"Manpower Planning of Rockland Hospital"

A Dissertation Summary Report for
Post Graduate Diploma in Health and Hospital Management

By
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Under the guidance of

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International Institute of Health Management Research
New Delhi -11007

MAY, 2010

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Certificate of Internship Completion

Date……..

TO WHOM IT MAY CONCERN

This is to certify that Ms.Vishal Sharma has successfully completed his 3 months internship in our organization from February 1, 2010 to April 30, 2010. During this internship he has worked on project "Manpower Planning in Rockland Hospital" under the guidance of me and my team at Rockland Hospital.

We wish him good luck for his future assignments

(Signature)
_____(Name)
_____Designation

Certificate of Approval

The following dissertation titled "**Manpower Planning in Rockland Hospital**" 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
_____	_____
_____	_____
_____	_____

Certificate from Dissertation Advisory Committee

This is to certify that **Mr.Vishal Sharma**, a participant of the **Post- Graduate Diploma in Health and Hospital Management**, has worked under our guidance and supervision. He is submitting this dissertation titled "**Manpower Planning in Rockland Hospital**" 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.

Dr. Vijay Aggarwal
Medical Superintendent
Rockland Hospital
Delhi

Dr. Dharmesh Lal
Asst.Professor
IIHMR

ACKNOWLEDGEMENT

It gives me pleasure to remember the moments when my teachers and batch mates were extending their support and guidance to me. I feel highly fortunate too. I express my deep sense of gratitude and appreciation to all of them at this moment.

At the outset I feel great pleasure to express my regards to Dr. Dharmesh Lal , Associate professor in IIHMR, New Delhi for his incessant boosting, inspiring encouragement, patience and ever readiness to help. It is my privilege to work under his dynamic Supervision.

I am sincerely thank full to Dr. Vijay Aggarwal, Medical Superintendent and Dr. R.P.Singh H.O.D. Clinical Services, Rockland Hospital,, my external guide who provided me a caring and supporting and throughout my training period.

I am thank full to the IIHMR,, New Delhi for having provided me with the invaluable learning experience..

I acknowledge the moral support and encouragement provided by my friends at the every stage of my study.

Internship Report

"Rockland hospital has recently entered into a partnership with IFC, a member of the World Bank Group to expand its facilities in New Delhi and build the first phase of a new 250-bed hospital in Manesar, Haryana."

Rockland Hospital, New Delhi, has redefined the healthcare delivery system in India. Its motto - where caring is the way of life - is the guiding principle for the entire Rockland family.

Located in Qutab Institutional Area, New Delhi, in close proximity of the lush green Sanjay Van, the Rockland Hospital is run by the Foundation for Applied Research in Cancer (FARC), of which Rajesh Srivastava is the Chairman.

Today, Rockland Hospital is a multispecialty hospital with focus on specialization with perfection. A diligent team of professionals and highly qualified doctors renowned in their respective fields of specialty like Padmashree Prof. (Dr.) PK Dave (orthopedic specialist) and Prof. (Dr.) MP Sharma (gastroenterologist), Dr. KK Pandey (oncologist), and Padmashree Dr. Sanjeev Bagai (pediatrician) are part of the Rockland family.

Special attention has been given to the design and aesthetics of different categories of rooms for the patient. The breath taking view of Sanjay Van and the Qutub Minar is a unique sight unimaginable in a metropolis like New Delhi. The ultra modern, technically advanced operation theaters with laminar airflow and pneumatic instruments are well equipped to carry all sorts of sophisticated surgery. Post-operative and intensive care beds, connected to a centralized gas supply and an advanced monitoring system, are supervised by experienced and trained nursing staff.

Strategically designed health packages are a noteworthy feature of the hospital services. They have been planned keeping economy and the highest standards of quality under consideration, with an aim to benefit each and every stratum of society.

The OPD services of the hospital were inaugurated by the Delhi Chief Minister, Sheila Dikshit, on June 19, 2004.

The idea behind starting this hospital was to provide quality services to society at all times.

The visionary behind the Rockland hospital, Rajesh Srivastava, relentlessly strives to contribute to the growth and development of society keeping the cultural traditions intact.

The Rockland hospital has created a niche for itself in a short span of time both among the medical fraternity and patients. The group has started expanding its healthcare network with the construction of a multispecialty hospital in Manesar. The five acre site is situated at a prime location at IMT Manesar and is right on the NH 8. It will cater to a

huge workforce at IMT Manesar. The site is also near the proposed Reliance SEZ and KMP highway. Two more hospitals are being initiated'one at Greater Noida in Uttar Pradesh for which 5 acres of land is already acquired and the other at Dwarka subcity in Delhi.

