Chapter IV

Performance appraisal of Medical and Health Services

4.1. Highlights

- **Indian Railways have not devised performance parameters to evaluate the services rendered by the Medical and Health Department.**

(Para 4.7.2)

- **Inadequate documentation of beneficiaries and deficiency in beneficiary data used by the Medical and Health Department for planning was noticed over all the zonal railways audited.**

(Para 4.7.3)

- **Medicines were not tested regularly to ensure quality. Requirement of medicines was also not being assessed accurately and local purchase of medicine was much more than the prescribed limit.**

(Para 4.8.1)

- **Medical equipment were either not provided or were not being operated for want of repair/ operating staff.**

(Para 4.8.2)

- **Standards for supply of drinking water and food products were not maintained as seen from sample testing carried out at the nominated railway laboratories. Corrective action was inadequate.**

(Paras 4.9.3 and 4.9.4)

- **The system of disposal of biomedical waste was not in consonance with the requirement of Environment Protection Act and in most of the cases, pit burial/ open air burning method was adopted for disposal of hazardous waste.**

(Para 4.9.5)

4.2 Gist of Recommendations

- Railways should devise clear parameters/ performance indicators for themselves to enable evaluation of the quality of health services provided by them.
- Railway hospitals should introduce photo medical identity cards for beneficiaries.
- The systems for procurement of medicines of appropriate quality should be strengthened by creating capacity for testing of medicines within the Railway Health Department itself.

- Railway should consider delegating appropriate powers and responsibilities to the hospital/ health units to ensure need based procurement of medicines.
- Railway should also consider delegating adequate financial powers for repairs of essential equipments to the heads of hospitals/ health units.
- Railways should lay down a specific time frame within which the equipment, duly identified by the authorised body and for which funds have been earmarked, should be procured.
- Facilities such as Autoclave/ incinerator should invariably be provided in hospitals for treatment of bio medical waste.

4.3 Introduction

Railway's primary business is to transport goods and passengers. The role of Medical and Health Department can be best appreciated in view of the need to have fit and healthy employees for efficient railway operations. The Medical and Health Department of the Indian Railways has adopted the aim of providing total patient satisfaction through humane approach and shared commitment of every single doctor and paramedic and provision of quality health care using modern cost effective techniques and technologies as its mission.

The mission statement enjoins upon the medical department of the railways to provide adequate curative, promotive and preventive health services; ensure financial planning and fund management to meet organisational targets; provide and maintain accident relief medical equipment, including first aid boxes, to give prompt relief to passengers injured in railway accidents; attend to passengers injured or taken seriously ill in trains or at railway stations; review steps for sanitation hygiene, cleanliness, safe drinking water and un-adulterated eatables; take measures for disposal of hospital waste; assess adequacy of manpower and efficacy of health care services through effective parameters and adequacy of departmental supervision, medical audit, peer review etc.

The structure of the Medical and Health Department (MHD) of Indian Railways is meant to provide comprehensive health care to approximately 14.8 lakh serving and 3.2 lakh retired employees and their families, passengers falling sick while travelling and a host of multi-faceted activities for rendering preventive, curative and promotive health care services to the employees. Health facilities in the railway are provided at three levels viz., primary, secondary and tertiary. At primary level Health Units are scattered all over the Divisions; Divisional Hospitals come under the category of secondary health facilities while Central Hospitals comprise the tertiary care centers. Some super specialty hospitals also cater to more complicated and complex cases. Indian Railways Medical and Health Department presently has around 702 hospitals/ health units[19].

[19] **Central Hospitals – 9,**
Super Specialty Hospital (Cancer Research Institute, Varanasi)–1,
Divisional/ Production Units/ Workshop Hospitals – 55,

Medical and Health Department is headed by Director General (Railway Health Services) in the Ministry of Railways (Railway Board). Chief Medical Directors at headquarters of each zonal railway are responsible for administrative control of all the medical and health matters in the zonal railway besides holding direct charge of Central Hospitals.

4.4 Audit objectives

The efficiency and effectiveness of delivery of health services across tiers and across zones have been examined with special emphasis on patient care, patient satisfaction, use of modern techniques and technologies, quality of medication, sanitation, waste disposal, supply of safe drinking water and unadulterated food and the thoroughness of documentation which has a direct bearing on the quality and extent of patient care. Based on the "Mission Statement" of Railway Health Service (RHS) as enshrined in Indian Railway Medical Manual (IRMM) audit tried to assess:

- Whether the Medical and Health Department had in place a system of self-assessment through formulation of appropriate parameters and reliable data/ documentation and a feed back mechanism for planning its activities.
- Whether quality curative services were provided.
- Whether preventive and promotive services addressed the issue of provision of safe drinking water, unadulterated eatables in sanitised and hygienic conditions to railway employees and travelling public and disposal of Bio-medical and other sanitary wastes in accordance with environmental laws and regulations.

