EXECUTIVE SUMMARY

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About the Report

The Report is about the Results of Performance Audit of Select Public Health facilities of secondary care (District-level Hospitals) and primary care (one CHC and one PHC) in the State of Nagaland. We covered the period from 2014-15 to 2018-19. The audit examination included records maintained in the office of Principal Director of Health & Family Welfare, Mission Director of National Health Mission (NHM), records of District Medical Officers (DMOs), Medical Superintendents (MS) of selected District Hospitals, Medical officer of one CHC and one PHC.

What has been covered in this audit?

In this Performance Audit, we have focused on the patient care given by the primary and secondary care levels in the State. We assessed the availability of basic infrastructure facilities in the State, adequacy of manpower in the selected District Hospitals and various services provided therein like Out-Patient and In-Patient Services, Maternity Services, Emergency Services, Drug Management, Infection Control, Bio-medical Waste Management, Diagnostic Services, Fire Control measures etc., based on pre-determined performance indicators/ criteria in the sampled district level and block level hospitals (CHC & PHC). We have adopted Indian Public Health Standard (IPHS) prescribed by the Government of India and adopted by the Government of Nagaland which are a set of uniform standards envisaged to improve the quality of health care delivery in the country as well as State norms as applicable for benchmarking various audit findings.

What have we found?

We found significant areas for improvement in the healthcare needs of the people as highlighted below.

Financial Resources and Fund management

State funding

The budget allotment and expenditure of the Health and Family Welfare Department against the overall State Budget during the five-year period 2014-19 ranged from ₹ 521.09 crore (4 *per cent)* in 2014-15 to ₹ 797.48 crore (3.90 *per cent)* in 2018-19, even as the National Health Policy, 2017 envisaged allocation of at least eight *per cent* of the total budget of the State for Health Sector. The expenditure on health ranged from ₹ 418.09 crore (4.13 *per cent*) to ₹ 631.42 crore (4.17 *per cent*) of the total State Budget during the period. The Department did not utilise the allocated funds in five years period 2014-19 with savings ranging from ₹ 103 crore (19.77 *per cent*) in 2014-15 to ₹ 166.07 crore (20.82 *per cent*) in 2018-19. Due to inadequate spending under the State budget, the secondary healthcare facilities in the State suffered inadequate physical infrastructure, shortage of drugs, equipment, specialist services, and other diagnostic services.

Out of the total expenditure of ₹ 2649.93 crore incurred on health during 2014-19, revenue expenditure was ₹ 2493.73 crore (94.10 *per cent*) and the capital expenditure was ₹ 156.20 crore (5.90 *per cent*). The Department spent a mere 0.58 *per cent* of the total revenue expenditure on drugs/ medicines. Due to decline in revenue expenditure on drugs and medicines, there was shortage of drugs in health units across the State. Availability of drugs in the sub-centres varied from 5 *per cent* to 73 *per cent* with an average of 33 *per cent*. In the case of PHCs, availability of drugs was 36 *per cent*. In the case of CHCs, availability of drugs was very poor as against 225 recommended drugs, only 39 *per cent* drugs were available across the State.

We therefore recommend that the department could further shore up its overall spending on healthcare and particularly increase its spending on drugs and medicines and make them available across all health facilities.

(*Paragraphs 2.2, 2.2.1, 2.2.2*)

Unspent NHM Funds

Against available funds of ₹ 564 crore (GoI/GoN /OB/interest) during the period 2014-19, the NHM State Society utilised ₹ 473.26 crore of the funds, with unspent balances ranging from 43 to 68 *per cent* of the available funds during the period. In three important NHM Programmes (National Oral Health Programme, National Programme for Health Care of Elderly and Non-Communicable Diseases), the unspent balances ranged from 50 to 99 *per cent*. This indicated that the intended beneficiaries were deprived of the benefits of these programmes.

(Paragraph 2.4)

Recommendations

- *The State Government may enhance its budget provision and expenditure on healthcare services as required under NHP. The spending may particularly be enhanced to meet deficiencies in infrastructure like Trauma Centres, for providing adequate supply of medicine and equipment across health facilities and for enhancing human resources in the secondary healthcare facilities in the State.*
- *The declining trend in utilisation of funds under Capital budget is a matter of concern, which has adversely affected provision of adequate infrastructure in health facilities. Apart from increasing the allocation under capital head, the utilisation requires close monitoring to ensure that the allocated funds are utilised for the intended purpose.*
- *The State Health Society may take appropriate action to optimally utilise the available funds under various NHM programmes.*