Departments and Specialties

- Anesthesiology
- Non-Invasive Cardiology
- Dentistry
- Physiotherapy
- ENT
- Gastroenterology and Endoscopy
- Obstetrics and Gynecology
- Laboratory
- Blood Bank
- Radiology and Imaging
- Nephrology
- Urology, Kidney Transplant Unit, and Dialysis Unit
- Oncology & Onco-Surgery
- Ophthalmology
- Orthopaedics
- Pediatrics and Neonatology
- Pulmonary Medicine
- Emergency and Day Care
- Dietetics and Nutrition
- General Surgery and Laparoscopic Services
- Health Check-ups

Future/Growth Plans

Rockland Hospital,Manesar,is a part of the growing chain of Multi-speciality Rockland Hospitals in the NCR,with its headquaters at Qutub Institutional Area,Delhi.The 250 bedded Multi-speciality Hospital stands on a prime location on NH-8 in IMT Manesar

The hospital is being built on a 5 acre plot of land allotted by HSIIDC. Rockland Hospital has entered into recent partnership with IFC, a member of the World Bank Group to expand its facilities in New Delhi and build the first phase of a new 250-bed hospital in Manesar.

PHASE 1
HOSPITAL BLOCK

Lower Basement :-	Parking, stores.
Upper Basement:-	Laboratory, offices
Ground Floor :-	Emergency 9 beds, OPD,s, Pharmacy,Imaging,Sample Collection, X-ray,CT-scan,MRI,USG,ECG
First Floor:-	ICU-13 beds, CCU-13 beds, OT-4 table,Pre-operative Room-10, Recovery-10, Post-operative-10,
Service Floor:-	Kitchen, Cafetaria,CSSD ,Offices
Second Floor:-	Economy beds,single beds,double beds—67 beds Deluxe beds-8, Nursing stations,NICU-5 beds

International Patients Services

Rockland Hospital has a separate division for international patients. This takes care of fixing appointments, corresponding, receiving patients, and conducting them through the hospital for their treatment.

The concerned staff is trained in manners, grooming, language, and hospitality skills. All the activities are done in a seamless manner and an escort sees off the patient and the family at the airport.

Medical Expertise

Rockland Hospital has a panel of highly experienced and qualified doctors who have gained national and international recognition.

The hospital has 110 beds for IPD patients including 20 bed critical care unit (ICU,NICU, KTU, and post-operative beds. The hospital is already in the stage of expansion and by 2015 six big hospitals and 10 satellite centers will be in place. The basic focus is not on the hospital but healthcare convergence and integration to all strata of society.

Social Responsibility

The management is committed toward fulfilling organizational social responsibility. This is achieved by doing various social activities by the organization:

Sankalp Programme: Creating awareness regarding first aid, importance of health checkups, cancer screening, nutrition, water borne diseases, correct posture, and related diseases.

Academic Activities in Rockland Hospital

Academic activities such as continuing medical education (CME), case discussions, and teaching classes of DNB students are being conducted in Rockland Hospital on a regular basis under the supervision of Prof. Dr. MP Sharma, Sr. Consultant, Gastroenterology. CMEs are arranged on every Thursday between 3:00 and 4:00 p.m. in which general topics from every branch of medicine are discussed. Rockland Hospital is in the process of setting up an institute for the training of paramedical staff to have updated knowledge and skills for modern practices.

CME Program for Doctors: CME programs are conducted from time to time both outdoor as well as in-house to strengthen the academic activities in the hospital.

CME Program for Paramedical Personnel:

RN India Training Programme for continuous in-house education program for nurses

Training in various equipment by trainers from Johnson and Johnson and Baxter

DNB Teaching Program: The hospital has already DNB program for following disciplines

- Orthopedics
- Family medicine
- Anesthesia

Collaboration with International Schools: Rockland Hospital and the Harvard-MIT division of Health Science and Technology, US have entered into a student exchange program. Two Harvard students Kathleen Sienko and Christina Silcox came to Rockland and undertook 15 days training in 2006. Both were Ph.D students from MIT Harvard and they were exposed to various specialties in the hospital.

Preventive Health Packages:-

ADOLESCENT HEALTH PACKAGE

EXECUTIVE HEALTH PLAN
-GENERAL
-EXECUTIVE

ANNUAL HEALTH CHECK UP
-Above 40 yrs. & Below 40 yrs. (Male & Female)

SENIOR CITIZEN HEALTH PLAN

HOLISTIC LIFESTYLE MANAGEMENT
ADOLESCENT HEALTH PACKAGE

EXECUTIVE HEALTH PLAN
-GENERAL
-EXECUTIVE

ANNUAL HEALTH CHECK UP
-Above 40 yrs. & Below 40 yrs. (Male & Female)

SENIOR CITIZEN HEALTH PLAN

HOLISTIC LIFESTYLE MANAGEMENT

Department I Worked:-

I worked in Rockland Hospital, Manesar as a AMS and worked in Multiple Department which are as follows:-

1) Medical Administration
2) Operational Functions
3) Process flows of the hospital
4) Marketing & Empanelment
5) Clinical Work
6) Project Work
7) Staff Recruitment

