Executive Summary

About the Report:

There is a critical requirement for sustained and determined action to close the gap between the patient care received and the target outcomes in public hospitals at the primary and secondary care levels. Uttar Pradesh, as the most populous State in India with poor health indicators as compared to the national average, has a significant weight in the unmet needs of public health in the country.

It is in this backdrop that the Performance Audit of Hospital Management in Uttar Pradesh has been carried out during 2018-19, covering the period 2013-18. This Report has attempted to assess the quality of medical services and patient care being provided by the district and block level hospitals.

Why have we prepared this Report now?

We have audited the health sector and presented the findings in various Union and State Reports to the Parliament and legislature of different States over the last decade. All India Performance Audit of National Rural Health Mission (NRHM) was conducted and findings presented in Union Report No. 8 of 2009-10. More recently Union Report No. 25 of 2017 on NRHM-Reproductive and Child Health Component was laid in the Parliament. Audit of NRHM in the State of Uttar Pradesh was also conducted for the period 2005-11 and a Report was laid in the State Legislature on 30 May 2012.

All these earlier reports had focussed on compliance issues, inadequacies and mismatch of inputs and outputs, efficiency of quality assurance mechanism and effectiveness of monitoring *etc*. Keeping in view the goals laid down in the National Health Policy and expected outcomes of Sustainable Development Goal #3 at the global level, evaluating the outcome has become crucial for timely and systemic corrections. In this context, we have tried to assess the outcomes in this audit with a view to ascertain the quality of healthcare being made available to people through the existing policy interventions and scope for further improvement. This Report aims at identifying the areas that require systemic corrections and improvement.

What has been covered in this audit?

In this outcome based audit we have focussed on patient care received at the primary and secondary care levels in the State. Various Services like Out-Patient and In-patient Services, Maternity Services, Emergency Services, Diagnostic Services, Infection Control and Drug Management **have been assessed on pre-determined outcome indicators/criteria in the sampled district level and block level hospitals (Community Health Centres).**

What have we found and what do we recommend?

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

Policy framework for healthcare services

The policy framework for hospital management in the State had a gap that needs to be addressed: we noted that the Department neither prepared its own norms/standards nor did it adopt those prescribed by the Government of India (GoI) in respect of out-patient and in-patient services, pathology investigations and human resources. As a result, a methodical gap analysis was not, and cannot be, carried out. This would, and has, impacted the availability of resources and services in the hospitals/Community Health Centres (CHCs).

The revised Drug Procurement Policy 2012 and revised Equipment Procurement Policy 2012 also had significant gaps such as modalities to be followed in case of emergencies necessitating local purchase of drugs and consumables; sampling norms, criteria and periodicity for quality testing of drugs; types of equipment required in the district level hospitals; and maintenance of equipment.

Recommendations

Keeping in view the fact that Health is a State subject, it is imperative that the State Government should prescribe/adopt standards and norms for provisioning of services and resources for different levels of hospitals. A serious policy response is required to address gaps in the Drug Procurement Policy and the Equipment Procurement Policy.

Out-patient services

We found that the patient load in the Out-Patient Departments (OPD) in the test-checked hospitals and CHCs spiked by one-third during 2013-18, but the addition in the number of doctors available was nominal. Resultantly, there was a crisis of overcrowding with a rise in the number of OPD cases per doctor by 24 *per cent* in District Hospitals (DHs)/Joint Hospitals (JHs), as well as 20 *per cent* in District Women Hospitals (DWHs) and 12 *per cent* in CHCs. This had a cascading impact with 86 *per cent* patients in DHs/JHs, 69 *per cent* in DWHs and 50 *per cent* in CHCs **experiencing less than five minutes' consultation time, signifying inadequate diagnosis, investigation and treatment in OPD.**

Conversely, wait times for patients were adversely impacted since the number of registration counters were not commensurate with the increase in the daily patient load, exacerbated in some of the test-checked hospitals/CHCs by a lack of suitable and commensurate increase in seating facility and toilets, and an overall weak grievance redressal system.

Recommendations

Consultation time per patient in district hospitals and CHCs should be peer reviewed at the State level by the Director General of Medical and Health Services, so that corrective steps may be taken to address the very short per patient consultation period. The inequities in the number of registration

counters *vis-à-vis* the rising patient demand should be addressed without delay so that wait times for patients are reduced and seating/toilet facilities be increased commensurate to increase in patient load.

Diagnostic services

Despite being the bedrock of evidence-based modern treatment procedures, diagnostic services, both radiological and pathological, were deficient in terms of availability of functional equipment, consumables and human resources in the test-checked hospitals/CHCs.

