

# Healthcare Models in the Era of Medical Neo-liberalism

## A Study of Aarogyasri in Andhra Pradesh

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The experiment in restructuring the healthcare sector through the Aarogyasri community health insurance scheme in Andhra Pradesh has received wide attention across the country, prompting several states governments to replicate this “innovative” model, especially because it supposedly generates rich electoral dividends. However, after a critical scrutiny of this neo-liberal model of healthcare delivery, this paper concludes that the scheme is only the construction of a new system that supplants the severely underfunded state healthcare system. It is also a classic example of promoting the interests of the corporate health industry through tertiary hospitals in the public and private sectors.

Medical neo-liberalism is characterised by the commodification of health that transforms individuals from patients to consumers. Unlike patients, consumers who seek healthcare bear the responsibility for the choices they make or fail to make regarding their health. As consumers are positioned to make choices about healthcare, they also have the obligation to utilise products and services that are available to ensure good health or to treat illness and disease. Fisher (2007) points out that patients as consumers have embraced the neo-liberal logic of healthcare so that they too see illness in reductionist terms and seek pharmaceuticals as targeted magic bullets. With growth in customised products and medical costs, access and affordability to healthcare has become a key issue across the world.

In the Indian context, the increased disease burden on the poor along with rapidly growing healthcare costs has been the subject of debate for sometime now. Services in government healthcare institutions have declined over the past two decades at the primary and secondary level, leaving the sick-poor with no option but seek private healthcare services. Several studies have pointed out that rising expenditure on health and education is one of the main contributory factors to high indebtedness and subsequent suicides among peasants in different parts of the country in the last 10 years (Sarma 2004; Ghosh 2006).

Clearly, healthcare has assumed huge political significance for the neo-liberal state with new and innovative (populist) healthcare programmes being launched in several states in different forms. Among these, Rajiv Aarogyasri, a community health insurance scheme introduced by the Government of Andhra Pradesh (AP) on a pilot basis in 2007 and implemented in 2008 is being hailed by many experts as a model to be emulated – the scheme covers 6.55 crore people belonging to 183 lakh below the poverty line (BPL) families.

Aarogyasri needs special attention as it is supposed to have mobilised a large number of voters for the ruling Congress Party during the 2009 assembly elections who helped it return to power for a second term. This scheme’s popularity is so huge that several delegations from different states in India have been regularly studying its logic in order to replicate it and reap similar political benefits. States such as Kerala, Tamil Nadu (Kalaingar Scheme), Delhi (Apka Swasthya Bima Yojana), and Karnataka have already formulated a similar template and are in the process of implementing it. The Maharashtra

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government too announced the Rajiv Gandhi Jeevandayee Arogya Yojana, a free medical care scheme for the poor in 2011, committing Rs 800 crore in the first phase to benefit nearly 50 lakh families earning below Rs 1 lakh per annum in eight districts. A national social health insurance scheme called the Rashtriya Swasthya Bima Yojana (RSBY) was launched as a centrally-sponsored scheme in 2008 to cover 2.3 crore families and seven crore beneficiaries. The AP government has already announced that Aarogyasri will soon become a universal health scheme and cover non-BPL families as well. Given the pre-eminence of the scheme, it is important to assess the scheme by locating it in the historical evolution of health-care systems in India in the context of its underlying socio-economic and political dynamics.

### 1 Political Economy of Health

The recommendations of the John Bhole Committee in 1946 had a tremendous impact on the healthcare model adopted in post-Independent India. The committee recognised the existing inequalities and recommended that no one should fail to secure adequate medical care because of his/her inability to pay for it. On that basis, the committee recommended that medical services should be free for all without any discrimination and discussed the dire consequences of privatisation of healthcare and urban bias that prevailed in the health sector at the time (Bhole Committee Report 1946).

Although the class interests of India's new rulers came to the fore after Independence, the Nehruvian state adopted a liberal stance given the democratic urge kindled among the masses in the wake of freedom from colonial rule. This impelled the ruling classes to take such actions in health and other fields in the first two decades after Independence that placed India high among the newly independent countries. As a result, protection and promotion of health and nutrition of the people was placed in the Directive Principles of State Policy in the Constitution of India. This phase is labelled the "golden two decades of public health in India" (Banerji 2001: 44).

The major achievements during this period include the mass BCG campaign of the 1950s, the 1958-63 National Malaria Eradication Programme, the setting up of the National Tuberculosis Institute and the National Institute of Health Administration and Education to train physicians to inculcate managerial, epidemiological, social and political capabilities, the establishment of primary health centres (PHCs), the minimum needs programme, the multipurpose workers' scheme, the community health workers (CHWs)-village health guide (VHG) scheme, and the National Health Policy.

However, the political vision to establish a comprehensive healthcare service system was unfortunately short lived – over the next three decades there was a sharp decline in the quality of health services in the country. The year 1967 marked the beginning of a steep decline in health services, culminating in the present state of its serious "sickness". The major factors that contributed to this decline were: (a) the obsessive preoccupation with the family planning programme at the cost of serious neglect of the health service needs of the poor; (b) the imposition

of the so-called international initiatives in health; and (c) the considerable involvement of western powers in shaping social (including health), economic and political policies of the country in the form of pressures for privatisation through the structural adjustment programme (SAP) from the late 1980s onwards (ibid: 45).

India was a signatory to the Alma-Ata declaration in 1978 as a member country of the World Health Organisation (WHO), which tried to reinforce the principles of sharing power, the distribution of resources, etc. However, the idea of "selective primary healthcare"<sup>1</sup> negated the spirit of this declaration. This led the very same WHO and UNICEF make a U-turn in advocating the implementation of specific vertical programmes such as the universal programme for immunisation, oral rehydration and other child survival strategies and social marketing of contraceptives. Considerable damage was inflicted upon the provision of comprehensive health services by according overriding priority to a single vertical programme over the former. Despite the considerable weaknesses of these programmes in terms of their economic, administrative, and epidemiological sustainability in India, the western powers pushed it for political and ideological reasons. Thus, these programmes paved the way for the growth of private healthcare in India (ibid: 46), marginalised other medical systems, and the mandate of a welfare state in terms of health and education provisions was diluted gradually.