Task Performed:-

1) Human Resource Planning
2) Equipment Planning department wise
3) Empanelment of the companies for:-
    a) Annual health check-ups
    b) Pre-employement health check-ups
    c) Executive health check-ups
    d) Consultation
    e) Emergency cases

4) Health check-ups done at present include:-
    a) CBC
    b) Hemogram
    c) Urine R/E
    d) Urine c/s
    e) Stool c/s
    f) X-rays
    g) USG
    h) TMT
    i) ECG
    j) Audiometery

5) Allocation of staff to different departments

TOPIC

" MAN POWER PLANNING OF THE HOSPITAL "

Introduction:-

Human beings are the most important resources in health care. Machines and gadgets which are integral parts of health care require the human touch, expertise, and commitment for their full utility and application in delivery of health care. Therefore planning of human resources is the key to any health care provision. The objective of human resource (HR) policy is to a) attract, recruit, retain and develop competent personnel and b) create a continuously learning health care organization

Human resources for health (HRH) is one of the most important and most expensive health resources. It is the HRH that determines the utilization of other health resources. So human resource management (HRM) has been regarded to be the most crucial component for the successful arrangement of health care. HRM is concerned with mobilization, motivation, and capacity development of health personnel in order to achieve health goals. There are several challenges in HRM(1), namely, low motivation, ineffective staff utilization, low staff productivity, outdated and inappropriate skills/knowledge and overall maldistribution of HRH[2]

The health manpower planning model may have its parameters adjusted to reflect future anticipated conditions by the task force. Since data are not available from the future, it is only possible to anticipate it,not measure it; historical data by themselves are seldom adequate.Parametric adjustment is best implemented from the intuition and judgment of the decision making task force.Such group or participative decision making is positively associated with the quality of decisions and with commitment to having decisions successfully implemented.

Principal components of a health manpower planning process are: identification of current supply; projection of future supply; identification of current requirements; projection of future requirements; and affecting a balance between
supply and requirements.[6]

During the past half century, the focus of development of human resources for health (HRH) has evolved from increasing the numbers of conventional health personnel, through efforts to improve the education of all health workers, to current attempts to increase their effectiveness and the quality of their work. Since 1976 the official policy of the World Health Organization (WHO) has been to encourage the integration of health services with development of health personnel. This concept, known as coordinated health and human resources development, stipulates that planning, production, and

management functions for HRH should be a unified process, that human resources must serve the needs of the health system, and that the health system must serve the needs of the people. A major goal of this work was to identify the important issues in HRH development as well as the factors that impede progress.

Developing countries have experienced imbalances in the numbers and types of health personnel trained as well as in their function and distribution and in the quality of their training in relation to future responsibilities. Furthermore, insufficient attention to the economic aspect of HRH planning has led, in some cases, to the training of more high-level personnel (e.g., physicians) than the economy of a developed country can support. Since the cost of training a medical auxiliary is a small fraction of the cost of training a physician, improved HRH management and planning could lead to more effective allocation of human and financial resources. Among the obstacles to HRH development in many countries are misplaced priorities, lack of coherent policies and appropriate planning processes, inadequate management capacity, poorly developed methodology, and lack of essential information. Decision makers may be overwhelmed with routine health statistics yet unaware of or unable to use results of HRH research. Thus there is need not only for research in this area but, more importantly, to make data from HRH studies accessible to those responsible for HRH planning. An analytic approach to HRH development should consider supply and requirement projections as well as determination of proper staffing standards and mix. Use of modelling may facilitate making HRH projections that account for interactions among many variables. Although most of the work with modelling thus far has been done in developed countries, notably the United States and Great Britain, this technique has potential applicability as a planning tool in developing countries.

Rockland Hospital is governed by a trust established in 1986 with Shri Rajesh Srivastava as Chairman. The trust is the subsidiary of the S.B. Group, which has diverse interests in a wide range of fields.



BLUE: symbolises SECURITY and TRUST

RED: epitomises ENERGY and DYNAMISM

- The logo symbolises our commitment to provide world class services.

- It is imbued with emotive & conceptual values such as life and hope.
- The arrow circling round to the point of origin is a symbol of CONTINUITY & INTEGRITY.

Mission of the Hospital:-

To deliver quality health care services, with responsibility, care and trust, committed to the highest standards of excellence, by a multi-disciplinary approach in the management of disease at an optimal cost.

Vision of the Hospital:-

- The primary measure of success of the hospital will be to deliver a benchmarked quality of medical care.
- The organisation is to be run by a team of highly responsive, caring and efficient professionals with a constant focus on excellence in delivering medical services.
- The very best standards & practices in patient care, continuing medical education & scientific knowledge will form the backbone of our institution.
- The organisation will adhere to the highest level of ethics.
- The spirit of teamwork and fellowship will be the driving force behind the organisation and the day-to-day operations of the hospital.

