Manpower Utilisation Review of Staff Nurse & Radiographer In A Healthcare Organisation

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Abstract

Many hospitals have elegant & elaborate strategic plans, but, they often do not have supporting HR strategies to ensure that the overall corporate plan can be implemented. But, strategies don’t fail, people do. Despite this fact, the healthcare industry as a whole spends less than half the amount that other industries are spending on human resources management. One reason for healthcare’s reliance on an extensive workforce is that it is not possible to produce a “service” and store it for later consumption. In healthcare, the production of the service that is purchased and the consumption of that service occur simultaneously. After recruitment, hospitals like any other industry prefer to have optimum output from employees for continuous delivery of service. Hindrances are absenteeism and turnover. Hence, an extensive study on manpower planning in a medical college teaching hospital was planned with the main objective of observing the utilization of existing manpower in terms of number of hours that they have spent in performing the duties, reasons for non-deliverance of work & understanding the reasons for turnover. Time & Motion Study was used for the radiographers to study their productivity at this place & compared with standards to see their conformance. The result was in order to confirm to the standards the existing number of employees were high in number, but, in terms of their productivity they were menacingly less. The number of X-ray determinations by radiographer is less than 15 per day. Hence, there was no need to enhance the number of employees in the department even though the hospital increases its bed strength by another 500 beds.

Introduction

Manpower is one of the most important resources utilized in an organization to achieve its objectives. A Hospital is a labor-intensive and capital-intensive organisation, in that healthcare professionals are available at a premium cost to the organisation. In hospitals, the manpower consumes about 30 – 40% of its annual budget. As per Myron Fottler, in Strategic Human Resources Management, 2006, one reason for healthcare’s reliance on an extensive workforce is that it is not possible to produce a “service” and store it for later consumption. In healthcare, the production of the service that is purchased and the consumption of that service occur simultaneously. Thus, the interaction between the healthcare consumers & providers is an integral part of the delivery of health services. Given the dependence on healthcare professionals to deliver service, the possibility of heterogeneity of service quality must be recognized within an employee and amongst the employees. The intensive use of labor for service delivery and the possibility of variability in professional practice require that the attention of leaders in the industry be directed toward managing the performance of the persons involved in the delivery of services. The effective management of people requires that healthcare executives understand the factors that influence the performance of individuals employed in their organizations.

Therefore, it is of paramount importance that the manpower is utilized optimally. After recruitment, hospitals like any other industry prefer to have optimum output from employees for continuous delivery of service. Hindrances are absenteeism and turnover.

In case of absenteeism, it is generally observed that employees try to regularize attendance by applying for sick leave and as an employee can avail fixed number of paid sick leave the hospital has to pay an employee even for his absenteeism. Apart from that whenever an employee is absent, his work has to be attended by other employees, which leads to further wastage of time and reduction in quality of services as the new person may not be familiar with the working of the particular department.

In case of turnover, cost is associated with recruitment, on-the-job training, and termination. In case of recruitment, cost is associated in terms of time spent in screening applications, organizing and conducting interviews, selection and joining formalities and induction.

In 1987, Mc Manis noted that, “While many hospitals have elegant & elaborate strategic plans, they often do not have supporting HR strategies to ensure that the
overall corporate plan can be implemented. But, strategies don’t fail, people do.” Despite this fact, the healthcare industry as a whole spends less than half the amount that other industries are spending on human resources management. 4

Involving supportive stakeholders such as employees & HR Managers is crucial to the success of any HRM plan. If HR Executives are not actively involved, then employee planning, recruitment, selection, development, appraisal & compensation necessary for successful plan implementation are not likely to occur. 4

In India, most of the hospitals do outsource certain supportive services to a third party agency. The contract labour, generally refers to, workers engaged by a contractor for the user enterprises. It is a significant and growing form of employment. These workers are millions in number and are engaged mainly in agricultural operations, plantation, construction industry, ports & docks, oil fields, factories, railways, shipping, airlines, road transport, healthcare facilities etc.