4.5 Audit methodology and scope

In order to assess the efficacy of health services in railways, audit selected a sample of health facilities spread over four zonal railways [North Eastern (NER), Southeast Central (SECR), Northeast Frontier (NFR) and East Coast (ECOR)][20]. Data for a period of five years (2000-01 to 2004-05) was seen for hospitals and health units selected in NER, NFR and ECOR. However in respect of Central Hospital, Bilaspur (SECR), only three years data (2003-04 to 2005-06 till July /05) was available as the hospital was upgraded as a Central hospital only from April 2003.

Indian Railway Medical Manual, draft Indian Railway Health Policy and other related rules, regulations and guidelines issued by Railway Board, Ministry of Finance, Ministry of Health and Family Welfare, Ministry of Personnel, Public Grievances and Pensions on health and hospital management etc., have been taken as the basic guidelines for assessing the performance of the

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[20] **Sub Divisional – 53, Health Units – 584 (March 2004)**
Zonal Railway (Central Hospitals) – 3 viz. Gorakhpur (NER), Bilaspur (ECOR) and Maligaon (NFR).
Divisional Hospitals – 7 viz. Khurda Road (ECOR), Varanasi (NER), Katihar, Alipurduar, Lumding, Dibrugarh Town, New Bongaigaon (NFR)
Sub Divisional Hospital – 4 (NFR),
Health Units – 16 [NER – 2, ECOR – 2, NFR – 12], Poly Clinic – 2 (NFR)
Cancer Research Institute, Varanasi (NER).

Railway Hospitals. Yardsticks indicated in the Report of Yardstick Sub Committee of Railway Board (April 1981) and guidelines for benchmarking stipulated by Railway Board have also been taken into consideration. Environment Protection Act 1986, Biomedical Waste management and Handling Rules, 1995 and instructions issued by the Pollution Control Boards of Uttar Pradesh, Chhattisgarh and Orissa were taken as criteria as regards waste management and disposal of biomedical waste. In addition to the above, Disaster Management Policy, Evaluation Reports and General Manager's (GM) performance reviews, Chief Medical Director's (CMD) instructions, Joint Procedure Orders and action plans formulated on various matters by Railway Board/ CMD etc were also kept in view.

4.6 Acknowledgement

The audit plan and audit objectives in conducting the review of the Medical and Health Department were discussed with the respective Chief Medical Directors and other Heads of hospitals/ health units in the entry and exit conferences at the zonal railways. Interaction with Director General Health Services, Ministry of Railways was also held at the Ministry level to ascertain entity concerns. Reviews notes have been issued to the respective zonal railways.

4.7 Quality issues in planning

After issue of National Health Policy 2002, the MHD has not been able to adopt its own Indian Railway Health Policy. In addition to not having a clearly enunciated health policy to achieve the goals set in the National Health Policy 2002, MHD had also not devised performance parameters for itself so as to measure effectiveness of its services. Documentation and data, which forms the basis of planning for the MHD, were unreliable. In addition, inadequacies in the monitoring system were also noticed.

4.7.1 Absence of health policy

Adoption of a clearly enunciated policy helps in better management of an institution. Formulation of Indian Railways own health policy was expected to guide development of proper infrastructure so that the MHD could perform its responsibilities. Though a draft Indian Railway Health Policy was circulated to all General Managers on 8 March 2004 after issue of National Health Policy 2002, to obtain views and opinions of Divisional Railway Managers and recognised unions of the employees, MHD was yet to finalise the policy for adoption on Indian Railways.

4.7.2 Absence of parameters

The draft Indian Railway Health Policy circulated had attempted to lay down certain minimum scale of services/ facilities, which were to be made available by the MHD. However, audit observed that the MHD has not established concrete indicators to enable evaluation of its efforts towards attaining the goals they have set for themselves through their mission statement. In the absence of a satisfactory measure of health output, optimal and efficient allocation of resources or measurement of performance of health programmes

of Indian Railways cannot be ensured by the MHD. Measurement of effective utilisation of resources previously committed is also hampered in the absence of performance indicators.

4.7.3 Absence of documentation for planning

As per rules contained in Indian Railway Medical Manual (IRMM) 'beneficiary' is defined as a Railway employee or his/ her family members or dependants as defined in the Indian Railway Pass Rules. Further, the beneficiaries are entitled to medical treatment only in railway hospitals. The employees are to be issued Medical Identity Card (MIC) by the Personnel department/ concerned departments and these are registered with the attached Railway Hospital/ Health Units by recording the details in MIC Register maintained there. Railway health services are planned and resources are provided on the basis of figures of total number of beneficiaries under the jurisdiction of a hospital/ health unit. Audit noticed that the figures of beneficiaries maintained in hospitals/ health units were not reliable.