Rockland Hospital,Manesar,is a part of the growing chain of Multi-speciality Rockland Hospitals in the NCR,with its headquaters at Qutub Institutional Area,Delhi.The 250 bedded Multi-speciality Hospital stands on a prime location on NH-8 in IMT Manesar.

PHASE 1

HOSPITAL BLOCK

Lower Basement :-	Parking, stores.
Upper Basement:-	Laboratory, offices
Ground Floor :-	Emergency 9 beds, OPD,s, Pharmacy,Imaging,Sample Collection, X-ray,CT-scan,MRI,USG,ECG
First Floor:-	ICU-13 beds, CCU-13 beds, OT-4 table,Pre-operative Room-10, Recovery-10, Post-operative-10,

Service Floor:- Kitchen, Cafetaria,CSSD ,Offices

Second Floor:- Economy beds,single beds,double beds—67 beds
Deluxe beds-8, Nursing stations,NICU-5 beds

The norms for various hospital manpower are:

Junior Residents:- 8 residents per 100 Beds

Nursing Staff:-

In General Ward:-
Nursing staff:- 1:5
Nursing Supervisor:- 1:25

In ICU:- Nursing Staff:- Ratio:- 1:1
Nursing Supervisor:- 1 in each shift

In CCU:- Nursing Staff:- 1:1
Nursing Supervisor:- 1 in each shift

OT(Major):- Ratio:- 3 nurses/table/shift

Nursing Supervisor:- 1 in each shift, shifts = 2

OPD,s:- Ratio:- 1 nurse/OPD, 1 shift

Nursing Supervisor: 1 NS for all OPD,s

NICU:- Ratio:- 1:1/shift
Nursing Supervisors: 1 in each shift

Birthing Suite:- Ratio:- 1:1/shift

Dialysis:- Ratio:- 2:1/shift
Nursing Supervisors:- Ideally: 1 in each shift

Pre-operative Room:- Ratio:- 2:1
Nursing Supervisors: 1 in each shift,

Recovery Room:- Ratio:- 1:1
Nursing Supervisors: 1 in each shift,

Post-operative Room:- Ratio:- 2:1
Nursing Supervisors:- 1 in each shift,

Emergency:- 1:3 or upto 100 patients – 3 nurses/shift
and with every additional 35 patients 1 nurse is added.
Nursing Supervisors:- 1 in each shift

Deluxe Rooms:- 4:1/shift
Nursing Supervisors:- 1 in each shift

For 100 Beds:-

1 Nursing Suprintendent
1 Deputy Nursing Suprintendent
2 Assistant Nursing Suprintendent

Technicians:-

X-ray Department:- 1 Technician/machine/shift

CT Scan:- 1 Technician/machine/shift

MRI:- 1 Technician/machine/shift

Ultrasonography:- 1 Technician/machine/shift
ECG Tecnician:- 1 Technician/machine/shift

Pathology lab:- 2 Technician/morning shift and 1lab assistant/morning shift 1 Technician/night shift and 1 lab assistant/night shift

Microbiology Lab: 2 Technician/morning shift and 1lab assistant/morning shift1 Technician/night shift and 1 lab assistant/night shift

Hematology Lab:- 2 Technician/morning shift and 1lab assistant/morning shift1 Technician/night shift and 1 lab assistant/night shift

OT Technicians:- 1 Technician/Table/shift

Dialysis:- Ratio:- 1:2,

Table depicting the standard Norms of the Hospital Manpower as per study[5]

	Doctors	Nurses	Technicians	NS	Lab ass.
General Ward	8 residents/ 100 beds	1:5		1:25	
ICU	1 in each shift	1:1		1 in each shift	
CCU	1 in each shift	1:1		1 in each shift	
Emergency	1 in each shift	1:3		1 in each shift	
OT (major)		3/table/shift	1/table/shift	1 in each shift	
OT(minor)		1/table/shift			
Pre-op		2:1		1 in each shift	
Recovery		1:1		1 in each shift	
Post-op		2:1		1 in each shift	

OPD,s		1 in each OPD		1 over -all	
NICU	1 in each shift	1:1		1 in each shift	
Birthing Suite		1:1		1in each shift	
Deluxe Room		2:1		1in each shift	
Dialysis		2:1	1:2	1in each shift	
Radiology			1 technician/machine/shift	1/shift	

General Objective:- To study the norms of Man Power for different departments of the Hospital.

Specific Objectives:-

1) To estimate the specific Man Power requirements of different departments.
2) To recommend the system for future Manpower planning.

Rationale of the study:-

1) To optimize the use of Man Power and hence to reduce overhead expenditure.
2) To utilize man power in the most efficient and effective way.
3) To ensure the quality manpower planning of the Hospital in such a way that it fulfill the needs of all the departments and the work load of the hospital can be handled easily and effectively which indirectly leads to the more revenue generation.
4) To avoid the undue workload on the manpower of the hospital.

