

**P. H. RAO\***

## **The Private Health Sector in India: A Framework for Improving the Quality of Care**

---

### **Introduction**

The private health care system in India has grown vastly over the years and is well established and flourishing. At the time of Independence, the private health sector accounted for only 5 to 10 per cent of total patient care. In 2004, the share of private sector in total hospitalized treatment was estimated at 58.3 per cent in rural areas and 61.8 per cent in urban areas. In the case of non-hospitalized treatment, government sources account for only 22 per cent in rural areas and 19 per cent in urban areas (Planning Commission, 2008: 68–69). Data from the National Family Health Survey (NFHS) III also confirms that the private medical sector remains the primary source of health care for the majority of households in urban (70 per cent) as well as rural areas (63 per cent). Private doctors or clinics are the main source of care in the private sector, catering to 46 per cent of the urban and 36 per cent of the rural households (IIPS and Macro International, 2007: 436).

Micro-level studies also depict a similar picture. In Haryana, a majority of chest symptomatics (75 per cent of the male patients and 75 per cent of the urban patients) obtained care from the private sector (Grover, Kumarm and Jindalm, 2006). For outpatient care, 77 per cent went to private sources in Kerala (Levesque et al., 2006). Slum dwellers in Indore sought outpatient care predominantly from the private sector (Islam, Montgomery and Taneja, 2006). In Dehradun, only 25 per cent of the elderly went to a government source for medical care (Kaushik, 2009). A study of six states reported that the proportion of people who went to private health facilities was high, varying between 63 and 83 per cent in three North Indian states (Iyengar and Dholakia, 2011).

---

\* CEO, Center for Symbiosis of Technology, Environment & Management (STEM), Bangalore (e-mail: drphrao1954@gmail.com).

### *Why and How the Private Health Sector Bloomed?*

A weak government health care delivery system, coupled with the poor quality of care (QoC) offered by it, is a major contributing factor to the growth of the private health care system. Other important factors are discussed below.

#### *Government Policies*

The National Health Policy, 2002, seeks to increase the availability and coverage of health services by encouraging private investments so as to establish an integrated network of evenly spread specialty and super-specialty services (MoHFW, 2002). The National Population Policy, 2001, advocates a partnership between non-government voluntary organizations and private sector organizations, including corporate houses (Planning Commission, 2001) to achieve the goals envisaged. The National Rural Health Mission (NRHM) envisages the participation of the private sector to ensure that the states make full use of the health care providers available in remote regions, and to also encourage better utilization of publicly owned health facilities (MoHFW, 2005: 79).

#### *Indirect Government Support*

The Government of India (GoI) offers a number of financial concessions to corporate hospitals in the form of subsidized sale of land, reduced import duties and tax concessions for medical research (Baru, 2000). Other benefits received by the private sector include reduced utility charges, discounted or free land, and low-interest loans (Chakraborty, 2003). Gradually, health care has emerged as a blue-chip industry, attracting individual as well as institutional investment. Domestic and foreign companies have also come forward to set up tertiary care/super-specialty hospitals.

Narayana (2003) argues that in Andhra Pradesh, the private sector has outgrown the public sector through the direct and indirect patronage of the state government. Private corporate hospitals receive huge amounts of public funds in the form of reimbursements from public sector undertakings and the state and central governments (e.g., the Central Government Health Scheme CGHS) for treating their employees. Private hospitals are replacing rather than complementing public hospitals by weaning away resources from government hospitals, he laments. Under the Rajiv Gandhi Arogyasri scheme implemented by the Andhra Pradesh government, about Rs. 800 crore (89 per cent of the premium) went to private hospitals; and each of the 768 private obstetricians

who participated in the Chiranjivi scheme of the Gujarat government earned on an average Rs. 10 lakh (CII and HOSMAC, 2011: 36–39).

Given the huge presence and significant share of the private health care delivery system (PHCDS) in the total health care scenario of the country, the quality of care (QoC) provided by this sector is an important factor in achieving the nation's health goals. The following section presents the status of QoC in PHCDS.

### **Quality of Care in the Private Sector**

According to the World Health Organization (WHO), quality of care (QoC) is “...proper performance (according to standards) of interventions that are known to be safe, that are affordable to the society in question, and that have the ability to produce an impact on mortality, morbidity, disability, and malnutrition (Roemer and Montoya-Aguilar, 1988: 54).” The US-based Institute of Medicine's Committee to Design a Strategy for Quality Review and Assurance in Medicare defines QoC “as the degree to which health services for individuals and populations increase the likelihood of desired health outcomes and are consistent with current professional knowledge (Lohr, 1990: 21).”

WHO (2006) recommends that a health system should strive to make improvements in six dimensions—namely, (a) effective (adherence to evidence base and results in improved health outcome), (b) efficient (maximize resource use and avoid waste), (c) accessible (timely and geographically reasonable), (d) acceptable/patient-centered (takes into account individual preferences), (e) equitable (does not vary in quality due to factors such as gender and socio-economic status) and (f) safe (minimizes risk and harm)—in order to improve the quality of care. Bruce (1990) offered a framework for assessing QoC from the client's perspective. It consists of six elements: namely, (a) choice of methods, (b) information given to clients, (c) technical competence, (d) interpersonal relations, (e) follow-up and continuity mechanisms, and (f) the appropriate constellation of services.

A systems framework comprising three types of indicators, namely (a) structure (inputs), (b) process and (c) output and outcome, is most widely used for evaluating QoC. Structure/inputs include infrastructure, manpower, drugs, equipment, etc. The processes relate to safety, cost effectiveness and timeliness of interventions. The output and outcome refer to cure and relief from disease, mortality, disability and patient satisfaction. However, Donabedian (2005) cautions that the inherent relationship—i.e., inputs ensure that the processes are carried out, yielding the desired outputs/outcomes—may not always hold.

The private health care delivery system (PHCDS) in India is made up of two major subsystems: namely, (a) individual practitioners and (b) institutions (nursing homes and hospitals). The majority of the individual practitioners in the country, in both the modern and traditional systems of medicine, are in the private sector. They are often referred to as private medical practitioners (PMPs). Hospitals in India comprise: (a) for-profit hospitals and nursing homes, (b) corporate hospitals and (c) not-for-profit NGO and missionary hospitals. During the last two decades, the number of private hospitals has significantly increased, especially corporate chains like Apollo, Fortis, Max among others.

However, the majority of private sector hospitals are small establishments. A census of health facilities in Udaipur district pointed out that 94 per cent of inpatient facilities have only four beds, on an average (ARTH, 2005: 12). As per the city-level reports of Northbridge Capital, an investment bank, out of an estimated 250 private hospitals in Hyderabad, about 150 have less than 50 beds; only 15 hospitals have more than 200 beds (Butala, 2010a: 8). In Pune, out of an estimated 240 private hospitals, 132 have less than 50 beds, while only 10 hospitals have more than 200 beds (Butala, 2010b: 8). According to the Nursing Home Cell of the Delhi Government, there were about 700 private hospitals in the city as on 31 March 2011. About 85 per cent of them have less than 30 beds ([http://delhi.gov.in/wps/wcm/connect/doiit\\_health/Health/Home/DHS/Nursing+Home+Cell](http://delhi.gov.in/wps/wcm/connect/doiit_health/Health/Home/DHS/Nursing+Home+Cell)).

### ***Private Medical Practitioners (PMPs)***

Factors influencing the quality of care provided by private medical practitioners are described in the sections below.