The Contract Labour (Regulation and Abolition) Act, 1971 was enacted to protect and safeguard the interests of these workers. It applies to every establishment/ contractor in which 20 or more workmen are employed. It also applies to establishments of the Government and local authorities as well.

Every establishment and contractor, to whom the Act, applies have to register themselves/obtain a license for execution of the contract work. The interests of contract workers are protected in terms of wages, hours of work, welfare, health and social security. The amenities to be provided to contract labour include canteen, rest rooms, first aid facilities and other basic necessities at the work place like drinking water etc. The liability to ensure payment of wages and other benefits is primarily that of the contractor, and in case of defaults, that of principal employer. Hence, an extensive study on manpower planning in a medical college teaching hospital was planned.

Methods

These two departments were considered due to their heavy workload, as they were mentioned by the senior management of the hospital and cross-checked by the records were Nursing Services in ICU & X-ray technicians in Radiology. The complaints were also high in these areas regarding heavy discrepancy in the workload by the floor staff & high absenteeism.

1. First step is to know the existing job descriptions of the nursing personnel & Radiographers from the HR records of the hospital. For staff nurses their duties were classified, into Patient care & non-patient (administrative or teaching) activities.

2. Interviewing: Short interviews with Nursing Superintendent In-charge, Nursing supervisors, Technician in-charges in respective areas, in order to gain their perception regarding the workload and manpower requirement, Leave Policy, etc.

3. A time and motion study was carried out in selected departments to assess the workload and the amount of work performed by individual staff – Staff Nurses in Intensive Care Unit, Radiographers in Radiology department.

4. Interaction with senior management of the Hospital, i.e. Medical Superintendent, Chief Administrative Officer, Chief Financial Officer to collect the data on year-on-year manpower posts sanctioned & filled, recruitment & selection criteria, personnel planning policies of the hospital.

The following data was collected in each department:

**Nursing Department:**

1. Total number of staff – regular or off-duty & their distribution
2. Number of staffs posted in each department/area – regular duty, off duty,
3. Organogram of nurses & their educational Qualification.
4. Leave Policy for the Nursing personnel.
5. Factors studied to understand the Absenteeism & turnover rate.
6. Trainings attended by them – both internal & external.

**Technicians:**

1. Total number of staff – Probation, Permanent & their distribution
2. Number of staffs posted in each area of the Radiology department.
3. Educational Qualification.
4. Workload & utilization review of the Radiographers during the study period.
5. Time & Motion Study was conducted for a week’s period to understand the productive time & to eliminate unnecessary steps in their work.

The study was conducted for a period of six months from July 2011 to January 2012.
Observation & Discussion

Leave Policy OF The Hospital:
For Probationary Period Staff: During the first year they are eligible for: 12 Casual leaves, Government Holidays and Weekly offs, For OPD nursing aides, only 2 weekly offs as they work half a day on Saturdays.

During the second year: 15 Earned Leaves of the previous year, 12 Casual Leaves, GH and Weekly offs

For Permanent staff: 15 CLs, 30 ELs, 02 Restricted Holidays, GH and Weekly offs

Absenteeism rates are highest, with 11 people on long leave in July 2010 & 15 people on Maternity Leave during the period of July – September 2010 amongst 420 people in the Nursing services.

COMPARISON WITH INC NORMS: Current leave policy confirms with the MCI/INC norms. 30% of the workforce is leave reserve. As per NCI norms the nurse to bed ratio in a Medical College Teaching hospital is 1:3.

INVESTIGATION OF TURNOVER OF NURSING PERSONNEL IN THE HOSPITAL:

Labour turnover, as the words imply, means the rate of change in the number of employees leaving and joining an Organisation during a certain period. A study of labour turnover is helpful in manpower planning. A high turnover is a warning to the hospital authorities that something is wrong with the personnel policies and practices of the hospital. It may be due to wrong selection, placement, low salary, poor working conditions, lack of promotional avenues, etc. A high rate of turnover not only costs in terms of money but also harms the reputation of a hospital, lowers the team-spirit of the remaining employees and reduces the quality of patient care.

