The programme includes periodic calibration and maintenance of all equipments.	10	
	e.	The programme includes the documentation of corrective and preventive actions	0	
		Average Score	**7.0**	
AAC.9 There is an established laboratory safety programme.				
	a.	The laboratory safety programme is documented.	10	
	b.	This programme is integrated with the organisation's safety programme.	5	
	c.	Written policies and procedures guide the handling and disposal of infectious and hazardous materials.	10	
	d.	Laboratory personnel are appropriately trained in safe practices.	10	
	e.	Laboratory personnel are provided with appropriate safety equipment/ devices.	10	
		Average Score	**9.0**	
AAC.10 Imaging services are provided as per the requirement of the patients.				
	a.	Imaging services comply with the legal and other requirement.	10	
	b.	Scope of the imaging services are commensurate to the services provided by the organisation.	10	

	c.	Adequately qualified and trained personnel perform, supervise and interpret the investigations.	5	
	d.	Policies and procedures guide identification and safe transportation of patients to imaging services.	10	
	e.	Imaging results are available within a defined time frame.	0	
	f.	Critical results are intimated immediately to the concerned personnel.	5	
	g.	Imaging tests not available in the organization are outsourced to organization(s) based on their quality assurance system	10	
		Average Score	**7**	
AAC.11 There is an established quality assurance programme for imaging services.				
	a.	The quality assurance program for imaging services is documented.	10	
	b.	The programme addresses verification and validation of imaging methods.	10	
	c.	The programme addresses surveillance of imaging results.	10	
	d.	The programme includes periodic calibration and maintenance of all equipments.	10	
	e.	The programme includes the documentation of corrective and preventive actions	0	
		Average Score	**8**	
AAC.12 There is an established radiation safety programme.				
	a.	The radiation safety programme is documented.	10	
	b.	This programme is integrated with the organization's safety programme	10	
	c.	Written policies and procedures guide the handling and disposal of radio-active and hazardous materials.	10	

	d.	Imaging personnel are provided with appropriate radiation safety devices	10	
	e.	Radiation safety devices are periodically tested and documented	10	
	f.	Imaging personnel are trained in radiation safety measures	0	
	g.	Imaging signage are prominently displayed in all appropriate locations	10	
	h.	Policies and procedures guide the safe use of radioactive isotopes for imaging services.	10	
		Average Score	**8.8**	
AAC.13 Patient care is continuous and multidisciplinary in nature.				
	a.	During all phases of care, there is a qualified individual identified as responsible for patient's care.	5	
	b.	Care of patients is coordinated in all care setting within the organisation.	5	
	c.	Information about the patient's care and response to treatment is shared among medical, nursing and other care providers.	10	
	d.	Information is exchanged and documented during each staffing shift, between shifts, and during transfers between units/ departments.	0	
	e.	The patient's record(s) is available to authorized care providers to facilitated the exchange of information.	10	
	f.	Policies and procedures guide the referral of patients to other departments/ specialities.	5	
		Average Score	**6**	
AAC.14 The organisation has a documented discharge process.				
	a.	The patient's discharge process is planned	10	
	b.	Policies and procedures exist for coordination of various departments and agencies involved in the discharge process (including medico-legal	10	

		cases)		
	c.	Policies and procedures are in place for patients leaving against medical advice	10	
	d.	A discharge summary is given to all the patients leaving the organization (including patients leaving against medical advice)	10	
		Average Score	**10**	
AAC.15 Organisation define the content of the discharge summary.				
	a.	Discharge summary is provided to the patients at the time of discharge	10	
	b.	Discharge summary contains the reasons for admission, significant findings and diagnosis and the patient's condition at the time of discharge.	10	
	c.	Discharge summary contains information regarding investigation results, any procedure performed, medication and other treatment given	10	
	d.	Discharge summary contains follow up advice, medication and other instructions in an understandable manner.	10	
	e.	Discharge summary incorporates instructions about when and how to obtain urgent care	0	
	f.	In case of death the summary of the case also includes the cause of death Patient records also contain a copy of the discharge/ case summary	10	
		Average Score	**8.33**	
		Average score of the chapter AAC	**7.0**	