The private health sector grew consistently because of the exemption of import duty for expensive medical equipment, subsidised rates for land to build hospitals, reimbursement provision for all government employees to avail health services in corporate hospitals, etc. Besides the numerous concessions given by the government to the private healthcare sector in the late 1970s and early 1980s, privatisation of healthcare received a further boost due to global recession, which imposed fiscal constraints on government budgets and encouraged them to cut back on public expenditure in the social sector (Baru 1998).

As Zachariah et al (2010: 24) point out, the government completely divested its responsibility for curative healthcare as well. This led to the unfettered growth of hospitals that found it lucrative to adopt the tertiary care model. With good quality health services becoming unaffordable and inaccessible, curative healthcare today is left to the initiative of the patient. Also, the private sector grew without any controls by using investments made by the state (Baru 2003), thus paving the first wave of privatisation during the 1980s. With the growth of the pharmaceutical and medical equipment industries post the 1990s, the second wave of privatisation, i.e., corporatisation of healthcare, became firmly entrenched in India. These national health policies are reflected in governance mechanisms in different states with some regional variations.

### 2 Structure of Health Services in AP

In AP's government health sector, there were 1,570 PHCs, 12,522 sub-centres and 164 community health centres (CHCs) with 3,047 doctors<sup>2</sup> serving around six crore people in the rural areas

in 2009. In brief, there were four hospitals<sup>3</sup> and three dispensaries per 10 lakh people, and 45 beds and 10 doctors per one lakh people. These statistics reveal the inadequate health infrastructure and health providers in the government health sector in AP – according to WHO guidelines (HDR 2007) there is a need for at least another 500 PHCs and 400 CHCs in the state to provide basic health services. However, instead of strengthening the public health sector, the state government accelerated the growth of private healthcare providers through economic reforms in this sector.

One of the other reasons for the growth of private medical healthcare in the state was the availability of surplus agricultural income. By late 1960s and early 1970s, a stratum of agriculturists (landowning castes such as Kammas, Kapus, Reddys and Velamas) were looking at new avenues for investing their savings/profits accumulated from intensive farming of paddy and high-value cash crops such as Virginia tobacco, turmeric, chillies, etc. In other words, with a new class of investors emerging in AP, its economy reached a phase where the rich peasantry and regional bourgeoisie together worked for the creation of better conditions for economic growth (Upadhy 1997) and started influencing government policies to suit their business interests in various sectors, including the “health industry”.

During the late 1970s and early 1980s, many of these landowning castes started establishing corporate hospitals. For example, Pratap C Reddy established his first Apollo Hospital in Chennai in 1983 and K Sambasiva Rao, a Kamma from Krishna district, established Medwin Hospitals in Hyderabad. At present the Apollo Hospitals group owns and manages 38 hospitals, making it Asia’s largest and the world’s fourth largest healthcare provider. Yashoda Hospital, Reddy Laboratories and other pharmaceutical companies established hospitals during the 1970s and 1980s (Damodaran 2008: 109-16). With the beginning of economic reforms in the 1990s, AP witnessed a high spurt of private healthcare institutions and pharmaceutical companies.

A survey by the state government in 1994 showed that private hospitals accounted for 59% of the total hospitals in the state with 35% in the public sector and 6% in the voluntary sector (GOAP 1993-94) resulting in higher health expenditure and out-of-pocket expenses for the different categories of people. According to the National Sample Survey (NSS) 61st (2004-05) round, on an average nearly 6% of total household consumption expenditure is spent on medical care (both institutional and non-institutional) in AP, which is higher than the all-India average of 4.7% (HDR 2007).

During 1990-91, there were 184 private nursing homes and hospitals in Hyderabad-Secunderabad of which 166 were managed by single owners or partners, 11 were specialist nursing homes and seven were managed as private and public-limited enterprises. By 1997, the number of private nursing homes and hospitals had risen from 184 to 400 (Narayana 2003: 102). A survey conducted in 2004 of private hospitals with 100 or more beds in Hyderabad found that there were 28 hospitals with a total of 5,495 beds. Among them, 16 were corporate hospitals accounting for 57% of the beds. By 2004, the number

of corporate hospitals in Hyderabad city alone increased to 16 with a total bed-strength of 2,981. While most corporate hospitals were newly established, a few existing private hospitals were upgraded. There were 10 trust hospitals, which accounted for 35% of the hospital beds. A large number of corporate hospitals have come into existence in Hyderabad and other cities in the state after 2004 (Narayana 2009). According to the Andhra Pradesh Private Hospitals and Nursing Homes Association (APNA), there were 857 private hospitals in Hyderabad alone in 2010.

### Health Reforms in the 1980s

N T Rama Rao, chief minister of the state in the early 1980s, introduced two major health reforms during his tenure. One was the establishment of Andhra Pradesh Vaidya Vidhan Parishad (APVVP), an independent body, in 1986 to implement health services at the secondary level. The second, the Nizam Institute of Medical Sciences (NIMS),<sup>4</sup> a tertiary hospital in Hyderabad, was restructured such that it had to raise its own revenues from paying patients while the government provided grants only for its infrastructure. While APVVP introduced more complexity and opaqueness into the health governance structure, the NIMS model created a hierarchy among paying and non-paying patients in the government hospitals. In order to strengthen APVVP and pursue reforms, the state government implemented the first health referral project in 1995 with the help of a World Bank loan of Rs 608 crore. This inaugurated health reforms in the state as a part of the SAP in the state.

