F. Public hospital governance in India

A case study on the All India Institute of Medical Sciences, New Delhi

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Abstract

The specific purpose of this case study on the All India Institute of Medical Sciences (AIIMS), New Delhi, is to increase the understanding of how policy reforms linked to social and economic changes in India affect the governance and performance of publicly owned hospitals.

In India, health is primarily a state subject. In principle, the public health care subsystem is a three-tier structure comprising primary, secondary and tertiary facilities and the predominant source of public financing is general tax (both direct and indirect taxes) and non-tax revenues (e.g. service charges, fees, grants, rent, etc.) made up of central funding from the Ministry of Finance as well as revenues raised by the state governments. However, the system is far from balanced in its primary, secondary and tertiary components and out-of-pocket expenditure by individual households constitutes 60–80% of total health expenditure across states. In the last two decades, the private health sector has emerged as a major service provider (nearly 80% of total outpatient and 60% of total inpatient care).

AIIMS, established in 1956, is considered India’s premier public-sector medical institution. It has undergone numerous adaptive responses to become the largest public sector, tertiary-level teaching hospital, with dual patient care roles: (i) a specialized referral hospital; and (ii) a large general hospital in the country, growing from nearly 750 beds in 1970s to 2328 beds in 2013. From the early 1970s to 2013, the bed occupancy rate decreased from around 95% to about 80%. Outpatient department attendance rose from around half a million people annually in the early 1970s to 2.75 million in 2012–2013. Nearly 55% of outpatients come from outside Delhi, reflecting their trust in the quality of care provided by the Institute at subsidized rates (the cost to inpatients is less than US$ 1 per day and treatment for those below the poverty line is free).

The level of AIIMS’ autonomy has changed over time. Originally accountable only to Parliament, today the Government of India has much closer control over AIIMS. Accountability mechanisms have also become broader and more complex since the People’s Charter and the Right to Information Act were issued, improving transparency. The Government is replicating the model and establishing other AIIMS-like institutions in different parts of the Union. This case study further confirms the fact that hospital performance is substantially influenced by hospital governance, which is in turn related to external and internal environments.
Acronyms and abbreviations

AIIMS  All India Institute of Medical Sciences
CHC  community health centre
CPA  Consumer Protection Act
GDP  gross domestic product
MHC  maximum handling capacity
MOHFW  Ministry of Health and Family Welfare
NRHM  National Rural Health Mission
OOP  out-of-pocket
OPD  outpatients department
PHC  primary health centre
PMSSY  Pradhan Mantri Swasthya Suraksha Yojana
RTI  right to information
WHO  World Health Organization
1. Introduction

Given the complexity of the country, this introduction is intended to provide a basic description of the country and its health system. For the case study proper, the reader is referred to Section 2.

1.1 Country context

India is the world’s largest democracy, the second most populous country in the world (1.21 billion people according to the 2011 census), and the eleventh largest economy, with a gross domestic product (GDP) of US$ 1.842 trillion in 2012 (World Bank, 2013). India has undergone extraordinary socioeconomic and demographic changes since independence in 1947, the detailed analysis of which exceeds the scope of this case study. With a meagre 2.4% of the world’s total area, India supports 17.5% of the world’s population. It is, in many ways, a unique country, comprised of 29 states of varying populations (from 0.6 million in the hilly state of Sikkim to almost 200 million in Uttar Pradesh), and six union territories. Population density (382 people per km²) also varies widely – Arunachal Pradesh having a sparse population of 17 people per km² compared to the capital city, Delhi, with more than 11 000 people per km². The urban population has almost doubled, from 17.3% in 1951 to 31.2% in 2011.

India is undergoing a complex process of change. Between 1980 and 2010 its Human Development Index improved by 1.6% annually from 0.320 to 0.519 and yet the Index ranks the country 119th out of 169 countries with comparable data. Although life expectancy at birth increased to 65 years in 2009 (a gain of eight years since 1990) it remains comparative low. Also, despite years of economic development (annual GDP growth rates in the years 2004 to 2011 range from 6.8% to 9.6%) and policies focusing on areas most in need, poverty remains concentrated in certain states and inequalities in terms of purchasing power parity have increased (WHO Country Office for India, 2012). Enormous inter-state differences in health status remain; for instance, there is an 18-year difference in life expectancy between Madhya Pradesh at 56 years and Kerala at 74 years (Balarajan,
2011); and a difference of 44 per 1000 in infant mortality rates between Madhya Pradesh at 56 and Kerala at 12 per 1000 live births (Government of India, 2013).