#### *Inputs*

A vast majority of PMPs in the country are unqualified and lack proper training, especially those in rural areas. Yet, they freely prescribe allopathic medicines (Ashtekar, Mankad and Raimane, 2004; Rao, 2005). Some of them do not have any medical or para-medical training (Banerjee, Deaton and Duflo, 2004). A survey of private health care providers in Delhi (Das, 2001) showed that 41 per cent are unqualified, indicating that this phenomenon is not limited to rural areas.

Clearly, the competency of PMPs in India is highly questionable. A study on the disease management practices for acute respiratory infections (ARI) in under-five children among private health care providers in rural West Bengal found that the technical quality of care provided by them is inadequate and is

attributed to their poor technical competence (Chakraborty and Frick, 2002). Using vignettes (hypothetical conditions), coupled with direct observation of practice, Das and Hammer (2004) observed that the competence necessary to recognize and handle common and dangerous conditions is quite low among PMPs in Delhi. There is tremendous variation in the competence necessary to recognize and handle common and dangerous conditions; and even when the providers know what to do, they often do not implement it. In Delhi, private health care providers visited by the poor were found to be less knowledgeable than those visited by the rich, indicating inequalities in access (Das and Hammer, 2007a).

### *Process*

However, PMPs score high on access and often are the first choice of contact, especially in rural India. According to the NCEAR household survey data, in 1994, the private sector (traditional, qualified and unqualified) accounted for 49 per cent of the providers accessed for three common ailments (diarrhoea, cold and cough and fever) (Duraismy, 2001: 18). In Karnataka, PMPs were the most common choice (average 65 per cent; range 44–93 per cent) for persons with chest symptoms—the reasons being proximity to home, convenient working hours and a perception of good quality care. For subsequent visits also, PMPs continued to be preferred—the averages being 59 per cent and 44 per cent for the second and third visits (Nair et al., 2002: 42). In Andhra Pradesh, the vast majority (90 per cent) of women opting for allopathic treatment for their infertility problems chose a private practitioner or a private hospital (Unisa, 2001: 168). In rural Uttar Pradesh, women who experienced abortion complications generally first sought care from untrained or inadequately trained providers in their village (Johnston et al., 2003). According to Das and Hammer (2007a: 342), there are 70 medical care providers within 15 minutes walking distance for every household in Delhi.

Compared to practitioners in the government-run hospitals, PMPs are more patient-centric, offer acceptable services, and enjoy the confidence and trust of the patients, winning their loyalty and word-of-mouth promotion in turn. Many private sector facilities offer poorer patients free or less expensive care, discount prices, free samples of medicines, deferred payment plans, and payment in-kind, paving the way to their popularity (Chakraborty, 2003).

### *Output and Outcome*

The safety of patients is often put at risk due to the irrational practices of PMPs, such as prescribing antibiotics and fluids, indiscreet use of intravenous (IV)

fluids—even by those who have no formal training or qualification. In diseases like tuberculosis, such practices give rise to drug resistance and adverse drug reactions. Ganguly, Deshmukh and Garg (2008) observed that PMPs in Wardha do not wash their hands after examining patients, which greatly increases the chance of cross-infections.

Due to irrational practices, the cost of care also goes up. Ashtekar, Mankad and Raimane (2004: 41) found that poorly skilled private doctors in rural areas used injections of potentially harmful Oxytocine in the case of home births and charged anywhere between Rs. 50–100 per shot. Das and Hammer (2007b) commented that urban India pays a lot of “Money for Nothing” in the private health sector as there is a lot of expenditure on unnecessary drugs.

On the other hand, in rural Rajasthan, 81 per cent reported that their last visit to a private practitioner made them feel better (Banerjee, Deaton and Duflo, 2004: 949).

### *For-Profit Nursing Homes/Hospitals*

The private sector is generally assumed to be more efficient and quality-conscious. Highly qualified and better-trained physicians and para-medical staff possessing good technical skills are supposed to be the main strengths of private sector hospitals.

### *Inputs*

Mahapatra (2003) observed that compared with the norms stipulated by BSI (a leading international standards body) for infrastructure for 30-bed hospitals, most private hospitals in Andhra Pradesh fell short on indicators such as land area and space per bed. Availability of qualified and trained nursing staff is a common problem faced even by bigger hospitals in the private sector.

Like PMPs, private hospitals and nursing homes also score high on accessibility. Out of 43 wards under the Ahmedabad Municipal Corporation (AMC), 9 wards, covering more than 20 per cent of the AMC population, have no government health facility at all; yet, they have more than 3,500 private health facilities (Ramani, 2006: 4).

Private hospitals tend to be located in cities and towns, with hardly any in the hinterland (Ashtekar, Mankad and Raimane, 2004). However, Muraleedharan and Nandraj (2003) argue that because of better accessibility in terms of the distance and timings of the hospitals, responsiveness to patients, and the dismal

quality of health services in the public sector, the private sector is patronized in spite of the poor quality of care.

### *Process*

The technical quality of care depends on the competence of the personnel involved and adherence to clinical protocols and standard treatment guidelines. While the accredited hospitals ensure both, in the case of non-accredited private hospitals, technical QoC is suspect.

The safety of patients in private sector hospitals has been found to be adversely affected. Unnecessary surgeries for the removal of fibroids and gall bladder and deliveries through caesarian sections are common among doctors in private hospitals. A WHO survey of nine countries, including India, China, Japan, Nepal and Sri Lanka, during 2007–08, reported that the proportion of caesarian section births had gone up beyond the recommended level of 15 per cent—not “because of an immediate medical need for it but due to financial gains (<http://www.themedguru.com/20100120/newsfeature/who-most-c-section-births-india-unnecessary-86131865.html>).” The total caesarean section (CS) rate in private sector hospitals was more than twice that in the public sector hospitals in Chennai (Sreevidya and Sathiyasekaran, 2003). Doctors and hospitals earn much more money from a CS than from a vaginal delivery. High CS rates financially benefit doctors, hospitals and health care industries (Mukherjee, 2006). Patients in private hospitals were 14 times more likely to incur an expenditure of more than Rs. 15,000 as compared to those in government hospitals, and the difference amongst them was statistically significant (Bhasin et al., 2007: 223). The private sector justifies such interventions by a convenient interpretation of gray areas, accuses Kaur (2002).

The high cost of inpatient treatment in the private sector raises the issue of affordability and also equity. On an average, it is much higher compared to treatment in government hospitals. According to NSSO 60<sup>th</sup> round, in 2004, the average medical expenditure on account of hospitalization in rural areas was Rs. 3,238 in government hospitals and Rs 7,408 in private hospitals. The corresponding figures for urban areas were Rs. 3,877 and 11,553, respectively (Planning Commission, 2008: 69). According to the World Bank (2001: 156), more than 40 per cent of all the patients admitted to a hospital in India have to borrow money or sell assets, including inherited property and farmland, to cover their medical expenses; and 25 per cent of farmers are driven below the poverty line by the costs of their medical care.

### *Output and Outcome*

Enhancing patient satisfaction is the ultimate goal of improving the quality of care. In Uttar Pradesh, almost all the patients interviewed expressed their willingness to go back to the same private hospital or practitioner if they subsequently needed medical care; and were willing to recommend these hospitals and practitioners to family members and others (Chakraborty, 2003). A recent study of patient satisfaction in Bangaluru (Hosmac Foundation, 2009) recommended that private hospitals should lay emphasis on the timely provision of services. They should also invest in staff training and capacity building to deliver more patient-friendly and technologically sound services.