Annexure - II

Departmental checklist

	FRONT OFFICE	
STRUCTURE		
Location	How many FO desks are there in total	8
	Are they incorporated in the same building/wing or are distributed into different building/wing	Different wings
	If yes, name the wings	A & C
	How many desks are there in each wing	A-2, C-5+1
	Are the desks further classified	Enquiry- 4,
	If yes, name them (in remarks coloumn)	OPD-2,IPD-2
FRONT OFFICE	Are the F.O desks properly displayed in a way everyone can understand	yes
	Is there a waiting area for the patients	yes
	Is there facility for drinking water, phone facilty etc	yes
	If no where is the nearest facilty	nil
	Is there a separate washroom for the use of patients	yes
	If yes how many	1
	If no,how far is the nearest washroom facility in respect to the waiting area	nil
	Is there a separate washroom for the F.O staff on each floor/wing	No
	If yes how many	Nil
	If no,how far is the nearest washroom facility in respect to the Work Station	Nil
	Is there a public announcement system	Yes
Displays	Is the type of services available the hospital properly displayed	Yes
	If Yes, how(display board, citizen charter or Scroll messages)	citizen charter/scroll
	Is the fire exit plan properly displayed	No
	Is the policy, mission statement of the hospital properly displayed	Yes
	If Yes, How	Printed
	MANDATORY INFORMATIONS FOR ALL FRONT OFFICE DESKS	
External customer	Lists of the other branches of the same HCO and their address and phone. Nos	Nil
	Lists of other HCO in and around the vicinity with their address and phone nos	Yes
	List of the nearest blood banks, their address and phone no.s	Yes
	Lists of the empanelled TPA and insurance companies and the contact no of their concerned persons	Yes
	Lists of the doctors, visiting hours(Doctors Schedule) and their consultation charges	Yes
	List of Room Categories and their Tariffs	Yes
	Lists of the Surgery packages and maternity packages or any other package available in the hospital	yes

	List of the USPs of the hospital	No
	List of the different Preventive Healthcare Program or any other program available in the HCO	Yes
	Are there proper brochures mentioning these program	Yes
	If no, do they store these information in the HIS	Nil
	If yes, are they properly displayed to the view of the customer	Yes
	Are they updated periodically	Yes
	Lists of private ambulances, taxi, cabs etc and their contact number	Yes
	Lists of the nearest diagnostic center and their address and contact number	Yes
Process	Is there a documented policy for fixing appointment for patients	No
	is there a documented policy for announcing the code blue and other hospital emergencies	Yes

Checklist for laboratory

Diagnostics (Laboratory)		
	Functional Criteria/ Checks	**Remarks**
STRUCTURE		
Location and Design	Is this unit present in the hospital?	Yes
	Is this unit in house/outsourced?	In-house
	State the location of this unit w.r.t floor, side of hospital and direction	B-Wing Basement
	State the area allocated for this unit in Sq meters	50 sq mtrs
	Mention the names of all the departments adjacent to this unit	Dialysis
	Is the laboratory information system manual/automated	Manual
	Specify the functional units of laboratories present in the hospital	Haematology,microbiology, biochemistry
	The duration of each subunit	12 per day
	Specify the area of each functional unit	
INPUTS	Does the unit comply with statutory provisions?	Yes
	How many entrances does this unit have?	2
	How one can reach the entrance of this unit?	Elevator & staircase
	What kind of door this unit has?	single leaf
	How is the entrance guarded?	Nil
	Is the movement of traffic/ trolleys one way or crossing over takes place?	Crossing
	Is the staff dressed in attires specific to this unit?	Gowns/masks/gloves
	Are basic facilities for staff present?	toilet & drinking water
	Is centralized system for cooling/heating and ventilation present?	No
	How is the flooring of this unit?	Seamless
	How are the walls and ceiling of this unit?	Seamless
	Are measures for fire detection/fire fighting installed in this unit?	Yes