Some of the important factors which result in employees quitting their jobs are:
1. Lower salary.
2. Better prospects in other hospitals.
3. The attraction of going back to one’s native place after gaining experience.
4. The attraction of going to a foreign country.
5. Transport problem
6. Housing Problem
7. Further Studies
8. Poor working conditions
9. Marriage in case of female employees
10. Health grounds
11. Family circumstances
12. Maltreatment by superiors
13. Unfriendly relations with colleagues

Of the above reasons, the first five were the only reasons found in the hospital, as per a Questionnaire based study conducted during the study period. The feedback was given to the higher management in bringing the changes based on the study.

An Exit Interview format was handed over to the Human Resources Department to implement it in the future to analyze the data collected in the questionnaire. The exit-interview is a useful tool to study labour turnover. When an employee is leaving, he is generally willing to be candid and may share his bitter experiences. The organization’s weak spots are revealed, which can ultimately help reduce turnover and in building the morale of the remaining employees in the hospital.

STAFF NURSE- Job Description:
Qualification: 10+2 & Diploma in Nursing and Midwifery+ experience.

Direct nursing care:
1. Admission and discharge of patients into the ward wherever posted.
2. Attending the nutritional needs of patients, feeds helpless patients.
4. Collecting, Labeling and dispatching of specimens, to concerned laboratories.
5. Preparing the patients for certain investigations e.g.: X ray, USG, Endoscopies.
6. Care of dying patients.

Ward Management:
1. Handing over and taking over the patients ward equipment and supply.
2. Keeps the ward neat and tidy. Maintains safety of ward equipment.
3. Prepares and checks ward supplies.
4. Assists NS and other officials in her/ his absence. Assists in taking inventories.
5. Care of clean and soiled linen.
6. Disinfection of wards, beds, linen etc.

General and educational:
1. Supervision of domestic staff, assistance in
orientation of new staff
2. Participation in staff education and staff meeting
3. Demonstration and guidance to student nurses
4. Maintenance of special fund - Nurses welfare funds, staff association funds etc.
5. Participation in community activities.

The following Job Description was handed over to Human Resources Department in the hospital:

**DUTIES OF STAFF NURSE IN A SUPER-SPECIALITY HOSPITAL TOWARDS A PATIENT:**

**Patient’s care at the time of admission:** The staff nurse welcomes a patient with a smile, removes the bed cover, makes him feel comfortable, arranges for fresh drinking water, checks his weight, temperature and blood pressures, enquires about the history of the illness, orients the patient to his surroundings, (such as use of the call bell, bed pan, light, fan, etc.,) sends the diet requisition, records his general condition, informs the doctor about the admission and answers queries of the patient and the relatives.

**Morning care of the patient:** This care is given to the patient in the morning by the day-shift nurse. She visits the patient in his room, greets him, gives him a sponge bath, changes his clothes, rubs talcum powder, changes bed sheets and pillow-cover, checks his temperature and blood pressure, administers morning medicines, makes the round with the doctors, assists the diet-aides in giving breakfast, brings fresh water, sends the patients for X-ray, sends urine and stool specimens, if ordered, arranges for lunch, etc.

**Afternoon care of the patient:** this care is given to the patient by the day-shift nurse. She draws the window curtain to darken the room so that the patient may take a nap. After the patient has woken up from his afternoon nap, she pulls the curtains, offers the bedpan, washes and dries the patient’s hands, straightens linen and makes the bed, places the call-bell within the patient’s reach, checks temperature and blood pressure, administers medicine and injections, combs the patient’s hair, prepares him for tea and for receiving his visitors etc.