These reforms resulted in the gradual withdrawal of the state and paved the way for the hiring of more contract workers in public health and sanitation,<sup>5</sup> negligence towards health infrastructure in government hospitals, etc. The state government issued a government order (GO) in 2006 to hand over a PHC to a private non-governmental organisation (NGO) in Anantapur district. Later, attempts were made to hand over PHCs to NGOs in Gadeguda and Lingapur in Adilabad district. In the name of pilot projects, the state government selected at least 36 PHCs in order to privatise them. As part of the reforms process, the state government established hospital development societies, issued GOs to collect user charges, handed over the urban health posts (now renamed as urban health centres) in all cities and towns to private organisations.

The overall decline in the health budget, particularly after the introduction of the SAP, has further worsened the situation, leading to the scarcity of resources in the health sector. The share of the health sector in the state budget was the highest (6.5%) in the Fifth Five-Year Plan period. Thereafter, it declined continuously and fell to 5.2% in the Eighth Plan, 4.5% by 2005-06 in the Tenth Plan and 3.6% in the Eleventh Plan period. The proportion of public expenditure on the health sector to state domestic product (SDP) declined from 1.29% in the Seventh Plan to 0.94% in the Eighth Plan. Thus, after SAP, there was a considerable decline in the allocation of resources to health services in the government sector (HDR 2007: 90-91).

Not surprisingly, the state’s performance has lagged among the 15 major Indian states according to the National Human

Development Report 2001. While the state was ranked ninth in 1991, it slipped down to the 10th spot in 2001. The better performing states were Kerala, Tamil Nadu, Punjab and Maharashtra.<sup>6</sup> Average life expectancy in AP according to the 2001 Census is 62 years, which is below the national average of 64.6 years.<sup>7</sup> The gradual decline of the public health sector and the rapid growth of the private and corporate health sector from the mid-1980s provide the context in which new health innovations can be understood.

### 3 Aarogyasri – A New Healthcare Model or Populism?

According to the state government:

...rural population of state, majority of whom are farmers, are not having access to advanced medical treatments and are silent sufferers of ill-health. This is true in case of diseases related to heart, kidney, brain, cancer and injuries due to domestic accidents and burns. While the Government is in the process of adequately strengthening the health institutions for basic healthcare, lack of specialist doctors and equipment for treatment of serious diseases has created a wide gap between the disease load and the capacity of the Government hospitals to serve the poor. These facilities though available in corporate sector are catering mainly to the affordable sections of society and are beyond the reach of poor families living in villages. Because of this gap poor patients are constrained to go to private hospitals for treatment and in the process incur huge debts leading to sale of properties and assets or are, sometimes, left eventually to die.<sup>8</sup>

This is the justification for introducing Aarogyasri to assist the BPL families for treating dreaded diseases. In order to facilitate the effective implementation of the scheme, the government set up the Aarogyasri Health Care Trust under the chairmanship of the chief minister. The trust, in consultation with specialists in the field of insurance and medical professionals, devised a tailor-made insurance scheme. The insurance premium works out to about Rs 250 per family unit. The total reimbursement of Rs 1.5 lakh can be availed either by an individual or for the entire family. An additional sum of Rs 50,000 is provided as a buffer to take care of expenses if costs exceed the original allocation. As an exception, the cost for cochlear implant surgery with auditory verbal therapy is reimbursed by the Aarogyasri Trust up to a maximum of Rs 6.5 lakh for each patient.

The Aarogyasri Trust has empanelled 491 hospitals in the state, of which nearly 80% are in the private sector while the remaining 20% are government hospitals. Although the Aarogyasri scheme is meant for poor villagers, there is not even one private hospital in the rural areas, while the distribution of empanelled government hospitals in rural and urban areas is almost even (Table 1). Going by the Aarogyasri Trust data, the government health sector is in a better position to serve the rural BPL population compared to the private health sector. However, instead of strengthening government hospitals and routing the Aarogyasri scheme through this rural and urban hospital network, why have private and corporate hospitals received privileged treatment is a question that a few studies have raised (Shukla et al 2011). A similar question – whether Aarogyasri has the potential to reduce the financial burden on the BPL population and improve the health of sick-poor – has also been raised (Mitchell et al 2011).

**Table 1: List of Government and Private Hospitals Empanelled by Aarogyasri Trust**

S No	District Name	Government Hospitals		Private Hospitals	
		Rural	Urban	Rural	Urban
1	Hyderabad	–	14	–	111
2	East Godavari	02	02	0	32
3	West Godavari	05	01	0	16
4	Krishna	03	03	0	29
5	Warangal	01	04	0	19
6	Guntur	02	02	0	30
7	Anantpur	02	01	0	07
8	YSR Kadapa	01	0	0	03
9	Nalgonda	06	02	0	01
10	Karimnagar	01	03	0	19
11	Adilabad	01	01	0	03
12	Nizamabad	03	01	0	03
13	Chittoor	04	02	0	12
14	Vizianagaram	01	01	0	06
15	Srikakulam	01	01	0	04
16	Ranga Reddy	0	01	0	01
17	Medak	02	03	0	01
18	Mahboobnagar	02	02	0	09
19	Visakhapatnam	02	02	0	33
20	Kurnool	02	03	0	14
21	Nellore	04	01	0	12
22	Khammam	02	01	0	08
23	Prakasham	02	02	0	16
	Total	49	53	0	389

Source: Data extracted from the official website of Aarogyasri Trust, 10 December 2011.