### *Not-for Profit/Missionary Hospitals*

Some NGO organizations, like L.V. Prasad Eye Institute in Hyderabad, offer high-quality equitable care even in an environment of limited funding, with a 1:1 ratio of paying and subsidized patients (Samandari et al, 2001).

### **Factors Influencing Quality of Care**

Various factors influencing the quality of care in the private health sector are discussed in this section.

### *Inputs*

*Education:* Medical and para-medical colleges in the private sector—which have mushroomed during the last decade with inadequate infrastructure and a lack of qualified faculty—provide the main input, namely trained manpower, to the private health care system in India. A report commissioned by the Maharashtra government revealed that most of the private medical colleges in the state did not have adequate infrastructure, staff or facilities. Even when teaching beds were available, the patients were found to be missing during inspections (Kumar, 2004). Similarly, in Andhra Pradesh, a number of private medical colleges and nursing institutions which have been established lack the required staff and infrastructure to train personnel. This will negatively impact the quality of training imparted to medical and para-medical personnel (Baru, 2000). The poor quality of manpower, the main input of health care provision, is a major contributor to the poor quality of PHCDS.

*Competency Building:* Continuing medical education (CME) is necessary to keep the doctors up to date about the latest drugs, equipment and medical practices. The Medical Council of India (MCI) formulated a code of ethics in

2002 stating that members should complete 30 hours of CME every five years in order to re-register as doctors. Only about 20 per cent of the doctors in India have complied with the code, as it is not legally binding. Efforts to bring in legislation (amendment to the Indian Medical Council Act, 1956, which governs medical practice across the country) to make adherence to the code mandatory have made little progress. The failure to lobby hard enough by the medical associations, resistance to change by health professionals, and the lack of incentives as well as motivation for attending CME programmes are some of the reasons for the tardy progress (Sarkar and Kumar, 2004). One solution to overcome this legislative barrier is to emulate the example set by the Delhi Medical Council. Representing 24,000 doctors in the capital, the council made it mandatory in 2002 for members to complete 100 hours of CME every five years before they can re-register as doctors.

*Funding:* Comparing foreign-funded hospitals with non-foreign-funded hospitals, Chanda (2007) observed that the former attract quality doctors, have good facilities, and hence are better equipped to offer quality care. However, the author of the study warns that this is likely to have an adverse effect on the quality of care offered by the non-corporate players.

### ***Process***

*Standards and Guidelines:* Clinical protocols, standard operating procedures (SOPs) and standard treatment guidelines (STGs) help to maintain and improve the quality of care. PMPs do not have access to updated standard protocols for the management of common ailments; hence the quality of care they provide is often sub-optimal (Planning Commission, 2002). Maintenance of standards is extremely ad hoc and depends on the owner's/manager's personal discretion in small nursing homes, which are often family run. These nursing homes generally do not have written protocols, relying instead on their own inspection and practice (Ensor and Dey, 2003). In Andhra Pradesh, only about 50 per cent of the large hospitals and 19 per cent of the small hospitals/nursing homes reported using written medical protocols and therapeutical guidelines (Mahapatra, 2003: 350). There are no prescribed standards for the private health sector, similar to the Indian Public Health Standards (IPHS) prescribed by the government for public hospitals.

*Accreditation:* The practice of accreditation ensures that hospitals have specified infrastructure and systems in place, which are expected to help these hospitals deliver high quality care. In India, accreditation is a voluntary act. As of February

2012, there are 17 hospitals in India with JCI accreditation. (Joint Commission International, is a leading health care accreditation agency in the United States.) Of these, 9 have obtained re-accreditation (<http://www.jointcommissioninternational.org/JCI-Accredited-Organizations/#India>). As of June 2011, 73 hospitals have been accredited by the National Accreditation Board for Hospitals and Healthcare Providers (NABH), the Indian accreditation agency, and 426 are at different stages of accreditation. While 7 small health care organizations have received NABH accreditation, 112 have applied for hospital status ([http://www.qcin.org/nabh/hospitat\\_accre/appli\\_nabh\\_acc.php](http://www.qcin.org/nabh/hospitat_accre/appli_nabh_acc.php)). The demand for accreditation is spurred by emerging new markets, like medical tourism, and the insistence by health insurance companies and third-party administrators for the purpose of reimbursement. The Janani Suraksha Yojana (JSY) of the Government of India, under the National Rural Health Mission (NRHM), has also made accreditation mandatory for private health organizations wishing to participate in order to promote quality and encourage institutional deliveries (MoHFW, 2005: 12, 39).

Does accreditation ensure quality of care and lead to improved outcomes? Wockhardt Hospital in Bangalore, under JCI accreditation implementation, achieved noteworthy decreases in the monthly rate of ventilator-associated pneumonia (from 17 to 7); surgical site infections (from 3.25 to 0.9); hospital-associated urinary tract infections (from 15 to 4) and blood stream infections (from 19 to 3) during the period May 2007 to May 2008 (Cooper, Helfrick and de Silva, 2009). Indraprastha Apollo Hospital in Delhi reduced medication errors by 78 per cent, and its revenue grew by 20 per cent in the six months after it received international accreditation from JCI ([http://johnpunnoose.com/yahoo\\_site\\_admin/assets/docs/Indraprastha\\_Apollo\\_Hospital\\_-\\_Delhi\\_-\\_India.30354104.pdf](http://johnpunnoose.com/yahoo_site_admin/assets/docs/Indraprastha_Apollo_Hospital_-_Delhi_-_India.30354104.pdf)). The Apollo Hospitals Group, with 8,000 beds across 47 hospitals (7 accredited by JCI, 2 by NABH) performed over 7,600 cardiac surgeries during 2009–10 with a 99.2 per cent success rate (Apollo Hospitals, 2010: 18).

*Medical Tourism:* Cost-effectiveness and timely and quality care are the mainstays of Indian hospitals, which created the new market of medical tourism. Corporate hospitals like Apollo and Wockhardt, and private medical college hospitals like Sri Ramachandra and others with accreditation from Joint Commission International enjoy a good reputation among the citizens of the US, the UK and other developed countries. These hospitals offer timely and cost-effective treatment, coupled with relaxation techniques, a value addition to medical care, helping the patient to recuperate faster. India's National Health

Policy declares that the treatment of foreign patients is legally an “export” and deemed “eligible for all the fiscal incentives extended to export earnings (MoHFW, 2002:).” Government and private sector studies in India estimate that medical tourism, which is growing by 30 per cent a year, could bring anywhere between US\$ 1 billion and US\$ 2 billion into the country by 2012 (Gupta, 2004). How this booming sector will affect access to affordable and quality care by Indian patients in the long run remains to be seen.

*Health Insurance and TPAs:* By insisting on acceptable standards for doctors as well as hospitals, health insurance companies can improve the quality of care provided by the private sector (Mahal, 2002). The health segment contributed 21.12 per cent of the total premium in 2009–10 (IRDA, 2010: 43). In February 2012, 18 private insurance companies, including three stand-alone health insurance companies, were offering health insurance. The health insurance premium of private companies grew from Rs. 539.59 crore in 2005–06 to Rs. 3421.92 crore in 2009–10. The share of the private sector grew from 24.3 per cent to 41.2 per cent during this period (ibid.). The number of beneficiaries of private health insurance is estimated at 50 million in comparison to 247 million under various government-sponsored schemes (Public Health Foundation of India, 2011: 26). Health insurance in India suffers from a high claims ratio, which increased from 105.95 per cent in 2008–09 to 111.13 per cent in 2009–10. The private sector has a relatively lower claims ratio than the public sector, which also showed an increase from 85.33 per cent during 2008–09 to 92.22 per cent during 2009–10 (IRDA, 2010: 28).