**Evening care of the patient:** this is the care given to the patient by the P.M. Shift nurse. She takes the report about the patient, checks temperature and blood pressure, administers medicine and injections, sees that the patient has been provided the prescribed diet, straightens the bed sheets, places the patient in a comfortable position for sleep, wishes the patient a peaceful and comfortable night’s sleep, switches off the room lights and switches on the night lamp if required, etc.,

**Pre-morning care of the patient:** this is the care given to the patient generally between 5 and 7 am by the night nurse. She greets the patient, provides the bed pan, collects urine and stool specimen if required, assists the patient in brushing his teeth, washes his face, straightens the bed sheets and makes the patient comfortable, etc. If the patient has any problem at night, she contacts the doctor-on-call, makes entries in the nurses’ note-sheets about the general conditions of the patient and finally reports to the day-shift nurse before going off duty.

**Care at the time of discharge of the patient:** Preparation for the patient to return home should actually begin the moment he enters the hospital. The whole aim of the hospitalization is to try to help the individual recover speedily so that he may again take his place in society. If this is not possible, he should be prepared to continue his treatment at home. Many patients feel some anxiety about returning home. The nurse should recognize symptoms of fear and give them reassurance accordingly.

When the doctor decides to discharge a patient, the nurse informs the patient and his family members so that they make the necessary arrangements. She sends the chart for billing, explains the discharge policy to the patient and relatives, hands over the bill to the patient's relatives, collects home medicines from the pharmacy for the patient, requests the doctor to prepare the discharge summary, etc. when the patient’s relative returns after paying the bill, she receives the discharge slip from him, signs it, gives the medical certificate, home medicines and discharge summary to the patient, explains follow-up policy, checks hospital belongings accompanies the patient to the exit gate of the hospital, enters the patient's name and accurate time in the discharge census, informs the admission office and the diet kitchen about the departure of the patient, and disinfects and prepares the bed for the next patient.

3 months statistics were considered, ie. August to October 2011.

1. The number of staff posted on each day & in all the 3 shifts was counted.
2. Working Days in a month were considered as 30
days, as nursing care has to be provided on all days of the month, without fail.
3. Relievers were posted considering the Leave Offs in those areas, every day.
4. Total number of patients staying in each ICU on every day was counted for 3 months period which gave the total Hospitalization Days & occupancy pattern.
5. Max Manpower Days in a month = No. of Nurses posted in a day x 30 days

Workload Analysis of Nursing Personnel in Critical Areas: To know adequacy & utilization of the Nursing personnel posted there.
1. Most of the ICUs the staff are adequate, as maximum manpower days has not been overshot by the hospitalization (patient care) days required.
2. Number of new admissions happening in a day at ICUs is low.
3. Nurse: Bed ratio: Bed Occupancy being 60% approx the workload is manageable with existing manpower. Workload doesn’t justify any increase in manpower.
4. In NICU, it is understaffed. Re-deployment of staff can be done. If 1 nurse is increased per shift, the manpower days would increase by 90 man-days, which would be in reasonable limits if workload continues to be that in March 2010.
5. RICU is over-staffed. If there are more acute cases, utilization of the services of respiratory therapist should reduce the nursing staff requirement.
6. Completely dependent patients would require 220 minutes of nursing care in morning shift, 160 minutes in the afternoon shift & 120 minutes during the night shift. Hence, it is judicious to reduce the staff posted in night shifts.

FINDINGS OF TIME AND MOTION STUDY DONE ON X-RAY TECHNICIANS FOR A 5-DAY PERIOD:
Of the 8 radiographers posted in the morning shift, 6 radiographers were studied.