Review of Literature:-

Welch and Bailey pioneered its use in the health field in evaluating appointment systems for an outpatient department, and the study of scheduling systems and waiting times remained its main application in the health field until Haussmann[1] took a different perspective in using it to establish an index of quality of care based on waiting times for service.
The present study illustrates the practical application of queueing theory to a simple problem in manpower planning: how large a staff is required to give adequate service from a hospital messenger unit? The problem is simple enough to be amenable to an analytic solution, and the optimal solution arrived at by the use of queueing theory resulted in a considerable saving to the hospital study.[4]
Judicious planning and adoption of protocols for providing adequate manpower are necessary to optimize outcomes during a pandemic.[3]

This paper deals with the development of a human resource planning (HRP) model for hospital personnel. External and organizational factors impacting the demand and supply of clinical personnel in an urban academic health center are identified by a Delphi process.[7] These factors are structured into a hierarchy for the application of the Analytic Hierarchy Process (AHP). Computer software, Expert Choice, *was used in model hierarchy development and judgmental elicitation process. The model result can be applicable to eliciting the perceptions, insights, and understanding of health-care decision-makers for strategic human resource planning.[5]*

Methodology:- No Data was collected.Norms were found for various departments for the Hospital Man Power from different reference books and on basis of same the equirements for the Rockland Hospital Manesar for the respective departments are made.

Findings:-

Doctors estimated department wise:-

1) Internal Medicine:

HOD:- 1
Consultant:- 2
SR:- 3

2) Surgery:-

HOD:- 1
Consultant:- 2
SR:- 3

3) Obs and Gynae:-

HOD:- 1

Consultant:- 2
SR:- 3

4) Orthopedics:-

HOD:- 1
Consultant:- 2
SR:- 3

5) Pediatrics:-

HOD:- 1
Consultants:- 2, SR:- 3

6) Anaesthesia:-

HOD:- 1
Consultants:- 2
Sr:- 3

7) ENT:-

Consultant:- 1

8) Ophthalmology:-

Consultant:- 1

9) Pathology:-

Consultant:- 1

10) Microbiology:-

Consultant:- 1

14) Radiology:-

Consultant:- 1

11) MRI & CT:-

Consultant:- 1

12) Sonologist:-

Consultant:- 1

13) Critical Care:-

Consultant:- 3

14) Cardiology:-

Consultant:- 1

15) CTVS:- Consultant:- 1

16) Gastroenterology:-

Consultant:- 1

17) GE Surgery:-

Consultant:-

18) Neurology:-

Consultant:- 1

19) Neurosurgery:-

Consultant:- 1

20) Reconstructive Surgery:-

Consultant:- 1

21) Dentistry:- Consultant:- 1

22) For:- Economy+Single+Double =67 Beds

8 residents on 100 Beds

1 Resident covers 100/8 = 12.5 beds

Therefore for 67 Beds = 5-6 residents/shift
For 3 shifts 6*3 = 18 residents

For:- ICU = 13 beds

1 resident/ shift
1*3 = 3 residents

For:- CCU = 13 beds

1 resident/ shift
1*3 = 3 residents

For:- Emergency = 9 beds

1*3 = 3 residents

Nursing Staff Estimated Department wise :-

General Ward (Economy+Single+Double) = 67 beds

Ratio of 1:5
Therefore 67/5=13.5 or 14/ shift, for 3 shifts= 14*3 =42 nurses

Reserve Leave:- 25% of 42 = 10.5 or 11
Total = 42+11=53

Nursing Supervisors:

Ratio: 1:25
Therefore 3 NS/shift ,for 3 shifts 3*3 = 9 NS

Reserve Leave: 25% of 9 = 2
Total = 9+2 = 11 NS

In ICU:- 13 Beds

Ratio:- 1:1
Therefore 13*1 = 13/shift, for 3 shifts = 13*3 = 39 nurses

Reserve leave:- 25% of 39 = 10 app.
Total = 39+10 = 49 nurses

Nursing Supervisors:-

Ratio: 1 in each shift, for 3 shifts = 1*3 = 3 NS

Leave Reserve ;- 1
Total 1+3 = 4 NS

In CCU:- 13 Beds

Ratio:- 1:1
Therefore 13*1 = 13/shift, for 3 shifts = 13*3 = 39

Reserve Leave:- 25% of 39 = 10 app.
Total = 39 + 10 = 49 nurses

Nursing Supervisors:-

Ratio: 1 in each shift, for 3 shifts = 1*3 = 3 NS

Leave Reserve ;- 1
Total 1+3 = 4 NS

OT Major:- 4 Tables

Ratio:- 3 nurses/table/shift, Total shifts- 2
Therefore 3*4 = 12 nurses/shift, for 2 shifts = 12*2 = 24 nurses