	What measures for fire detection are installed in this unit?	fire alarm, smoke detectors
	What measures for firefighting are installed in this unit?	water sprinklers & fire extinguisher
	Is the fire escape plan clearly displayed in this unit?	No
	Is there continuous water supply to this unit?	Yes
	Is adequate drainage system present in this unit?	Yes
	Is there provision for hand washing facility in this unit?	Yes
	Is there provision of personal protective devices for staff ?	Yes
Equipments		
	How frequently the equipments are calibrated?	Yes
	How frequently the equipment goes for preventive maintenance?	Yes
PROCESS	Are the policies and procedures for following activities present?	
	-registration	Yes
	-patient preparation	Yes
	-sample collection	Yes
	-analysis	Yes
	-report generation and dispatch	Yes
	-risk management	Yes
	-surveillance protocols	Yes
	-infection control	Yes
	-equipment calibration and maintenance	Yes
	-quality control/assurance	Yes
	cleaning and decontamination of surface and equipment	Yes
	-Infection control protocols	Yes
	-staff training	No
	-sharps and needles management policy	Yes
	Is there provision for regular validation test for this unit?	Yes

Checklist for Imaging Department

Diagnostics (Imaging)		
	Functional Criteria/ Checks	**Remarks**
STRUCTURE		
Location and Design	Is this unit present in the hospital?	Yes
	Is this unit in-house/outsourced?	in-house
	State the location of this unit w.r.t floor, side of hospital and direction	A-Wing, Basement
	State the area allocated for this unit in Sq meters	40 sq mts
	Mention the names of all the departments adjacent to this unit	OPD , Emergency
INPUTS	Do the unit comply to statutory provisions?	Partially
	How many entrances do this unit have?	2
	How one can reach the entrances of this unit?	Elevator,ramp&staircase
	What kind of door this unit has?	single leaf
	How is the entrance guarded?	Nil
	Is the movement of traffic/trolleys one way or crossing over takes place?	
	Is the staff dressed in attires specific to this unit? (dedicated gownslippers/masks/gloves/head cover)	
	Are basic facilities for staff present? /change room)	Yes,toilet/drinking water
	Is centralised system for cooling/heating and ventilation present?	Yes
	How is the flooring of this unit? (Impermeable/non slippery/?	Seamless
	How are the walls and ceiling of this unit?	Seamless
	Are measures for fire detection/fire fighting installed in this unit?	Yes
	What measures for fire detection are installed in this unit?(fire	Alarm, Smoke detectors
	What measures for firefighting are installed in this unit?	water sprinklers & fire extinguisher
	Is the fire escape plan clearly displayed in this unit?	No
	Is there continuous water supply to this unit?	Yes
	Is adequate drainage system present in this unit?	Yes
	Is there provision for hand washing facility in this unit?	Yes
	Is there provision of personal protective devices for staff?	Yes
	Specify the radiation level monitoring system used	(TLD badges)
	Do this unit comply with radiation safety guidelines?	
	Specify the measures taken in this unit	
	Specify the means of displaying radiation safety protocols(pictoral/written)	
	What is the organisational structure/chain of command of this unit ?	