Under the Constitution of India, health is historically a state issue. The central government retains aspects of policy-making, planning, guiding, evaluating and coordinating the different provincial health authorities and also provides funding to implement national programmes, but the states are responsible for running their own health care. One of the seminal health policy and planning documents, the Health Survey and Development Committee Report also known as the Bhore Committee Report (Bhore, 1946) was published before Independence. The Committee recognized the vast rural–urban disparities in India’s health services and developed its plan specifically with the rural population in mind. In 1961, the Planning Commission of India proposed increasing hospital beds and organizing hospitals’ outpatient departments (OPDs) into polyclinics to provide much of the treatment. It also encouraged establishing convalescent homes and dharamshalas (guesthouses) near hospitals to help reduce pressure on hospital inpatient facilities. Nearly twenty years later, however, the 1983 National Health Policy rated health services development as “urban oriented and curative” and brought the focus back to a “comprehensive public health system” with a primary health care approach (MOHFW, 1983). The health sector came under the Consumer Protection Act 1986, which provided a mechanism for redressing grievances.

As per the recommendations of the Bajaj Committee Report (1987), resources were provided during the early 1990s to set up the Education Commission for Health Sciences. Then, in early 1990s, a liberalization–privatization process enabled the entry of the corporate sector in health. This saw some states providing subsidized land, water and electricity to private entrepreneurs to set up tertiary care/super-specialty institutions on the condition that they would provide outpatient and inpatient care free to people below the poverty line. In response, several non-resident Indians and industrial/pharmaceutical companies set up super-specialty hospitals. The strategy, however, had serious policy omissions: (i) a failure to establish a robust regulatory framework and accreditation processes for governing the private sector; (ii) an absence of a surveillance and epidemiological system, resulting in poorly designed health interventions;
and (iii) inadequate investments in developing skilled human resources (National Commission on Macroeconomics and Health, 2005).

India’s ninth Five-Year Plan (1997–2002) highlighted the absence of primary health care and the complete reliance on secondary and tertiary services even for minor ailments in urban areas (Planning Commission, 1997). It recognized the growing demand for complex, costly diagnostic and therapeutic modalities as well as the lack of staff, equipment and consumables to meet demand. Thus the National Health Policy 2002 focused on the greater involvement of the private sector in public health delivery through public–private partnerships and outsourcing, in addition to the introduction of social insurance packages. The policy centred on regulating the private health sector through statutory licensing and the monitoring of minimum standards (MOHFW, 2002).

The All India Institute of Medical Sciences (AIIMS), established in 1956, is considered India’s premier public-sector medical institution. It has undergone numerous adaptive responses to become the largest public sector, tertiary-level teaching hospital. The Government of India launched the National Rural Health Mission (NRHM)\(^\text{27}\) in 2005 aimed at strengthening state health system with a special focus on reproductive and child health and disease control programmes. The Pradhan Mantri Swasthya Suraksha Yojana (PMSSY)\(^\text{28}\) launched in March 2006 aimed to correct the imbalances in the availability of affordable/reliable tertiary health services and augment facilities for quality medical education in the country. Under the scheme, the Government established six AIIMS-like institutions and proposed the upgrading of 13 existing government medical colleges in the first phase. This will be followed by two more AIIMS-like institutions and the upgrading of six more medical colleges in the second phase. There is a third phase of PMSSY, which intends to strengthen a few additional medical colleges in India. In addition, the non-contributory publicly funded Rashtriya Swasthya Bima Yojna was initiated in 2008 by the Ministry of Labour and Employment, Government of India, to provide health insurance coverage for families living below the poverty line.

\(^{27}\) http://nrhm.gov.in

\(^{28}\) http://pmssy-MOHfw.nic.in
Such events affect the vast majority of workers in the unorganized sector, including agriculture. In recent years, a number of states have also started to fund health insurance schemes using public money, to ensure the higher availability of funds and the sharing of risks within their respective populations.

1.2 Public health subsystem

By design, the public health care subsystem in India is a three-tier structure comprising primary, secondary and tertiary facilities. The primary tier includes three types of institutions, namely: a sub-centre for populations of 3000–5000 people; a primary health centre (PHC) for 20 000–30 000 people; and a community health centre (CHC), which acts as a referral centre, covering populations of 80 000–120 000 people. District hospitals function in turn as the secondary tier for rural health care and as the primary tier for the urban population. Tertiary health care is provided by institutions in urban areas and is equipped with sophisticated diagnostic and therapeutic facilities. Though the primary- to tertiary-level facilities (as shown in Figure 1) are expected to function as a well-coordinated referral mechanism (with provision for back-referral), in reality, patients often self-select themselves to any of these facilities. This is best exemplified by AIIMS; although it is an apex tertiary institution conceived primarily for referral cases, yet nearly 20% of its cases (as in Figure 4) are in reality walk-in patients.

Figure 1: Public health subsystem in India

Source: Asia Pacific Observatory on Health Systems and Policies; authors’ synthesis
As of March 2012, the country had 148,366 sub-centres, 24,049 PHCs, 4,833 CHCs and 11,993 hospitals, but there were huge disparities across states and districts and between the urban and rural populations. Overall, India currently has about nine beds per 10,000 people and there is a shortfall of almost 23% of sub-centres, 26% of PHCs and 40% of CHCs (Government of India, 2012).