Reserve Leave = 25% of 24 = 6
Total = 24+6 = 30 nurses

Nursing Supervisors:-

1 in each shift, shifts = 2
Therefore 2 NS for 2 shifts

Reserve Leave:- 1
Total = 1+2 = 3 NS

OT Minor:- 1 Table

Ratio:- 1 nurse/table/shift, Total shifts- 2
Therefore 1*1 = 1 nurse/shift, for 2 shifts = 1*2= 2 nurses

Reserve Leave = 1 nurse
Total = 1+2 = 3 Nurses

OPD,s :- 12

Ratio:- 1 nurse/OPD, 1 shift
Total = 1*12 = 12 nurses

Reserve Leave = 25% of 12 = 3
Total = 12+3 = 15

Nursing Supervisor:

1 NS for all OPD,s

NICU:- 5 Beds

Ratio:- 1:1/shift
Therefore 5 nurse/shift, for 3 shifts = 5*3 = 15 nurses

Reserve Leave = 25% of 15 = 4 app.
Total = 15+4 = 19 nurses

Nursing Supervisors: 1 in each shift
For 3 shifts = 3*1 = 3 NS

Reserve Leave: 1 ns
Total = 3+1 = 4NS

Birthing Suite:- 2

Ratio:- 1:1/shift

Therefore 2 nurse/shift, for 3 shifts = 2*3 = 6

Reserve Leave = 25% of 6 = 2 app.
Total = 6+2 = 8 nurses

Dialysis:- 5 Beds Shifts-2

Ratio:- 2:1/shift
Therefore foe 5 beds-3nurses/shift, for 2 shifts = 3*2 = 6 nurses

Reserve Leave:- 25% of 6 = 2app.
Total = 6+2 = 8 nurses

Nursing Supervisors:-

1 in each shift, shifts = 2
Therefore 2 NS for 2 shifts

Reserve Leave:- 1
Total = 1+2 = 3 NS

Preoperative Room:- 10 Beds Shifts-2

Ratio:- 2:1
Therefore 5 nurse/shift, for 2 shifts = 5*2 = 10 nurses

Reserve Leave = 25% of 10 = 3 app.
Total = 10+3 = 13 nurses

Nursing Supervisors:-

1 in each shift, shifts = 2
Therefore 2 NS for 2 shifts

Reserve Leave:- 1
Total = 1+2 = 3 NS

Recovery Room:- 10 Beds Shift-2

Ratio:- 1:1
Therefore 10 nurses/shift, for 2 shifts = 10*2 = 20 nurses

Reserve Leave = 25% of 20 = 5
Total = 20+5 = 25 nurses

Nursing Supervisors:-

1 in each shift, shifts = 2
Therefore 2 NS for 2 shifts

Reserve Leave:- 1
Total = 1+2 = 3 NS

Postoperative room:-17 beds

Ratio:- 2:1
Therefore 9 nurses/shift, for 2 shifts = 9*2 = 18 nurses

Reserve leave = 25% of 18 = 5 app.
Total = 18+5 = 23 nurses

Nursing Supervisors:-

1 in each shift, shifts = 2
Therefore 2 NS for 2 shifts

Reserve Leave:- 1
Total = 1+2 = 3 NS

Emergency:- 9 Beds

1:3 or upto 100 patients – 3 nurses/shift and with every additional 35 patients 1 nurse is added.

Therefore 3 nurses/shift, for 3 shifts = 3*3 = 9 nurses

Reserve Leave- 25% of 9 = 3 app.
Total = 9+3 = 12 nurses

Nursing Supervisors:-

1 in each shift, shifts = 3
Therefore 3 NS for 3 shifts

Reserve Leave:- 1
Total = 1+3 = 4 NS

Deluxe Rooms:- 8 beds

4:1/shift
Therefore 2 nurses/shift ,for 3 shift = 2*3 = 6 nurses

Reserve Leave = 25% of 6 = 2 app.
Total = 6+2 = 8 nurses

Nursing Supervisors:-

1 in each shift, shifts = 3
Therefore 3 NS for 3 shifts

Reserve Leave:- 1
Total = 1+3 = 4 NS

Infection control :-

2 nurses for 1 shift

Radiology:- 1 Nurse

For 100 Beds:-

1 Nursing Suprintendent
1 Deputy Nursing Suprintendent
2 Assistant Nursing Suprintendent

Technicians estimated for the Hospital are:-

X-ray Department:- 2 Machines

1 Tecnician/machine/shift
Therefore 2*3 = 6 Tecnicians

Reserve Leave:- 25% of 6 = 2 app.
Total = 2+6 = 8 Tecnicians

CT Scan:- 1 Machine

1 Tecnician/machine/shift
Therefore for 3 shifts, 1*3 = 3

Reserve Leave = 1
Total = 1+3 = 4

MRI:- 1 Machine

1 Tecnician/machine/shift
Therefore for 2 shifts, 1*2 = 2 , no night shift

Reserve Leave = 1
Total = 1+3 = 3

Ultrasonography:- 2 Machines

1 Tecnician/machine/shift
Therefore for 3 shifts, 2*3 = 6

Reserve Leave = 2
Total = 6+2 = 8

ECG Tecnician:-

1 Tecnician/machine/shift
Therefore for 3 shifts, 1*3 = 3

Reserve Leave = 1

Total = 3+1 = 4

Pathology lab:- Shifts:- 2

2 Technician/morning shift and 1lab assistant/morning shift
1 Technician/night shift and 1 lab assistant/night shift

Reserve Leave = 1 Technician and 1 Assistant
Total = 4 Technician and 3 Assistant