### Inclusion of Diseases

Official documents describe Aarogyasri as a unique public-private partnership (PPP) model in the field of health insurance that is customised to meet the health needs of poor patients and provide end-to-end cashless services for identified diseases through a network of service providers from private and government sector.<sup>9</sup> In 2007, when Aarogyasri was launched, 163 procedures were identified for reimbursement but with the growing popularity of the scheme and demand, the list of procedures that were eligible for reimbursement increased to about 938 in 2011. An analysis of this list of diseases indicates that of the 938 procedures, Star Health and allied insurance companies manage the reimbursement for 352 procedures while the Aarogyasri Trust manages the remaining 586.

At the time of the scheme's inception, the government agreed to pay a premium of Rs 338 towards each BPL family to the insurance company. But with the increased financial burden, the government renegotiated a reduced rate of Rs 217 annual premium with the insurance company. Our interaction with the corporate hospitals indicated a series of complaints about reimbursements from government sources, especially inordinate delays unlike the insurance companies which release the reimbursement money immediately. However, even with this reduced rate of Rs 217, private hospitals earn significantly because of the increased number of procedures from 163 to 938. The procedures approved are often high-cost interventions and the difference in the cost of the procedure determined in 2008 and the current cost still fetches private hospitals substantial profits due to the increased patient base (Shukla et al 2011: 40).

Indeed, beginning with Emergency Medical Relief Insurance (EMRI) along with the ambulance services (108 and 104), followed by Rajiv Aarogyasri and free dialysis machines, currently all laboratory and diagnostic services in government hospitals are managed by private companies. Implemented through the PPP model, these schemes rely on non-state entities to deliver healthcare to the poor. During our interviews, government health officials cited poor infrastructure, lack of planning and inefficient use of healthcare staff in government hospitals as some of the reasons to justify PPP projects. They also indicated that the Aarogyasri scheme has been providing an assured clientele and financial incentives that have contributed to the steady growth of medium and large private hospitals.

### Centralisation of Health Services

The government-provided Aarogyasri health cards give BPL families the cardholders the freedom to avail of the best techno-commercial treatment in specialty and super-specialty corporate hospitals. This is one mechanism through which super-specialty hospitals located in urban centres gained access to the sick-poor across the state. Moreover, the insurance company and private health sector have devised direct control over scrutiny and case referrals through Arogyamitras, a cadre of private health workers who are located in PHCs, CHCs and district/state hospitals to facilitate referral of BPL patients from rural to urban hospitals. It has been pointed out that Arogyamitras function as parallel administrative workers not accountable to the local health administration. It is these people who help divert cases from government to private hospitals (Shukla et al 2011: 39).

Through Aarogyasri and Arogya Yojanas, "new choices" are being created for the sick-poor within the medical neo-liberal discourse. However, discussions with a few doctors in Osmania Hospital indicated that these are not new choices but rather new ways of invoking surgical interventions without adequate rationale. Indeed, access to surgery-based intervention is perceived by the sick-poor as a natural choice in the situation they find themselves. Certainly, several of these poor individuals who otherwise would not have gained access to expensive technological medicine have felt greatly satisfied. Thus, health has not been a choice but an imposed preference for a large majority of the population (Prasad 2007).

Since inception, 14,18,489 surgeries were registered under Aarogyasri until 7 December 2011. The data indicates that 35% of the surgeries were performed in Hyderabad alone, 34% in four major hospital network cities (Vijayawada, Visakhapatnam, Guntur and Kakinada), and 24% in six medium urban centres (Nellore, Warangal, Chittoor, Karimnagar, Kurnool and Rajmundry). Thus, 93% of the surgeries were performed in

**Table 2: District-wise Total Number of Surgeries under Aarogyasri**

SNo	District Name	No of Surgeries	Percentage
1	Hyderabad	5,01,206	35.3
2	Adilabad	1516	0.10
3	Anantpur	13,344	0.94
4	Chittoor	60,307	4.25
5	East Godavari	1,03,940	7.32
6	Guntur	1,23,762	8.72
7	YSR Kadapa	6718	0.47
8	Khammam	13,232	0.93
9	Kurnool	46,705	3.29
10	Krishna	1,28,259	9.04
11	Karimnagar	46,143	3.25
12	Mahboobnagar	8364	0.58
13	Medak	2100	0.14
14	Nalgonda	6166	0.43
15	Nellore	83,630	5.89
16	Nizamabad	8719	0.61
17	Prakasham	12,493	0.88
18	Ranga Reddy	2384	0.16
29	Srikakulam	8557	0.60
20	Visakhapatnam	1,24,723	8.79
21	Vizianagaram	15,758	1.11
22	Warangal	59,851	4.21
23	West Godavari	40,612	2.86
		14,18,489	99.8

Source: Data extracted from the official website of Aarogyasri Trust, 7 December 2011.

11 cities where the private and corporate hospital network is well established while only 7% surgeries were performed in the remaining 12 districts that have poor health infrastructure (Table 2).

The data also indicates that of the 14,18,489 surgeries conducted till date in the entire state, 83% were performed in private sector hospitals and only 17% in government hospitals. When we look at the district-wise distribution of surgeries conducted, 90% and more surgeries till date were conducted in private/corporate hospitals in 17 of the 23 districts in the state; in the remaining six districts, the government hospitals' share in these surgeries was about 25%, while 75% of surgeries were conducted in private hospitals (Table 3). This is a clear indication of how Aarogyasri has helped the growth of the private and corporate healthcare sector in the state.