Including all public- and private-sector human resources, there are 3.8 allopathic\textsuperscript{29} doctors, 2.4 nurses and 8 health workers per 10,000 people in India (Rao et al., 2011) and public health facilities face a variable shortage of health staff (6.5 doctors, 10 nursing and midwifery personnel, 0.8 dentists, 5.4 pharmacists and 0.5 community health workers per 10,000 people (WHO, 2013). Approximately 80% of doctors, 75% of dispensaries and 60% of hospitals are located in urban areas, whereas nearly two thirds of India’s population still lives in rural areas.

The 12th Five-Year Plan (2012–2017) along with a number of recent publications (e.g. Reddy et al., 2011; Desai et al., 2010) also acknowledge ample room for improvement in health financing in India, which features low revenue collection, improper funds pooling and relatively low government spending. The primary source of public financing is general tax and non-tax revenues. Central funding is provided by the national Ministry of Finance to the Ministry of Health and Family Welfare (MOHFW) within each union, and to states based on the recommendations of the Planning and Finance Commissions. State governments also raise their own tax and non-tax revenue through sales tax, value added tax, property tax, etc. The squeeze on public health spending coupled with the low population coverage of health insurance schemes (5.4% coverage) and modest benefit package, has forced people to rely on out-of-pocket (OOP) health expenditure. OOP constitutes between 60–80% of total health expenditure across states. Fragmented resource allocation by both central and state governments completes the picture.

Figure 2 shows that at 3.7% of GDP and 28% of total health expenditure, the proportion of India’s public spending on health is very low, compared

\textsuperscript{29} That is, practitioners of conventional medicine, rather than traditional Indian medicine.
to other countries with a similar development status and the current global averages of 9.2% and 58.9%, respectively.

**Figure 2: Health care expenditures (total, public and private) in India and selected countries, 2013**

- Total expenditure on health as % of GDP
- Public health expenditure as % of total expenditure on health
- Private expenditure on health as % of total expenditure on health

![Health care expenditures chart](chart)

**Source:** WHO, 2013

In the 12th Five-Year Plan, the allocation for health increased by 335%, with the health expenditure of the central government increasing from around 0.9% of GDP in the 11th Plan to 1.87% by 2017 (Planning Commission, 2012). The 12th Five-Year Plan aims to achieve universal health coverage through the government’s various schemes, such as Rajiv Aarogyasri Community Health Insurance Scheme and Rashtriya Swasthya Bima Yojana, etc. In 2013, the Government approved a National Urban Health Mission – a sub-mission under the over-arching National Health Mission, which currently has service funding, organization and delivery at different stages of development (MOHFW, 2013).

### 1.3 Private health sector

At the time of Independence, the private health sector provided only 8% of all health services, but in the last two decades has grown exponentially to emerge as the major service provider (nearly 80% of total outpatient and 60% of total inpatient care). As reported by the World Bank in 2001, approximately 93% of all hospitals, 64% of beds and 82% of doctors are in the private sector (World Bank, 2001), which contributed 70% of new beds between 2002 and 2010. During this period, the proportion of private
sector beds to total beds increased from 49 to 63%. Today, the private sector accounts for 80% of the market in India – the highest proportion in the world and worth US$ 23.72 billion, up from US$ 19.21 billion in 2006 (Gudwani et al., 2012).

The private health sector consists of the not-for-profit and for profit sectors. The not-for-profit sector includes nongovernmental organizations, charitable institutions, missions, trusts, etc. The for profit sector comprises different types of practitioners and institutions including general practitioners, super-specialists, consultants, nurses and paramedics, licentiates, registered/rural medical practitioners and unqualified providers. Private facilities range from clinics, polyclinics, dispensaries and single-bed nursing homes to large corporate hospitals, medical colleges, physiotherapy and diagnostic centres, blood banks, etc.

Until recently, only a few states had legislation for private hospitals, but many are now in the process of enacting them. Despite the setting up of a National Accreditation Board for Hospitals and Health-care providers, aimed at improving quality of health care on voluntary bases, the number of accredited facilities remains very low. The demand for accreditation has increased lately through medical tourism, and by the insistence of health insurance companies and third-party administrators for reimbursement purposes. The Janani Suraksha Yojana Scheme (JSY) under the NRHM has made accreditation mandatory for private health-care facilities wishing to participate in institutional deliveries. In 2010, the Government of India enacted the Clinical Establishment (registration and regulation) Act aimed at implementing regulations and quality assurance, but to date the Act had only been implemented by a few states and union territories.

2. **AIIMS governance and performance**

2.1 **Historical overview**

When India became independent in 1947, the country only had 20 medical schools with an annual intake of about 1200 students. Realizing the scarcity of trained health workers, the Bhore Committee recommended that an all-India medical institute should be established immediately to ensure quality medical education, research and patient care. It was intended that doctors could get a high standard of medical education and research without going
abroad. A world-class institution in the fields of medical education, research and patient care, AIIMS was intended to excel in postgraduate courses, demonstrating high standards to all other medical colleges in India.