A majority of DWHs and a large number of CHCs did not have the baseline X-ray facility; more than half of the DHs lacked the requisite range of X-ray machines; a substantial number of CHCs were without an ultrasonography (USG) facility and the computed tomography (CT) scan was available in less than one-third of the eligible hospitals.

There were also serious gaps in the availability of essential pathological investigations in almost all the hospitals and CHCs; whereas in-house pathology services were hamstrung by a shortage of lab technicians and unsatisfactory quality assurance. Engaging private service provider, to fill this gap, does not seem to have improved the situation substantially.

Quality-wise, due to lack of monitoring of the time lag between receipt of samples and completion as well as reporting of results of investigations to the patients, minimum efficiency standards in diagnostic services remain a challenge.

Recommendations

The availability of essential radiology services *viz.* X-ray and USG and pathology investigations as per Indian Public Health Standards (IPHS) and availability of requisite human resources should be ensured in every hospital/CHC, particularly in view of the increasing reliance on diagnostics for treatment of patients. Records pertaining to waiting time and turnaround time in respect of both radiological and pathological investigations should be maintained, so as to monitor the timeliness of the diagnostic services alongside the interpretation and reporting of results for treatment plan and further referral to higher centers.

In-patient services

There were considerable gaps in the availability of in-patient services with more than half of the DHs lacking a Burn ward, an Accident and trauma ward as well as indoor services for Dialysis, Physiotherapy and Psychiatry whereas pediatric services were available in less than half of the CHCs.

In-patient services in the different hospitals also varied in terms of the availability of resources.

- Asymmetric distribution of human resources in the test-checked hospitals was revealed ranging from a 54 *per cent* excess in JH Lucknow to a 74 *per cent* shortfall in JH Balrampur of doctors; an excess of 210 *per cent* in

JH Lucknow to a shortage of 67 *per cent* in JH Balrampur of nurses; and a 45 *per cent* shortfall in DH Banda to a 356 *per cent* excess in JH Lucknow of para-medical staff, vis-à-vis the sanctioned strength. Since similar unevenness was also noticed in CHCs, there is an urgent need to rationalise the workforce shortages towards achieving the right skills mix in a hospital/CHC. Excess posting of doctors and para-medical staff in big cities like Lucknow and Agra needs to be reversed quickly, and a system put in place where such excessive postings/"deputations" (other than for emergency and for a specific period) are impossible at any level of authority.

- The availability of doctors in the IPD could not be ascertained in any of the hospitals in the absence of rosters for assigning their duty. Furthermore, as against the requirement of one nurse per six beds, except for Shift-I in DH Banda the number of beds tended to by a nurse ranged from 10 to 43 beds in eight hospitals wherein rosters for nursing duty were maintained. This was a reflection on the indifferent quality of the nursing care provided in IPD.

- Only 07 to 12 types of essential drugs were available in IPD against the 14 types required in the test-checked DHs during 2017-18; thus, either the quality of treatment was compromised or significant out-of-pocket expenditure was incurred by the patients to buy vital drugs such as adrenaline (used in emergencies to stimulate heart), diclofenac sodium (relieves inflammation) and salbutamol (used to treat asthma) from outside.

- Similarly, vital equipment such as Doppler (for estimation of blood flow) in DHs Agra, Allahabad, Banda, Balrampur, Budaun, Saharanpur and DH-II Allahabad; Glucometer (for estimation of blood sugar) in DH Balrampur; and Defibrillator (for use in life-threatening cardiac cases) in DHs Agra, Balrampur and Budaun, were not available during 2017-18. Further, none of the DHs had executed an Annual Maintenance Contract for IPD equipment.

Operation Theatre (OT) services were sub-optimal in DH and JH Balrampur, DH Banda and DH Budaun where considerably less numbers of major surgeries could be performed as compared to rest of the DHs. Further, ENT surgeries in DH and JH Balrampur, and orthopaedic surgery in DH Banda were not conducted due to non-availability of surgeons. Furthermore, the prescribed essential drugs and equipment pertaining to OT services were short by at least 50 *per cent* in five and eight DHs/JHs respectively. Thus resources available for OTs were insufficient and offered little prospect of effective treatment in the concerned hospitals.

Intensive Care Unit (ICU) services were available only in DHs Lucknow and Gorakhpur out of the 11 test-checked DHs/JHs. In the absence of an ICU facility in the remaining DHs/JHs, patients approaching these hospitals in an emergent condition were likely to be referred and/or passed on to higher facility public or private hospitals.