Analyzing private health insurance schemes in India, Vellakkal (2009) observed that since health insurance schemes are less profitable and also a high risk-oriented business, it is difficult to ensure universal and equitable coverage. He suggested that IRDA should compel insurance companies to provide sufficient incentives to insurance agents for promoting the sale of health insurance (HI), especially to low-income households and also encourage non-profit entities like self-help groups to sell HI. It was also recommended that free or subsidized HI might be provided initially to low- and middle-income households to break the barrier, which may be withdrawn gradually.

The principal role of third-party administrators (TPAs) is to ensure an hurdle-free claims process for those who have purchased HI. The number of claims handled by 27 TPAs licensed by IRDA increased from 24,46,713 in 2008–2009 to 33,65,940 during 2009–2010—an increase 37.6 per cent. However, the proportion of claims cleared within one month decreased from 75.5 per

cent to 69.8 per cent (IRDA, 2010: 48). The role of TPAs so far has been not impressive in terms of improving the quality of care provided by the network of hospitals and exercising cost control (Pillai, 2006). If TPAs are to continue, this situation needs to be rectified. Max BUPA, an important player in health insurance in India, has recently done away with TPAs and projects this as their USP.

In its report on health insurance, FICCI (2010) has come out with a useful framework consisting of 12 quality indicators for periodical reporting. The report also addresses the issue of essential criteria for empanelment and the incentive/disincentive mechanism to be used by the insurance industry to promote quality in health services.

Community-based health insurance schemes have an interesting record in India. An impact evaluation of the Yeshasvini scheme (Aggarwal, 2010) reported that health care utilization, surgical interventions, financial protection, satisfaction levels and the ability to go back to work after treatment is higher among the insured compared to those who are not insured. Cesarean sections were lower among the insured members. Comparing the hospitalization rates of the insured and the non-insured, Devadasan et al. (2010: 151) infers that community-based insurance schemes have been successful in increasing access to health care. The proportion of patients with major ailments admitted to hospitals was 65 per cent among those insured compared to 44 per cent among those un-insured, which was statistically significant at 95 per cent.

Public-private partnerships (PPP) are proving to be successful in health insurance in India. The Government of Andhra Pradesh is implementing Rajiv Arogyasri—a social insurance scheme in PPP mode via a trust—to improve access to quality care for the below poverty line (BPL) population of the state. The trust has prescribed a number of standards for private hospitals and nursing homes participating in the scheme to ensure quality of care. It has also instituted a mechanism to receive feedback directly from the patients who received care (Arogyasri Health Care Trust, 2008: 12–13). The scheme increased access to quality health services, especially to tertiary care, including corporate hospitals, and reduced catastrophic spending (Mitchell, Mahal and Bossert, 2011). However, its ability to reduce the financial burden of illness on BPL households within AP's current health system structures is limited. Arogyasri has been successful in reducing the disease burden (IIPH, 2009). It is also cost effective. By spending only Rs. 12,000 million, Rajiv Arogyasri provided coverage to 85 per cent of the population of the state during 2009–10, whereas CGHS,

which covered about 3 million population, spent nearly Rs. 16,000 million (Public Health Foundation of India, 2011: 11). Since its inception in April 2007, more than one million surgeries (1,062,181) have been conducted, 1,216,705 inpatients have been admitted, 2,806,864 outpatients have been treated (as on 16 February 2012; <https://www.aarogyasri.org/ASRI/index.jsp>). The share of women and children in surgeries/therapies during the year ending March 2009 was 56.05 per cent, which is a good indicator of equity ([www.rd.ap.gov.in/Health/AarogyaSree\\_PPT.pdf](http://www.rd.ap.gov.in/Health/AarogyaSree_PPT.pdf)). There is a great need for a formal evaluation of the outcomes of this scheme, such as cure rate, decrease in disability and mortality, and improvement in the quality of life.

*Social Franchising:* Social franchising is a potential model for improving the quality of care among PMPs and small nursing homes and clinics. A social franchise in Bihar comprising a network of Titli (Butterfly) centres, run by the NGO Janani, proved successful in improving the quality of care offered by the PMPs. Besides training, other enabling factors include visits every three months by monitors to evaluate cleanliness and the availability of basic equipment; selecting only RMPs with literate wives; use of WHO protocols for syndromic infections; heavy media promotion of the Janani logo (Gopalakrishnan et al., 2002). Population Services International (PSI) has set up a franchise of 701 Key Clinics, putting in place various quality assurance mechanisms (Montagu et al., 2009), which have demonstrated that quality care and services can be cost-effective.

*Public-Private Partnerships (PPP):* The main objective of PPP in health is to improve the quality of care by creating synergy between the strengths of the public and private systems. PPP is one of the important strategies of the National Rural Health Mission for achieving health goals (MoHFW, 2005). With a favourable policy environment in place, a number of PPP initiatives in the health care sector were launched in India during the period 2005–11. Notable among them are: (a) management of primary health centres (PHCs) by NGOs, (b) PPPs in national health programmes like Directly Observed Therapy Short Course (DOTS) in the Revised National Tuberculosis Control Programme (RNTCP), and (c) private gynaecologists in Reproductive and Child Health (RCH) Programme/Janani Suraksha Yojana (JSY).

Sugganhalli PHC, run by Karuna Trust, an NGO, recorded an improvement in health outcome indicators, which compare favourably with state-level indicators (Ghanashyam, 2008). For 2006, the performance of Sugganhalli PHC on various parameters compares with the state averages as follows: crude birth rate (17.5

vs. 201), crude death rate (4.6 vs. 7.1), infant mortality rate (23.6 vs. 48.0), perinatal mortality rate (9.3 vs. 35.3), neo-natal mortality rate (13.9 vs. 37.1)

Under RNTCP, a public-private mix (PPM)-DOTS project implemented by Mahavir Hospital in Hyderabad, it reported an annual average of successfully treated patients of 530 during the period spanning the last quarter of 1998 and the end of 2002 compared to 373 for the Tuberculosis Unit (TU) in Osmania Hospital, a government teaching hospital. The successful treatment rate was 94 per cent in Mahavir and 83 per cent in Osmania. The average annual number of new smear-positive cases successfully treated was 214 in Mahavir compared to 117 in Osmania. The average cost per patient treated was US\$ 54.3 for Mahavir Hospital compared to US\$ 63.2 for Osmania (WHO, 2004: 25–27).

The Chiranjeevi scheme was implemented by the Gujarat government in five backward districts for the below poverty line (BPL) population of the state during April 2005. Using the PPP model, the scheme established a network of private medical practitioners who provided maternal health services. During the first year of its implementation, the scheme covered 31,641 deliveries. The share of institutional deliveries increased from 38 per cent to 59 per cent. The number of maternal deaths was nil, and infant deaths were 13. The proportion of cesarean sections was less than 5 per cent, which is much lower than the 15 per cent norm (Bhat, Huntington and Maheshwari, 2007: 9).