ANALYSIS OF FINDINGS FROM ABOVE DATA:
1. There are 8 radiographers posted in the morning shift. The workload per technician per day is very less, when compared to standards.
2. As mentioned in the table above on an average each X-ray technician is supposed to perform 35 radiographs in a day shift.
3. More workload can be taken with existing manpower – in excess of 250 additional X-ray determinations can be completed with the current manpower. It has been estimated in the western world that a 100 bedded hospital will have an average of 35 radiological examinations a day. One third of this workload is contributed by inpatients and the remaining is by outpatients. In Indian studies, it is less than 15 X-ray determinations per 100 beds.
4. Documentation time comprises approximately 1/5th of the total productive time. Most of the valuable time of the radiographers is being spent on documentation. The number of entries can be reduced.
5. Currently, the work hours of the employees are only 6 hours. The shift timings also can be stretched to 8 hours with appropriate breaks, initially.
6. The experienced people are under-performing. They are also not achieving the industry benchmark standard of 35 X-rays per day per person.

X RAY TECHNICIANS: 4
While deciding the number of employees in an X-ray department, the following tasks should be taken into consideration:
1. Reception of a patient.
2. Recording the history of a patient, as concerned with X-ray
3. Preparing the necessary papers; the slip to be pasted on the X-ray request, entry in the register, etc.
4. Taking film from stock, putting the same in the X-ray cassette
5. Explaining to the patient about X-ray procedure and taking the X-ray.
6. Processing film
7. Sorting film
8. Reporting to the radiologist
9. Typing of the reports
10. Charting report or dispatching report

Keeping in view the quality of work required, one X-ray technician cannot be asked to do more than 30 X-ray investigations per day. There are certain x-rays such as carotid angiography, myelography which take very long and only 2 can be done in a day. It can be recommended that one day one X-ray technician can do 5 I.V.P.s or 5 O.C.G.s or 2 myelographies; or 3 hystero-salpingographies; or 10 Barium investigations; or 2 carotid-angiographies or 30 one-view X-rays or 20 ultra sound investigations or 5 C.T. scans.

One senior X-ray technician is required for 7 X-ray technicians, to supervise and execute radiographic work, to maintain efficiency and high quality of work. Also required are one receptionist-cum-typist to take care of reception, clerical and typing work and also one X-ray aide to fetch up to 25 patients from the wards during the day. However, these figures depend upon working procedures of different hospitals.
Accordingly, the chief radiographer and the personnel manager can jointly decide the personnel strength, after anticipating the number of investigations likely to be referred to the X-ray department every day.

Conclusion & Recommendations

The number of radiographs taken is way below standards & there is lot of scope for improvement in the numbers taken or the existing workload can be managed with half the current manpower strength.

Jeffrey Pfeffer, in 1995, in his study, has mentioned 13 HRM practices that enhance an organization’s competitive advantage, 12 of which are relevant to healthcare. They are:

2. Selectivity in Recruiting.
3. High wages.
4. Incentive pay.
5. Information Sharing.
6. Participation & Empowerment.
7. Self-managed Teams.
8. Training & Skill Development.
10. Symbolic Egalitarianism.
11. Wage Compression.
12. Promotion from Within.

Factors which affect the efficiency (productivity) of labor:

1. Inheritance: Persons from good background are bound to work more productively. The quality and rate of physical as well as mental development, which is dissimilar in case of different individuals is the result of genetic differences.
2. Climate: Climatic location has a definite effect on the efficiency of the workers.
3. Health of worker: Worker’s physical condition plays a very important part in performing the work. Good health means the sound mind, in the sound body.
5. Personal qualities: Persons with dissimilar personal qualities bound to have definite differences in their behaviour and methods of working. The personal qualities influence the quality of work.
6. Wages: Proper wages guarantees certain reasons in standard of living, such as cheerfulness, discipline etc. and keep workers satisfy. This provides incentive to work.
7. Hours of work: Long and tiring hours of work exercise have bad effect on the competence of the workers. At the same time the administrators should keep in mind the fact that, if workforce is given a break during their shifts, they would delay by the time they come back to the work after the break. It should be kept in mind to make policies against late arrivals, so that the reliever will not have additional burden. The current system with an off duty would be ideal for staff nurses than housekeeping staff.

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