- A test check over NER and ECOR revealed that the records maintained at the health units/ hospitals did not show the exact number of beneficiaries. For planning purposes, the number of beneficiaries was being arrived at by multiplying the number of MIC holders by five. The number of MIC holders should be equal to the number of employees. However, it was seen that while the total number of employees in Gorakhpur zonal railway headquarter of NER served by Central Hospital was 17,081 as on 31 March 2004, the MIC holders registered were only 1,639. The total beneficiaries figures furnished by the hospital was 8,195 only. Similarly, in Khurda Road Division of ECOR while the total number of employees was 14,151 as on 31 March 2005, the total MIC holders registered with Divisional Hospital, Khurda Road were only 421. In respect of NER, the figures of patients treated by Indoor Patient Department and Outdoor Patient Department furnished in the Annual Reports sent to higher authorities for 2002-03 and 2003-04 was 4,41,688 and 4,27,773 respectively, whereas the hospital provided figures of 3,55,907 and 3,05,931 for the same periods to audit.
- In Central Hospital, Bilaspur (SECR) the Medical Superintendent (MS) had noted in January 2004 that false hospital declaration forms were being produced by non-entitled persons for getting free medical treatment.
- It was seen in ECOR that no system of annual review/ renewal of MICs was being followed to update the number of target population in respect of serving and retired employees (gender-wise, age profile, change in dependent status, marital status, death, resignation, transfer etc.,).
- As per Railway Board's orders of December 1964, Railway doctors are entitled to fixed conveyance allowance at the rate of 20 visits per month. However, if the number of visits falls short of 20, proportionate deduction in conveyance allowance should be made.

Audit noticed that though conveyance allowance of Rs.3.29 crore (Rs.1.38 crore by NER since 1999 and Rs.1.91 crore by NFR during 2000-01 to 2004-05) was made to doctors for making domiciliary visits at the rate of 20 visits per month, no records were kept indicating the number of visits actually made.

- Similarly, the computerised ledger (NER) of medicines procured did not indicate the date of expiry to verify whether the stock of medicine was usable or not. Lack of documentation deprived the administration of necessary signals for taking action to replace the expired stock in time.

Thus, it was seen that the basic data required for planning for provision of funds, medicines, equipment and other facilities was unreliable.

4.7.4 Inadequacies in feedback mechanism

The Director General, Health Services had instructed all zonal railways in October 2003 to introduce a system of obtaining feedback from patients especially related to medicines, drugs and medical aids. This would help the MHD to monitor the services being provided in Railway hospitals/ health units especially relating to quality of medicines, timely medical aid, quality of medical tests and general cleanliness etc. Audit noticed that no system has yet been introduced for obtaining regular feed back from the patients [Divisional Hospital, Khurda Road (ECOR) and Central Hospitals at Bilaspur (SECR) and Gorakhpur (NER)].

Recommendations

- Railways should devise clear parameters/ performance indicators for themselves to enable evaluation of the quality of health services provided by them.
- Railways should ensure issue of photo medical identity cards for all employees incorporating the names and photographs of all his/ her dependents entitled for railway medical facilities. Renewal of MIC cards at regular intervals should also be ensured.
- Medical and Health Department should set up an appropriate system for maintenance of beneficiary data, record of complaints and feedback and other health related data on electronic media to improve patient care through proper planning and to provide critical cross sectoral information and enhance vertical medical research.

4.8 Curative services

Curative services are defined as immediate diagnosis of ailment of a person through past history of the patient, conducting of requisite tests with the use of available equipment and immediate commencement of treatment by providing proper medicines. Audit noticed shortcomings in curative services by way of inadequate quality control over medicines, non-availability of necessary medicines and medical equipment, non maintenance of medical history folders, insufficient medical audit, insufficient preparedness for dealing with

accidents or disasters and deficiencies in the super specialty hospital for dealing with cancer research as described in the subsequent paragraphs.