The initial funding for setting up AIIMS was provided by the Government of New Zealand under the Colombo Plan (a regional organization that embodies the concept of collective inter-governmental effort to strengthen economic and social development of member countries in the Asia Pacific region with a primary focus on human resource development). Technical, training and financial assistance came from the Rockefeller Foundation. The Institute was established in 1956 with a large measure of autonomy through the All India Institute of Medical Sciences Act, 1956, which provides for framing rules by the central government and specific regulations by AIIMS with government approval (AIIMS, 1956). The Central Civil Services (Conduct) Rules 1964 and Central Civil Services (Classification, Control and Appeal) Rules 1965 apply to AIIMS employees pertaining to their conduct, discipline and penalties. The Public Accounts Committee of the Parliament of India regularly audits AIIMS and its functions. The Comptroller and Auditor General, Central Vigilance Commission and other government bodies also regularly audit AIIMS either suo moto or when specifically requested by the Government of India. India’s first Department of Hospital Administration was set up in AIIMS in 1962, performing duties aimed at efficient and effective hospital performance including risk assessment and management strategies.

AIIMS has gone through many adaptive responses to become one of the largest public sector hospitals in the country, expanding from nearly 750 beds in 1970s to 2280 beds today (Figure 3). These are distributed as follows: main hospital 1052 beds; Cardiothoracic and Neurosciences Centre 423; Dr B.R. Ambedkar Institute Rotary Cancer Hospital 180; Dr Rajender Prasad Centre for Ophthalmic Sciences 302; Jai Prakash Narain Apex Trauma Centre 203; Centre for Dental Education and Research 20; National Drug Dependence Treatment Centre 50; and the Comprehensive Rural Health Services Project, Ballabhgarh, Haryana 50.
The increase in beds at AIIMS was largely due to the rapid growth of the newly established centres and growing clientele. There has been a corresponding transformation of AIIMS into a tertiary-level teaching hospital with dual patient care roles: (i) a specialized referral hospital; and (ii) a large general hospital. In addition, OPD attendance rose from around half a million annually in the early 1970s to 1.2 million in the late 1990s, and further to 2.75 million in 2012–2013. In its 2009 Report, the Valiathan Committee – which was constituted by the Government of India to study the functioning of AIIMS, New Delhi, and make recommendations for further development of the Institute – suggested an expansion of the OPD at AIIMS as a temporary reprieve and recommended that the OPDs of four other medical colleges in Delhi should also be expanded to draw away 8000 patients a day, thus reducing the pressure on the OPD at AIIMS (Valiathan Committee, 2009).

AIIMS interacts constantly with other hospitals, for example, with around 30 other government networked hospitals with reverse-referrals – referrals of patients from higher level hospitals to lower level hospitals – in cases of infectious diseases and certain other conditions (e.g. burns, plastic surgery). It also provides outreach services to 90 000 people at Ballabgarh in the nearby state of Haryana through the Comprehensive Rural Health Services Project. In addition to preventive, promotive and curative services, the project provides community ophthalmology, demographic surveillance...
and community-based research. A National Surveillance Unit (NSU) for Blindness operates out of the Dr R.P. Centre for Ophthalmic Sciences, while AIIMS provides technical support and supervises the network of sentinel centres (data collection sites on cataract surgery outcomes) in many states. The World Health Organization (WHO) has supported the development of a Management Information System at NSU related to blindness in the country (Vashist et al., 2012).

Figure 4 shows an analysis of providers referring OPD patients to AIIMS and indicates that 47% of all patients the come from private practitioners (25%) or as un-referred cases (22%). Only 16% of patients come from public health care institutions, possibly indicating an ineffective referral mechanism as well as rather inefficient primary and secondary health services.

**Figure 4: Referral sources of AIIMS patients, 2011**

Source: Study on Patient Profile of AIIMS conducted by the Department of Hospital Administration, AIIMS (2011)

The enactment of the Consumer Protection Act (CPA), 1986, increasing public empowerment, followed by the Right to Information (RTI) Act, 2005, increasing health-care institutions’ accountability, have led to an increase in responsibility for patients while making health services more transparent. A fall-out of the CPA is the increasing tendency of private-sector health-care institutions in India to play it safe, so as to reduce the possibility of litigation. This has resulted in greater referrals of complicated cases to
public hospitals, including AIIMS. The expert opinion of AIIMS doctors is also increasingly sought by consumer courts – special-purpose courts that deal with cases regarding consumer disputes and grievances.

While accepting the deficiencies due to extreme patient-load and limited resources, the Citizen Charter provides a framework through which users are aware of the services that are available in the hospital, the quality of those services and the way complaints regarding denial or poor-quality services are redressed. AIIMS has been, perhaps, more vulnerable to RTI findings due to its stature, media glare and patient-load but is responsive to feedback, though these efforts are resource-intensive.