### *Environment*

The Medical Council of India (MCI), the Nursing Council of India (NCI) and the Pharmacy Council of India (PCI) are the regulatory bodies that monitor education and the registration of respective professionals. The mushrooming of colleges in the private sector and recent anecdotal reports of corruption in the higher echelons of these institutions suggest that these bodies have been ineffective in maintaining educational standards and monitoring the competencies of those registered with them.

Since health is a state subject in India, each state is expected have in place legislative measures, namely, a clinical establishments act and rules, to monitor and regulate private hospitals and nursing homes. Some states introduced such legislation quite some time ago. Notable examples are the Bombay Nursing Homes Registration Act, 1949, and the Delhi Nursing Homes Registration Act, 1953. A number of other states have recently taken steps in this direction. For the purpose of registration, which is compulsory, private medical establishments

in Karnataka are required to adhere to the following standards (Govt. of Karnataka, 2007):

1. The premises housing the private medical establishment should be located in hygienic surroundings and be suitable for the purpose for which it is established or sought to be established.
2. The private medical establishment should be adequately staffed with qualified doctors, and trained para-medical personnel.
3. The private medical establishment should have the necessary buildings with adequate space for performing its various functions, and housing equipment and other infrastructure facilities.
4. The private medical establishment should conform to the standards referred to in Section 9 of the Karnataka Private Medical Establishments Act, 2007.
5. Any other standards as may be prescribed.

In 2006, the Government of India constituted a Working Group on Clinical Establishments, Professional Services Regulation and Accreditation of Health Care Infrastructure for the 11<sup>th</sup> Five-Year Plan. The report of the group (Planning Commission, 2007: 11–12) raised the following concerns relating to enforcement, effectiveness and implementation:

1. Out-of-date legislation, which are cumbersome and irrelevant in the current scenario.
2. Ineffective implementation of relevant laws due to weak regulatory controls.
3. Absence of rules for the implementation of the Clinical Establishments Act, 2010.
4. Ineffective content of rules, which refer only to registration without spelling out standards.
5. Non-coverage of other private institutional providers, such as laboratories and diagnostic centres.
6. No uniformity in the standards specified in the acts enacted by different states.

Mahapatra (2003) asserts that there is widespread support for measures such as registration of hospitals (licensing), registration of doctors, voluntary accreditation, hospital quality assurance procedures, and continuing education programmes for doctors in Andhra Pradesh. However, the Kochi-based

Qualified Private Medical Practitioners' Association (QPMPA) recently decided to legally challenge the implementation of the newly enacted Clinical Establishments (Registration and Regulation) Act, 2010 (<http://valueaddedblog.wordpress.com/2011/05/17/qmpa-to-challenge-implementation-of-newly-enacted-clinical-establishment-bill-2010-in-court-2/>). The Indian Medical Association (IMA) has also decided to oppose its implementation in different cities. Such moves and resistance from the private sector to regulate them further accentuates the problem of ineffectiveness of the state-level legislative measures.

**Future Directions**

Future directions with respect to improving the quality of care provided by PMPs and hospitals to remedy the present situation and help achieve health outcomes are discussed in this section.

***Inputs-Related***

| <i>PMPs</i>   | <i>Nursing Homes and Hospitals</i>   |
|---|--|
| Develop a reliable database on PMPs starting from the district level and building up to the state and national levels.                                | Ensure that only properly qualified and adequately trained medical and para-medical personnel are recruited. |
| Assess competencies and provide certification by bodies like the Indian Medical Association. Stipulate which services PMPs may and may not provide.   | Monitor and ensure that the norms related to infrastructure are complied with.                               |
| Periodically assess the competency of PMPs using techniques like vignettes and verbal case reviews; the gaps identified must be addressed adequately. |  |
| Initiate competency-building measures with appropriate monitoring mechanisms to ensure quality and follow-up.   |  |

***Process-Related***

| <i>PMPs</i>  | <i>Nursing Homes and Hospitals</i>   |
|--|--|
| Improve access to standard treatment guidelines (STGs) for treatment of common diseases                  | Encourage voluntary accreditation by NABH and JCI. Make accreditation mandatory for participation in CGHS, ESCI and PPP initiatives.           |
| Facilitate access to drugs, tests, devices and vaccines provided through national health programmes      | Focus on medical tourism and health insurance, which insists on trained and qualified manpower, infrastructure, equipment and other standards. |
| Use social franchising for capacity building and competence.   | Encourage social franchising, which can bring in new resources, skills, standards, etc.  |
| Make use of public-private partnerships (PPP) initiatives to monitor and provide supportive supervision. | Encourage PPP, which can bring accountability.   |

Encouraging and supporting private hospitals in India to get accreditation is an important enabling mechanism to improve the quality of care. Advocacy can play a great role, and this should be the primary focus of NABH. The autonomous Healthcare Accreditation Council (HAC) was registered on 14 February 2004 in Delhi. It consists of multiple stakeholders with health care providers at the core. HAC officials are of the view that accreditation works better than legislation and self-regulation (Dogra, 2004). Assessing 15 quality indicators in five clinical areas of hospitals in five states in the United States of America, Snyder and Anderson (2005) observed that hospitals which voluntarily participated in the programme of quality improvement organizations (QIO) are more likely to show an improvement on quality indicators than hospitals that did not participate; and hence the latter's improvements cannot be attributed to QIOs.

So far, most of the PPP initiatives undertaken in the health care sector in India had been region-specific and limited in scope. Hence, before trying to replicate schemes that have been successful, they need to be rigorously evaluated. CII and KPMG (2009) have suggested a useful framework for evaluating PPP models in health care, consisting of four quality parameters: namely, (a) effectiveness, (b) efficiency, (c) equity and (d) financial sustainability.

*Environment-Related*

| <i>PMPs</i>   | <i>Nursing Homes and Hospitals</i>   |
|---|--|
| Monitor and improve the quality of medical and para-medical education. The recent move by the government to offer a three-year medical course needs to be properly assessed so that the quality of medical graduates does not suffer. | All the states should promulgate the necessary rules for implementing the Clinical Establishments Act, 2010.   |
| Develop a reliable database on PMPs, starting from the district level and building up to the state and national levels.   | Ensure that all the unregistered entities are registered under the Clinical Establishments Act, 2010. Enable MCI, NCI and PCI to take stringent action against the erring organizations and make them accountable. |
| Facilitate registration of those who are not registered after proper certification by bodies like the Indian Medical Association.   | Formulate standards similar to IPHS for private hospitals.   |
|   | Set up a central body to monitor and maintain uniform standards across states.   |

However Das and Hammer (2007a) argue that training has limited impact on the quality of advice offered by PMPs; they advocate awareness campaigns, which lead to better informed clientele who can demand quality, as a preferred option. Other strategies for improving quality include: (a) consumer education and advocacy, (b) medical councils, (c) self-regulation and (d) provider payments linked to quality (WHO, 2007: 8 and 12). Radwan (2005) suggested a three-pronged strategy for improving the quality of care offered by informal providers in India: namely, mainstream some RMPs, provide training and accreditation, conduct public education campaigns, and use social franchising.

It is also important to encourage dialogue among professionals, trade unions, commerce and trade people, and legislators, so that new and desirable strategies and policies are framed, addressing globalization in the hospital sector (Rafei and Sein, 2001). The most effective strategy probably involves a multi-faceted approach, which may include accreditation schemes, self-regulation by medical

associations, in addition to more conventional further education of private practitioners (Brugha and Zwi, 1998).