- The ICUs in DHs Lucknow and Gorakhpur also suffered from shortage of essential equipment such as Ventilators, Infusion Pumps, Ultrasound and Arterial Blood Gas analysis machine. Nursing care was compromised as against the requirement of one nurse for each bed in the ICU, three to seven beds were assigned to a nurse in DH Lucknow.

There was a serious dearth of emergency services as five out of the 11 DHs/JHs test-checked did not have any emergency OT, while accident and trauma services were available in DHs Banda and Saharanpur only. However, the trauma centre in Banda was non-functional since December 2017 for want of a surgeon and both trauma centres suffered from substantial shortages of essential equipment. Further, in respect of CHCs, the emergency services were limited to snake bite and other cases not requiring diagnostic services, while for emergencies such as cardiac arrest and severe pneumonia, the CHCs effectively served only as referral centres.

Dietary services, an important therapeutic tool, were sub-optimal since the prescribed six types of diet for in-patients were provided only in DHs Lucknow and Saharanpur; the per patient per day expenditure on diet ranged from ₹ 29 to ₹ 102, indicating that the quality of the diet served was inconsistent, even providing for inter-district difference in prices. Most of the test-checked hospitals/CHCs also did not have a system of quality checking of the diet.

Patient safety was a matter of serious concern as a Disaster Management Plan was prepared in only two hospitals and in none of the CHCs. Further, a fire audit was not conducted in any of the hospitals/CHCs during 2013-18.

The IPD services in 10 DHs/JH were compared against each other using outcome indicators evaluated and the resources available with them.

- Every hospital, relative to the other test-checked DHs/JH, underperformed on at least one outcome indicator, with the performance of DHs Banda, Budaun, Gorakhpur and Saharanpur being, in particular, below par.

- The combined Leave against Medical Advice & Absconding Rate was very high at 78 *per cent* in DH Budaun and 50 *per cent* in DH Gorakhpur, indicating poor satisfaction with the service quality as experienced by the patients. However, both these hospitals had substantially higher number of doctors and nurses vis-à-vis the sanctioned strength and also above average availability of other resources, indicating ineffectual management.

- A high bed occupancy rate was observed in DHs Banda and Saharanpur along with a high referral out rate as well as a low discharge rate, indicating that these hospitals struggled to provide quality services.

Recommendations

Government should proactively synergize availability of specialised in-patient services along with the essential drugs, equipment and human resources in district hospitals and CHCs, so that patients do not face shortages of medical

resources and access to quality medical care is boosted. The availability of round the clock accident and trauma services in DHs and emergency services in CHCs should be ensured. Nutritional care of in-patients, in order to reduce complications and facilitate speedy recovery, should be ensured through availability of the recommended six types of diet in the hospitals.

The hospitals and CHCs should rigorously adhere to the Uttar Pradesh Manual of Fire Safety Norms 2005. The monitoring mechanism- a significant lever for facilitating the responsibility and accountability of the hospitals- should be revamped by including measurement of outcome indicators pertaining to productivity, efficiency, service quality and clinical care capability of the hospitals.

Maternity services

Significant deficiencies were observed in all three major components of facility based maternity services - Antenatal care, Intra-partum care or delivery care and postnatal care:

- Antenatal Care (ANC) was of low quality since in nine out of the 10 CHCs upgraded to First Referral Units (FRUs) for maternity services, gynaecologists were not or only intermittently available during 2013-18; only six out of 22 CHCs had the facility for conducting all six prescribed pathological investigations; there were substantial shortages of drugs for management of Reproductive Tract Infection (RTI) and Sexually Transmitted Infection (STI) cases in both hospitals and CHCs; and Comprehensive Abortion Care services were not available in 19 CHCs out of the 22 test-checked.

- Intra-partum Care was marked by a more than 50 *per cent* deficiency of essential drugs in eight out of 10 hospitals; shortages in both CHCs and hospitals of basic consumables, including baby wrapping sheets, as well as shortfall in key human resources typified, for instance, by a particularly grim situation in DWHs Agra, Lucknow and Saharanpur wherein the number of deliveries dealt with by a nurse ranged from 31 to 61 deliveries per day.

  – Partographs, which enable the birth attendant to identify and manage the complication of labour promptly, were not plotted in any of the hospitals and CHCs except DWH Allahabad and CHC Campiarganj, Gorakhpur.

  – Pre-term labour was inadequately managed as the requisite Corticosteroid injection was not administered or records in this regard were not maintained in the concerned hospitals and CHCs; besides in a large number of pre-term delivery cases the prescribed injection itself was not in stock. Thus, pre-term babies remained at risk of serious post-natal complications and neonatal deaths.