4.8.1 Provision of medicines

Procurement of medicines through reliable sources and regular testing of medicines procured for efficacy and genuineness is imperative for providing high quality curative services. In addition, the quantities of medicines required should be assessed based on actual consumption of the past periods and adequate stocks maintained to ensure supply of good quality medicines at need. Audit observed that there was inadequate quality control over medicines and procurement of medicines was deficient as stated below:

- As per Railway Board's directives 5 per cent of the drugs supplied by the firm should be got tested from authorised laboratories. Audit noticed that samples of medicines were not being sent as per norms for testing to laboratories (NER and ECOR). In NER and NFR in some cases test reports, indicating that the samples were sub-standard and not conforming to Indian Railway Pharmacopoeia, were received very late leading to a possibility of consumption of the stock of medicine in the interim period. In East Coast Railway, out of 10 medicines sent to State Government Laboratory, Bhubaneswar in the year 2004, results in respect of four were not received and no alternative arrangement were made to get them tested. Southeast Central Railway had sent seven and eleven medicine samples during August 2003 and March 2004 to State Government laboratories but test results were neither sent by the laboratories nor obtained by respective hospital/ units (July 2005). The hospitals/ health units over Northeast Frontier Railway had sent medicine samples only on 37 occasions as against 400 required to be sent as instructed by CMD. Thus the instructions for ensuring quality of medicines were not being implemented fully in all the zonal railways audited.

- As per Railway Board's instructions, local purchases of medicines should be resorted to only in case of non-supply/ delayed supply against annual indent, consumption of annual supply earlier than scheduled, specific brand requirement in exceptional cases and drugs with short shelf life. Rules also require that the authorities responsible for indenting medicines should ensure that their indents cover requirements of the next 12 months. Local purchases in excess of 15 per cent of the total budgetary allotment of medicines require specific justification. Audit scrutiny revealed as under:

    - In Central Hospital, Bilaspur (SCER) local purchase of medicines during the period 2002-03 to 2004-05 ranged between 52 per cent and 70 per cent of the total expenditure on medicines, which was much higher than the prescribed limit. The expenditure on local purchase during 2004-05 was Rs.0.63 crore out of the total expenditure of Rs.1.09 crore on purchase of medicine. It was also noticed that during the months of February to April of the same period, a substantial quantity of

medicines was offered to other zonal railways. This indicated excess indent/ purchase of medicines.

- Divisional Hospital, Khurda Road (ECOR) had sent 661 indents for procurement of medicines valued at Rs.0.67crore during 2003-04 and 2004-05. All the indents were approved by the Medical Department at zonal railway headquarters for issue of purchase orders. Purchase orders were issued against only 347 indents valued at Rs.0.43 crore. Out of these also medicines valued at Rs.0.05 crore were not received. The hospital authorities did not issue purchase orders in respect of the remaining 314 indents for medicines valued at Rs.0.24 crore, as rate contracts could not be finalised for these medicines. Thus, medicines worth Rs.0.29 crore which were indented for, were not received by the hospital. However, local purchases were made during the period for only Rs.0.07 crore which indicates that the indent for medicines was not accurately projected.
- On Northeast Frontier Railway, assessment of requirement of medicines was not done appropriately due to which considerable quantities of medicines valued at Rs.0.12 crore became time barred before use and hence condemned. In addition it was seen that expenditure on local purchase of medicine exceeded the prescribed limit by 2 to 131 per cent indicating deficiencies in indent of medicines.

4.8.2 Provision of medical equipment

The mission statement of Medical and Health Department envisages adoption of modern and cost-effective techniques and technologies to ensure quality healthcare. Audit noticed numerous cases where essential medical equipment and machines were out of order and no action was taken for procurement of new machines or get the old ones repaired. A few instances of machines/ equipment necessary for providing day-to-day health care lying out of order, not being utilised for want of operator or where action for procurement is yet to be taken are given in **Annexure**. These deficiencies in procurement and maintenance of medical equipment affect the quality of health care in terms of timeliness and speed of treatment. Further, while in some cases necessary backup facilities were provided by asking the patients to get the tests done privately and costs reimbursed, this causes inconvenience to patients.

4.8.3 Non-maintenance of medical history folders

Medical History Folder (MHF) of the patients treated in hospitals is an essential document to obtain immediate feedback on the past ailments of a person. Apart from helping in better diagnosis, MHF can be helpful in saving cost of treatment by obviating unnecessary tests and wastage of medicine etc. The Estimates Committee (1981-82) in their twenty-second report had recommended for introduction of a family folder system in all Central

Government Employees Health Scheme dispensaries to put a restraint on malpractices and wastage of medicine.

Audit noticed that none of the Railway hospitals reviewed had maintained the MHF of patients treated in out patient department or indoor patients. The lack of comprehensive information about patient's previous history, due to the non-maintenance of medical history folders and other necessary documents dilutes the quality of patient care and treatment.

4.8.4 Medical audit

Medical audit aims at bringing out shortcomings in treatment and initiation of action to correct the shortcomings with a view to providing better health care in future. In one of the four zonal railways selected for review of medical and health services (NER) the Annual Action Plan of Medical and Health Department included a requirement of medical audit prescribing a minimum two per cent of indoor cases and one per cent of out patient department cases to be subjected to medical audit every month by a committee nominated for the purpose. The committee was required to review all cases of deaths occurring after admission and to evaluate the appropriateness of various diagnostic and therapeutic efforts made and comment on the deficiencies, if any. The committee was also to take note of the state of medical instruments and equipment and go into the question whether anything else could have been done to obtain better results.