### ***Others***

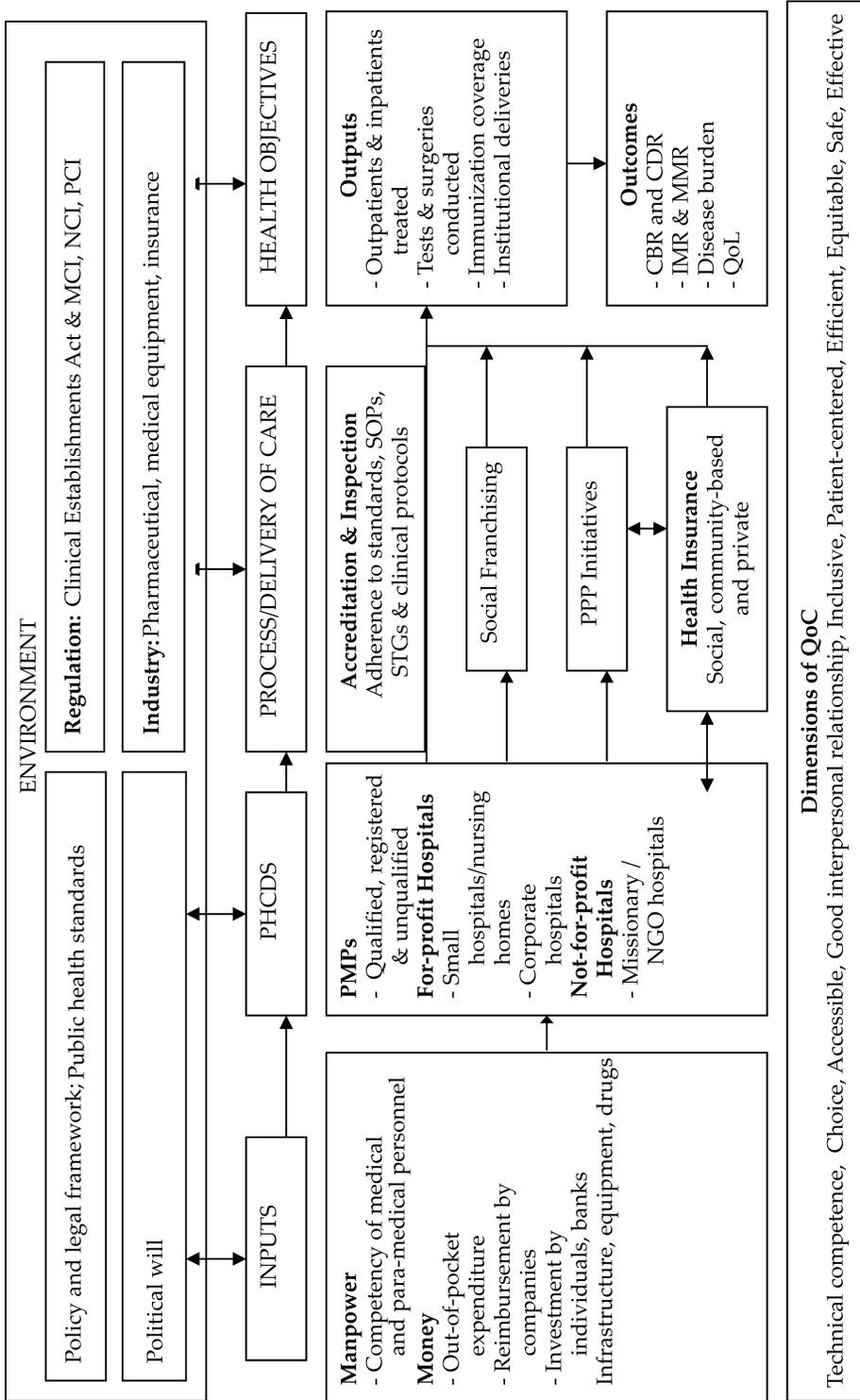
Hospitals and nursing homes need to be set up in such a way that their location is not concentrated in urban areas. Tools like geographical information system (GIS) can be useful in this regard. Ramani (2006) found that Ahmedabad has successfully used GIS for arriving at decisions regarding the appropriate location of new health facilities in the city so as to improve accessibility.

### **Conclusion**

The private health sector in India is fairly large. Its contribution to achieving national health objectives to a large extent is dependent on the quality of care it offers. The private sector has improved access to medical and health care. The quality of care offered by the private health care delivery system needs immediate attention. Improving the quality of medical and para-medical education, capacity building, improving access to standards and guidelines, and encouraging accreditation are some of the measures that can improve QoC. There is also an urgent need for developing an effective mechanism to monitor the quality of care. A centralized system might prove useful in ensuring uniformity in standards adherence as per the prescribed norms as state-level implementation has been found to be lacking.

Based on the above review, a framework for improving the quality of care in the private health sector in India is presented in Figure 1.

Figure 1: Private Health Sector in India: A Framework for Improving QoC



## References

- Action Research and Training for Health (ARTH). 2005. *Census of Health Facilities in Udaipur District, Rajasthan*. February (Available online at: [www.arth.in/.../census%20of%20health%20facilities%20final%20report%2010%20mar%2005.pdf](http://www.arth.in/.../census%20of%20health%20facilities%20final%20report%2010%20mar%2005.pdf).)
- Aggarwal, A. 2010. "Impact Evaluation of India's 'Yeshasvini' Community-Based Health Insurance Programme." *Health Economics* 19 (5): 1–35.
- Apollo Hospitals. 2010. *Annual Report for the Financial Year Ended 31<sup>st</sup> March 2010*. Chennai: Apollo Hospitals.
- Arogyasri Health Care Trust. 2008. "Criteria for Enrolment of Network Hospitals in Rajiv Arogyasri Manual on Surgical and Medical Treatments for Cashless Treatment of BPL Population." Hyderabad.
- Ashtekar, S., D. Mankad, and K. Raimane. 2004. *Child Mortality Determinants in Three Backward Districts of Maharashtra, 2003–2004, Nandurbar, Jalna and Yavatmal: Study Report by BharatVaidyaka Sanstha*. Conducted on behalf of Indira Gandhi Institute of Development Research, Mumbai, January. Nasik: BharatVaidyaka Sanstha.
- Banerjee, A., A. Deaton, and E. Duflo. 2004. "Health Care Delivery in Rural Rajasthan." Poverty Action Lab, Massachusetts Institute of Technology, Cambridge, Working Paper No. 7, February.
- Baru, R. V. 2000. Privatization and Corporatization. *Seminar* 489, May. Available online at: <http://www.india-seminar.com/2000/489/489percent20baru.htm>.
- Bhasin, S. K., O. P. Rajoura, A. K. Sharma, M. Metha, N. Gupta, S. Kumar, and I. D. Joshi. 2007. "A High Prevalence of Caesarean Section Rate in East Delhi." *Indian Journal of Community Medicine* 32 (3): 222–24.
- Bhat, R., D. Huntington, and S. Maheshwari. 2007. *Public–Private Partnerships: Managing Contracting Arrangements to Strengthen the Reproductive and Child Health Programme in India: Lessons and Implications from Three Case Studies*. Geneva: World Health Organization and Ahmedabad: Indian Institute of Management.
- Bruce, J. 1990. "Fundamental Elements of the Quality of Care: A Simple Framework." *Studies in Family Planning* 21 (2): 61–91.
- Brugha, R., and A. Zwi. 1998. "Improving the Quality of Public Health Services: Challenges and Strategies." *Health Policy and Planning* 13 (2): 107–20.
- Butala, N. 2010a. "Hyderabad Hospital Report." May. Available online at: [northbridgeasia.com/ResearchReports/HYDERABAD%20HOSPITAL%20REPORT.pdf](http://northbridgeasia.com/ResearchReports/HYDERABAD%20HOSPITAL%20REPORT.pdf)
- . 2010b. "Pune Hospital Report." May. Available online at: [northbridgeasia.com/ResearchReports/PUNE%20HOSPITAL%20REPORT.pdf](http://northbridgeasia.com/ResearchReports/PUNE%20HOSPITAL%20REPORT.pdf)