– NHM Guidelines state that around 8-10 *per cent* of total delivery cases require C-Section. While 21 *per cent* of deliveries in hospitals occurred through C-section, the corresponding figure for FRU-CHCs[1] was only one *per cent*. This is because there were shortfalls of gynaecologists and/or anaesthetists, particularly in FRU-CHCs. This was coupled with substantial shortages of the relevant drugs and consumables. Thus, pregnant women in rural areas apparently had no option but to go to DWHs for C-section services. DWHs themselves faced insufficiency of resources, and were hard-pressed to take the extra load.

- Postnatal Care (PNC) was characterised by lack of documentation regarding post-partum health check-ups of the mothers and the newborns. Further, the immunization status of 69 *per cent* newborns in hospitals and at least 13 *per cent* in CHCs was not available on record, thus implying poor monitoring of neonatal health. This is indicative of the inadequacy of comprehensive PNC, with an emphasis on a series of check-ups during pregnancy but not after it.

- High stillbirth rates of 2 to 2.4 *per cent* were observed in the test-checked hospitals/CHCs against the average of 1.6 *per cent* for Uttar Pradesh. While the reasons for stillbirths were not available on record, these high rates were a sign of poorly managed ante-natal care and delivery process.

- Neonatal deaths were not recorded at all in the CHCs and majority of the hospitals, thus compromising the ability to seek continuous quality improvement towards neonatal health.

On the outcome indicators evaluated, DWHs Allahabad, Banda and Gorakhpur underperformed the most compared to the other test-checked hospitals.

- In DWH Banda, the combined Leave against Medical Advice (LAMA) & Absconding rate was at a very high level of 82 *per cent* while the average length of stay was the lowest at just more than a day, thus indicating less than satisfactory clinical care of patients. Pertinently, this hospital had below average availability of resources.

- DWH Gorakhpur had significantly low Bed Occupancy Rate as well as the highest LAMA & Absconding rate (95 per cent), indicating poor service quality despite low patient load. DWH Allahabad performed poorly on outcome indicators despite higher than average availability of human resources and equipment, indicating ineffectual management.

Recommendations

Concerted efforts to reduce the very high infant and maternal mortality rates should focus on achieving a greater level of consistency and performance by - strengthening the timeliness, adequacy and quality of Antenatal Care services

[1] Some CHCs have been upgraded to First Referral Units (FRU-CHCs) to equip them for providing delivery of emergency obstetric care to pregnant women with complications.

in the CHCs; ensuring that all DWHs and CHCs have a well-equipped facility for abortion care, management of RTI/STI, handling C-section deliveries; and intra-partum care is impactful through augmentation of essential resources as well as providing a clinically safe environment; and, meticulous monitoring of the delivery of prescribed postpartum care towards minimizing adverse pregnancy outcomes, so that women and newborns reach their full potential for health.

Infection control

Infection control practices were not sufficiently embedded in the functioning of a large number of hospitals and all CHCs since they lacked even standard operating procedures (SOPs)/checklists for hygiene and infection control; disinfection and sterilisation of medical tools, instruments and equipment in the hospitals and CHCs was mostly limited to boiling and autoclaving, whereas a large number of hospitals and CHCs lacked chemical sterilisation and high level disinfection facility.

SOPs for housekeeping were not available in a majority of the hospitals and all CHCs; cleaning services, despite outsourcing, were not of a satisfactory level in several hospitals; reports of surface/air/hand swab tests were not prepared in almost all hospitals/CHCs, signalling lack of oversight on the part of the hospital administration in ensuring adequate decontamination of functional areas.

Laundry services were also highly inadequate as there was a shortage/non–availability of 13 to 19 types of prescribed linen items in the hospitals; bed sheets were not changed nor soiled linen collected on a daily basis in several hospitals and CHCs; outsourcing partners did not adhere to the agreement conditions in respect of providing the requisite washing equipment, collection of dirty linen in covered trolleys and its pre-bleaching, provision of coloured bags to separate soiled and dirty linen *etc*., increasing the vulnerability of patients to hospital acquired infections.

Further, monitoring of the disposal of bio-medical waste was extremely weak since most of the hospitals and CHCs did not shoulder the responsibility of submitting annual reports to the State Pollution Control Board; the daily collection of the waste was not done in at least 13 Hospitals/CHCs during 2017-18, up from seven such hospitals/CHCs in 2013-14; staff were not trained in handling the waste in all the CHCs as well as a majority of the hospitals, putting them at-risk of contamination; and none of the hospitals had an Effluent Treatment Plant, escalating the hazards of poor disposal of the waste.