### 2.2 Financial framework

The annual budget for AIIMS, provided by the central government, has increased commensurate with patient-load and health-care technology development. The raise from US$ 0.6 million in 1972 to US$ 173 million in 2011–2012 also mirrors India’s GDP increase as seen in Figure 5. Notably, even on occasions when the Government of India’s health-care outlay has fallen, allocation to AIIMS has continued to rise. Every year, the AIIMS Annual Report is tabled in Parliament. AIIMS submits its budgetary estimates to the Standing Finance Committee, which then submits it to the MOHFW. The Ministry of Finance allocates the annual budget for health to the MOHFW, which sanctions the funding for AIIMS as per the estimates submitted. This process is same for all centrally funded health-care institutions in the country.
AIIMS maintains a master account of all funds received from any source. Its annual statement of accounts is subject to internal audit and by external audit by the Comptroller and Auditor General of India. The audited account is forwarded annually to the central government and then laid before the Parliament for approval. The Standing Finance Committee looks into all financial matters and tenders.

The AIIMS budget comprises Plan and Non-Plan components, with the former constituting about one-third of the total annual budget. AIIMS also receives funds through other resources, including:

- **Intramural resources:**
  - hospital receipts (revenue receipts)
  - patient treatment accounts

Income generated by revenue receipts is only 8.87% of the allocated budget and is excluded from the Demand for Grants forwarded to the Ministry of Finance.

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30 Plan components represent expenditure, which has to be planned and approved for each scheme or organization by the Planning Commission and indicates the extent to which such outlays are met out of budgetary provisions. Non-Plan expenditure is that which does not need to be approved every year (i.e. staff salaries).
• **Extramural resources (from governmental and nongovernmental agencies and individuals)**
  - grants for specific research projects
  - donations
  - poor-patient and patient treatment funds

Figure 6 depicts the budgetary allocations to AIIMS main hospital and centres, with main hospital having nearly half the Institution’s beds and receiving 62% of the budget.

**Figure 6: AIIMS budgetary allocation, 2010–2011**

![Pie chart showing budget allocation]

JPNA: Jai Prakash Narayan Apex

### 2.3 Governance factors

AIIMS makes autonomous decisions at institutional level leading to actions that are then duly implemented. The autonomy of AIIMS dates back to 1956 when the Union Health Minister stated in his speech in the Lok Sabha (Lower House of Parliament) that, “Subject to such minimum control as the Government of India may exercise through its rule-making powers, the Institute will enjoy a large measure of autonomy in order that it may fulfil the objectives... The Government of India will, of course, make itself responsible for providing adequate funds for the maintenance of the institute... The future of the Institute will lie ultimately in the hands of the Directors, the Professors and other members of the teaching staff and students...” (Rajya Sabha Secretariat, 2008).
Another facet of its autonomy relates to medical education and the move to keep this independent of the Medical Council of India, which does not recognize certain foreign medical qualifications. This would have resulted in the “disqualification” of several AIIMS faculty members who went on to establish their own departments during the Institute’s early years.

The decision-making structure of AIIMS has a top management authority called the Institute Body, with seventeen members. The All India Institute of Medical Sciences Act, 1956 provides that, “there shall be a President of the Institute who shall be nominated by the central government from members other than the Director of the Institute” (AIIMS, 1956). The President also acts as chairperson of an eleven-member Governing Body, functioning under the Institute Body as an executive authority. The Director of AIIMS is the Chief Executive Officer who acts as the Member Secretary to the Institute Body as well as to the Governing Body. The Director-General of Health Services, MOHFW is ex-officio member of the Institute Body. While in the early years, there were non-ministerial people serving as President, growing political pressure on public authorities resulted in the Union Health Minister being nominated as President since 1965.

There are also five standing committees: Finance Committee; Hospital Affairs Committee; Academic Committee; Estate Committee; and Selection Committee. There are also two Deans – the Dean of Academics and the Dean of Research – heading the academic and research programmes, respectively.

The formation of the specialty and super-specialty centres led to a certain delegation of authority to the Chiefs of these centres, initially designated as the “chief organizers”. The centres enjoy semi-autonomous status within the administrative framework of the Institute Body and Governing Body, with the various standing committees aligning the objective of the centre with the overall organizational goal.

The AIIMS grievance redressal mechanism has an eight-member committee and is accountable to the patients and taxpayers. It also plays a role in medical negligence investigations and negotiations with the trade unions. This mechanism – mandated to meet twice a year – also addresses the grievances of the faculty, residents, students and staff.
Efforts to ensure employee satisfaction at AIIMS include information dissemination through circulars and mechanisms for feedbacks. Information generated from the within the system (i.e. Infection Control Committee reports and maximum handling capacity studies) is forwarded to the appropriate department in order to make relevant operational changes.

The 1960 Employee Health Scheme provides access to the medical and health-care facilities for all employees of the Institute, including those on deputation. Family members can also gain access on a contributory basis that is paid monthly. The Scheme has also been extended to resident doctors, students and temporary employees.

### 2.4 Management and technical capacity of AIIMS

AIIMS plans its staffing requirements based on its patient-load, teaching and research requirements, independent of the Medical Council of India’s Minimum Standard Requirements for Medical Colleges. However, the Seventh Report of the Public Accounts Committee (2004–2005) observed that in 2000 there were only 324 faculty members in AIIMS against a sanctioned strength of 471 (MOHFW, 2005). The sanctioned strength was also increased to 823 in 2011–2012, after some delays due to legal proceedings. AIIMS faculty members increased from 195 in 1972–1973 to 628 in 2011–2012; and non-faculty members from 4701 in 1987–1988 to 9312 in 2011–2012.