Although the state government has directed all government hospitals to utilise funds under Aarogyasri, the latter are struggling to compete with super-specialty corporate and private hospitals. However, the specialty hospitals in government sector are able to utilise the resources allotted to them. For instance, Gandhi Hospital, a 1,200-bed government hospital with an annual budget of Rs 12

**Table 3: District-wise Total Number of Surgeries in Government and Private Hospitals**

SNo	District Name	No of Surgeries in Hospitals		Total
		Government	Private	
1	Hyderabad	1,22,624 (24.46)	3,78,582 (75.53)	5,01,206 (99.99)
2	Adilabad	134 (8.83)	1,382 (91.16)	1,516 (99.99)
3	Anantpur	1,803 (13.51)	11,541 (86.48)	13,344 (99.99)
4	Chittoor	1,641 (2.72)	58,666 (97.27)	60,307 (99.99)
5	East Godavari	31,068 (29.89)	72,872 (70.1)	1,03,940 (99.99)
6	Guntur	31,047 (25.08)	92,715 (74.91)	1,23,762 (99.99)
7	YSR Kadapa	0 (0)	6,718 (100)	6,718 (100)
8	Khammam	347 (2.62)	12,885 (97.37)	13,232 (99.99)
9	Kurnool	17,084 (36.57)	29,621 (63.42)	46,705 (99.99)
10	Krishna	7,941 (6.19)	1,20,318 (93.80)	1,28,259 (99.99)
11	Karimnagar	629 (1.36)	45,514 (98.63)	46,143 (99.99)
12	Mahboobnagar	802 (9.58)	7,562 (90.41)	8,364 (99.99)
13	Medak	422 (20.09)	1,678 (79.9)	2,100 (99.99)
14	Nalgonda	2,176 (35.29)	3,990 (64.7)	6,166 (99.99)
15	Nellore	729 (0.87)	82,901 (99.12)	83,630 (99.99)
16	Nizamabad	1,125 (12.9)	7,594 (87.09)	8,719 (99.99)
17	Prakasham	823 (6.58)	11,670 (93.41)	12,493 (99.99)
18	Ranga Reddy	0 (0)	2,384 (100)	2,384 (100)
29	Srikakulam	42 (0.49)	8,515 (99.50)	8,557 (99.99)
20	Visakhapatnam	3,727 (2.98)	1,20,996 (97.01)	1,24,723 (99.99)
21	Vizianagaram	1,469 (9.32)	14,289 (90.67)	15,758 (99.99)
22	Warangal	12,877 (21.51)	46,974 (78.48)	59,851 (99.99)
23	West Godavari	1,445 (3.55)	39,167 (96.44)	40,612 (99.99)
	Total	2,39,955 (16.91)	11,78,534 (83.08)	14,18,489 (99.99)

Figures in brackets are in percentage.

Source: Data extracted from the official website of Aarogyasri Trust, 7 December 2011.

crore, performed 25,893 surgeries in 2006. On the other hand, the total number of surgeries conducted by private hospitals under Aarogyasri was 59,846 by August 2008 and the amount paid to them was Rs 225.2 crore (Raja Reddy 2008: 21). Indeed, of the per capita value from Aarogyasri funds received by different hospitals, corporate hospitals obtained a higher value compared to government hospitals despite the fact that the latter serve a large proportion of patients under this scheme. Estimates indicate that the per capita value of Aarogyasri in Osmania General Hospital is Rs 12,298; in NIMS, an autonomous government hospital, it is Rs 36,291; while in Care Banjara, a corporate hospital, it is Rs 78,808 (Vijay 2012).

Several reports<sup>10</sup> indicate that corporate hospitals show interest only in surgeries that are financially remunerative and “other cases”, which are less remunerative but high risk, are referred to government hospitals. For instance, double-stent cardiac cases, double-valve replacement CT surgeries, hemiplegia, tumours in neurosurgery and several such cases are not taken up by private hospitals. Such patients are persuaded by private hospitals to approach government hospitals. In one such instance, when a patient named Sattemma, aged 35 years from Kondapur village of Anantsagar mandal in Medak district suffering from a tumour, approached a corporate hospital in Hyderabad, the neurosurgeon indicated that the surgery would cost about Rs 2 lakh and require longer post-operative care and immediately referred her to Osmania General Hospital.

A critical scrutiny of surgery procedures related to specific diseases undertaken in Hyderabad has been analysed here. Hyderabad is the only city in the state that has a strong presence of specialty and super-specialty government institutions with credibility that can match private and corporate hospitals. So the Hyderabad data provides us several insights into the working of the Aarogyasri model.

The 938 procedures approved by Aarogyasri have been classified under 29 broad medical categories/systems. For the purpose of analysis we have taken 20 major private hospitals and 11 major government hospitals in Hyderabad that had handled surgeries under 29 medical categories till 10 December 2011 (Table 4). The data pertaining to seven medical categories accounting for 1,70,000 cases indicates that private hospitals managed the maximum high cost surgical intervention cases such as cochlear implant surgery (100%), medical oncology (98%), radiation oncology (98%), surgical oncology (84%), cardiac and cardiothoracic surgery (79%), genitourinary surgeries (78%), and neurosurgery (53%).

Private hospitals with good medical equipment, infrastructure and managerial capabilities are in a strong position to lobby with the state health bureaucracy, negotiate terms with Star Insurance Company favourably and rely on Arogyamitras to divert high-cost surgical cases and rural medical practitioners (RMPs) as agents to refer appropriate cases to them. Special incentives are created for Arogyamitras, RMPs and agents<sup>11</sup> to bring in appropriate cases to private and corporate hospitals. As a result, private hospitals are able to generate substantial profits from Aarogyasri cases. Government hospitals such as Osmania General Hospital, Gandhi Hospital and even NIMS lack

appropriate technical equipment and therefore are not in a position to handle even one cochlear implant surgery case. Although the state government states that eventually Aarogyasri funds will help the development of infrastructure in government hospitals, the scheme has in fact affected the credibility of all these tertiary hospitals in terms of teaching, research and training medical students.