Microbiology Lab:- Shifts-2

2 Technician/morning shift and 1lab assistant/morning shift
1 Technician/night shift and 1 lab assistant/night shift

Reserve Leave = 1 Technician and 1 Assistant
Total = 4 Technician and 3 Assistant

Hematology Lab:-

2 Technician/morning shift and 1lab assistant/morning shift
1 Technician/night shift and 1 lab assistant/night shift

Reserve Leave = 1 Technician and 1 Assistant
Total = 4 Technician and 3 Assistant

OT Technicians:- Shift-2

1 Technician/Table/shift
Therefore 1*4 = 4/shift, for 2 shifts = 8

Reserve Leave:- 25% of 8 = 2
Total = 8+2 = 10 Technicians

Dialysis:- 5 Beds Shift-2

Ratio:- 1:2,
Therefore 3 Technicians/shift, for 2 shifts 2*3 = 6Technicians

Reserve Leave: 25% of 6 = 2 App.
Total = 6+2 = 8 Technicians

Operation Theatre (Major) 4 Tables

Nurses Estimated:

Ratio:- 3 nurses/table/shift, Total shifts- 2
Therefore 3*4 = 12 nurses/shift, for 2 shifts = 12*2 = 24 nurses

Reserve Leave = 25% of 24 = 6
Total = 24+6 = 30 nurses

Nursing Supervisors:-

1 in each shift, shifts = 2
Therefore 2 NS for 2 shifts

Reserve Leave:- 1
Total = 1+2 = 3 NS

Technicians estimated for OT:

OT Technicians:- Shift-2

Ideal 1 Technician/Table/shift
Therefore 1*4 = 4/shift, for 2 shifts = 8

Reserve Leave:- 25% of 8 = 2
Total = 8+2 = 10 Technicians

Technician Supervisor- 1 above all (9am-5pm)

Operation Theatre (Minor) – 1 Table

Ratio:- 1 nurse/table/shift, Total shifts- 2
Therefore 1*1 = 1 nurse/shift, for 2 shifts = 1*2= 2 nurses

Reserve Leave = 1 nurse
Total = 1+2 = 3 Nurses

ICU:-

Nurses estimated:-

In ICU:- 13 Beds

Ratio:- 1:1
Therefore 13*1 = 13/shift, for 3 shifts = 13*3 = 39 nurses

Reserve leave:- 25% of 39 = 10 app.
Total = 39+10 = 49 nurses

Nursing Supervisors:-

Ratio: 1 in each shift, for 3 shifts = 1*3 = 3 NS

Leave Reserve ;- 1
Total 1+3 = 4 NS

ECG Technician:-

1 Technician/machine/shift
Therefore for 3 shifts, 1*3 = 3

Reserve Leave = 1
Total = 3+1 = 4

Dieticians:- 2 assistant dieticians (9am-5pm)

Pharmacist:- shift-2

2 Ass. Pharmacist/morning shift and 1/night shift ,
Total -3 including 1 senior pharmacist

Summarization of the Total Requirement of Man Power as per forecast:

Departments	Doctors	Nurses	Technicians	NS	Lab Asst.
All Clinical dept.	53				
General Ward	18	53		11	
ICU	3	49		4	
CCU	3	49		4	
Emergency	3	12		3	
OT (major)		30	10	3	
OT(minor)		3			
Pre-op		13		3	

Recovery		25		3	
Post-op		23		3	
OPD,s		15		1	
NICU	4	19		4	
Birthing Suite		8			
Deluxe Room		8		4	
Dialysis		8	8	3	
Radiology			27		
Lab			12		9
Infection control		2			
Total	84	317	57	46	

As per Rockland Hospital, Manesar:-

Total	Doctors	Nurses	Technicians	Nursing supervisors
	80	225	42	15

Findings:-

1) There is only a minor difference between the number of doctors as compared from standard norms to that of the hospital(84 and 80)

2) A small difference also seen between the number of technicians .

3) The most remarkable difference seen is between the nursing staff and the nursing supervisors.