Each faculty is required to perform adequately in patient care as well as in academic and research areas. Annual confidential reports are raised for each faculty and similar mechanisms exist for other employees, including those employed under outsourced services. AIIMS recently introduced the Assured Promotion Scheme – a time-bound assured career progression initiative – in accordance with Government of India regulations to enable high employee morale, but with appropriate checks in place, such as a minimum number of research publications, annual performance appraisal, etc.

The Centre for Medical Education and Technology was established for conducting training and development programmes and providing
technology-based educational facilities to the staff and students. A telemedicine facility has also been established for remote consultation and educational purposes. Many departments within AIIMS are established WHO collaborating centres and two departments are ISO certified: the Department of Hospital Administration and the Centre for Community Medicine (CRHSP).

The AIIMS Result Framework Document (AIIMS annual reports) is a measure of the performance of the departments and has two purposes: firstly, to shift the focus from process-orientation to results-orientation, and secondly, to provide an objective basis from which to evaluate the department’s performance. The document incorporates all three components of education, research and patient care.

2.5 **AIIMS performance**

An AIIMS study has measured the Institute’s performance in terms of clinical effectiveness and efficiency through the average length of stay and average bed-occupancy rates. As Figure 7 shows, the average length of stay has significantly decreased from 18 days in 1972–73 to 5.5 days in 2012–13. Adherence to the standard operations procedures for infection control, a shift towards short-term and day-care based surgeries, and technological advances are likely to have contributed to this reduction. However, this result should be viewed in the context of other departments where the average length of stay is inherently higher, for example, neurosurgery, orthopaedics, pulmonary medicine and geriatric medicine. Further, the bed-occupancy rate was brought down by 2012–2013 to near the globally acceptable level of 80% (Figure 8).
In its efforts to be patient-centric, an around-the-clock pharmacy has been set up in the AIIMS premises to provide quality medicines at affordable rates for AIIMS prescriptions. The vendor currently offers a 56% discount for all medicines and surgical consumables. A package system has been developed by AIIMS for surgical procedures, especially cardiac and neurosurgical procedures with the costs determined by studies conducted.
By the Department of Hospital Administration (Singh et al., 2006). The package system enables patients to arrange their finances and make a one-off payment. It has also improved accountability. Recently, a prepaid cash-card system, introduced in the cardiothoracic and neurosciences centre, has enabled patients to pay for investigations and treatment by swiping the card at various portals, thus avoiding long queues.

As shown in Figure 9, nearly 60% of patients admitted at AIIMS have a monthly family income of less than 10 000 Indian Rupees (US$ 200) indicating their dependence on publicly funded health care. To address the requirements of poor patients at AIIMS, India’s National Illness Assistance Fund contributed US$ 2.2 million, in addition to allowing the exemption of levy charges for more than 2200 patients. Over 4500 patients considered below the poverty line were exempt from all treatment charges in 2012, as mandated by the Government (AIIMS Annual Report 2012).

Figure 9: Family income per month of inpatients (US$), YEAR (2011)

Source: Study on Patient Profile of AIIMS conducted by the Department of Hospital Administration, AIIMS (2011)

Remarkably, despite this subsidized treatment, 75% of admitted patients had to make OOP payments (Figure 10).
As 70% of AIIMS patients come from outside Delhi, three dharamshalas (guesthouses) have been established nearby to provide accommodation for patients and family members at nominal cost. A railway reservation facility at AIIMS provided travel concessions for about 7,000 patients in 2012. A branch of the national bank is also available.

The educational status of patients admitted to AIIMS in 2011 is given in Figure 11 and shows that more than 60% of them are educated above primary school level, indirectly reflecting their awareness of the facilities available at AIIMS.

Source: Study on Patient Profile of AIIMS conducted by the Department of Hospital Administration, AIIMS (2011)
The results of three patient satisfaction studies carried out by AIIMS over 15 years (1996–1997, 2006–2007 and 2011–2012) shown in Figure 13, reflect an increasing level of satisfaction on most dimensions, a notable achievement in light of the increasing workload, a more discerning clientele, and the availability of private-sector hospitals.

Source: Study on Patient Profile of AIIMS conducted by the Department of Hospital Administration, AIIMS (2011)

Source: Study on Patient Satisfaction at AIIMS conducted by the Department of Hospital Administration, AIIMS (2012)
The three most common reasons for dissatisfaction – i.e. quality of food, hygiene of washrooms and linen – have shown significant improvement over the years. However, satisfaction with regard to the behaviour of doctors has declined from 96% to 89%, probably reflecting the increased workload and decreased consultation time (Comstock et al., 1982). Patient satisfaction is also related to the maximum handling capacity (MHC)\(^\text{31}\) of an OPD. As seen in Table 1, doctors at AIIMS see more patients than double their MHC in some departments.