Our interaction with doctors in Osmania and Gandhi hospitals indicated that corporate hospitals are interested in surgeries that are not only profitable but less risky. For example, the average length of stay for neurology patients must be a minimum of five to seven days of hospitalisation. Private hospitals showed little interest in these cases because of their low-cost reimbursement and risks associated with post-surgical care. Accordingly, 82% of the neurology cases were handled by government hospitals. Similarly, most of the surgeries related to ENT (92%), general medicine (94%), ophthalmology (99.6%),

**Table 4: Medical Category-wise Surgeries by Private and Government Hospitals in Hyderabad as on 10 December 2011**

S No	Name of the Surgery	No of Surgeries in Government Hospitals*	No of Surgeries in Private Hospitals**	Cost of Procedure (in Rs)
1	Cardiac and cardiothoracic surgery	12,398	46,911	15,000 to 1,50,000
2	Cardiology	4,869	4,236	20,000 to 95,000
3	Cochlear implant surgery	0	728	20,000 to 5,20,000
4	Critical care	867	420	45,000 to 1,20,000
5	Dermatology	124	41	20,000 to 30,000
6	Endocrinology	244	17	12,000 to 1,00,000
7	ENT surgery	5,459	453	10,000 to 50,000
8	Gastroenterology	1,513	124	5,000 to 1,50,000
9	General medicine	984	64	20,000 to 50,000
10	General surgery	7,921	5,696	10,000 to 80,000
11	Genitourinary surgeries	5,726	20,846	10,000 to 1,40,000
12	Gynaecology and obstetrics surgery	2,084	2,114	20,000 to 40,000
13	Infectious diseases	06	0	20,000 to 25,000
14	Medical oncology	1,746	93,234	800 to 60,000
15	Nephrology	10,383	10,780	15,000 to 35,000
16	Neurology	5,918	1,272	8,000 to 1,00,000
17	Neurosurgery	10,468	12,283	15,000 to 1,60,000
18	Ophthalmology Surgery	2,316	09	3,000 to 65,000
19	Orthopaedic surgery and procedures	2,664	2,138	15,000 to 50,000
20	Paediatric surgeries	5,683	679	10,000 to 60,000
21	Paediatrics	10,863	851	25,000 to 90,000
22	Plastic surgery	3,966	971	10,000 to 1,20,000
23	Polytrauma	10,116	5,500	3,000 to 1,50,000
24	Prostheses	01	0	500 to 6,000
25	Pulmonology	836	373	15,000 to 50,000
26	Radiation oncology	1,120	44,595	2,500 to 1,00,000
27	Rheumatology	993	05	10,000 to 50,000
28	Surgical gastroenterology	1,567	1,019	25,000 to 1,00,000
29	Surgical oncology	2,955	15,349	3,000 to 1,00,000

\*Government hospitals include District Hospital-King Koti, Gandhi Hospital, ENT-Koti, Maternity-Hyderabad, General and Chest Hospital, Mahavir Hospital and Research Centre, Niloufer, Osmania General Hospital, SRRITCD Government Fever Hospital, MNJ Hospital, Sarojini Devi Eye Hospital and Durga Bhai Deshmukh Hospital.

\*\* Private hospitals include Apollo, Image, Kamineni, KIMS, Narayana Hrudalaya, Medicity, Medwin, Quality Care India, Sigma, Yashoda, New Life Hospital, Hyderabad Nursing Home, Innova Children's Heart Hospital, Owaisi, Aware Global Hospitals, Basava Tarakam, Bibi Cancer and General Hospital, and Hyderabad Kidney and Laparoscopic.

Source: Data extracted from the official website of Aarogyasri Trust, 10 December 2011.

paediatrics (93%), paediatric surgeries (89%), pulmonology (69%), rheumatology (99.5%), etc, costing less than Rs 60,000 were carried out by government hospitals (Table 4).

There were instances reported where private hospitals did not admit emergency cases related to critical care, polytrauma, etc, and patients were asked to approach government hospitals. Indeed, post-operative care has been one of the grey areas in Aarogyasri where the sick-poor are discharged without adequate post-operative care and any expenses arising from post-operative complications would have to be borne by them.

Under this scheme, transport charges are to be paid to patients who travel from their hometowns to specialty hospitals located in urban centres. But our interviews with patients revealed that they were not paid transport costs. The local media has reported that patients have been asked to pay for blood tests, medicines and bed charges. For example, in Visakhapatnam, Apollo Care and Seven Hills hospitals collected fees towards bed and transport charges. Similarly, it has been reported that several hospitals across the state charge for consultancy, bed and transport facilities from the sick-poor.

### Politics of Sick-Poor Distribution

As stated earlier, 938 procedures are reimbursable under Aarogyasri. While reimbursement for 352 procedures is handled by Star Health and its allied insurance companies, the Aarogyasri Health Care Trust manages reimbursements for the remaining 586. The pre-authorization and claim settlement for Aarogyasri Scheme-I (AS-I) is done by the insurance company while the same for Aarogyasri Scheme-II (AS-II) is done by the Aarogyasri Trust directly and funded from the chief minister's relief fund. Data related to reimbursement of surgeries since the scheme's inception until 8 December 2011 indicates that about 14 lakh surgeries were performed. Of these cases, reimbursements for about seven lakh surgeries have been provided by the insurance company (AS-I) while reimbursements for the remaining six lakh surgeries were handled by the Aarogyasri Trust (AS-II). Surprisingly, a large part of AS-I reimbursements were made to private hospitals by the insurance company while AS-II reimbursements were made to government hospitals by the Aarogyasri Trust.