- It was seen that though the mortality review was being done regularly, the same was not entered in the medical audit register maintained in the Central Hospital, Gorakhpur. Eleven Tuberculosis death cases during 2003-04 did not find mention in the medical audit register.
- There was no evidence of medical audit conducted from May 1996 to February 2002. Though a medical audit register was maintained during March 2002 to March 2004, the details furnished in the register were not serving the purpose of medical audit. It was also seen that the remarks of 'Poor Case Note' were repeatedly made in the medical audit register but effective corrective measures were not verifiable from the register.
- In the Divisional Hospital, Varanasi, a medical audit register was opened in 2004 but no medical audit has been conducted.
- In Cancer Research Institute, medical audit of 56 cases was to be conducted in 2003-04 but there was no evidence to show whether the audits were conducted. Although during 2004-05, the target for medical audit was 66 cases but only 9 cases found mention in the register, which did not always bear the signatures of committee members.

4.8.5 Insufficient preparedness for accidents/ disaster

One of the responsibilities of Medical and Health Department in Indian Railways is to provide health service in case of accidents and disaster. For this purpose the Medical and Health Department should have Accident Relief

Medical Equipment (ARME)[21] and trained staff to carry out relief services. Audit noticed that on SECR, the disaster management machinery of Bilaspur Central Hospital have not been built up adequately mainly due to non-procurement of essential equipment like air conditioned mortuary, collapsible coffins, body bags etc. Despite instructions from General Manager (January 2005) the ARME Scale-I of Central Hospital, Bilaspur has not been replaced with self-propelled ARME Scale-I. In an inspection by Chief Operations Manager of SECR first-aid boxes were found to be without seal and without medicines. GM, SECR also noted in his inspection that adequate staff for disaster management activity both for routine and emergency work was not available. Audit observed that Accident Mock Drill for ARME van as required under rules[22] was also not being held at regular intervals.

At Khurda Road of East Coast Railway, John Ambulance Association/Brigade had not been set up for imparting training and instructions in first aid, home nursing and allied subjects and for building up a ready fleet of volunteers to provide services during accidents or sudden illness and in transporting the sick and injured. In SECR, one brigade of St. John's Ambulance is functioning with 36 members at Bilaspur to help in disaster management. However, for the last 15 years, the members were not supplied with the uniform, parade allowance etc.

4.8.6 Provision of super specialty services

The Cancer Research Institute (CRI), Varanasi was established in 1984 as a super specialty centre for diagnosis, treatment and research on cancer. A centre of training was also set up in CRI for Indian Railways. Audit observed that CRI was not carrying out adequate research and training activities. Audit also noticed several cases of non-provision/ non-maintenance of essential equipment and non-availability of trained staff to operate high technology equipment due to which services could not be provided by CRI as follows:

- Though the CRI had research as one of its objective, neither any personnel nor funds had been provided for its research activities. Some research activities are being carried out on the individual initiative of its doctors. As regards training activities at the CRI, it was noticed that only two paramedics were trained in the year 2001-02 and 2003-04. In the remaining years covered under review no training was imparted by it.
- Computerised Teletherapy Simulator is required to establish an exact correlation between the patients anatomy and exact tumor volume. Planning and simulation is done to locate the exact volume of tumor and to identify vital structures in the near vicinity. Replacement for the Teletherapy Simulator, condemned on 11 April 2000, has not been arranged till date. The patients were thus being subjected to avoidable radiation hazards to normal tissues, which may cause deformities, spinal cord damages and even second malignancy.

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[21] **ARME - Especially designed vans for carrying medical equipment for accident relief (pulled by a locomotive or self propelled).**

[22] **Para 1109 of Indian Railway Medical Manual.**

- After the retirement of the Radiophysicist-cum-Radiation Safety Officer (May 2004), the radiotherapy was not being carried out in the Institute.
- Theratron 780, a very important radiotheraphy machine, uses Cobalt 60, which is to be replaced every 5 to 6 years. However, this was not replaced in time. The second replacement was made after delay of six years, resulting in drastic fall in the output of the machine. Against 150 RMM[23], it is being operated at less than 50 RMM and the radiation is emitted only from one side and not from both sides. Thus, the machine is working at less than its capacity.
- The mammography machine, sanctioned on 13 May 2002, is yet to be tendered, as specifications for the equipment could not be decided.
- Although Cancer Research Institute has Anti-Narcotic Department's clearance for stocking narcotic drugs like morphine for pain palliation for advanced stage and terminal cancer patients, no supplies of morphine tablets have been received in Cancer Research Institute since 1999.