- Chakraborty, S., A. D'souza, and R. Northrup. 2000. "Improving Private Practitioner Care of Sick Children: Testing New Approaches in Rural Bihar." *Health Policy and Planning* 15 (4): 400–407.
- Chakraborty, S., and K. Frick. 2002. "Factors Influencing Private Health Providers' Technical Quality of Care for Acute Respiratory Infections Among Under-Five Children in Rural West Bengal, India." *Social Science and Medicine* 55 (9): 1579–87.
- Chakraborty, S. 2003. "Private Health Provision in Uttar Pradesh, India." In A. S. Yazbeck and D. H. Peters, eds., *Health Policy Research in South Asia: Building Capacity for Reform*, 257–77. Washington, DC: World Bank.
- Chanda, R. 2007. "Impact of Foreign Investment in Hospitals: Case Study of India." *Harvard Health Policy Review* 8 (2): 121–40.
- Confederation of Indian Industry (CII) and HOSMAC. 2011. "Partnership in Health Care: A Public-Private Perspective." White Paper, March.
- CII and KPMG. 2009. "The Emerging Role of PPP in Indian Healthcare Sector." Policy Paper. Available online at: [www.ibef.org/download/PolicyPaper.pdf](http://www.ibef.org/download/PolicyPaper.pdf).
- Cooper, M., J. Helfrick, and R. de Silva. 2009. "The Impact of Accreditation on Hospital Associated Infections: A Case Study." ISQua's 26<sup>th</sup> International Conference on Designing for Quality. Dublin, 12 October. Available online at: [http://www.isqua.org/Uploads/Conference/Abstracts/A16\\_Meghan\\_Cooper\\_99.pdf](http://www.isqua.org/Uploads/Conference/Abstracts/A16_Meghan_Cooper_99.pdf).
- Das, J. 2001. "Three Essays on the Provision and Use of Services in Low-Income Countries." Unpublished PhD dissertation, Harvard University.
- Das, J., and J. Hammer. 2004. "Strained Mercy: Quality of Medical Care in Delhi." *Economic and Political Weekly*, 28 February–5 March, 951–61.
- . 2007a. "Location, Location, Location: Residence, Wealth, and the Quality of Medical Care in Delhi, India." *Health Affairs* 26 (3): w338–w351.
- . 2007b. "Money for Nothing: The Dire Straits of Medical Practice in Delhi, India." *Journal of Development Economics* 83 (1): 1–36.
- Devadasan, N., Bart Criel, Wim Van Damme, S. Manoharan, P. Sankara Sarma and Patrick Van der Stuyft. 2010. "Community Health Insurance in Gudalur, India, Increases Access to Hospital Care." *Health Policy and Planning* 25 (2): 145–54.
- Dogra, S. 2004. "Delhi Houses 1,600 Unregistered Nursing Homes: Survey." *Express Healthcare Management* 5 (4): 1–8. Available online at: <http://www.expresspharmapulse.com/20040304/healthnews03.shtml>.
- Donabedian, A. 2005. "Evaluating the Quality of Medical Care." *The Milbank Quarterly* 83 (4): 691–729.
- Duraisamy, P. 2001. "Health Status and Curative Health Care in Rural India." Working Paper Series No. 78, December. National Council of Applied Economic Research, New Delhi.

- Ensor, T., and R. Dey, 2003. "Private for-Profit Maternity Services: Andhra Pradesh Case Study." Reference number: AG 3128. Final Report, 12 December. Options, Dept. for International Development, Govt. of UK, and King's College London.
- Federation of Indian Chambers of Commerce and Industry (FICCI). 2010. *Health Insurance Report 2010*. New Delhi: Health Insurance Group, FICCI.
- Ganguly, E., P. R. Deshmukh, and B. S. Garg. 2008. "Quality Assessment of Private Practitioners in Rural Wardha, Maharashtra." *Indian Journal of Community Medicine* 33 (1): 35–37.
- Ghanashyam, B. 2008. "Can Public-Private Partnerships Improve Health in India?" *The Lancet* 372 (9642): 878–79.
- Gopalakrishnan, K., N. Prata, D. Montagu, B. Mitchell and J. Walsh. 2002. "NGOs Providing Low Cost, High Quality Family Planning and Reproductive Health Services. Case Study Janani, India." *Bay Area International Group Monograph Series* 1 (3–4): 4. Available online at: [http://big.berkeley.edu/research.monograph.1.3-4.2002\(JANANI\).pdf](http://big.berkeley.edu/research.monograph.1.3-4.2002(JANANI).pdf).
- Govt. of Karnataka. 2007. *The Karnataka Private Medical Establishments Act, 2007. Karnataka Act No. 21 of 2007*. (First Published in the Karnataka Gazette Extraordinary on the sixteenth day of August 2007).
- Grover, A., R. Kumarm, and S. K. Jindalm. 2006. "Socio-demographic Determinants of Treatment-Seeking Behaviour among Chest Symptomatics." *Indian Journal of Community Medicine* 31 (3): 145–49.
- Gupta, A. S. 2004. "Medical Tourism and Public Health." *People's Democracy* 28 (19) May: 33. Available online at: [http://pd.cpim.org/2004/0509/05092004\\_snd.htm](http://pd.cpim.org/2004/0509/05092004_snd.htm).
- Hosmac Foundation. 2009. "Patient Satisfaction in Private Institutions in the City of Bangalore." Available online at: [www.hosmacfoundation.org/.../Patient\\_Satisfaction\\_Survey\\_Bengaluru.pdf](http://www.hosmacfoundation.org/.../Patient_Satisfaction_Survey_Bengaluru.pdf).
- International Institute for Population Sciences (IIPS) and Macro International. 2007. "Morbidity and Health Care." In *National Family Health Survey (NFHS-3), 2005–06: India: Volume I*, Ch. 13. Mumbai: IIPS.
- Indian Institute of Public Health (IIPH). 2009: "A Rapid Evaluation of the Rajiv Aarogyasri Community Health Insurance Scheme–Andhra Pradesh–Hyderabad." IIPH, Hyderabad.
- Insurance Regulatory and Development Authority India (IRDA). 2010. *Annual Report 2009–10*. Hyderabad: IRDA.
- Islam M., M. Montgomery, and S. Taneja. 2006. "Urban Health Care-seeking Behaviour: A Cases Study of Slums in India and the Phillipines." Bethesda, Maryland. The Partners for Health Reform Plus Project, Abt Associates Inc.
- Iyengar S., and R. H. Dholakia. 2011. "Access of the Rural Poor to Pimary Healthcare in India." Working Paper No. 2011-05-03, May. Indian Institute of Management, Ahmedabad.