It is evident that certain types of diseases and procedures related to AS-I are being tapped by private hospitals and there seems to be a connection between the reimbursements

completed by the insurance company and the procedures conducted by private hospitals. The data indicates that high-cost surgical interventions done by private hospitals in Hyderabad pertain to medical oncology, radiation oncology, surgical oncology, cardiac and cardiothoracic surgery, genitourinary surgeries, neurosurgery and cochlear implant surgery and are all listed under AS-I (Table 5). This raises a serious question whether Aarogyasri is designed in such a way that

**Table 5: Medical Category-wise Surgeries according to AS-I and AS-II**

S No	Name of the Surgery/Systems	Total Surgeries as on 8 December 2011 (Including Government and Private Hospitals)				Procedural Cost- (Combined List of AS-I and AS-II)
		AS-I	AS-II	Total	%	
1	Medical oncology	1,62,000	12,142	1,74,142	12.53	800 to 60,000
2	Polytrauma	1,57,993	4,093	1,62,086	11.66	3,000 to 1,50,000
3	Cardiac and cardiothoracic surgery	1,42,931	6,750	1,49,681	10.77	15,000 to 1,50,000
4	General surgery	0	1,31,753	1,31,753	9.48	10,000 to 80,000
5	Genitourinary surgeries	77,570	34,442	1,12,012	8.06	10,000 to 1,40,000
6	Nephrology	0	99,996	99,996	7.19	15,000 to 35,000
7	Neurosurgery	76,085	13,531	89,616	6.44	15,000 to 1,60,000
8	Radiation oncology	80,833	7,175	88,008	6.33	2500 to 1,00,000
9	Gynaecology and obstetrics surgery	0	53,964	53,964	3.88	20,000 to 40,000
10	Paediatrics	01	43,749	43,750	3.14	25,000 to 90,000
11	Cardiology	17,931	22,354	40,285	2.89	20,000 to 95,000
12	ENT surgery	0	39,841	39,841	2.86	10,000 to 50,000
13	Neurology	0	38,687	38,687	2.78	8,000 to 1,00,000
14	Surgical oncology	29,781	7,786	37,567	2.70	3,000 to 1,00,000
15	Orthopaedic surgery and procedures	10,408	22,349	32,757	2.35	15,000 to 50,000
16	Paediatric surgeries	14,359	7,479	21,838	1.57	10,000 to 60,000
17	Plastic surgery	15,236	2,546	17,782	1.27	10,000 to 1,20,000
18	Ophthalmology surgery	0	15,701	15,701	1.12	3,000 to 65,000
19	Surgical gastroenterology	1,007	8,411	9,418	0.67	25,000 to 1,00,000
20	Gastroenterology	0	8,012	8,012	0.57	5,000 to 1,50,000
21	Pulmonology	0	7,254	7,254	0.52	15,000 to 50,000
22	Critical care	0	6,903	6,903	0.49	45,000 to 1,20,000
23	General medicine	03	4,281	4,284	0.30	20,000 to 50,000
24	Cochlear implant surgery	1,449	04	1,453	0.1	20,000 to 5,20,000
25	Rheumatology	0	1,236	1,236	0.08	10,000 to 50,000
26	Endocrinology	0	747	747	0.05	12,000 to 1,00,000
27	Dermatology	0	611	611	0.04	20,000 to 30,000
28	Prostheses	72	06	78	0.005	500 to 6,000
29	Infectious diseases	0	47	47	0.003	20,000 to 25,000
	Total	7,87,659	6,01,850	13,89,509	99.84	

Source: Data extracted from the official website of Aarogyasri Trust, 8 December 2011.

most of the high-cost procedures are listed in the domain of the insurance company while the low-cost procedure list has been tasked to the Aarogyasri Trust.

### Unnecessary Surgeries

A spurt in unnecessary surgeries has been reported after Aarogyasri was launched. For instance, in Warangal's 13 private hospitals and five government hospitals, 38,090 cases, of which 3,346 operations related to hysterectomy, were reported from 1 August 2008 to 21 August 2010. As there is a scope for quick money to be made in surgeries, private hospitals used RMPs to refer poor women with gynaecological problems as hysterectomy cases. Similarly, in the case of neurosurgeries, kidney stones in adults, and ulcers, more

patients are encouraged to opt for surgical procedures. Earlier, some efforts were made to determine whether these cases could be addressed through non-surgical procedures, but now the easiest option is to direct them for major surgery.

Media reports indicate that there is a widespread culture of commissions, irrational investigations, unnecessary surgical procedures, excessive influence of pharmaceutical companies on prescribing doctors through medical representatives, inflation of hospitalisation bills, holding patients for longer periods to claim higher reimbursement, etc, in various hospitals. These unethical practices had become so rampant that in 2011 the state government stopped payments and launched punitive action against 66 hospitals for committing irregularities while offering treatment to patients under the Aarogyasri health insurance scheme.<sup>12</sup>

### Dynamics of Exclusion and Inclusion of Patients

While private hospitals redirect and reject “unwanted” cases, government hospitals take up all cases under Aarogyasri. According to a doctor at Osmania General Hospital,

Government hospitals have become ‘dump yards’ of high-risk, low-cost procedures, and hugely complicated cases under Aarogyasri. There is tremendous pressure in government hospitals to provide free food, medicines, longer hospital stay, post-operative follow-up, etc, along with surgery. Denial or lapse of any of these services immediately leads to complaints to higher hospital authorities through local political leaders, MLAs and MPs, not to mention the media.

Similarly, political pressure is exerted on NIMS, an autonomous hospital, to accept all Aarogyasri cases including those that exceed the actual cost of procedure as per the defined code. NIMS records indicate that an additional financial burden in such cases is 20-25% above the actual allocation. As the chief minister is the chancellor of NIMS and the fact that several cases are recommended by the chief minister’s secretariat (*peshi*), health minister and other political leaders, these patients have to be accepted for treatment. However, there is no scope for political pressure on private and corporate hospitals. One Aarogyasri administrator from a government hospital commented, “The sick-poor have a voice in government hospitals, whereas they do not have any voice in private and corporate hospitals; they are simply sent off with no questions entertained”. The fact that several non-BPL households have also procured Aarogyasri eligibility cards (white card) in rural areas using their clout, their ability to exert pressure on government hospitals is also comparatively high.