Essential Resources Management

Shortage of Doctors, Nurses and Paramedical Staff

Human resources are one of health system inputs by which outcome of a health facility is assessed. Engagement of adequate, appropriate human resources with reference to number of beds is utmost important to obtain desired results/outcome out of a health facility. Audit scrutiny revealed that there was persistent shortage of doctors in three test checked districts

hospitals of Phek, Wokha and Tuensang in important cadres of services of Medical Officers, Staff Nurse and Paramedical Staff. Shortage of doctors in DH Phek was 50 *per cent* against norms, whereas in DH Wokha, the shortage of doctors was 54 *per cent* during 2014-19. Number of doctors in DH Tuensang slightly improved from 12 (2014-15) to 14 (2018-19). In the case of DH Kohima, position of number of doctors had improved from 44 to 62 (40.91 *per cent*) during 2014-19.

(Paragraph 3.2)

Recommendations

The State Government needs to address:

- *Shortage of human resources in DHs on priority basis.*
- *The State Government may incentivise doctors to serve in the remote and hilly areas of the State.*

Availability of physical infrastructure

The State had 11 District Hospitals (DHs), 35 Community Health Centres (CHCs), 142 Primary Health Centres (PHCs) and 583 Sub-Centres (SCs). Two Medical Colleges have been approved by GoI for the State (Kohima and Mon) and they were in process of being set up. Three DHs were functioning with more than 100 sanctioned bed strength (out of 11 DHs in the State), whereas six DHs (Zunheboto, Kiphire, Wokha, Phek, Longleng and Peren) were functioning with less than 100 sanctioned bed strength. This indicated that six districts were treated as sub-district/sub-divisional district hospitals and facilities expected to have been available for the people were not present. Further, four DHs (Kohima, Mon, Phek and Peren) were functioning with less than sanctioned bed strength. The State had shortage of 281 Sub-Centres and four Community Health Centres in the State, which are crucial for last mile delivery of health services to the population. The Department had neither utilized the available funds nor increased its capital spending to improve the availability of physical infrastructure of health facilities in the State.

(Paragraphs 3.3.1 and 3.3.2)

Blood bank & Blood Storage Units

Out of four test checked DHs, Blood Bank was available only in DH Kohima. Blood Storage Unit at DHs Wokha, Phek and Tuensang were non-functional resulting in avoidable hardship and risk to the patients by being referred to blood banks in other DHs in the State.

(Paragraph 3.3.3)

Recommendations

- *State Government may ensure increasing the bed strength in deficient DHs taking into account population served and set up sufficient Sub-Centres and Community Health Centres to impart proximate health care services.*
- *State Government may ensure availability of Blood Banks in all DHs as per norms and expedite installation of available blood bank equipment.*
- *The Department may take steps to make DHs functional with Blood Banks.*

Procurement of Drugs with less shelf life

Terms & conditions for supply of Drugs under NHM & State Budget stipulates that all the supplied drugs should have a minimum life of 18 months. In drug procurements, it was observed that in 13 out of 20 supply orders placed by the Department in 2017-19, 123 drugs supplied were with less than stipulated shelf life of 18 months.

(Paragraph 3.4.2)

Equipment

There was shortage of diagnostic equipment in all the test checked DHs. The availability of essential hospital equipment in the three test checked DHs (Tuensang, Phek, Wokha) ranged between 5 to 16 *per cent* and the availability of equipment in DH Kohima was only 19 *per cent*, though it is a multispecialty hospital and the State's only referral hospital. There was shortage of critical equipment like X-ray machines and ventilators. This would severely impact effective medical diagnosis of patients. There were 75 different Medical equipment lying non-functional in the test checked DHs for want of maintenance of equipment, thereby affecting service delivery.

(Paragraph 3.5)

Recommendations

- *The Department may ensure that the procurement of drugs is based on realistic assessment of requirements of health units and ensure that Free Drugs Service Initiative is actually implemented in the State's Health Facilities.*
- *Procurement of drugs, consumables etc. should be made in a timely manner to avoid stock of drugs with reduced shelf life.*
- *The State Government may make it mandatory for suppliers to furnish quality report for medicines so as to ensure quality drugs to patients besides setting up of a Drug Testing Laboratory.*
- *State Government may ensure the availability of full range of essential equipment in every DH, particularly in view of the increasing reliance on diagnostics for treatment of patients.*
- *The Department may ensure proper maintenance of equipment through Annual Maintenance Contract to reduce the breakdown time of critical diagnostic equipment.*

Delivery of Healthcare Services

Out-Patient Department (OPD)

Computer based registration is followed in DH Kohima and the manual registration system is followed in remaining three DHs (Phek, Wokha and Tuensang). OPD registration showed an increasing trend in DH Kohima and DH Phek, whereas DH Tuensang showed a decreasing trend. DH Wokha showed a mixed trend during the last three years (2016-17 to 2018-19). Average monthly OPD registration was highest in DH Kohima (9941) followed by DH Wokha.