Equipments		
	Do the equipments comply to statutory provisions?	X-Ray registered with BARC
	Do electrical equipments have voltage stabilizers?	Yes
	Are all electrical equipments connected with the power backup unit?	Yes
	Do the equipments are calibrated?	No
	Does the equipment goes for preventive maintenance?	
	How frequently the equipment goes for corrective maintenance?	
	What is the lead time for maintenance?	
	Specify the equipments that are covered under AMC and/or CMC	
	Specify the turn around time and down	
	Is the maintenance schedule for each equipment specified	
	Specify the workload/equipment/day	
PROCESS	Are the policies and procedures for following activities present?	
	radiation accident/emergency policy	
	radiation safety policy(both for patient and staff)	
	radioactive waste management policy	
	electrical safety	
	policy for pregnant workers in radiation areas	
	abuse and neglect policy	
	policy for housekeeping	
	policy for radiation surveillance	
	medical examination of workers	
	policy for duty roster for workers	
	Specify the work flow of this unit	
	Is there provision for regular validation test for this unit?	
	Specify the load in this unit/functional area	
	Specify the license particulars(date of expiry, duration)	
OUTCOME	number of investigations performed/functional unit/month	
	number of tests redone/functional unit/month	
	patient satisfaction	
	staff satisfaction	
	number of adverse events reported/month	
	number of equipment breakdowns observed/month/equipment	

Annexure III

Laboratory Medicine Operational Policy

A. Purpose: To provide guideline instruction for laboratory work flow process.

B. Scope : Provision of comprehensive services in the following areas:

a. Hematology
b. Clinical Pathology
c. Biochemistry
d. Serology
e. Immunology
f. Microbiology
g. Histopathology

C. Responsibility: Microbiologist, Laboratory Technician, Doctors (Consultants /Medical Officers), Nurses.

Departmental Policies:

a. Outpatients:

Sample Collection and performance of the test:

1. Treating Doctor prescribes the required laboratory test in the OP case sheet of the patient and fills a laboratory test requisition slip.
2. Patient /relatives visit the cash counter with the laboratory test requisition slip for payment of the user charges for the prescribed test.
3. The Front Desk Executive (FDE) collects the user charges for the prescribed test as per indicated in the laboratory test requisition slip and enters the details in the designated register and assigns a patients sample identification number to the patient .The number is entered in the laboratory test requisition slip of the individual patient.
4. Receipt for the payment of the user charges are handed over to the patient / relatives by the clerk (FDE).
5. Patient visit the sample collection area of the laboratory department and submits the laboratory test requisition slip along with the payment receipt to the laboratory attendant.
6. The patients details including the name of the patient , age , sex , patients sample identification number , tests to be performed , referring doctor are entered in the record register.
7. Patients are requested to wait in the waiting area of the department till they are called. Patient’s sample collection is done strictly on the basis of “FIRST COME FIRST SERVE”.

8. Patients are called in the sample collection area of the department as per their turn. The Laboratory technician collects the patient's sample, stores the same in leak proof containers, labels the container with the patients name, patients sample identification number and sample type.
9. Patients are informed about the time and day for collecting the test reports
10. The collected sample is forwarded to the main laboratory area for the performance of the prescribed test.
11. Test is performed and reports generated .All reports are signed, dated clearly by authorized laboratory personnel.
12. Patients/relatives collect the report from the reception area of the laboratory at the mentioned time and day.

b. Inpatient:

Sample Collection and performance of test:

1. The treating doctor prescribes the requisite laboratory test in the patient's case sheet, fills the laboratory test requisition slip and forwards the same to the ward nurse.
2. The Ward nurse collects the patient's sample, stores them in vacutainers, labels the sample with patient's name, age, sex, sample type, patients sample identification number as indicated in the laboratory test requisition slip.
3. The ward nurse informs the laboratory for collection of the sample .The laboratory attendant collects the patients sample along with the test requisition form from the inpatients wards.
4. Samples are received in the laboratory, records relating to the name of the patient, age, sex, sample type and patients sample identification number are entered in the record book.
5. Samples are forwarded to the main laboratory area for processing.
6. Tests are performed and reports generated .All reports are signed, dated clearly by authorized laboratory personnel.
7. The reports are forwarded directly to the staff nurse of the designated inpatient care area from where patient's sample was collected.