### Table 1: Average OPD patient load per day vis-à-vis maximum handling capacity (MHC) in selected departments of AIIMS, 2008–2009

<table>
<thead>
<tr>
<th>Department</th>
<th>MHC per day</th>
<th>Average patient-load per day</th>
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<tbody>
<tr>
<td>Paediatrics</td>
<td>140</td>
<td>250</td>
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<td>Surgery</td>
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<td>215</td>
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<td>Neurosurgery</td>
<td>51</td>
<td>167</td>
</tr>
</tbody>
</table>

Source: Study on Maximum Handling Capacity of Select Departments at AIIMS conducted by Department of Hospital Administration at AIIMS, 2008–2009

Figure 13 shows that the proportion of patients from outside Delhi admitted by AIIMS increased to nearly 55% in 2011–2012 and these increasing numbers could have contributed to the identified need for establishing AIIMS-like institutions across India.

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31 The MHC of an OPD is the maximum patients who can be effectively examined by doctors per day without compromising the quality of care and is calculated with the formula: Total OPD time = Total no. of patients x time per patient = (Total no. of directly referred patients x time taken per referred patient) + (Total no. of directly referred patients x time taken per direct non-referred patient) + (Total no. of follow-up patients x time taken per follow-up patient). The number of patients handled per OPD will be determined by multiplying this value by the total number of doctors available per OPD day.
Figure 13: State of origin of patients admitted to AIIMS, 2004–2005 and 2011–2012

![Bar chart showing state of origin of patients](chart.png)

<table>
<thead>
<tr>
<th></th>
<th>2004-05</th>
<th>2011-12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Delhi</td>
<td>53.7%</td>
<td>45.2%</td>
</tr>
<tr>
<td>Uttar Pradesh</td>
<td>16.1%</td>
<td>22.4%</td>
</tr>
<tr>
<td>Haryana</td>
<td>11.3%</td>
<td>10.5%</td>
</tr>
<tr>
<td>Punjab</td>
<td>0.8%</td>
<td>0.5%</td>
</tr>
<tr>
<td>Rajasthan</td>
<td>1.9%</td>
<td>1.7%</td>
</tr>
<tr>
<td>Bihar</td>
<td>7.3%</td>
<td>11.2%</td>
</tr>
<tr>
<td>Other states</td>
<td>0.1%</td>
<td>8.0%</td>
</tr>
<tr>
<td>Other countries</td>
<td>0.1%</td>
<td>0.3%</td>
</tr>
</tbody>
</table>


A multi-hospital patient safety study in Delhi was conducted in 2010 with respect to hand hygiene practices in operation theatres. It showed that hand hygiene compliance at AIIMS (85%) is comparable to three leading private-sector hospitals (80–87%) and much better than two other public hospitals (68% and 70%).

Another AIIMS study assessed employees’ satisfaction (see Figure 14). This showed that 85% of lower and middle level employees had high overall satisfaction, despite being paid less than their colleagues. The overall satisfaction of consultants was 60% followed by technicians (58%), nurses (52%) and resident doctors (52%). However, the study showed that in terms of their work environment, doctors (consultants 24% and residents 22%) were the least satisfied.
3. Lessons learnt and conclusion

India’s uniqueness is also reflected in its health system. In short, relationships between stakeholders and between the different levels of care in India have affected hospitals and health care in general, sometimes in rather unexpected ways. While, for example, more resources, information, technology and doctors etc. have brought improved quality and choice in recent years, as the economic situation of the country improved, they have also made governance more complex. This has been accompanied by an extraordinary development of private-sector health-care providers and a change in the role played by some hospitals – AIIMS being a most illustrative example. A “Then (1969–1970) and Now (2013)” macro-analysis of AIIMS showing the relationships between external and internal factors as well as AIIMS governance is given in Table 2.
Table 2: Summary-analysis of factors related to AIIMS governance in 1969–1970 and 2013

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>1. Primary mandate</td>
<td>Education, research, and patient care, in that order. Developing patterns of teaching in medical education to demonstrate a high standard of medical education to all other medical institutions in India.</td>
<td>The focus on education continues while the research component has increased manifold. Increase in patient load over the decades has resulted in allocation of a large proportion of resources for patient care.</td>
</tr>
<tr>
<td>2. Patient care</td>
<td>Referral institution</td>
<td>Referral and general institution</td>
</tr>
</tbody>
</table>
| 3. Organizational behaviour | a) Centralized, close-knit and smaller institute.  
b) Outsourcing not mandated.                                                                                                                                                                                           | a) Partial decentralization due to emergence of various centres and super-specialties.  
b) Beginning with security services in 1980s, many services including sanitation have been outsourced. Accountability and responsibility frameworks have shifted. Interaction of permanent employees with contracted staff is complex. |
| 5. Accountability     | Primarily to Parliament through the MOHFW.                                                                                                                                                                                                                           | To Parliament, MOHFW, various regulatory bodies and to the public at large through laws including the RTI and CPA.                                                                                                                       |
| 6. Role of the Govern- | Providing adequate funds. Minimal control                                                                                                                                                                                                                        | In addition to funding, exercising control over policy-making, performance auditing and accountability.                                                                                                                             |
Table 2: Summary-analysis of factors related to AIIMS governance in 1969–1970 and 2013 (cont.)