In the case of CHC Viswema, number of patients utilising the OPD facilities showed decreasing trend. In the year 2014-15, number of patients utilising the services of OPD was 2924, whereas

in 2018-19, it decreased to 2514 (14 *per cent* less – with reference to 2014-15). In the case of PHC Botsa, patients utilising OPD services had increased from 2093 (2014-15) to 3209 (2018-19) which was 53.32 *per cent* increase as compared to 2014-15.

Most of the OPD services provided in NHM Assessor's Guidebook were not provided in the test checked DHs particularly in DH Wokha, DH Phek and DH Tuensang.

(Paragraphs 4.1.1, 4.1.3 and 4.1.4)

Recommendations

- *The Department may ramp up the OPD Services keeping in view the increasing demand for services. They may introduce computer based registration system in OPD/IPD in all DHs.*
- *State Government may ensure availability of essential services in the OPDs in all DHs.*

Inpatient Services

There were considerable gaps in availability of inpatient services in test checked DHs with reference to IPHS norms. The facility of Burn ward, Psychiatry and Accident & Trauma ward were not available in any of the test checked DHs. Ophthalmology, Physiotherapy and Dialysis services were not available in three DHs (Wokha, Phek and Tuensang) while there is no facility for 24x7 nursing in Tuensang DH and Wokha. Shortage of essential IP Services like Burns, Psychiatry, Accident & Trauma in DH Kohima necessitated that patients to be either referred out of State or to private hospitals, entailing inconvenience and additional financial burden on the patients.

(Paragraph 4.2.1)

Diagnostic Services in emergencies

Assessors Guide Book for Quality Assurance in District Hospital (2013) requires that 24x7 emergency lab services are available for selected tests of Haematology, Biochemistry, Serology etc. and Radiology Services. In all the test checked DHs, laboratory and radiological services generally remain closed after OPD hours. In DH Kohima, neither the duty roster of Lab Technicians of emergency duty nor the monitoring report of service review was made available to audit for verification. In other three test checked DHs also, there was no record of laboratory or radiological tests being carried out in emergency cases nor were duty rosters of LTs and X-Ray technician, maintained in the DHs.

(Paragraph 4.2.6.3)

Calibration of Equipment

Reliability of any equipment is to be ensured through periodic calibrations and Annual third party Audit by NABL accredited laboratories. Audit observed that test checked DHs did not maintain the status of calibration of equipment. Records relating to Annual third party Audit by NABL accredited laboratory was also not maintained. In absence of vital records of calibration, there was no reasonable assurance on accuracy of medical equipment and their ability to provide correct overall output/test results.

(Paragraph 4.2.6.5)

Laboratory Services

All the laboratory tests required to be provided as per IPHS norms were not provided by the test checked DHs (Kohima, Phek, Wokha & Tuensang) and it varied from 62.88 *per cent* to 82.24 *per cent*.

(Paragraph 4.2.7)

Operation Theatre Services

Major and minor operations were carried out in all the test checked DHs. Minor Operations were only carried out in CHC Viswema and PHC Botsa. Number of major operations carried out in DH Kohima was much higher than the number carried out in other test checked DHs, being a referral and better equipped hospital.

(Paragraph 4.2.9)

Fire safety norms

National Building Code of India 2016, Part 4, Fire and Life Safety required that fire extinguishers must be installed in every hospital, so that the safety of the patients/attendants/ visitors and the hospital staff may be ensured in case of any fire in the hospital premises. Further, Assessor's Guidebook for Quality Assurance in District Hospitals, 2013 stipulates that hospital should have a plan for prevention of fire. Also, the facility should have a system of periodic training of staff and regular conduct of mock drills for fire and other disaster situation.

None of the test checked DH had a certificate of fire safety from the Fire Department. There was no plan for prevention of fire in any of the test checked hospitals. System for auto detection of fire was also absent in all the test checked DHs. Evacuation area in the case of fire is to be marked with illuminated exit sign. This is not found in any of the DHs. Satisfactory supply of water with dedicated water tank for firefighting purpose was not constructed in any of DHs test checked.

The number of fire extinguishers were found to be insufficient in all the DHs. DH Wokha had not complied with findings of the fire safety inspection done.