Recommendations

A culture of infection control management should be embedded in the hospitals through - strict adherence to National Quality Assurance Standards; effective implementation as well as documentation of pest/rodent control and sterilisation procedures; adequate availability of clean linen to thwart the spread of hospital acquired infections; rigorous conduct of microbiological surveys to monitor air/surface infections; and, active surveillance regarding

adherence to Bio-Medical Waste Rules 2016 to identify any potential issues for reducing the spread of infectious diseases.

Drug management

The Department did not provide an unbroken supply of drugs as per its own Essential Drug List (EDL) which prescribed 498, 809 and 859 drugs for the CHCs, DHs and DWHs/JHs, respectively. Only a portion of the drugs under the EDL were procured ranging between 06 and 34 per cent, 03 and 24 per cent, 07 and 42 *per cent* in the DHs, DWHs/JHs and CHCs, respectively, during 2016-17 and 2017-18.

Stock out of at least 30 days was observed during the year 2017-18 for more than 50 *per cent* of the drugs procured in DH Agra, DH Allahabad, DH-II Allahabad, DH Balrampur and DH Gorakhpur. Due to non-procurement of the full range of drugs as per EDL, even the vital drugs for IPD, OT, ICU, emergency and maternity services were not available in the hospitals.

Further, the CMOs and CMSs did not assess the requirement of drugs as per EDL or prepare drug formulary on the basis of disease patterns and inflow of patients in the hospitals to support the selective procurement of drugs. However, they took recourse to copious procurement of drugs through local purchase without ascertaining reasonableness of prices, ensuring quality assurance or putting on record the justification warranting, in view of any emergent situations, such local purchases.

There was lack of publicity of Notice Inviting Tenders, thus Rate Contracts for only 83 drugs (2016-17) to 371 drugs (2014-15) from the EDL could be concluded during 2013-18. The details of the capacity of the bidders was not ascertained nor were the quantity of drugs to be supplied by the bidders mentioned in the NITs. In the absence of these vital parameters, production capacity of the firms was not evaluated, leading to delay/non-supply of drugs in several cases.

The Department also did not actively restrict unsafe or ineffective products which is critical to patient safety. There were major deficiencies in the system of drug storage in the test-checked hospitals and CHCs. Quality assurance of the drugs procured was ignored as a bulk of the drug supplies were accepted without quality test reports issued by National Accreditation Board for Testing and Calibration Laboratories, while drug testing through Drug Controllers was minimal.

Overall, the weak supply chains for procurement of essential medicines and lack of reliable access to safe and effective drugs, potentially exposed patients to financial hardships and diminished public trust in the health system.

Recommendations

It should be ensured that a formulary of drugs is prepared by each hospital on the basis of disease patterns and inflow of patients, the EDL updated accordingly and the eventuality of stock-out of required drugs forestalled. The Department should enter into rate contracts for all drugs under EDL to ensure consistency in prices as well as quality of the drugs supplied. Storage of drugs

under conditions prescribed in the Drugs and Cosmetics Rules 1945 to maintain their efficacy should be ensured, before being administered to the patients. The free drug distribution initiative of the State Government should be underpinned by the careful maintenance of ward-wise drugs stock book, records of daily distribution of drugs and OPD drugs slips in each hospital, towards ensuring its effective implementation.

Building infrastructure

Leveraging positive health outcomes from augmentation and improvement of health infrastructure was stymied on account of

- the tardy pace of construction of hospital buildings in the State with 361 works sanctioned during 2013-18 yet to be completed, despite an overall shortage of 38 *per cent* beds in district hospitals and a 47 *per cent* shortfall of CHCs;
- non-operationalisation of newly completed hospital buildings with, for instance, eight out of the 12 works completed during 2013-18 in the test-checked hospitals/CHCs yet to achieve functional status for want of human resources and equipment, even after a lapse of one month to 32 months from the date of handover of these buildings; and
- faulty maintenance of existing buildings, stemmed from non-preparation by CMOs and CMSs of building maintenance plans as per the stipulated norms and periodicity as well as records of building-wise annual maintenance of hospitals/CHCs, and inadequate control of management over maintenance issues.

Recommendations

The Department should as quickly as possible operationalise every newly constructed hospital or a medical facility within its premises, by dovetailing the provision of required human resources and equipment at the planning stage itself. Further, maintenance management of hospitals buildings should be strictly monitored to ensure a conducive environment in the hospitals.

What has been the response of the Government?

While providing general response regarding efforts being made at their level, the Government have agreed with the recommendations and assured to take necessary action to improve the system.