Recommendations

- The systems for procurement of medicines of appropriate quality should be strengthened by creating capacity for testing of medicine within the Railway Health Department itself.
- Railway should consider delegating appropriate powers and responsibilities to the hospital/ health units to ensure need based procurement of medicines.
- Railway should also consider delegating adequate financial powers for repairs of essential equipments to the heads of hospitals/ health units.
- Once a duly constituted body has identified the need for equipment and funds sanctioned for the equipment, Railways should lay down a specific time frame within which the equipment should be procured.

4.9 Promotive and preventive health services

In terms of Indian Railway Medical Manual, the functions of the Medical and Health Department of Indian Railways include, besides curative services, also certain responsibilities in the area of preventive medicine. These include ensuring a standard of environmental hygiene and sanitation, wholesome and potable water supply, efficient disposal of night soil and rubbish, adequate light and ventilation and other means conducive to hygienic living and working conditions. The MHD has also been made responsible for investigation into causes of ill health of railway employees etc., to advise on family planning and family planning work, to help in prevention of food adulteration including development of food analytical laboratories for the purpose as well as to carry out preventive vaccination against infectious communicable diseases, participate in National Eradication/ control programmes etc.,, In matters, which are under the administrative control of

[23] **RMM - Unit for measuring rate of emission of radiation.**

other departments, the role of MHD is of advisory nature. In so far as provision of safe drinking water is concerned, the responsibility devolves on the Engineering Department but the quality is to be ensured by the MHD. Similarly, the Commercial Department is responsible for provision of unadulterated food on trains and stations but the quality control over it is to be exercised by the MHD. Audit observed that implementation of national health programmes, measures taken by MHD for ensuing quality of drinking water or edible items served at stations/ trains were inadequate. Deficiencies were also noticed in systems adopted for disposal of biomedical waste. Deficiencies in maintenance of standard of environmental hygiene and sanitation were noticed as given in the following paragraphs.

4.9.1 National health programmes

The Railways are actively involved in the implementation of various National Health Programme, such as the National Tuberculosis Control Programme, National Malaria Eradication Programme, National Filaria Control Programme, and National AIDS Control Programme etc., Audit noticed that the implementation of preventive or control measures for certain diseases like Tuberculosis (TB), Hepatitis –B, AIDS and Malaria etc., was not adequate.

Tuberculosis (TB)

TB is a chronic disease with varying clinical manifestations. The revised National Tuberculosis Programme which envisages a strategy of Directly Observed Therapy (DOT) by curing all infectious and seriously ill patients of TB through administration of an supervised short course chemotherapy to achieve a cure rate of at least 85 per cent and augmentation of finding activity to detect at least 70 per cent of estimated cases. The programme requires diagnosis and regular and uninterrupted supply of drugs, under close supervision to eliminate default rates completely. The DOT has been adopted by various Railway Hospitals including Divisional Hospital, Khurda Road (ECOR) since October 2001 and Central Hospital, Maligaon (NFR) since April 2003. It was seen that in ECOR no detailed records were available to assess the number of persons infected and cured on annual basis. The annual return, indicating month-wise information in the prescribed format to the TB Association of India at the end of every financial year with a copy endorsed to Ministry of Railways was not being sent as required under the provisions of Indian Railway Medical Manual. TB detection camps/door to door surveys had also not been organised.

Scrutiny of records in Central Hospital, Maligaon (NFR) revealed that the chest clinic of the hospital had been selected as microscopic centre manned and equipped by the District Authority. During the last five years, 8,414 patients had been recorded over entire NFR hospitals. However, it was seen that though DOT was effective from April 2003, not a single case in any hospital was undertaken within the purview of DOTs during 2003-04. Instead conventional treatment was provided to 781 patients. Had the patients being put under DOT, they could have been given appropriate treatment as adopted under the revised National Tuberculosis Control Programme and railway expenditure to that extent could have been avoided. During 2004-05, out of

424 patients, 201 (47 per cent) were detected to be suffering from TB, records in respect of treatment of these patients were not available.

Hepatitis-B

Hepatitis-B is considered to be much more infectious than the dreaded disease AIDS and the risk of accidental exposure to a Hepatitis-B positive patient is 7 to 30 percent as compared to 0.5 per cent in respect of AIDS. Despite this, none of the hospitals/ health units reviewed had any time bound plan to vaccinate its beneficiaries against the hazards of this disease. Audit scrutiny of records of hospitals/ health units of Northeast Frontier Railways revealed that as against the demanded quantity of 1965 vials of Hepatitis -B vaccines, only 1,233 vials were received during the period 2000-01 to 2004-05. Out the quantity received, only 719 vials (58 per cent) were utilised. In sub divisional hospital, New Jalpaiguri, though 108 vials were received physically, in the records only five vials were accounted for leading to non-accountal of 103 vials costing Rs.0.46 lakh. Similarly as against the physical receipt of 100 vials by the pharmacist of New Tinsukia hospital, only 41 vials were accounted for and there was no trace of 59 vials costing Rs.0.26 lakh. The discrepancies have neither been investigated nor responsibility fixed.