Absence of mock drills, shortage of fire extinguishers, illuminated exit sign, dedicated water tank etc. pose a risk for the evacuation of patients in case of an emergency due to fire or natural calamity.

(Paragraph 4.2.12)

Recommendations

- *The OPD and IPD Services provided in DHs may be reviewed to improve the number of services and facilities as per norms.*
- *User charges for diagnostic services in DHs may be notified and streamlined for all DHs in the State.*
- *Availability of equipment as per the IPHS norms may be ensured for quality services.*
- *Calibration of diagnostic equipment may be implemented for reliable diagnostics.*

- *The hospitals may rigorously adhere to the National Building Code 2016 to ensure safety of patients/attendants/visitors and the hospital staff from fire incidents. Fire safety audit be carried out of all health facilities in the State, including the Special New Born Care Units (SNCU) in DHs.*

Adequacy of Support Services

Storage of Drugs

To maintain the efficacy of the procured drugs before issue to patients, it should be stored as per the labelling conditions of the drugs. It was observed that in none of the DHs, prescribed protocol for storage of drugs were adhered. None of the OPDs/IPDs maintained inward and outward records of drugs dispensed. Drug testing for quality checking was absent in the Department/DHs.

(Paragraphs 3.4.3, 5.1 and 5.2)

Infection Control

As per ICMR Infection Control Guidelines, the emergence of life-threatening infections such as severe acute respiratory syndrome and re-emerging infectious diseases have highlighted the need for efficient infection control programmes in all health care settings.

Infection control measures were not adequately implemented in test checked DHs. Audit verification of records revealed that microbiological sampling for surface was done in two DHs (Kohima & Wokha) and the selected CHC. NHAK Kohima had carried out air sampling in 2020, but the other test checked DHs had not done air sampling inside the hospitals during the period of audit.

(Paragraph 5.4)

Segregation and disposal of Bio-Medical Waste

The BMW Rules inter alia stipulate the procedures for collection, handling, transportation, disposal and monitoring of the Bio-medical (BM) waste with clear roles for waste generators and Common Bio-Medical Waste Treatment Facilitator (CBMWTF). All the four hospitals, CHC and PHC test checked segregated BM waste at the point of generation in colour coded bins. DH Kohima engaged Kohima Municipal Council (KMC) to collect the BM waste from the Hospital site for disposal. Segregation of BM waste was done by the wards/departments of hospital as per provisions of the BMW rules. The BM waste was collected from the wards/departments and dumped at a common waste pit of the hospital without segregation or without colour coded bags (black dustbin bags). This defeated the very purpose of segregation of BM waste at the point of generation. Test checked hospitals except for DH Wokha had not established Effluent Treatment Plants (ETPs) for pre-treatment of the liquid chemical and bio-medical waste, resulting in draining of the waste in public drainage

(Paragraph 5.6)

Ambulance Services

There was a serious shortage (63 *per cent*) of ambulance service availability as per IPHS norms. Every Ambulance is supposed to maintain a minimum of 11 items including emergency drugs and equipment. None of the DH maintained the stock registers of drugs and equipment available in the ambulance. Emergency drugs/first aid kits were not found during physical verification of Ambulances.

(Paragraph 5.7)

Recommendation

- *The DHs needs to take corrective steps to store the drugs as per the labelling conditions prescribed on the packs to maintain their loss of efficacy before being administered to the patients.*
- *The Department needs to ensure that the infection control mechanism is embedded in hospitals and is thoroughly monitored by adopting all prescribed methods of sterilisation and microbiological sampling etc.*
- *The Department may ensure that BMW Rules are adhered and followed rigorously by DHs to provide an infection free environment in the hospitals. Deviation from BMW Rules in Procedures for collection, handling, transportation, disposal and monitoring of the Bio-medical waste should be viewed seriously and monitoring mechanism be developed at the Government level needs to be put in place.*

Maternal and Child Care, prevalence of Cancer and HIV/AIDS in the State

Maternal & Infant Care

Infant Mortality Rate (IMR) in Nagaland is lower than the national figures. The IMR in Nagaland showed a declining trend from 14 in 2014 to four in 2018. Government was not able to keep track of all pregnant women who were registered for Antenatal Care (ANC) to ensure that all pregnant mothers received the stipulated quantum of ANC, timely check-ups, TT and IFA tablets at intervals.

(Paragraphs 6.1.1 and 6.1.3)

Post-natal care

As per JSSK Guidelines, the first 48 hours stay in hospital during childbirth is an important component for identification and management of emergencies occurring during post-natal period and reducing MMR. Audit observed that during 2014-19, 9382 (65 *per cent)* out of 14,372 women who delivered at the selected DHs were discharged within 48 hours of hospital stay.