### 4 Discussion

The two main political parties in the state – Telugu Desam and Congress – have pressed ahead with health sector reforms for the last two decades and successfully put “health” issues on the political agenda. The experiment in restructuring the healthcare sector through Aarogyasri has received wide attention across the country, inciting several state governments to replicate this model. However, a critical scrutiny of this model indicates that the corporate healthcare industry has effectively staked its claim over the state’s allocation of healthcare

resources with very little regulation and accountability. This is done first by redefining the disease categories and legitimising them, and then adding more diseases to the list as appropriate for surgical treatment. In fact, the innovation within the discourse of medical neo-liberalism has been to widen the “patient-consumer pool” for the corporate health industry. Second, the EMRI made available to the public in case of emergency has been taken over by private healthcare companies.<sup>13</sup> Third, a major chunk of medical reimbursement of government employees (Central Government Health Scheme) is harvested by corporate and private hospitals.

Of Andhra Pradesh’s health budget of Rs 14,471 crore between 2008-09 and 2011-12, nearly 25% (Rs 3,511 crore) was allocated to the Aarogyasri programme. Instead of additional allocations to Aarogyasri, funds were diverted from the existing health budget, depriving the already resource-starved government health network. The expert group on universal health coverage constituted by the Planning Commission of India pointed out that programmes such as Aarogyasri, by trying to cater to the high-cost treatment for the BPL population within the limitations of state budget, are grossly neglecting primary and secondary healthcare (Reddy 2011).

Aarogyasri’s focus on specific diseases that require high-cost surgical interventions accounts for less than 2% of the total disease burden. The high incidence of infectious and communicable diseases that cause maximum morbidity and mortality has not been the concern of the new healthcare model. The skewed logic of high-cost, low frequency, surgical-based interventions has been conceived by design to favour medicines and medical technology over healthcare providers and seekers. This new culture, politics and economics of healthcare through Aarogyasri redirects funds towards surgical procedures in super-specialty hospitals, insurance providers and pharmaceutical companies. This, in turn, facilitates unregulated commercialisation of healthcare and commodification of the body. Commenting on the regulatory aspects, Jeffrey and Santosh (2009) point out that any effort to enhance India’s capability to regulate medicines and medical technology within the country comes into conflict with other processes that tend to locate responsibility and power elsewhere, whether in the hands of global institutions or with other governments.

NEW

### Web Exclusives

EPW has introduced a new section, "Web Exclusives" on its new and improved website (<http://www.epw.in>).

This section will feature articles written exclusively for the web edition and will normally not appear in the print edition. All visitors to the website can read these short articles written mainly on current affairs.

Readers of the print edition are encouraged to visit the *EPW* website and read these web exclusives which will see new articles every week.

A highly charged social and political environment is created through these health innovations and populist models where diverse participants like health professionals, corporate executives, insurance companies, policymakers, pharmaceutical company representatives, Aarogyamitras, and sick-poor consumers interact. These interactions raise a host of calculable

and incalculable hopes, benefits, profits and risks. Aarogyasri is a classic example of promoting the interests of the corporate health industry through tertiary hospitals in the public and private sectors in both urban and rural locales, thereby intensifying medicalisation of society in new and complex, technologically enmeshed ways.

## NOTES

- 1 Selective primary healthcare was conceived and funded by Rockefeller Foundation and Ford Foundation.
- 2 There are a total of 7,721 doctors and 494 contract doctors in both urban (general and specialist hospitals) and rural India (sub-centres, PHCs, CHCs).
- 3 There were 349 general hospitals (with 36,168 beds), 262 dispensaries with 7,415 doctors (including contract doctors) to serve the eight crore population of Andhra Pradesh.
- 4 NIMS is a hospital given on a 99-year lease to the state government by the Nizam Charitable Trust in 1976.
- 5 On an average 60% to 70% of the workers in municipalities including Greater Hyderabad Municipal Corporation are contract workers while in some urban local bodies such as Visakhapatnam, the contract workers account for 80% of the total workforce (Prasad 2010).
- 6 National Human Development Report 2001, Planning Commission of India, Government of India.
- 7 Registrar General of India, NFHS III 2005-06 Fact Sheets.
- 8 <http://www.aarogyasri.org>, accessed on 5 January 2010.
- 9 Arogyasri Brochure, 2010.
- 10 Chedda Aspathrulu, *Andhra Jyothi*, 18 2011 and "Padakesina Prabuthva Vaidyam", *Eenadu*, 11 April 2010.
- 11 Agents include various low-paid employees in both public and private hospitals such as contract workers, security personnel, class IV employees, etc.
- 12 *The Hindu*, 13 December 2011.
- 13 This is quite evident with corporate entities such as Satyam, which got the contract during 2007-10 while GVK got it from 2010 onwards. There was intense competition between GVK and Chiranjeevi Blood Bank to win the contract awarded by the state government. The fact that there was intense political lobbying for the contract of mobile treatment speaks much about the profits inherent in it.

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## Survey

August 11, 2012

## Econophysics: An Emerging Discipline

by

Sitabhra Sinha, Bikas K Chakrabarti

Contemporary mainstream economics has become concerned less with describing reality than with an idealised version of the world. However, reality refuses to bend to the desire for theoretical elegance that an economist demands from his model. Modelling itself on mathematics, mainstream economics is primarily deductive and based on axiomatic foundations. Econophysics seeks to be inductive, to be an empirically founded science based on observations, with the tools of mathematics and logic used to identify and establish relations among these observations. Econophysics does not strive to reinterpret empirical data to conform to a theorist's expectations, but describes the mechanisms by which economic systems actually evolve over time.

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