AIDS control programme

National AIDS Control Organisation (NACO) had sanctioned grants in aid of Rs.0.65 crore to Northeast Frontier Railway which was to be utilised in various activities such as training of medical officers for providing treatment to AIDS patients, procurement of equipment and drugs and creation of awareness amongst masses against the spread of this dreaded disease by organising camps/ seminars etc. Though NFR has set up three Voluntary Counselling and Testing Centres at Maligaon, Lumding and Katihar where necessary staff has been provided, the utilisation of the grants given by NACO was only to the extent of Rs.0.35 crore (54 per cent of the total grant) and balance of Rs.0.30 crore remained unutilised.

4.9.2 Clean environment and sanitation

Sanitation of railway colonies, stations etc., is the combined responsibility of Medical, Engineering and Mechanical Departments. To avoid spread of deadly vector borne diseases like malaria, cholera, etc., instructions have been issued for integrated vector control measures, to be taken by the Health Department such as identification of all the breeding sites in the jurisdiction of each health inspector and applying appropriate vector control measures. Audit noticed that though Khurda Road railway complex (ECOR) is a filaria (a kind of malaria) prone area, no expenditure has been incurred by East Coast Railway on sanitisation and mosquito control activities during the last five years. Scrutiny of records of Medical and Health Department of Northeast Frontier also reveal that drains and roads were not cleaned regularly and no records were maintained for the garbage lifting by contractors. The data of Malaria infected persons revealed that out of 68,075 cases examined, 2580 (about 4 per cent) tested malaria positive (NFR).

4.9.3 Provision of safe drinking water

While provision of safe drinking water is the responsibility of the Engineering Department, Medical Department is responsible for monitoring of quality of water. Health inspectors should collect water samples once in a month from a major station/ colony and once in two months from small stations/ colonies. In terms of Railway Board's instructions (July 2004), samples of potable water taken should be 100 per cent satisfactory. Audit noticed that:

- Drinking water samples taken by the Medical and Health Department of NER from Varanasi, Chhapra and Gorakhpur stations during the period April 2003 to March 2004 failed the requisite safety tests conducted by the nominated railway laboratory on 18, 25 and 4 occasions respectively.
- On East Coast Railway the samples of drinking water were collected by the Medical and Health Department only for 62 stations out of 86 stations/ colonies. The bacteriological tests of water samples of these stations conducted at the nominated railway laboratory during the year 2004-05 had revealed that 8 per cent of samples were unsafe. Similarly the 25 per cent of samples of mineral water supplied at 30 station were found unsafe for drinking.
- The records of Central Hospital, Bilaspur (SECR) had revealed that during 2004-05, the water samples had failed to pass the standards of safe drinking water in respect of bacteriological tests (11-29 per cent) and residual chlorination tests (26-48 per cent). Chlorination facilities have not been provided at four water pump houses situated in Bilaspur Railway complex.
- Out of 11,289 and 1,49,372 water samples tested for bacteriological and chlorine contents respectively by the medical and health department of Northeast Frontier Railway, 825 samples (7.30 per cent) and 34,508 (23 per cent) respectively were found unsatisfactory. Despite these unsatisfactory results, no remedial measures were taken to improve the quality of the drinking water.

The unsatisfactory results of water testing were required to be taken up with the Engineering department by the Health Inspectors for taking corrective action to improve the quality of water. However, it was seen that neither any action was taken nor any responsibility was fixed, as required under rules.

4.9.4 Food adulteration in railway premises/ trains etc.

As per rules contained in the Indian Railways Medical Manual, a review of departmental action taken in case of food adulteration should be carried out quarterly in each calendar year and a report should be sent to Railway Board. The general effectiveness of the measures being taken to check adulteration and pursuance of cases under the Act should also be monitored.