The still birth rate had declined in Kohima, but had increased in DH Phek and was highest in DH Tuensang, for want of specialised manpower as well as equipment.

(Paragraphs 6.1.4 & 6.1.5)

District Early Intervention Centre (DEIC)

District Early Intervention Centre at the DH level as envisaged under Rashtriya Bal Swasthya Karyakram (RBSK) is functional in DH Kohima only. Though equipment were procured for establishment of DEIC in DH Tuensang, it is yet to be made functional.

(Paragraph 6.1.10)

Recommendation

- *The Department may strengthen the antenatal care by proper monitoring and follow up of all pregnant women in collaboration with ASHA workers so that the mandated check-ups, including immunisation and IFA tablets are availed by all pregnant women.*
- *ANC should be strengthened in all HUs to achieve the objective of mother and child care.*
- *DHs may review still birth rates critically for corrective action.*
- *Sanctioned DEICs may be made functional as per the norms prescribed by GoI.*
- *HMIS data of the State may be made reliable with adequate cross checks by the DH administration and at the State level.*

Cancer Care

Early diagnosis of Cancer

Audit observed that Mammography machine and Colposcope were not available in the test checked three DHs[1]. Test checked hospitals did not maintain the records of suspected cancer cases referred from CHCs/ PHCs and forwarded to DH Kohima.

(Paragraphs 6.2.3 and 6.2.4)

The Tertiary Care Cancer Centre (TCCC) at DH Kohima approved (December 2016) by GoI for ₹ 43.50 crore, and for which funds received were ₹ 13.23 crore, could not be made functional due to delay in completion of civil works. Equipment procured for ₹ 7.04 crore for TCCC before completion of civil works were lying idle in DH Kohima. Despite availability of funds, the citizens were deprived of specialised cancer care facility in the State (October 2019).

(Paragraph 6.2.7)

Recommendation

- *Develop an accurate data bank of all details relating to the incidence of cancer in the State and strengthen screening of the patients to identify early warning signals of all types of cancer.*
- *Develop focussed strategies to bring behaviour changes in tackling the menace of Cancer.*
- *Develop infrastructure as well as human resources in district hospitals for necessary diagnostic procedures including biopsy.*
- *Ensure expeditious completion of TCCC at DH, Kohima and it may be made fully functional with state of the art bio medical equipment.*

[1] DHs Wokha, Phek and Tuensang

HIV/AIDS Care in the State

Prevalence rate of HIV/AIDS in the State showed an increasing trend except 2015-16. The number of HIV/AIDS positive cases in the State increased from 1.85 *per cent* (2014-15) to 2.26 *per cent* (2018-19). In the test checked DHs (Kohima, Phek, Tuensang & Wokha), the HIV positive cases increased by 16 *per cent* from 542 to 627 during the period 2014-15 to 2018-19.

(Paragraph 6.3.3)

Significant deficiencies were observed in implementation of programmes by Nagaland State AIDS Control Society (NSACS). Specific surveillance plan was not formulated by the NSACS and hence identification of the pockets of infection of HIV/AIDS was limited to data received from District AIDS Prevention and Control Unit (DAPCU).

(Paragraph 6.3.4)

Counselling offered in ICTC centres for pregnant women was inadequate as out of 376 pregnant women screened as positive for HIV/AIDS in test checked DHs, only 41.41 *per cent* were referred or attended in ARTs. Since all the positive cases were not given ART services, possibility of transmission of HIV/AIDS to the new-borns cannot be ruled out.

(Paragraph 6.3.5)

Recommendation

The Nagaland State AIDS Control Society and the Department may consider:

- *Adopting a bottom up approach for preparation of Annual Action Plans so that it is realistic and meets the demands of local situation in the State.*
- *Taking effective steps to screen all pregnant women registered for ANC for detection of HIV/AIDS and RTI/STI cases and ensure that those detected positive should be referred for ART.*
- *The results of the HIV Study conducted by NSACS be put in public domain.*

Overall recommendations on efficiency evaluation of DHs

- *The State Government needs to adopt an integrated approach, allocate resources in ways which are consistent with patient priorities and needs to improve the monitoring and functioning of the DHs.*
- *The monitoring mechanism should be revamped by including measurement of outcome indicators pertaining to productivity, efficiency, service quality and clinical care capability of the hospitals.*

What has been the response of the Government?

Audit findings were reported to the Government on 17 August 2020 and an exit conference was held through video conferencing on 14 October 2020. The responses during exit conference and written replies received from the Department have been incorporated in this report, at appropriate places.