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>7. Relation to external environment</td>
<td>Considered primarily for research and education.</td>
<td>An institute for rendering accessible and affordable, quality patient care.</td>
</tr>
<tr>
<td>(i) Patients’ perspective</td>
<td>Few private hospitals to match the quality of AIIMS, thereby having no direct effect on functioning of AIIMS.</td>
<td>Affluent patients have, to an extent, been largely attracted by private hospitals. However, the continued respect of AIIMS doctors results in second opinions being sought at AIIMS and, sometimes, patients initially treated at private hospitals are transferred to AIIMS due to untreatable complications or spiralling costs. Yearly attrition rate of doctors in AIIMS is nearly 5.5%. The attrition of nurses is higher due to better opportunities abroad (and, to a lesser extent, due to the private-sector boom in India).</td>
</tr>
<tr>
<td>(ii) Private hospitals and increased paying capacity of the consumer</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Limiting factors for growth</td>
<td>Limited funding, scarcity of trained staff, lack of technology, absence of global networking.</td>
<td>Land, limitations in infrastructure, complex administrative processes, older systems hindering modernization, growth of medical science, and attrition.</td>
</tr>
<tr>
<td>9. Patient demographics</td>
<td>Limited to patients from Delhi and referral cases from other parts of country.</td>
<td>Large influx of patients from Delhi, neighbouring states and countries.</td>
</tr>
</tbody>
</table>

Source: Asia Pacific Observatory on Health Systems and Policies

The AIIMS Act mandates the Institute a role as an apex tertiary care, research and medical education centre in which patient care plays a supportive role. However, over the years, the pressures of an inadequate primary and secondary health-care system in the country, compounded by the absence of a structured referral system, has gradually led to the diversion of a substantial amount of AIIMS resources into patient care services – namely education and research.

Over that period, the functioning of the AIIMS has gradually shifted from a purely “referral” role to a “referral and general” role. Having started as
a single centralized Institute, AIIMS has branched out with a number of super-specialty, secondary and even (almost) primary care centres within its framework, supported by budgetary allocations and necessitating adjustments to autonomy at different levels. Limitations in funding and the availability of trained staff have been crucial factors in the present growth of AIIMS and need to be resolved in order for it to continue to fulfil expectations.

This case study on the evolution of AIIMS from a governance perspective highlights that AIIMS as a hospital was given the mandate to develop itself, enabled by its autonomy, and provide clinical and academic leadership. In order to become efficient, however, AIIMS has often had to make its own space; and, as a result, many changes have taken place, as much a matter of need as a matter of design. The level of its autonomy has also changed over time – the Institute was originally accountable to the Parliament only but is now more closely controlled by the Government. In tandem, the accountability mechanisms have become broader and more complex and other mechanisms – such as the People’s Charter and RTI – ensuring accountability have been introduced.

It is interesting to note how AIIMS has managed to cope with its increasing workload while still maintaining and even improving quality, efficacy and efficiency in patient care services. Various factors have contributed to this achievement, the most important being the highly qualified and motivated faculty, staff and students. The ability of AIIMS to attract and retain the best of the medical profession in India could be attributed to the Institute’s reputation and central location with connectivity by rail, road and air. The trust afforded by politicians and officials, together with its proximity to India’s political power centre, could also have enabled the Institute to make quick decisions, bypassing numerous bureaucratic hurdles.

The existing semi-autonomous governance structure at AIIMS has served it well since its inception in 1956. However, there have been increasing demands for its revamp, including greater stakeholder participation in decision- and policy-making, i.e. the adequate representation of the faculty, staff and students in the Governing and Institute Bodies as well as insulation from the political environment, performance-based appraisal,
etc. These measures would enable the Institute to continue to attract and retain the best talent from across the globe. This is even more pressing in the current health care scenario, where the private-sector has grown manifold and is beginning to act as a counter-magnet to AIIMS and similar medical institutions in India. The Government is replicating the model and establishing other AIIMS-like institutions in different parts of the Union, which means both recognizing the validity of the model and ending the uniqueness of the original scheme.

In conclusion, AIIMS cannot be studied as an entity separate from the health system of India. Instead, the performance of AIIMS is strongly related to a number of institutional arrangements in addition to its own managerial and governance arrangements. It is evident that any attempt to develop health services in India should take into account how the service delivery institutions are interconnected and how they are organized internally. AIIMS is a robust health-care institution with reasonable autonomy to achieve its objectives, but it needs to adjust its relationships with other components of the health system both at state and national level by restoring its referral status in the hierarchy of the public health system in India; instead of just becoming another walk-in tertiary care hospital like many others in the country. This shall also enable enhanced focus on research and education at AIIMS, which over the years has been overshadowed by the ever-increasing patient care load and demands.

Finally, this case study further confirms the fact that hospital performance is substantially influenced by its governance, in turn related to its external and internal (managerial) environment.
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Public hospital governance in India