- Johnston, H. B., Rajni Ved, Neena Lyall, and Kavita Agarwal. 2003. "Where Do Rural Women Obtain Post-Abortion Care? The Case of Uttar Pradesh, India." *International Family Planning Perspectives* 29 (4): 182–87.
- Kaur, H. 2002. "Private Hospitals: A Boon or Bane for Patients?" Available online at: <http://www.expresshealthcaremgmt.com/20020430/edit2.shtml>.
- Kaushik, U. 2009. "Elderly Perceived Health Needs: Assessment Survey in the States of Himachal Pradesh & Uttarakhand." March. Help Age India, New Delhi.
- Kumar, S. 2004. "Report Highlights Shortcomings in Private Medical Schools in India." *British Medical Journal* 328 (7438): 70.
- Levesque, J. F., S. Haddad, D. Narayana, and P. Fournier. 2006. "Outpatient Care Utilization in Urban Kerala, India." *Health Policy and Planning* 21 (4): 289–301.
- Lohr, Kathleen N., ed., 1990. *Medicare: A Strategy for Quality Assurance*. Vol. 1. Committee to Design a Strategy for Quality Review and Assurance in Medicare, Institute of Medicine. Washington, DC: National Academies Press.
- Mahal, A. 2002. "Assessing Private Health Insurance in India: Potential Impacts and Regulatory Issues." *Economic and Political Weekly*, 9 February–15 February, 559–71.
- Mahapatra, P. 2003. "Quality Health Care in Private and Public Health Care Institutions." In A. S. Yazbeck and D. H. Peters, eds., *Health Policy Research in South Asia: Building Capacity for Reform*, 333–67. Washington, DC: World Bank.
- Mitchell, A., A. Mahal, and T. Bossert. 2011. "Healthcare Utilization in Rural Andhra Pradesh." *Economic and Political Weekly*, 29 January–4 February, 15–19.
- Ministry of Health & Family Welfare (MoHFW). 2002. *National Health Policy 2002*. New Delhi: MoHFW, Govt. of India.
- . 2005. *National Rural Health Mission: Meeting People's Health Needs in Rural Areas. Framework for Implementation, 2005–2012*. New Delhi: MoHFW, Govt. of India.
- Montagu, D., et al. 2009. *Clinical Social Franchising: An Annual Compendium of Programs, 2009*. San Francisco: The Global Health Group, Global Health Sciences, University of California.
- Mukherjee, S. N. 2006. "Rising Cesarean Section Rate." *Journal of Obstetrics and Gynaecology of India* 56 (4): 298–300.
- Muraleedharan, V. R., and S. Nandraj. 2003. "Private Health Care Sector in India—Policy Challenges and Options for Partnership." In A. S. Yazbeck and D. H. Peters, eds., *Health Policy Research in South Asia: Building Capacity for Reform*, 227–55. Washington, DC: World Bank.
- Nair, S. S., S. Radhakrishna, and M. A. Seetha, and G. E. Rupert Samuel. 2002. "Behaviour Patterns of Persons with Chest Symptoms in Karnataka State." *Indian Journal of Tuberculosis* 49 (1): 39–48.

- Narayana, K. V. 2003. "Changing Health Care System." *Economic and Political Weekly*, 22 March–28 March and 29 March–4 April (double issue), 1230–41.
- Pillai, M. S. 2006. "Extending Private Health Insurance." In N. Devadasan, ed., *Planning and Implementing Health Insurance Programmes in India: An Operational Guide*, 55–70. Bangalore: Institute of Public Health, and New Delhi: WHO India Country Office.
- Planning Commission. 2001. *National Population Policy 2001*. New Delhi: Planning Commission, Govt. of India.
- . 2002. "Health." In *Tenth Five-Year Plan 2002–2007*, Vol. II., 81–152. New Delhi: Planning Commission, Govt. of India.
- . 2007. "Report of the Working Group on Clinical Establishments, Professional Services Regulation and Accreditation of Health Care Infrastructure for the 11th Five-Year Plan." New Delhi: Planning Commission, Govt. of India.
- . 2008. "Health and Family Welfare." In *Eleventh Five-Year Plan, 2002–2007*, Vol. II, Ch. 3. New Delhi: Planning Commission, Govt. of India.
- Public Health Foundation of India. 2011. "A Critical Assessment of the Existing Health Insurance Model in India." Study sponsored by the Socio-economic Research Division, Planning Commission. New Delhi: Planning Commission, Govt. of India.
- Radwan, I. 2005. "India–Private Health Services for the Poor: A Policy Note." Health, Nutrition and Population (HNP) Discussion Paper, May. Washington, DC: International Bank for Reconstruction and Development/World Bank.
- Rafei, U. M., and U. T. Sein. 2001. "Role of Private Hospitals in Health Care." *Regional Health Forum* 5 (1): 412–49.
- Ramani, K. V., D. V. Mavalankar, A. Patel, S. Mehandiratta, R. Bhardawaj, and D. Joshi. 2006. "A Public-Private Model for Managing Urban Health: A Study of Ahmedabad City." Working Paper No. 2006-03-05, March. Indian Institute of Management (IIM), Ahmedabad.
- Rao, P. H. 2005. "Private Medical Practitioners in Rural India: A Profile." *Health and Population Perspectives* 28 (1): 40–49.
- Roemer, M. I., and C. Montoya-Aguilar. 1988. "Quality Assessment and Assurance in Primary Health Care." WHO Offset Publication No. 105. Geneva: World Health Organization.
- Samandari, R., S. Kleefeld, J. Hammel, M. Mehta, and R. Crone. 2001. "Privately Funded Quality Health Care in India: A Sustainable and Equitable Model." *International Journal for Quality in Health Care* 13 (4): 283–88.
- Sarkar, B. D., and S. Kumar. 2004. "Delays in Legislation Slow the Progress of CME in India." *Bulletin of World Health Organization* 82 (2): 154–55.

- Snyder, C., and G. Anderson. 2005. "Do Quality Improvement Organizations Improve the Quality of Hospital Care for Medicare Beneficiaries?" *Journal of the American Medical Association* 293 (23): 2900–2907.
- Sreevidya, S., and B. W. C. Sathiyasekaran. 2003. "High Caesarean Rates in Madras (India): A Population-Based Cross-Sectional Study." *British Journal of Obstetrics and Gynaecology* 110: 106–111.
- Unisa, S. 2001. "Sequence of Fertility Treatments among Childless Couples in Ranga Reddy District, Andhra Pradesh, India." *Asia-Pacific Population Journal* 16 (June): 161–76.
- Vellakkal, S. 2009. "Adverse Selection and Private Health Insurance Coverage in India: A Rational Behaviour Model of Insurance Agents under Asymmetric Information." Working Paper No. 233, February. Indian Council for Research on International Economic Relations (ICRIER), New Delhi.
- World Bank. 2001. "Raising the Sights: Better Health Systems for India's Poor." Health, Nutrition, Population Sector Unit India, South Asia Region. Washington, DC: World Bank.
- . 2006. *India: Building Capacities for Public Private Partnerships*. Energy and Infrastructure Unit and Finance and Private Sector Development Unit, South Asia Region. New Delhi: World Bank.
- World Health Organization (WHO). 2004. *Cost and Cost Effectiveness of Public-Private Mix DOTS: Evidence from Two Pilot Projects in India*. Geneva: WHO.
- . 2006. "Quality of Care: A Process for Making Strategic Choices in Health Systems." In *Basic Concepts of Quality*, Ch. 2. Geneva: WHO.
- WHO, USAID, and PSP-One. 2007. *Public Policy and Franchising Reproductive Health: Current Evidence and Future Directions. Guidance from a Technical Consultation Meeting*. Geneva: WHO.