Graphical Presentation of the Summarized Data

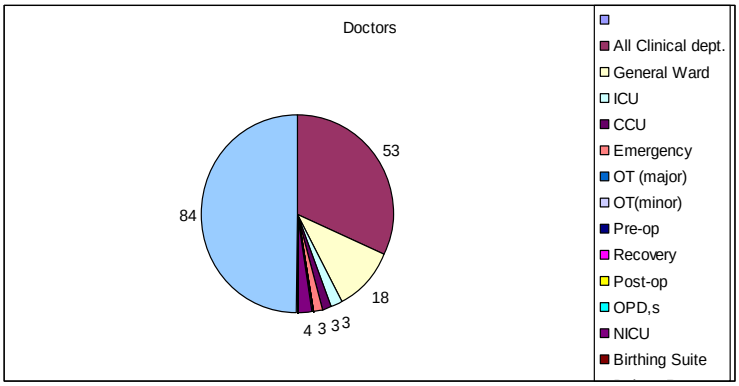


Fig.1 showing the distribution of doctors in the hospital

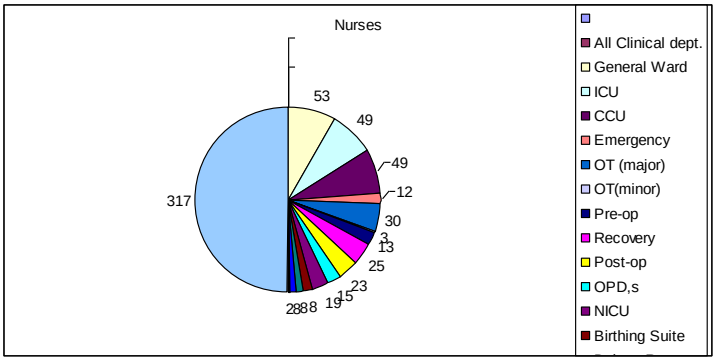


Fig.2 showing the distribution of nurses in the hospital

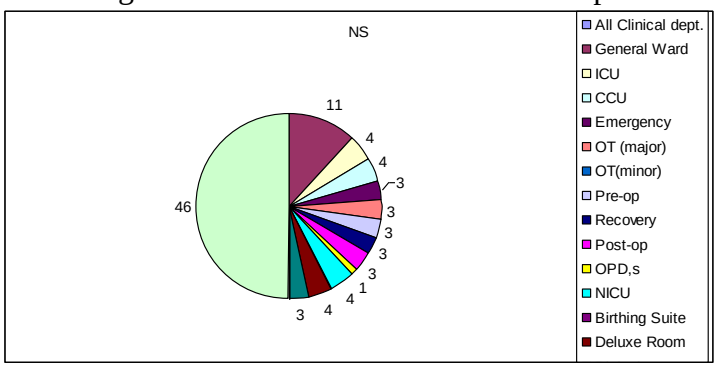


Fig.3 showing the distribution of nursing supervisors

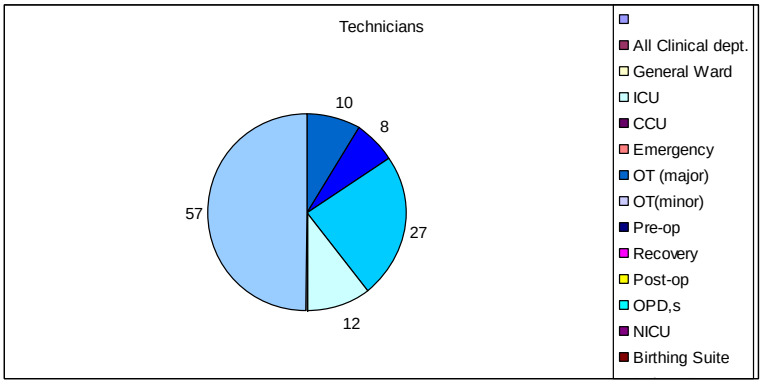


Fig.4 showing the distribution of Technicians in hospital

Conclusion:-

1) The Manpower planning of Rockland Hospital Manesar do not match the Standard norms as per study.
2) Nursing staff and the nursing supervisors are considerably showing the difference in their numbers when compared with the standards.
3) Technicians estimated by the hospital is also showing a significant difference.
4) Doctors estimated by the hospital corresponds very closely to the standard norms.
5) This imbalance in the manpower planning will lead to the undue workload and pressure on the limited staff which will effect the efficiency of their work and indirectly the revenue of the hospital will also suffer.
6) This will also hamper the quality of services and will also lead to more absenteeism.

Recommendations:-

1) The Hospital should try to their best to increase the number of nursing staff as close as possible to the above calculated Standard norms, so that the quality of work and requirement of each department for the nursing staff becomes adequate, and therefore increase in work efficiency which will lead to the more revenue generation.
2) The number of the Nursing Supervisors should be increased as close to the standards so that proper supervision of the nursing staff can be done resulting in less errors during work and hence improves quality of the work and indirectly the revenue of the hospital.
3) Proper staffing will also lead to less absenteeism.
4) Hospital should also increase the number of Technicians as close to the calculated standards to maintain the quality and efficiency of work and to improve the revenue.
5) Doctors are quite close to the standards calculated and therefore they should be recruited as on the same numbers estimated by the hospital.

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