Audit scrutiny revealed that out of 893, 866 and 606 food samples taken by Medical Health Department of North Eastern Railway for quality control testing in the years 2001, 2002 and 2003 respectively 67, 27 and 27 samples

respectively were found adulterated or unsafe. No action was taken regarding pursuance of cases with the executive department. On East Coast Railway, out of food samples collected during 2003-04 (174) and 2004-05 (194), 32 samples (8.7 per cent) were found to be unsatisfactory. Stallholders were fined and Divisional Commercial Manager was advised to take action for recovery of the amount. Food Sample Test Reports of Central Hospital Bilaspur (SECR) from 2002-03 to 2004-05 revealed that the percentage of food samples found fit in prevention of adulteration (PFA) tests came down from 92.3 per cent (2002-03) to 82.3 per cent (2004-05) and Quality Control Food Test the percentage of fit cases varied from 86.6 per cent (2002-03) to 75.3 per cent (2003-04). Though there was improvement and 98.4 per cent samples were found fit in 2004-05, the standard was still below the desired level of 100 per cent fitness.

Test check of the records of Food Inspector at Gorakhpur (NER) also revealed that the receipt of analysis report of the sample from Public Analyst was very poor as reports only in respect of 38 per cent samples taken in 2000, 17 per cent samples taken in 2003 and 49 per cent samples taken in 2004 were received defeating the very purpose of sample collection.

On Northeast Frontier Railway, out of 3915 food samples tested for quality control, 234 were found unsatisfactory and in 343 cases, test results were not received from the laboratories. Four hospitals located at Alipurduar, Dibrugarh Town, New Jalpaiguri and Rangapara North has not been testing the milk supplied by various contractors. Out of 1934 milk samples tested by six hospitals, 415 were found adulterated and unfit.

Highly unsatisfactory standards of potable drinking water and edible products reflects adversely on the efforts of the Medical and Health department as well as contributory deficiencies on the part of the Engineering Department/ Operating Department does not take away the fact that the primary responsibility for this has been placed on the Medical and Health department.

4.9.5 Disposal of biomedical waste

Planning Commission Report on 'Urban Solid Waste Management in India' estimated that hospitals are generating 1-2 Kg waste per day per patient of which 85 per cent was considered as hazardous and remaining non-hazardous. The standard of treatment and disposal of bio-medical waste notified by Government of India in Biomedical Waste (Management and Handling) Rules, 1995, framed by Ministry of Environment and Forest, read with Environment (Protection) Act 1986, stipulates that no hospital should be allowed to function unless it has installed incinerators or devised other suitable measures for proper disposal of hospital waste. As per Railway Board's directives (April 1997) also, infectious waste should be subjected to incineration.

- Audit scrutiny of the ways and means adopted by the hospitals and health units covered under review revealed that the incinerator installed at zonal railway (Central) Hospital Gorakhpur (NER) in 1999 had stopped working in May 2001. Thereafter, the biomedical waste was being subjected to pit burial. As per Ministry of Environment and Forests' Notification, the option of deep pit burial is allowed only in

towns with population of less than 5 lakh or in rural areas. As the population of Gorakhpur city is more than 5 lakh, action of the Hospital was violative of statutory provisions. On physical verification of the site by Audit it was noticed that the waste was not only being buried in the hospital premises itself, but the location was hardly five meters away behind the training hall and in front of the patients attendant rooms. The depth of the pit was also not as per laid down specifications. No incinerator has been installed at Izatnagar.

- In East Coast Railway the hospital waste was disposed of by burying the same in a covered pit as well as by burning in open air within the hospital premises, which was hazardous. The Administration has neither installed an incinerator for disposal of the hospital waste nor made any arrangement for its appropriate disposal with the Municipal authority/ other organsiations.
- In South East Central Railway the Biomedical/Hospital solid waste was disposed off by engaging a private contractor. The last contract had, however, expired on 11 September 2004 and the next contract was made for the period from 26 January 2005. There was nothing on record as to how and when the Bio-medical solid waste was disposed of during the intervening period.
- In Northeast Frontier Railway, out of nine hospitals the incinerator autoclave was provided in two hospitals only. Though the other seven hospitals had more than 50 bed capacity, no incinerator facilities were provided as required under Government of India Gazette notification of March 2000. The bio-medical waste generated in these hospitals was being destroyed either by burning in the open air or dumping.

Recommendations

- Facilities such as Auto clave/ incinerator should invariably be provided in hospitals for treatment of bio medical waste.
- Standards of sanitation, supply of safe drinking water and prevention of food adulteration needs to be strictly enforced by the railways in view of the impact on the general public.

4.10 Conclusion

The quality of services rendered by the Medical and Health Department was not susceptible to check in as much as the department has not evolved performance parameters for self evaluation. Maintenance and upkeep of requisite data, including beneficiary data required for planning and optimal use of resources, was deficient. Quality of curative services was also impacted in the absence of medical history folders of patients for proper diagnosis, provision of quality medicines and necessary medical equipment. Preventive services such as adequate sample testing of drinking water, steps to prevent food adulteration, proper disposal of hospital wastes, provision for sanitisation of Railway complexes etc., need to be carefully controlled by the Indian Railways.